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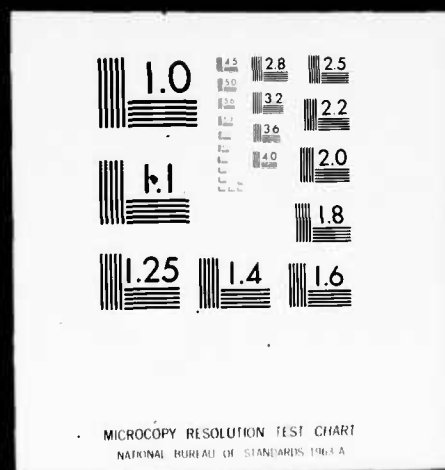
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F-106 SCHEDULED MAINTENANCE STUDY

USER'S MANUAL

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Convair Aerospace Division

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L. S. Grote  
J. R. Cooper

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Convair Aerospace Division

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FOREWORD

This User's Manual was prepared by the San Diego Operation of Convair Aerospace Division of General Dynamics for the San Antonio Air Materiel Area, Kelly AFB, Texas, under Request VE12, change 1, to Engineering Services Contract F41608-71-D-1383 dated 18 February 1972. Request VE12 is administered under the direction of Capt. G. A. Morgan (SAMMER). This document fulfills the requirements of CDRL Item B010.

Prepared by:

Gordon Wang

G. Wang  
Design Specialist/  
Design Programming

R. S. Grote

R. S. Grote  
Design Specialist/  
Operations Research

J. R. Cooper

J. R. Cooper  
Principal Engineer

Approved by:

W. D. Snell

W. D. Snell  
Project Engineer

C. S. Brandt

C. S. Brandt  
Program Manager

|                              |         |
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## LIST OF ABBREVIATIONS

|        |   |
|--------|---|
| ACI    | Analytical Condition Inspection                         |
| AI     | Accident/Incident                                       |
| AIE    | Accidents, Incidents, and EUMR                          |
| ANS    | American National Standard                              |
| ATC    | Action-Taken Codes                                      |
| bpi    | Bits Per Inch   |
| byte   | 8 Binary Bits   |
| CPU    | Central Processor Unit                                  |
| EUMR   | Emergency Unsatisfactory Material Report                |
| FH     | Flight Hour   |
| HMC    | How-Malfunction Code                                    |
| HPF    | Hourly Postflight                                       |
| IBM    | International Business Machine                          |
| ID     | Identification  |
| IRAN   | Inspect and Repair As Necessary                         |
| JCL    | Job Control Language                                    |
| MA, ma | Maintenance Action                                      |
| MISR   | COBOL name for correlation and regression<br>subroutine |
| NAM    | Network Analysis Model                                  |
| NOR    | Not Operationally Ready                                 |
| NORM   | Not Operationally Ready due to Maintenance              |
| NORS   | Not Operationally Ready due to Supply                   |
| NSG    | Non-support General                                     |
| SAAMA  | San Antonio Air Materiel Area                           |
| SG     | Support General   |
| uma    | Unscheduled Maintenance Action                          |
| WDC    | When-Discovered Code                                    |
| WUC    | Work Unit Code  |

## SECTION 1

### INTRODUCTION

#### 1.1 PURPOSE

→ A system of IBM 370 programs has been developed for the scheduled maintenance study by Convair Aerospace Division of General Dynamics for the San Antonio Air Materiel Area, Kelly AFB, Texas. This handbook provides information needed by user personnel for basic understanding and for executing each of the computer programs. A fleet of 150 F-106 aircraft was used to validate the design of the programs on the IBM 370 (Model 165) at Convair Aerospace, San Diego. The design of the programs is generalized to cover all USAF aircraft. ↑

#### 1.2 SCOPE

For each of the computer programs, the following information is given.

- a. Purpose of the program.
- b. Input Description.
- c. Sample Input.
- d. Procedures.
- e. Output Description.
- f. Sample Output.
- g. Output Size and IBM 370 Time.
- h. Notes on Limitations.

Programs have been written in American National Standard COBOL and Basic FORTRAN IV languages. Section 6 contains the computer source deck listings of all the IBM 370 computer programs together with the job control cards and sample data cards. To achieve compatibility with SAAMA equipment, only the subset of ANS COBOL compatible with Version D COBOL was used. Procedures to convert the IBM 370 programs into the SAAMA IBM 360 are contained in Paragraph 1.4.

To estimate computer time requirement on the IBM 360 from the IBM 370 data, it would be realistic to assume a factor of three to one. Nine-track, 1600-bits-per-inch tapes were used on the IBM 370. The program and data bank tapes, part of the contract end items to be delivered to SAAMA, are seven-track with 800 bits per inch.

In addition to the functions performed by the programs described in this manual, a sort and merge capability is also required. Since sort/merge programs are typically software features supplied with operating systems, the relevant discussions in this handbook are limited to descriptions of the sort/merge control fields.

For a detailed discussion of the engineering model for the scheduled maintenance study, see the Phase I report, Convair Aerospace report GDCA-AHD72-001, and the Phase II report, GDCA-AHD72-003.

### 1.3 MANUAL ORGANIZATION

Four major categories of computer programs are covered in this manual:

- a. Data Reduction Programs (Section 2).
- b. Data Bank Generation (Section 3).
- c. Statistical Analysis Programs (Section 4).
- d. Effectiveness and Cost Programs (Section 5).

Listings of all the IBM 370 computer programs with job control and sample data cards are contained in Section 6. Appropriate figures and tables are included in the various sections to improve the understanding of the logic and structure of the computer programs.

### 1.4 CONVERSION TO IBM 360

As part of the contract end items, computer programs and the data bank are stored in magnetic tapes. FORTRAN and COBOL programs are stored in separate reels.

Data Bank was written on two reels on SAAMA Reel Numbers 1045 (Reel 1) and 9490 (Reel 2). Tape was written on seven-track, 800 bpi with 50 characters per record, blocked 60 to a tape record. FORTRAN and COBOL source programs were written on SAAMA Reel No. 8761 and 10,479, respectively. Tape structure for the program tapes consists of 80 characters per record, blocked 20 to a tape record. There are about 4000 cards for the FORTRAN programs and about 14,000 cards for the COBOL programs.

For the convenience of the users, some modifications were made on the IBM 370 COBOL programs before they were copied onto the previously mentioned tapes:

- a. Removal of the 'sync' in the Data Division.
- b. Replace GOBACK with STOP RUN.
- c. Carriage control character changed to 0, 1, or blank.
- d. Program ID Statement change.



For conversion to IBM 360 at SAAMA, the user must:

- a. Produce IBM 360 job control cards.
- b. Modify file-control in the Input-Output section.
- c. Generate input data cards.

The programs require less than 100,000 bytes of core storage.

## SECTION 2

### DATA REDUCTION PROGRAMS

#### 2.1 GENERAL DESCRIPTION

The purpose of the data reduction programs is to reduce four data source inputs into four sorted files, which are used as input to the data bank generation programs. (See Section 3.) The four data sources consist of:

AFM 66-1 maintenance data.

AFM 65-110 utilization, NOR, and possessed hour data.

Data files for IRAN histories.

Accident, incident, and emergency unsatisfactory material report histories (AIE).

These data files are referred to as 66-1, 65-110, IRAN, and AIE files, respectively.

The analysis of maintenance policies requires that data from the four sources be processed and combined into a single data bank, which serves as input to the various analytical programs. The development of the data bank requires screening, reorganization, and summarization of the data from each of the four sources. The data bank is organized into a sorted file of aircraft serial number histories. For each serial number, all activity records for each of the data sources are summarized to statistics representing seven consecutive days. These seven-day periods are referred to as "weeks," although they do not correspond to any particular calendar week. To obtain the desired data organization in the data bank, the input from each of the four data sources must be sorted into ascending serial number sequence and into chronological order within each serial number. Table 2-1 contains first and last day numbers, with the corresponding calendar dates, for each of the week numbers used for this study. January 1, 1965 is the first day number for the week number one.

In addition to the required data, the 66-1 and 65-110 files contain data that is not relevant to this study. Consequently, these data files must be screened to eliminate the extraneous records. Furthermore, for various reasons, certain aircraft serial numbers are excluded from the data base. The screening programs for the 66-1, 65-110, and AIE files eliminate these serial numbers. Finally, the 66-1 file may contain duplicate records, and after the 66-1 data has been screened, sorted, and merged into a single ordered file, adjacent records must be compared to eliminate the duplicates. The source data tapes for 66-1 and 65-110 are shown in Tables 2-2 and 2-3, respectively.

Table 2-1. Conversion Table for Week Number

| WEEK NO. | FIRST-DAY | DATE | LAST-DAY | DATE | WEEK NO. | FIRST-DAY | DATE | LAST-DAY | DATE |
|----------|-----------|------|----------|------|----------|-----------|------|----------|------|
| 1        | JAN       | 05   | JAN      | 05   | 10       | APR       | 07   | APR      | 07   |
| 2        | JAN       | 05   | JAN      | 05   | 11       | APR       | 07   | APR      | 07   |
| 3        | JAN       | 05   | JAN      | 05   | 12       | APR       | 07   | APR      | 07   |
| 4        | JAN       | 05   | JAN      | 05   | 13       | APR       | 07   | APR      | 07   |
| 5        | JAN       | 05   | JAN      | 05   | 14       | APR       | 07   | APR      | 07   |
| 6        | JAN       | 05   | JAN      | 05   | 15       | APR       | 07   | APR      | 07   |
| 7        | JAN       | 05   | JAN      | 05   | 16       | APR       | 07   | APR      | 07   |
| 8        | JAN       | 05   | JAN      | 05   | 17       | APR       | 07   | APR      | 07   |
| 9        | JAN       | 05   | JAN      | 05   | 18       | APR       | 07   | APR      | 07   |
| 10       | JAN       | 05   | JAN      | 05   | 19       | APR       | 07   | APR      | 07   |
| 11       | JAN       | 05   | JAN      | 05   | 20       | APR       | 07   | APR      | 07   |
| 12       | JAN       | 05   | JAN      | 05   | 21       | APR       | 07   | APR      | 07   |
| 13       | JAN       | 05   | JAN      | 05   | 22       | APR       | 07   | APR      | 07   |
| 14       | JAN       | 05   | JAN      | 05   | 23       | APR       | 07   | APR      | 07   |
| 15       | JAN       | 05   | JAN      | 05   | 24       | APR       | 07   | APR      | 07   |
| 16       | JAN       | 05   | JAN      | 05   | 25       | APR       | 07   | APR      | 07   |
| 17       | JAN       | 05   | JAN      | 05   | 26       | APR       | 07   | APR      | 07   |
| 18       | JAN       | 05   | JAN      | 05   | 27       | APR       | 07   | APR      | 07   |
| 19       | JAN       | 05   | JAN      | 05   | 28       | APR       | 07   | APR      | 07   |
| 20       | JAN       | 05   | JAN      | 05   | 29       | APR       | 07   | APR      | 07   |
| 21       | JAN       | 05   | JAN      | 05   | 30       | APR       | 07   | APR      | 07   |
| 22       | JAN       | 05   | JAN      | 05   | 1        | MAY       | 07   | MAY      | 07   |
| 23       | JAN       | 05   | JAN      | 05   | 2        | MAY       | 07   | MAY      | 07   |
| 24       | JAN       | 05   | JAN      | 05   | 3        | MAY       | 07   | MAY      | 07   |
| 25       | JAN       | 05   | JAN      | 05   | 4        | MAY       | 07   | MAY      | 07   |
| 26       | JAN       | 05   | JAN      | 05   | 5        | MAY       | 07   | MAY      | 07   |
| 27       | JAN       | 05   | JAN      | 05   | 6        | MAY       | 07   | MAY      | 07   |
| 28       | JAN       | 05   | JAN      | 05   | 7        | MAY       | 07   | MAY      | 07   |
| 29       | JAN       | 05   | JAN      | 05   | 8        | MAY       | 07   | MAY      | 07   |
| 30       | JAN       | 05   | JAN      | 05   | 9        | MAY       | 07   | MAY      | 07   |
| 31       | JAN       | 05   | JAN      | 05   | 10       | MAY       | 07   | MAY      | 07   |
| 32       | JAN       | 05   | JAN      | 05   | 11       | MAY       | 07   | MAY      | 07   |
| 33       | JAN       | 05   | JAN      | 05   | 12       | MAY       | 07   | MAY      | 07   |
| 34       | JAN       | 05   | JAN      | 05   | 13       | MAY       | 07   | MAY      | 07   |
| 35       | JAN       | 05   | JAN      | 05   | 14       | MAY       | 07   | MAY      | 07   |
| 36       | JAN       | 05   | JAN      | 05   | 15       | MAY       | 07   | MAY      | 07   |
| 37       | JAN       | 05   | JAN      | 05   | 16       | MAY       | 07   | MAY      | 07   |
| 38       | JAN       | 05   | JAN      | 05   | 17       | MAY       | 07   | MAY      | 07   |
| 39       | JAN       | 05   | JAN      | 05   | 18       | MAY       | 07   | MAY      | 07   |
| 40       | JAN       | 05   | JAN      | 05   | 19       | MAY       | 07   | MAY      | 07   |
| 41       | JAN       | 05   | JAN      | 05   | 20       | MAY       | 07   | MAY      | 07   |
| 42       | JAN       | 05   | JAN      | 05   | 21       | MAY       | 07   | MAY      | 07   |
| 43       | JAN       | 05   | JAN      | 05   | 22       | MAY       | 07   | MAY      | 07   |
| 44       | JAN       | 05   | JAN      | 05   | 23       | MAY       | 07   | MAY      | 07   |
| 45       | JAN       | 05   | JAN      | 05   | 24       | MAY       | 07   | MAY      | 07   |
| 46       | JAN       | 05   | JAN      | 05   | 25       | MAY       | 07   | MAY      | 07   |
| 47       | JAN       | 05   | JAN      | 05   | 26       | MAY       | 07   | MAY      | 07   |
| 48       | JAN       | 05   | JAN      | 05   | 27       | MAY       | 07   | MAY      | 07   |
| 49       | JAN       | 05   | JAN      | 05   | 28       | MAY       | 07   | MAY      | 07   |
| 50       | JAN       | 05   | JAN      | 05   | 29       | MAY       | 07   | MAY      | 07   |
| 51       | JAN       | 05   | JAN      | 05   | 30       | MAY       | 07   | MAY      | 07   |
| 52       | JAN       | 05   | JAN      | 05   | 31       | MAY       | 07   | MAY      | 07   |
| 53       | JAN       | 05   | JAN      | 05   | 1        | JUN       | 07   | JUN      | 07   |
| 54       | JAN       | 05   | JAN      | 05   | 2        | JUN       | 07   | JUN      | 07   |
| 55       | JAN       | 05   | JAN      | 05   | 3        | JUN       | 07   | JUN      | 07   |
| 56       | JAN       | 05   | JAN      | 05   | 4        | JUN       | 07   | JUN      | 07   |
| 57       | JAN       | 05   | JAN      | 05   | 5        | JUN       | 07   | JUN      | 07   |
| 58       | JAN       | 05   | JAN      | 05   | 6        | JUN       | 07   | JUN      | 07   |
| 59       | JAN       | 05   | JAN      | 05   | 7        | JUN       | 07   | JUN      | 07   |
| 60       | JAN       | 05   | JAN      | 05   | 8        | JUN       | 07   | JUN      | 07   |
| 61       | JAN       | 05   | JAN      | 05   | 9        | JUN       | 07   | JUN      | 07   |
| 62       | JAN       | 05   | JAN      | 05   | 10       | JUN       | 07   | JUN      | 07   |
| 63       | JAN       | 05   | JAN      | 05   | 11       | JUN       | 07   | JUN      | 07   |
| 64       | JAN       | 05   | JAN      | 05   | 12       | JUN       | 07   | JUN      | 07   |
| 65       | JAN       | 05   | JAN      | 05   | 13       | JUN       | 07   | JUN      | 07   |
| 66       | JAN       | 05   | JAN      | 05   | 14       | JUN       | 07   | JUN      | 07   |
| 67       | JAN       | 05   | JAN      | 05   | 15       | JUN       | 07   | JUN      | 07   |
| 68       | JAN       | 05   | JAN      | 05   | 16       | JUN       | 07   | JUN      | 07   |
| 69       | JAN       | 05   | JAN      | 05   | 17       | JUN       | 07   | JUN      | 07   |
| 70       | JAN       | 05   | JAN      | 05   | 18       | JUN       | 07   | JUN      | 07   |
| 71       | JAN       | 05   | JAN      | 05   | 19       | JUN       | 07   | JUN      | 07   |
| 72       | JAN       | 05   | JAN      | 05   | 20       | JUN       | 07   | JUN      | 07   |
| 73       | JAN       | 05   | JAN      | 05   | 21       | JUN       | 07   | JUN      | 07   |
| 74       | JAN       | 05   | JAN      | 05   | 22       | JUN       | 07   | JUN      | 07   |
| 75       | JAN       | 05   | JAN      | 05   | 23       | JUN       | 07   | JUN      | 07   |
| 76       | JAN       | 05   | JAN      | 05   | 24       | JUN       | 07   | JUN      | 07   |
| 77       | JAN       | 05   | JAN      | 05   | 25       | JUN       | 07   | JUN      | 07   |
| 78       | JAN       | 05   | JAN      | 05   | 26       | JUN       | 07   | JUN      | 07   |
| 79       | JAN       | 05   | JAN      | 05   | 27       | JUN       | 07   | JUN      | 07   |
| 80       | JAN       | 05   | JAN      | 05   | 28       | JUN       | 07   | JUN      | 07   |
| 81       | JAN       | 05   | JAN      | 05   | 29       | JUN       | 07   | JUN      | 07   |
| 82       | JAN       | 05   | JAN      | 05   | 30       | JUN       | 07   | JUN      | 07   |
| 83       | JAN       | 05   | JAN      | 05   | 1        | JUL       | 07   | JUL      | 07   |
| 84       | JAN       | 05   | JAN      | 05   | 2        | JUL       | 07   | JUL      | 07   |
| 85       | JAN       | 05   | JAN      | 05   | 3        | JUL       | 07   | JUL      | 07   |
| 86       | JAN       | 05   | JAN      | 05   | 4        | JUL       | 07   | JUL      | 07   |
| 87       | JAN       | 05   | JAN      | 05   | 5        | JUL       | 07   | JUL      | 07   |
| 88       | JAN       | 05   | JAN      | 05   | 6        | JUL       | 07   | JUL      | 07   |
| 89       | JAN       | 05   | JAN      | 05   | 7        | JUL       | 07   | JUL      | 07   |
| 90       | JAN       | 05   | JAN      | 05   | 8        | JUL       | 07   | JUL      | 07   |
| 91       | JAN       | 05   | JAN      | 05   | 9        | JUL       | 07   | JUL      | 07   |
| 92       | JAN       | 05   | JAN      | 05   | 10       | JUL       | 07   | JUL      | 07   |
| 93       | JAN       | 05   | JAN      | 05   | 11       | JUL       | 07   | JUL      | 07   |
| 94       | JAN       | 05   | JAN      | 05   | 12       | JUL       | 07   | JUL      | 07   |
| 95       | JAN       | 05   | JAN      | 05   | 13       | JUL       | 07   | JUL      | 07   |
| 96       | JAN       | 05   | JAN      | 05   | 14       | JUL       | 07   | JUL      | 07   |
| 97       | JAN       | 05   | JAN      | 05   | 15       | JUL       | 07   | JUL      | 07   |
| 98       | JAN       | 05   | JAN      | 05   | 16       | JUL       | 07   | JUL      | 07   |
| 99       | JAN       | 05   | JAN      | 05   | 17       | JUL       | 07   | JUL      | 07   |
| 100      | JAN       | 05   | JAN      | 05   | 18       | JUL       | 07   | JUL      | 07   |
| 101      | JAN       | 05   | JAN      | 05   | 19       | JUL       | 07   | JUL      | 07   |
| 102      | JAN       | 05   | JAN      | 05   | 20       | JUL       | 07   | JUL      | 07   |
| 103      | JAN       | 05   | JAN      | 05   | 21       | JUL       | 07   | JUL      | 07   |
| 104      | JAN       | 05   | JAN      | 05   | 22       | JUL       | 07   | JUL      | 07   |
| 105      | JAN       | 05   | JAN      | 05   | 23       | JUL       | 07   | JUL      | 07   |
| 106      | JAN       | 05   | JAN      | 05   | 24       | JUL       | 07   | JUL      | 07   |
| 107      | JAN       | 05   | JAN      | 05   | 25       | JUL       | 07   | JUL      | 07   |
| 108      | JAN       | 05   | JAN      | 05   | 26       | JUL       | 07   | JUL      | 07   |
| 109      | JAN       | 05   | JAN      | 05   | 27       | JUL       | 07   | JUL      | 07   |
| 110      | JAN       | 05   | JAN      | 05   | 28       | JUL       | 07   | JUL      | 07   |
| 111      | JAN       | 05   | JAN      | 05   | 29       | JUL       | 07   | JUL      | 07   |
| 112      | JAN       | 05   | JAN      | 05   | 30       | JUL       | 07   | JUL      | 07   |
| 113      | JAN       | 05   | JAN      | 05   | 1        | AUG       | 07   | AUG      | 07   |
| 114      | JAN       | 05   | JAN      | 05   | 2        | AUG       | 07   | AUG      | 07   |
| 115      | JAN       | 05   | JAN      | 05   | 3        | AUG       | 07   | AUG      | 07   |
| 116      | JAN       | 05   | JAN      | 05   | 4        | AUG       | 07   | AUG      | 07   |
| 117      | JAN       | 05   | JAN      | 05   | 5        | AUG       | 07   | AUG      | 07   |
| 118      | JAN       | 05   | JAN      | 05   | 6        | AUG       | 07   | AUG      | 07   |
| 119      | JAN       | 05   | JAN      | 05   | 7        | AUG       | 07   | AUG      | 07   |

Table 2-1. Conversion Table for Week Number, Continued

| WEEK NO. | FIRST-DAY | DATE      | LAST-DAY | LATE      | WEEK NO. | FIRST-DAY | DATE      | LAST-DAY | LATE      |
|----------|-----------|-----------|----------|-----------|----------|-----------|-----------|----------|-----------|
| 239      | 1863      | 21 JUL 69 | 1865     | 27 JUL 69 | 303      | 2117      | 17 OCT 70 | 2117     | 16 OCT 70 |
| 240      | 1870      | 28 JUL 69 | 1876     | 3 AUG 69  | 304      | 2116      | 19 OCT 70 | 2124     | 25 OCT 70 |
| 241      | 1877      | 4 AUG 69  | 1883     | 10 AUG 69 | 305      | 2123      | 26 OCT 70 | 2131     | 1 NOV 70  |
| 242      | 1884      | 11 AUG 69 | 1890     | 17 AUG 69 | 306      | 2132      | 2 NOV 70  | 2136     | 8 NOV 70  |
| 243      | 1891      | 18 AUG 69 | 1897     | 24 AUG 69 | 307      | 2139      | 9 NOV 70  | 2145     | 15 NOV 70 |
| 244      | 1898      | 25 AUG 69 | 1904     | 31 AUG 69 | 308      | 2145      | 16 NOV 70 | 2152     | 22 NOV 70 |
| 245      | 1905      | 1 SEP 69  | 1911     | 7 SEP 69  | 309      | 2153      | 23 NOV 70 | 2159     | 29 NOV 70 |
| 246      | 1912      | 8 SEP 69  | 1918     | 14 SEP 69 | 310      | 2160      | 30 NOV 70 | 2166     | 6 DEC 70  |
| 247      | 1919      | 15 SEP 69 | 1925     | 21 SEP 69 | 311      | 2167      | 7 DEC 70  | 2173     | 13 DEC 70 |
| 248      | 1926      | 22 SEP 69 | 1932     | 28 SEP 69 | 312      | 2174      | 14 DEC 70 | 2180     | 20 DEC 70 |
| 249      | 1933      | 29 SEP 69 | 1939     | 5 OCT 69  | 313      | 2181      | 21 DEC 70 | 2187     | 27 DEC 70 |
| 250      | 1940      | 6 OCT 69  | 1946     | 12 OCT 69 | 314      | 2188      | 28 DEC 70 | 2194     | 3 JAN 71  |
| 251      | 1947      | 13 OCT 69 | 1953     | 19 OCT 69 | 315      | 2195      | 4 JAN 71  | 2201     | 10 JAN 71 |
| 252      | 1954      | 20 OCT 69 | 1960     | 26 OCT 69 | 316      | 2202      | 11 JAN 71 | 2208     | 17 JAN 71 |
| 253      | 1961      | 27 OCT 69 | 1967     | 2 NOV 69  | 317      | 2209      | 18 JAN 71 | 2215     | 24 JAN 71 |
| 254      | 1968      | 3 NOV 69  | 1974     | 9 NOV 69  | 318      | 2216      | 25 JAN 71 | 2222     | 31 JAN 71 |
| 255      | 1975      | 10 NOV 69 | 1981     | 16 NOV 69 | 319      | 2223      | 1 FEB 71  | 2229     | 7 FEB 71  |
| 256      | 1982      | 17 NOV 69 | 1988     | 23 NOV 69 | 320      | 2230      | 6 FEB 71  | 2236     | 14 FEB 71 |
| 257      | 1989      | 24 NOV 69 | 1995     | 30 NOV 69 | 321      | 2237      | 13 FEB 71 | 2243     | 21 FEB 71 |
| 258      | 1996      | 1 DEC 69  | 2002     | 7 DEC 69  | 322      | 2244      | 20 FEB 71 | 2250     | 28 FEB 71 |
| 259      | 2003      | 8 DEC 69  | 2009     | 14 DEC 69 | 323      | 2251      | 27 FEB 71 | 2257     | 6 MAR 71  |
| 260      | 2010      | 15 DEC 69 | 2016     | 21 DEC 69 | 324      | 2258      | 6 MAR 71  | 2264     | 14 MAR 71 |
| 261      | 2017      | 22 DEC 69 | 2023     | 28 DEC 69 | 325      | 2265      | 13 MAR 71 | 2271     | 21 MAR 71 |
| 262      | 2024      | 29 DEC 69 | 2030     | 4 JAN 70  | 326      | 2272      | 20 MAR 71 | 2278     | 28 MAR 71 |
| 263      | 2031      | 5 JAN 70  | 2037     | 11 JAN 70 | 327      | 2279      | 27 MAR 71 | 2285     | 4 APR 71  |
| 264      | 2038      | 12 JAN 70 | 2044     | 18 JAN 70 | 328      | 2286      | 3 APR 71  | 2292     | 11 APR 71 |
| 265      | 2045      | 19 JAN 70 | 2051     | 25 JAN 70 | 329      | 2293      | 12 APR 71 | 2299     | 18 APR 71 |
| 266      | 2052      | 26 JAN 70 | 2058     | 1 FEB 70  | 330      | 2300      | 19 APR 71 | 2306     | 25 APR 71 |
| 267      | 2059      | 2 FEB 70  | 2065     | 8 FEB 70  | 331      | 2307      | 26 APR 71 | 2313     | 2 MAY 71  |
| 268      | 2066      | 9 FEB 70  | 2072     | 15 FEB 70 | 332      | 2314      | 3 MAY 71  | 2320     | 9 MAY 71  |
| 269      | 2073      | 16 FEB 70 | 2079     | 22 FEB 70 | 333      | 2321      | 10 MAY 71 | 2327     | 16 MAY 71 |
| 270      | 2080      | 23 FEB 70 | 2086     | 1 MAR 70  | 334      | 2328      | 17 MAY 71 | 2334     | 23 MAY 71 |
| 271      | 2087      | 24 FEB 70 | 2093     | 8 MAR 70  | 335      | 2335      | 24 MAY 71 | 2341     | 30 MAY 71 |
| 272      | 2094      | 3 MAR 70  | 2100     | 15 MAR 70 | 336      | 2342      | 31 MAY 71 | 2348     | 6 JUN 71  |
| 273      | 2101      | 10 MAR 70 | 2107     | 22 MAR 70 | 337      | 2349      | 7 JUN 71  | 2355     | 13 JUN 71 |
| 274      | 2108      | 17 MAR 70 | 2114     | 29 MAR 70 | 338      | 2356      | 14 JUN 71 | 2362     | 20 JUN 71 |
| 275      | 2115      | 24 MAR 70 | 2121     | 5 APR 70  | 339      | 2363      | 21 JUN 71 | 2369     | 27 JUN 71 |
| 276      | 2122      | 31 APR 70 | 2128     | 12 APR 70 | 340      | 2370      | 28 JUN 71 | 2376     | 4 JUL 71  |
| 277      | 2129      | 13 APR 70 | 2135     | 19 APR 70 | 341      | 2377      | 5 JUL 71  | 2383     | 11 JUL 71 |
| 278      | 2136      | 20 APR 70 | 2142     | 26 APR 70 | 342      | 2384      | 12 JUL 71 | 2390     | 18 JUL 71 |
| 279      | 2143      | 27 APR 70 | 2149     | 3 MAY 70  | 343      | 2391      | 19 JUL 71 | 2397     | 25 JUL 71 |
| 280      | 2150      | 4 MAY 70  | 2156     | 10 MAY 70 | 344      | 2398      | 26 JUL 71 | 2404     | 1 AUG 71  |
| 281      | 2157      | 11 MAY 70 | 2163     | 17 MAY 70 | 345      | 2405      | 2 AUG 71  | 2411     | 8 AUG 71  |
| 282      | 2164      | 18 MAY 70 | 2170     | 24 MAY 70 | 346      | 2412      | 9 AUG 71  | 2418     | 15 AUG 71 |
| 283      | 2171      | 25 MAY 70 | 2177     | 31 MAY 70 | 347      | 2419      | 16 AUG 71 | 2425     | 22 AUG 71 |
| 284      | 2178      | 1 JUN 70  | 2184     | 7 JUN 70  | 348      | 2426      | 23 AUG 71 | 2432     | 29 AUG 71 |
| 285      | 2185      | 8 JUN 70  | 2191     | 14 JUN 70 | 349      | 2433      | 30 AUG 71 | 2439     | 5 SEP 71  |
| 286      | 2192      | 15 JUN 70 | 2198     | 21 JUN 70 | 350      | 2440      | 6 SEP 71  | 2446     | 12 SEP 71 |
| 287      | 2199      | 22 JUN 70 | 2205     | 28 JUN 70 | 351      | 2447      | 13 SEP 71 | 2453     | 19 SEP 71 |
| 288      | 2206      | 29 JUN 70 | 2212     | 5 JUL 70  | 352      | 2454      | 20 SEP 71 | 2460     | 26 SEP 71 |
| 289      | 2213      | 6 JUL 70  | 2219     | 12 JUL 70 | 353      | 2461      | 27 SEP 71 | 2467     | 3 OCT 71  |
| 290      | 2220      | 13 JUL 70 | 2226     | 19 JUL 70 | 354      | 2468      | 4 OCT 71  | 2474     | 10 OCT 71 |
| 291      | 2227      | 20 JUL 70 | 2233     | 26 JUL 70 | 355      | 2475      | 11 OCT 71 | 2481     | 17 OCT 71 |
| 292      | 2234      | 27 JUL 70 | 2240     | 2 AUG 70  | 356      | 2482      | 18 OCT 71 | 2488     | 24 OCT 71 |
| 293      | 2241      | 3 AUG 70  | 2247     | 9 AUG 70  | 357      | 2489      | 25 OCT 71 | 2495     | 31 OCT 71 |
| 294      | 2248      | 10 AUG 70 | 2254     | 16 AUG 70 | 358      | 2496      | 1 NOV 71  | 2502     | 7 NOV 71  |
| 295      | 2255      | 17 AUG 70 | 2261     | 23 AUG 70 | 359      | 2503      | 8 NOV 71  | 2509     | 14 NOV 71 |
| 296      | 2262      | 24 AUG 70 | 2268     | 30 AUG 70 | 360      | 2510      | 15 NOV 71 | 2516     | 21 NOV 71 |
| 297      | 2269      | 31 AUG 70 | 2275     | 6 SEP 70  | 361      | 2517      | 22 NOV 71 | 2523     | 28 NOV 71 |
| 298      | 2276      | 7 SEP 70  | 2282     | 13 SEP 70 | 362      | 2524      | 29 NOV 71 | 2530     | 5 DEC 71  |
| 299      | 2283      | 14 SEP 70 | 2289     | 20 SEP 70 | 363      | 2531      | 6 DEC 71  | 2537     | 12 DEC 71 |
| 300      | 2290      | 21 SEP 70 | 2296     | 27 SEP 70 | 364      | 2538      | 13 DEC 71 | 2544     | 19 DEC 71 |
| 301      | 2297      | 28 SEP 70 | 2303     | 4 OCT 70  | 365      | 2545      | 20 DEC 71 | 2551     | 26 DEC 71 |
| 302      | 2304      | 5 OCT 70  | 2310     | 11 OCT 70 |          |           |           |          |           |

Table 2-2. AFM 66-1 Source Data Tapes

| <u>Tapes With AFLC Numbers</u> |       |       |
|--------------------------------|-------|-------|
| 71                             | 8417  | 14196 |
| 520                            | 8977  | 14374 |
| 706                            | 9164  | 15985 |
| 781                            | 9244  | 16750 |
| 867                            | 9610  | 16916 |
| 962                            | 10681 | 18685 |
| 1210                           | 11767 | 19257 |
| 1641                           | 11961 | 19643 |
| 1841                           | 12370 | 20449 |
| 5345                           | 13255 | 20720 |
| 6265                           | 13423 | 20782 |
| 7036                           | 13836 | 20790 |
| 7728                           | 14124 | 70333 |
| 8077                           | 14175 |       |
| <u>Tapes With KAFB Numbers</u> |       |       |
| 7499                           | 18988 |       |

Table 2-3. AFM 65-110 Source Data Tapes (AFLC Numbers)

|       |       |       |
|-------|-------|-------|
| 90149 | 93094 | 93568 |
| 90154 | 93191 | 93614 |
| 90167 | 93371 | 93619 |
| 90275 | 93418 | 93784 |
| 90288 | 93502 | 93844 |
| 93041 | 93517 | 93859 |
| 93054 | 93536 | 93910 |

The IRAN file is created by an IRAN data preprocessor that combines aircraft acceptance date data and IRAN event data, and that also calculates IRAN interval data by relating information from pairs of consecutive IRAN event records. Prior to executing the IRAN preprocessing program, the acceptance date data and the IRAN event data must be screened to eliminate the excluded aircraft serial numbers. These two data sources are then sorted by serial number and (for the IRAN event data) by calendar date.

The AIE data file is also created by combining data from two sources. Accident and incident data is supplied on magnetic tape, while the EUMR data is obtained from a separate source on cards. Both data sources must be screened to eliminate the excluded serial numbers and the card records must be reformatted to match the format of the tape data. The two files are then sorted and merged to produce the AIE file used as input to the data bank.

Details of data reduction/file generation processes for the 66-1, 65-110, AIE, and IRAN files are contained in Paragraphs 2.2, 2.3, 2.4, and 2.5, respectively.

## 2.2 AFM 66-1 FILE GENERATION

Since the AFM 66-1 file contains maintenance data that is not relevant to the present maintenance study, these extraneous data records must be screened out. Following

the screening of each individual tape, the data is sorted into an ordered sequence, then merged with other AFM 66-1 screened and sorted tapes. Experience has shown that many records within the composite file are duplicates; these are eliminated. Finally, only data for a specified set of aircraft serial numbers is required for the data bank. These records are copied to form the final 66-1 file. The logic flow for these programs is shown in Figure 2-1.

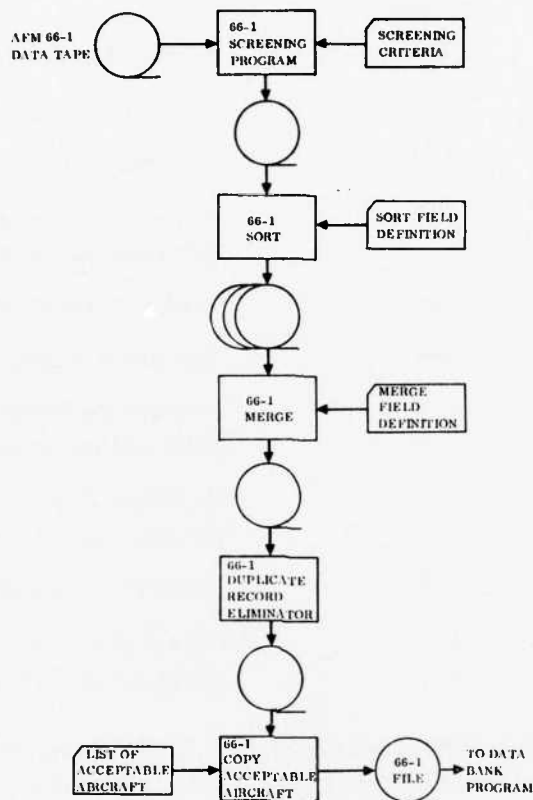


Figure 2-1. Logic Flow of AFM 66-1 File Generation

### 2.2.1 AFM 66-1 SCREEN

2.2.1.1 Purpose. This program, written in COBOL, screens the AFM 66-1 data tapes to eliminate unnecessary and unacceptable records and writes acceptable records on magnetic tape for further processing.

2.2.1.2 Input Data and Procedures. The program, a sample of card data input, and the associated job control language (JCL) for use on the IBM 370 are listed in Paragraph 6.1.1.

Input to the program consists of the raw AFM 66-1 tape and a deck of cards containing the screening criteria. Record layouts for the input on AFM 66-1 tapes are shown in Figure 2-2. The tape consists of 90-character data records, blocked 30 to a tape record. The screening criteria card data consists of a deck containing (in order) the data listed on the following page.

| <u>Card</u> | <u>Column</u> | <u>Description</u>  |
|-------------|---------------|---|
| a           | 1-4           | Acceptable Aircraft Mission and Design                              |
| b           | 1             | Acceptable Identification   |
| c           | 1-2           | Number of Rejected Aircraft   |
| d           | 1-8           | Rejected Aircraft Serial Numbers<br>(Number of Cards Set by Card c) |
| e           | 1-8           | Lowest Acceptable Serial Number                                     |
| f           | 1-8           | Highest Acceptable Serial Number                                    |
| g           | 1-2           | Number of Rejected How-<br>Malfunction Codes                        |
| h           | 1-3           | Rejected How-Malfunction Codes<br>(Number of Cards Set by Card g)   |
| i           | 1-2           | Number of Rejected Action-Taken Codes                               |
| j           | 1             | Rejected Action-Taken Codes<br>(Number of Cards Set by Card i)      |

The program first opens the input and output files, reads and stores the screening data, then reads the first AFM 66-1 data record and checks for an acceptable Mission and Design designation, a numeric How-Malfunction code, a valid numeric date, and a non-blank serial number. Then the record is checked for unacceptable How-Malfunction code and Action-Taken code, and the serial number is checked for a full complement of eight digits. In seven-digit numbers, an additional zero is inserted after the second digit.

After confirming the presence of eight digits, the serial number is checked against the highest and lowest acceptable serial number and the list of unacceptable serial numbers for appropriate action. Finally the day number is computed, using 1 January 1965 as Day 1, and inserted into Columns 86 through 89 of the record. The verified record is then written on an output file and the process repeated with the next input record. When the last input record is screened, the remainder of the tape record is filled by nines and the input and output files are closed.

Figure 2-3 shows the screening criteria used in the F-106 Scheduled Maintenance Study. The program is suitable for use with all AFM 66-1 data files for any USAF aircraft (with the following limitations).

- a. Rejected Aircraft Serial Numbers      25 Maximum
- b. Rejected How-Malfunction Codes        8 Maximum
- c. Rejected Action-Taken Codes           8 Maximum







| ADPE RECORD LAYOUT<br>(180 COLUMNS) |  |  |  |  |  |  |  |  |  | JOB NUMBER D0562              |  |  |  |  |  |  |  |  |  | STATER                   |  |  |  |  |  |  |  |  |  | TAPE NUMBER              |  |  |  |  |  |  |  |  |  | INSTRUCTIONS             |  |  |  |  |  |  |  |  |  | PAGE 2 OF 2 PAGES                      |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|--|--|--|--|-------------------------------|--|--|--|--|--|--|--|--|--|--------------------------|--|--|--|--|--|--|--|--|--|--------------------------|--|--|--|--|--|--|--|--|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|-----------------|--|--|--|--|--|--|--|--|--|
| AFM 66-1 MAINTENANCE DATA           |  |  |  |  |  |  |  |  |  | STANDARD FILE                 |  |  |  |  |  |  |  |  |  | RECORD                   |  |  |  |  |  |  |  |  |  | OTHER                    |  |  |  |  |  |  |  |  |  | RECORD LAYOUT NO. 6      |  |  |  |  |  |  |  |  |  | RECORD LAYOUT NO. 7<br>(MIS TCTO DATA) |  |  |  |  |  |  |  |  |  | RECORD LAYOUT NO. 8<br>(NON-AIRBORNE TCTO DATA) |  |  |  |  |  |  |  |  |  | RECORD LAYOUT NO. 9<br>(OFF EQUIPMENT TCTO DATA) |  |  |  |  |  |  |  |  |  | RECORD LAYOUT NO. 10<br>(ENGINE TCTO DATA) |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| TITLE                               |  |  |  |  |  |  |  |  |  | WORK ORDER                    |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| MANUFACTURE PART NUMBER             |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER            |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| FSC                                 |  |  |  |  |  |  |  |  |  | TIME                          |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| DESIGN                              |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                 |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| MISSION                             |  |  |  |  |  |  |  |  |  | SERIAL NUMBER WITH ID MASTER  |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| WORK UNIT                           |  |  |  |  |  |  |  |  |  | SERIAL NUMBER WITHOUT ID      |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| FSC                                 |  |  |  |  |  |  |  |  |  | MANUFACTURE PART NUMBER       |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| ENGINE IDENTITY                     |  |  |  |  |  |  |  |  |  | MANUFACTURE PART NUMBER       |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| MODEL                               |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                 |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| TYPE                                |  |  |  |  |  |  |  |  |  | YEAR OF MODIF                 |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| TRAILER ID                          |  |  |  |  |  |  |  |  |  | TRAILER INDICATOR             |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| CARRIAGE CON                        |  |  |  |  |  |  |  |  |  | NUMBER OF BLANKS ON THIS REEL |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| 1 SE                                |  |  |  |  |  |  |  |  |  | NUMBER OF BLANKS IN THIS FILE |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
|                                     |  |  |  |  |  |  |  |  |  | TRAILER INDICATOR             |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
|                                     |  |  |  |  |  |  |  |  |  | TRAILER INDICATOR             |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | DATE                     |  |  |  |  |  |  |  |  |  | DATE                                   |  |  |  |  |  |  |  |  |  | DATE  |  |  |  |  |  |  |  |  |  | DATE   |  |  |  |  |  |  |  |  |  | DATE                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| TYPE HOW MAL                        |  |  |  |  |  |  |  |  |  | TYPE HOW MAL                  |  |  |  |  |  |  |  |  |  | TYPE HOW MAL             |  |  |  |  |  |  |  |  |  | TYPE HOW MAL             |  |  |  |  |  |  |  |  |  | TYPE HOW MAL             |  |  |  |  |  |  |  |  |  | TYPE HOW MAL                           |  |  |  |  |  |  |  |  |  | TYPE HOW MAL                                    |  |  |  |  |  |  |  |  |  | TYPE HOW MAL                                     |  |  |  |  |  |  |  |  |  | TYPE HOW MAL                               |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| RECORD IDENTIFIER                   |  |  |  |  |  |  |  |  |  | RECORD IDENTIFIER             |  |  |  |  |  |  |  |  |  | RECORD IDENTIFIER        |  |  |  |  |  |  |  |  |  | RECORD IDENTIFIER        |  |  |  |  |  |  |  |  |  | RECORD IDENTIFIER        |  |  |  |  |  |  |  |  |  | RECORD IDENTIFIER                      |  |  |  |  |  |  |  |  |  | RECORD IDENTIFIER                               |  |  |  |  |  |  |  |  |  | RECORD IDENTIFIER                                |  |  |  |  |  |  |  |  |  | RECORD IDENTIFIER                          |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| SM AMA                              |  |  |  |  |  |  |  |  |  | SM AMA                        |  |  |  |  |  |  |  |  |  | SM AMA                   |  |  |  |  |  |  |  |  |  | SM AMA                   |  |  |  |  |  |  |  |  |  | SM AMA                   |  |  |  |  |  |  |  |  |  | SM AMA                                 |  |  |  |  |  |  |  |  |  | SM AMA  |  |  |  |  |  |  |  |  |  | SM AMA   |  |  |  |  |  |  |  |  |  | SM AMA                                     |  |  |  |  |  |  |  |  |  | SM AMA             |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| CARD CODE                           |  |  |  |  |  |  |  |  |  | CARD CODE                     |  |  |  |  |  |  |  |  |  | CARD CODE                |  |  |  |  |  |  |  |  |  | CARD CODE                |  |  |  |  |  |  |  |  |  | CARD CODE                |  |  |  |  |  |  |  |  |  | CARD CODE                              |  |  |  |  |  |  |  |  |  | CARD CODE                                       |  |  |  |  |  |  |  |  |  | CARD CODE  |  |  |  |  |  |  |  |  |  | CARD CODE                                  |  |  |  |  |  |  |  |  |  | CARD CODE          |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| SEQUENCE NUMBER                     |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER               |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER          |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER          |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER          |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER                        |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER                                 |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER                                  |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER                            |  |  |  |  |  |  |  |  |  | SEQUENCE NUMBER    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| DAY                                 |  |  |  |  |  |  |  |  |  | DAY                           |  |  |  |  |  |  |  |  |  | DAY                      |  |  |  |  |  |  |  |  |  | DAY                      |  |  |  |  |  |  |  |  |  | DAY                      |  |  |  |  |  |  |  |  |  | DAY                                    |  |  |  |  |  |  |  |  |  | DAY   |  |  |  |  |  |  |  |  |  | DAY  |  |  |  |  |  |  |  |  |  | DAY  |  |  |  |  |  |  |  |  |  | DAY                |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| TAG NO.                             |  |  |  |  |  |  |  |  |  | TAG NO.                       |  |  |  |  |  |  |  |  |  | TAG NO.                  |  |  |  |  |  |  |  |  |  | TAG NO.                  |  |  |  |  |  |  |  |  |  | TAG NO.                  |  |  |  |  |  |  |  |  |  | TAG NO.                                |  |  |  |  |  |  |  |  |  | TAG NO.   |  |  |  |  |  |  |  |  |  | TAG NO.  |  |  |  |  |  |  |  |  |  | TAG NO.                                    |  |  |  |  |  |  |  |  |  | TAG NO.            |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| CORP                                |  |  |  |  |  |  |  |  |  | CORP                          |  |  |  |  |  |  |  |  |  | CORP                     |  |  |  |  |  |  |  |  |  | CORP                     |  |  |  |  |  |  |  |  |  | CORP                     |  |  |  |  |  |  |  |  |  | CORP                                   |  |  |  |  |  |  |  |  |  | CORP  |  |  |  |  |  |  |  |  |  | CORP   |  |  |  |  |  |  |  |  |  | CORP                                       |  |  |  |  |  |  |  |  |  | CORP               |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| LOCATION OR INSTALLATION            |  |  |  |  |  |  |  |  |  | LOCATION OR INSTALLATION      |  |  |  |  |  |  |  |  |  | LOCATION OR INSTALLATION |  |  |  |  |  |  |  |  |  | LOCATION OR INSTALLATION |  |  |  |  |  |  |  |  |  | LOCATION OR INSTALLATION |  |  |  |  |  |  |  |  |  | LOCATION OR INSTALLATION               |  |  |  |  |  |  |  |  |  | LOCATION OR INSTALLATION                        |  |  |  |  |  |  |  |  |  | LOCATION OR INSTALLATION                         |  |  |  |  |  |  |  |  |  | LOCATION OR INSTALLATION                   |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| ACN 3-201                           |  |  |  |  |  |  |  |  |  | ACN 3-201                     |  |  |  |  |  |  |  |  |  | ACN 3-201                |  |  |  |  |  |  |  |  |  | ACN 3-201                |  |  |  |  |  |  |  |  |  | ACN 3-201                |  |  |  |  |  |  |  |  |  | ACN 3-201                              |  |  |  |  |  |  |  |  |  | ACN 3-201                                       |  |  |  |  |  |  |  |  |  | ACN 3-201  |  |  |  |  |  |  |  |  |  | ACN 3-201                                  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| LABOR HOURS                         |  |  |  |  |  |  |  |  |  | LABOR HOURS                   |  |  |  |  |  |  |  |  |  | LABOR HOURS              |  |  |  |  |  |  |  |  |  | LABOR HOURS              |  |  |  |  |  |  |  |  |  | LABOR HOURS              |  |  |  |  |  |  |  |  |  | LABOR HOURS                            |  |  |  |  |  |  |  |  |  | LABOR HOURS                                     |  |  |  |  |  |  |  |  |  | LABOR HOURS                                      |  |  |  |  |  |  |  |  |  | LABOR HOURS                                |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| UNITS                               |  |  |  |  |  |  |  |  |  | UNITS                         |  |  |  |  |  |  |  |  |  | UNITS                    |  |  |  |  |  |  |  |  |  | UNITS                    |  |  |  |  |  |  |  |  |  | UNITS                    |  |  |  |  |  |  |  |  |  | UNITS                                  |  |  |  |  |  |  |  |  |  | UNITS   |  |  |  |  |  |  |  |  |  | UNITS  |  |  |  |  |  |  |  |  |  | UNITS                                      |  |  |  |  |  |  |  |  |  | UNITS              |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| TCTO STATUS CODE                    |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE              |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE         |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE         |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE         |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE                       |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE                                |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE                                 |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE                           |  |  |  |  |  |  |  |  |  | TCTO STATUS CODE   |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| QUANTITY                            |  |  |  |  |  |  |  |  |  | QUANTITY                      |  |  |  |  |  |  |  |  |  | QUANTITY                 |  |  |  |  |  |  |  |  |  | QUANTITY                 |  |  |  |  |  |  |  |  |  | QUANTITY                 |  |  |  |  |  |  |  |  |  | QUANTITY                               |  |  |  |  |  |  |  |  |  | QUANTITY  |  |  |  |  |  |  |  |  |  | QUANTITY   |  |  |  |  |  |  |  |  |  | QUANTITY                                   |  |  |  |  |  |  |  |  |  | QUANTITY           |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| WORK UNIT CODE                      |  |  |  |  |  |  |  |  |  | WORK UNIT CODE                |  |  |  |  |  |  |  |  |  | WORK UNIT CODE           |  |  |  |  |  |  |  |  |  | WORK UNIT CODE           |  |  |  |  |  |  |  |  |  | WORK UNIT CODE           |  |  |  |  |  |  |  |  |  | WORK UNIT CODE                         |  |  |  |  |  |  |  |  |  | WORK UNIT CODE                                  |  |  |  |  |  |  |  |  |  | WORK UNIT CODE                                   |  |  |  |  |  |  |  |  |  | WORK UNIT CODE                             |  |  |  |  |  |  |  |  |  | WORK UNIT CODE     |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| YEAR                                |  |  |  |  |  |  |  |  |  | YEAR                          |  |  |  |  |  |  |  |  |  | YEAR                     |  |  |  |  |  |  |  |  |  | YEAR                     |  |  |  |  |  |  |  |  |  | YEAR                     |  |  |  |  |  |  |  |  |  | YEAR                                   |  |  |  |  |  |  |  |  |  | YEAR  |  |  |  |  |  |  |  |  |  | YEAR   |  |  |  |  |  |  |  |  |  | YEAR                                       |  |  |  |  |  |  |  |  |  | YEAR               |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| MONTH                               |  |  |  |  |  |  |  |  |  | MONTH                         |  |  |  |  |  |  |  |  |  | MONTH                    |  |  |  |  |  |  |  |  |  | MONTH                    |  |  |  |  |  |  |  |  |  | MONTH                    |  |  |  |  |  |  |  |  |  | MONTH                                  |  |  |  |  |  |  |  |  |  | MONTH   |  |  |  |  |  |  |  |  |  | MONTH  |  |  |  |  |  |  |  |  |  | MONTH                                      |  |  |  |  |  |  |  |  |  | MONTH              |  |  |  |  |  |  |  |  |  | MONTH           |  |  |  |  |  |  |  |  |  |
| DAY                                 |  |  |  |  |  |  |  |  |  | DAY                           |  |  |  |  |  |  |  |  |  | DAY                      |  |  |  |  |  |  |  |  |  | DAY                      |  |  |  |  |  |  |  |  |  | DAY                      |  |  |  |  |  |  |  |  |  | DAY                                    |  |  |  |  |  |  |  |  |  | DAY   |  |  |  |  |  |  |  |  |  | DAY  |  |  |  |  |  |  |  |  |  | DAY  |  |  |  |  |  |  |  |  |  | DAY                |  |  |  |  |  |  |  |  |  | DAY             |  |  |  |  |  |  |  |  |  |
| SUFFIX                              |  |  |  |  |  |  |  |  |  | SUFFIX                        |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | SUFFIX                   |  |  |  |  |  |  |  |  |  | SUFFIX                                 |  |  |  |  |  |  |  |  |  | SUFFIX  |  |  |  |  |  |  |  |  |  | SUFFIX   |  |  |  |  |  |  |  |  |  | SUFFIX                                     |  |  |  |  |  |  |  |  |  | SUFFIX             |  |  |  |  |  |  |  |  |  | SUFFIX          |  |  |  |  |  |  |  |  |  |
| BASIC SN(OR)                        |  |  |  |  |  |  |  |  |  | BASIC SN(OR)                  |  |  |  |  |  |  |  |  |  | BASIC SN(OR)             |  |  |  |  |  |  |  |  |  | BASIC SN(OR)             |  |  |  |  |  |  |  |  |  | BASIC SN(OR)             |  |  |  |  |  |  |  |  |  | BASIC SN(OR)                           |  |  |  |  |  |  |  |  |  | BASIC SN(OR)                                    |  |  |  |  |  |  |  |  |  | BASIC SN(OR)                                     |  |  |  |  |  |  |  |  |  | BASIC SN(OR)                               |  |  |  |  |  |  |  |  |  | BASIC SN(OR)       |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| TYPE MAINT                          |  |  |  |  |  |  |  |  |  | TYPE MAINT                    |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | TYPE MAINT               |  |  |  |  |  |  |  |  |  | TYPE MAINT                             |  |  |  |  |  |  |  |  |  | TYPE MAINT                                      |  |  |  |  |  |  |  |  |  | TYPE MAINT                                       |  |  |  |  |  |  |  |  |  | TYPE MAINT                                 |  |  |  |  |  |  |  |  |  | TYPE MAINT         |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| PREFIX                              |  |  |  |  |  |  |  |  |  | PREFIX                        |  |  |  |  |  |  |  |  |  | PREFIX                   |  |  |  |  |  |  |  |  |  | PREFIX                   |  |  |  |  |  |  |  |  |  | PREFIX                   |  |  |  |  |  |  |  |  |  | PREFIX                                 |  |  |  |  |  |  |  |  |  | PREFIX  |  |  |  |  |  |  |  |  |  | PREFIX   |  |  |  |  |  |  |  |  |  | PREFIX                                     |  |  |  |  |  |  |  |  |  | PREFIX             |  |  |  |  |  |  |  |  |  | PREFIX          |  |  |  |  |  |  |  |  |  |
| OWNING WORK CENTER                  |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER            |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER       |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER       |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER       |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER                     |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER                              |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER                               |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER                         |  |  |  |  |  |  |  |  |  | OWNING WORK CENTER |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| TIME                                |  |  |  |  |  |  |  |  |  | TIME                          |  |  |  |  |  |  |  |  |  | TIME                     |  |  |  |  |  |  |  |  |  | TIME                     |  |  |  |  |  |  |  |  |  | TIME                     |  |  |  |  |  |  |  |  |  | TIME                                   |  |  |  |  |  |  |  |  |  | TIME  |  |  |  |  |  |  |  |  |  | TIME   |  |  |  |  |  |  |  |  |  | TIME                                       |  |  |  |  |  |  |  |  |  | TIME               |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| SERIAL NUMBER                       |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                 |  |  |  |  |  |  |  |  |  | SERIAL NUMBER            |  |  |  |  |  |  |  |  |  | SERIAL NUMBER            |  |  |  |  |  |  |  |  |  | SERIAL NUMBER            |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                          |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                                   |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                                    |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                              |  |  |  |  |  |  |  |  |  | SERIAL NUMBER      |  |  |  |  |  |  |  |  |  |                 |  |  |  |  |  |  |  |  |  |
| SERIAL NUMBER WITH ID MASTER        |  |  |  |  |  |  |  |  |  | SERIAL NUMBER WITHOUT ID      |  |  |  |  |  |  |  |  |  | SERIAL NUMBER            |  |  |  |  |  |  |  |  |  | SERIAL NUMBER            |  |  |  |  |  |  |  |  |  | SERIAL NUMBER            |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                          |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                                   |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                                    |  |  |  |  |  |  |  |  |  | SERIAL NUMBER                              |  |  |  |  |  |  |  |  |  | SERIAL NUMBER      |  |  |  |  |  |  |  |  |  | SERIAL NUMBER   |  |  |  |  |  |  |  |  |  |
| FSC                                 |  |  |  |  |  |  |  |  |  | FSC                           |  |  |  |  |  |  |  |  |  | FSC                      |  |  |  |  |  |  |  |  |  | FSC                      |  |  |  |  |  |  |  |  |  | FSC                      |  |  |  |  |  |  |  |  |  | FSC                                    |  |  |  |  |  |  |  |  |  | FSC   |  |  |  |  |  |  |  |  |  | FSC  |  |  |  |  |  |  |  |  |  | FSC  |  |  |  |  |  |  |  |  |  | FSC                |  |  |  |  |  |  |  |  |  | FSC             |  |  |  |  |  |  |  |  |  |
| ENGINE IDENTITY                     |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY               |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY          |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY          |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY          |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY                        |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY                                 |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY                                  |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY                            |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY    |  |  |  |  |  |  |  |  |  | ENGINE IDENTITY |  |  |  |  |  |  |  |  |  |
| MODEL                               |  |  |  |  |  |  |  |  |  | MODEL                         |  |  |  |  |  |  |  |  |  | MODEL                    |  |  |  |  |  |  |  |  |  | MODEL                    |  |  |  |  |  |  |  |  |  | MODEL                    |  |  |  |  |  |  |  |  |  | MODEL                                  |  |  |  |  |  |  |  |  |  | MODEL   |  |  |  |  |  |  |  |  |  | MODEL  |  |  |  |  |  |  |  |  |  | MODEL                                      |  |  |  |  |  |  |  |  |  | MODEL              |  |  |  |  |  |  |  |  |  | MODEL           |  |  |  |  |  |  |  |  |  |
| TYPE                                |  |  |  |  |  |  |  |  |  | TYPE                          |  |  |  |  |  |  |  |  |  | TYPE                     |  |  |  |  |  |  |  |  |  | TYPE                     |  |  |  |  |  |  |  |  |  | TYPE                     |  |  |  |  |  |  |  |  |  | TYPE                                   |  |  |  |  |  |  |  |  |  | TYPE  |  |  |  |  |  |  |  |  |  | TYPE   |  |  |  |  |  |  |  |  |  | TYPE                                       |  |  |  |  |  |  |  |  |  | TYPE               |  |  |  |  |  |  |  |  |  | TYPE            |  |  |  |  |  |  |  |  |  |
| TRAILER ID                          |  |  |  |  |  |  |  |  |  | TRAILER ID                    |  |  |  |  |  |  |  |  |  | TRAILER ID               |  |  |  |  |  |  |  |  |  | TRAILER ID               |  |  |  |  |  |  |  |  |  | TRAILER ID               |  |  |  |  |  |  |  |  |  | TRAILER ID                             |  |  |  |  |  |  |  |  |  | TRAILER ID                                      |  |  |  |  |  |  |  |  |  | TRAILER ID                                       |  |  |  |  |  |  |  |  |  | TRAILER ID                                 |  |  |  |  |  |  |  |  |  | TRAILER ID         |  |  |  |  |  |  |  |  |  | TRAILER ID      |  |  |  |  |  |  |  |  |  |
| CARRIAGE CON                        |  |  |  |  |  |  |  |  |  | CARRIAGE CON                  |  |  |  |  |  |  |  |  |  | CARRIAGE CON             |  |  |  |  |  |  |  |  |  | CARRIAGE CON             |  |  |  |  |  |  |  |  |  | CARRIAGE CON             |  |  |  |  |  |  |  |  |  | CARRIAGE CON                           |  |  |  |  |  |  |  |  |  | CARRIAGE CON                                    |  |  |  |  |  |  |  |  |  | CARRIAGE CON                                     |  |  |  |  |  |  |  |  |  | CARRIAGE CON                               |  |  |  |  |  |  |  |  |  | CARRIAGE CON       |  |  |  |  |  |  |  |  |  | CARRIAGE CON    |  |  |  |  |  |  |  |  |  |
| 1 SE                                |  |  |  |  |  |  |  |  |  | 1 SE                          |  |  |  |  |  |  |  |  |  | 1 SE                     |  |  |  |  |  |  |  |  |  | 1 SE                     |  |  |  |  |  |  |  |  |  | 1 SE                     |  |  |  |  |  |  |  |  |  | 1 SE                                   |  |  |  |  |  |  |  |  |  | 1 SE  |  |  |  |  |  |  |  |  |  | 1 SE   |  |  |  |  |  |  |  |  |  | 1 SE                                       |  |  |  |  |  |  |  |  |  | 1 SE               |  |  |  |  |  |  |  |  |  | 1 SE            |  |  |  |  |  |  |  |  |  |

STANDARD AF/C TAPE TRAILER  
TRAILER INDICATOR (COL 20):  
R = END OF REEL INDICATION  
F = END OF FILE INDICATION

Figure 2-2. AFM 66-1 Tape Record Layouts (Sheet 2 of 2)



2.2.1.3 Output Description. The sample output, Figure 2-4, shows the same format as the AFM 66-1 data tapes, with the addition of the day number in Columns 86 through 89.

Experience with F-106 AFM 66-1 data tapes on the IBM 370 using 9-track, 1600 bpi tape drives indicates a yield of some 30,000 acceptable records from a total of about twice that number from each input tape. The screening process typically requires five to ten minutes of elapsed computer time. Without exception, a single reel of input was screened onto a single reel of output tape.

## 2.2.2 AFM 66-1 SORT

2.2.2.1 Purpose. This IBM utility program sorts the screened AFM 66-1 data tape into an ordered file.

2.2.2.2 Input Data and Procedures. The JCL control cards for the IBM utility program and a sample of card data input for use on the IBM 370 are shown in Paragraph 6.1.2. The input consists of card data defining the sort fields, sort characteristics, and the screened AFM 66-1 data tape. The sort fields are all defined as character fields in ascending order and are shown in the following list in order of hierarchy.

| <u>Field</u> | <u>Column</u> | <u>Description</u>                    |
|--------------|---------------|---------------------------------------|
| 1            | 15-22         | Serial Number                         |
| 2            | 86-89         | Day Number                            |
| 3            | 46-50         | Work Unit Code                        |
| 4            | 53-55         | How-Malfunction Code                  |
| 5            | 51-52         | Action-Taken and When-Discovered Code |
| 6            | 56-84         | *                                     |
| 7            | 23-45         | *                                     |

\*Fields 6 and 7 are necessary to ensure that any duplicated records will be placed in adjacent order in the output file.

2.2.2.3 Output Description. The sample output, Figure 2-5, shows the same format as the screened output: 90-character data record, blocked 30 to a tape record.

Experience with the sorting of screened F-106 AFM 66-1 tapes on the IBM 370 using 9-track, 1600 bpi tape drives, typically required three to five minutes of elapsed computer time.





### 2.2.3 AFM 66-1 MERGE

2.2.3.1 Purpose. This IBM utility program merges the screened and sorted AFM 66-1 data tapes into a single file of data.

2.2.3.2 Input Data and Procedures. The JCL control cards for the IBM utility program and a sample of card data input for use on the IBM 370 are listed in Paragraph 6.1.3. The input card data is identical to that used in the AFM 66-1 Sort.

2.2.3.3 Output Description. Merging of 48 F-106 AFM 66-1 screened and sorted tapes on the IBM 370 using 9-track, 1600 bpi tape drives required a total of eight merges, each routine merging seven tapes. In the first step, seven screened and sorted tapes were merged (generally to one, occasionally to two tape reels). This was repeated for each group of seven tapes. These steps required 5 to 10 minutes of clock time. The final step, merging these intermediate tapes, required 20 to 30 minutes of elapsed computer time, and the file consisted of five data tapes. The total file contained approximately 1,600,000 records. The output tape has 90 characters to a data record, blocked 30 to a tape record and has identical format to that of the AFM 66-1 sort output data tape.

### 2.2.4 AFM 66-1 ELIMINATE DUPLICATE RECORDS

2.2.4.1 Purpose. This COBOL program eliminates duplicate records from the screened, sorted, and merged AFM 66-1 file.

2.2.4.2 Input Data and Procedures. The JCL control cards for use on an IBM 370 and the program are listed in Paragraph 6.1.4.

The input consists of the screened, sorted, and merged AFM 66-1 data tapes. The program opens the input and output files and reads and stores the first data record. The next record is then read and compared to the previous record. If all 90 characters are identical, the second record is moved over the first, the next record read, and the process repeated. If they are dissimilar, the first record is passed to the output file and the second record is stored for the next comparison. Upon detection of a series of nines on the input, the remainder of the output block is filled with nines and both input and output files closed.

2.2.4.3 Output Description. Screening, sorting, and merging of some 1,600,000 F-106 AFM 66-1 records yielded over 100,000 duplicate records. The number of duplicated records is displayed on the computer console. The program required 30 to 60 minutes of elapsed computer time, and required four output data tapes. The record layout and the blocking factor are unchanged from the AFM 66-1 sort.



**2.2.5 AFM 66-1 COPY ACCEPTABLE AIRCRAFT**

**2.2.5.1 Purpose.** During the initial screening of the AFM 66-1 data tapes, records for a specified set of aircraft serial numbers were deleted. During formulation of the data bank, only data for a specific fleet of aircraft is necessary. This COBOL program writes these acceptable aircraft records on a magnetic tape to form the new AFM 66-1 file.

**2.2.5.2 Input Data and Procedures.** The JCL control cards, the program, and a sample of the card data input are listed in Paragraph 6.1.5. The input consists of card data defining the acceptable aircraft serial numbers. The first card defines the number of acceptable serial numbers, and subsequent cards define the serial numbers in ascending sequence.

| <u>Card</u> | <u>Column</u> | <u>Description</u>                                |
|-------------|---------------|---|
| a           | 1-3           | Number of Acceptable Aircraft                     |
| b           | 1-8           | Acceptable Serial Numbers<br>(ascending sequence) |

The complete list of acceptable aircraft is shown in Table 2-4 and a sample input to this program in Figure 2-6. The program input and output files are opened, and the list of acceptable aircraft serial numbers is stored in the computer memory. The AFM 66-1 data file is read and records with an acceptable serial number are written on the output file. On detection of the last input record, the remainder of the output block is

**Table 2-4. Tail Numbers of Acceptable Aircraft**

```
T/P DT01      18.23.21 72/073 BLK CNT 020 LENGTH 090 CONTROL 2090
.....1.....2.....3.....4.....5.....6.....
150
57000231
57000232
57000235
57000236
57000237
57000243
57000244
57002455
57002456
57002458
57002459
57002463
57002470
57002473
57002476
57002477
57002482
57002483
57002485

57002486
57002490
57002491
```

Table 2-4. Tail Numbers of Acceptable Aircraft, Continued

T/P DT01 18.23.21 72/073 BLK CNT 020 LENGTH 080 CONTROL 2080

.....1.....2.....3.....4.....5.....6.....  
 57002493  
 57002494  
 57002496  
 57002503  
 57002504  
 57002505  
 57002508  
 57002509  
 57002515  
 57002517  
 57002520  
 57002524  
 57002527  
 57002528  
 57002532  
 57002533  
 57002537  
  
 57002538  
 57002540  
 57002543  
 57002545  
 57002546  
 58000760  
 58000766  
 58000767  
 58000772  
 58000773  
 58000776  
 58000777  
 58000778  
 58000780  
 58000781  
 58000783  
 58000785  
 58000786  
 58000788  
 58000792  
  
 58000797  
 58000900  
 58000901  
 58000903  
 58000904  
 59000002  
 59000003  
 59000004  
 59000005  
 59000006  
 59000007  
 59000008  
 59000010  
 59000012  
 59000015  
 59000016  
 59000018  
 59000019  
 59000024  
 59000025  
  
 59000026  
 59000027  
 59000028  
 59000030  
 59000031  
 59000033  
 59000035



Table 2-4. Tail Numbers of Acceptable Aircraft, Continued

T/P DTG 18.23.21 72/073 BLK CNT 020 LENGTH 080 CONTROL Z080

|          | 1 | 2 | 3 | 4 | 5 | 6 |
|----------|---|---|---|---|---|---|
| 59000043 |   |   |   |   |   |   |
| 59000044 |   |   |   |   |   |   |
| 59000046 |   |   |   |   |   |   |
| 59000048 |   |   |   |   |   |   |
| 59000051 |   |   |   |   |   |   |
| 59000052 |   |   |   |   |   |   |
| 59000053 |   |   |   |   |   |   |
| 59000054 |   |   |   |   |   |   |
| 59000056 |   |   |   |   |   |   |
| 59000057 |   |   |   |   |   |   |
| 59000058 |   |   |   |   |   |   |
| 59000059 |   |   |   |   |   |   |
| 59000060 |   |   |   |   |   |   |
| 59000063 |   |   |   |   |   |   |
| 59000064 |   |   |   |   |   |   |
| 59000065 |   |   |   |   |   |   |
| 59000067 |   |   |   |   |   |   |
| 59000069 |   |   |   |   |   |   |
| 59000072 |   |   |   |   |   |   |
| 59000074 |   |   |   |   |   |   |
| 59000076 |   |   |   |   |   |   |
| 59000078 |   |   |   |   |   |   |
| 59000080 |   |   |   |   |   |   |
| 59000082 |   |   |   |   |   |   |
| 59000084 |   |   |   |   |   |   |
| 59000085 |   |   |   |   |   |   |
| 59000088 |   |   |   |   |   |   |
| 59000090 |   |   |   |   |   |   |
| 59000092 |   |   |   |   |   |   |
| 59000094 |   |   |   |   |   |   |
| 59000095 |   |   |   |   |   |   |
| 59000096 |   |   |   |   |   |   |
| 59000099 |   |   |   |   |   |   |
| 59000103 |   |   |   |   |   |   |
| 59000104 |   |   |   |   |   |   |
| 59000105 |   |   |   |   |   |   |
| 59000109 |   |   |   |   |   |   |
| 59000110 |   |   |   |   |   |   |
| 59000115 |   |   |   |   |   |   |
| 59000116 |   |   |   |   |   |   |
| 59000119 |   |   |   |   |   |   |
| 59000126 |   |   |   |   |   |   |
| 59000127 |   |   |   |   |   |   |
| 59000128 |   |   |   |   |   |   |
| 59000130 |   |   |   |   |   |   |
| 59000132 |   |   |   |   |   |   |
| 59000133 |   |   |   |   |   |   |
| 59000137 |   |   |   |   |   |   |
| 59000138 |   |   |   |   |   |   |
| 59000140 |   |   |   |   |   |   |
| 59000141 |   |   |   |   |   |   |
| 59000143 |   |   |   |   |   |   |
| 59000144 |   |   |   |   |   |   |
| 59000145 |   |   |   |   |   |   |
| 59000146 |   |   |   |   |   |   |
| 59000147 |   |   |   |   |   |   |
| 59000149 |   |   |   |   |   |   |
| 59000151 |   |   |   |   |   |   |
| 59000152 |   |   |   |   |   |   |
| 59000153 |   |   |   |   |   |   |
| 59000155 |   |   |   |   |   |   |
| 59000157 |   |   |   |   |   |   |
| 59000164 |   |   |   |   |   |   |



the screening process, the file is sorted into an ordered sequence, then merged with other similar AFM 65-110 screened and sorted tapes. Experience has shown that many of the records are duplicated; these are removed. Finally, only data for a specified set of aircraft serial numbers is required for the data bank, and these records are copied to form the final AFM 65-110 file. The logic flow for these programs is shown in Figure 2-7.

### 2.3.1 AFM 65-110 SCREEN

2.3.1.1 Purpose. This program, written in COBOL, screens the AFM 65-110 data tapes to eliminate unnecessary and unacceptable records and writes acceptable records on magnetic tape for further processing.

2.3.1.2 Input Data and Procedures. The program, a sample of card data input, and the associated job control language (JCL) for use on the IBM 370 are shown in Paragraph 6.2.1. Input to the program consists of the raw AFM 65-110 tape and a deck of cards containing the screening criteria. The record layouts for the AFM 65-110 tape are shown in Figure 2-8. The tape consists of 60-character data records, blocked 50 to a tape record. The screening criteria card deck consists of a deck containing, in order, the following.

| <u>Card</u> | <u>Column</u> | <u>Description</u>  |
|-------------|---------------|---|
| a           | 1-4           | Acceptable Aircraft Mission and Design                              |
| b           | 1-2           | Number of Rejected Aircraft   |
| c           | 1-8           | Rejected Aircraft Serial Numbers<br>(Number of Cards Set by Card b) |
| e           | 1-8           | Lowest Acceptable Serial Number                                     |
| f           | 1-8           | Highest Acceptable Serial Number                                    |
| g           | 1             | Maintenance Code Corresponding to<br>Periodic Inspection            |
|             | 2-6           | Work Unit Code for Periodic Inspection                              |
|             | 11            | Maintenance Code Corresponding to<br>Hourly Postflight Inspection   |
|             | 12-16         | Work Unit Code for Hourly Postflight<br>Inspection                  |

The program opens the input and output files, reads and stores the screening data, then reads the first AFM 65-110 data record and checks for an acceptable Mission and Design designation, a valid date, and a non-blank serial number. Then the serial number is checked against the highest and lowest acceptable serial numbers and the

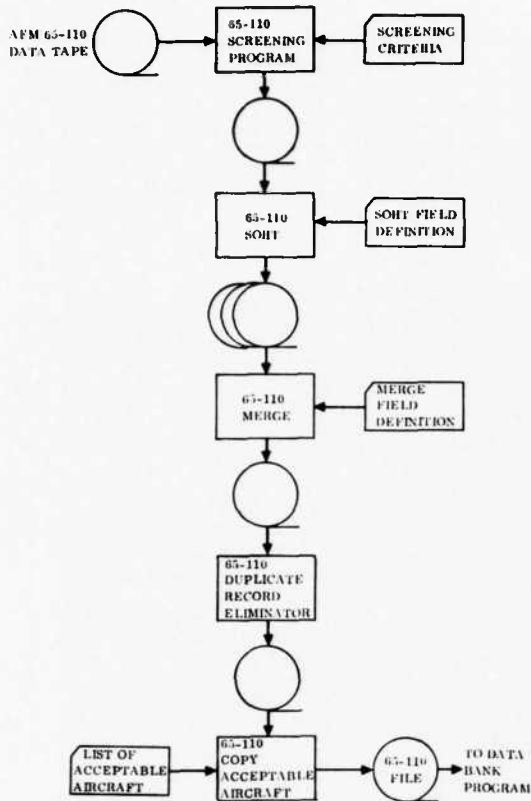


Figure 2-7. Logic Flow of AFM 65-110 File Generation

list of unacceptable serial numbers for appropriate action. If the WUC field is blank, the Maintenance Code field is tested for a code corresponding to the Periodic Inspection or Hourly Postflight Inspection and the appropriate WUC entered into the output record. Finally, the day number is computed using 1 January 1965 as day number 1 and inserted into Columns 49 through 52 of the output record. Upon screening of the last input record, the remainder of the life record is filled by nines and the input and output files closed. Figure 2-9 shows the screening criteria used in the F-106 Scheduled Maintenance Study.

The program is suitable for use with all USAF aircraft with the following program dimension limitation: a maximum of 25 rejected aircraft serial numbers is allowed.

2.3.1.3 Output Description. The sample output, Figure 2-10, shows the same format as the AFM 65-110 data tapes, with the addition of the day number in Columns 49 through 52.

Experience with the F-106 AFM 65-110 data tapes on the IBM 370 indicates approximately 8,000 acceptable records are available from a total of 10,000 records on each input tape. The screening process required two minutes of computer time.

### 2.3.2 AFM 65-110 SORT

2.3.2.1 Purpose. This IBM utility program sorts the screened AFM 65-110 data tape into an ordered file.

2.3.2.2 Input Data and Procedures. The JCL control cards for the IBM utility program and a sample of card data input for use on the IBM 370 are listed in Paragraph 6.2.2. The input consists of card data defining the sort fields, sort characteristics,

**RECORDS AND WORK AREAS** AFM 65-110  
(60 CPR/3000 CPB)

FORM 5048 (REV. 7-70)

| RECORD NAME |                    | Record Type 1--Possessed Hours |        |           |             |           |      |             |              |         |         |      |                |              |         |         |          |            |            |                |           |         |        |               |      |            |         |            |            |         |   |           |   |               |   |      |   |         |   |   |
|-------------|--------------------|--------------------------------|--------|-----------|-------------|-----------|------|-------------|--------------|---------|---------|------|----------------|--------------|---------|---------|----------|------------|------------|----------------|-----------|---------|--------|---------------|------|------------|---------|------------|------------|---------|---|-----------|---|---------------|---|------|---|---------|---|---|
| FIELD NAME  | CHARACTER POSITION | MDS                            |        | Series    |             | Mod. Mis. |      | Class. Mis. |              | Kind    |         | Type |                | Organization |         | Command |          | Station    |            | Assign./Status |           | SEA/LTF |        | Code          |      | AMA Code   |         | Geom. Area |            | Hours   |   | Pos. Hrs. |   | Serial Number |   | Date |   | Rcd. ID |   |   |
|             |                    | Design                         | Series | Mod. Mis. | Class. Mis. | Kind      | Type | Number      | Organization | Command | Station | Code | Assign./Status | Code         | SEA/LTF | Code    | AMA Code | Geom. Area | Geom. Area | Hours          | Pos. Hrs. | Hours   | Tenths | Serial Number | Year | Julian Day | Rcd. ID | Year       | Julian Day | Rcd. ID |   |           |   |               |   |      |   |         |   |   |
|             | 1                  | 2                              | 3      | 4         | 5           | 6         | 7    | 8           | 9            | 0       | 1       | 2    | 3              | 4            | 5       | 6       | 7        | 8          | 9          | 0              | 1         | 2       | 3      | 4             | 5    | 6          | 7       | 8          | 9          | 0       | 1 | 2         | 3 | 4             | 5 | 6    | 7 | 8       | 9 | 0 |

| RECORD NAME |                    | Record Type 2--Maintenance Data (NORM-NORS) |        |           |             |           |      |             |              |         |         |      |                |              |         |         |          |            |            |                |           |         |        |               |      |            |         |            |            |           |   |       |   |           |   |               |   |      |   |         |  |
|-------------|--------------------|---|--------|-----------|-------------|-----------|------|-------------|--------------|---------|---------|------|----------------|--------------|---------|---------|----------|------------|------------|----------------|-----------|---------|--------|---------------|------|------------|---------|------------|------------|-----------|---|-------|---|-----------|---|---------------|---|------|---|---------|--|
| FIELD NAME  | CHARACTER POSITION | MDS   |        | Series    |             | Mod. Mis. |      | Class. Mis. |              | Kind    |         | Type |                | Organization |         | Command |          | Station    |            | Assign./Status |           | SEA/LTF |        | Code          |      | AMA Code   |         | Geom. Area |            | Main Lab. |   | Hours |   | Work Unit |   | Serial Number |   | Date |   | Rcd. ID |  |
|             |                    | Design                                      | Series | Mod. Mis. | Class. Mis. | Kind      | Type | Number      | Organization | Command | Station | Code | Assign./Status | Code         | SEA/LTF | Code    | AMA Code | Geom. Area | Geom. Area | Hours          | Main Lab. | Hours   | Tenths | Serial Number | Year | Julian Day | Rcd. ID | Year       | Julian Day | Rcd. ID   |   |       |   |           |   |               |   |      |   |         |  |
|             | 1                  | 2   | 3      | 4         | 5           | 6         | 7    | 8           | 9            | 0       | 1       | 2    | 3              | 4            | 5       | 6       | 7        | 8          | 9          | 0              | 1         | 2       | 3      | 4             | 5    | 6          | 7       | 8          | 9          | 0         | 1 | 2     | 3 | 4         | 5 | 6             | 7 | 8    | 9 | 0       |  |

| RECORD NAME |                    | Record Type 3-6--Utilization Data |        |           |             |           |      |             |              |         |         |      |                |              |         |         |          |            |            |                |           |         |        |               |      |            |         |            |            |             |   |          |   |        |   |      |   |         |   |   |
|-------------|--------------------|-----------------------------------|--------|-----------|-------------|-----------|------|-------------|--------------|---------|---------|------|----------------|--------------|---------|---------|----------|------------|------------|----------------|-----------|---------|--------|---------------|------|------------|---------|------------|------------|-------------|---|----------|---|--------|---|------|---|---------|---|---|
| FIELD NAME  | CHARACTER POSITION | MDS                               |        | Series    |             | Mod. Mis. |      | Class. Mis. |              | Kind    |         | Type |                | Organization |         | Command |          | Station    |            | Assign./Status |           | SEA/LTF |        | Code          |      | AMA Code   |         | Geom. Area |            | Flight Hrs. |   | Landings |   | Series |   | Date |   | Rcd. ID |   |   |
|             |                    | Design                            | Series | Mod. Mis. | Class. Mis. | Kind      | Type | Number      | Organization | Command | Station | Code | Assign./Status | Code         | SEA/LTF | Code    | AMA Code | Geom. Area | Geom. Area | Hours          | Mis. Type | Hours   | Tenths | Serial Number | Year | Julian Day | Rcd. ID | Year       | Julian Day | Rcd. ID     |   |          |   |        |   |      |   |         |   |   |
|             | 1                  | 2                                 | 3      | 4         | 5           | 6         | 7    | 8           | 9            | 0       | 1       | 2    | 3              | 4            | 5       | 6       | 7        | 8          | 9          | 0              | 1         | 2       | 3      | 4             | 5    | 6          | 7       | 8          | 9          | 0           | 1 | 2        | 3 | 4      | 5 | 6    | 7 | 8       | 9 | 0 |

Figure 2-8. AFM 65-110 Tape Record Layouts

80 COLUMN GENERAL PURPOSE FORM

| JOB TITLE |        | ENGINEER |     | PAGE    |     | OF   |     |
|-----------|--------|----------|-----|---------|-----|------|-----|
| JOB NO.   |        | FUNCTION |     | ANALYST |     | DATE |     |
| W-1       | W-2    | W-3      | W-4 | W-5     | W-6 | W-7  | W-8 |
| F106      |        |          |     |         |     |      |     |
| 13        |        |          |     |         |     |      |     |
| 57000234  |        |          |     |         |     |      |     |
| 57000239  |        |          |     |         |     |      |     |
| 57000240  |        |          |     |         |     |      |     |
| 57001523  |        |          |     |         |     |      |     |
| 57002507  |        |          |     |         |     |      |     |
| 57002513  |        |          |     |         |     |      |     |
| 57002516  |        |          |     |         |     |      |     |
| 57002519  |        |          |     |         |     |      |     |
| 57002523  |        |          |     |         |     |      |     |
| 57002529  |        |          |     |         |     |      |     |
| 58000795  |        |          |     |         |     |      |     |
| 59000061  |        |          |     |         |     |      |     |
| 59000150  |        |          |     |         |     |      |     |
| 57000001  |        |          |     |         |     |      |     |
| 59999999  |        |          |     |         |     |      |     |
| 003300    | 003300 |          |     |         |     |      |     |

Figure 2-9. Sample Input — AFM 65-110 Screening Criteria

and the screened AFM 65-110 data tape. The sort fields are all defined as character fields in ascending order. The sort fields in order of hierarchy are:

| <u>Field</u> | <u>Column</u> | <u>Description</u>                    |
|--------------|---------------|---------------------------------------|
| 1            | 39-46         | Serial Number                         |
| 2            | 49-52         | Day Number                            |
| 3            | 59            | Record ID                             |
| 4            | 34-38         | Work Unit Code or Landing and Sorties |
| 5            | 29            | Maintenance Code or Mission Symbol    |
| 6            | 1-27          | *                                     |
| 7            | 30-33         | *                                     |

\* Fields 6 and 7 are necessary to ensure that any duplicated records will be placed in adjacent order in the output file.

**2.3.2.3 Output Description.** The output tape file structure consists of 60-character data records, blocked 50 to a tape record. Sample output is shown in Figure 2-11. Two minutes of IBM 370 time was required to screen a typical F-106 AFM 65-110 tape.







### 2.3.3 AFM 65-110 MERGE

**2.3.3.1 Purpose.** This IBM utility program merges the screened and sorted AFM 65-110 data tapes into a single file.

**2.3.3.2 Input Data and Procedures.** The input data comprises the screened and sorted AFM 65-110 data tapes and the input card data defining the merge fields. The JCL control cards for the IBM utility program and a sample of card data input for the IBM 370 are listed in Paragraph 6.2.3. The input card data is identical to that used in the AFM 65-110 Sort, as shown in Paragraph 2.3.2.2.

**2.3.3.3 Output Description.** Merging of 21 F-106 AFM 65-110 screened and sorted tapes on the IBM 370 required a total of four merges. In the first step, seven screened and sorted tapes were merged to one tape reel. This was repeated for the other 14 tapes. These steps required three to five minutes of elapsed time. The file contained 480,000 records and required one reel of tape. The output format is the same as that used for the AFM 65-110 sort output data tape.

### 2.3.4 AFM 65-110 ELIMINATE DUPLICATE RECORDS

**2.3.4.1 Purpose.** This COBOL program eliminates duplicate records from the screened, sorted, and merged AFM 65-110 file.

**2.3.4.2 Input Data and Procedures.** The JCL control cards for use on an IBM 370 and the program are shown in Paragraph 6.2.4. The input consists of the screened, sorted, and merged AFM 65-110 data tapes. Operation is identical to that of the corresponding program for the AFM 66-1 file in Paragraph 2.2.4.2.

**2.3.4.3 Output Description.** Screening, sorting, and merging of approximately 485,000 F-106 AFM 65-110 records yielded over 36,000 duplicate records. The number of duplicate records is displayed on the IBM 370 and required one output reel. The record layout and the blocking factor are unchanged from the AFM 65-110 sort.

### 2.3.5 AFM 65-110 COPY ACCEPTABLE AIRCRAFT

**2.3.5.1 Purpose.** During the initial screening of the AFM 65-110 data tapes, records for a specified set of aircraft serial numbers were deleted. During formulation of the data bank, however, only data for a specific fleet of aircraft is necessary. This COBOL program writes these acceptable aircraft records on a magnetic tape to form the new AFM 65-110 file.

**2.3.5.2 Input Data and Procedures.** The JCL control cards, the program, and a sample of card data input are listed in Paragraph 6.2.5. The input consists of the AFM 65-110 merged file (with any duplicate records removed) and a card deck defining

the acceptable serial numbers. The input card deck and operation of the program are identical to those for the AFM 66-1 file in Paragraph 2.2.5.2.

2.3.5.3 Output Description. The output record layout is the same as the AFM 65-110 sort. The F-106 AFM 65-110 file of approximately 480,000 records yielded some 300,000 records for the new AFM 65-110 file, requiring five minutes of computer time and one reel of tape.

## 2.4 AIE FILE GENERATION

The AIE file comprises data from two sources: handwritten Accident/Incident data supplied by SAAMA and magnetic tapes containing Accident/Incident/EUMR data (see Table 2-5). The two sets of data are converted to the same format, the files merged, and any duplicate records removed. Only data for a specified set of aircraft serial numbers is required for the data bank, and these records are copied to form the new AIE file. The logic flow for these programs is shown in Figure 2-12.

Table 2-5. AIE Data Sources

---

|  |
|--|
| 1. Source Data Tapes   |
| KAFB        9490   |
| KAFB        10479  |
| KAFB        18609  |
| KAFB        30324  |
| KAFB        38816  |
| 2. Other Sources   |
| Listing of F-106 Accident/Incident/EUMR Data - February 1969 through November 1971 |
| Handwritten F-106 Accident Data for 1970 and 1971 (19 records)                     |
| Handwritten F-106 Incident Data for 1970 and 1971 (139 records)                    |

---

### 2.4.1 ACCIDENT/INCIDENT FORMATTER

2.4.1.1 Purpose. This program, written in COBOL, converts the Accident/Incident card data to magnetic tape in a format compatible with the Accident/Incident/EUMR data tapes.

2.4.1.2 Input Data and Procedures. The program, a sample of card input, and the associated job control language (JCL) for use in the IBM 370 are listed in Paragraph 6.3.1.

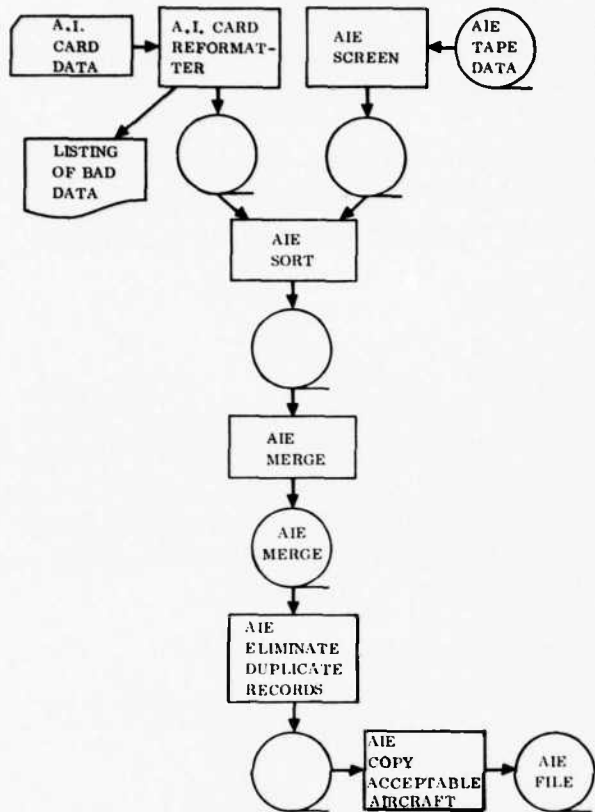


Figure 2-12. Logic Flow of AIE File Generation

Input to the program is a deck of cards containing the AI data in the following format.

| Column | Description  |
|--------|--|
| 2-3    | First two digits of serial number  |
| 5-8    | Last four digits of serial number  |
| 10-11  | Day of report date   |
| 12-14  | Three-character abbreviation for month of report date (e. g. JAN, FEB)             |
| 15-16  | Two-digit year of report date  |
| 19     | Report Code I = incident<br>1 = accident (category 1)<br>2 = accident (category 2) |
| 21-25  | Work Unit Code   |
| 26-80  | May be blank, or may be used to further describe the report.                       |

The data must have been previously screened to eliminate unacceptable serial numbers, dates prior to 1 January 1965, and bad or blank work unit codes. The program is

suitable for use with AI data from any USAF aircraft, provided the card data is in the correct format.

2.4.1.3 Output Description. The output record layout is shown in Figure 2-13, and a sample output is given in Figure 2-14. The tape has 50 characters to a data record, blocked 60 to a tape record.

|   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |             |   |   |   |   |   |   |   |   |   |               |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |            |   |   |   |   |   |   |   |   |   |             |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|----------------|---|---|---|---|---|---|---|---|---|-------------|---|---|---|---|---|---|---|---|---|---------------|---|---|---|---|---|---|---|---|---|-----------|---|---|---|---|---|---|---|---|---|------------|---|---|---|---|---|---|---|---|---|-------------|---|---|---|---|---|---|---|---|---|
|   |   |   |   |   |   |   |   |   |   | WORK UNIT CODE |   |   |   |   |   |   |   |   |   | TYPE REPORT |   |   |   |   |   |   |   |   |   | SERIAL NUMBER |   |   |   |   |   |   |   |   |   | INDICATOR |   |   |   |   |   |   |   |   |   | DAY NUMBER |   |   |   |   |   |   |   |   |   | RECORD MARK |   |   |   |   |   |   |   |   |   |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1             | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1          | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

Figure 2-13. AI Reformatter Record Layout



Experience with the data made available for the F-106 showed many records without a work unit code, and these were discarded. The elapsed computer time to run the Reformatter program was one to two minutes on the IBM 370; the output required one reel of magnetic tape.

#### 2.4.2 AIE SCREEN

2.4.2.1 Purpose. This program, written in COBOL, screens the AIE data tapes to eliminate unnecessary and unacceptable records and to write acceptable records on magnetic tape for further processing. Acceptable records must have correct Mission and Design. Records containing unacceptable serial numbers and bad date information are rejected. The output record has an additional field that contains the day number, using 1 January 1965 as day one.

2.4.2.2 Input Data and Procedures. The program, a sample of card input, and the associated JCL for use on the IBM 370 are listed in Paragraph 6.3.2. Input to the program consists of the raw AIE data tape and a deck of cards containing the screening criteria. The record layout for the input AIE data is shown in Figure 2-15. The tape has 90 characters to a data record, blocked 30 to a tape record. The screening criteria card deck consists of a deck containing the following (in the order shown).

| <u>Card</u> | <u>Column</u> | <u>Description</u>   |
|-------------|---------------|--|
| a           | 1-4           | Acceptable Aircraft Mission and Design                           |
| b           | 1-2           | Number of Rejected Aircraft                                      |
| c           | 1-8           | Rejected Aircraft Serial Numbers (Number of cards set by card b) |
| d           | 1-8           | Lowest Acceptable Serial Number                                  |
| e           | 1-8           | Highest Acceptable Serial Number                                 |

The program opens the input and output files, reads and stores the screening data, then reads the first AIE data record and checks for an unacceptable Mission and Design designation and a valid date. The serial number is then checked against the highest and lowest serial numbers and against the list of unacceptable serial numbers for appropriate action. Finally, the day number is computed, using 1 January 1965 as day one, and inserted into Columns 45 through 48 of the record. The verified record is then written on an output file and the process repeated with the next input record. Upon screening of the last input record, the remainder of the output tape record is filled with nines and the input and output files closed. Figure 2-16 shows the screening criteria used in the F-106 Scheduled Maintenance Study.

The program is suitable for all AIE data tapes for any USAF aircraft, with the following program dimension limitation: a maximum of 25 rejected aircraft serial numbers is allowed.









2.4.3.3 Output Description. The sample output, Figure 2-18, is typical of AIE data. It has the same format as the AIE screened output. Sorting of the F-106 AIE data required one minute of elapsed computer time on the IBM 370.

#### 2.4.4 AIE MERGE

2.4.4.1 Purpose. This IBM utility program merges the screened and sorted AIE data tapes into a single file.

2.4.4.2 Input Data and Procedures. The JCL control cards for this IBM utility program and a sample of card data input for use on the IBM 370 are listed in Paragraph 6.3.4. The input card data is identical to that used in the AIE Sort program.

2.4.4.3 Output Description. The F-106 AIE file required just one computer run to merge the seven input tapes into one. These input tapes comprised the five data tapes (see Table 2-5), a tape generated from the listing input data, and a tape generated from the handwritten input data. The output AIE file had some 3000 records, and the merge required one minute on the IBM 370. The output format is identical to the AIE Sort output.

#### 2.4.5 AIE ELIMINATE DUPLICATE RECORDS

2.4.5.1 Purpose. This COBOL program eliminates duplicate records from the screened, sorted, and merged AIE file.

2.4.5.2 Input Data and Procedures. The JCL control cards for use on the IBM 370 and the program are listed in Paragraph 6.3.5. The input is the merged AIE data tape; operation is identical to that of the AFM 66-1 Eliminate Duplicate Records in Paragraph 2.2.4.2.

2.4.5.3 Output Description. The program detected 10 duplicate records in the F-106 AIE file of approximately 3000 records and required about one minute of IBM 370 time. The output format is identical to that of the AIE Sort in Paragraph 2.4.3.3.

#### 2.4.6 AIE COPY ACCEPTABLE AIRCRAFT

2.4.6.1 Purpose. During the initial screening of the AIE data, records for a specified set of aircraft serial numbers were deleted. During formulation of the data bank, only data for a specific fleet of aircraft is necessary. This COBOL program writes these acceptable records on a magnetic tape to form the new AIE file.



**2.4.6.2 Input Data and Procedures.** The JCL control cards, the program, and a sample of card data input are listed in Paragraph 6.3.6. The input consists of the AIE file and a card deck defining the acceptable serial numbers. The input card deck and operation of the program are identical to that for the AFM 66-1 file in Paragraph 2.2.5.2.

**2.4.6.3 Output Description.** The record layout is unchanged from the AIE Sort program. Experience with the F-106 AIE file of approximately 3000 records yielded some 2000 records for the new AIE file. The program required one to two minutes of IBM 370 time and the output file required one reel of magnetic tape.

## 2.5 IRAN FILE GENERATION

The objective of the IRAN File Generation programs is to combine IRAN event data and aircraft acceptance date data to produce the IRAN data file used as input to the Data Bank program. IRAN interval data is calculated from data on consecutive IRAN event records. The output file includes information on current IRAN event, the following IRAN event, and the included IRAN interval. A printed report of this data is generated. (See Figure 2-19.)

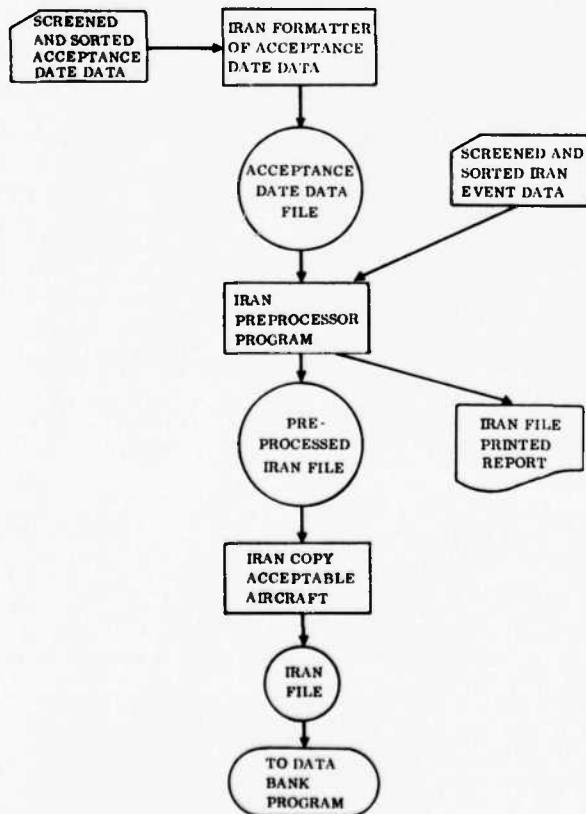


Figure 2-19. Logic Flow of IRAN File Generation

All of the IRAN File Generation programs were developed for the IBM 370 and have been written to be compatible with SAAMA computers. The programs were written using (ANS) COBOL.

The IRAN File Generation task consists of three COBOL programs:

- a. IRAN Formatter of Acceptance Date Data.
- b. IRAN Preprocessor.
- c. IRAN Copy of Acceptable Aircraft.

The IRAN file is subsequently used for input to the Data Bank programs.

### 2.5.1 IRAN FORMATTER OF ACCEPTANCE DATE DATA

**2.5.1.1 Purpose.** The purpose of the IRAN Formatter of Acceptance Date Data program is to convert the serial number

to an eight-digit format and to convert the date to a day number. The converted output, the Acceptance Date Data file, is subsequently used for input to the IRAN Preprocessor program. Paragraph 6.4.1 shows the source program and corresponding job control cards.

2.5.1.2 Input Data and Procedures. The card input consists of a deck containing one acceptance date data card for each aircraft. The cards contain:

| <u>Column</u> | <u>Data</u>                       |
|---------------|-----------------------------------|
| 1-2           | First two digits of serial number |
| 3-6           | Last four digits of serial number |
| 17-18         | Month of acceptance date*         |
| 19-20         | Day of acceptance date*           |
| 21-22         | Two-digit year of acceptance date |

The record layout is shown in Figure 2-20. The sample card input is:

|        |        |
|--------|--------|
| 57 230 | 060158 |
| 57 231 | 070158 |
| 57 232 | 070158 |
| 57 235 | 080158 |

2.5.1.3 Output Description. Output is an intermediate Acceptance Date Data file containing the converted eight-digit serial number and converted day number. The record layout is shown in Figure 2-20. Records are 80 characters long, blocked 1 to a record. For the F-106 fleet, processing of 265 records took less than one minute on the IBM 370 computer.

## 2.5.2 IRAN PREPROCESSOR

2.5.2.1 Purpose. The purpose of the IRAN Preprocessor is to prepare a Preprocessed IRAN file and an IRAN printed report (Figure 2-19). Paragraph 6.4.2 contains a listing of the source program and corresponding job control cards. The following is a description of the operation of the IRAN Preprocessor program.

An event card is read and the serial number and the start and finish dates are converted. Cumulative flight hours are calculated. An acceptance date record is then read from the Acceptance Date Data file and the serial numbers are compared. If

---

\*Values must be punched right-justified within these fields. The values may have leading zeros or blanks.

RECORD NAME: IRAN - FILE OUT (TAPE) 80 CHARACTERS BLOCKED 30

|                    |                 |                |               |                  |         |         |          |       |     |      |           |         |              |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|--------------------|-----------------|----------------|---------------|------------------|---------|---------|----------|-------|-----|------|-----------|---------|--------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| FIELD NAME         | 1               | 2              | 3             | 4                | 5       | 6       | 7        | 8     | 9   | 10   | 11        | 12      | 13           | 14       | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |
| CHARACTER POSITION | 1               | 2              | 3             | 4                | 5       | 6       | 7        | 8     | 9   | 10   | 11        | 12      | 13           | 14       | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |
| FIELD NAME         | ACCEPTANCE DATE | ACCEPTANCE DAY | AIR-CRAFT AGE | CUM-FLIGHT HOURS | DAY NO. | DAY NO. | DURATION | LABOR | M/H | TIME | CUM. TIME | DAY NO. | INTERVAL VAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL |
| CHARACTER POSITION | 1               | 2              | 3             | 4                | 5       | 6       | 7        | 8     | 9   | 10   | 11        | 12      | 13           | 14       | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |
| FIELD NAME         | 1               | 2              | 3             | 4                | 5       | 6       | 7        | 8     | 9   | 10   | 11        | 12      | 13           | 14       | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |
| CHARACTER POSITION | 1               | 2              | 3             | 4                | 5       | 6       | 7        | 8     | 9   | 10   | 11        | 12      | 13           | 14       | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |

RECORD NAME: NOTES ON ABOVE

|                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| FIELD NAME         | 1   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| CHARACTER POSITION | 1   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| FIELD NAME         | *1- AIRCRAFT SERIES (A OR B)<br>*2- VISIT NUMBER<br>*3- WEEKS AT START OF IRAN<br>*4- WEEKS |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| CHARACTER POSITION |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

RECORD NAME: IRAN-REPORT

|                    |             |             |         |     |          |            |            |            |            |              |     |        |          |            |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|--------------------|-------------|-------------|---------|-----|----------|------------|------------|------------|------------|--------------|-----|--------|----------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| FIELD NAME         | 1           | 2           | 3       | 4   | 5        | 6          | 7          | 8          | 9          | 10           | 11  | 12     | 13       | 14         | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |
| CHARACTER POSITION | 1           | 2           | 3       | 4   | 5        | 6          | 7          | 8          | 9          | 10           | 11  | 12     | 13       | 14         | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |
| FIELD NAME         | ACCEPT DATE | ACCEPT CODE | V. TYPE | F/H | AGE WEEK | START DATE | START CODE | COMPL DATE | COMPL CODE | DAYS IN IRAN | M/H | T. F/H | INTERVAL | START DATE | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL | INTERVAL |
| CHARACTER POSITION | 1           | 2           | 3       | 4   | 5        | 6          | 7          | 8          | 9          | 10           | 11  | 12     | 13       | 14         | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |
| FIELD NAME         | 1           | 2           | 3       | 4   | 5        | 6          | 7          | 8          | 9          | 10           | 11  | 12     | 13       | 14         | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |
| CHARACTER POSITION | 1           | 2           | 3       | 4   | 5        | 6          | 7          | 8          | 9          | 10           | 11  | 12     | 13       | 14         | 15       | 16       | 17       | 18       | 19       | 20       | 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |          |

RECORD NAME: \*1- AIRCRAFT SERIES (A OR B)

|                    |                              |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------|------------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| FIELD NAME         | 1                            | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| CHARACTER POSITION | 1                            | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| FIELD NAME         | *1- AIRCRAFT SERIES (A OR B) |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| CHARACTER POSITION |                              |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Figure 2-20. IRAN File Generation Record Layouts (Sheet 1 of 2)





the serial numbers match, the acceptance date is moved to the output record temporary storage area.

All data pertaining to the current IRAN event is moved to the output area. If the acceptance data and IRAN start date are available, the aircraft age is calculated. If IRAN start and finish dates are available, the IRAN duration is calculated. The next IRAN event card is read into the output area fields pertaining to the next IRAN. The serial number and start and finish dates are converted, and cumulative flight hours are calculated. The serial numbers are again compared; if they match, the IRAN interval data in days, weeks, and flight hours is calculated.

The output is written on tape and printed in the report. If the last event card read was for the current serial number, the next event card is read and the second half of this procedure is repeated. If the last event card read was for a different serial number, the entire procedure beginning with retrieval of an acceptance date record is repeated. This cycle is continued until all IRAN event cards have been read and processed.

All fields for which data is missing are filled with the value zero. This will occur for the information on next IRAN and IRAN interval for the last IRAN for each serial number and if particular elements of input data are missing.

2.5.2.2 Input Data and Procedures. The input consists of IRAN acceptance date data previously described and IRAN event data cards. The following is a description of the input for IRAN event data (one card for each IRAN event for each aircraft).

| <u>Column</u> | <u>Data</u>                            |
|---------------|--|
| 1-2           | First two digits of serial number      |
| 3-6           | Last four digits of serial number      |
| 7             | Aircraft series designation (A or B)   |
| 10-11         | Month of IRAN start date*              |
| 12-13         | Day of IRAN start date*                |
| 14-15         | Two-digit year of IRAN start date      |
| 17-18         | Month of IRAN completion date*         |
| 19-20         | Day of IRAN completion date*           |
| 21-22         | Two-digit year of IRAN completion date |

---

\*Values must be punched right-justified within these fields. The values may have leading zeros or blanks.

| <u>Column</u> | <u>Data</u>  |
|---------------|--|
| 27-30         | Cumulative aircraft flight hours at start of IRAN (whole hours)*   |
| 32            | Cumulative aircraft flight hours at start of IRAN (tenths of an hour -- Column 31 may contain a decimal point)   |
| 35-36         | IRAN type code:<br>10 = full IRAN<br>11 = ACI<br>20 = essential IRAN<br>30 = limited IRAN<br>61 = Speedline 1 (equivalent to 20)<br>62 = Speedline 2 (equivalent to 20)<br>63 = Speedline 3 (equivalent to 30) |
| 70-73         | Manhours of labor in IRAN*   |

The IRAN event data cards must be sorted into ascending serial number and event date order. The following is a sample card input.

|    |      |        |        |        |    |      |
|----|------|--------|--------|--------|----|------|
| 57 | 230A | 091064 | 111664 | 834.7  | 10 |      |
| 57 | 230A | 100465 | 110965 | 1041.1 | 20 |      |
| 57 | 230A | 100768 | 122468 | 1924.8 | 10 | 4245 |
| 57 | 231A | 092864 | 120164 | 920.5  | 10 |      |
| 57 | 231A | 101465 | 111765 | 1189.1 | 20 |      |
| 57 | 231A | 112068 | 030669 | 2004.7 | 10 | 4507 |
| 57 | 232A | 111565 | 011766 | 989.6  | 20 |      |
| 57 | 232A | 112067 | 022168 | 1478.7 | 10 |      |
| 57 | 232A | 021670 | 032970 | 2036.6 | 10 | 4140 |
| 57 | 235A | 070665 | 080665 | 1002.3 | 20 |      |
| 57 | 235A | 072666 | 091966 | 1211.0 | 30 |      |
| 57 | 235A | 100266 | 123066 | 1233.1 | 20 | 3676 |
| 57 | 235A | 032169 | 052969 | 1749.3 | 10 | 4463 |

**2.5.2.3 Output Description.** The output consists of a magnetic tape file (Preprocessed IRAN file) and a corresponding printed IRAN report. The output tape records are 80-character records formatted as follows.

---

\*Values must be punched right-justified within these fields. The values may have leading zeros or blanks.

| <u>Position</u> | <u>Data</u>   |
|-----------------|---|
| 1-8             | Serial number   |
| 9               | Aircraft series (A or B)  |
| 11-15           | Acceptance date day number  |
| 17              | Visit number  |
| 19-20           | IRAN type code (see description under IRAN event data input formats)      |
| 22-26           | Cumulative aircraft flight hours and tenths at start of IRAN              |
| 28-30           | Aircraft age in weeks at start of IRAN                                    |
| 32-35           | IRAN start date day number  |
| 37-40           | IRAN completion date day number   |
| 42-44           | Duration of IRAN (days)   |
| 46-49           | Manhours of labor in IRAN   |
| 51-52           | Next IRAN type code (see description under IRAN event data input formats) |
| 54-58           | Cumulative aircraft flight hours and tenths at start of next IRAN         |
| 60-63           | Next IRAN start date day number   |
| 65-68           | IRAN interval (days)  |
| 70-72           | IRAN interval (weeks)   |
| 74-78           | IRAN interval (flight hours and tenths)                                   |

Tape output records consist of 80 characters, blocked 30 to a tape record. Figure 2-20 shows the record layout; Figure 2-21 is a sample of the tape output.

The printed output is a report containing the same data fields (in the same order) as the tape output, plus the start and completion dates of the IRAN. The printed output report consists of 120-character data records, blocked 25 to a tape record. Figure 2-20 shows the record layout, and Figure 2-22 is a sample of the printed output report tape. For the F-106 fleet, processing of 265 records took approximately one minute on the IBM 370.

### 2.5.3 IRAN COPY ACCEPTABLE AIRCRAFT

**2.5.3.1 Purpose.** The purpose of the IRAN Copy Acceptable Aircraft program is to select acceptable aircraft serial numbers for input to the data bank.





**2.5.3.2 Input Data and Procedures.** The JCL cards, the program, and a sample of card data input are shown in Paragraph 6.4.3. The input consists of the Preprocessed IRAN file and a card deck defining the acceptable aircraft serial numbers. The input card deck and operation of the program are identical to that for the AFM 66-1 file in Paragraph 2.2.5.2.

**2.5.3.3 Output Description.** The record layout is described in Figure 2-20, and a sample of the tape output is shown in Figure 2-21. The IRAN file of 562 records was copied in one minute of elapsed computer time.

SECTION 3  
DATA BANK GENERATION

3.1 GENERAL DESCRIPTION

Generation of the Data Bank requires six input files:

- a. AFM 66-1 Data File
- b. AFM 65-110 Data File
- c. AIE Data File
- d. IRAN Data File
- e. WUC Data File
- f. Data Bank Control Data

Preparation of the first four files was covered in Section 2. This section is concerned with the preparation of the WUC data file, the Data Bank Control Data, the Data Bank program, and the WUC Conversion program. Preparation of the WUC data file was made more complex because of revisions in WUC designation during the period which the Data Bank covers. Additional programs have been developed to first check the WUCs that are processed in the Data Bank, then to convert the WUCs prior to the changeover to the new designation. The logic flow for generating the Data Bank is shown in Figure 3-1.

3.2 WUC FILE GENERATION

The WUC data file comprises the five-digit WUC records and must be sorted into ascending order on the work unit code field. The Data Bank program uses the WUC file as one of the input files. (See Figure 3-1.) If the WUC designation is changed during the period covered by the Data Bank, the Acceptable WUC representing the codes will be printed in the final output. The logic flow of the WUC file generation is shown in Figure 3-2. If there are no changes in WUC designations, the Sort WUC for Conversion and WUC Merge steps should be bypassed, and the WUC for conversion as input data would not be available.

3.2.1 SORT ACCEPTABLE WUC

3.2.1.1 Purpose. This IBM Utility program sorts the Acceptable WUC data into an ordered file.



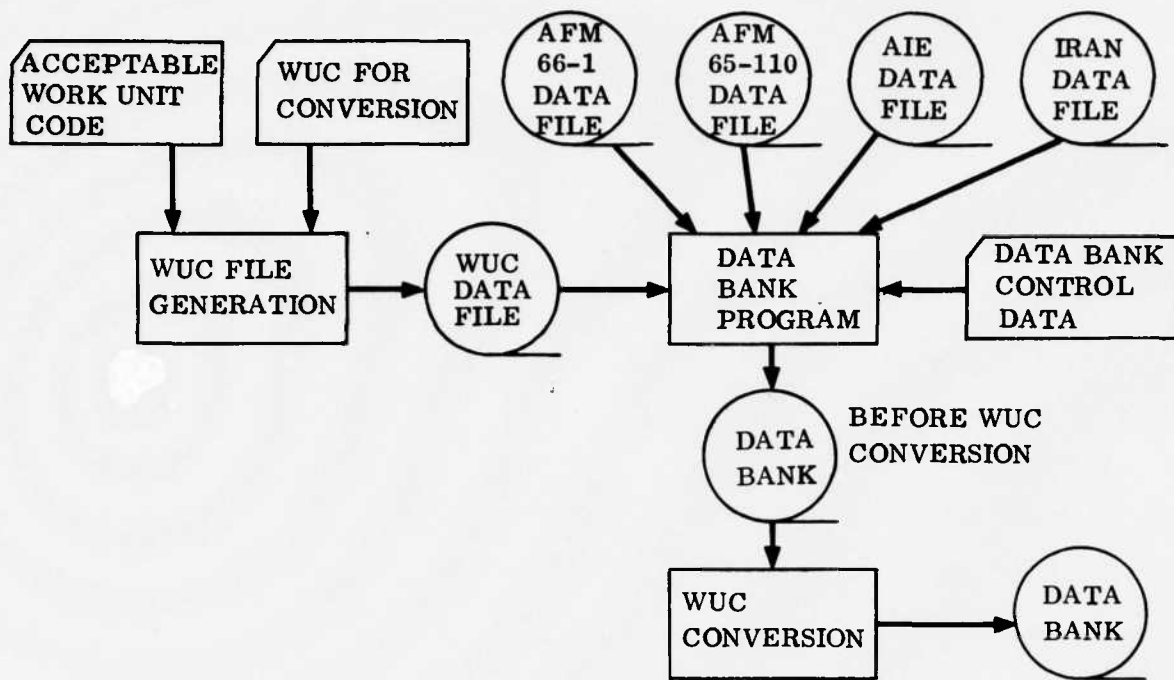


Figure 3-1. Logic Flow — Data Bank Generation

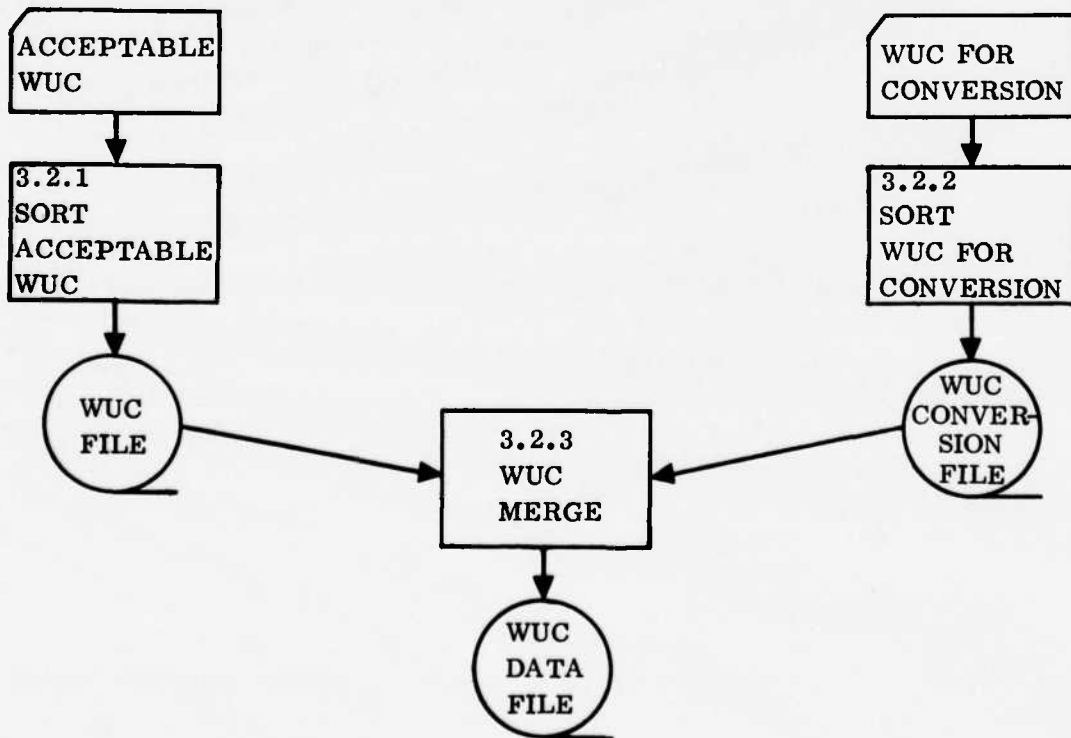


Figure 3-2. Logic Flow — WUC File Generation

3.2.1.2 Input Data and Procedures. The job control language (JCL) for the IBM utility program and a sample of card data input for use on the IBM 370 are shown in Paragraph 6.5.1. The format of the input data is given in Figure 3-3, and the listing of WUCs used in the F-106 Scheduled Maintenance Study is given in Table 3-1. The 20-character data record is the minimum record length accepted by the IBM 370 Sort Utility program at Convair Aerospace. The Sort key is defined as a character field, in ascending order on Columns 1 through 5.

|     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| WUC |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1   | 2 | 3 | 4 | 0 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 2 |

Figure 3-3. Format of WUC Record

3.2.1.3 Output Description. The sample output, Figure 3-4, has 20-character data records, blocked 50 to a tape record. The time required to sort the 2043 WUCs for the F-106 Scheduled Maintenance Study was less than one minute on the IBM 370 computer.

3.2.2 SORT WUC FOR CONVERSION

3.2.2.1 Purpose. When the WUC designations have been changed during the period covered by the data bank, it is essential that the list of Acceptable WUCs includes codes that, although obsolete and superseded at the end of the period, had validity at the start of the data bank period. This program sorts these obsolete WUCs in the identical sequence as the list of Acceptable WUC prior to merging of the two files.

3.2.2.2 Input Data and Procedures. The JCL for the IBM Utility program and a sample of card data inputs for use with the IBM 370 are shown in Paragraph 6.5.2. The format of the input WUC to be converted is shown in Figure 3-5. This program only uses the Old WUC (i.e., the one to be added to the data bank) but the WUC to supersede it is also included on the input card deck, enabling the same file to be used in a subsequent program. The listings of the "Old WUC," (those to be replaced) and the "New WUC" (those to supersede the old one used in the F-106 Scheduled Maintenance Study) are given in Tables 3-2 and 3-3. The sort data is defined as a character field, in ascending order in Columns 2 through 6.







Table 3-1. Work Unit Codes, Continued

| T/P TUI2 | 22.27.41 | 72/224 | BLK   | CNT   | 99B   | LENGTH | 120   | CONTROL | Z020  | 00000000 | 00000000 | CH    | 1000, | BLK   | 24,   | TOT   | 24    | PAGE  | 004   |       |       |
|----------|----------|--------|-------|-------|-------|--------|-------|---------|-------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 46R00    | 46S01    | 46T00  | 46U00 | 46V00 | 46W00 | 46X00  | 46Y00 | 46Z00   | 47A00 | 47B00    | 47C00    | 47D00 | 47E00 | 47F00 | 47G00 | 47H00 | 47I00 | 47J00 | 47K00 | 47L00 |       |
| 47M00    | 47N00    | 47O00  | 47P00 | 47Q00 | 47R00 | 47S00  | 47T00 | 47U00   | 47V00 | 47W00    | 47X00    | 47Y00 | 47Z00 | 48A00 | 48B00 | 48C00 | 48D00 | 48E00 | 48F00 | 48G00 | 48H00 |
| 48I00    | 48J00    | 48K00  | 48L00 | 48M00 | 48N00 | 48O00  | 48P00 | 48Q00   | 48R00 | 48S00    | 48T00    | 48U00 | 48V00 | 48W00 | 48X00 | 48Y00 | 48Z00 | 49A00 | 49B00 | 49C00 | 49D00 |
| 49E00    | 49F00    | 49G00  | 49H00 | 49I00 | 49J00 | 49K00  | 49L00 | 49M00   | 49N00 | 49O00    | 49P00    | 49Q00 | 49R00 | 49S00 | 49T00 | 49U00 | 49V00 | 49W00 | 49X00 | 49Y00 | 49Z00 |
| 50A00    | 50B00    | 50C00  | 50D00 | 50E00 | 50F00 | 50G00  | 50H00 | 50I00   | 50J00 | 50K00    | 50L00    | 50M00 | 50N00 | 50O00 | 50P00 | 50Q00 | 50R00 | 50S00 | 50T00 | 50U00 | 50V00 |
| 50W00    | 50X00    | 50Y00  | 50Z00 | 51A00 | 51B00 | 51C00  | 51D00 | 51E00   | 51F00 | 51G00    | 51H00    | 51I00 | 51J00 | 51K00 | 51L00 | 51M00 | 51N00 | 51O00 | 51P00 | 51Q00 | 51R00 |
| 51S00    | 51T00    | 51U00  | 51V00 | 51W00 | 51X00 | 51Y00  | 51Z00 | 52A00   | 52B00 | 52C00    | 52D00    | 52E00 | 52F00 | 52G00 | 52H00 | 52I00 | 52J00 | 52K00 | 52L00 | 52M00 | 52N00 |
| 52O00    | 52P00    | 52Q00  | 52R00 | 52S00 | 52T00 | 52U00  | 52V00 | 52W00   | 52X00 | 52Y00    | 52Z00    | 53A00 | 53B00 | 53C00 | 53D00 | 53E00 | 53F00 | 53G00 | 53H00 | 53I00 | 53J00 |
| 53K00    | 53L00    | 53M00  | 53N00 | 53O00 | 53P00 | 53Q00  | 53R00 | 53S00   | 53T00 | 53U00    | 53V00    | 53W00 | 53X00 | 53Y00 | 53Z00 | 54A00 | 54B00 | 54C00 | 54D00 | 54E00 | 54F00 |
| 54G00    | 54H00    | 54I00  | 54J00 | 54K00 | 54L00 | 54M00  | 54N00 | 54O00   | 54P00 | 54Q00    | 54R00    | 54S00 | 54T00 | 54U00 | 54V00 | 54W00 | 54X00 | 54Y00 | 54Z00 | 55A00 | 55B00 |
| 55C00    | 55D00    | 55E00  | 55F00 | 55G00 | 55H00 | 55I00  | 55J00 | 55K00   | 55L00 | 55M00    | 55N00    | 55O00 | 55P00 | 55Q00 | 55R00 | 55S00 | 55T00 | 55U00 | 55V00 | 55W00 | 55X00 |
| 55Y00    | 55Z00    | 56A00  | 56B00 | 56C00 | 56D00 | 56E00  | 56F00 | 56G00   | 56H00 | 56I00    | 56J00    | 56K00 | 56L00 | 56M00 | 56N00 | 56O00 | 56P00 | 56Q00 | 56R00 | 56S00 | 56T00 |
| 56U00    | 56V00    | 56W00  | 56X00 | 56Y00 | 56Z00 | 57A00  | 57B00 | 57C00   | 57D00 | 57E00    | 57F00    | 57G00 | 57H00 | 57I00 | 57J00 | 57K00 | 57L00 | 57M00 | 57N00 | 57O00 | 57P00 |
| 57Q00    | 57R00    | 57S00  | 57T00 | 57U00 | 57V00 | 57W00  | 57X00 | 57Y00   | 57Z00 | 58A00    | 58B00    | 58C00 | 58D00 | 58E00 | 58F00 | 58G00 | 58H00 | 58I00 | 58J00 | 58K00 | 58L00 |
| 58M00    | 58N00    | 58O00  | 58P00 | 58Q00 | 58R00 | 58S00  | 58T00 | 58U00   | 58V00 | 58W00    | 58X00    | 58Y00 | 58Z00 | 59A00 | 59B00 | 59C00 | 59D00 | 59E00 | 59F00 | 59G00 | 59H00 |
| 59I00    | 59J00    | 59K00  | 59L00 | 59M00 | 59N00 | 59O00  | 59P00 | 59Q00   | 59R00 | 59S00    | 59T00    | 59U00 | 59V00 | 59W00 | 59X00 | 59Y00 | 59Z00 | 60A00 | 60B00 | 60C00 | 60D00 |
| 60E00    | 60F00    | 60G00  | 60H00 | 60I00 | 60J00 | 60K00  | 60L00 | 60M00   | 60N00 | 60O00    | 60P00    | 60Q00 | 60R00 | 60S00 | 60T00 | 60U00 | 60V00 | 60W00 | 60X00 | 60Y00 | 60Z00 |
| 61A00    | 61B00    | 61C00  | 61D00 | 61E00 | 61F00 | 61G00  | 61H00 | 61I00   | 61J00 | 61K00    | 61L00    | 61M00 | 61N00 | 61O00 | 61P00 | 61Q00 | 61R00 | 61S00 | 61T00 | 61U00 | 61V00 |
| 61W00    | 61X00    | 61Y00  | 61Z00 | 62A00 | 62B00 | 62C00  | 62D00 | 62E00   | 62F00 | 62G00    | 62H00    | 62I00 | 62J00 | 62K00 | 62L00 | 62M00 | 62N00 | 62O00 | 62P00 | 62Q00 | 62R00 |
| 62S00    | 62T00    | 62U00  | 62V00 | 62W00 | 62X00 | 62Y00  | 62Z00 | 63A00   | 63B00 | 63C00    | 63D00    | 63E00 | 63F00 | 63G00 | 63H00 | 63I00 | 63J00 | 63K00 | 63L00 | 63M00 | 63N00 |
| 63O00    | 63P00    | 63Q00  | 63R00 | 63S00 | 63T00 | 63U00  | 63V00 | 63W00   | 63X00 | 63Y00    | 63Z00    | 64A00 | 64B00 | 64C00 | 64D00 | 64E00 | 64F00 | 64G00 | 64H00 | 64I00 | 64J00 |
| 64K00    | 64L00    | 64M00  | 64N00 | 64O00 | 64P00 | 64Q00  | 64R00 | 64S00   | 64T00 | 64U00    | 64V00    | 64W00 | 64X00 | 64Y00 | 64Z00 | 65A00 | 65B00 | 65C00 | 65D00 | 65E00 | 65F00 |
| 65G00    | 65H00    | 65I00  | 65J00 | 65K00 | 65L00 | 65M00  | 65N00 | 65O00   | 65P00 | 65Q00    | 65R00    | 65S00 | 65T00 | 65U00 | 65V00 | 65W00 | 65X00 | 65Y00 | 65Z00 | 66A00 | 66B00 |
| 66C00    | 66D00    | 66E00  | 66F00 | 66G00 | 66H00 | 66I00  | 66J00 | 66K00   | 66L00 | 66M00    | 66N00    | 66O00 | 66P00 | 66Q00 | 66R00 | 66S00 | 66T00 | 66U00 | 66V00 | 66W00 | 66X00 |
| 66Y00    | 66Z00    | 67A00  | 67B00 | 67C00 | 67D00 | 67E00  | 67F00 | 67G00   | 67H00 | 67I00    | 67J00    | 67K00 | 67L00 | 67M00 | 67N00 | 67O00 | 67P00 | 67Q00 | 67R00 | 67S00 | 67T00 |
| 67U00    | 67V00    | 67W00  | 67X00 | 67Y00 | 67Z00 | 68A00  | 68B00 | 68C00   | 68D00 | 68E00    | 68F00    | 68G00 | 68H00 | 68I00 | 68J00 | 68K00 | 68L00 | 68M00 | 68N00 | 68O00 | 68P00 |
| 68Q00    | 68R00    | 68S00  | 68T00 | 68U00 | 68V00 | 68W00  | 68X00 | 68Y00   | 68Z00 | 69A00    | 69B00    | 69C00 | 69D00 | 69E00 | 69F00 | 69G00 | 69H00 | 69I00 | 69J00 | 69K00 | 69L00 |
| 69M00    | 69N00    | 69O00  | 69P00 | 69Q00 | 69R00 | 69S00  | 69T00 | 69U00   | 69V00 | 69W00    | 69X00    | 69Y00 | 69Z00 | 70A00 | 70B00 | 70C00 | 70D00 | 70E00 | 70F00 | 70G00 | 70H00 |
| 70I00    | 70J00    | 70K00  | 70L00 | 70M00 | 70N00 | 70O00  | 70P00 | 70Q00   | 70R00 | 70S00    | 70T00    | 70U00 | 70V00 | 70W00 | 70X00 | 70Y00 | 70Z00 | 71A00 | 71B00 | 71C00 | 71D00 |
| 71E00    | 71F00    | 71G00  | 71H00 | 71I00 | 71J00 | 71K00  | 71L00 | 71M00   | 71N00 | 71O00    | 71P00    | 71Q00 | 71R00 | 71S00 | 71T00 | 71U00 | 71V00 | 71W00 | 71X00 | 71Y00 | 71Z00 |
| 72A00    | 72B00    | 72C00  | 72D00 | 72E00 | 72F00 | 72G00  | 72H00 | 72I00   | 72J00 | 72K00    | 72L00    | 72M00 | 72N00 | 72O00 | 72P00 | 72Q00 | 72R00 | 72S00 | 72T00 | 72U00 | 72V00 |
| 72W00    | 72X00    | 72Y00  | 72Z00 | 73A00 | 73B00 | 73C00  | 73D00 | 73E00   | 73F00 | 73G00    | 73H00    | 73I00 | 73J00 | 73K00 | 73L00 | 73M00 | 73N00 | 73O00 | 73P00 | 73Q00 | 73R00 |
| 73S00    | 73T00    | 73U00  | 73V00 | 73W00 | 73X00 | 73Y00  | 73Z00 | 74A00   | 74B00 | 74C00    | 74D00    | 74E00 | 74F00 | 74G00 | 74H00 | 74I00 | 74J00 | 74K00 | 74L00 | 74M00 | 74N00 |
| 74O00    | 74P00    | 74Q00  | 74R00 | 74S00 | 74T00 | 74U00  | 74V00 | 74W00   | 74X00 | 74Y00    | 74Z00    | 75A00 | 75B00 | 75C00 | 75D00 | 75E00 | 75F00 | 75G00 | 75H00 | 75I00 | 75J00 |
| 75K00    | 75L00    | 75M00  | 75N00 | 75O00 | 75P00 | 75Q00  | 75R00 | 75S00   | 75T00 | 75U00    | 75V00    | 75W00 | 75X00 | 75Y00 | 75Z00 | 76A00 | 76B00 | 76C00 | 76D00 | 76E00 | 76F00 |
| 76G00    | 76H00    | 76I00  | 76J00 | 76K00 | 76L00 | 76M00  | 76N00 | 76O00   | 76P00 | 76Q00    | 76R00    | 76S00 | 76T00 | 76U00 | 76V00 | 76W00 | 76X00 | 76Y00 | 76Z00 | 77A00 | 77B00 |
| 77C00    | 77D00    | 77E00  | 77F00 | 77G00 | 77H00 | 77I00  | 77J00 | 77K00   | 77L00 | 77M00    | 77N00    | 77O00 | 77P00 | 77Q00 | 77R00 | 77S00 | 77T00 | 77U00 | 77V00 | 77W00 | 77X00 |
| 77Y00    | 77Z00    | 78A00  | 78B00 | 78C00 | 78D00 | 78E00  | 78F00 | 78G00   | 78H00 | 78I00    | 78J00    | 78K00 | 78L00 | 78M00 | 78N00 | 78O00 | 78P00 | 78Q00 | 78R00 | 78S00 | 78T00 |
| 78U00    | 78V00    | 78W00  | 78X00 | 78Y00 | 78Z00 | 79A00  | 79B00 | 79C00   | 79D00 | 79E00    | 79F00    | 79G00 | 79H00 | 79I00 | 79J00 | 79K00 | 79L00 | 79M00 | 79N00 | 79O00 | 79P00 |
| 79Q00    | 79R00    | 79S00  | 79T00 | 79U00 | 79V00 | 79W00  | 79X00 | 79Y00   | 79Z00 | 80A00    | 80B00    | 80C00 | 80D00 | 80E00 | 80F00 | 80G00 | 80H00 | 80I00 | 80J00 | 80K00 | 80L00 |
| 80M00    | 80N00    | 80O00  | 80P00 | 80Q00 | 80R00 | 80S00  | 80T00 | 80U00   | 80V00 | 80W00    | 80X00    | 80Y00 | 80Z00 | 81A00 | 81B00 | 81C00 | 81D00 | 81E00 | 81F00 | 81G00 | 81H00 |
| 81I00    | 81J00    | 81K00  | 81L00 | 81M00 | 81N00 | 81O00  | 81P00 | 81Q00   | 81R00 | 81S00    | 81T00    | 81U00 | 81V00 | 81W00 | 81X00 | 81Y00 | 81Z00 | 82A00 | 82B00 | 82C00 | 82D00 |
| 82E00    | 82F00    | 82G00  | 82H00 | 82I00 | 82J00 | 82K00  | 82L00 | 82M00   | 82N00 | 82O00    | 82P00    | 82Q00 | 82R00 | 82S00 | 82T00 | 82U00 | 82V00 | 82W00 | 82X00 | 82Y00 | 82Z00 |
| 83A00    | 83B00    | 83C00  | 83D00 | 83E00 | 83F00 | 83G00  | 83H00 | 83I00   | 83J00 | 83K00    | 83L00    | 83M00 | 83N00 | 83O00 | 83P00 | 83Q00 | 83R00 | 83S00 | 83T00 | 83U00 | 83V00 |
| 83W00    | 83X00    | 83Y00  | 83Z00 | 84A00 | 84B00 | 84C00  | 84D00 | 84E00   | 84F00 | 84G00    | 84H00    | 84I00 | 84J00 | 84K00 | 84L00 | 84M00 | 84N00 | 84O00 | 84P00 | 84Q00 | 84R00 |
| 84S00    | 84T00    | 84U00  | 84V00 | 84W00 | 84X00 | 84Y00  | 84Z00 | 85A00   | 85B00 | 85C00    | 85D00    | 85E00 | 85F00 | 85G00 | 85H00 | 85I00 | 85J00 | 85K00 | 85L00 | 85M00 | 85N00 |
| 85O00    | 85P00    | 85Q00  | 85R00 | 85S00 | 85T00 | 85U00  | 85V00 | 85W00   | 85X00 | 85Y00    | 85Z00    | 86A00 | 86B00 | 86C00 | 86D00 | 86E00 | 86F00 | 86G00 | 86H00 | 86I00 | 86J00 |
| 86K00    | 86L00    | 86M00  | 86N00 | 86O00 | 86P00 | 86Q00  | 86R00 | 86S00   | 86T00 | 86U00    | 86V00    | 86W00 | 86X00 | 86Y00 | 86Z00 | 87A00 | 87B00 | 87C00 | 87D00 | 87E00 | 87F00 |
| 87G00    | 87H00    | 87I00  | 87J00 | 87K00 | 87L00 | 87M00  | 87N00 | 87O00   | 87P00 | 87Q00    | 87R00    | 87S00 | 87T00 |       |       |       |       |       |       |       |       |























**3.3.2 INPUT DATA AND PROCEDURES.** The program, a sample of card data input, and the associated job control language (JCL) for use with the IBM 370 are shown in Paragraph 6.5.4. The input to the program comprises five input data files and the control data. The five input files are:

- a. AFM 66-1 Data File
- b. AFM 65-110 Data File
- c. IRAN Data File
- d. AIE Data File
- e. WUC Data File

The control data consists of a deck of cards with the following format.

| <u>Card Type</u> | <u>Column</u> | <u>Description</u>   |
|------------------|---------------|--|
| a                | 1-2           | Scheduled Inspection, 2-Digit WUC  |
|                  | 6-7           | Special Inspection, 2-Digit WUC  |
|                  | 11-18         | First Aircraft Serial Number to be Processed                                     |
|                  | 28-30         | Last Week Number to be Processed   |
|                  | 32            | Mission of Aircraft  |
|                  | 33-35         | Design of Aircraft   |
|                  | 36-40         | Number of Aircraft to be Processed   |
| b                | 1-3           | Number of Action-Taken Codes (ATC) to Process                                    |
| c                | 1             | Action-Taken Code (Number of Cards Set by Card b)                                |
| d                | 1-3           | Number of Maintenance Codes for NORM and NORS Hours                              |
|                  | 4-6           | Number of Maintenance Codes for NORM Hours only                                  |
| e                | 1             | Maintenance Codes (NORM Codes First) (Number of Cards Set by Col. 1-3 of Card d) |
| f                | 1-3           | Number of 3-Digit WUCs to be Processed   |
| g                | 1-3           | 3-Digit WUC (Number Set by Card f)   |
| h                | 1-3           | Number of 2-Digit WUC Groups   |
|                  | 7-10          | Number of 5-Digit WUCs to be Processed   |

| <u>Card Type</u> | <u>Column Number</u> | <u>Description</u>   |
|------------------|----------------------|--|
| i                | 1-2                  | 2-Digit WUC Group Identification (ID)<br>(Number of Cards Set by Card h)     |
|                  | 6-10                 | Position in WUC file of First WUC with<br>Corresponding 2-Digit WUC Group ID |
|                  | 11-15                | Position in WUC file of Last WUC with<br>Corresponding 2-Digit WUC Group ID  |

A sample set of input data, used for the F-106 Scheduled Maintenance Study, is given in Figure 3-7. All numbers should be right-justified within their designated fields. It is also important that the Maintenance Codes, card type e, be arranged such that codes corresponding to NORM hours be placed ahead of the codes corresponding to NORS hours.

The Data Bank program first opens all input and output files and reads the control data. The four data files are then updated to the first aircraft, and then to the first week for which both AFM 66-1 and AFM 65-110 data is available. All four files are then processed, merging data with a time step of one week. Processing is terminated when the day number in the files reaches the day corresponding to the Last Week, when the next aircraft is processed. This continues until either the end of the 65-110 or 66-1 files or the number of aircraft to be processed is exceeded. On completion, the output tape record is filled with nines, and all files are closed.

The program is suitable for use with the appropriate processed data files for any USAF aircraft with the following program dimension limitations.

- |  |              |
|--|--------------|
| a. Number of Action-Taken Codes                                | 5 Maximum    |
| b. Number of Maintenance Codes                                 | 17 Maximum   |
| c. Number of 3-Digit WUCs                                      | 7 Maximum    |
| d. Number of 2-Digit WUC Groups                                | 22 Maximum   |
| e. Number of WUCs  | 3000 Maximum |
| f. Number of Type 3 Output Records for<br>Serial Number - Week | 250 Maximum  |
| g. Number of Type 4 Output Records for<br>Serial Number - Week | 250 Maximum  |

**3.3.3 OUTPUT DESCRIPTION.** The sample output, Figure 3-8, shows examples of the four types of output records; the format of the data records is given in Figure 3-9. The source of each data item in the four output record types is listed in Table 3-4.

80 COLUMN GENERAL PURPOSE FORM

JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ APO \_\_\_\_\_ EWO MAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1 | W-2 | W-3      | W-4 | W-5  | W-6 | W-7 | W-8 |
|-----|-----|----------|-----|------|-----|-----|-----|
| 03  | 04  | 57000230 | 557 | F106 | S   |     |     |
| S   |     |          |     |      |     |     |     |
| P   |     |          |     |      |     |     |     |
| A   |     |          |     |      |     |     |     |
| S   |     |          |     |      |     |     |     |
| 17  | 9   |          |     |      |     |     |     |
| A   |     |          |     |      |     |     |     |
| R   |     |          |     |      |     |     |     |
| C   |     |          |     |      |     |     |     |
| D   |     |          |     |      |     |     |     |
| F   |     |          |     |      |     |     |     |
| G   |     |          |     |      |     |     |     |
| H   |     |          |     |      |     |     |     |
| E   |     |          |     |      |     |     |     |
| X   |     |          |     |      |     |     |     |
| N   |     |          |     |      |     |     |     |
| N   |     |          |     |      |     |     |     |
| P   |     |          |     |      |     |     |     |
| R   |     |          |     |      |     |     |     |
| S   |     |          |     |      |     |     |     |
| T   |     |          |     |      |     |     |     |
| V   |     |          |     |      |     |     |     |
| N   |     |          |     |      |     |     |     |
| 7   |     |          |     |      |     |     |     |
| 23A |     |          |     |      |     |     |     |

80 COLUMN GENERAL PURPOSE FORM

JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ APO \_\_\_\_\_ EWO MAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1 | W-2  | W-3  | W-4 | W-5 | W-6 | W-7 | W-8 |
|-----|------|------|-----|-----|-----|-----|-----|
| 23B |      |      |     |     |     |     |     |
| 23C |      |      |     |     |     |     |     |
| 23D |      |      |     |     |     |     |     |
| 23E |      |      |     |     |     |     |     |
| 23F |      |      |     |     |     |     |     |
| 23G |      |      |     |     |     |     |     |
| 22  | 2301 |      |     |     |     |     |     |
| 11  |      | 250  |     |     |     |     |     |
| 12  | 251  | 238  |     |     |     |     |     |
| 13  | 289  | 408  |     |     |     |     |     |
| 14  | 409  | 498  |     |     |     |     |     |
| 23  | 499  | 745  |     |     |     |     |     |
| 41  | 746  | 843  |     |     |     |     |     |
| 42  | 844  | 895  |     |     |     |     |     |
| 44  | 896  | 919  |     |     |     |     |     |
| 45  | 920  | 1021 |     |     |     |     |     |
| 46  | 1022 | 1117 |     |     |     |     |     |
| 47  | 1118 | 1196 |     |     |     |     |     |
| 49  | 1197 | 1216 |     |     |     |     |     |
| 51  | 1217 | 1298 |     |     |     |     |     |
| 52  | 1299 | 1308 |     |     |     |     |     |
| 55  | 1309 | 1316 |     |     |     |     |     |
| 63  | 1317 | 1326 |     |     |     |     |     |
| 65  | 1327 | 1384 |     |     |     |     |     |
| 71  | 1385 | 1430 |     |     |     |     |     |

Figure 3-7. Sample Input -- Data Bank Control





| RECORD NAME        | HOW SIGNED | FIELD DEFINITION | CHARACTER POSITION | FIELD LENGTH |
|--------------------|------------|------------------|--------------------|--------------|
| DATA RECORD TYPE 1 |            |                  |                    |              |
| MDS                |            | Serial Number    | 1-10               | 10           |
|                    |            | Week Number      | 11-15              | 5            |
|                    |            | Flight Time      | 16-25              | 10           |
|                    |            | Sorties          | 26-35              | 10           |
|                    |            | Landings         | 36-45              | 10           |
|                    |            |                  | 46-55              | 10           |
|                    |            |                  | 56-65              | 10           |
|                    |            |                  | 66-75              | 10           |
|                    |            |                  | 76-85              | 10           |
|                    |            |                  | 86-95              | 10           |
|                    |            |                  | 96-105             | 10           |
|                    |            |                  | 106-115            | 10           |
|                    |            |                  | 116-125            | 10           |
|                    |            |                  | 126-135            | 10           |
|                    |            |                  | 136-145            | 10           |
|                    |            |                  | 146-155            | 10           |
|                    |            |                  | 156-165            | 10           |
|                    |            |                  | 166-175            | 10           |
|                    |            |                  | 176-185            | 10           |
|                    |            |                  | 186-195            | 10           |
|                    |            |                  | 196-205            | 10           |
|                    |            |                  | 206-215            | 10           |
|                    |            |                  | 216-225            | 10           |
|                    |            |                  | 226-235            | 10           |
|                    |            |                  | 236-245            | 10           |
|                    |            |                  | 246-255            | 10           |
|                    |            |                  | 256-265            | 10           |
|                    |            |                  | 266-275            | 10           |
|                    |            |                  | 276-285            | 10           |
|                    |            |                  | 286-295            | 10           |
|                    |            |                  | 296-305            | 10           |
|                    |            |                  | 306-315            | 10           |
|                    |            |                  | 316-325            | 10           |
|                    |            |                  | 326-335            | 10           |
|                    |            |                  | 336-345            | 10           |
|                    |            |                  | 346-355            | 10           |
|                    |            |                  | 356-365            | 10           |
|                    |            |                  | 366-375            | 10           |
|                    |            |                  | 376-385            | 10           |
|                    |            |                  | 386-395            | 10           |
|                    |            |                  | 396-405            | 10           |
|                    |            |                  | 406-415            | 10           |
|                    |            |                  | 416-425            | 10           |
|                    |            |                  | 426-435            | 10           |
|                    |            |                  | 436-445            | 10           |
|                    |            |                  | 446-455            | 10           |
|                    |            |                  | 456-465            | 10           |
|                    |            |                  | 466-475            | 10           |
|                    |            |                  | 476-485            | 10           |
|                    |            |                  | 486-495            | 10           |
|                    |            |                  | 496-505            | 10           |
|                    |            |                  | 506-515            | 10           |
|                    |            |                  | 516-525            | 10           |
|                    |            |                  | 526-535            | 10           |
|                    |            |                  | 536-545            | 10           |
|                    |            |                  | 546-555            | 10           |
|                    |            |                  | 556-565            | 10           |
|                    |            |                  | 566-575            | 10           |
|                    |            |                  | 576-585            | 10           |
|                    |            |                  | 586-595            | 10           |
|                    |            |                  | 596-605            | 10           |
|                    |            |                  | 606-615            | 10           |
|                    |            |                  | 616-625            | 10           |
|                    |            |                  | 626-635            | 10           |
|                    |            |                  | 636-645            | 10           |
|                    |            |                  | 646-655            | 10           |
|                    |            |                  | 656-665            | 10           |
|                    |            |                  | 666-675            | 10           |
|                    |            |                  | 676-685            | 10           |
|                    |            |                  | 686-695            | 10           |
|                    |            |                  | 696-705            | 10           |
|                    |            |                  | 706-715            | 10           |
|                    |            |                  | 716-725            | 10           |
|                    |            |                  | 726-735            | 10           |
|                    |            |                  | 736-745            | 10           |
|                    |            |                  | 746-755            | 10           |
|                    |            |                  | 756-765            | 10           |
|                    |            |                  | 766-775            | 10           |
|                    |            |                  | 776-785            | 10           |
|                    |            |                  | 786-795            | 10           |
|                    |            |                  | 796-805            | 10           |
|                    |            |                  | 806-815            | 10           |
|                    |            |                  | 816-825            | 10           |
|                    |            |                  | 826-835            | 10           |
|                    |            |                  | 836-845            | 10           |
|                    |            |                  | 846-855            | 10           |
|                    |            |                  | 856-865            | 10           |
|                    |            |                  | 866-875            | 10           |
|                    |            |                  | 876-885            | 10           |
|                    |            |                  | 886-895            | 10           |
|                    |            |                  | 896-905            | 10           |
|                    |            |                  | 906-915            | 10           |
|                    |            |                  | 916-925            | 10           |
|                    |            |                  | 926-935            | 10           |
|                    |            |                  | 936-945            | 10           |
|                    |            |                  | 946-955            | 10           |
|                    |            |                  | 956-965            | 10           |
|                    |            |                  | 966-975            | 10           |
|                    |            |                  | 976-985            | 10           |
|                    |            |                  | 986-995            | 10           |
|                    |            |                  | 996-1005           | 10           |
|                    |            |                  | 1006-1015          | 10           |
|                    |            |                  | 1016-1025          | 10           |
|                    |            |                  | 1026-1035          | 10           |
|                    |            |                  | 1036-1045          | 10           |
|                    |            |                  | 1046-1055          | 10           |
|                    |            |                  | 1056-1065          | 10           |
|                    |            |                  | 1066-1075          | 10           |
|                    |            |                  | 1076-1085          | 10           |
|                    |            |                  | 1086-1095          | 10           |
|                    |            |                  | 1096-1105          | 10           |
|                    |            |                  | 1106-1115          | 10           |
|                    |            |                  | 1116-1125          | 10           |
|                    |            |                  | 1126-1135          | 10           |
|                    |            |                  | 1136-1145          | 10           |
|                    |            |                  | 1146-1155          | 10           |
|                    |            |                  | 1156-1165          | 10           |
|                    |            |                  | 1166-1175          | 10           |
|                    |            |                  | 1176-1185          | 10           |
|                    |            |                  | 1186-1195          | 10           |
|                    |            |                  | 1196-1205          | 10           |
|                    |            |                  | 1206-1215          | 10           |
|                    |            |                  | 1216-1225          | 10           |
|                    |            |                  | 1226-1235          | 10           |
|                    |            |                  | 1236-1245          | 10           |
|                    |            |                  | 1246-1255          | 10           |
|                    |            |                  | 1256-1265          | 10           |
|                    |            |                  | 1266-1275          | 10           |
|                    |            |                  | 1276-1285          | 10           |
|                    |            |                  | 1286-1295          | 10           |
|                    |            |                  | 1296-1305          | 10           |
|                    |            |                  | 1306-1315          | 10           |
|                    |            |                  | 1316-1325          | 10           |
|                    |            |                  | 1326-1335          | 10           |
|                    |            |                  | 1336-1345          | 10           |
|                    |            |                  | 1346-1355          | 10           |
|                    |            |                  | 1356-1365          | 10           |
|                    |            |                  | 1366-1375          | 10           |
|                    |            |                  | 1376-1385          | 10           |
|                    |            |                  | 1386-1395          | 10           |
|                    |            |                  | 1396-1405          | 10           |
|                    |            |                  | 1406-1415          | 10           |
|                    |            |                  | 1416-1425          | 10           |
|                    |            |                  | 1426-1435          | 10           |
|                    |            |                  | 1436-1445          | 10           |
|                    |            |                  | 1446-1455          | 10           |
|                    |            |                  | 1456-1465          | 10           |
|                    |            |                  | 1466-1475          | 10           |
|                    |            |                  | 1476-1485          | 10           |
|                    |            |                  | 1486-1495          | 10           |
|                    |            |                  | 1496-1505          | 10           |
|                    |            |                  | 1506-1515          | 10           |
|                    |            |                  | 1516-1525          | 10           |
|                    |            |                  | 1526-1535          | 10           |
|                    |            |                  | 1536-1545          | 10           |
|                    |            |                  | 1546-1555          | 10           |
|                    |            |                  | 1556-1565          | 10           |
|                    |            |                  | 1566-1575          | 10           |
|                    |            |                  | 1576-1585          | 10           |
|                    |            |                  | 1586-1595          | 10           |
|                    |            |                  | 1596-1605          | 10           |
|                    |            |                  | 1606-1615          | 10           |
|                    |            |                  | 1616-1625          | 10           |
|                    |            |                  | 1626-1635          | 10           |
|                    |            |                  | 1636-1645          | 10           |
|                    |            |                  | 1646-1655          | 10           |
|                    |            |                  | 1656-1665          | 10           |
|                    |            |                  | 1666-1675          | 10           |
|                    |            |                  | 1676-1685          | 10           |
|                    |            |                  | 1686-1695          | 10           |
|                    |            |                  | 1696-1705          | 10           |
|                    |            |                  | 1706-1715          | 10           |
|                    |            |                  | 1716-1725          | 10           |
|                    |            |                  | 1726-1735          | 10           |
|                    |            |                  | 1736-1745          | 10           |
|                    |            |                  | 1746-1755          | 10           |
|                    |            |                  | 1756-1765          | 10           |
|                    |            |                  | 1766-1775          | 10           |
|                    |            |                  | 1776-1785          | 10           |
|                    |            |                  | 1786-1795          | 10           |
|                    |            |                  | 1796-1805          | 10           |
|                    |            |                  | 1806-1815          | 10           |
|                    |            |                  | 1816-1825          | 10           |
|                    |            |                  | 1826-1835          | 10           |
|                    |            |                  | 1836-1845          | 10           |
|                    |            |                  | 1846-1855          | 10           |
|                    |            |                  | 1856-1865          | 10           |
|                    |            |                  | 1866-1875          | 10           |
|                    |            |                  | 1876-1885          | 10           |
|                    |            |                  | 1886-1895          | 10           |
|                    |            |                  | 1896-1905          | 10           |
|                    |            |                  | 1906-1915          | 10           |
|                    |            |                  | 1916-1925          | 10           |
|                    |            |                  | 1926-1935          | 10           |
|                    |            |                  | 1936-1945          | 10           |
|                    |            |                  | 1946-1955          | 10           |
|                    |            |                  | 1956-1965          | 10           |
|                    |            |                  | 1966-1975          | 10           |
|                    |            |                  | 1976-1985          | 10           |
|                    |            |                  | 1986-1995          | 10           |
|                    |            |                  | 1996-2005          | 10           |
|                    |            |                  | 2006-2015          | 10           |
|                    |            |                  | 2016-2025          | 10           |
|                    |            |                  | 2026-2035          | 10           |
|                    |            |                  | 2036-2045          | 10           |
|                    |            |                  | 2046-2055          | 10           |
|                    |            |                  | 2056-2065          | 10           |
|                    |            |                  | 2066-2075          | 10           |
|                    |            |                  | 2076-2085          | 10           |
|                    |            |                  | 2086-2095          | 10           |
|                    |            |                  | 2096-2105          | 10           |
|                    |            |                  | 2106-2115          | 10           |
|                    |            |                  | 2116-2125          | 10           |
|                    |            |                  | 2126-2135          | 10           |
|                    |            |                  | 2136-2145          | 10           |
|                    |            |                  | 2146-2155          | 10           |
|                    |            |                  | 2156-2165          | 10           |
|                    |            |                  | 2166-2175          | 10           |
|                    |            |                  | 2176-2185          | 10           |
|                    |            |                  | 2186-2195          | 10           |
|                    |            |                  | 2196-2205          | 10           |
|                    |            |                  | 2206-2215          | 10           |
|                    |            |                  | 2216-2225          | 10           |
|                    |            |                  | 2226-2235          | 10           |
|                    |            |                  | 2236-2245          | 10           |
|                    |            |                  | 2246-2255          | 10           |
|                    |            |                  | 2256-2265          | 10           |
|                    |            |                  | 2266-2275          | 10           |
|                    |            |                  | 2276-2285          | 10           |
|                    |            |                  | 2286-2295          | 10           |
|                    |            |                  | 2296-2305          | 10           |
|                    |            |                  | 2306-2315          | 10           |
|                    |            |                  | 2316-2325          | 10           |
|                    |            |                  | 2326-2335          | 10           |
|                    |            |                  | 2336-2345          | 10           |
|                    |            |                  | 2346-2355          | 10           |
|                    |            |                  | 2356-2365          | 10           |
|                    |            |                  | 2366-2375          | 10           |
|                    |            |                  | 2376-2385          | 10           |
|                    |            |                  | 2386-2395          | 10           |
|                    |            |                  | 2396-2405          | 10           |
|                    |            |                  | 2406-2415          | 10           |
|                    |            |                  | 2416-2425          | 10           |
|                    |            |                  | 2426-2435          | 10           |
|                    |            |                  | 2436-2445          | 10           |
|                    |            |                  | 2446-2455          | 10           |
|                    |            |                  | 2456-2465          | 10           |
|                    |            |                  | 2466-2475          | 10           |
|                    |            |                  | 2476-2485          | 10           |
|                    |            |                  | 2486-2495          | 10           |
|                    |            |                  | 2496-2505          | 10           |
|                    |            |                  | 2506-2515          | 10           |
|                    |            |                  | 2516-2525          | 10           |
|                    |            |                  | 2526-2535          | 10           |
|                    |            |                  | 2536-2545          | 10           |
|                    |            |                  | 2546-2555          | 10           |
|                    |            |                  | 2556-2565          | 10           |
|                    |            |                  | 2566-2575          | 10           |
|                    |            |                  | 2576-2585          | 10           |
|                    |            |                  | 2586-2595          | 10           |
|                    |            |                  | 2596-2605          | 10           |
|                    |            |                  | 2606-2615          | 10           |
|                    |            |                  | 2616-2625          | 10           |
|                    |            |                  | 2626-2635          | 10           |
|                    |            |                  | 2636-2645          | 10           |
|                    |            |                  | 2646-2655          | 10           |
|                    |            |                  | 2656-2665          | 10           |
|                    |            |                  | 2666-2675          | 10           |
|                    |            |                  | 2676-2685          | 10           |
|                    |            |                  | 2686-2695          | 10           |
|                    |            |                  | 2696-2705          | 10           |
|                    |            |                  | 2706-2715          | 10           |
|                    |            |                  | 2716-2725          | 10           |
|                    |            |                  | 2726-2735          | 10           |
|                    |            |                  | 2736-2745          | 10           |
|                    |            |                  | 2746-2755          | 10           |



**Table 3-4. Data Item Source**

| <u>RECORD TYPE 1</u> |                         |  |
|----------------------|-------------------------|--|
| Column               | Nomenclature            | Source Data  |
| 1-5                  | MDS                     | Input Control Data   |
| 6-13                 | Serial-Number           | Any Input File   |
| 14-16                | Week-Number             | Computed From Day-Number from Any Input File   |
| 29-32                | Flight-Hours            | Sum for the Serial Number-Week of Columns 31-33 on 65-110 type 3-9 records   |
| 36-39                | Sorties                 | Sum for the Serial Number-Week of Columns 36-37 on 65-110 type 3-9 records   |
| 40-43                | Landings                | Sum for the Serial Number-Week of Columns 34-35 on 65-110 type 3-9 records   |
| 49                   | Record ID               | Set to 1   |
| 50                   | Record Mark             |  |
| <u>RECORD TYPE 2</u> |                         |  |
| Column               | Nomenclature            | Source Data  |
| 1-5                  | MDS                     | Input Control Data   |
| 6-13                 | Serial-Number           | Any Input File   |
| 14-16                | Week-Number             | Computer from Day-Number from Any Input File   |
| 26-28                | IRAN-Visit-No.          | Value for the Serial-Number-Week from IRAN File, Columns 19-20   |
| 36-39                | IRAN-Start-Day          | Value for the Serial-Number-Week from IRAN File, Columns 32-35   |
| 40-43                | IRAN-End-Day            | Value for the Serial-Number-Week from IRAN File, Columns 37-40   |
| 49                   | Record ID               | Set to 2   |
| 50                   | Record Mark             |  |
| <u>RECORD TYPE 3</u> |                         |  |
| Column               | Nomenclature            | Source Data  |
| 1-5                  | MDS                     | Input Control Data   |
| 6-13                 | Serial-Number           | Any Input File   |
| 14-16                | Week-Number             | Computed from Day-Number from Any Input File   |
| 17-21                | WUC                     | Data Records for Serial-Number-Week for the Files:<br>a. 65-110 File, Type 2 Records, Columns 34-38<br>b. 66-1 File, Columns 46-50<br>c. AIE File, Columns 10-14 |
| 26-28                | Maintenance Action      | The Sum of 66-1 File, Columns 56-57 for the Serial-Number-Week-WUC Combination   |
| 29-32                | Labor Hours             | The Sum of 66-1 File, Columns 58-61 for the Serial-Number-Week-WUC Combination   |
| 33-35                | AIE                     | The Number of AIE Records for the Serial-Number-Week-WUC Combination   |
| 36-39                | NORM Hours              | The Sum of 65-110 File, Type 2 Records, Columns 31-33 for the Serial-Number-Week-WUC and Maintenance Code, Column 39, Corresponding to NORM Codes                |
| 40-43                | NORS Hours              | The Sum of 65-110 File, Type 2 Records, Columns 31-33 for the Serial-Number-Week-WUC and Maintenance Code, Column 39, Corresponding to NORS Code                 |
| 44-46                | ATC Maintenance Actions | The Sum of 66-1 File Columns 56-57 for the Selected ATC from the Input Data for the Serial-Number-Week-WUC Combination   |
| 49                   | Record ID               | Set to 3   |
| 50                   | Record Mark             |  |
| <u>RECORD TYPE 4</u> |                         |  |
| Column               | Nomenclature            | Source Data  |
| 1-5                  | MDS                     | Input Control Data   |
| 6-13                 | Serial-Number           | Any Input File   |
| 14-16                | Week-Number             | Computed from Day-Number from Any Input File   |
| 17-21                | WUC                     | For the Serial-Number-Week Combination, 66-1 File, Columns 46-50   |
| 22                   | WDC                     | For the Serial-Number-Week-WUC Combination 66-1 File, Column 52  |
| 23-25                | HMC                     | For the Serial-Number-Week-WUC-WDC Combination, 66-1 File, Columns 53-55   |
| 26-28                | Maintenance Action      | The Sum for the Serial-Number-Week-WUC-WDC-HMC Combination, 66-1 File, Columns 56-57   |
| 29-32                | Labor                   | The Sum for the Serial-Number-Week-WUC-WDC-HMC Combination, 66-1 File, Columns 58-61   |
| 49                   | Record ID               | Set to 4   |
| 50                   | Record Mark             |  |

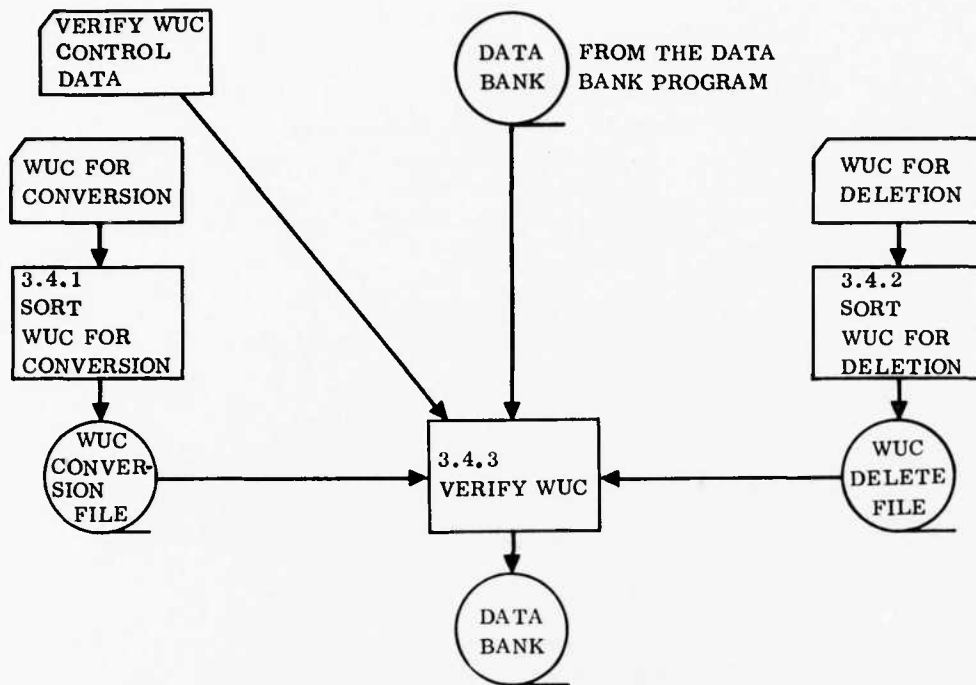


Figure 3-10. Logic Flow — WUC Conversion

The input consists of a tape containing the WUC using the format of Figure 3-5 and should be identical to the one used in Paragraph 3.2.2 and the card data defining the sort field. This is defined as a character field in ascending order. The sort field is:

| <u>Field</u> | <u>Column Number</u> | <u>Description</u> |
|--------------|----------------------|--------------------|
| 1            | 2-6                  | Old WUC            |

**3.4.1.3 Output Description.** The sample output, Figure 3-11, has 80 characters to a data record, blocked 20 to a tape record. The sort for the 170 WUCs to be converted on the F-106 Data Bank required less than one minute of IBM 370 computer time.

### 3.4.2 SORT WUC FOR DELETION

**3.4.2.1 Purpose.** This IBM Utility program sorts the WUCs (which are to be deleted when occurring in records before the week of the change of WUC designation) into an ordered file.

**3.4.2.2 Input Data and Procedures.** The JCL cards for the IBM Utility program and the data cards used on the F-106 Scheduled Maintenance Study are shown in Paragraph 6.5.6.



Format of the input tape records is shown in Figure 3-12. The sort control cards are identical to those in Paragraph 3.4.1.1.

**3.4.2.3 Output Description.** The sample output is shown in Figure 3-13. The sort for the 221 WUCs to be deleted in the F-106 Data Bank required less than one minute of IBM 370 time.

**3.4.3 VERIFY WUC**

**3.4.3.1 Purpose.** This program, written in COBOL, provides two functions. First, it performs a logical check on the two lists of WUCs previously prepared. If these lists are verified, it then proceeds to change and delete records within the Data Bank according to the two input files.

**3.4.3.2 Input Data and Procedures.** The program, a sample of card data input, and the associated JCL for the IBM 370 are shown in Paragraph 6.5.7.

The input to the program consists of the data bank from the Data Bank program, WUC conversion file, WUC Delete file, and a control card defining the two-digit code to be processed and the date of the WUC designation change. This control card has the following format.

| <u>Column</u> | <u>Description</u>                    |
|---------------|---------------------------------------|
| 1-3           | Week of WUC Designation Change        |
| 5-6           | First Two Digits of WUC to be Changed |

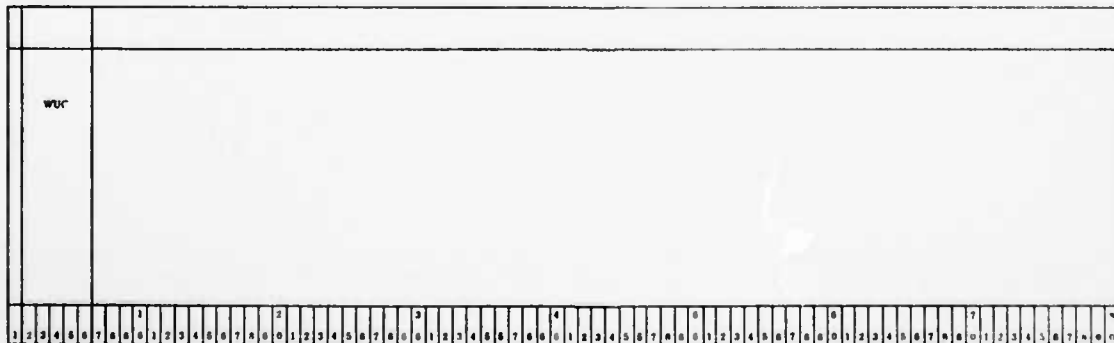


Figure 3-12. Record Layout — WUC for Deletion







SECTION 4  
STATISTICAL ANALYSIS PROGRAMS

4.1 GENERAL DESCRIPTION

A group of programs has been developed to perform various statistical analysis tasks using the data bank as input. (Section 3 contains the details of the data bank generation.) Relationship of the statistical analysis program is shown in Figure 4-1. The tasks solved by the statistical analysis programs are:

- a. Frequency Analysis (Task I).
- b. Manhour and NOR Time Analysis (Task II).
- c. Interval Length Analysis (Task III).
- d. Effect of Time after Inspection (Task IV).
- e. Removal Action Analysis (Task V).
- f. Aircraft Inspection Histories.

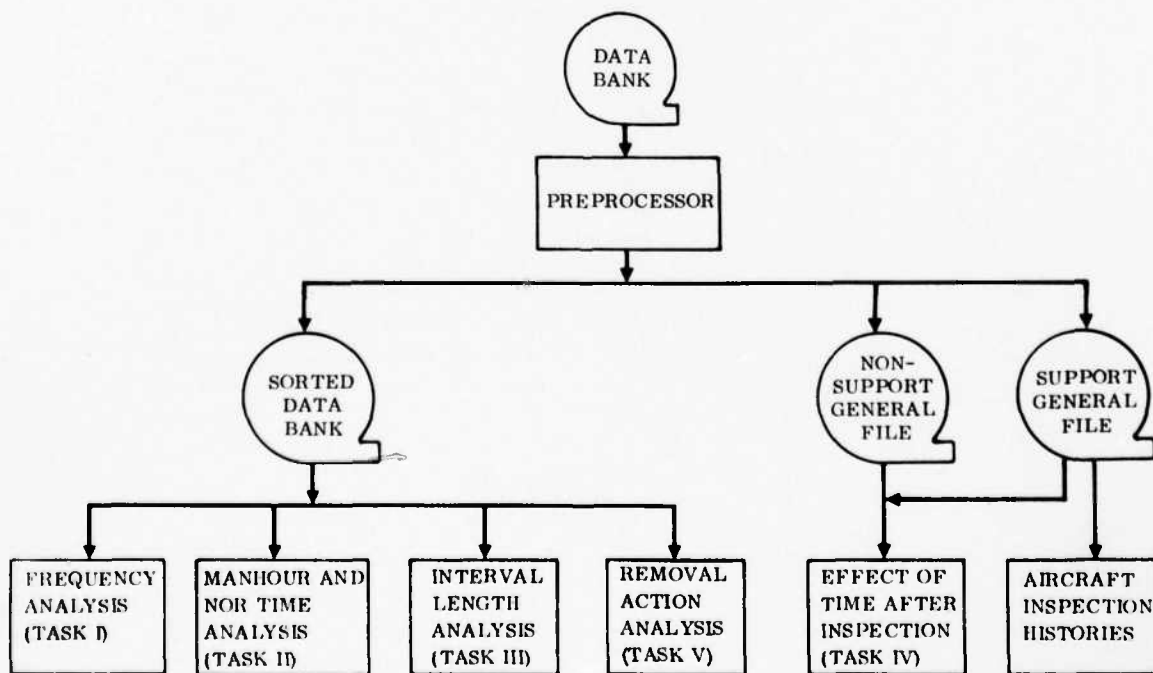


Figure 4-1. Logic Flow — Statistical Analysis Programs



A set of programs, called Preprocessor, was developed to sort and reformat the input data bank (Figure 4-1) into three output files which, in turn, were used to input the six major program modules. The three output files from the Preprocessor are:

- a. Sorted Data Bank.
- b. Non-support General File.
- c. Support General File.

Preprocessor programs are discussed in detail in Paragraph 4.2. Programs for various statistical analysis tasks and Aircraft Inspection Histories are discussed in Paragraphs 4.3 through 4.8.

#### 4.2 PREPROCESSOR PROGRAMS

The Preprocessor programs were developed to reformat and sort the input data bank into three output files (Figure 4-2). All Preprocessor programs were developed for the IBM 370 and have been written to be compatible with SAAMA computers. The Preprocessor Formatter program was written using (ANS) COBOL. Sorting is accomplished by using a standard IBM utility sort program.

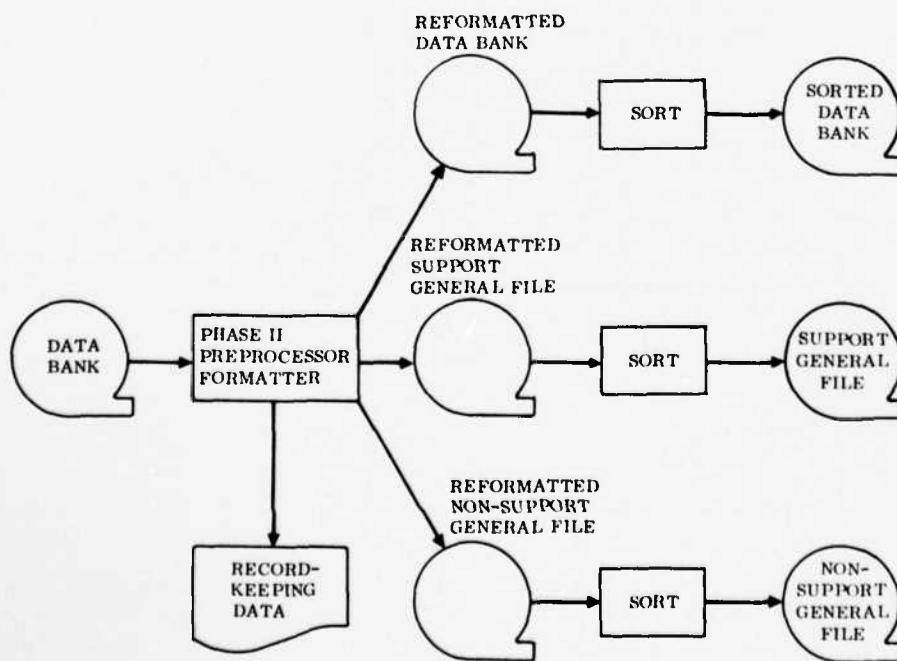


Figure 4-2. Logic Flow — Preprocessor Programs

#### 4.2.1 PREPROCESSOR FORMATTER

4.2.1.1 Purpose. The Preprocessor Formatter program was developed to summarize and reformat data records from the input data bank file into three output files, which are then sorted and used as input to subsequent programs (Figure 4-2).

4.2.1.2 Input Data and Procedures. The combined listing of the program and JCL cards is shown in Paragraph 6.6.1. The data bank file, created by the Data Bank programs or the work unit code (WUC) convert program, is the input to the Preprocessor Formatter program. The input data records, consisting of four record types, have been organized in a sequence of aircraft serial number, week number, and record type. (See Figure 3-9 for the Data Bank Record layout.)

The Preprocessor Formatter program reformats data records by transferring flight hours from Type 1 records to Type 3 and Type 4 records. Also, flight hours, sorties, and landings from Type 1 records are summed within an aircraft serial number for a given week and transferred to Type 3 and Type 4 records.

All Type 2 records are skipped by the Preprocessor program. For a specific serial number for a given week, there will be no more than one Type 1 record and no more than 250 Type 3 or Type 4 records. Figure 4-3 shows the detailed program logic.

4.2.1.3 Output Description. Output from the Preprocessor Formatter program consists of three files containing either Type 3 or Type 4 records or both (Figure 4-4). Types contain 70-character data records, blocked 40 to a record. The three files are:

- a. The Reformatted Data Bank file (Type 3 and Type 4 records) from which b and c are separated.
- b. The Support General file (Type 3 records only) with WUC prefixes of 03 and 04.
- c. The Non-Support General file (Type 3 records with WUC prefixes greater than 09 and Type 4 records).

An additional output is the record-keeping listing, which gives Input/Output Totals (Figure 4-5) and Aircraft-Level Subtotals (Figure 4-6).

The single-line input/output totals in Figure 4-5 are described in the following fields.

| <u>Field</u> | <u>Column</u> | <u>Description</u>              |
|--------------|---------------|---------------------------------|
| 1            | 2-8           | Data Record Input               |
| 2            | 10-16         | Type 3 and 4 Data Records Input |
| 3            | 18-20         | Number of Aircraft              |



RECORDS AND WORK AREAS

FORM 548 81-107

DATE

REV. DATE

BY

USED BY PROGRAMS

SECTION

| RECORD NAME        | TYPE 3              | FILE NO.            | BLOCK               | DATE                |
|--------------------|---------------------|---------------------|---------------------|---------------------|
| FIELD NAME         | MDS SEP. NO.        | WUC                 | WUC                 | WUC                 |
| VALUE              | 034                 | 034                 | 034                 | 034                 |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(8)                | X(5)                | X(5)                | X(5)                |
| FIELD NAME         | UNIT LABOR          | UNIT LABOR          | UNIT LABOR          | UNIT LABOR          |
| VALUE              | 4                   | 4                   | 4                   | 4                   |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(4)                | X(5)                | X(5)                | X(5)                |
| FIELD NAME         | FH                  | FH                  | FH                  | FH                  |
| VALUE              | 10                  | 10                  | 10                  | 10                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(1)                | X(1)                | X(1)                | X(1)                |
| FIELD NAME         | SORTIES             | SORTIES             | SORTIES             | SORTIES             |
| VALUE              | 59                  | 59                  | 59                  | 59                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(2)                | X(2)                | X(2)                | X(2)                |
| FIELD NAME         | LANDING             | LANDING             | LANDING             | LANDING             |
| VALUE              | 1                   | 1                   | 1                   | 1                   |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(1)                | X(1)                | X(1)                | X(1)                |

NOTE: IF 1ST 2 CH. OF WUC  
LT 10=SG, GT OR EQ 10=MSG

| RECORD NAME        | TYPE 4              | FILE NO.            | BLOCK               | DATE                |
|--------------------|---------------------|---------------------|---------------------|---------------------|
| FIELD NAME         | MDS SENIA NO.       | WUC                 | WUC                 | WUC                 |
| VALUE              | 50                  | 50                  | 50                  | 50                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(8)                | X(5)                | X(5)                | X(5)                |
| FIELD NAME         | UNIT LABOR          | UNIT LABOR          | UNIT LABOR          | UNIT LABOR          |
| VALUE              | 4                   | 4                   | 4                   | 4                   |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(4)                | X(5)                | X(5)                | X(5)                |
| FIELD NAME         | FH                  | FH                  | FH                  | FH                  |
| VALUE              | 10                  | 10                  | 10                  | 10                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(1)                | X(1)                | X(1)                | X(1)                |
| FIELD NAME         | SORTIES             | SORTIES             | SORTIES             | SORTIES             |
| VALUE              | 59                  | 59                  | 59                  | 59                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(2)                | X(2)                | X(2)                | X(2)                |
| FIELD NAME         | LANDING             | LANDING             | LANDING             | LANDING             |
| VALUE              | 1                   | 1                   | 1                   | 1                   |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(1)                | X(1)                | X(1)                | X(1)                |

| RECORD NAME        | TYPE 4              | FILE NO.            | BLOCK               | DATE                |
|--------------------|---------------------|---------------------|---------------------|---------------------|
| FIELD NAME         | MDS SENIA NO.       | WUC                 | WUC                 | WUC                 |
| VALUE              | 50                  | 50                  | 50                  | 50                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(8)                | X(5)                | X(5)                | X(5)                |
| FIELD NAME         | UNIT LABOR          | UNIT LABOR          | UNIT LABOR          | UNIT LABOR          |
| VALUE              | 4                   | 4                   | 4                   | 4                   |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(4)                | X(5)                | X(5)                | X(5)                |
| FIELD NAME         | FH                  | FH                  | FH                  | FH                  |
| VALUE              | 10                  | 10                  | 10                  | 10                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(1)                | X(1)                | X(1)                | X(1)                |
| FIELD NAME         | SORTIES             | SORTIES             | SORTIES             | SORTIES             |
| VALUE              | 59                  | 59                  | 59                  | 59                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(2)                | X(2)                | X(2)                | X(2)                |
| FIELD NAME         | LANDING             | LANDING             | LANDING             | LANDING             |
| VALUE              | 1                   | 1                   | 1                   | 1                   |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(1)                | X(1)                | X(1)                | X(1)                |

| RECORD NAME        | TYPE 4              | FILE NO.            | BLOCK               | DATE                |
|--------------------|---------------------|---------------------|---------------------|---------------------|
| FIELD NAME         | MDS SENIA NO.       | WUC                 | WUC                 | WUC                 |
| VALUE              | 50                  | 50                  | 50                  | 50                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(8)                | X(5)                | X(5)                | X(5)                |
| FIELD NAME         | UNIT LABOR          | UNIT LABOR          | UNIT LABOR          | UNIT LABOR          |
| VALUE              | 4                   | 4                   | 4                   | 4                   |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(4)                | X(5)                | X(5)                | X(5)                |
| FIELD NAME         | FH                  | FH                  | FH                  | FH                  |
| VALUE              | 10                  | 10                  | 10                  | 10                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(1)                | X(1)                | X(1)                | X(1)                |
| FIELD NAME         | SORTIES             | SORTIES             | SORTIES             | SORTIES             |
| VALUE              | 59                  | 59                  | 59                  | 59                  |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(2)                | X(2)                | X(2)                | X(2)                |
| FIELD NAME         | LANDING             | LANDING             | LANDING             | LANDING             |
| VALUE              | 1                   | 1                   | 1                   | 1                   |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 | 1 2 3 4 5 6 7 8 9 0 |
| PICTURE            | X(1)                | X(1)                | X(1)                | X(1)                |

Figure 4-4. Preprocessor Tape Record Layouts



| <u>Field</u> | <u>Column</u> | <u>Description</u>                      |
|--------------|---------------|---|
| 4            | 22-28         | Support General Data Records Output     |
| 5            | 30-36         | Non-Support General Data Records Output |
| 6            | 38-44         | Type 1 Records Input                    |
| 7            | 46-52         | Type 3 Records Input/Output             |
| 8            | 54-60         | Type 4 Records Input/Output             |

The Aircraft-Level Subtotals fields are:

| <u>Field</u> | <u>Column</u> | <u>Description</u>          |
|--------------|---------------|-----------------------------|
| 1            | 2-7           | Total Flight Hours          |
| 2            | 9-13          | Total Sorties               |
| 3            | 15-19         | Total Landings              |
| 4            | 21-26         | Type 1 Records              |
| 5            | 28-34         | Type 3 Records              |
| 6            | 36-42         | Type 4 Records              |
| 7            | 44-51         | Aircraft Serial Number      |
| 8            | 53-58         | Support General Records     |
| 9            | 60-65         | Non-support General Records |

For the 150-aircraft F-106 fleet, the Preprocessor Formatter program requires approximately ten minutes of IBM 370 computer clock time and two minutes of central processor unit (CPU) time. The input volume is 604,677, the reformatted Data Bank output volume is 587,255, the reformatted Support General volume is 83,293, and the reformatted Non-support General volume is 503,962.

#### 4.2.2 REFORMATTED SUPPORT GENERAL WUC SORT

4.2.2.1 Purpose. This IBM utility program sorts the Support General data records into an ordered file for subsequent use on Task IV Statistical Programs and the Aircraft Inspection Histories Plot Program.

4.2.2.2 Input Data and Procedures. The combined listing of the program and JCL cards is shown in Paragraph 6.6.2. The sort fields, in order of hierarchy, are:

| <u>Field</u> | <u>Column</u> | <u>Description</u> |
|--------------|---------------|--------------------|
| 1            | 6-13          | Serial Number      |

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F-106 SCHEDULED MAINTENANCE STUDY. USER'S MANUAL, (U)  
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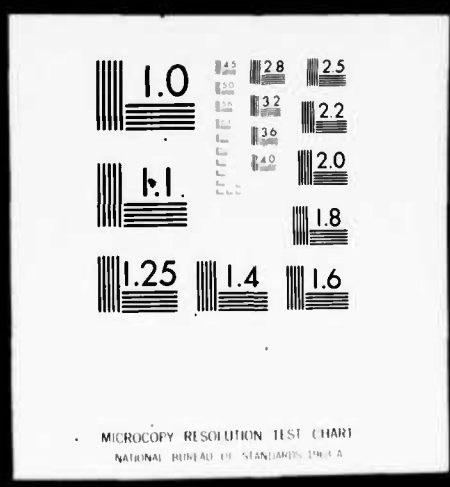
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### 4.3 FREQUENCY ANALYSIS — TASK I

The objective of this task is to generate a matrix of data to determine the kinds of malfunctions that occur on a WUC and when they are discovered, and to compare these results with the definitions of scheduled inspections. A system of three COBOL programs has been developed to perform this task (Figure 4-10).

- a. Title Formatter and Five-Digit WUC Analysis (Paragraph 6.7.1).
- b. Frequency Analysis Sort (Paragraph 6.7.2).
- c. Three-Digit WUC Analysis (Paragraph 6.7.3).

Paragraph 6.7 contains the listing of the source programs with the corresponding job control cards, as noted above.

#### 4.3.1 TITLE FORMATTER AND FIVE-DIGIT WUC ANALYSIS

4.3.1.1 Purpose. The purpose of this program is to format the titles from the data for Support General (SG) WUC, perform the analysis at the five-digit WUC level, and to provide two output files to be used for the three-digit WUC analysis.

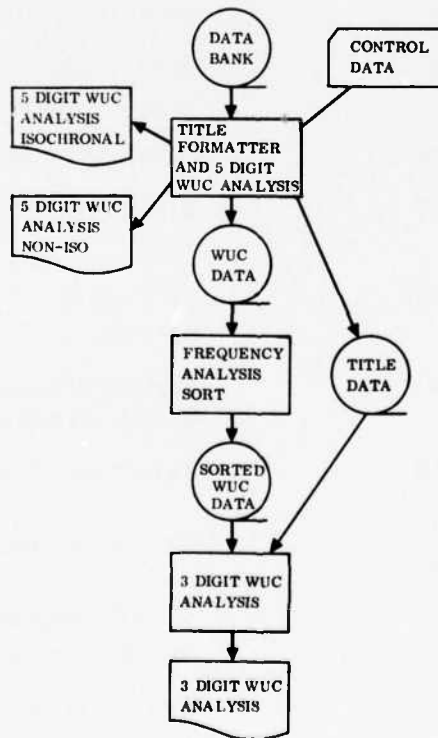


Figure 4-10. Logic Flow — Frequency Analysis

4.3.1.2 Input Data and Procedures. There are two types of input data: tape and card deck. Tape data consists of a data bank sorted in the order of Work Unit Code (WUC), How-Malfunction Code (HMC), aircraft serial number, and week number. The card deck data has the following format.

| <u>Card</u> | <u>Column</u> | <u>Description</u>  |
|-------------|---------------|---|
| a           | 3-5           | Number of isochronal aircraft.  |
| b           | 3-10          | Isochronal aircraft serial number in ascending sequence.                                    |
|             | 13-15         | Starting week number for isochronal inspection.   |
| c           | 1-5           | When-Discovered Code (WDC) titles (WDC used must be in Column 5 and in ascending sequence). |
| d           | 1-3           | Number of WDC corresponding to unscheduled inspections.                                     |
| e           | 1-3           | Sequential position of WDC corresponding to an unscheduled inspection.                      |
| f           | 1-3           | Number of SG WUC to follow.   |
| g           | 1-3           | Sequential position of WDC corresponding to scheduled inspection.                           |
|             | 6-10          | Scheduled inspection in ascending sequence.   |
| h           | 1-80          | Five cards with SG WUC titles (Columns 1-80).   |
| i           | 1-25          | Five cards with SG WUC titles (Columns 81-105).   |
| j           | 1-3           | Sequential position of WDC corresponding to two-digit SG WUC.                               |
|             | 6-10          | Two-digit SG WUC.   |
| k           | 1-3<br>4-6    | { WDC in sequence matching SG WUC.  |
| l           | 1-5           | SG WUC requiring time interval to define end of inspection.                                 |
|             | 7-8           | Week interval for SG WUC.   |

A sample input data deck is shown in Figure 4-11. The program generates four output files:

- a. Title Information.
- b. Five-digit WUC Analysis Report — Isochronal.
- c. Five-digit WUC Analysis Report — Non-isochronal.
- d. Five-digit WUC Analysis data.

The title information file is derived partially from the input card deck (Cards c, h, and i) and the data bank input file. The card deck defines the WDC and SG WUC titles. The Support General WUC Frequency is obtained from Type 3 records by totaling the number of maintenance action field for the appropriate SG-WUC.

The five-digit WUC Analysis Report-Isochronal file uses the Isochronal title to each page of the report; the frequencies for each WUC and HMC combination are obtained by accumulating the maintenance actions for each of the 21 WDCs for the Isochronal aircraft subset. The total unscheduled maintenance actions are accumulated, as are all totals over the complete WUC. The output is also written in the WUC-Data file for subsequent usage at the three-digit WUC level. A similar report file is available for Non-isochronal aircraft.

4.3.1.3 Output Description. The output consists of two report files that have 130 characters to a data record, blocked 15 to a tape record, and two data files that have 130 characters to a data record, blocked 23 to a tape record. A typical report output is shown in Figure 4-12.

The record layout for the two data files is shown in Figure 4-13, an example of the WUC Data in Figure 4-14, and Title Data in Figure 4-15. The WUC Data file contains:

| <u>Column</u> | <u>Value</u> | <u>Description</u>   |
|---------------|--------------|--|
| 1             | H            | Flag indicating data relates to a specific HMC.  |
|               | W            | Flag indicating data is a total for a WUC.   |
| 3-7           |              | Five-digit WUC.  |
| 9-11          | xxx          | Three-digit HMC.   |
|               | BLANK        | Total data for a WUC.  |
| 13-17         |              | For Column 1 = H, sum of MA for WUC, HMC, WDC(1).<br>For Column 1 = W, sum of MA for WUC + WDC(1). |

This is repeated for 21 When-Discovered Codes.





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PAGE 3 of 4

| JOB TITLE | AWO | ENO-WAF | FUNCTION | ANALYST | DATE |     |     |
|-----------|-----|---------|----------|---------|------|-----|-----|
| W-1       | W-2 | W-3     | W-4      | W-5     | W-6  | W-7 | W-8 |
| S         |     |         |          |         |      |     |     |
| T         |     |         |          |         |      |     |     |
| U         |     |         |          |         |      |     |     |
| V         |     |         |          |         |      |     |     |
| Z         |     |         |          |         |      |     |     |
| 4         |     |         |          |         |      |     |     |
| 9         |     |         |          |         |      |     |     |
| 1         |     |         |          |         |      |     |     |
| 2         |     |         |          |         |      |     |     |
| 3         |     |         |          |         |      |     |     |
| 4         |     |         |          |         |      |     |     |
| 5         |     |         |          |         |      |     |     |
| 6         |     |         |          |         |      |     |     |
| 15        |     |         |          |         |      |     |     |
| 19        |     |         |          |         |      |     |     |
| 20        |     |         |          |         |      |     |     |
| 14        |     |         |          |         |      |     |     |
| 9 03100   |     |         |          |         |      |     |     |
| 7 03109   |     |         |          |         |      |     |     |
| 8 03200   |     |         |          |         |      |     |     |
| 8 03210   |     |         |          |         |      |     |     |
| 10 03300  |     |         |          |         |      |     |     |
| 17 03310  |     |         |          |         |      |     |     |
| 17 03320  |     |         |          |         |      |     |     |
| 17 03330  |     |         |          |         |      |     |     |

80 COLUMN GENERAL PURPOSE FORM

PAGE 4 of 4

| JOB TITLE | AWO | ENO-WAF | FUNCTION | ANALYST | DATE |     |       |
|-----------|-----|---------|----------|---------|------|-----|-------|
| W-1       | W-2 | W-3     | W-4      | W-5     | W-6  | W-7 | W-8   |
| 11 03100  |     |         |          |         |      |     |       |
| 16 03600  |     |         |          |         |      |     |       |
| 21 04141  |     |         |          |         |      |     |       |
| 13 0421A  |     |         |          |         |      |     |       |
| 13 04210  |     |         |          |         |      |     |       |
| 18 04610  |     |         |          |         |      |     |       |
|           |     |         | 0 0 0    | 0 0     | 0 0  | 0 0 | 0 0   |
|           |     |         | 3 3 3    | 3 3     | 3 3  | 4 4 | 4 4   |
|           |     |         | 1 2 2    | 1 3     | 4 1  | 2 2 | X     |
|           |     |         | 0 1 0    | 0 0     | 0 0  | 1 1 | X     |
|           |     |         | 9 0 0    | 0 0     | 0 0  | 9   | A D X |
| 0 0       | 0   | 0       |          |         |      |     |       |
| 3 3       | 4   | 4       |          |         |      |     |       |
| 3 3       | 6   | 1       |          |         |      |     |       |
| 3 2       | 1   | 4       |          |         |      |     |       |
| 0 0       | 0   | 1       |          |         |      |     |       |
| 14 04XXX  |     |         |          |         |      |     |       |
| 7 12      |     |         |          |         |      |     |       |
| 03300     | 3   |         |          |         |      |     |       |
| 03310     | 3   |         |          |         |      |     |       |
| 03320     | 3   |         |          |         |      |     |       |
| 03330     | 3   |         |          |         |      |     |       |
| 03400     | 5   |         |          |         |      |     |       |
| 03600     | 5   |         |          |         |      |     |       |

Figure 4-11. Sample Input — Title Formatter and Five-Digit WUC Analysis (Sheet 2 of 2)





| RECORDS AND WORK AREAS |   | DATE | REVISED DATE | BY   | USED BY PROGRAMS | SECTION | SECTION |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
|------------------------|---|------|--------------|------|------------------|---------|---------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|--------------|----|
| RECORD NAME            | TITLE FORMATTER AND 5 DIGIT WUC ANALYSIS - WUC DATA   |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| FIELD NAME             | WUC UNIT CODE   | MA-1 | MA-2         | MA-3 | MA-4             | MA-5    | MA-6    | MA-7 | MA-8 | MA-9 | MA-10 | MA-11 | MA-12 | MA-13 | MA-14 | MA-15 | MA-16 | MA-17 | MA-18 | MA-19 | MA-20 | MA-21 | MA | TOTAL UNICED |    |
| CHARACTER POSITION     | 1   | 2    | 3            | 4    | 5                | 6       | 7       | 8    | 9    | 10   | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23 | 24           | 25 |
| RECORD NAME            | TITLE FORMATTER AND 5 DIGIT WUC ANALYSIS - TITLE DATA |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| FIELD NAME             | TITLE DATA  |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| CHARACTER POSITION     | 1-25  |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| RECORD NAME            | TITLE FORMATTER AND 5 DIGIT WUC ANALYSIS - TITLE DATA |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| FIELD NAME             | TITLE DATA  |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| CHARACTER POSITION     | 1-25  |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| RECORD NAME            | TITLE FORMATTER AND 5 DIGIT WUC ANALYSIS - TITLE DATA |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| FIELD NAME             | TITLE DATA  |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |
| CHARACTER POSITION     | 1-25  |      |              |      |                  |         |         |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |    |              |    |

Figure 4-13. Record Layout - Title Formatter and Five-Digit WUC Analysis



#### 4.3.2 FREQUENCY ANALYSIS SORT

3.4.2.1 Purpose. The purpose of this program is to sort output WUC Data for further processing.

4.3.2.2 Input Data and Procedures. The input consists of the WUC Data file described in Paragraph 3.4.1.3.

4.3.2.3 Output Description. The output file, 130 characters to a data record, blocked 23 to a tape record, is sorted according to the following keys in ascending order.

| <u>Key</u> | <u>Column</u> | <u>Description</u> |
|------------|---------------|--------------------|
| 1          | 125           | Isochronal         |
| 2          | 3-5           | Three-digit WUC    |
| 3          | 1             | Data Type          |
| 4          | 9-11          | HMC                |

It required two minutes on the IBM 370 to sort the 30,636 records for the 150-aircraft F-106 fleet.

#### 4.3.3 THREE-DIGIT WUC ANALYSIS

4.3.3.1 Purpose. The purpose of this program is to perform the analysis at the three-digit WUC level.

4.3.3.2 Input Data and Procedures. Two previously generated files are input data to this program:

- a. Sorted WUC data.
- b. Title data.

Operation of the program is similar to analysis at the five-digit WUC level, Paragraph 4.3.1.2. Differences include a single report output, with the Isochronal preceding the Non-isochronal data.

4.3.3.3 Output Description. The output consists of a single report file, 130 characters to a data record, blocked 15 to a tape record. A typical output is shown in Figure 4-16. On a recent IBM 370 run for an F-106 fleet of 150 aircraft and 2201 WUCs, total computer throughput time was two minutes; 14,660 print records were generated.

PAGE 1

| WUC = 110                                 |  | ISOCHRONAL |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   |     |
|---|--|------------|---|---|---|---|-----|---|---|---|---|----|----|---|---|---|---|---|----|---|---|---|---|-----|
| WREN DISC. CODE                           |  | A          | B | C | D | E | F   | G | H | I | J | K  | L  | M | N | P | Q | R | S  | T | U | V | ? | 4   |
| SUPPCHT<br>GENERAL<br>W.U.C.              |  |            |   |   |   |   |     | 5 | 1 | 2 | 1 | 1  | 1  | 2 |   |   | 4 |   | 2  | 3 | 3 | 2 |   | 4   |
| SUPPCHT<br>GENERAL<br>W.U.C.<br>FREQUENCY |  |            |   |   |   |   |     | 5 | 1 | 2 | 1 | 1  | 1  | 2 |   |   | 4 |   | 2  | 3 | 3 | 2 |   | 4   |
| FREQ HMC = 320                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   |     |
| FREQ HMC = 375                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   |     |
| FREQ HMC = 105                            |  |            |   |   |   |   | 36  |   |   |   | 3 | 1  | 5  | 4 |   |   |   | 2 |    |   |   |   |   | 36  |
| FREQ HMC = 110                            |  |            |   |   |   |   | 1   |   |   |   | 3 | 1  | 2  | 3 |   |   |   | 2 |    |   |   |   |   | 61  |
| FREQ HMC = 117                            |  |            |   |   |   |   | 1   |   |   |   |   |    | 1  | 1 |   |   |   | 2 |    |   |   |   |   | 1   |
| FREQ HMC = 127                            |  |            |   |   |   |   | 12  |   |   |   |   |    | 1  | 1 |   |   |   | 1 |    | 0 |   |   |   | 13  |
| FREQ HMC = 177                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| FREQ HMC = 191                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| FREQ HMC = 230                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| FREQ HMC = 675                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| FREQ HMC = 660                            |  |            |   |   |   |   | 7   |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| FREQ HMC = 750                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| FREQ HMC = 783                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| FREQ HMC = 814                            |  | 5          |   |   |   |   | 4   |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 9   |
| FREQ HMC = 910                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| FREQ HMC = 947                            |  |            |   |   |   |   |     |   |   |   |   |    |    |   |   |   |   |   |    |   |   |   |   | 1   |
| WCC FREQUENCY                             |  | 5          |   |   |   |   | 175 |   |   |   | 7 | 20 | 71 |   |   |   |   | 7 | 31 |   |   |   |   | 187 |

Figure 4-16. Sample Output — Three-Digit WUC Analysis

#### 4.4 MANHOUR AND NOR TIME ANALYSIS — TASK II

The objective of this task is to generate cumulative probability distributions for man-hour and NOR time analysis. A system of five COBOL programs has been developed to perform this task (Figure 4-17).

- a. Task II Preprocessor.
- b. Sort 2BS.
- c. Cumulative Distribution 2B.
- d. Sort 2CS.
- e. Cumulative Distribution 2C.

Paragraph 6.8 contains the listing of the source programs with corresponding job control cards.

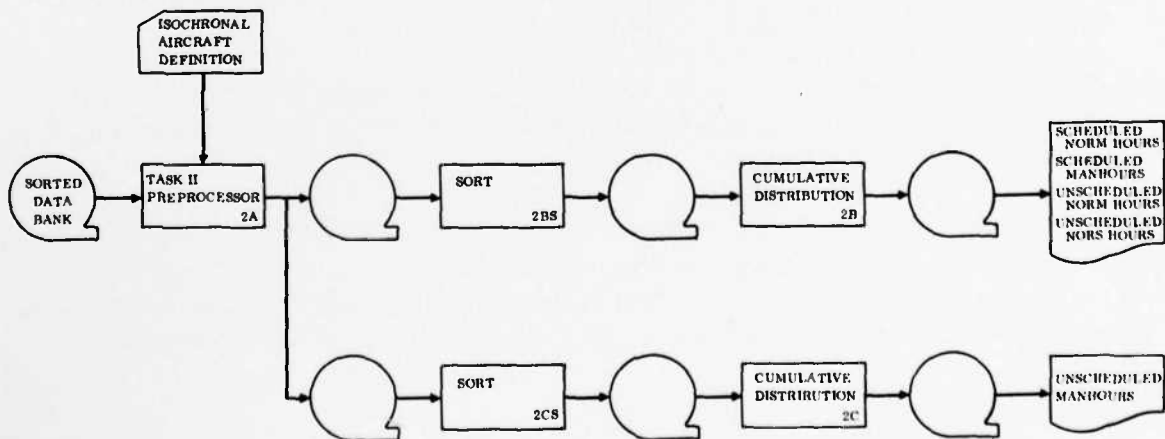


Figure 4-17. Logic Flow — Manhours and NOR Time Analysis (Task II)

#### 4.4.1 PREPROCESSOR -- TASK II

4.4.1.1 Purpose. The purpose of the Task II Preprocessor is to generate two output files for further processing using the sorted data bank tape, isochronal aircraft definition, a selected list of WUCs, and inspection criteria data as inputs as shown in Figure 4-17.

4.4.1.2 Input Data and Processors. There are two types of input data: tape and card deck. Tape data consists of a data bank sorted in the order of WUC, HMC, aircraft serial number, and week number. For the tape record layout, see Figure 4-4. The data card deck has the following formats.

##### Card No. 1:

| <u>Column</u> | <u>Description</u>   |
|---------------|--|
| 1-5           | WUC for Hourly Post Flight Inspection  |
| 6-10          | WUC for MA-1 Scheduled Calibration   |
| 11-15         |  |
| 16-20         |  |
| 21-25         |  |
| 26-30         | WUC for IRAN Depot Visit   |
| 31-35         | WUC for Preflight Inspection   |
| 36-40         | WUC for Basic Postflight Inspection  |
| 41-45         | WUC for Special Hourly Postflight  |
| 46-47         | Minimum number of weeks between inspections for the four WUCs in Columns 1 through 20.   |
| 48-49         | Minimum number of weeks between inspections for Periodic Inspection and IRAN Depot Visit |

##### Card No. 2:

|     |  |
|-----|--|
| 3-5 | Number of Isochronal Aircraft. (Current program is dimensioned for a maximum of 36 isochronal aircraft, which may be increased by minor program modification.) |
|-----|--|

The following cards describe the isochronal aircraft fleet, one card per isochronal aircraft; the serial numbers are sorted in ascending order.

| <u>Column</u> | <u>Description</u>                             |
|---------------|--|
| 3-10          | Aircraft Serial Number                         |
| 13-15         | Starting Week Number for Isochronal Inspection |

Figure 4-18 is a sample input data deck listing. The Task II Preprocessor program (Figure 4-17) produces two output files (2B and 2C) containing the following information.

| <u>File</u> | <u>Data Type</u> | <u>Description</u>                           |
|-------------|------------------|--|
| 2B          | 1                | NORM Hours — Scheduled Inspection            |
| 2B          | 2                | Manhours — Scheduled Inspection              |
| 2B          | 3                | NORM Hours — Unscheduled Maintenance Actions |
| 2B          | 4                | NORS Hours — Unscheduled Maintenance Actions |
| 2C          | 1                | Manhours — Unscheduled Maintenance Actions   |

- a. NORM Hours and Manhours — Scheduled Inspection (for File 2B, Data Types 1 and 2). Any NOR time charged during preflights and basic postflights is recorded as unscheduled maintenance. Manhours expended during the look phase of these inspections, however, are charged as support general, so that these inspections are included when calculating the look phase manhour distributions. For a given type of scheduled inspection, each occurrence of that inspection on an aircraft provides an observation of the NORM hours charged during the look and repair phases of the inspection and the manhours charged during the look phase.

To calculate the NORM hours for the inspection, the first Type 3 record encountered with the support general (SG) WUC corresponding to that inspection is combined with records for immediately succeeding weeks with the same code until the end of a continuous block of weekly records is reached. The NORM hours sum for the inspection is obtained by accumulating the NORM hours recorded in this block of records. The manhours for the look phase of this inspection are obtained by also accumulating the manhours in the same way.

By analyzing the plots of flight hours versus week for the F-106 fleet (see Aircraft Inspection Histories, Paragraph 4.8), it was discovered that the minimum number of weeks between inspections was more than two weeks for Hourly Post Flight Inspections and MA-1 Scheduled Calibration Inspections. The minimum number of weeks between inspections for Periodic Inspections and IRAN Depot Visit Inspections was more than four weeks. This information was incorporated to define an inspection as part of the input data. (See Paragraph 4.4.1.2.)

- b. Manhours — Unscheduled Maintenance Action (for File 2C, Data Type 1). The manhour distributions are calculated separately for repair actions and unscheduled maintenance actions by accumulating the number of manhours charged against a specific WUC and specific HMC for successive weeks until a week is encountered with a nonzero number of maintenance actions. The number of repair actions or unscheduled actions against the same WUC is accumulated at the same time.



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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AWO \_\_\_\_\_ TWO WAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1        | W-2        | W-3        | W-4        | W-5       | W-6 | W-7 | W-8 |
|------------|------------|------------|------------|-----------|-----|-----|-----|
| 0320003310 | 0320003330 | 0340003600 | 0310003200 | 033100204 |     |     |     |
| 34         |            |            |            |           |     |     |     |
| 57000236   | 331        |            |            |           |     |     |     |
| 57000237   | 331        |            |            |           |     |     |     |
| 57000273   | 329        |            |            |           |     |     |     |
| 57000274   | 331        |            |            |           |     |     |     |
| 57002575   | 331        |            |            |           |     |     |     |
| 58000774   | 329        |            |            |           |     |     |     |
| 58000901   | 331        |            |            |           |     |     |     |
| 59000002   | 331        |            |            |           |     |     |     |
| 59000003   | 331        |            |            |           |     |     |     |
| 59000005   | 331        |            |            |           |     |     |     |
| 59000006   | 331        |            |            |           |     |     |     |
| 59000010   | 331        |            |            |           |     |     |     |
| 59000012   | 331        |            |            |           |     |     |     |
| 59000015   | 331        |            |            |           |     |     |     |
| 59000018   | 331        |            |            |           |     |     |     |
| 59000019   | 331        |            |            |           |     |     |     |
| 59000026   | 331        |            |            |           |     |     |     |
| 59000030   | 331        |            |            |           |     |     |     |
| 59000054   | 324        |            |            |           |     |     |     |
| 59000057   | 324        |            |            |           |     |     |     |
| 59000058   | 324        |            |            |           |     |     |     |
| 59000059   | 324        |            |            |           |     |     |     |
| 59000104   | 331        |            |            |           |     |     |     |

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AWO \_\_\_\_\_ TWO WAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1      | W-2 | W-3 | W-4 | W-5 | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|-----|-----|-----|-----|
| 59000105 | 331 |     |     |     |     |     |     |
| 59000108 | 324 |     |     |     |     |     |     |
| 59000110 | 324 |     |     |     |     |     |     |
| 59000119 | 324 |     |     |     |     |     |     |
| 59000141 | 324 |     |     |     |     |     |     |
| 59000143 | 324 |     |     |     |     |     |     |
| 59000144 | 324 |     |     |     |     |     |     |
| 59000145 | 324 |     |     |     |     |     |     |
| 59000147 | 324 |     |     |     |     |     |     |
| 59000151 | 324 |     |     |     |     |     |     |
| 59000152 | 324 |     |     |     |     |     |     |

Figure 4-18. Sample Data — Task II Preprocessor



This data is obtained from Record Type 4. The ratio of these totals provides one observation of manhours per maintenance action for this WUC malfunction. Each occurrence of a maintenance action on an aircraft is in the bank for the specific WUC malfunction. Each occurrence of a maintenance action on an aircraft in the bank for the specific WUC malfunction combination provides another observation.

- c. NORM and NORS Hours — Unscheduled Maintenance Actions (for File 2B, Data Types 3 and 4). The distribution for unscheduled NORM hours is the same as in Item b except that only unscheduled maintenance actions are included. Again, NORM hours and maintenance action totals are accumulated from week to week until a nonzero number of maintenance actions field is encountered. The ratio of the two totals then provides one observation of unscheduled NORM hours per maintenance action for the specific WUC. Since the type of malfunction is not recorded in AFM 65-110, through which NORM hours are recorded, it is not possible to calculate this distribution for a specific type of malfunction. The data for this calculation is obtained from Record Type 3.

Calculation of the NORS hours distribution is somewhat different. In this case, the parameter is NORS hours per week for a specific WUC. Each week for which NORS hours are charged against the specific WUC in Record Type 3 provides another observation.

4.4.1.3 Output Description. The output consists of two tape files (2B and 2C) with 20-character data records blocked 90 to a tape record, with the following formats.

| <u>Column</u> | <u>Description</u>           |
|---------------|------------------------------|
| 1-5           | Work Unit Code (WUC)         |
| 6-8           | How-Malfunction Code (HMC)   |
| 10-15         | Observation Data             |
| 17            | Isochronal Indicator         |
|               | =1 Isochronal Inspection     |
|               | =2 Non-Isochronal Inspection |
| 19            | Data Type                    |
|               | For File 2B:                 |
|               | =1 Scheduled NORM Hours      |
|               | =2 Scheduled Manhours        |
|               | =3 Unscheduled NORM Hours    |
|               | =4 Unscheduled NORS Hours    |

| <u>Column</u> | <u>Description</u>      |
|---------------|-------------------------|
|               | For File 2C:            |
|               | =1 Unscheduled Manhours |
| 20            | Record Mark             |

On a recent IBM 370 run for an F-106 fleet of 150 aircraft and 2201 WUCs, total computer throughput time was about 10 minutes. Records totaling 348,511 and 243,801 were generated for Files 2B and 2C, respectively.

#### 4.4.2 SORT FOR SCHEDULED NORM HOURS, MANHOURS, UNSCHEDULED NORM HOURS, NORS HOURS (SORT 2BS)

4.4.2.1 Purpose. The purpose of this program is to sort output File 2B for further processing.

4.4.2.2 Input Data and Procedures. The input consists of tape File 2B as described in Paragraph 4.4.1.3.

4.4.2.3 Output Description. An output tape with 20 characters per record and a blocking factor of 90, consisting of scheduled NORM hours, manhours, and unscheduled NORM and NORS hours records, is sorted according to the following keys in ascending order.

| <u>Key</u> | <u>Column</u> | <u>Description</u>   |
|------------|---------------|----------------------|
| 1          | 17            | Isochronal Indicator |
| 2          | 19            | Data Type            |
| 3          | 1-5           | Work Unit Code       |

It took about four minutes on the IBM 370 to sort 348,511 records for the 150-aircraft F-106 fleet.

#### 4.4.3 CUMULATIVE DISTRIBUTION FOR SCHEDULED NORM HOURS, MANHOURS, UNSCHEDULED NORM HOURS, NORS HOURS

4.4.3.1 Purpose. This program generates cumulative distribution plots for scheduled NORM hours and manhours and for unscheduled NORM and NORS hours by WUC and isochronal subset type. The number of observations, maximum and minimum values, and the mean and variance of the observation are printed on the top of each plot.



4.4.3.3 Output Description. Cumulative distribution plots by a printer contain the following information.

Work Unit Code

Output Data — one of four types:

Scheduled NORM Hours

Scheduled Manhours

Unscheduled NORM Hours

Unscheduled NORS Hours

Isochronal or Non-Isochronal Subset

Number of Observations

Maximum and Minimum Values

Mean and Variation

The plot tape has 130-character data records, blocked 15 to a tape record. The values for printout suppression cutoff have a significant impact on the output volume. The effect of cutoff on output volume is shown below, based on the F-106 experience:

| No. of Aircraft | Isochronal | Non-Isochronal | No. of Plots |
|-----------------|------------|----------------|--------------|
| 15              | 0          | 10             | 1275         |
| 15              | 10         | 10             | 686          |
| 150             | 5          | 15             | 2101         |

It took six minutes on the IBM 370 to process 348,511 records and to generate the observation tape for the F-106 fleet. It required three printer hours to make 2101 plots. A sample output from a recent F-106 run is shown in Figure 4-20.

#### 4.4.4 SORT FOR UNSCHEDULED MANHOURS (SORT 2CS)

4.4.4.1 Purpose. The purpose of this program is to sort output File 2C for further processing.

4.4.4.2 Input Data and Procedures. The input consists of tape File 2C, as described in Paragraph 4.4.1.3.

4.4.4.3 Output Description. The output tape file, consisting of unscheduled manhours charged against a specific WUC and specific HMC is sorted according to the following keys in ascending order.



Figure 4-20. Sample Output — Cumulative Distribution of Scheduled Manhours

| Key | Column | Description  |
|-----|--------|--|
| 1   | 17     | Isochronal Indicator<br>=1 Isochronal Subset<br>=2 Non-Isochronal Subset |
| 2   | 19     | Data Type<br>=1 Manhours   |
| 3   | 1-5    | Work Unit Code (WUC)   |
| 4   | 6-8    | How-Malfunction Code (HMC)   |

The output tape consists of 20-character data records, blocked 90 to a tape record. It took one minute and 36 seconds to sort 243,801 records for a fleet of 150 F-106 aircraft.

4.4.5 CUMULATIVE DISTRIBUTION FOR UNSCHEDULED MANHOURS

4.4.5.1 Purpose. This program generates cumulative distribution plots for unscheduled manhours by WUC, HMC, and isochronal subset type. The number of observations, maximum and minimum values, and mean and variance of the observations are printed at the top of each plot.





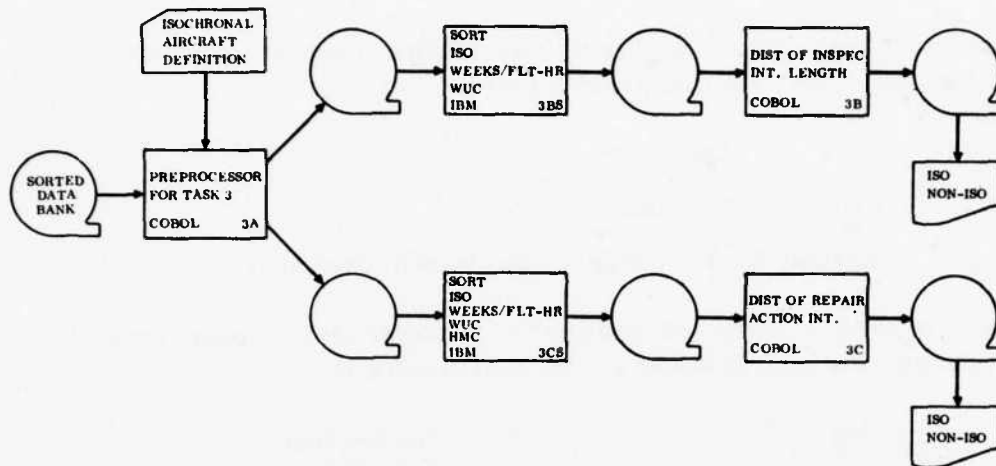


Figure 4-23. Logic Flow — Interval Length Analysis

- a. Task III Preprocessor.
- b. Sort 3BS.
- c. Cumulative Distribution 3B
- d. Sort 3CS.
- e. Cumulative Distribution 3C.

Paragraph 6.9 shows the listing of the source programs with corresponding job control cards.

#### 4.5.1 PREPROCESSOR — TASK III

4.5.1.1 Purpose. The purpose of the Task III Preprocessor is to generate two output files for further processing using the sorted data bank tape, isochronal aircraft definition, a selected list of WUCs, and inspection criteria data as inputs (Figure 4-23).

4.5.1.2 Input Data and Procedures. There are two types of input data: tape and card deck. Tape data consists of a data bank sorted in the order of WUC, HMC, aircraft serial number, and week number. For the tape record layout, see Figure 4-4. The data card deck has the following format.

| <u>Column</u>      | <u>Description</u>   |
|--------------------|--|
| <u>Card No. 1:</u> |  |
| 3-5                | Number of Isochronal Aircraft. (Current program is dimensioned for a maximum of 36 isochronal aircraft, which may be increased by minor program modification.) |



The following cards describe the isochronal aircraft fleet (one card per isochronal aircraft); serial numbers are sorted in ascending order.

| <u>Column</u> | <u>Description</u>                             |
|---------------|--|
| 3-10          | Aircraft Serial Number                         |
| 13-15         | Starting Week Number for Isochronal Inspection |

The next group of cards contains information for a special set of support general (SG) WUCs and relating time span in weeks for inspection criteria.

| <u>Card</u> | <u>Column</u> | <u>Description</u>   |
|-------------|---------------|--|
| 1           | 1-5           | WUC for Hourly Post Flight Inspection                        |
|             | 6-8           | Minimum Number of Weeks Span Between Inspections for the WUC |
| 2           | 1-5           | WUC for MA-1 Scheduled Calibration                           |
|             | 6-8           | Minimum Number of Weeks Span Between Inspections for the WUC |
| 3           | 1-5           | WUC for MA-1 Scheduled Calibration                           |
|             | 6-8           | Minimum Number of Weeks Span Between Inspections for the WUC |
| 4           | 1-5           | WUC for MA-1 Scheduled Calibration                           |
|             | 6-8           | Minimum Number of Weeks Span Between Inspections for the WUC |
| 5           | 1-5           | WUC for Periodic Inspection                                  |
|             | 6-8           | Minimum Number of Weeks Span Between Inspections for the WUC |
| 6           | 1-5           | WUC for IRAN Depot Visit                                     |
|             | 6-8           | Minimum Number of Weeks Span Between Inspections for the WUC |

A sample input data deck is shown in Figure 4-24. The Task III Preprocessor program (Figure 4-23) produces two output files (3B and 3C) containing the following information.

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AWO \_\_\_\_\_ EWO WAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1                | W-2                | W-3                | W-4                | W-5                | W-6                | W-7                | W-8                |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 0000000000         | 1111111111         | 2222222222         | 3333333333         | 4444444444         | 5555555555         | 6666666666         | 7777777777         |
| 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 |
| 30                 |                    |                    |                    |                    |                    |                    |                    |
| S7000236           | 331                |                    |                    |                    |                    |                    |                    |
| S7000237           | 331                |                    |                    |                    |                    |                    |                    |
| S7000242           | 331                |                    |                    |                    |                    |                    |                    |
| S7000247           | 331                |                    |                    |                    |                    |                    |                    |
| S7000248           | 331                |                    |                    |                    |                    |                    |                    |
| S7000274           | 321                |                    |                    |                    |                    |                    |                    |
| S7000281           | 321                |                    |                    |                    |                    |                    |                    |
| S7000302           | 321                |                    |                    |                    |                    |                    |                    |
| S7000303           | 321                |                    |                    |                    |                    |                    |                    |
| S7000306           | 331                |                    |                    |                    |                    |                    |                    |
| S7000306           | 331                |                    |                    |                    |                    |                    |                    |
| S7000310           | 331                |                    |                    |                    |                    |                    |                    |
| S7000312           | 331                |                    |                    |                    |                    |                    |                    |
| S7000315           | 321                |                    |                    |                    |                    |                    |                    |
| S7000318           | 321                |                    |                    |                    |                    |                    |                    |
| S7000319           | 331                |                    |                    |                    |                    |                    |                    |
| S7000326           | 321                |                    |                    |                    |                    |                    |                    |
| S7000339           | 331                |                    |                    |                    |                    |                    |                    |
| S7000344           | 321                |                    |                    |                    |                    |                    |                    |
| S7000357           | 331                |                    |                    |                    |                    |                    |                    |
| S7000358           | 331                |                    |                    |                    |                    |                    |                    |
| S7000352           | 321                |                    |                    |                    |                    |                    |                    |
| S7000354           | 331                |                    |                    |                    |                    |                    |                    |
| S7000355           | 331                |                    |                    |                    |                    |                    |                    |

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AWO \_\_\_\_\_ EWO WAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1                | W-2                | W-3                | W-4                | W-5                | W-6                | W-7                | W-8                |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 0000000000         | 1111111111         | 2222222222         | 3333333333         | 4444444444         | 5555555555         | 6666666666         | 7777777777         |
| 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 | 112233445566778899 |
| S7000108           | 321                |                    |                    |                    |                    |                    |                    |
| S7000116           | 321                |                    |                    |                    |                    |                    |                    |
| S7000117           | 321                |                    |                    |                    |                    |                    |                    |
| S7000121           | 321                |                    |                    |                    |                    |                    |                    |
| S7000123           | 321                |                    |                    |                    |                    |                    |                    |
| S7000124           | 321                |                    |                    |                    |                    |                    |                    |
| S7000125           | 321                |                    |                    |                    |                    |                    |                    |
| S7000127           | 321                |                    |                    |                    |                    |                    |                    |
| S7000151           | 321                |                    |                    |                    |                    |                    |                    |
| S7000152           | 321                |                    |                    |                    |                    |                    |                    |
| G3300 .3           |                    |                    |                    |                    |                    |                    |                    |
| G3310 .3           |                    |                    |                    |                    |                    |                    |                    |
| G3320 .3           |                    |                    |                    |                    |                    |                    |                    |
| G3330 .3           |                    |                    |                    |                    |                    |                    |                    |
| G3400 .5           |                    |                    |                    |                    |                    |                    |                    |
| G3500 .5           |                    |                    |                    |                    |                    |                    |                    |

Figure 4-24. Sample Data — Task III Preprocessor

| <u>File</u> | <u>Date Type</u> | <u>Description</u>                     |
|-------------|------------------|--|
| 3B          | 1                | Inspection Interval in Weeks           |
| 3B          | 2                | Inspection Interval in Flight Hours    |
| 3C          | 1                | Repair Action Interval in Weeks        |
| 3C          | 2                | Repair Action Interval in Flight Hours |

- a. Inspection Interval Lengths (for File 3B, Data Types 1 and 2). Observation data will be generated for the interval between successive occurrences of two inspections of the same type. The inspections will be located in the data bank by checking for the appropriate SG WUCs in the Type 3 records. The inspection interval is defined to be the period between the end of one inspection and the start of the next. As for the repair action intervals below, the inspection intervals will be measured in both weeks and flight hours. The data bank will have only one Type 3 record for each inspection short enough to be performed in less than a week. However, long inspections will lead to a number of data bank records for consecutive weeks. Therefore, it will be necessary to determine the week numbers for both the start and the end of each inspection. This analysis will be performed for all inspection types.

By analyzing the plots of flight hours versus week for the F-106 fleet (see Aircraft Inspection Histories, Paragraph 4.8), it was discovered that the minimum number of weeks between inspections was three or more weeks for hourly Post Flight Inspections and MA-1 Scheduled Calibration Inspections. The minimum number of weeks between inspections for Periodic Inspections and IRAN Depot Visit Inspections was five or more weeks. This information was incorporated to define an inspection as part of the input data. (See Paragraph 4.5.1.2.)

- b. Repair Action Intervals (for File 3C, Data Types 1 and 2). This task involves the generation of observation data of the repair action interval for each combination of equipment identification WUC and HMC. Two types of observation data will be generated for each such combination: one for the interval measured in weeks and one for the interval measured in flight hours. Each observation will be the interval between two consecutive flight-hour totals found in the Type 4 records, in which the maintenance actions are recorded. It follows that whenever two or more maintenance actions are encountered for the same aircraft-week-WUC-HMC (i.e., in the same Type 4 record), one or more intervals of zero length will be included in both distributions. All distributions generated for this task will be stored on magnetic tape so that they will be available for use as input analyses to be performed at a later time.

4.5.1.3 Output Description. The output consists of two tape files (3B and 3C) and 20-character data records blocked 90 to a tape record, with the following formats.

| <u>Column</u> | <u>Description</u>   |
|---------------|--|
| 1-5           | Work Unit Code (WUC)   |
| 6-8           | How-Malfunction Code (HMC)   |
| 10-15         | Observation Data   |
| 17            | Isochronal Indicator<br>=1 Isochronal Inspection<br>=2 Non-Isochronal Inspection   |
| 19            | Data Type:<br>For File 3B:<br>=1 Inspection Interval Length in Weeks<br>=2 Inspection Interval Length in Flight Hours<br>For File 3C:<br>=1 Repair Action Interval Length in Weeks<br>=2 Repair Action Interval Length in Flight Hours |
| 20            | Record Mark  |

On a recent IBM 370 run for an F-106 fleet of 150 aircraft and 2201 WUCs, total computer throughput time was eight minutes. Records totaling 139,770 and 218,760 were generated for Files 3B and 3C, respectively.

#### 4.5.2 SORT FOR INSPECTION LENGTH INTERVAL (SORT 3B)

4.5.2.1 Purpose. The purpose of this program is to sort output File 3B for further processing.

4.5.2.2 Input Data and Procedures. The input consists of tape File 3B as described in Paragraph 4.5.1.3.

4.5.2.3 Output Description. The output tape file, 20-character data records blocked 90 to a tape record and consisting of inspection interval lengths in weeks and in flight hours, is sorted according to the following keys in ascending order.

| <u>Key</u> | <u>Column</u> | <u>Description</u>   |
|------------|---------------|----------------------|
| 1          | 17            | Isochronal Indicator |
| 2          | 19            | Data Type            |
| 3          | 1-5           | Work Unit Code       |



4.5.3.3 Output Description. Cumulative distribution plots by a printer contain the following information.

- a. Work Unit Code (WUC).
- b. Output Data — One of the two types:
  - Inspection Interval Length in Weeks.
  - Inspection Interval Length in Flight Hours.
- c. Isochronal or Non-Isochronal Subset.
- d. Number of Observations.
- e. Maximum and Minimum Values.
- f. Mean and Variance.

The tape structure of the plot tape consists of 130-character data records, blocked 15 to a tape record. It took five minutes on the IBM 370 to process 139,770 records for the F-106 fleet and six minutes on the printer to make 176 plots. A sample output from a recent F-106 run is shown in Figure 4-26.

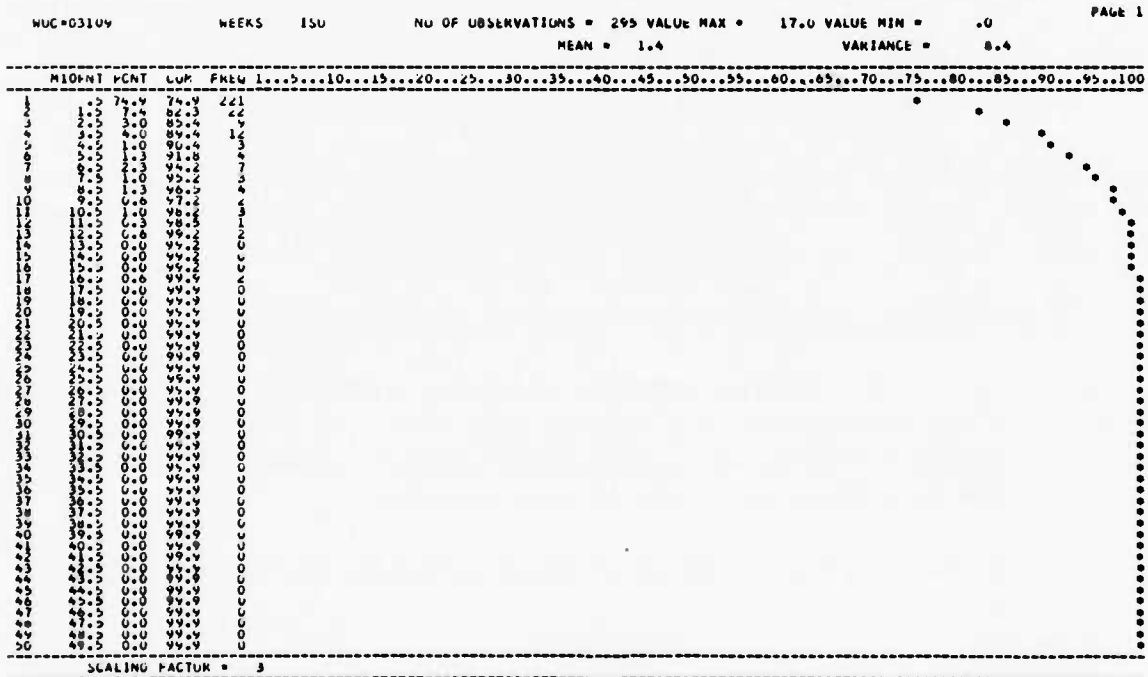


Figure 4-26. Sample Output — Cumulative Distribution for Inspection Length Interval  
4-37

#### 4.5.4 SORT FOR REPAIR ACTION INTERVAL (SORT 3C)

4.5.4.1 Purpose. The purpose of this program is to sort output File 3C for further processing.

4.5.4.2 Input Data and Procedures. The input consists of tape File 3C, as described in Paragraph 4.5.1.3.

4.5.4.3 Output Description. The output tape file, consisting of repair action interval lengths in weeks and in flight hours charged against a specific WUC and specific HMC, is sorted according to the following keys in ascending order.

| <u>Key</u> | <u>Column</u> | <u>Description</u>   |
|------------|---------------|--|
| 1          | 17            | Isochronal Indicator<br>=1 Isochronal Subset<br>=2 Non-Isochronal Subset                     |
| 2          | 19            | Data Type<br>=1 Repair Action Interval in Weeks<br>=2 Repair Action Interval in Flight Hours |
| 3          | 1-5           | Work Unit Code (WUC)   |
| 4          | 6-8           | How-Malfunction Code (HMC)   |

The output tape file structure consists of 20-character data records, blocked 90 to a tape record. It took three minutes to sort 218,760 records for a fleet of 150 F-106 aircraft.

#### 4.5.5 CUMULATIVE DISTRIBUTION FOR REPAIR ACTION INTERVAL

4.5.5.1 Purpose. This program generates cumulative distribution plots for repair action intervals in weeks and in flight hours by WUC, HMC, and isochronal subset type. The number of observations, maximum and minimum values, and the mean and variance of the observations are printed on top of each plot.

4.4.5.2 Input Data and Procedures. The input data card has the following format.

| <u>Column</u> | <u>Description</u>                                    |
|---------------|---|
| 1-5           | Printout Suppression Cutoff for Non-Isochronal Subset |
| 6-10          | Printout Suppression Cutoff for Isochronal Subset     |

Figure 4-27 is a sample data card.





| No. of Aircraft | Isochronal | Non-Isochronal | No. of Plots |
|-----------------|------------|----------------|--------------|
| 150             | 4          | 4              | 3426         |
| 150             | 4          | 10             | 2283         |

For a fleet of 150 F-106 aircraft, it required about 14 minutes on the IBM 370 to process 218,760 records and three printer hours to print 2284 plots. A sample output plot from a recent F-106 run is shown in Figure 4-28.

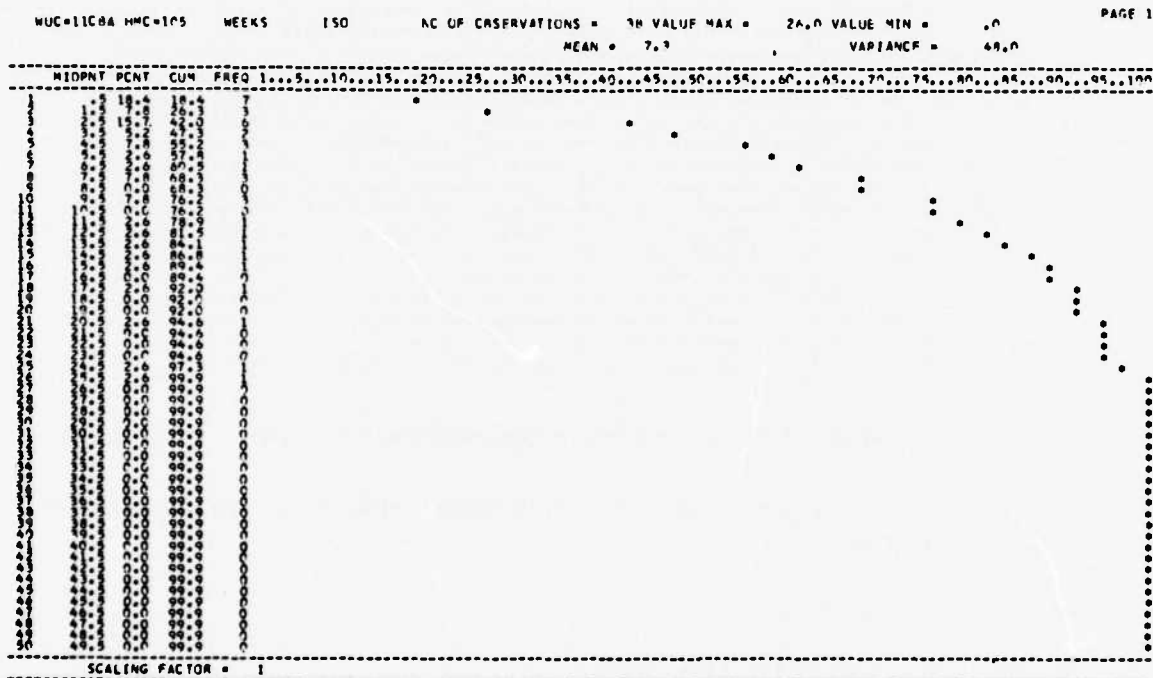


Figure 4-28. Sample Output - Cumulative Distribution for Repair Action Interval

#### 4.6 EFFECT OF TIME AFTER INSPECTION

This set of programs determines the effect of time after an inspection on maintenance requirements and effectiveness parameters. Independent variables will be used with a number of dependent variables for specified sets of equipment identification WUCs. A second analysis, to determine the trend of the various Data Bank variables and the effect of scheduled inspections on these trends, is also included.

The eight programs listed on the following page have been developed to perform these tasks. The logic flow at Aircraft and WUC levels are shown in Figures 4-29 and 4-30, respectively.

- a. Measure Observations at Aircraft Level.
- b. Measure Observations at WUC Level.
- c. Sort Aircraft-Level Observations.
- d. Sort WUC-Level Observations.
- e. Merge WUC-Level Observations.
- f. Count Observations.
- g. Analyze Regression and Correlation.
- h. Analyze Trend.

FORTRAN-COBOL linkage is used for processing items a, b, and g. COBOL input/output processing is employed to ensure data compatibility, provide more efficient input/output processing, and permit multi-reel file processing of the FORTRAN programs.

#### 4.6.1 MEASURE OBSERVATIONS AT AIRCRAFT LEVEL

4.6.1.1 Purpose. The purpose of this program is to generate the observations for a defined set of independent variables for a defined set of dependent variables for isochronal and non-isochronal aircraft subsets.

4.6.1.2 Input Data and Procedures. The program was written in both FORTRAN and COBOL. The latter provides the input/output capability and the FORTRAN section performs the requisite measurements. A listing of the complete program, the associated job control language (JCL), and a sample of input data is given in Paragraph 6.10.1. The COBOL input/output is used to handle multi-reel files.

Linkage is provided by a call in the FORTRAN program to a COBOL program entry. The entries in the COBOL program and their uses are.

- |        |   |
|--------|---|
| CREAD1 | Reads control cards, Type 1.  |
| CREAD2 | Reads control cards, Type 2.  |
| CREAD3 | Reads control cards, Type 3.  |
| COBRD1 | Reads data records from the Support General WUC file or the Non-support General WUC file, depending on the code transmitted by the FORTRAN program. |

The input comprises:

- a. The Support General (SG) WUC file.
- b. The Non-support General (NSG) WUC file.
- c. Cards containing the control data.

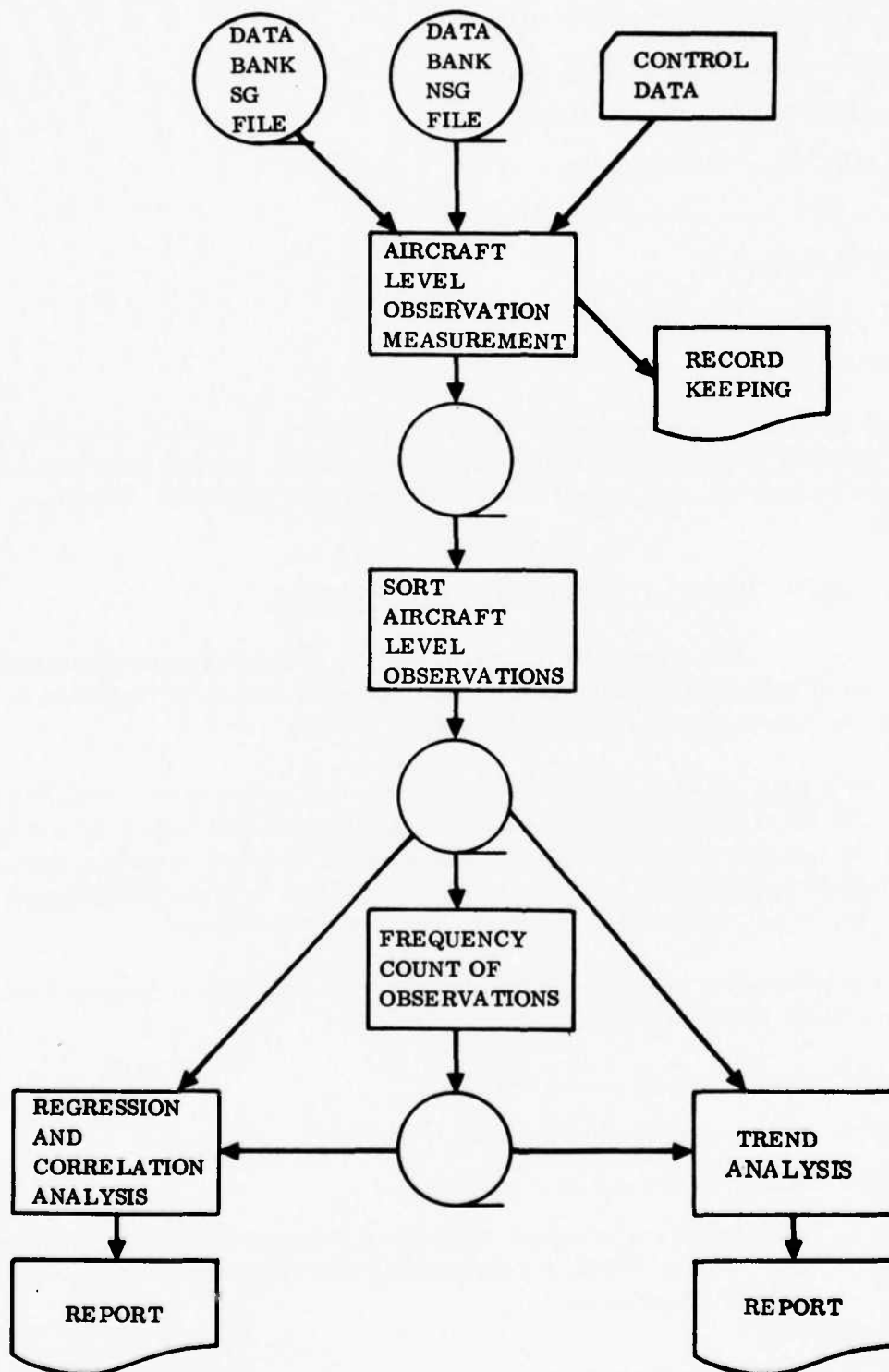


Figure 4-29. Logic Flow — Effect of Time After Inspection — Aircraft Level

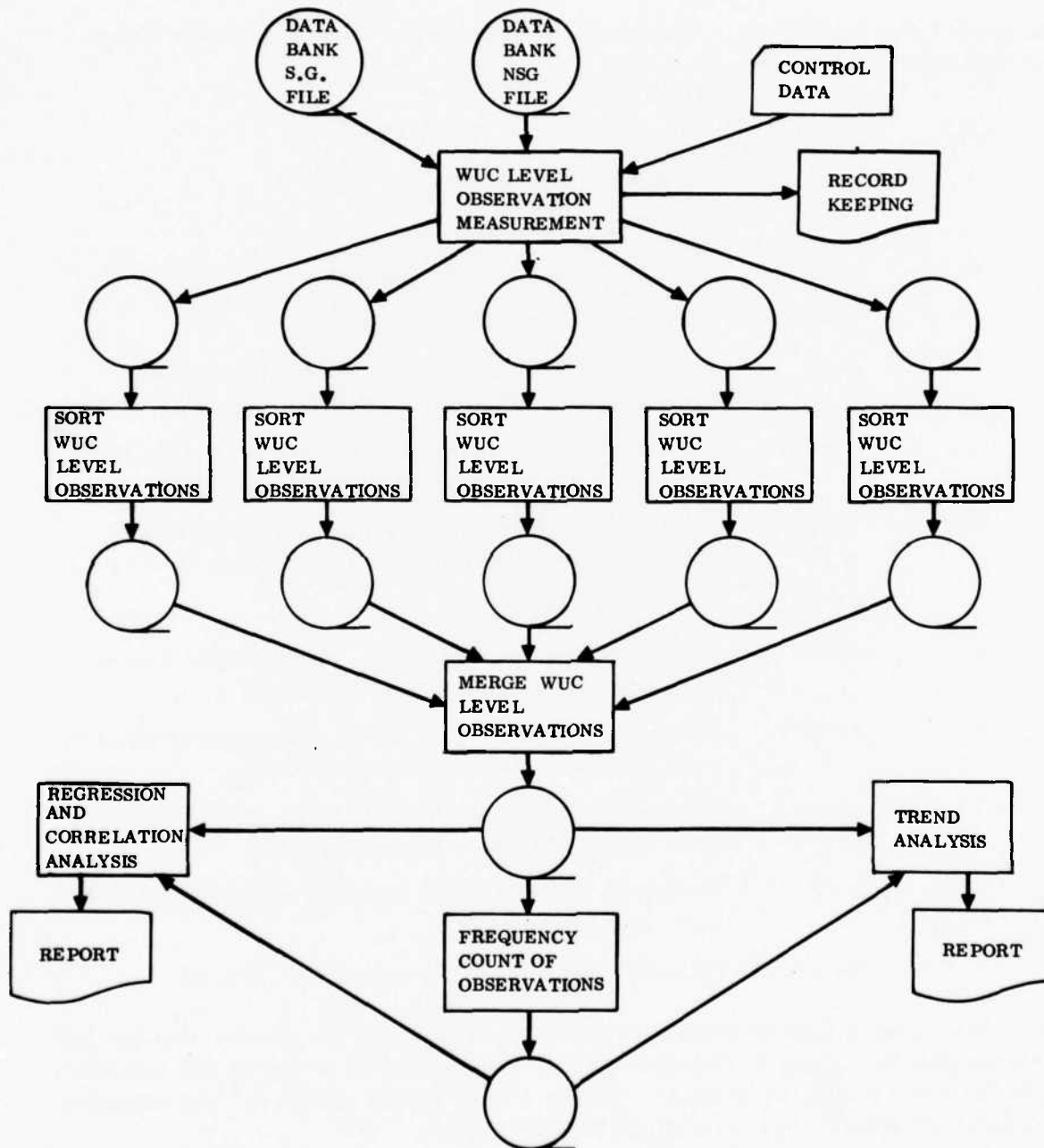


Figure 4-30. Logic Flow — Effect of Time After Inspection — WUC Level

The criterion to measure the end of an inspection is determined by the interval in weeks between occurrences of the inspection code. For Hourly Postflight and MAI inspections, the minimum interval to define the end of a current inspection is two weeks. For the Periodic inspection, the interval is increased to four weeks. The code corresponding to these inspections is the required input to the program, Cards 5 through 7.

The control data used in the F-106 Scheduled Maintenance Study is shown in Figure 4-31 and has the following format.

| <u>Card</u> | <u>Column</u> | <u>Description</u>  |
|-------------|---------------|---|
| 1           | 3-10          | First Week of Analysis  |
|             | 13-20         | Last Week of Analysis   |
| 2           | 3-10          | First Serial Number for Analysis  |
|             | 13-20         | Last Serial Number for Analysis   |
| 3           | 3-10          | Position in SG WUC table that follows the Periodic Inspection for measurement of NORM Hours           |
|             | 13-20         | Position in SG WUC table that follows the Hourly Post-flight Inspection for measurement of NORM Hours |
| 4           | 3-10          | Position in SG WUC table that follows the Periodic Inspection for measurement of AIE/Sortie           |
|             | 13-20         | Dummy (use zero)  |
| 5           | 32-36         | First entry into SG WUC table, using greater than two week interval to define End of Inspection       |
| 6           | 32-36         | Second entry into SG WUC table, using greater than two week interval to define End of Inspection      |
| 7           | 32-36         | Third entry into SG WUC table, using greater than four week interval to define End of Inspection      |
| 8-On        | 3-10          | Isochronal Aircraft Serial Number. (These must be in ascending sequence.)                             |
|             | 13-20         | Starting Week Number for Isochronal Aircraft  |

The final card must have an eight-digit number in Columns 3-10, greater than the last serial number from Card 2, Columns 13-20. This is used as an end-of-file indicator. Cards 1-4 and 8 and on are examples of Type 1 input cards. Cards 5-7 are examples of Type 2, as defined by the COBOL-FORTRAN linkage.

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE 1 of 2  
 JOB NO. \_\_\_\_\_ AND \_\_\_\_\_ (NO WAP) \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1      | W-2      | W-3 | W-4   | W-5 | W-6 | W-7 | W-8 |
|----------|----------|-----|-------|-----|-----|-----|-----|
|          |          |     |       |     |     |     |     |
|          | 100      | 500 |       |     |     |     |     |
| 57000231 | 59000161 |     |       |     |     |     |     |
|          |          |     |       |     |     |     |     |
|          |          |     | 03300 |     |     |     |     |
|          |          |     | 033   |     |     |     |     |
|          |          |     | 03400 |     |     |     |     |
| 57000236 | 331      |     |       |     |     |     |     |
| 57000237 | 331      |     |       |     |     |     |     |
| 57000243 | 324      |     |       |     |     |     |     |
| 57000244 | 331      |     |       |     |     |     |     |
| 57000245 | 331      |     |       |     |     |     |     |
| 58000776 | 324      |     |       |     |     |     |     |
| 58000901 | 331      |     |       |     |     |     |     |
| 59000002 | 331      |     |       |     |     |     |     |
| 59000003 | 331      |     |       |     |     |     |     |
| 59000009 | 331      |     |       |     |     |     |     |
| 59000006 | 331      |     |       |     |     |     |     |
| 59000019 | 331      |     |       |     |     |     |     |
| 59000013 | 331      |     |       |     |     |     |     |
| 59000015 | 331      |     |       |     |     |     |     |
| 59000018 | 331      |     |       |     |     |     |     |
| 59000019 | 331      |     |       |     |     |     |     |
| 59000026 | 331      |     |       |     |     |     |     |
| 59000030 | 331      |     |       |     |     |     |     |

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE 2 of 2  
 JOB NO. \_\_\_\_\_ AND \_\_\_\_\_ (NO WAP) \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1      | W-2 | W-3 | W-4 | W-5 | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|-----|-----|-----|-----|
|          |     |     |     |     |     |     |     |
| 59000054 | 324 |     |     |     |     |     |     |
| 59000057 | 324 |     |     |     |     |     |     |
| 59000058 | 324 |     |     |     |     |     |     |
| 59000059 | 324 |     |     |     |     |     |     |
| 59000104 | 331 |     |     |     |     |     |     |
| 59000105 | 331 |     |     |     |     |     |     |
| 59000108 | 324 |     |     |     |     |     |     |
| 59000110 | 324 |     |     |     |     |     |     |
| 59000119 | 324 |     |     |     |     |     |     |
| 59000141 | 324 |     |     |     |     |     |     |
| 59000143 | 324 |     |     |     |     |     |     |
| 59000144 | 324 |     |     |     |     |     |     |
| 59000145 | 324 |     |     |     |     |     |     |
| 59000147 | 324 |     |     |     |     |     |     |
| 59000151 | 324 |     |     |     |     |     |     |
| 59000152 | 324 |     |     |     |     |     |     |
| 99000152 | 324 |     |     |     |     |     |     |

Figure 4-31. Sample Input — Measure Observations at Aircraft Level

The independent variables are the following measure of time after the inspection.

- a. Number of Weeks since Inspection. For each observation, this includes the week for which the values of the dependent variables are being determined, but not the week during which the inspection was completed.
- b. Number of Flight Hours Accumulated since Inspection. This includes all flight hours for the week of the observation, but none of the flight hours for the week during which the inspection was completed.
- c. Number of Sorties Flown since Inspection. This includes all sorties flown during the week of the observation, but none of those flown during the week in which the inspection was completed.
- d. Number of Landings Performed since Inspection. This includes all landings performed during the week of the observation, but none of those performed during the week in which the inspection was completed.

The dependent variables are:

- a. NORM Hours per Periodic Inspection. Separate observations are made for NORM hours per periodic inspection for periodic inspections immediately preceded by each of the following types of inspection.

1. Hourly Postflight.
2. MA1 Inspection.

An observation of time after each of these inspection types is performed with each of the four independent variables.

- b. NORM Hours per Hourly Postflight. Separate observations are made for NORM hours per hourly postflight inspection for hourly postflights preceded by each of the following types of inspection.

1. Periodic Inspection.
2. Hourly Postflight.
3. MA1 Inspection.

For each of these inspection types, an observation is taken with each of the four independent variables.

- c. Number of AIEs per Sortie. The number of AIEs per sortie is calculated for each aircraft week after the last preceding periodic inspection. All four of the independent variables are used.
- d. Number of Flight Hours per Week. The variable flight hours per week are defined to be the quotient obtained by dividing the number of hours flown since the latest periodic inspection by the number of weeks since that inspection.





| <u>Column</u> | <u>Value</u> | <u>Description</u>                   |
|---------------|--------------|--------------------------------------|
|               | 05           | Sortie/Week                          |
|               | 06           | Landing/Week                         |
| 15            | 1            | Origins -- Hourly Postflight         |
|               | 2            | Origins -- MAs                       |
|               | 3            | Origins -- Periodic                  |
| 16            | 1            | Independent Variable -- Week         |
|               | 2            | Independent Variable -- Flight Hours |
|               | 3            | Independent Variable -- Sortie       |
|               | 4            | Independent Variable -- Landing      |
| 18-23         | XXXXXXX      | Numerator of Dependent Variable      |
| 25-30         | XXXXXXX      | Denominator of Dependent Variable    |
| 32-37         | XXXXXXX      | Independent Variable                 |
| 40            | ≠            | End of Data Record                   |

Output is achieved by a call from the FORTRAN program to the COBOL entry, COBOUT.

The record keeping output file contains a copy of the input control data and an additional line containing:

| <u>Column</u> | <u>Description</u>   |
|---------------|--|
| 1-8           | Number of Control Data Cards                                 |
| 9-16          | Number of Output Observations                                |
| 17-28         | Number of Input Records from SG File                         |
| 29-36         | Number of Input Records from NSG File                        |
| 37-44         | Number of Type 1 Input Cards                                 |
| 45-52         | Number of Type 2 Input Cards                                 |
| 53-61         | Number of Type 3 Input Cards (always zero at Aircraft Level) |

Figure 4-33 is a sample of the record keeping output. On a recent IBM 370 run for an F-106 fleet of 150 aircraft, a total of 55,288 observations were measured, requiring seven minutes of computer time.



three-digit code will include observations for all NSG-WUCs with the corresponding first three digits. The two-digit code group will include observations for all NSG-WUCs except those for the preceding three-digit codes. The three-digit code for a particular two-digit code subset must precede the two-digit code in the input control data.

The NSG-WUC set using the Hourly-Postflight, MA1, and Period inspections as origin for the F-106 Scheduled Maintenance Study is:

| <u>Set</u> | <u>Description</u> |            |
|------------|--------------------|------------|
| 2          | 74A                | All of 74A |
| 3          | 74B                | All of 74B |
| 4          | 74C                | All of 74C |
| 5          | 74D                | All of 74D |
| 6          | 74F                | All of 74F |
| 7          | 74H                | All of 74H |
| 8          | 74K                | All of 74K |
| 9          | 74L                | All of 74L |
| 10         | 74P                | All of 74P |
| 11         | 74Q                | All of 74Q |
| 12         | 74000              | Only 74000 |

The NSG-WUC sets using the Hourly Postflight and Periodic inspection as origins are:

| <u>Set</u> | <u>Description</u> |                               |
|------------|--------------------|-------------------------------|
| 1          | 11J                | All of 11J                    |
| 2          | 11K                | All of 11K                    |
| 3          | 11                 | All of 11 except for 11J, 11K |
| 4          | 12B                | All of 12B                    |
| 5          | 12                 | All of 12 except for 12B      |
| 6          | 13C                | All of 13C                    |
| 7          | 13J                | All of 13J                    |
| 8          | 13                 | All of 13 except for 13C, 13J |
| 9          | 14                 | All of 14                     |
| 10         | 23K                | All of 23K                    |

| <u>Set</u> | <u>Description</u> |  |
|------------|--------------------|--|
| 11         | 23M                | All of 23M                               |
| 12         | 23N                | All of 23N                               |
| 13         | 23Q                | All of 23Q                               |
| 14         | 23S                | All of 23S                               |
| 15         | 23                 | All of 23 except 23K, 23M, 23N, 23Q, 23S |
| 16         | 41F                | All of 41F                               |
| 17         | 41                 | All of 41 except 41F                     |
| 18         | 42E                | All of 42E                               |
| 19         | 42F                | All of 42F                               |
| 20         | 42G                | All of 42G                               |
| 21         | 42                 | All of 42 except for 42E, 42F, 42G       |
| 22         | 44                 | All of 44                                |
| 23         | 45E                | All of 45E                               |
| 24         | 45J                | All of 45J                               |
| 25         | 45                 | All of 45 except for 45E, 45J            |
| 26         | 46A                | All of 46A                               |
| 27         | 46C                | All of 46C                               |
| 28         | 46G                | All of 46G                               |
| 29         | 46H                | All of 46H                               |
| 30         | 46J                | All of 46J                               |
| 31         | 46                 | All of 46 except 46A, 46C, 46G, 46H, 46J |
| 32         | 47                 | All of 47                                |
| 33         | 49A                | All of 49A                               |
| 34         | 49                 | All of 49 except 49A                     |
| 35         | 51                 | All of 51                                |
| 36         | 52                 | All of 52                                |
| 37         | 55                 | All of 55                                |
| 38         | 63                 | All of 63                                |
| 39         | 65                 | All of 65                                |

| <u>Set</u> | <u>Description</u> |           |
|------------|--------------------|-----------|
| 40         | 71                 | All of 71 |
| 41         | 75                 | All of 75 |
| 42         | 93                 | All of 93 |
| 43         | 97                 | All of 97 |

The control card data used in the F-106 Maintenance Study shown in Figure 4-34 has the following format.

| <u>Card</u> | <u>Column</u> | <u>Description</u>  |
|-------------|---------------|---|
| 1           | 3-10          | First week of analysis  |
|             | 13-20         | Last week of analysis   |
| 2           | 3-10          | First serial number for analysis  |
|             | 13-20         | Last serial number for analysis   |
| 3           | 3-10          | Number of SG-WUC with week interval definition to define end of inspection            |
|             | 13-20         | Number of groups of non-SG-WUC  |
| 4           | 32-36         | SG-WUC with greater than two-week interval for definition of end of inspection        |
| 5           | 32-36         | SG-WUC with greater than two-week interval for definition of end of inspection        |
| 6           | 32-36         | SG-WUC with greater than four-week interval for definition of end of inspection       |
| 7           | 8-10          | Identification used on output for following group of NSG-WUC                          |
|             | 13-20         | Starting index for WUC set number for the following group of NSG-WUC                  |
| 8           | 3-10          | Number of SG-WUC for origin used with following NSG-WUC dictionary                    |
|             | 13-20         | Number of NSG-WUC in following dictionary   |
| 9           | 32-36         | SG-WUC for origin with following NSG-WUC. (Number of cards set by Card B, Col. 1-10.) |
| 10          | 32-36         | NSG-WUC using above SG-WUC as origin. (Number of cards set by Card 8, Col. 11-20.)    |

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| JOB TITLE |           | ENGINEER |          |         |      |     |     | PAGE | OF |
|-----------|-----------|----------|----------|---------|------|-----|-----|------|----|
| JOB NO.   | AWO       | ENO-WAP  | FUNCTION | ANALYST | DATE |     |     |      |    |
| W-1       | W-2       | W-3      | W-4      | W-5     | W-6  | W-7 | W-8 |      |    |
| 100       | 500       |          |          |         |      |     |     |      |    |
| 570.00231 | 590.00164 |          |          |         |      |     |     |      |    |
| 3         | 2         |          | 03300    |         |      |     |     |      |    |
|           |           |          | 033      |         |      |     |     |      |    |
|           |           |          | 03400    |         |      |     |     |      |    |
| 1.1.1     | 2         |          |          |         |      |     |     |      |    |
| 3         | 1.1       |          | 03300    |         |      |     |     |      |    |
|           |           |          | 033      |         |      |     |     |      |    |
|           |           |          | 03400    |         |      |     |     |      |    |
|           |           |          | 74A      |         |      |     |     |      |    |
|           |           |          | 74B      |         |      |     |     |      |    |
|           |           |          | 74C      |         |      |     |     |      |    |
|           |           |          | 74D      |         |      |     |     |      |    |
|           |           |          | 74F      |         |      |     |     |      |    |
|           |           |          | 74H      |         |      |     |     |      |    |
|           |           |          | 74K      |         |      |     |     |      |    |
|           |           |          | 74L      |         |      |     |     |      |    |
|           |           |          | 74P      |         |      |     |     |      |    |
|           |           |          | 74Q      |         |      |     |     |      |    |
|           |           |          | 74000    |         |      |     |     |      |    |
| 1.0.1     |           |          |          |         |      |     |     |      |    |
| 2         | 43        |          | 03300    |         |      |     |     |      |    |

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| JOB TITLE |     | ENGINEER |          |         |      |     |     | PAGE | OF |
|-----------|-----|----------|----------|---------|------|-----|-----|------|----|
| JOB NO.   | AWO | ENO-WAP  | FUNCTION | ANALYST | DATE |     |     |      |    |
| W-1       | W-2 | W-3      | W-4      | W-5     | W-6  | W-7 | W-8 |      |    |
|           |     |          | 03400    |         |      |     |     |      |    |
|           |     |          | 115      |         |      |     |     |      |    |
|           |     |          | 11K      |         |      |     |     |      |    |
|           |     |          | 11       |         |      |     |     |      |    |
|           |     |          | 12B      |         |      |     |     |      |    |
|           |     |          | 12       |         |      |     |     |      |    |
|           |     |          | 13C      |         |      |     |     |      |    |
|           |     |          | 13T      |         |      |     |     |      |    |
|           |     |          | 13       |         |      |     |     |      |    |
|           |     |          | 14       |         |      |     |     |      |    |
|           |     |          | 23K      |         |      |     |     |      |    |
|           |     |          | 23M      |         |      |     |     |      |    |
|           |     |          | 23N      |         |      |     |     |      |    |
|           |     |          | 23Q      |         |      |     |     |      |    |
|           |     |          | 23S      |         |      |     |     |      |    |
|           |     |          | 23       |         |      |     |     |      |    |
|           |     |          | 41.F     |         |      |     |     |      |    |
|           |     |          | 41       |         |      |     |     |      |    |
|           |     |          | 42E      |         |      |     |     |      |    |
|           |     |          | 42F      |         |      |     |     |      |    |
|           |     |          | 42G      |         |      |     |     |      |    |
|           |     |          | 42       |         |      |     |     |      |    |
|           |     |          | 44       |         |      |     |     |      |    |
|           |     |          | 45E      |         |      |     |     |      |    |
|           |     |          | 45J      |         |      |     |     |      |    |

Figure 4-34. Sample Input — Measure Observations at WUC Level (Sheet 1 of 2)

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AWD \_\_\_\_\_ EWO MAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1      | W-2 | W-3 | W-4 | W-5      | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|----------|-----|-----|-----|
|          |     |     | 46  |          |     |     |     |
|          |     |     | 47  |          |     |     |     |
|          |     |     | 49A |          |     |     |     |
|          |     |     | 49  |          |     |     |     |
|          |     |     | 51  |          |     |     |     |
|          |     |     | 52  |          |     |     |     |
|          |     |     | 55  |          |     |     |     |
|          |     |     | 63  |          |     |     |     |
|          |     |     | 65  |          |     |     |     |
|          |     |     | 71  |          |     |     |     |
|          |     |     | 75  |          |     |     |     |
|          |     |     | 93  |          |     |     |     |
|          |     |     | 97  |          |     |     |     |
|          |     |     |     | ABCDEFVZ |     |     |     |
|          |     |     |     | KTM      |     |     |     |
|          |     | 3   |     |          |     |     |     |
| 57000236 | 331 |     |     |          |     |     |     |
| 57000237 | 331 |     |     |          |     |     |     |
| 57000243 | 324 |     |     |          |     |     |     |
| 57000244 | 721 |     |     |          |     |     |     |
| 57002545 | 331 |     |     |          |     |     |     |
| 58000776 | 324 |     |     |          |     |     |     |
| 58000901 | 331 |     |     |          |     |     |     |
| 59000002 | 721 |     |     |          |     |     |     |
| 59000003 | 331 |     |     |          |     |     |     |

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AWD \_\_\_\_\_ EWO MAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1      | W-2 | W-3 | W-4 | W-5 | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|-----|-----|-----|-----|
| 59000005 | 321 |     |     |     |     |     |     |
| 59000006 | 321 |     |     |     |     |     |     |
| 59000010 | 321 |     |     |     |     |     |     |
| 59000012 | 321 |     |     |     |     |     |     |
| 59000015 | 331 |     |     |     |     |     |     |
| 59000018 | 321 |     |     |     |     |     |     |
| 59000019 | 331 |     |     |     |     |     |     |
| 59000024 | 331 |     |     |     |     |     |     |
| 59000030 | 321 |     |     |     |     |     |     |
| 59000034 | 324 |     |     |     |     |     |     |
| 59000037 | 324 |     |     |     |     |     |     |
| 59000038 | 324 |     |     |     |     |     |     |
| 59000039 | 324 |     |     |     |     |     |     |
| 59000104 | 321 |     |     |     |     |     |     |
| 59000105 | 321 |     |     |     |     |     |     |
| 59000108 | 324 |     |     |     |     |     |     |
| 59000110 | 724 |     |     |     |     |     |     |
| 59000119 | 324 |     |     |     |     |     |     |
| 59000141 | 324 |     |     |     |     |     |     |
| 59000143 | 324 |     |     |     |     |     |     |
| 59000144 | 324 |     |     |     |     |     |     |
| 59000145 | 324 |     |     |     |     |     |     |
| 59000147 | 324 |     |     |     |     |     |     |
| 59000151 | 324 |     |     |     |     |     |     |
| 59000152 | 324 |     |     |     |     |     |     |

Figure 4-34. Sample Input — Measure Observations at WUC Level (Sheet 2 of 2)

| <u>Card</u> | <u>Column</u> | <u>Description</u>  |
|-------------|---------------|---|
| 11          | 8-10          | Identification used on output for following SG-WUC origins                            |
|             | 13-20         | Starting index for the WUC set-number for the following group of NSG-WUC              |
| 12          | 3-10          | Number of SG-WUC in following dictionary  |
|             | 13-20         | Number of NSG-WUC in following dictionary   |
| 13          | 32-36         | SG-WUC for origins with following NSG-WUC (Number of cards set by Card 12, Col. 3-10) |
| 14          | 32-36         | NSG-WUC using above SG-WUC as origin (Number of cards set by Card 12, Col. 13-20)     |
| 15          | 41-49         | Nine WDC used to define unscheduled maintenance                                       |
| 16          | 41-43         | Three WDC used to define inspections  |
| 17          | 3-10          | Position of first WDC, corresponding to Abort mission, in WDC table                   |
|             | 13-20         | Position of second WDC, corresponding to Abort mission, in WDC table                  |
| 18          | 3-10          | Isochronal aircraft serial number. (These must be in ascending sequence)              |
|             | 13-20         | Starting week number for isochronal aircraft  |

The final card must have an eight-digit number in Columns 3-10 greater than the last serial number for Card 2, Columns 13-20. This is used as an end-of-file indicator.

Cards 1-3, 7-8, 11-12, and 17 and on are examples of Type 1 input cards; 4-6, 9-10, and 13-14 are examples of Type 2; and 15-16 are examples of Type 3 (as defined by the COBOL-FORTRAN Linkage).

Data for the various sets of WUCs is analyzed with measurements taken using the following independent and dependent variables. The independent variables are:

- a. Number of Weeks since Inspection. For each observation, this includes the week for which the values of the dependent variables are being determined, but not the week during which the inspection was completed.
- b. Number of Flight Hours Accumulated since Inspection. This includes all flight hours for the week of the observation, but none of the flight hours for the week during which the inspection was completed.



- c. Number of Sorties Flown since Inspection. This includes all sorties flown during the week of the observation, but none of those flown during the week in which the inspection was completed.
- d. Number of Landings Performed since Inspection. This includes all landings performed during the week of the observation, but none of those performed for the week during which the inspection was completed.

Not all dependent variables are measured against each independent variable. The dependent variables measured are:

- a. Unscheduled Maintenance Actions per Week.
- b. Unshceduled Maintenance Actions per Flight Hour.
- c. Unscheduled Maintenance Actions per Sortie.
- d. Unscheduled Maintenance Actions per Landing.

Variables a through d are defined to be the quotients obtained by dividing the number of unscheduled maintenance actions since an inspection by the number of weeks, flight hours, sorties, and landings since the inspection. These are observed as functions of independent variables a through d. A separate observation of each variable is performed for each of the inspection types associated with the WUC set. In each observation, a value of each variable is calculated for each week up to the next occurrence of an inspection of any of these types.

- e. The Number of Repair Actions (fix phase maintenance actions) per Inspection by Inspection type. This observation is calculated somewhat differently than the other dependent variables. For a given number of weeks after a given type of inspection, each aircraft provides a number of observations of whether or not a second type of inspection occurs in the given week. Each aircraft also provides a number of observations of the number of repair actions in the given week that result from the second type of inspection, as identified by the When-Discovered Code. The number of repair actions per inspection for this inspection type is then the total number of these repair actions on all aircraft divided by the total number of inspections of this type on all aircraft. The inspection types for which this variable is calculated are those for which When-Discovered Codes correspond to an inspection. Each observation includes all four independent variables, measured from the latest occurrence of an inspection of one of the specified types. A separate analysis is performed for each combination of When-Discovered Code and type of inspection used as a time origin.
- f. Abort Maintenance Actions per Sortie. An abort maintenance action is defined in the input on Card 17. The ratio of the number of these actions for an aircraft-week to the number of sorties in that week constitutes an observation of this dependent variable. This observation is analyzed with all four independent variables, which are to be measured from the latest occurrence of an inspection of one of the specified types. Separate observations are performed on data for the different inspection types.

The program is suitable for data from all USAF aircraft with the following dimensional limitations.

- a. Total number of WUC sets            200 maximum
- b. Number of WUC groups                7 maximum
- c. Number of WDCs                        9 maximum
- d. Number of WDCs (Inspection)        3 maximum

4.6.2.3 Output Description. The output consists of a magnetic tape with 40 characters to a data record, blocked 70 to a tape record. A sample is shown in Figure 4-35; the format of the data record is:

| <u>Column</u> | <u>Value</u> | <u>Description</u>                         |
|---------------|--------------|--|
| 3-7           |              | Group ID of Origin (defined by input data) |
| 8-10          | XXX          | WUC Set Number (defined by input data)     |
| 11            | 0            | For Columns 13-14 = 07, 08, 09, 10, 20     |
|               | 1            | Current Inspection HPF                     |
|               | 2            | Current Inspection MAs                     |
|               | 3            | Current Inspection Periodic                |
| 12            | 1            | Non-Isochronal Aircraft                    |
|               | 2            | Isochronal Aircraft                        |
| 13-14         | 07           | Unscheduled MA/Week                        |
|               | 08           | Unscheduled MA/Flight Hour                 |
|               | 09           | Unscheduled MA/Sortie                      |
|               | 10           | Unscheduled MA/Landing                     |
|               | 18           | Repair Action/Inspection                   |
|               | 20           | Abort MA/Sortie                            |
| 15            | 1            | Origins - Hourly Postflight                |
|               | 2            | Origins - MAs                              |
|               | 3            | Origins - Periodic                         |
| 16            | 1            | Independent Variable - Week                |
|               | 2            | Independent Variable - Flight Hour         |



The record-keeping output file contains a copy of the input control data and an additional line containing:

| <u>Column</u> | <u>Description</u>                    |
|---------------|---------------------------------------|
| 1-8           | Number of control data cards          |
| 9-16          | Number of output observations         |
| 17-28         | Number of input records from SG file  |
| 29-36         | Number of input records from NSG file |
| 37-44         | Number of Type 1 input cards          |
| 45-52         | Number of Type 2 input cards          |
| 53-61         | Number of Type 3 input cards          |

A sample of the record keeping output is shown in Figure 4-36. On a recent IBM 370 run for an F-106 fleet of 150 aircraft, a total of 3,902,190 observations were measured, requiring 25 minutes of computer time and five reels of magnetic tape for output.

#### 4.6.3 SORT AIRCRAFT-LEVEL OBSERVATIONS

4.6.3.1 Purpose. This IBM utility program sorts the aircraft-level observation tape records into an ordered file for subsequent use by the:

- a. Observation Count program.
- b. Regression and Correlation Analysis program.
- c. Trend Analysis program.

The logic flow for this Sort is shown in Figure 4-29.

4.6.3.2 Input Data and Procedures. The combined listing of the program and JCL cards is shown in Paragraph 6.10.3. The sort fields in order of hierarchy are:

| <u>Field</u> | <u>Column</u> | <u>Description</u>                   |
|--------------|---------------|--------------------------------------|
| 1            | 3-16          | See description in Paragraph 4.6.1.3 |
| 2            | 32-37         | Independent Variable                 |

The sort input tape record is described in Paragraph 4.6.1.3, and a sample is shown in Figure 4-32.



4.6.3.3 Output Description. Sorting 55,288 records of the Aircraft-Level Observations file for an F-106 fleet of 150 aircraft took three minutes on the IBM 370.

#### 4.6.4 SORT WUC-LEVEL OBSERVATIONS

4.6.4.1 Purpose. This IBM utility program sorts the WUC-level observation tape records into an ordered file for subsequent use by the Merge WUC-Level Observations program. Separate sorts were performed to prevent exceeding the sort capacity and to provide more efficient processing. The logic flow for this sort and the subsequent merge is shown in Figure 4-30.

4.6.4.2 Input Data and Procedures. The combined listing of the program and JCL cards is shown in Paragraph 6.10.4. The sort fields in order of hierarchy are:

| <u>Field</u> | <u>Column</u> | <u>Description</u>                   |
|--------------|---------------|--------------------------------------|
| 1            | 3-16          | See description in Paragraph 4.6.2.3 |
| 2            | 32-37         | Independent Variable                 |

4.6.4.3 Output Description. Sorting approximately 800,000 records of the WUC-Level Observations file for an F-106 fleet of 150 aircraft took 20 minutes on the IBM 370. Five sort input tapes generated seven sort output tapes, which were subsequently merged.

#### 4.6.5 MERGE WUC-LEVEL OBSERVATIONS

4.6.5.1 Purpose. This IBM utility program merges the sorted WUC-level observation tape records into an ordered multi-reel file for subsequent use by the:

- a. Observations Count program.
- b. Regression and Correlation Analysis program.
- c. Trend Analysis program.

4.6.5.2 Input Data and Procedures. The combined listing of the program and JCL cards is shown in Paragraph 6.10.5. The merge fields and tape record description are the same as described in Paragraph 4.6.4.2.

4.6.5.3 Output Description. Merging 3,902,190 records of the sorted WUC-Level Observations file for an F-106 fleet of 150 aircraft took 29 minutes on the IBM 370. Seven sort input tapes generated a merged output file of five tapes.

#### 4.6.6 OBSERVATIONS COUNT

4.6.6.1 Purpose. This COBOL program counts the number of observations in each of two files:

- a. Aircraft-Level sorted file.
- b. WUC-Level Observations merged file.

As shown in Figures 4-29 and 4-30, the respective outputs are input to the corresponding aircraft-level and WUC-level Regression and Correlation and Trend Analysis programs.

4.6.6.2 Input Data and Procedures. The combined listing of the program and JCL cards is shown in Paragraph 6.10.6. The respective input records for aircraft and WUC levels are described in Paragraphs 4.6.1.3 and 4.6.2.3.

4.6.6.3 Output Description. The output tape records consist of 30-character data records blocked 90 data records to a tape record. The output data record description is:

| <u>Field</u> | <u>Column</u> | <u>Description</u>  |
|--------------|---------------|---|
| 1            | 3-16          | See column breakdown in Paragraphs 4.6.1.3 and 4.6.2.3, respectively, for aircraft and WUC levels.                      |
| 2            | 17-22         | Count of Observations.  |
| 3            | 24-29         | Count of Observations for Equal Values in Columns 3-10. (For record-keeping purposes, not used by subsequent programs.) |

Figure 4-37 shows a sample tape output record for the Aircraft-Level Observations Count. Processing for an F-106 fleet of 150 aircraft on the IBM 370 resulted in the following input/output statistics.

- a. Aircraft Level. 55,288 input records and 54 output records required three minutes of processing time.
- b. WUC Level. 3,902,190 input records and 4342 output records required 23 minutes of processing time.





|                |       |                  |                |                |             |           |          |
|----------------|-------|------------------|----------------|----------------|-------------|-----------|----------|
| 00101001010711 | CC=   | -.04244 A=       | .07600 B=      | -.00337 SER=   | .00128 SEE= | .28005 F= | 6.97283  |
|                | XBAR= | 3.76614 XSIGMA=  | 3.53431 YBAR=  | .05812 YSIGMA= |             | N= 3857   |          |
| 00101001010731 | CC=   | -.00236 A=       | .02467 B=      | -.00005 SER=   | .00065 SEE= | .12278 F= | .00639   |
|                | XBAR= | 7.67518 XSIGMA=  | 6.06013 YBAR=  | .02447 YSIGMA= |             | N= 979    |          |
| 00101001010812 | CC=   | -.06437 A=       | .02325 B=      | -.00036 SER=   | .00010 SEE= | .10766 F= | 15.02769 |
|                | XBAR= | 19.54905 XSIGMA= | 18.45290 YBAR= | .01601 YSIGMA= |             | N= 3614   |          |
| 00101001010832 | CC=   | -.03665 A=       | .00966 B=      | -.00006 SER=   | .00005 SEE= | .05597 F= | 1.28503  |
|                | XBAR= | 33.48218 XSIGMA= | 33.67157 YBAR= | .00782 YSIGMA= |             | N= 947    |          |
| 00101001010913 | CC=   | -.05997 A=       | .03299 B=      | -.00063 SER=   | .00023 SEE= | .14388 F= | 13.03841 |
|                | XBAR= | 11.39900 XSIGMA= | 10.42252 YBAR= | .02354 YSIGMA= |             | N= 3614   |          |
| 00101001010933 | CC=   | -.02631 A=       | .01366 B=      | -.00016 SER=   | .00013 SEE= | .07567 F= | .66464   |
|                | XBAR= | 19.63368 XSIGMA= | 19.53676 YBAR= | .01178 YSIGMA= |             | N= 947    |          |
| 00101001011014 | CC=   | -.05788 A=       | .03612 B=      | -.00096 SER=   | .00028 SEE= | .18188 F= | 12.13960 |
|                | XBAR= | 11.61953 XSIGMA= | 10.79339 YBAR= | .02477 YSIGMA= |             | N= 3614   |          |
| 00101001011034 | CC=   | -.02530 A=       | .01366 B=      | -.00011 SER=   | .00012 SEE= | .07567 F= | .76187   |
|                | XBAR= | 20.02050 XSIGMA= | 19.32906 YBAR= | .01177 YSIGMA= |             | N= 947    |          |
| 00101001012011 | CC=   | .00719 A=        | -.00053 B=     | .00035 SER=    | .00004 SEE= | .01694 F= | 13.84725 |
|                | XBAR= | 3.43044 XSIGMA=  | 3.23566 YBAR=  | .00068 YSIGMA= |             | N= 3055   |          |
| 00101001012012 | CC=   | .06291 A=        | -.00046 B=     | .00006 SER=    | .00002 SEE= | .01535 F= | 13.32035 |
|                | XBAR= | 18.49876 XSIGMA= | 17.72144 YBAR= | .00060 YSIGMA= |             | N= 3055   |          |
| 00101001012013 | CC=   | .05999 A=        | -.00038 B=     | .00008 SER=    | .00002 SEE= | .01294 F= | 10.69848 |
|                | XBAR= | 10.81898 XSIGMA= | 9.98664 YBAR=  | .00045 YSIGMA= |             | N= 3055   |          |
| 00101001012014 | CC=   | .07720 A=        | -.00071 B=     | .00015 SER=    | .00003 SEE= | .01957 F= | 18.30397 |
|                | XBAR= | 11.01637 XSIGMA= | 10.24906 YBAR= | .00091 YSIGMA= |             | N= 3055   |          |
| 00101001012021 | CC=   | .00000 A=        | .00000 B=      | .00000 SER=    | .00000 SEE= | .00000 F= | .00000   |
|                | XBAR= | 7.98782 XSIGMA=  | .00000 YBAR=   | .00000 YSIGMA= |             | N= 657    |          |
| 00101001012022 | CC=   | .00000 A=        | .00000 B=      | .00000 SER=    | .00000 SEE= | .00000 F= | .00000   |
|                | XBAR= | 37.32019 XSIGMA= | .00000 YBAR=   | .00000 YSIGMA= |             | N= 657    |          |
| 00101001012023 | CC=   | .00000 A=        | .00000 B=      | .00000 SER=    | .00000 SEE= | .00000 F= | .00000   |
|                | XBAR= | 1.94215 XSIGMA=  | .00000 YBAR=   | .00000 YSIGMA= |             | N= 657    |          |
| 00101001012034 | CC=   | .00000 A=        | .00000 B=      | .00000 SER=    | .00000 SEE= | .00000 F= | .00000   |
|                | XBAR= | 22.36530 XSIGMA= | .00000 YBAR=   | .00000 YSIGMA= |             | N= 657    |          |
| 00101001012071 | CC=   | .08301 A=        | .02294 B=      | .00378 SER=    | .00310 SEE= | .12863 F= | 1.48472  |
|                | XBAR= | 2.28652 XSIGMA=  | 2.82547 YBAR=  | .01489 YSIGMA= |             | N= 216    |          |
| 00101001020731 | CC=   | .26459 A=        | -.00343 B=     | .00169 SER=    | .00076 SEE= | .02209 F= | 4.89303  |
|                | XBAR= | 4.79104 XSIGMA=  | 3.36291 YBAR=  | .00488 YSIGMA= |             | N= 67     |          |
| 00101001020812 | CC=   | .16380 A=        | -.00132 B=     | .00023 SER=    | .00009 SEE= | .01752 F= | 6.85321  |
|                | XBAR= | 16.61204 XSIGMA= | 14.28759 YBAR= | .00234 YSIGMA= |             | N= 198    |          |
| 00101001020832 | CC=   | .10416 A=        | .00062 B=      | .00004 SER=    | .00005 SEE= | .00720 F= | .63545   |
|                | XBAR= | 21.62994 XSIGMA= | 20.43059 YBAR= | .00161 YSIGMA= |             | N= 60     |          |

Figure 4-38. Sample Output — Correlation and Regression Analysis

| <u>Output Title</u> | <u>Description</u>                         |
|---------------------|--|
| CC                  | Correlation Coefficient                    |
| A                   | Intercept for Independent Variable         |
| B                   | Slope of Independent Variable              |
| SER                 | Standard Regression Coefficient            |
| SEE                 | Standard Error Estimate                    |
| F                   | F-level for Regression                     |
| XBAR                | Mean of Independent Variable               |
| XSIGMA              | Standard Deviation of Independent Variable |
| YBAR                | Mean of Observation                        |
| YSIGMA              | Standard Deviation of Observation          |
| N                   | Number of Observations                     |

The output report tape records consist of 130-character data records blocked 15 data records to a tape record. Output is provided by a call from the FORTRAN program to a COBOL entry, COBOT2.

A fleet of 150 F-106 aircraft required one minute of computer time to process 55,288 records in 54 groups at the Aircraft Level. At the WUC Level, it required 25 minutes of computer time to process 3,902,190 records in 4342 groups.

#### 4.6.8 TREND ANALYSIS

4.6.8.1 Purpose. The purpose of this program is to determine the trend of various data bank variables and the effect of scheduled inspections on these trends. The analysis is performed at the aircraft and WUC levels using the same program.

4.6.8.2 Input Data and Procedures. A listing of the program (written in COBOL), the JCL for use on the IBM 370, and a sample of input data is shown in Paragraph 6.10.8. The input data consists of three files:

- |                                      |   |                                  |
|--------------------------------------|---|----------------------------------|
| a. Sorted observations.              | } | For either WUC or Aircraft Level |
| b. Frequency count of observations.  |   |                                  |
| c. Cutoff and dependent axis titles. |   |                                  |

The generation of Files a and b has been covered previously. The data cards to create the third file have the following format.

| <u>Card</u> | <u>Column</u> | <u>Description</u>                            |
|-------------|---------------|---|
| a           | 1-5           | Printout Suppression Cutoff                   |
| b           | 1-80          | Title used dependent axis, one card per title |

A sample input, that used in the F-106 Scheduled Maintenance Study, is given in Figure 4-39.

The program is suitable for data from any USAF aircraft, with the following program dimension limitations.

|                                 |             |
|---------------------------------|-------------|
| Number of Dependent Titles      | 15 maximum  |
| Number of Independent Intervals | 200 maximum |

The independent titles and the decoding for the dependent titles written into the program are compatible with the variables and codes generated in the measurement programs at both Aircraft and WUC Levels.

4.6.8.3 Output Description. The output is a plot for each group of input identifiers (Columns 3 through 16 of the input data) of the dependent versus independent variables. The structure of the plot tape consists of 130-character data records, blocked 15 to a tape record.

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ JOB \_\_\_\_\_ (JOB MAP) \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1 | W-2 | W-3 | W-4 | W-5 | W-6                            | W-7 | W-8 |
|-----|-----|-----|-----|-----|--------------------------------|-----|-----|
| 5   |     |     |     |     |                                |     |     |
|     |     |     |     |     | NORM HOURS / PERIODIC          |     |     |
|     |     |     |     |     | NORM HOURS / HOVELY POSTFLIGHT |     |     |
|     |     |     |     |     | RTG / SORTIE                   |     |     |
|     |     |     |     |     | FM / WEEK                      |     |     |
|     |     |     |     |     | SORTIE / WEEK                  |     |     |
|     |     |     |     |     | LANDING / WEEK                 |     |     |
|     |     |     |     |     | UNSCHEMVED MA / WEEK           |     |     |
|     |     |     |     |     | UNSCHEMVED MA / FLIGHT HOUR    |     |     |
|     |     |     |     |     | UNSCHEMVED MA / SORTIE         |     |     |
|     |     |     |     |     | UNSCHEMVED MA / LANDING        |     |     |
|     |     |     |     |     | UNSCHEMVED MA / INSPECTION     |     |     |
|     |     |     |     |     | REPAIR ACTION / INSPECTION     |     |     |
|     |     |     |     |     | PROBT MA / SORTIE              |     |     |

**Figure 4-39. Sample Input — Trend Analysis**

At the WUC Level, the values for printout suppression have a significant impact on output volume. The effect of cutoff on output volume is shown below, based on the F-106 experience for 150 aircraft.

| <u>Cutoff Values</u> | <u>Number of Plots at WUC Level</u> |
|----------------------|-------------------------------------|
| 0                    | 3680                                |
| 5                    | 2059                                |

A fleet of 150 F-106 aircraft required three minutes to process 55,300 records and ten minutes to print the 54 plots at the Aircraft Level. At the WUC Level, it required 30 minutes to process 3,902,190 records and three hours to print the 2059 plots. A sample output from a recent F-106 run is shown in Figure 4-40.

#### 4.7 REMOVAL ACTION ANALYSIS — TASK V

The objective of this task is to generate the cumulative distribution for the interval between removals on each WUC and to rank the codes in order of their frequencies of removal. A system of nine COBOL programs has been developed to perform this task. (See Figure 4-41 and the following page.)

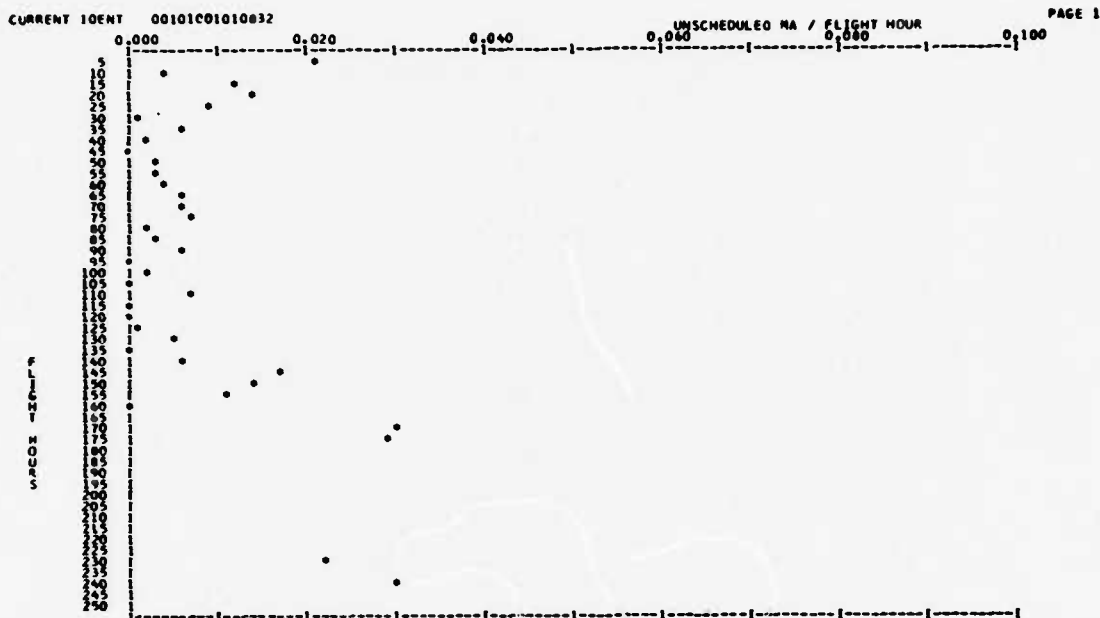


Figure 4-40. Sample Output -- Trend Analysis

- a. Task V Preprocessor.
- b. Sort WUC Frequency.
- c. Write WUC Frequency.
- d. Sort Non-isochronal Frequency.
- e. Write Non-isochronal Frequency.
- f. Sort Isochronal Frequency.
- g. Write Isochronal Frequency.
- h. Sort Removal Intervals.
- i. Cumulative Distribution of Removal Intervals

Paragraph 6.11 contains the listing of the source programs and the corresponding job control cards.

#### 4.7.1 TASK V PREPROCESSOR

4.7.1.1 Purpose. The purpose of the Task V Preprocessor is to generate two output files for further processing, using the sorted data bank and the isochronal aircraft definition as input data.

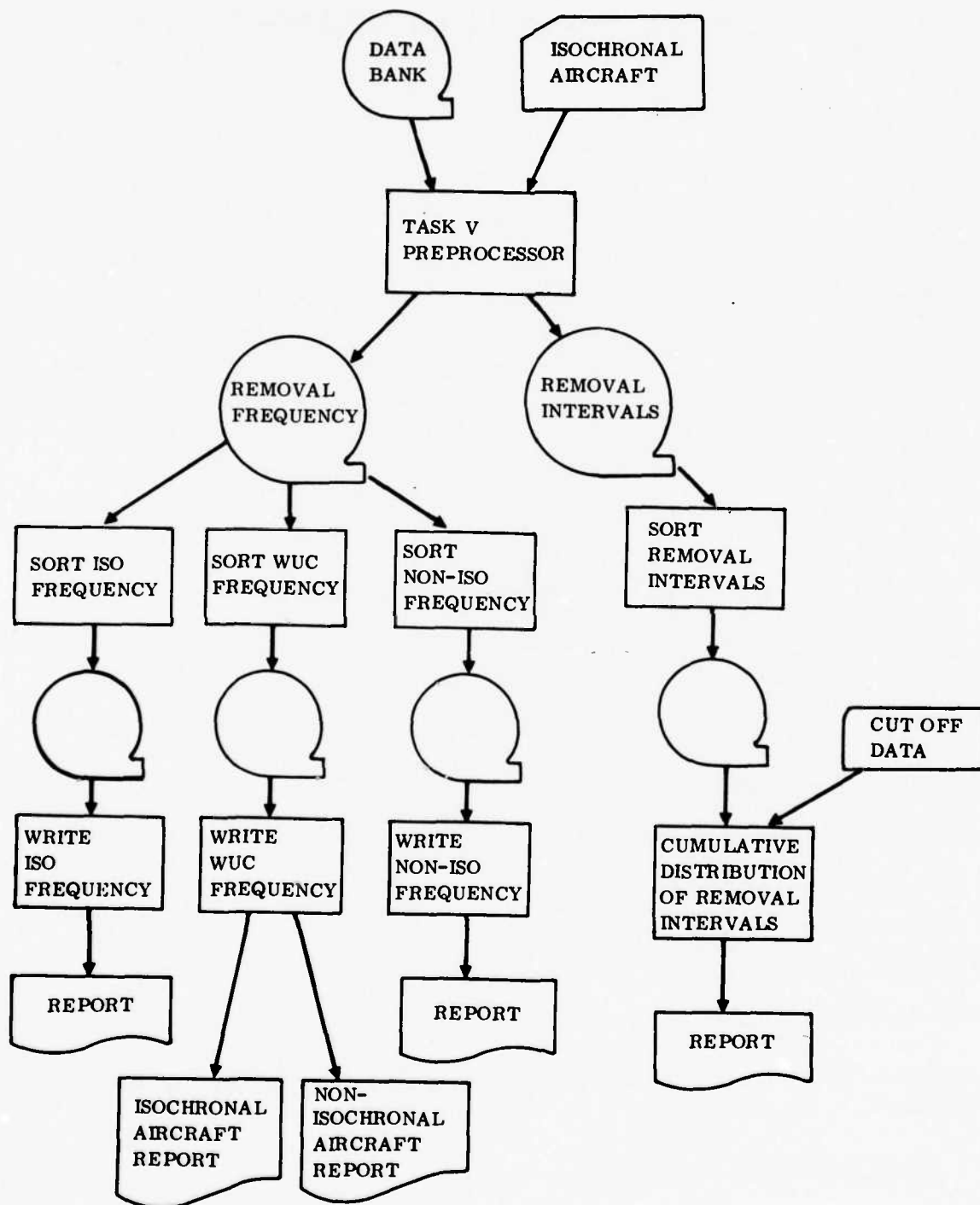


Figure 4-41. Logic Flow - Removal Action Analysis

4.7.1.2 Input Data and Procedures. There are two types of input data: tape and card deck. Tape data consists of a data bank sorted in the order of WUC, HMC, aircraft serial number, and week number. The tape record layout is shown in Figure 4-4. The data card deck has the following format.

| <u>Card</u> | <u>Column</u> | <u>Description</u>   |
|-------------|---------------|--|
| a           | 3-5           | Number of isochronal aircraft.                                     |
| b           | 3-10          | Isochronal aircraft serial number (number of cards set by Card a). |

A sample input data deck is shown in Figure 4-42.

The Removal Frequency file is generated by accumulating the maintenance actions (Type 3 record, Columns 44 through 46) for each WUC for the two aircraft subsets. The removal action intervals are measured between occurrences of removals of each WUC in terms of the number of weeks and the number of flight hours.

4.7.1.3 Output Description. The output consists of two tape files, both 20 characters to a data record and blocked 90 to a tape record. The format of the Removal Frequency file is:

| <u>Column</u> | <u>Description</u>       |
|---------------|--------------------------|
| 1-5           | Work Unit Code (WUC)     |
| 6-10          | Isochronal Frequency     |
| 11-15         | Non-isochronal Frequency |
| 20            | Record Mark              |

A sample output is shown in Figure 4-43.

The format of the Removal Intervals file is:

| <u>Column</u> | <u>Description</u>  |
|---------------|---|
| 1-5           | Work Unit Code (WUC)  |
| 10-15         | Observation Data  |
| 17            | Isochronal Indicator:<br>=1 Isochronal Inspection<br>=2 Non-isochronal Inspection |

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AND \_\_\_\_\_ TWO MAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

|          | W-1 | W-2 | W-3 | W-4 | W-5 | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|
| 34       |     |     |     |     |     |     |     |     |
| 57000236 | 331 |     |     |     |     |     |     |     |
| 57000237 | 331 |     |     |     |     |     |     |     |
| 57000243 | 324 |     |     |     |     |     |     |     |
| 57000246 | 331 |     |     |     |     |     |     |     |
| 57002545 | 331 |     |     |     |     |     |     |     |
| 58000776 | 324 |     |     |     |     |     |     |     |
| 58000901 | 331 |     |     |     |     |     |     |     |
| 59000002 | 331 |     |     |     |     |     |     |     |
| 59000003 | 331 |     |     |     |     |     |     |     |
| 59000005 | 331 |     |     |     |     |     |     |     |
| 59000006 | 331 |     |     |     |     |     |     |     |
| 59000010 | 331 |     |     |     |     |     |     |     |
| 59000012 | 331 |     |     |     |     |     |     |     |
| 59000015 | 331 |     |     |     |     |     |     |     |
| 59000018 | 331 |     |     |     |     |     |     |     |
| 59000019 | 331 |     |     |     |     |     |     |     |
| 59000026 | 331 |     |     |     |     |     |     |     |
| 59000030 | 331 |     |     |     |     |     |     |     |
| 59000054 | 324 |     |     |     |     |     |     |     |
| 59000057 | 324 |     |     |     |     |     |     |     |
| 59000058 | 324 |     |     |     |     |     |     |     |
| 59000059 | 324 |     |     |     |     |     |     |     |
| 59000094 | 331 |     |     |     |     |     |     |     |
| 59000105 | 331 |     |     |     |     |     |     |     |

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AND \_\_\_\_\_ TWO MAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

|          | W-1 | W-2 | W-3 | W-4 | W-5 | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|
| 59000108 | 324 |     |     |     |     |     |     |     |
| 59000110 | 324 |     |     |     |     |     |     |     |
| 59000119 | 324 |     |     |     |     |     |     |     |
| 59000141 | 324 |     |     |     |     |     |     |     |
| 59000143 | 324 |     |     |     |     |     |     |     |
| 59000144 | 324 |     |     |     |     |     |     |     |
| 59000145 | 324 |     |     |     |     |     |     |     |
| 59000147 | 324 |     |     |     |     |     |     |     |
| 59000151 | 324 |     |     |     |     |     |     |     |
| 59000152 | 324 |     |     |     |     |     |     |     |

Figure 4-42. Sample Input - Task V Preprocessor

11.11.76 727144 BCR CNT C/C LENGTH 120 CONTROL ZF20 000000 000000 PAGE 001

| Column | Description   |
|--------|---|
| 19     | Data Type:<br>=1 Interval in Weeks<br>=2 Interval in Flight Hours |
| 20     | Record Mark   |

A sample output is shown in Figure 4-44.

On a recent IBM 370 run for an F-106 fleet of 150 aircraft and 2201 WUCs, total computer time was eight minutes. A total of 1620 records were generated in the Removal Frequency file and 121,721 records in the Removal Interval file.







4.7.5.2 Input Data and Procedures. The input data consists of the output of the sort described in Paragraph 4.7.4.3.

4.7.5.3 Output Description. The output consists of a report file, 70 characters to a data record blocked 40 to a tape record. It required two minutes on the IBM 370 to generate and print the report files for the 1620 F-106 WUCs. The output is very similar to that shown in Figure 4-45.

#### 4.7.6 SORT ISOCHRONAL FREQUENCY

4.7.6.1 Purpose. The purpose of this program is to sort the output file Removal Frequency for further processing.

4.7.6.2 Input Data and Procedures. Input data consists of the tape file Removal Frequency as described in Paragraph 4.7.1.3.

4.7.6.3 Output Description. The output tape file, 20 characters to a data record blocked 90 to a tape record, consists of the Isochronal and Non-Isochronal WUC repair action frequency data, sorted according to the following key in descending order.

| <u>Column</u> | <u>Description</u>   |
|---------------|----------------------|
| 6-10          | Isochronal Frequency |

It required about one minute on the IBM 370 to sort 1620 records for the 150-aircraft F-106 fleet.

#### 4.7.7 WRITE ISOCHRONAL FREQUENCY

4.7.7.1 Purpose. This program generates a report file, listing the Isochronal WUC by decreasing repair action frequency.

4.7.7.2 Input Data and Procedures. Input data consists of the output of the sort described in Paragraph 4.7.6.3.

4.7.7.3 Output Description. The output consists of a report file, 70 characters to a data record blocked 40 to a tape record. It requires two minutes on the IBM 370 to generate and print the report files for the 1620 F-106 WUCs. The output is very similar to that shown in Figure 4-45.

#### 4.7.8 SORT REMOVAL INTERVALS

4.7.8.1 Purpose. This program is used to sort output file Removal Intervals for further processing.

4.7.8.2 Input Data and Procedures. The input data consists of the tape file Removal Intervals as described in Paragraph 4.7.1.3.

4.7.8.3 Output Description. The output tape files, 20 characters to a data record blocked 90 to a tape record, consists of removal intervals, in weeks and flight hours, sorted in the following ascending order.

| <u>Key</u> | <u>Column</u> | <u>Description</u>   |
|------------|---------------|----------------------|
| 1          | 17            | Isochronal Indicator |
| 2          | 19            | Data Type            |
| 3          | 1-5           | Work Unit Code       |

It required about three minutes to sort the 121,721 records on the IBM 370 for the fleet of 150 F-106 aircraft.

#### 4.7.9 CUMULATIVE DISTRIBUTION FOR REMOVAL INTERVALS

4.7.9.1 Purpose. This program generates cumulative distribution plots for removal intervals by WUC and isochronal subset type. The number of observations, maximum and minimum values, and the mean and variance of the observation are printed on the top of each plot.

4.7.9.2 Input Data and Procedures. The input data card has the following format.

| <u>Column</u> | <u>Description</u>                                    |
|---------------|---|
| 1-5           | Printout Suppression Cutoff for Non-Isochronal Subset |
| 6-10          | Printout Suppression Cutoff for Isochronal Subset     |

Figure 4-46 is a sample data card.

4.7.9.3 Output Description. Cumulative distribution plots by a printer contain:

- a. Work Unit Code (WUC)
- b. Output Data — One of two types:
  - Removal Interval Length in Weeks
  - Removal Interval Length in Flight Hours
- c. Isochronal or Non-Isochronal Subset
- d. Number of Observations
- e. Maximum and Minimum Values
- f. Mean and Variance



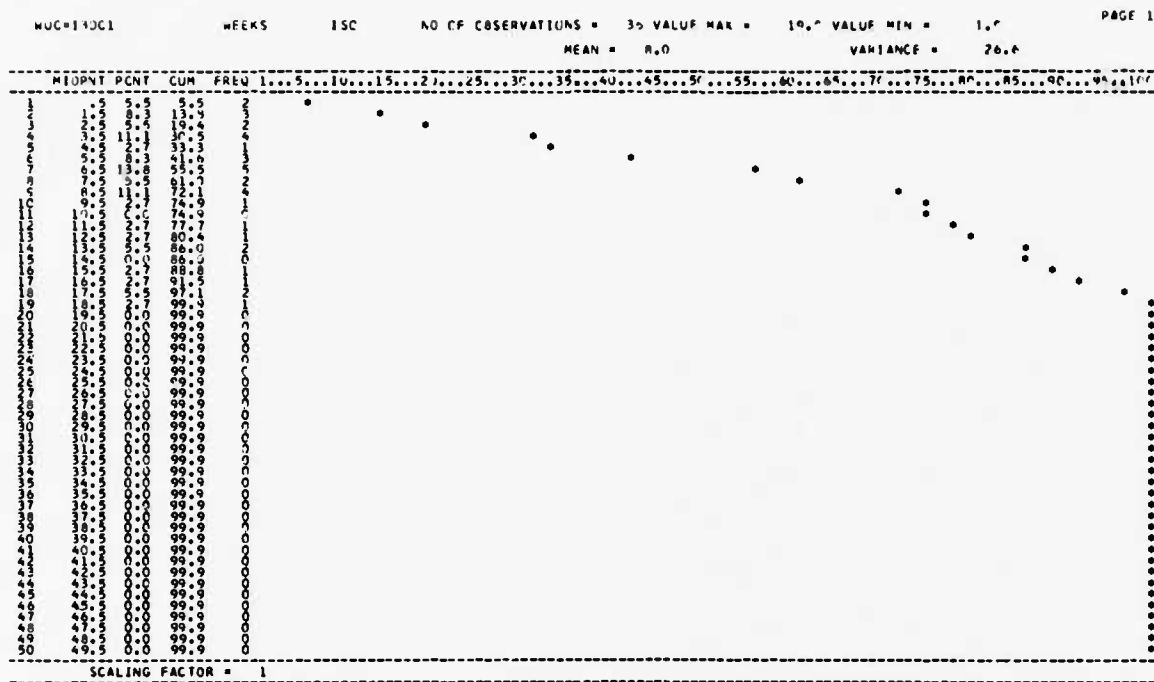


Figure 4-47. Sample Output — Cumulative Distribution for Removal Action Interval

| <u>Card</u> | <u>Column</u> | <u>Description</u>         |
|-------------|---------------|----------------------------|
| 3           | 20-24         | Second Inspection WUC      |
| 3           | 30-34         | Third Inspection WUC       |
| 3           | 40-44         | Fourth Inspection WUC      |
| 3           | 50-54         | Fifth Inspection WUC       |
| 3           | 60-64         | Sixth Inspection WUC       |
| 3           | 70            | Plot symbol for first WUC  |
| 3           | 71            | Plot symbol for second WUC |
| 3           | 72            | Plot symbol for third WUC  |
| 3           | 73            | Plot symbol for fourth WUC |
| 3           | 74            | Plot symbol for fifth WUC  |
| 3           | 75            | Plot symbol for sixth WUC  |

The current program handles up to six inspection WUCs. If fewer than six inspection WUCs are required, the unused columns should be left blank. A sample input data is shown in Figure 4-48.



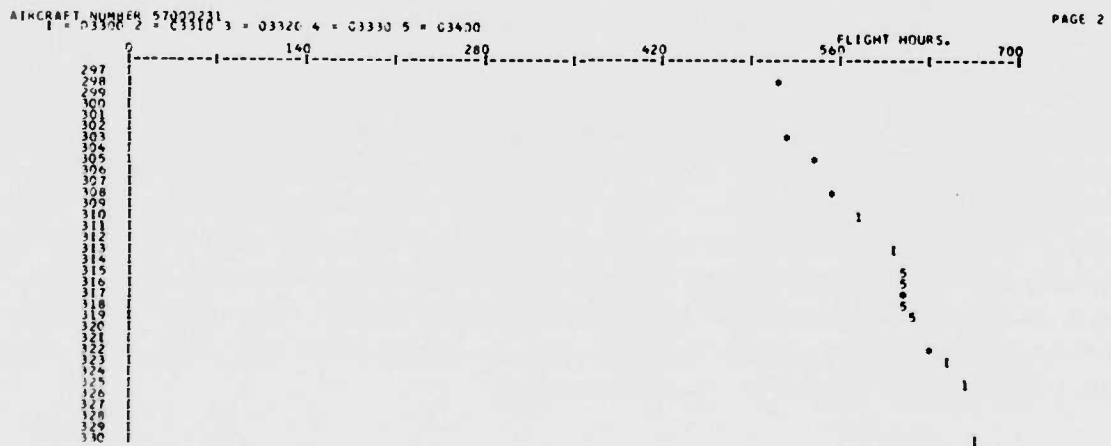
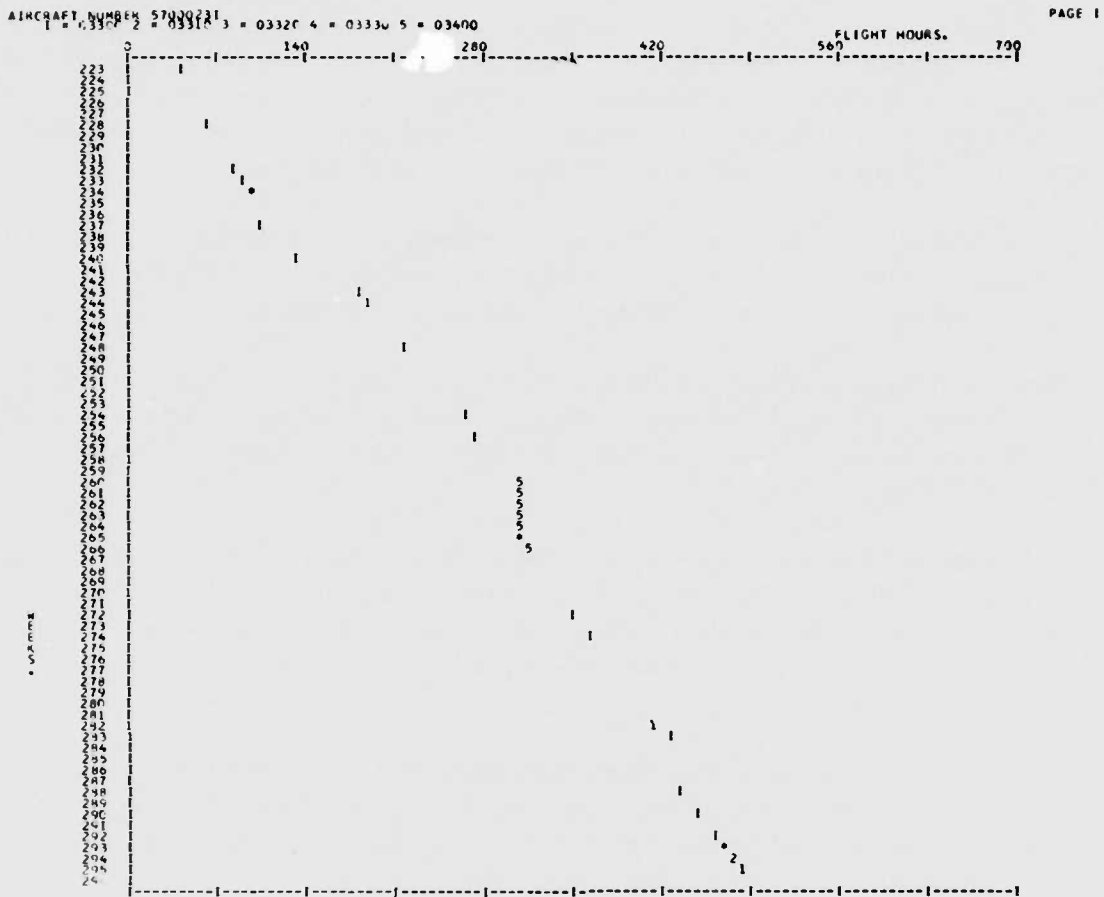


Figure 4-49. Sample Output — Aircraft Inspection Histories  
 4-79



**4.9.2 OUTPUT ANALYSIS — MANHOUR AND NOR TIME ANALYSES — TASK II.** The purpose of this task is to determine the variation in NORM hours and manhours charged to each type of scheduled or special inspection. Any NOR time charged during preflights and basic postflights is recorded as unscheduled maintenance. Manhours expended during the look phase of these inspections is charged as support general, however, so these inspections are included when calculating the look-phase manhour distributions.

For a given type of scheduled inspection, each occurrence of that inspection on an aircraft provides an observation of the NORM hours charged during the look and repair phases of the inspection and the manhours charged during the look phase.

In addition, this analysis calculated the number of manhours required for maintenance actions on specific WUCs, either repair actions stemming from inspections or unscheduled maintenance actions. Also, the NORM and NORS hours charged against specific WUCs are calculated.

The NORM hour per scheduled inspection distributions are used in conjunction with the Network Analysis Model to obtain estimates of network branch span times for use in evaluating the new scheduled inspection packages. The NORM and manhour per WUC maintenance action results are required for the effectiveness analyses of alternative maintenance programs.

From the NORM and manhour per maintenance action data, the corresponding rates for each WUC set are derived. These in turn are input to the effectiveness model so that the NORM hours and maintenance manhours accumulated for unscheduled maintenance during the intervals between inspections can be calculated.

**4.9.3 OUTPUT ANALYSIS — INTERVAL LENGTH ANALYSIS — TASK III.** The purpose of this analysis is to determine the inspection interval lengths actually experienced during the current maintenance program and also to determine interval variability. The WUC maintenance action interval distributions provided a basis for determining WUC failure characteristics.

**4.9.4 OUTPUT ANALYSIS — EFFECT OF TIME AFTER INSPECTION — TASK IV.** This analysis was performed to determine the trends of various data bank variables with time after scheduled inspections and the effects of scheduled inspections on these trends. The correlation and regression analyses provided linear empirical functions for the various parameters versus time after for use in the effectiveness analyses. These results were supplemented by the trend analysis scatter diagrams so that the validity of the linear regression analyses could be assessed and appropriate adjustments made when the time effect was clearly nonlinear.

**4.9.5 OUTPUT ANALYSIS — REMOVAL ACTION FREQUENCIES AND INTERVAL LENGTH DISTRIBUTIONS.** The purpose of these analyses was to provide a basis for determining the requirements for time changes and scheduled removals for the various WUCs. The suitability of the current time change specifications was assessed using this data in the maintenance program analysis process. These results, along with the results from Task III, were the basis for determining how well the current time change specifications agreed with the failure characteristics of the WUC.

**4.9.6 OUTPUT ANALYSIS — AIRCRAFT INSPECTION HISTORIES.** The inspection history analysis provided a plot of inspection events versus weeks and accumulated flying hours for each aircraft in the data bank. These provide a record of scheduled inspection events and intervals as they actually occurred for each aircraft. This analysis supplemented the other tasks in determining actual inspection flow times and intervals. This was necessary because recording anomalies and errors in the data system resulted in apparent gaps during the inspections and spurious short intervals that could be corrected manually. Improved logic for Tasks II and III was developed as a result of processing the results of this task.

## SECTION 5

### EFFECTIVENESS AND COST PROGRAMS

#### 5.1 GENERAL DESCRIPTION

For the Phase III study, three sets of programs were developed:

- a. Effectiveness Model
- b. Network Analysis Model (NAM)
- c. Manhour and Not Operational Ready — Maintenance (NORM) Data (for WUC sets)

Detailed discussions, sample input, sample output, and IBM 370 running statistics for these programs are in Paragraphs 5.2, 5.3, and 5.4, respectively. Listings of the programs, together with the control cards, are contained in Paragraphs 6.13, 6.14, and 6.15, respectively.

#### 5.2 EFFECTIVENESS MODEL

5.2.1 PURPOSE. The purpose of the effectiveness model is to predict the impact on aircraft availability and mission reliability of maintenance program variations in scheduled inspection package content and interval lengths. The requirement to meet the flying hour program is treated as a constraint. This is done by inputting aircraft utilization to the effectiveness model along with the description of the alternative maintenance program. The model then calculates the effectiveness as a function of interval length over the maintenance program period, which is the time interval between occurrences of the major inspection of the maintenance program.

The basic approach of the effectiveness model is to calculate the values of certain measures that describe the impact of the maintenance program by a process of summation starting at the work unit code (WUC) set level. For this reason, the distributions of the basic variables involved in this process can be described merely in terms of their mean and standard deviations, since application of the "central limit" theorem implies that the sum variables calculated by the model will be approximately normally distributed independently of how the summands are distributed. Use of this fact in developing the model has vastly simplified its structure and minimized the need for manipulating probability distributions for the variables.

A general flow chart of the effectiveness model is shown in Figure 5-1. Calculations made by the model fall naturally into four major groupings. The first consists of those at the Inspection Task/WUC set level; results of these calculations are combined in the second step to produce aircraft-level values. The third step consists of those calculations

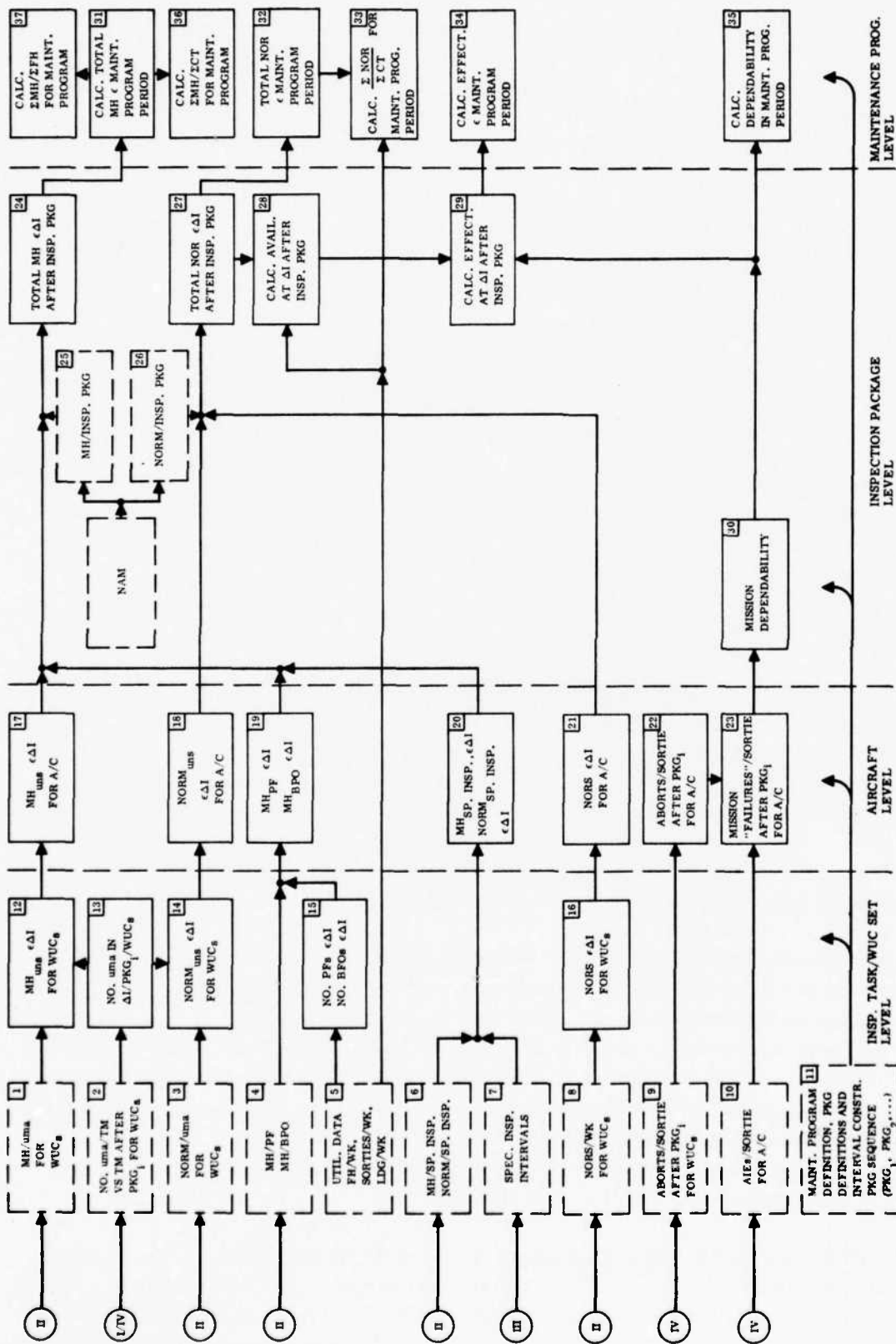


Figure 5-1. Effectiveness Model

pertaining to two consecutive inspection packages and the intervening interval,  $\Delta I$ . At this level, total not operational ready - supply (NORS), availability, dependability, manhours, and effectiveness are evaluated parametrically as functions of inspection package type and interval length,  $\Delta I$ . The final step consists of combining the results obtained in the third step to produce total manhours, NOR hours, availability, and effectiveness for the maintenance program period.

**5.2.2 INPUT DATA AND PROCEDURES.** In Figure 5-1, input values are represented by the blocks with dashed outlines. Unscheduled maintenance is described by data input in Blocks 1, 2, and 3. This includes the number of manhours per unscheduled maintenance action for each WUC set, the number of unscheduled maintenance actions per unit time for a WUC set versus time after the inspection package, and the number of NORM hours per unscheduled maintenance action for each WUC set.

In Block 4, the manhour distributions for preflight and basic postflight inspections are input. Total manhours for these inspections during  $\Delta I$  are calculated using this data and the frequencies for these inspections as determined from the aircraft utilization specified in Block 5.

Special inspections are described in Blocks 6 and 7 in terms of the manhours and NORM hours per inspection and inspection intervals. NORS hours per week for each WUC set are input in Block 8.

Operational data on which a measure of dependability can be based is input in Blocks 9 and 10. This data includes the number of aborts per sortie following the different types of inspection packages at the WUC set level and the number of AIEs (accidents, incidents, and emergency unsatisfactory material reports, EUMRs) per sortie at the aircraft level.

Additional data describing the maintenance program, such as the inspection package sequence and constraints on the variability of  $\Delta I$ , is input in Block 11. The distributions of manhours and NORM hours per inspection package, as calculated by NAM, are input in Blocks 25 and 26.

The effectiveness analysis procedure consists of the four major calculation steps mentioned earlier. These are described in detail in the following paragraphs.

**5.2.2.1 Inspection Task and WUC Set Calculations.** At the inspection task and WUC set level, distributions for the numbers of manhours and NORM hours during  $\Delta I$  for each WUC set are calculated in Blocks 12 and 14 in Figure 5-1. This is accomplished by computing the expected number of unscheduled maintenance actions during  $\Delta I$  for each WUC set following the different types of inspection packages in Block 13 and combining them with the manhours and NORM hours rates.

To calculate preflight and basic postflight inspection manhours, distribution of the number of sorties during  $\Delta I$  is calculated from the utilization data in Block 5. This

results in an estimate for the distribution of the number of basic postflight inspections during  $\Delta I$  and, using a derived ratio,  $r$ , for the number of preflights per postflight, an estimate for the distribution of the number of preflights in  $\Delta I$  in Block 15. Combining these results with the input inspection manhours, distribution of the number of preflight and basic postflight manhours is calculated in Block 19.

The NORS hours during  $\Delta I$ , by WUC set, are calculated in Block 16 using the rates input in Block 8.

5.2.2.2 Aircraft-Level Calculations. Unscheduled maintenance manhours and NORM hours during  $\Delta I$  for the various WUC sets are aggregated to obtain the distributions for these parameters at the aircraft level in terms of their mean and standard deviations.

For special inspections, the distribution for the number of special inspections during  $\Delta I$  is obtained from the interval distribution for each type of inspection. Manhours and NORM hours for each type of special inspection during  $\Delta I$  are then calculated in Block 20 from the input manhours and NORM hours per inspection.

In Block 22, the aborts/sortie rates following different types of inspections are calculated for the total aircraft by summing the rates for the various WUC sets. The aircraft abort rate is combined with the AIEs/sortie rate in Block 23 to obtain a mission "failures" per sortie rate following the different types of inspections.

5.2.2.3 Inspection Packages and Intervening Interval,  $\Delta I$ . Parametric results for the several variables for two consecutive inspection packages and the intervening interval are obtained as functions of  $\Delta I$ .

The following calculations are included in this step: the distribution of the total manhours during  $\Delta I$  following a given type of inspection package is calculated in Block 24 of Figure 5-1 by determining the distribution for the total of unscheduled maintenance manhours in  $\Delta I$ , preflight and basic postflight manhours in  $\Delta I$ , special inspection manhours in  $\Delta I$ , and manhours in the following scheduled inspection.

Distribution for the total NOR hours during  $\Delta I$  and the subsequent scheduled inspection is calculated in a similar way in Block 27 by determining the distribution for the total of the unscheduled NORM hours in  $\Delta I$ , the special inspection NORM hours in  $\Delta I$ , the total NORS hours in  $\Delta I$ , and the NORM hours in the subsequent scheduled inspection.

From the utilization data input in Block 5, distribution of the length of  $\Delta I$  in calendar time when  $\Delta I$  is expressed in terms of one of the other three time bases - flying hours, sorties, and landings - is calculated. This parameter is required in order to calculate the distribution of availability in Block 28. Availability is the fraction of the time the aircraft is operationally ready, that is:

$$A_V = 1 - \frac{\sum \text{NOR}}{\sum \text{CT}}$$

where  $\Sigma$  CT is accumulated calendar time. This measure is calculated as a function of  $\Delta I$  in Block 28.

From the mission "failure" rate (F/S/A) calculated in Block 23, the dependability parameter is calculated in Block 30. This is the probability that a mission "failure," that is, an abort or AIE, will not occur during the sortie:

$$D = \exp (- F/S/A).$$

Effectiveness as a function of  $\Delta I$  for two consecutive inspection packages and the intervening interval is evaluated at Block 29. This consists of determining the probability distribution of the product of availability and dependability.

**5.2.2.4 Distribution of Total Manhours.** In the fourth and final step of the effectiveness analysis, distribution of the total manhours across the maintenance program is determined as a function of  $\Delta I$  in Block 31. The NOR hours versus  $\Delta I$  distributions for the consecutive packages are the basis for determining the NOR hours for the maintenance program as a function of  $\Delta I$  in Block 32.

Distributions for total calendar time for the maintenance program period are calculated and used to calculate distributions for the manhours per unit time in Block 36, NOR hours per unit time in Block 33, and manhours per flight hour in Block 37.

Dependability during the maintenance program is calculated as a function of  $\Delta I$  in Block 35, and the distribution of effectiveness as a function of  $\Delta I$  is calculated in Block 34.

**5.2.3 DETAILED DESCRIPTION OF EFFECTIVENESS MODEL.** A detailed flow chart of the effectiveness model is shown in Figure 5-2. In the following discussion, the equations for the various steps in the analysis will be derived. Definitions of the parameters and variables in the model are given first.

The parameters that define the maintenance program and major inspections are input in Blocks 1 and 2 of Figure 5-2. These are:

|            |   |
|------------|---|
| DELI       | The basic inspection interval length, $\Delta I$ .  |
| KI         | An integer specifying the time base for $\Delta I$ , $KI = 1, 2, 3, 4$ for $\Delta I$ in weeks, flight hours, sorties, and landings, respectively.          |
| NSCT       | The number of different types of scheduled inspection packages.   |
| NFOL(I)    | The number of types of scheduled inspection packages that can occur at the end of the interval $\Delta I$ (DELI) following an inspection package of Type I. |
| NSCH(I, J) | The number of intervals that begin with a Type I inspection package and end with a Type J.  |

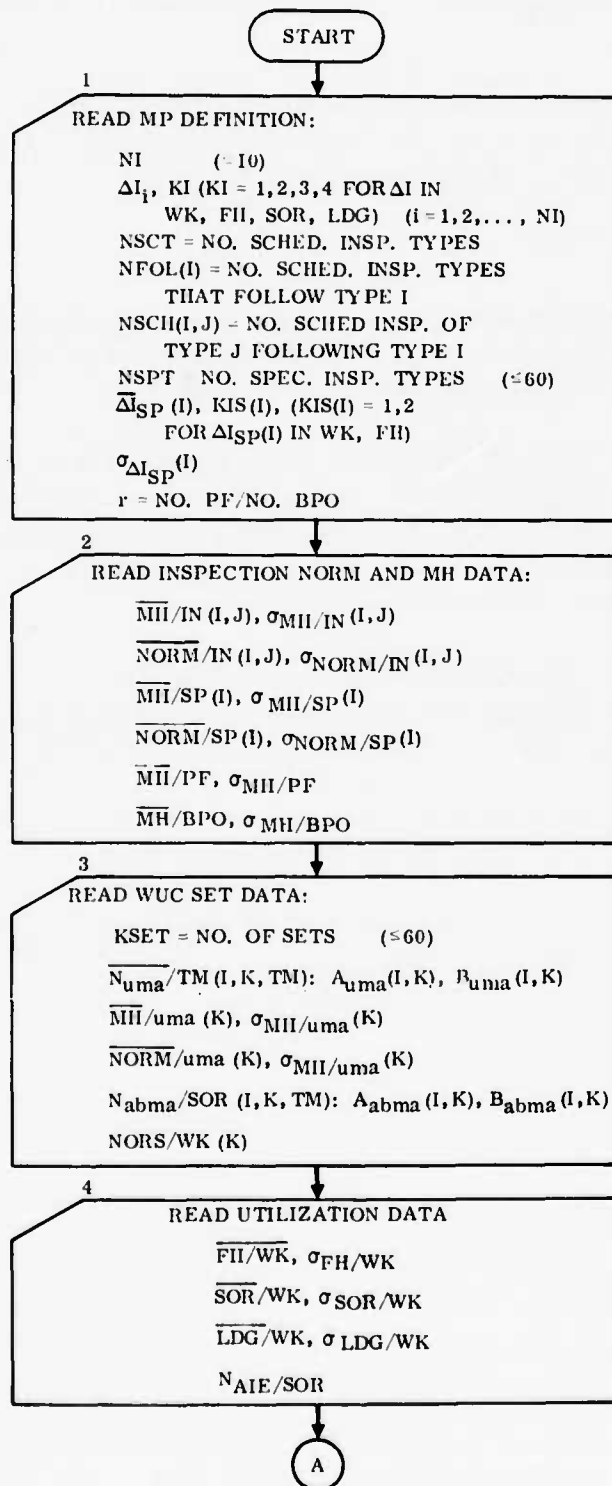


Figure 5-2. Detailed Effectiveness Model (Sheet 1)



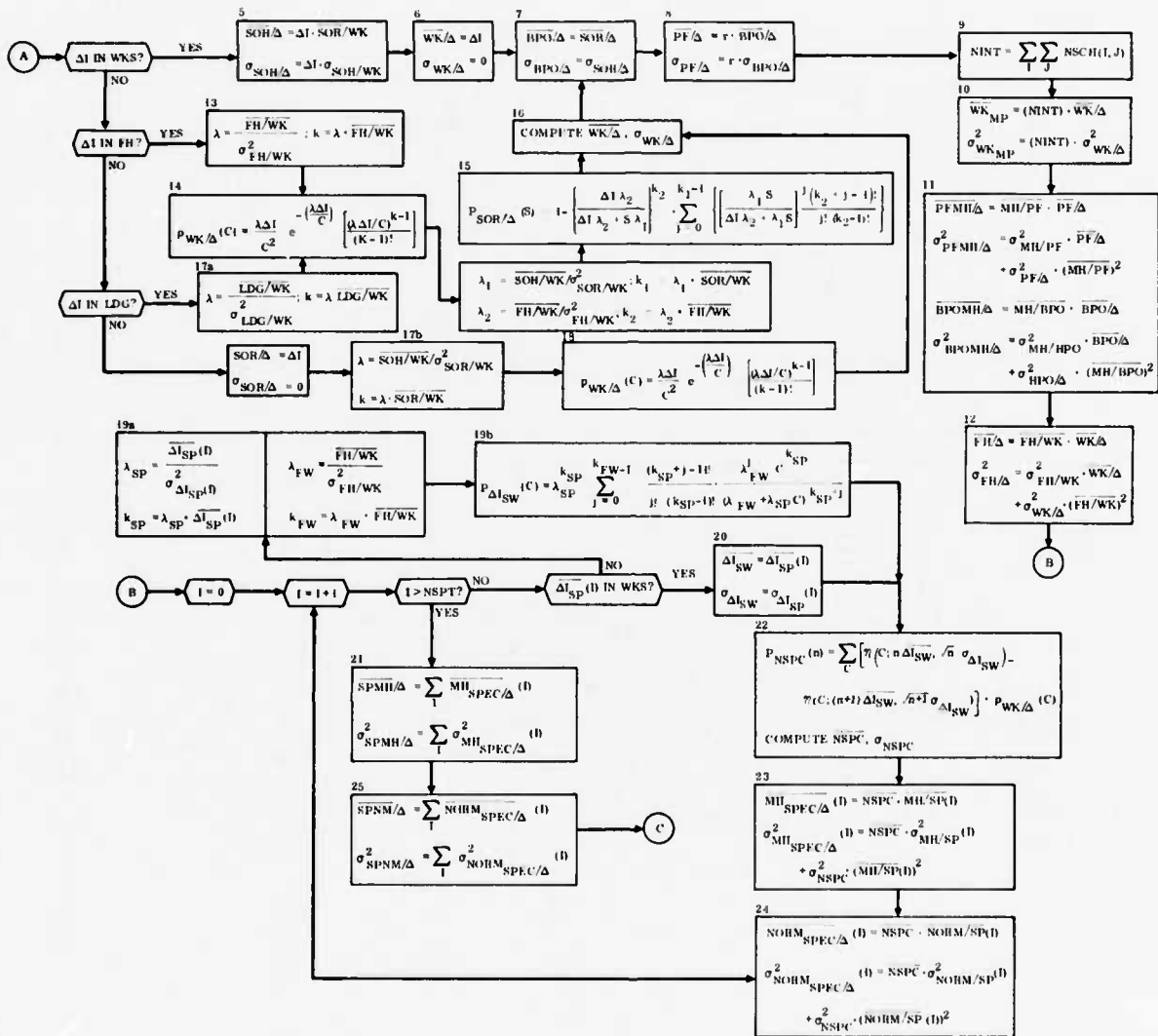


Figure 5-2. Detailed Effectiveness Model (Sheet 2)

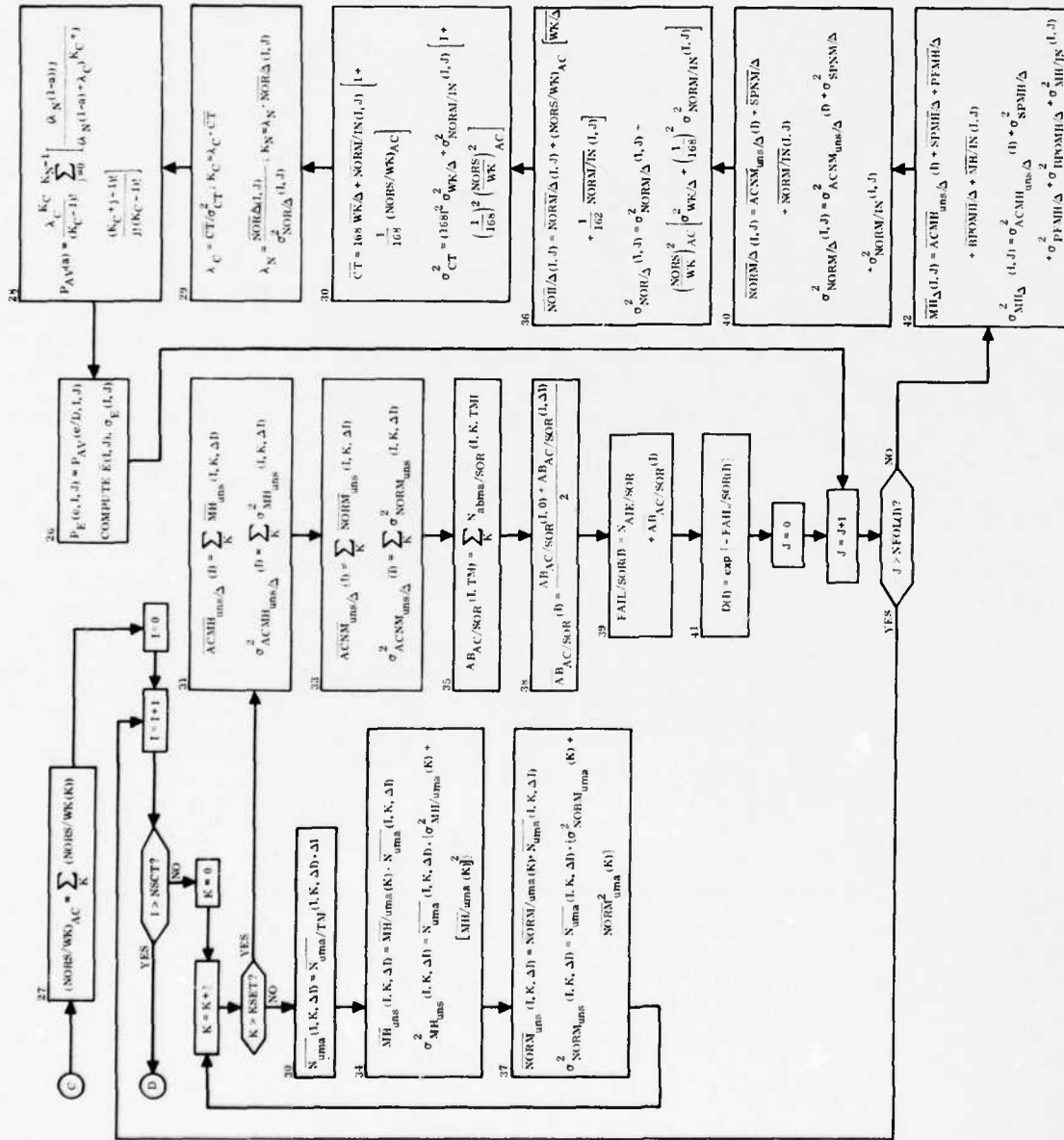


Figure 5-2. Detailed Effectiveness Model (Sheet 3)

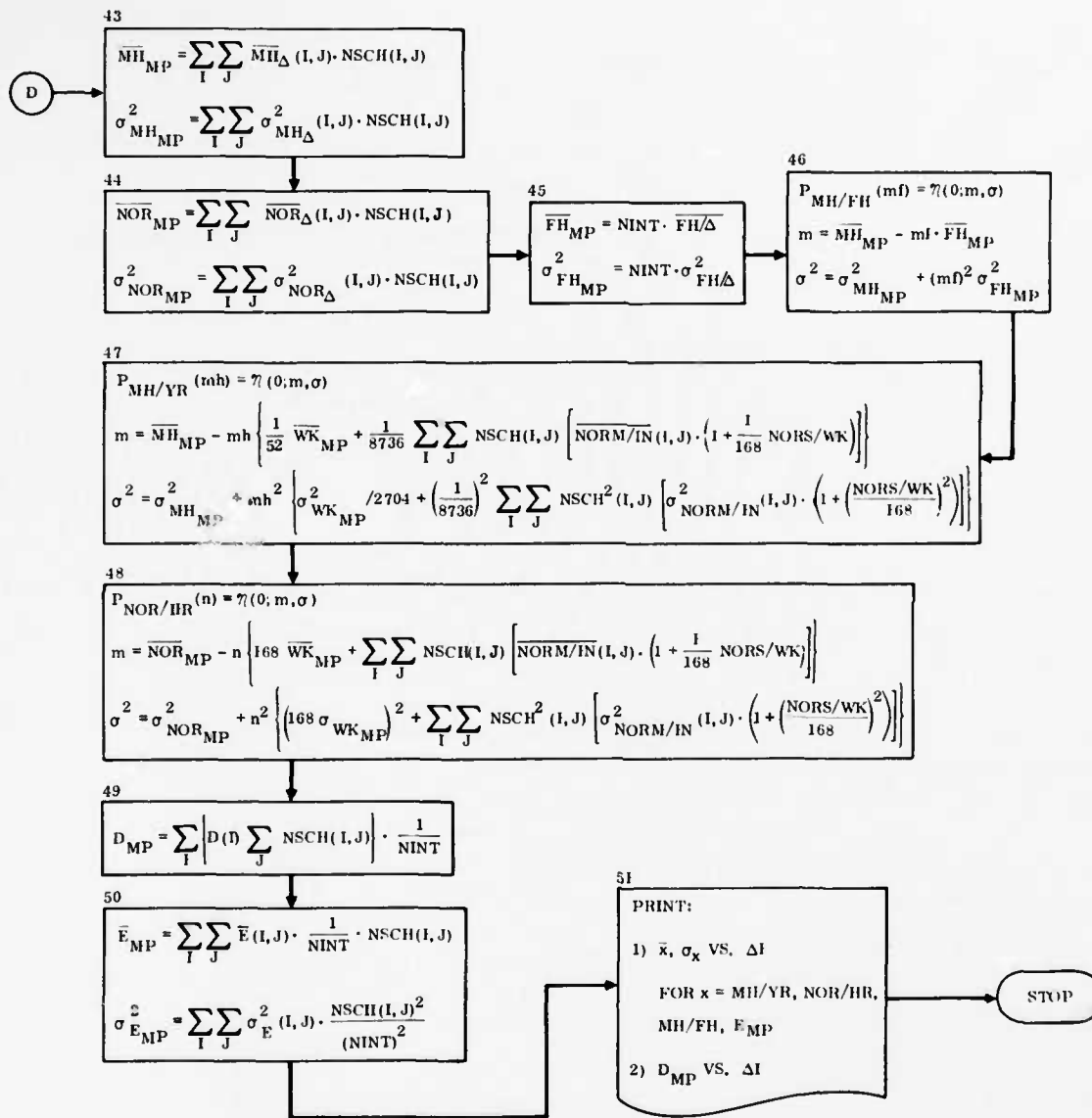


Figure 5-2. Detailed Effectiveness Model (Sheet 4)

|                    |   |
|--------------------|---|
| EMHI(I, J)         | The mean manhours for inspection package Type J when it follows inspection package Type I in Block 2.   |
| AN(I, J), BN(I, J) | The coefficients of the linear regression function in Block 2 for the NORM hours in inspection package J versus time after the preceding inspection package I. That is, $\overline{\text{NORM}/\text{IN}}(I, J) = \text{AN}(I, J) + \text{BN}(I, J) \cdot (t)_{\text{after I}}$ |
| SMHI(I, J)         | The standard deviation of the manhours per inspection package J following inspection package I.   |
| SNI(I, J)          | The standard deviation of the NORM hours in inspection package J following inspection package I.  |
| NI                 | The number of values of $\Delta I(\text{DELI})$ to be used in the parametric evaluation.  |

Each pair of values I and J identifies a different type of inspection interval. The total number (NINT) of inspection intervals is then given by:

$$\text{NINT} = \sum_{I=1}^{\text{NSCT}} \sum_{J=1}^{\text{NFOL}(I)} \text{NSCH}(I, J),$$

and the length of the maintenance program period not counting inspection flow times is:

$$\text{NINT} \cdot \Delta I.$$

The linear regression function for NORM hours per inspection package is input for inspection packages retained from the current program. For new inspection packages, the network analysis model (NAM) provides the needed data.

Special inspections are described by the following parameters included in Blocks 1 and 2 of Figure 5-2.

|            |  |
|------------|--|
| NSPT       | Number of different types of special inspections.  |
| DISP, SISP | Mean and standard deviations of the interval length between inspections, $\Delta I_{\text{SP}}$ .  |
| KIS        | An integer specifying the time base in which DISP is measured. KIS = 1 or 2 for time in weeks or flight hours respectively (Block 1).                          |
| EMHS, SMHS | The mean and standard deviation, $\overline{\text{MH}/\text{SP}}(I)$ and $\sigma_{\text{MH}/\text{SP}}(I)$ , in Block 2 of manhours in Ith special inspection. |
| ENS, SNS   | The mean and standard deviation, $\overline{\text{NORM}/\text{SP}}(I)$ and $\sigma_{\text{NORM}/\text{SP}}(I)$ , of the NORM hours per special inspection.     |

The preflight and basic postflight inspections are defined by the following parameters input in Blocks 1 and 2.

- R                    The ratio of the number of preflight inspections to basic post-flight inspections.
- EMHP, SMHP        The mean and standard deviation, MH/PF and  $\sigma_{MH/PF}$ , in Block 2 of the manhours per preflight inspection.
- EMHB, SMHB        The mean and standard deviation, MH/BPO and  $\sigma_{MH/BPO}$ , in Block 2 of the manhours per basic postflight inspection.

Unscheduled maintenance data can be specified for up to 60 sets of WUCs. The number of sets to be used for a specific run is given by the value of KSET in Block 3. For each set, the following items are required.

- EMHU, SMHU        The mean and standard deviation, MH/uma and  $\sigma_{MH/uma}$ , of manhours per unscheduled maintenance action in Block 3.
- ENU, SNU            The mean and standard deviation of NORM per unscheduled maintenance action, NORM/uma and  $\sigma_{NORM/uma}$ , in Block 3.
- ANU, BNU            The coefficients of the linear regression function for the number of unscheduled maintenance actions,  $\overline{N_{uma}}$ , per unit time versus time after the inspection in Block 3:  $\overline{N_{uma}} = ANU(I, K) + BNU(I, K) \cdot (t)_{after\ I}$ , for the Kth work unit code set and Ith inspection type.
- UMAS                The minimum value for  $\overline{N_{uma}}$ .
- DIK                  Set equal to 1.0 when  $(t)_{after\ I}$  is to be measured from the inspection at the beginning of the interval, and set equal to 3.0 when  $(t)_{after\ I}$  is measured from the inspection at the start of the preceding interval.
- ANAB, BNAB        The coefficients of the linear regression function for the number of abort maintenance actions per sortie versus time after inspection package I for the Kth work unit code set in Block 3:  $N_{abort} = ANAB(I, K) + BNAB(I, K) \cdot (t)_{after\ I}$ .
- ENWK                The mean number of NORS hours per week charged to the set.

This input data is obtained from the corresponding data generated by the statistical analyses for all the WUCs included in the set. This is accomplished by a simple summation process except for manhours and NORM hours per maintenance action. These are obtained from:

$$EMHU(K) = \frac{\sum_{i=1}^N n_i (\overline{MH/uma})_i}{\sum_{i=1}^N n_i},$$

where

$n_i$  is the number of unscheduled maintenance actions per unit time on WUC<sub>i</sub>

$(\overline{\text{MH}/\text{uma}})_i$  is the mean number of manhours per unscheduled maintenance action on WUC i

N is the number of WUCs in set K.

and

$$\text{ENU}(K) = \sum_{i=1}^N n_i (\overline{\text{NORM}/\text{uma}})_i / \sum_{i=1}^n n_i$$

where

$(\overline{\text{NORM}/\text{uma}})_i$  is the mean number of NORM hours per unscheduled maintenance action on WUC i.

The standard deviations for manhours and NORM per unscheduled maintenance action are given by:

$$\text{SMHS}(K) = \sum_{i=1}^N \left\{ n_i \left[ (\sigma_{\text{MH}/\text{uma}})_i^2 + \left( (\overline{\text{MH}/\text{uma}})_i - \text{EMHU}(K) \right)^2 \right] \right\} / \sum_{i=1}^N n_i$$

and

$$\text{SNS}(K) = \sum_{i=1}^N \left\{ n_i \left[ (\sigma_{\text{NORM}/\text{uma}})_i^2 + \left( (\overline{\text{NORM}/\text{uma}})_i - \text{ENU}(K) \right)^2 \right] \right\} / \sum_{i=1}^N n_i$$

where

$(\sigma_{\text{MH}/\text{uma}})_i$  and  $(\sigma_{\text{NORM}/\text{uma}})_i$  are the standard deviations for WUC<sub>i</sub>.

The values of  $n_i$  for the current maintenance program are the numbers of unscheduled maintenance actions encountered in the data bank. The unscheduled manhour and NORM data for each WUC are obtained from the statistical analysis of MH and NORM hours per maintenance action.

Utilization is specified by the following parameters in Block 4:

- |            |   |
|------------|---|
| EFHW, SFHW | The mean and standard deviation of flight hours per week, $\overline{\text{FH}/\text{WK}}$ and $\sigma_{\text{FH}/\text{WK}}$ . |
| ESOW, SSOW | The mean and standard deviation of sorties per week, $\overline{\text{SOR}/\text{WK}}$ and $\sigma_{\text{SOR}/\text{WK}}$ .    |

|            |   |
|------------|---|
| ELDW, SLDW | The mean and standard deviation of landings per week, $\overline{\text{LDG/WK}}$ and $\sigma_{\text{LDG/WK}}$ . |
| AIES       | The number of accidents, incidents, and EUMRs per sortie, $N_{\text{AIE/SOR}}$ .                                |

The appropriate values for the current program can be obtained from the analysis of the effect of time after an inspection. Each of these utilization variables is correlated with time after a periodic inspection. The values obtained from the regression lines at a time approximately half-way between periodics can be taken as mean values independent of time. The corresponding standard deviation is the standard deviation of the regression obtained from the regression analysis.

At point A in Figure 5-2 (Sheet 2), the distribution  $P_{\text{WK}/\Delta}$  for  $\Delta I$  in weeks is derived for the cases in which the time base for  $\Delta I$  is flight hours, sorties, or landings. For  $\Delta I$  input in flying hours, for example:

$$P_{\text{WK}/\Delta}(C) = \Pr \{ \text{No. wks } \in \Delta I \leq C \}$$

The distribution of flight hours per week is taken to be given by an Erlang distribution; hence, for Block 14 in Figure 5-2:

$$P_{\text{W}}(C) = \frac{\lambda \Delta I}{C^2} e^{-\left(\frac{\lambda \Delta I}{C}\right)} \left[ \frac{(\lambda \Delta I / C)^{k-1}}{(k-1)} \right],$$

where

$$\lambda = \frac{\overline{\text{FH/WK}}}{\sigma_{\text{FH/WK}}^2}$$

and

$$k = \left[ \lambda \cdot \overline{\text{FH/WK}} \right] \text{ are obtained in Block 13.}$$

Here  $[a]$  indicates the greatest integer less than  $a$ . Values for  $p$  are actually calculated for  $k$  and  $k+1$ . The final result is found by interpolating between these results. This same procedure is used for all Erlang distribution calculations in the model.

The same distribution is used when  $\Delta I$  is in sorties or landings, with  $\lambda$  and  $k$  being calculated in Blocks 17a or 17b.

To determine the number of basic postflights and preflights, the number of sorties in  $\Delta I$  must be determined. For  $\Delta I$  in flying hours or landings,  $P_{\text{WK}/\Delta}$  is first obtained as above and the distribution for the number of sorties in  $\Delta I$  is calculated in Block 15.

Taking both flight hours per week and sorties per week to have Erlang distribution, one obtains

$$P_{\text{SOR}/\Delta}(s) = \Pr \{ \text{No. sorties } \epsilon \Delta I \leq s \}$$

$$= 1 - \left[ \frac{\Delta I \lambda_2}{\Delta I \lambda_2 + s \lambda_1} \right]^{k_2} \sum_{j=0}^{k_1-1} \left[ \left[ \frac{\lambda_1 s}{\Delta I \lambda_2 + s \lambda_1} \right]^j \frac{(k_2 + j - 1)!}{j! (k_2 - 1)!} \right]$$

where  $\lambda_1 = \overline{\text{SOR}/\text{WK}} / \sigma_{\text{SOR}/\text{WK}}^2$

$$k_1 = \left[ \lambda_1 \cdot \overline{\text{SOR}/\text{WK}} \right]$$

$$\lambda_2 = \overline{\text{FH}/\text{WK}} / \sigma_{\text{FH}/\text{WK}}^2$$

$$k_2 = \left[ \lambda_2 \cdot \overline{\text{FH}/\text{WK}} \right]$$

If  $\Delta I$  is in weeks to begin with, then the calculation is simply that of Blocks 5 and 6. The mean and standard deviations of the distribution for the number of basic postflights and preflights are then calculated in Blocks 7 and 8. The mean and standard deviations of the total number of weeks in the maintenance program period are then calculated in Block 10.

Distributions for the number of preflight and basic postflight manhours in  $\Delta I$  are calculated in Block 11. The variance in this case is that of the sum of a variable number of terms and is obtained as follows.

For some variable  $Z$  defined to be:

$$Z \equiv x_1 + x_2 + \dots + x_n$$

Where  $x_i$  and  $n$  both are stochastic variables with  $x_i$  identically distributed, then  $Z$  has the probability distribution:

$$p_Z(u) = \sum_{N=1}^{\infty} p_N(n) p^{*n}(u)$$

where  $p_N(n)$  is the probability distribution for  $n$  and  $p^{*n}$  is the  $n$ th-fold convolution of  $p(x)$ , with  $E(x) = \bar{x}$  and  $\text{Var}(x) = \sigma^2$ .

Then

$$\bar{Z} = E(Z) = \bar{n} \cdot \bar{x}$$



and

$$\begin{aligned}\text{Var}(Z) &= \int_0^{\infty} (u - \bar{Z})^2 p_Z(u) du \\ &= \int_0^{\infty} (u - \bar{Z})^2 \sum_n p_{N^{(n)}} p^{*n}(u) du \\ &= \sum_n p_{N^{(n)}} \int_0^{\infty} (u - \bar{Z})^2 p^{*n}(u) du \\ &= \sum_n p_{N^{(n)}} E(u - \bar{Z})^2 = \sum_n p_{N^{(n)}} E(u - n\bar{x} + n\bar{x} - \bar{Z})^2 \\ &= \sum_n p_{N^{(n)}} E(u - \bar{u} + a)^2\end{aligned}$$

where:

$$a = n\bar{x} - \bar{Z}, \quad \text{and} \quad \bar{u} = n\bar{x}$$

Since:

$$(u - \bar{u} + a)^2 = (u - \bar{u})^2 + 2a(u - \bar{u}) + a^2$$

we have:

$$\begin{aligned}E(u - \bar{u} + a)^2 &= E(u - \bar{u})^2 + 2a E(u - \bar{u}) + a^2 \\ &= \text{Var}(u) + a^2\end{aligned}$$

Hence:

$$\begin{aligned}\text{Var}(Z) &= \sum_n p_{N^{(n)}} \left[ \text{Var} \left( \sum_i^n x_i \right) + (n\bar{x} - \bar{Z})^2 \right] \\ &= \sum_n p_{N^{(n)}} \left[ n\sigma^2 + (n\bar{x} - \bar{Z})^2 \right]\end{aligned}$$

This reduces to:

$$\text{Var}(Z) = \bar{n}\sigma^2 + \sigma_n^2 \bar{x}^2$$

Applying this result in Block 11, the equations are as shown there for the variance of preflight and basic postflight manhours in  $\Delta I$ . This result is also used in Block 12 when the mean and variance of flight hours in  $\Delta I$  are computed.

At Point B in Figure 5-2 (Sheet 2), the distributions of special inspection manhours and NORM hours in  $\Delta I$  are derived.

The first step at Block 19 is to obtain the distribution  $P \Delta I_{SW}$  for the special inspection interval  $\Delta I_{SW}$  in weeks if the interval is specified in flying hours instead.

Using Erlang distributions for flight hours per week and the special inspection interval in flying hours, the distribution for the interval in weeks is given by the equation in Block 19b:

$$P_{\Delta I_{SW}}(C) = (\lambda_{SP} C)^{k_{SP}} \sum_{j=0}^{k_{FW}-1} \frac{(k_{SP}+j-1)!}{[(j!)(k_{SP}-1)! (\lambda_{FW} + \lambda_{SP} C)^{k_{SP}+j}]}$$

where  $\lambda_{SP}$ ,  $k_{SP}$ ,  $\lambda_{FW}$ , and  $k_{FW}$  are given by Block 19a:

$$\lambda_{SP} = \overline{\Delta I_{SP}}(I) / \sigma_{\Delta I_{SP}}^2(I)$$

$$k_{SP} = \lambda_{SP} \cdot \overline{\Delta I_{SP}}(I)$$

$$\lambda_{FW} = \overline{FH/WK} / \sigma_{FH/WK}^2$$

$$k_{FW} = \lambda_{FW} \cdot \overline{FH/WK}$$

The next step is to determine the distribution for the number of special inspections of Type I in  $\Delta I$ , the inspection interval, in Block 22 of Figure 5-2. This distribution is derived as follows.

$$\begin{aligned} P_{NSPC}(n) &= \Pr \{ \text{No. inspections in } \Delta I = n \} \\ &= \Pr \{ \text{No. inspections in } \Delta I < n+1 \} - \Pr \{ \text{No. inspections in } \Delta I < n \} \end{aligned}$$

The two probability distributions on the right are derived by determining the probability that the total time for  $n$  or  $n+1$  inspections exceeds  $\Delta I$ ; that is:

$$\begin{aligned} \Pr \{ \text{No. inspections in } \Delta I < n \} &= \sum_C \Pr \left\{ \sum_{I=1}^n \Delta I_{SW}(I) > C \right\} \cdot \Pr \{ \Delta I = C \} \\ &= \sum_C \left[ 1 - \Pr \left\{ \sum_{I=1}^n \Delta I_{SW}(I) \leq C \right\} \right] \Pr \{ \Delta I = C \} \end{aligned}$$

The first distribution on the right is the n-fold convolution of the distribution for  $\Delta I_{SW}(I)$  which, as above, can be assumed normal. The second distribution on the right above is obtained from  $p_{WK/\Delta}$ . Hence:

$$\Pr \{ \text{No. inspections in } \Delta I < n \} = \sum_C \left[ 1 - \eta(C; n \overline{\Delta I_{SW}}, \sqrt{n} \sigma_{\Delta I_{SW}}) \right] p_{WK/\Delta}^{(C)}$$

Consequently, the distribution for the number of Type I special inspections in  $\Delta I$  is:

$$P_{NSPC}^{(n)} = \sum_C \left[ \eta(C; n \overline{\Delta I_{SW}}, \sqrt{n} \sigma_{\Delta I_{SW}}) - \eta(C; (n+1) \overline{\Delta I_{SW}}, \sqrt{n+1} \sigma_{\Delta I_{SW}}) \right] \cdot p_{WK/\Delta}^{(C)}$$

The means and variances for manhours and NORM hours for special inspections of Type I in  $\Delta I$  are calculated in Blocks 23 and 24.

After these calculations are completed for each type of special inspection, the distributions for the total manhours and NORM hours in all special inspections are calculated in Blocks 21 and 25. This completes the evaluation of the special inspections.

At Point C in Figure 5-2 (Sheet 3), the NORS hours-per-week rates for the WUC sets are summed to obtain an aircraft-level rate.

The next step is to calculate unscheduled maintenance manhours and NORM hours in  $\Delta I$ . Starting at Block 30, the expected number of unscheduled maintenance actions in  $\Delta I$  for WUC set K is calculated from the unscheduled maintenance action frequency  $N_{uma}/TM(I, K, TM)$ . The expected number and variance of manhours and NORM hours in  $\Delta I$  are given by equations similar to those used for preflight and basic postflight manhours. That is, Block 34 gives:

$$\overline{MH}_{uma}(I, K, \Delta I) = \overline{MH}/uma(K) \cdot \overline{N}_{uma}(I, K, \Delta I)$$

For the variance, the equation is somewhat simplified, since the mean and variance of the number of unscheduled maintenance actions are equal. Hence:

$$\sigma_{MH_{uma}}^2(I, K, \Delta I) = \overline{N}_{uma}(I, K, \Delta I) \left[ \sigma_{MH/uma}^2(K) + (\overline{MH}/uma(K))^2 \right]$$

In Block 37, similar equations for unscheduled NORM hours are used.

In Blocks 31 and 33, the distributions for total unscheduled manhours and NORM hours in  $\Delta I$  are calculated by summing over the WUC sets.

The aborts-per-sortie rate at the aircraft level is calculated in Block 35 as a function of time (TM) after inspection package Type I by summing the WUC set rates. Then the average rate in  $\Delta I$  is calculated in Block 38.

In Block 39, an aircraft "failures" per sortie rate is calculated by combining the abort and AIE rates. From this rate, the dependability  $D(I)$  following inspection package Type I is calculated as the probability that a "failure" does not occur in the sortie:

$$D(I) = \exp \{ - \text{FAIL}/\text{SOR}(I) \}$$

In Block 42, the distribution of total manhours in an inspection interval for consecutive inspection package Types I and J is calculated by adding the means and variances of manhours for unscheduled maintenance, special inspections, preflight and postflight inspections, and inspection package manhours.

The distribution of total NORM hours in an I, J interval is calculated similarly in Block 40. The derivation of the distribution of total NOR hours in  $\Delta I$  is somewhat more complicated in that NORS depends on the total calendar time for the interval. So, in the equation for  $\text{NOR}/\Delta (I, J)$  in Block 36, the total of weeks per  $\Delta I$  and elapsed time for the inspection package is multiplied by the NORS/WK rate for the aircraft.

The distribution for the total calendar time in the interval, calculated in Block 32, is similar in that the NORS hours accumulated during the inspection provide an additional term in the equations for CT and  $\sigma_{CT}^2$ .

In Blocks 28 and 29, the distribution for availability is calculated in a manner similar to that used in Block 19 for the special inspections. Thus:

$$P_{A_V}(a) = \frac{\lambda_C^{k_C}}{(k_C - 1)!} \sum_{j=0}^{k_N - 1} \left[ \frac{(\lambda_N(1-a))^j}{(\lambda_N(1-a) + \lambda_C)^{k_C + j}} \cdot \frac{(k_C + j - 1)!}{j! (k_C - 1)!} \right]$$

The distribution for effectiveness, E, is easily obtained from this result, since:

$$E = A_V \cdot D(I)$$

and  $D(I)$  is not a stochastic variable. Therefore, in Block 26:

$$\begin{aligned} P_E(e, I, J) &= \Pr \{ E \leq e \} = \Pr \{ A_V \cdot D(I) \leq e \} \\ &= \Pr \{ A_V \leq e/D(I) \} = P_{A_V} \left( \frac{e}{D(I)}, I, J \right) \end{aligned}$$

At Point D in Figure 5-2 (Sheet 4), the calculations described above are completed for all I, J values and results for the maintenance program period are obtained.

In Block 43, the distribution for the total manhours in M. P. is calculated by summing the means and variances of the manhours in  $\Delta I$  over all I and J.

The derivation of the distributions for manhours per year and flight hour and for NOR/HR in the maintenance program period is complicated by the need to add in the elapsed time for NORM and NORS to obtain the total calendar time. If these totals are represented by CT/MP in Blocks 46, 47, and 48, then the distributions are obtained as follows. In Block 47:

$$P_{MH/YR}^{(mh)} = \Pr \{MH/YR \leq mh\} = \Pr \left\{ \frac{MH/MP}{CT/MP} \leq mh \right\}$$

$$= \Pr \{MH/MP - (mh)(CT/MP) \leq 0\}$$

The mean and variance of the expression in the brackets are

$$m = \overline{MH/MP} - (mh) \overline{CT/MP}$$

$$\sigma^2 = \sigma_{MH/MP}^2 + (mh)^2 \sigma_{CT/MP}^2$$

and the result is given by the cumulative normal:

$$P_{MH/YR}^{(mh)} = \eta (0; m, \sigma)$$

The distributions for MH/FH and NOR/HR in Blocks 46 and 48 are obtained similarly.

In Blocks 49 and 50, dependability and effectiveness of M. P. as functions of  $\Delta I$  are calculated as time averages over the maintenance program period. As the last step in the program, the maintenance program parameters are output in Block 51.

A sample input data deck listing for the effectiveness model run is shown in Figure 5-3.

```

9999
SAMPLE RUN - INPUT DATA BASED ON RESULTS FOR 11 NON-150 AIRCRAFT SAMPLE
0.00000 2.00000 3.02000 1.05200 3.02000 1.00000 0.00709
0.79000 1.92000 0.00000 2.70000 0.00000
6 2 3 4
25.00000 30.00000 35.00000 40.00000 45.00000 50.00000
1 2
03.20000 26.70000 0.00000 0.00000 0.00000
0.00161 0.00002 0.00000 0.00000 0.00000
0.00000 0.00000 0.00000 0.00000
0.01400 -0.00002 0.00000 0.00000
0.24410 -0.00336 0.00000 0.00000 0.00000
1.00000 1.00000 1.00000 1.00000
.00000 .00000 .00744 .12209
10
03.20000 26.70000 0.00000 0.00000 0.00000
0.02032 -0.00030 0.00000 0.00000 0.00000
0.01006 -0.00030 0.00000 0.00000 0.00000
0.09396 -0.00159 0.00000 0.00000 0.00000
0.10571 -0.00106 0.00000 0.00000 0.00000
1.00000 1.00000 1.00000 1.00000
.01016 .00933 .04690 .05203
0 10
033.90000 017.00000 219.70000 5.00000 261.30000
30.90000 39.40000 21.90000 0.33000 30.70000
0.02016 -0.00030
0.01042 -0.00030
0.01011 -0.00159
0.29232 -0.01103 0.00000 0.00000 0.00000
3.00000 3.00000 3.00000 1.00000
.01000 .00921 .00996 .14614
1.10000 0.80000 5.00000 14.50000 0.00190
3.50000 3.97000 13.30000 19.70000 0.27100
0.00000 7.70000 3.30000 5.00000 0.16000
1.70000 1.60000 0.00000 0.00000 0.00000
7.70000 0.00000 0.00000 0.00000 50.00000 25.00000 0
11.30000 15.00000 0.00000 0.00000 15.00000 10.10000 0
0.00000 7.20000 0.00000 0.00000 29.00000 63.00000 0
3.50000 0.10000 0.00000 0.00000 05.70000 05.30000 0
9999

```

Figure 5-3. Sample Data — Effectiveness Model

5.2.4 OUTPUT DESCRIPTION. As a result of the evaluation process, the impact of the maintenance program alternative is described by basically two measures: effectiveness and direct organizational manhours as functions of the length of the interval,  $\Delta I$ , between consecutive inspection packages. Typically, these functions are as shown in Figure 5-4.



Figure 5-4. Typical Effectiveness Model Outputs

The solid-line curves are mean values of the functions; statistical variation in the function is indicated by dashed lines. The interval of variation of  $\Delta I$  is constrained by data variability and by maintainability characteristics of the aircraft. These functions make it possible to select a  $\Delta I$  interval that most probably maximizes effectiveness and minimizes cost within the constraints imposed.

A sample output is shown in Figure 5-5 for a run requiring six minutes on the IBM 370.

SAMPLE RUN - INPUT DATA BASED ON RESULTS FOR 11 NON-ISO AIRCRAFT SAMPLE

|          | MEAN   | STD DEV |
|----------|--------|---------|
| FH/WK    | 4.8800 | 2.0000  |
| SOR/WK   | 3.0200 | 1.0520  |
| LOG/WK   | 3.0300 | 1.0460  |
| MH/PP    | 1.9200 | 0.0     |
| MH/SPU   | 2.7400 | 0.0     |
| R        | 0.7900 |         |
| AIFS/SOR | 0.0073 |         |

SCHEDULED INSPECTION DATA

| I | J | MANHOURS<br>MEAN | STD DEV | A        | NORM   | B        | STD DEV | NO. INSP |
|---|---|------------------|---------|----------|--------|----------|---------|----------|
| 1 | 1 | 43.2000          | 26.7000 | 0.0      | 0.0    | 0.0      | 0.0     | 2        |
| 2 | 1 | 43.2000          | 26.7000 | 0.0      | 0.0    | 0.0      | 0.0     | 10       |
| 3 | 1 | 43.2000          | 26.7000 | 219.7000 | 5.0000 | 261.9998 | 0.0     | 2        |
| 3 | 2 | 30.9000          | 39.4000 | 21.9000  | 0.3300 | 38.7000  | 0.0     | 10       |

WORK UNIT QUEUE SET DATA

| I | K  | A       | UMA      | B       | SS  | A   | ABORTS | R   |
|---|----|---------|----------|---------|-----|-----|--------|-----|
| 1 | 1  | 0.00161 | 0.00002  | 0.00080 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 2  | 0.0     | 0.0      | 0.0     | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 3  | 0.01448 | -0.00002 | 0.00744 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 4  | 0.24418 | -0.00336 | 0.12209 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 5  | 0.02032 | -0.00010 | 0.01016 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 6  | 0.01866 | -0.00030 | 0.00933 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 7  | 0.09396 | -0.00159 | 0.04698 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 8  | 0.10571 | -0.00182 | 0.05285 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 9  | 0.02016 | -0.00010 | 0.01008 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 10 | 0.01842 | -0.00010 | 0.00921 | 0.0 | 0.0 | 0.0    | 0.0 |
| 1 | 11 | 0.01811 | -0.00159 | 0.00906 | 0.0 | 0.0 | 0.0    | 0.0 |
| 3 | 4  | 0.29232 | -0.01105 | 0.14616 | 0.0 | 0.0 | 0.0    | 0.0 |

Figure 5-5. Sample Output - Effectiveness Model (Sheet 1)

| K | MH/UMA |         | NORM/UMA |         | NORS/WK |
|---|--------|---------|----------|---------|---------|
|   | MEAN   | STD DEV | MEAN     | STD DEV |         |
| 1 | 1.1000 | 0.8400  | 5.0000   | 14.5000 | 0.0019  |
| 2 | 3.5000 | 3.9700  | 13.3000  | 19.7000 | 0.2710  |
| 3 | 8.2000 | 7.7400  | 3.3000   | 5.4000  | 0.1600  |
| 4 | 1.7000 | 1.6400  | 2.8000   | 6.8000  | 0.0980  |

**SPECIAL INSPECTION DATA**

| J | MANHOURS |         | NORM |         | INTERVAL |         | KIS |
|---|----------|---------|------|---------|----------|---------|-----|
|   | MEAN     | STD DEV | MEAN | STD DEV | MEAN     | STD DEV |     |
| 1 | 7.7000   | 6.6500  | 0.0  | 0.0     | 50.0000  | 25.8000 | 2   |
| 2 | 11.3000  | 13.5200 | 0.0  | 0.0     | 13.9000  | 14.1000 | 2   |
| 3 | 6.8000   | 7.2300  | 0.0  | 0.0     | 29.8000  | 63.8000 | 2   |
| 4 | 3.5000   | 9.1000  | 0.0  | 0.0     | 25.7000  | 25.3000 | 2   |

**INTERVAL RESULTS**

INTERVAL = 25.

| WEEKS                     | MEAN    | STD DEV |
|---------------------------|---------|---------|
| PREFLIGHT MANHOURS        | 31.30   | 18.28   |
| BASIC POSTFLIGHT MANHOURS | 36.54   | 33.83   |
| SPEC. INSPECTION MANHOURS | 27.66   | 32.38   |
| SPEC. INSPECTION NORM     | 0.0     | 0.0     |
| NO. OF UNSCHED. ACTIONS   |         |         |
| I = 1                     | 4.42    |         |
| I = 2                     | 3.43    |         |
| I = 3                     | 4.26    |         |
| UNSCHE. MANHOURS          |         |         |
| I = 1                     | 9.81    | 8.26    |
| I = 2                     | 14.96   | 13.75   |
| I = 3                     | 8.93    | 7.40    |
| UNSCHE. NORM              |         |         |
| I = 1                     | 12.66   | 15.60   |
| I = 2                     | 13.93   | 19.17   |
| I = 3                     | 14.41   | 18.89   |
| TOTAL MANHOURS            |         |         |
| I = 1 J = 1               | 168.51  | 57.05   |
| I = 2 J = 1               | 175.66  | 58.10   |
| I = 3 J = 1               | 558.33  | 420.02  |
| I = 1 J = 2               | 155.33  | 63.88   |
| TOTAL NORM                |         |         |
| I = 1 J = 1               | 15.94   | 15.69   |
| I = 2 J = 1               | 17.21   | 16.94   |
| I = 3 J = 1               | 363.47  | 261.99  |
| I = 1 J = 2               | 47.93   | 43.10   |
| EFFECTIVENESS             |         |         |
| I = 1 J = 1               | 0.98613 | 0.02734 |
| I = 2 J = 1               | 0.98105 | 0.03832 |
| I = 3 J = 1               | 0.71247 | 0.25220 |
| I = 1 J = 2               | 0.95489 | 0.07635 |
| DEPLNABILITY              |         |         |
| I = 1                     | 0.99274 |         |
| I = 2                     | 0.99574 |         |
| I = 3                     | 0.99274 |         |

INTERVAL = 30.

| WEEKS                     | MEAN   | STD DEV |
|---------------------------|--------|---------|
| PREFLIGHT MANHOURS        | 38.95  | 31.90   |
| BASIC POSTFLIGHT MANHOURS | 68.75  | 38.35   |
| SPEC. INSPECTION MANHOURS | 32.25  | 31.85   |
| SPEC. INSPECTION NORM     | 0.0    | 0.0     |
| NO. OF UNSCHED. ACTIONS   |        |         |
| I = 1                     | 4.80   |         |
| I = 2                     | 3.62   |         |
| I = 3                     | 5.20   |         |
| UNSCHE. MANHOURS          |        |         |
| I = 1                     | 10.90  | 8.87    |
| I = 2                     | 15.64  | 14.03   |
| I = 3                     | 10.92  | 8.19    |
| UNSCHE. NORM              |        |         |
| I = 1                     | 13.79  | 16.29   |
| I = 2                     | 14.64  | 16.64   |
| I = 3                     | 18.12  | 21.54   |
| TOTAL MANHOURS            |        |         |
| I = 1 J = 1               | 190.05 | 63.64   |
| I = 2 J = 1               | 194.70 | 64.56   |
| I = 3 J = 1               | 580.78 | 420.97  |
| I = 1 J = 2               | 177.78 | 65.84   |

Figure 5-5. Sample Output - Effectiveness Model (Sheet 2)

|                           |   |     |   |         |           |
|---------------------------|---|-----|---|---------|-----------|
| TOTAL NOR                 |   |     |   |         |           |
| I =                       | 1 | J = | 1 | 17.72   | 16.41     |
| I =                       | 2 | J = | 1 | 18.57   | 19.74     |
| I =                       | 3 | J = | 1 | 392.91  | 262.20    |
| I =                       | 3 | J = | 2 | 53.95   | 44.34     |
| EFFECTIVENESS             |   |     |   |         |           |
| I =                       | 1 | J = | 1 | 0.98716 | 0.02455   |
| I =                       | 2 | J = | 1 | 0.98482 | 0.03034   |
| I =                       | 3 | J = | 1 | 0.73207 | 0.23455   |
| I =                       | 3 | J = | 2 | 0.95866 | 0.06848   |
| DEPENDABILITY             |   |     |   |         |           |
| I =                       | 1 |     |   | 0.99274 |           |
| I =                       | 2 |     |   | 0.99274 |           |
| I =                       | 3 |     |   | 0.99274 |           |
| INTERVAL = 35.            |   |     |   |         |           |
| WEEKS                     |   |     |   | MEAN    | STD. DEV. |
|                           |   |     |   | 8.64    | 4.39      |
| PRELIGHT MANHOURS         |   |     |   | 42.60   | 25.50     |
| BASIC POSTLIGHT MANHOURS  |   |     |   | 76.98   | 46.06     |
| SPEC. INSPECTION MANHOURS |   |     |   | 36.97   | 37.24     |
| SPEC. INSPECTION NORM     |   |     |   | 0.0     | 0.0       |
| NO. OF UNSCHED. ACTIONS   |   |     |   |         |           |
| I =                       | 1 |     |   | 5.01    |           |
| I =                       | 2 |     |   | 4.18    |           |
| I =                       | 3 |     |   | 6.11    |           |
| UNSCHED. MANHOURS         |   |     |   |         |           |
| I =                       | 1 |     |   | 11.69   | 5.38      |
| I =                       | 2 |     |   | 18.16   | 15.14     |
| I =                       | 3 |     |   | 12.81   | 8.86      |
| UNSCHED. NORM             |   |     |   |         |           |
| I =                       | 1 |     |   | 14.45   | 16.69     |
| I =                       | 2 |     |   | 19.73   | 20.83     |
| I =                       | 3 |     |   | 21.42   | 23.55     |
| TOTAL MANHOURS            |   |     |   |         |           |
| I =                       | 1 | J = | 1 | 211.41  | 70.42     |
| I =                       | 2 | J = | 1 | 217.88  | 71.41     |
| I =                       | 3 | J = | 1 | 603.24  | 422.05    |
| I =                       | 3 | J = | 2 | 200.24  | 76.08     |
| TOTAL NOR                 |   |     |   |         |           |
| I =                       | 1 | J = | 1 | 19.02   | 16.85     |
| I =                       | 2 | J = | 1 | 21.31   | 20.96     |
| I =                       | 3 | J = | 1 | 421.95  | 262.37    |
| I =                       | 3 | J = | 2 | 59.56   | 45.36     |
| EFFECTIVENESS             |   |     |   |         |           |
| I =                       | 1 | J = | 1 | 0.98821 | 0.02171   |
| I =                       | 2 | J = | 1 | 0.98674 | 0.02579   |
| I =                       | 3 | J = | 1 | 0.74692 | 0.21913   |
| I =                       | 3 | J = | 2 | 0.96216 | 0.06136   |
| DEPENDABILITY             |   |     |   |         |           |
| I =                       | 1 |     |   | 0.99274 |           |
| I =                       | 2 |     |   | 0.99274 |           |
| I =                       | 3 |     |   | 0.99274 |           |
| INTERVAL = 40.            |   |     |   |         |           |
| WEEKS                     |   |     |   | MEAN    | STD. DEV. |
|                           |   |     |   | 35.87   | 5.62      |
| PRELIGHT MANHOURS         |   |     |   | 87.22   | 32.98     |
| BASIC POSTLIGHT MANHOURS  |   |     |   | 87.22   | 32.98     |
| SPEC. INSPECTION MANHOURS |   |     |   | 48.76   | 38.80     |
| SPEC. INSPECTION NORM     |   |     |   |         |           |
| NO. OF UNSCHED. ACTIONS   |   |     |   |         |           |
| I =                       | 1 |     |   | 5.54    |           |
| I =                       | 2 |     |   | 4.77    |           |
| I =                       | 3 |     |   | 6.98    |           |
| UNSCHED. MANHOURS         |   |     |   |         |           |
| I =                       | 1 |     |   | 13.03   | 9.95      |
| I =                       | 2 |     |   | 20.76   | 16.19     |
| I =                       | 3 |     |   | 14.64   | 9.48      |
| UNSCHED. NORM             |   |     |   |         |           |
| I =                       | 1 |     |   | 16.01   | 17.59     |
| I =                       | 2 |     |   | 19.12   | 22.27     |
| I =                       | 3 |     |   | 24.48   | 25.17     |
| TOTAL MANHOURS            |   |     |   |         |           |
| I =                       | 1 | J = | 1 | 231.39  | 77.35     |
| I =                       | 2 | J = | 1 | 341.13  | 78.19     |
| I =                       | 3 | J = | 1 | 624.71  | 423.26    |
| I =                       | 3 | J = | 2 | 222.71  | 82.54     |

Figure 5-5. Sample Output - Effectiveness Model (Sheet 3)



AD-A045 625

GENERAL DYNAMICS SAN DIEGO CALIF CONVAIR AEROSPACE DIV  
F-106 SCHEDULED MAINTENANCE STUDY. USER'S MANUAL, (U)  
SEP 72 G WANG, R S GROTE, J R COOPER

F/G 1/5

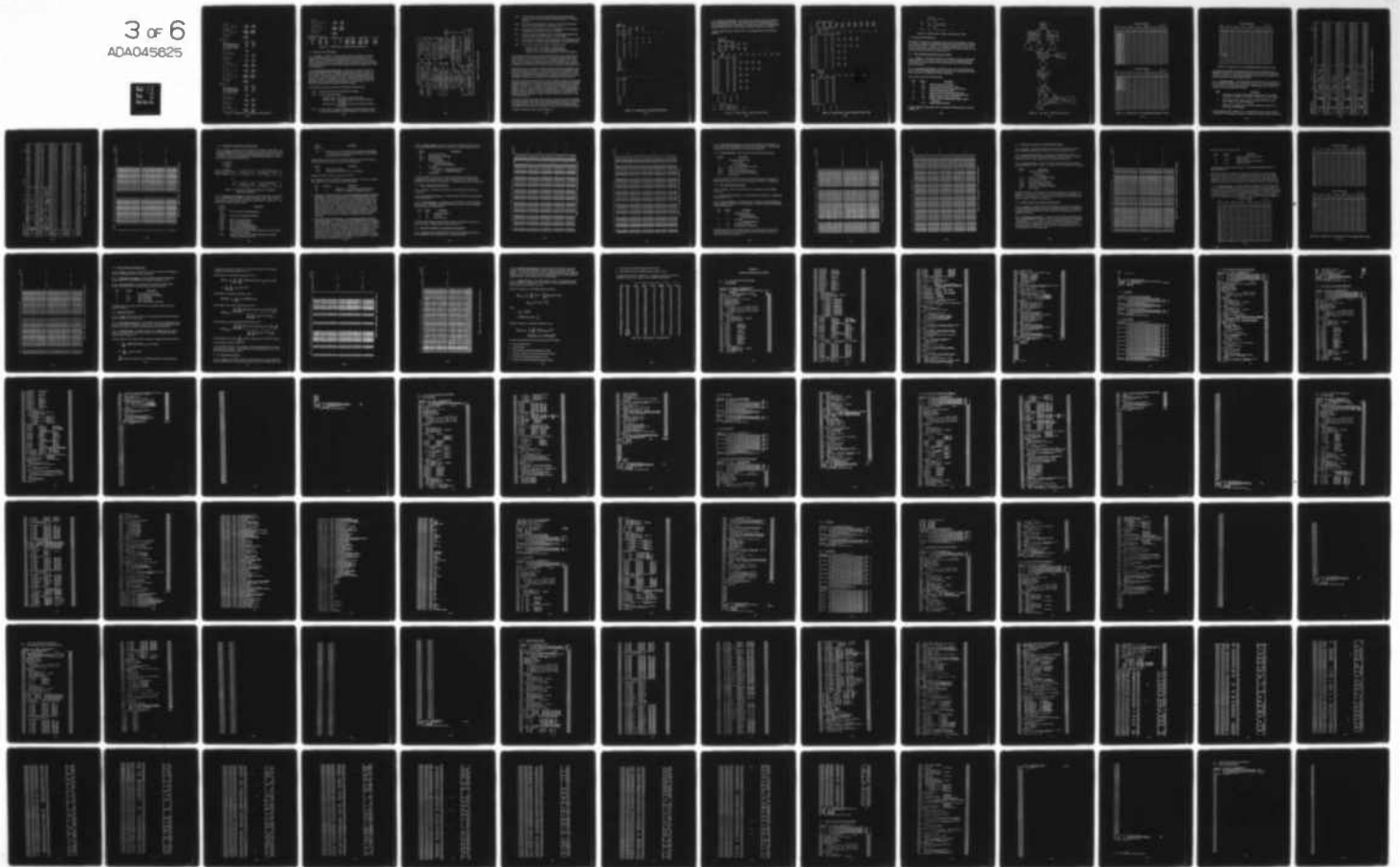
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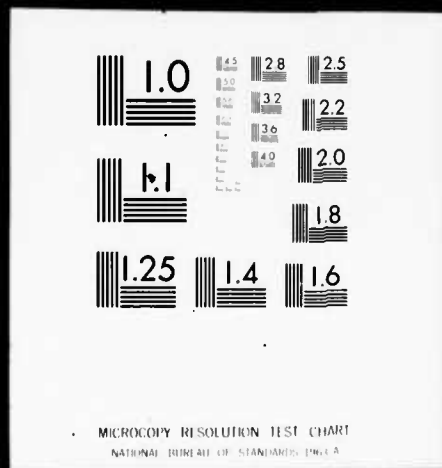
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| TOTAL NUM     |       |  |  |         |         |
|---------------|-------|--|--|---------|---------|
| I = 1         | J = 1 |  |  | 21.26   | 17.79   |
| I = 2         | J = 1 |  |  | 24.36   | 22.43   |
| I = 3         | J = 1 |  |  | 450.75  | 262.52  |
| I = 1         | J = 2 |  |  | 64.93   | 46.24   |
| EFFECTIVENESS |       |  |  |         |         |
| I = 1         | J = 1 |  |  | 0.98866 | 0.02026 |
| I = 2         | J = 1 |  |  | 0.98686 | 0.01329 |
| I = 3         | J = 1 |  |  | 0.75858 | 0.24190 |
| I = 1         | J = 2 |  |  | 0.96539 | 0.03524 |
| DEPENDABILITY |       |  |  |         |         |
| I = 1         | J = 1 |  |  | 0.99274 |         |
| I = 2         | J = 1 |  |  | 0.99274 |         |
| I = 3         | J = 1 |  |  | 0.99274 |         |

INTERVAL = 45.

|                           |       |  |  | MEAN    | STD DEV |
|---------------------------|-------|--|--|---------|---------|
| WEEKS                     |       |  |  | 11.81   | 5.64    |
| PREFLIGHT MANHOURS        |       |  |  | 53.89   | 32.66   |
| BASIC POSTFLIGHT MANHOURS |       |  |  | 97.35   | 58.46   |
| SPEC. INSPECTION MANHOURS |       |  |  | 46.62   | 41.84   |
| NORM                      |       |  |  | 0.0     | 0.0     |
| NO. OF UNSCHED. ACTIONS   |       |  |  |         |         |
| I = 1                     | J = 1 |  |  | 6.24    |         |
| I = 2                     | J = 1 |  |  | 5.37    |         |
| I = 3                     | J = 1 |  |  | 7.85    |         |
| UNSCHED. MANHOURS         |       |  |  |         |         |
| I = 1                     | J = 1 |  |  | 14.62   | 10.53   |
| I = 2                     | J = 1 |  |  | 23.35   | 17.17   |
| I = 3                     | J = 1 |  |  | 16.47   | 10.05   |
| UNSCHED. NORM             |       |  |  |         |         |
| I = 1                     | J = 1 |  |  | 18.02   | 18.68   |
| I = 2                     | J = 1 |  |  | 21.51   | 23.62   |
| I = 3                     | J = 1 |  |  | 27.54   | 26.70   |
| TOTAL MANHOURS            |       |  |  |         |         |
| I = 1                     | J = 1 |  |  | 255.09  | 84.36   |
| I = 2                     | J = 1 |  |  | 264.42  | 62.44   |
| I = 3                     | J = 1 |  |  | 648.24  | 424.60  |
| I = 1                     | J = 2 |  |  | 245.24  | 86.14   |
| TOTAL NUM                 |       |  |  |         |         |
| I = 1                     | J = 1 |  |  | 23.92   | 18.92   |
| I = 2                     | J = 1 |  |  | 27.40   | 23.81   |
| I = 3                     | J = 1 |  |  | 474.54  | 262.68  |
| I = 1                     | J = 2 |  |  | 70.30   | 47.11   |
| EFFECTIVENESS             |       |  |  |         |         |
| I = 1                     | J = 1 |  |  | 0.98845 | 0.01124 |
| I = 2                     | J = 1 |  |  | 0.98706 | 0.02445 |
| I = 3                     | J = 1 |  |  | 0.76867 | 0.19273 |
| I = 1                     | J = 2 |  |  | 0.96725 | 0.02240 |
| DEPENDABILITY             |       |  |  |         |         |
| I = 1                     | J = 1 |  |  | 0.99274 |         |
| I = 2                     | J = 1 |  |  | 0.99274 |         |
| I = 3                     | J = 1 |  |  | 0.99274 |         |

INTERVAL = 50.

|                           |       |  |  | MEAN   | STD DEV |
|---------------------------|-------|--|--|--------|---------|
| WEEKS                     |       |  |  | 12.34  | 6.27    |
| PREFLIGHT MANHOURS        |       |  |  | 59.23  | 38.18   |
| BASIC POSTFLIGHT MANHOURS |       |  |  | 107.54 | 65.33   |
| SPEC. INSPECTION MANHOURS |       |  |  | 51.52  | 44.06   |
| NORM                      |       |  |  | 0.0    | 0.0     |
| NO. OF UNSCHED. ACTIONS   |       |  |  |        |         |
| I = 1                     | J = 1 |  |  | 6.93   |         |
| I = 2                     | J = 1 |  |  | 5.97   |         |
| I = 3                     | J = 1 |  |  | 8.73   |         |
| UNSCHED. MANHOURS         |       |  |  |        |         |
| I = 1                     | J = 1 |  |  | 16.21  | 11.07   |
| I = 2                     | J = 1 |  |  | 25.95  | 18.10   |
| I = 3                     | J = 1 |  |  | 18.30  | 10.59   |
| UNSCHED. NORM             |       |  |  |        |         |
| I = 1                     | J = 1 |  |  | 20.04  | 19.71   |
| I = 2                     | J = 1 |  |  | 23.90  | 24.90   |
| I = 3                     | J = 1 |  |  | 30.60  | 28.14   |
| TOTAL MANHOURS            |       |  |  |        |         |
| I = 1                     | J = 1 |  |  | 278.01 | 41.41   |
| I = 2                     | J = 1 |  |  | 287.74 | 92.53   |
| I = 3                     | J = 1 |  |  | 670.80 | 426.05  |
| I = 1                     | J = 2 |  |  | 267.80 | 95.84   |

Figure 5-5. Sample Output — Effectiveness Model (Sheet 4)

| MAINTENANCE PROGRAM RESULTS |                    |         |                           |         |                      |         |                    |         |               |
|-----------------------------|--------------------|---------|---------------------------|---------|----------------------|---------|--------------------|---------|---------------|
| INTERVAL (FLIGHT HOURS)     | MANHOURS/YEAR MEAN | STD DEV | MANHOURS/FLIGHT HOUR MEAN | STD DEV | NORM HOURS/HOUR MEAN | STD DEV | EFFECTIVENESS MEAN | STD DEV | DEPENDABILITY |
| 25.                         | 1819.              | 463.    | 8.                        | 2.      | 0.0812               | 0.0297  | 0.9452             | 0.0414  | 0.9927        |
| 30.                         | 1704.              | 410.    | 7.                        | 2.      | 0.0762               | 0.0273  | 0.9531             | 0.0369  | 0.9927        |
| 35.                         | 1627.              | 381.    | 7.                        | 2.      | 0.0726               | 0.0258  | 0.9556             | 0.0333  | 0.9927        |
| 40.                         | 1569.              | 359.    | 7.                        | 2.      | 0.0697               | 0.0248  | 0.9590             | 0.0304  | 0.9927        |
| 45.                         | 1524.              | 342.    | 6.                        | 1.      | 0.0672               | 0.0239  | 0.9608             | 0.0292  | 0.9927        |
| 50.                         | 1488.              | 327.    | 6.                        | 1.      | 0.0649               | 0.0229  | 0.9622             | 0.0275  | 0.9927        |

Figure 5-5. Sample Output — Effectiveness Model (Sheet 5)

### 5.3 NETWORK ANALYSIS MODEL

5.3.1 PURPOSE. NORM hours and maintenance manhours expended in scheduled inspections are calculated by a supporting submodel, the network analysis model (NAM). This is accomplished by developing a network description of the series and parallel organization of the various inspection tasks included in the inspection package. The model then calculates the total manhours involved and the distributions of flow time across the network.

5.3.2 INPUT DATA AND PROCEDURES. The flow chart in Figure 5-6 describes the network analysis process. Three types of input data are read from cards. The first consists of the empirical look-phase manhours and inspection package NORM hours in Step 1 of the block diagram. This data is input for existing inspection packages only. In Step 2, the branch data is read in. This data includes the probability distributions for branch manhours and the span time to manhour ratios, FHR. The third set of input data in Step 3 defines the network structure.

The card deck is composed of nine card sets with the following formats.

- Set 1 One title card (80 characters printed as a heading)
- Set 2 One card with three integers:
  - Columns 1 and 2 — The number of network branches
  - Columns 3 and 4 — The number of points in the empirical NORM distribution
  - Columns 5 and 6 — The number of points in the empirical manhour distribution
- Set 3 As many cards as required to specify the NORM and probability values for all points in the empirical NORM distribution, 10 columns per value.

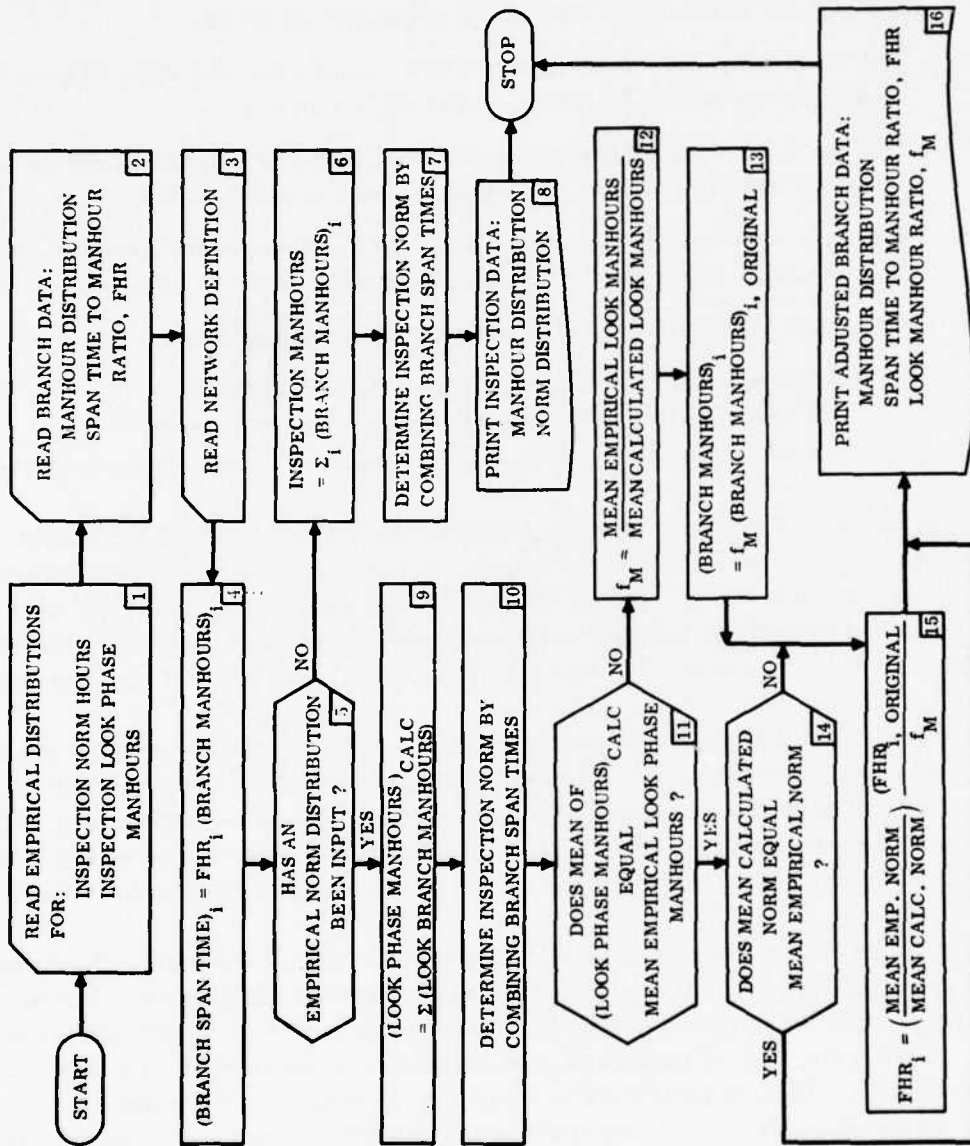


Figure 5-6. Network Analysis Model

- Set 4 As many cards as required to specify the manhours and probability values for all points in the empirical manhour distribution, 10 columns per value.
- Set 5 One card for each 40 branches or lines, with a 0 for each look branch and a 2 for each repair branch, 2 columns per value.
- Set 6 One card for each 8 branches or lines, containing the ratio of span time to manhours for each branch, fields of 10 columns.
- Set 7 One card for each 40 branches or lines, with the number of points used to define branch manhour distribution, in 2-column fields.
- Set 8 As many cards as required to specify the manhours and probability values for all points in the branch manhour distributions, 10 columns per value.
- Set 9 One card for each step in the network reduction process:
  - Columns 1 and 2 - The number of the first branch.
  - Columns 3 and 4 - The number of the second branch.
  - Column 6 - A zero for parallel branches; a 1 for series branches.

If an existing inspection package is being evaluated to scale inspection task manhours and man times, a "Yes" exit is taken at Step 5. If previously adjusted data is being used to predict flowtime and manhours for a new inspection package, a "No" exit is taken at Step 5 and inspection package manhours are accumulated at Step 6, followed by application of NAM to reduce the network at Step 7 to calculate the package flow time.

The reduction of sets of branches to equivalent branches involves the application of two different mathematical techniques. For two branches in series, the probability distribution for the total span time is the distribution for the sum of the span times. This distribution is obtained as the convolution of the individual distributions. For branches in parallel, the span time is the distribution for the maximum over the branches.

Inspection task manhours and span times are scaled in Steps 9 through 15 by calculating inspection package manhours in Step 9, reducing the network by using NAM to calculate the flow time in Step 10, and comparing calculated manhours with empirical manhours in Step 11. The ratio,  $f_M$ , of empirical look manhours to calculated look manhours is adjusted in Step 12. Branch manhours are adjusted in Step 13. When package manhour equality is achieved in Step 11, calculated package NORM hours are compared with empirically derived NORM hours in Step 14 and the spantime-to-manhour ratio, FHR, is calculated in Step 15.

When equality between empirically derived inspection package flow time and calculated flow time is achieved, the analysis of the inspection package is complete. At this point, NAM outputs the final values of the ratios  $f_M$  and FHR so that the adjusted values of task manhours and span times are available for evaluation of a new inspection package.

A listing of a sample data deck is shown in Figure 5-7.

```

9999
SAMPLE CASE 1
11 5 5
0.      3.      4.      4.2      6.
0.      .1      .3      .4      1.
0.      3.      4.      4.2      6.
0.      .1      .5      .8      1.
0 2 0 2 0 2 0 2 0 2 0
1.      1.      1.      1.      .5      1.      .75      1.
.33      1.      1.
2 6.2 6 2 4 2 4 2 4 2
0.      .5
0.      1.
0.      .2      .4      .4      .8      1.
0.      .2      .4      .6      .8      1.
0.      1.
0.      1.
0.      .2      .5      .9      1.4      2.0
0.      .2      .4      .6      .8      1.
0.      1.4
0.      1.
0.      .1      .2      .4
0.      .2      .4      1.
0.      .8
0.      1.
0.      .5      .7      .9
0.      .2      .6      1.
0.      1.5
0.      1.
0.      .2
0.      .4      .8      1.
0.      .8
0.      1.
3 4 1
7 8 1
2 7 1
2 3 0
1 2 1
5 6 1
9 10 1
5 9 0
1 5 1
1 1 1
SAMPLE CASE 2
8
1.      1.      1.      1.      1.      1.
2 2 2 2 2 2 2 2
0.      1.5
0.      1.
0.      3.
0.      1.
0.      4.
0.      1.
0.      5.
0.      1.
0.      6.
0.      1.
0.      3.5
0.      1.
0.      2.
0.      1.
0.      7.
0.      1.
2 3 0
4 5 0
2 4 1
2 7 0
1 2 1
1 6 1
1 8 0
9999

```

Figure 5-7. Sample Data -- Network Analysis Model

5.3.3 OUTPUT DESCRIPTION. Output includes the calculated inspection NORM and manhour distributions, the mean and standard deviations of these distributions, and the corresponding empirical distributions. Primary output consists of revised branch manhour distributions and revised span-time-to-manhour ratios for all branches.

A sample output is shown in Figure 5-8 for a run requiring about one minute on the IBM 370.

```

SAMPLE CASE 1
INPUT DATA
EMPIRICAL INSPECTION NORM
T = 0.0 3.00 4.00 4.20 6.00
P = 0.0 0.10 0.50 0.80 1.00
EMPIRICAL INSPECTION MANHOURS
T = 0.0 3.00 4.00 4.20 6.00
P = 0.0 0.10 0.50 0.80 1.00
BRANCH DATA
NBR = 11
LKF = 0
FHR = 1.00 1.00 1.00 1.00 0.50 1.00 0.75 1.00 0.33 1.00
BRANCH MANHOURS AND SPAN TIMES
TMHI 1,J) = 0.0 0.50
PMHI 1,J) = 0.0 1.00
TMHI 2,J) = 0.0 0.20 0.40 0.60 0.80 1.00
PMHI 2,J) = 0.0 0.20 0.40 0.60 0.80 1.00
TMHI 3,J) = 0.0 1.00
PMHI 3,J) = 0.0 1.00
TMHI 4,J) = 0.0 0.20 0.50 0.90 1.40 2.00
PMHI 4,J) = 0.0 0.20 0.40 0.60 0.80 1.00
TMHI 5,J) = 0.0 1.20
PMHI 5,J) = 0.0 1.00
TMHI 6,J) = 0.0 0.10 0.20 0.40
PMHI 6,J) = 0.0 0.20 0.80 1.00
TMHI 7,J) = 0.0 0.80
PMHI 7,J) = 0.0 1.00
TMHI 8,J) = 0.0 0.50 0.70 0.90
PMHI 8,J) = 0.0 0.20 0.60 1.00
TMHI 9,J) = 0.0 1.50
PMHI 9,J) = 0.0 1.00
TMHI 10,J) = 0.0 0.30 0.40 0.50
PMHI 10,J) = 0.0 0.40 0.80 1.00
TMHI 11,J) = 0.0 0.80
PMHI 11,J) = 0.0 1.00
NETWORK DEFINITION
1 2 3 4 5 6 7 8 9 10 11
1 2 3 4 5 6 7 8 9 10 11
1 2 3 4 5 6 7 8 9 10 11
1 2 3 4 5 6 7 8 9 10 11
OUTPUT DATA
EMPIRICAL INSPECTION NORM
MEAN = 4.36 STANDARD DEVIATION = 0.88
EMPIRICAL INSPECTION MANHOURS
MEAN = 4.36 STANDARD DEVIATION = 0.88

```

Figure 5-8. Sample Output - Network Analysis Model



CALCULATED INSPECTION NORM

|     |      |      |      |      |      |      |      |      |      |      |
|-----|------|------|------|------|------|------|------|------|------|------|
| T = | 0:29 | 2:33 | 2:28 | 2:38 | 2:52 | 2:78 | 2:88 | 3:28 | 3:48 | 3:58 |
| P = | 0:21 | 0:42 | 0:50 | 0:51 | 0:54 | 0:98 | 0:16 | 0:22 | 0:23 | 0:27 |

MEAN = 4.51      STANDARD DEVIATION = 0.45

ADJUSTED BRANCH DATA

|       |      |      |      |      |      |      |      |      |      |      |
|-------|------|------|------|------|------|------|------|------|------|------|
| FM =  | 0.75 |      |      |      |      |      |      |      |      |      |
| FHR = | 1.29 | 1.00 | 1.29 | 1.00 | 0.64 | 1.00 | 0.97 | 1.00 | 0.42 | 1.00 |

ADJUSTED BRANCH MANHOURS AND SPAN TIMES

|              |     |      |      |      |      |      |  |  |  |  |
|--------------|-----|------|------|------|------|------|--|--|--|--|
| TMH( 1,J) =  | 0.0 | 0.38 |      |      |      |      |  |  |  |  |
| PPH( 1,J) =  | 0.0 | 1.00 |      |      |      |      |  |  |  |  |
| TMH( 2,J) =  | 0.0 | 0.20 | 0.40 | 0.60 | 0.80 | 1.00 |  |  |  |  |
| PPH( 2,J) =  | 0.0 | 0.20 | 0.40 | 0.60 | 0.80 | 1.00 |  |  |  |  |
| TMH( 3,J) =  | 0.0 | 0.75 |      |      |      |      |  |  |  |  |
| PPH( 3,J) =  | 0.0 | 1.00 |      |      |      |      |  |  |  |  |
| TMH( 4,J) =  | 0.0 | 0.20 | 0.50 | 0.90 | 1.40 | 2.00 |  |  |  |  |
| PPH( 4,J) =  | 0.0 | 0.20 | 0.40 | 0.60 | 0.80 | 1.00 |  |  |  |  |
| TMH( 5,J) =  | 0.0 | 0.90 |      |      |      |      |  |  |  |  |
| PPH( 5,J) =  | 0.0 | 1.00 |      |      |      |      |  |  |  |  |
| TMH( 6,J) =  | 0.0 | 0.10 | 0.20 | 0.40 |      |      |  |  |  |  |
| PPH( 6,J) =  | 0.0 | 0.20 | 0.80 | 1.00 |      |      |  |  |  |  |
| TMH( 7,J) =  | 0.0 | 0.60 |      |      |      |      |  |  |  |  |
| PPH( 7,J) =  | 0.0 | 1.00 |      |      |      |      |  |  |  |  |
| TMH( 8,J) =  | 0.0 | 0.50 | 0.70 | 0.90 |      |      |  |  |  |  |
| PPH( 8,J) =  | 0.0 | 0.20 | 0.60 | 1.00 |      |      |  |  |  |  |
| TMH( 9,J) =  | 0.0 | 1.13 |      |      |      |      |  |  |  |  |
| PPH( 9,J) =  | 0.0 | 1.00 |      |      |      |      |  |  |  |  |
| TMH( 10,J) = | 0.0 | 0.30 | 0.40 | 0.50 |      |      |  |  |  |  |
| PPH( 10,J) = | 0.0 | 0.40 | 0.80 | 1.00 |      |      |  |  |  |  |
| TMH( 11,J) = | 0.0 | 0.60 |      |      |      |      |  |  |  |  |
| PPH( 11,J) = | 0.0 | 1.00 |      |      |      |      |  |  |  |  |

SAMPLE CASE 2  
INPUT DATA  
BRANCH DATA

|        |      |      |      |      |      |      |      |      |
|--------|------|------|------|------|------|------|------|------|
| NBR =  | 8    | 6    | 0    | 0    | 0    | 0    | 1    | 0    |
| LRFK = | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FHR =  |      |      |      |      |      |      |      |      |

BRANCH MANHOURS AND SPAN TIMES

|             |     |      |  |  |  |  |  |  |  |  |
|-------------|-----|------|--|--|--|--|--|--|--|--|
| TMH( 1,J) = | 0.0 | 1.50 |  |  |  |  |  |  |  |  |
| PPH( 1,J) = | 0.0 | 1.00 |  |  |  |  |  |  |  |  |
| TMH( 2,J) = | 0.0 | 3.00 |  |  |  |  |  |  |  |  |
| PPH( 2,J) = | 0.0 | 1.00 |  |  |  |  |  |  |  |  |
| TMH( 3,J) = | 0.0 | 4.00 |  |  |  |  |  |  |  |  |
| PPH( 3,J) = | 0.0 | 1.00 |  |  |  |  |  |  |  |  |
| TMH( 4,J) = | 0.0 | 5.00 |  |  |  |  |  |  |  |  |
| PPH( 4,J) = | 0.0 | 1.00 |  |  |  |  |  |  |  |  |
| TMH( 5,J) = | 0.0 | 6.00 |  |  |  |  |  |  |  |  |
| PPH( 5,J) = | 0.0 | 1.00 |  |  |  |  |  |  |  |  |
| TMH( 6,J) = | 0.0 | 3.50 |  |  |  |  |  |  |  |  |
| PPH( 6,J) = | 0.0 | 1.00 |  |  |  |  |  |  |  |  |
| TMH( 7,J) = | 0.0 | 2.00 |  |  |  |  |  |  |  |  |
| PPH( 7,J) = | 0.0 | 1.00 |  |  |  |  |  |  |  |  |
| TMH( 8,J) = | 0.0 | 7.00 |  |  |  |  |  |  |  |  |
| PPH( 8,J) = | 0.0 | 1.00 |  |  |  |  |  |  |  |  |

NETWORK DEFINITION

|     |     |     |     |
|-----|-----|-----|-----|
| 1   | 2   | 3   | 4   |
| 1-2 | 2-3 | 3-4 | 4-1 |

Figure 5-8. Sample Output - Network Analysis Model, Contd

```

          OUTPUT DATA
          CALCULATED INSPECTION NORM
T =      0.0      15.00
P =      0.0      1.00
MEAN =    15.00   STANDARD DEVIATION =    0.0

          CALCULATED INSPECTION MANHOURS
T =      0.0      32.00
P =      0.0      1.00
MEAN =    32.00   STANDARD DEVIATION =    0.0

```

Figure 5-8. Sample Output - Network Analysis Model, Contd

#### 5.4 MANHOUR AND NORM DATA

The objective of this task is to generate for each work unit code (WUC) set, the mean and variance of manhours per unscheduled maintenance action and NORM per unscheduled maintenance action. In addition, the programs compute the mean value of span time for a repair action on each WUC set. The logic flow is shown in Figure 5-9, and the individual programs are listed in Paragraph 6.10.

##### 5.4.1 SUM UNSCHEDULED MAINTENANCE ACTIONS

5.4.1.1 Purpose. The purpose of this task is to compute the number of unscheduled maintenance actions, the number of repair actions in hourly postflight inspections, and the number of repair actions in periodic inspections on each WUC by how-mal-function code (HMC).

5.4.1.2 Input Data and Procedures. The input consists of the sorted data bank tape and a deck of cards defining the isochronal aircraft group, the when-discovered codes (WDC), and the hourly postflight and periodic inspections.

The card data deck has the following format.

| <u>Card</u> | <u>Column</u> | <u>Description</u>  |
|-------------|---------------|---|
| a           | 3-5           | Number of Isochronal Aircraft                               |
| b           | 3-10          | Serial Number of Isochronal Aircraft                        |
|             | 13-15         | Starting Week Number of Isochronal Inspection               |
| c           | 5             | When-Discovered Codes (WDC)                                 |
| d           | 1-3           | Number of WDC for Unscheduled Inspections                   |
| e           | 1-3           | Position of Each WDC for Unscheduled Inspections            |
| f           | 1-3           | Number of Support General Inspections                       |
| g           | 1-3           | Position of WDC Corresponding to Support General Inspection |
|             | 6-10          | Support General Inspection                                  |

A sample input deck, that used for the F-106 Scheduled Maintenance Study, is shown in Figure 5-10.

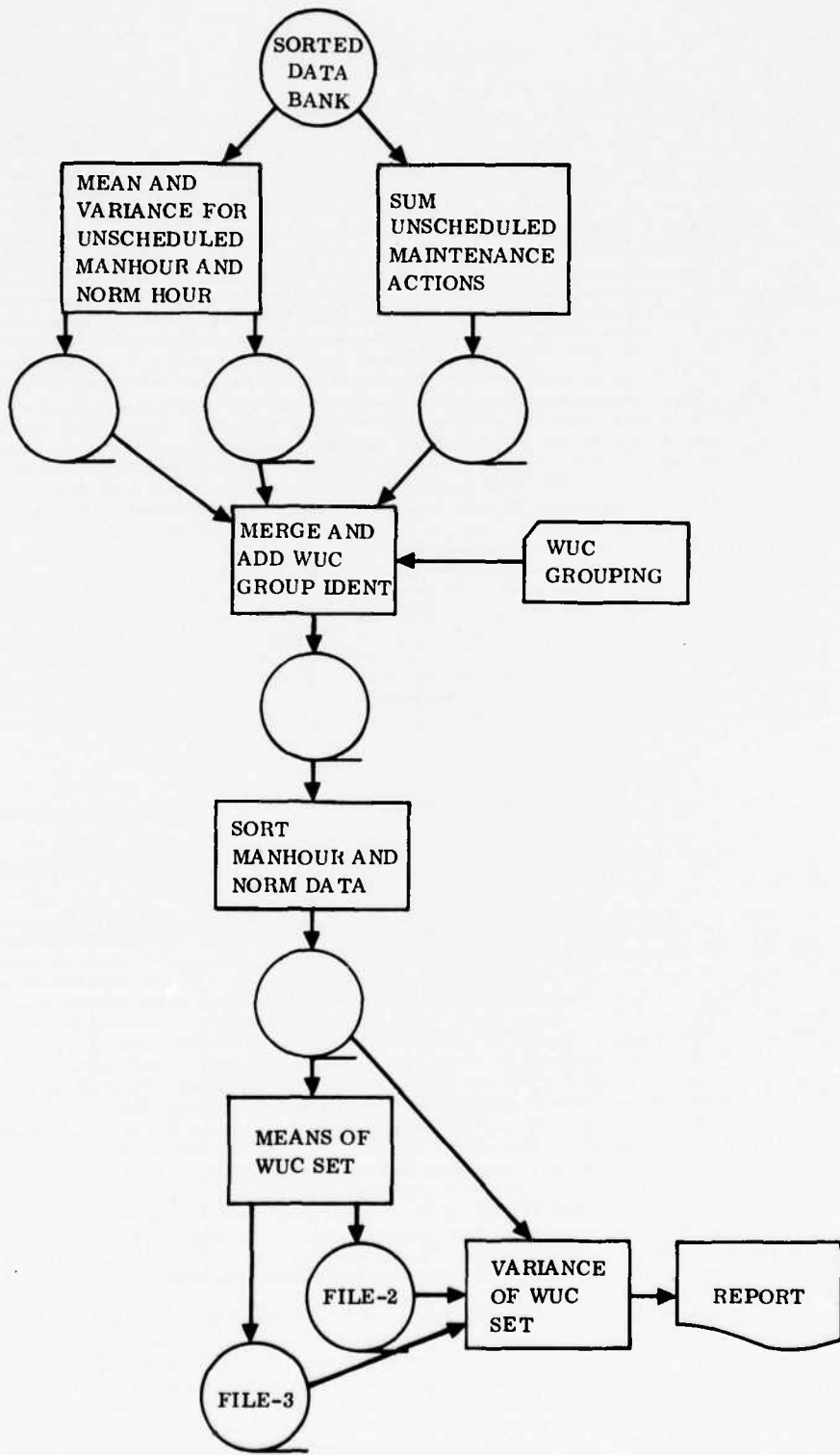


Figure 5-9. Logic Flow - Manhour and NORM Data

80 COLUMN GENERAL PURPOSE FORM

JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AND TWO-WAY \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1      | W-2 | W-3 | W-4 | W-5 | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|-----|-----|-----|-----|
| 34       |     |     |     |     |     |     |     |
| 57000234 | 331 |     |     |     |     |     |     |
| 57000237 | 331 |     |     |     |     |     |     |
| 57000243 | 324 |     |     |     |     |     |     |
| 57000244 | 331 |     |     |     |     |     |     |
| 57002545 | 331 |     |     |     |     |     |     |
| 58000774 | 324 |     |     |     |     |     |     |
| 58000991 | 331 |     |     |     |     |     |     |
| 59000003 | 331 |     |     |     |     |     |     |
| 59000003 | 331 |     |     |     |     |     |     |
| 59000005 | 331 |     |     |     |     |     |     |
| 59000006 | 331 |     |     |     |     |     |     |
| 59000010 | 331 |     |     |     |     |     |     |
| 59000012 | 331 |     |     |     |     |     |     |
| 59000015 | 331 |     |     |     |     |     |     |
| 59000018 | 331 |     |     |     |     |     |     |
| 59000019 | 331 |     |     |     |     |     |     |
| 59000026 | 331 |     |     |     |     |     |     |
| 59000030 | 331 |     |     |     |     |     |     |
| 59000054 | 324 |     |     |     |     |     |     |
| 59000057 | 324 |     |     |     |     |     |     |
| 59000058 | 324 |     |     |     |     |     |     |
| 59000059 | 324 |     |     |     |     |     |     |
| 59001004 | 331 |     |     |     |     |     |     |
| 59001005 | 331 |     |     |     |     |     |     |

11000 (REV. 11-60)

80 COLUMN GENERAL PURPOSE FORM

JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AND TWO-WAY \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1      | W-2 | W-3 | W-4 | W-5 | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|-----|-----|-----|-----|
| 59000108 | 324 |     |     |     |     |     |     |
| 59000110 | 324 |     |     |     |     |     |     |
| 59000119 | 324 |     |     |     |     |     |     |
| 59000141 | 324 |     |     |     |     |     |     |
| 59000143 | 324 |     |     |     |     |     |     |
| 59000144 | 324 |     |     |     |     |     |     |
| 59000145 | 324 |     |     |     |     |     |     |
| 59000147 | 324 |     |     |     |     |     |     |
| 59000151 | 324 |     |     |     |     |     |     |
| 59000152 | 324 |     |     |     |     |     |     |
| A        |     |     |     |     |     |     |     |
| B        |     |     |     |     |     |     |     |
| C        |     |     |     |     |     |     |     |
| D        |     |     |     |     |     |     |     |
| E        |     |     |     |     |     |     |     |
| F        |     |     |     |     |     |     |     |
| G        |     |     |     |     |     |     |     |
| H        |     |     |     |     |     |     |     |
| J        |     |     |     |     |     |     |     |
| K        |     |     |     |     |     |     |     |
| M        |     |     |     |     |     |     |     |
| N        |     |     |     |     |     |     |     |
| P        |     |     |     |     |     |     |     |
| Q        |     |     |     |     |     |     |     |
| R        |     |     |     |     |     |     |     |

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Figure 5-10. Sample Input - Sum Unscheduled Maintenance Actions



**RECORDS AND WORK AREAS**

FD-503 (Rev. 10-6-77)

SECTION

USED BY PROGRAMS

BY

REVISED DATE

DATE

| RECORD NAME        | OUTPUT - SUM                                       | UNSCHEMULED  | MAINTENANCE  | ACTIONS  | FILE NO. | BLOCK | DATE |
|--------------------|--|--|--|--|----------|-------|------|
| FIELD NAME         | W.U.C  | HMC  | UNSCHEMULED<br>REPAIR<br>ACTIONS                   | REPAIR<br>ACTIONS<br>PERSONIC                      |          |       |      |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 |          |       |      |

| RECORD NAME        | OUTPUT - MEAN AND VARIANCE OF                      | UNSCHEMULED  | MANHOUE  | FILE NO.   | BLOCK | DATE |
|--------------------|--|--|--|--|-------|------|
| FIELD NAME         | W.U.C  | HMC  | MEAN<br>MANHOUE/MA                                 | VARIANCE<br>MANHOUE/MA                             |       |      |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 |       |      |

| RECORD NAME        | OUTPUT - MEAN AND VARIANCE OF                      | UNSCHEMULED  | NORM HOUE  | FILE NO.   | BLOCK | DATE |
|--------------------|--|--|--|--|-------|------|
| FIELD NAME         | W.U.C  | HMC  | MEAN<br>NORM/MA                                    | VARIANCE<br>NORM/MA                                |       |      |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 |       |      |

| RECORD NAME        | OUTPUT - MERGE AND ADD                             | WUC  | GROUP  | IDENTIFIED   | FILE NO.   | BLOCK | DATE |
|--------------------|--|--|--|--|--|-------|------|
| FIELD NAME         | W.U.C  | HMC  | VARIABLE-1   | VARIABLE-2   | VARIABLE-3   |       |      |
| CHARACTER POSITION | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 |       |      |

Figure 5-11. Record Layouts - Manhour and NORM Data







## 5.4.2 UNSCHEDULED MANHOOR AND NORM HOUR

5.4.2.1 **Purpose.** The purpose of this program is to generate two output files. One file contains unscheduled manhour-per-maintenance-action data, and the other contains unscheduled NORM hour per maintenance action data (Figures 5-9 and 5-13). Input to this program consists of sorted data bank, isochronal aircraft definition, a selected list of WUCs, and inspection criteria data.

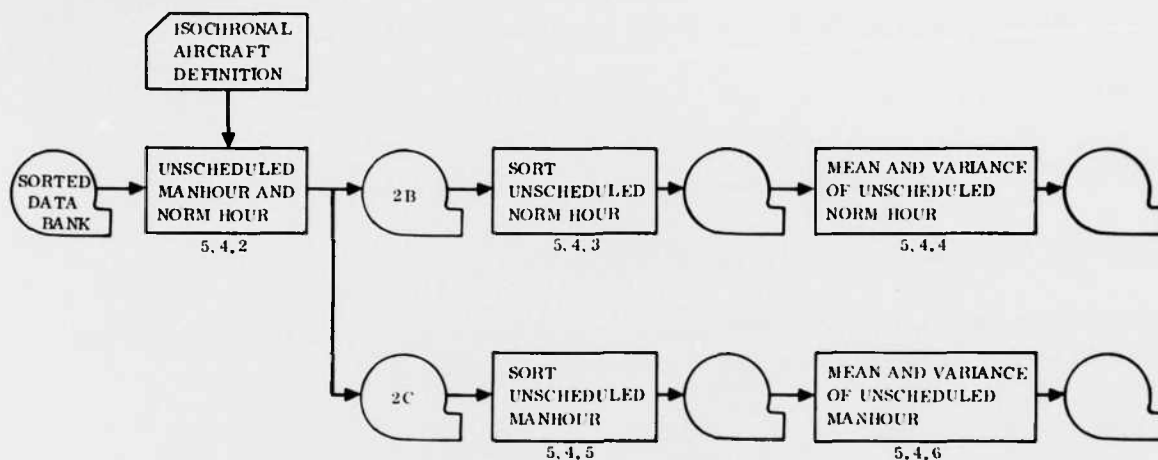


Figure 5-13. Logic Flow - Mean and Variance for Unscheduled Manhour and NORM Hour

5.4.2.2 **Input Data and Procedures.** There are two types of input data: tape and card deck. Tape data consists of data bank sorted in the order of WUC, HMC, aircraft serial number, and week number. For the tape record layout, see Figure 4-4. The data card deck has the following formats.

| <u>Column</u> | <u>Description</u>   |
|---------------|--|
| Card No. 1:   |  |
| 1-5           | WUC for Hourly Post Flight Inspection  |
| 6-10          | WUC for MA-1 Scheduled Calibration   |
| 11-15         |  |
| 16-20         |  |
| 21-25         | WUC for Periodic Inspection  |
| 26-30         | WUC for IRAN Depot Visit   |
| 31-35         | WUC for Preflight Inspection   |
| 36-40         | WUC for Basic Postflight Inspection  |
| 41-45         | WUC for Special Hourly Postflight  |
| 46-47         | Minimum number of weeks between inspections for the four WUCs in Columns 1 through 20    |
| 48-49         | Minimum number of weeks between inspections for Periodic Inspection and IRAN Depot Visit |

| <u>Column</u> | <u>Description</u>  |
|---------------|---|
| Card No. 2:   |   |
| 3-5           | Number of Isochronal Aircraft (Current program is dimensioned for a maximum of 36 isochronal aircraft, which may be increased by minor program modification.) |

The following cards describe the isochronal aircraft fleet, one card per isochronal aircraft, and the serial numbers are sorted in ascending order.

| <u>Column</u> | <u>Description</u>                             |
|---------------|--|
| 3-10          | Aircraft Serial Number                         |
| 13-15         | Starting Week Number for Isochronal Inspection |

Sample input data deck listing is given in Figure 4-18.

The unscheduled manhour and NORM hour program (Figure 4-17) produces two output files, File 2B and 2C, containing the following information.

| <u>File</u> | <u>Data Type</u> | <u>Description</u>                           |
|-------------|------------------|--|
| 2B          | 3                | NORM Hours - Unscheduled Maintenance Actions |
| 2C          | 1                | Manhours - Unscheduled Maintenance Actions   |

- a. Procedures to Generate Manhours - Unscheduled Maintenance Action (for File 2C, Data Type 1). The manhour distributions are calculated separately for repair actions and unscheduled maintenance actions by accumulating the number of man-hours charged against a specific WUC and a specific HMC for successive weeks until a week is encountered with a nonzero number of maintenance actions. The number of repair actions or unscheduled actions against the same WUC is accumulated at the same time. This data is obtained from Record Type 4. The ratio of these totals provides one observation of manhours-per-maintenance action for this WUC malfunction. Each occurrence of a maintenance action on an aircraft in the bank for the specific WUC malfunction combination provides another observation.
- b. Procedures to Generate NORM Hours - Unscheduled Maintenance Actions (for File 2B, Data Types 3). The distribution for unscheduled NORM hours is obtained in the same fashion, except that only unscheduled maintenance actions are included. Again, NORM hours and maintenance action totals are accumulated from week to week until a nonzero number of maintenance action fields is encountered. The ratio of the two totals then provides one observation of unscheduled NORM hours per maintenance action for the specific WUC. Since the type of malfunction is not recorded in AFM 65-110 (through which NORM hours are recorded), it is not possible to calculate this distribution for a specific type of malfunction. The data for this calculation is obtained from Record Type 3.

5.4.2.3 Output Description. The output consists of two tape files (2B and 2C) with 20-character data records blocked 90 to a tape record, with the following formats.

| <u>Column</u> | <u>Description</u>  |
|---------------|---|
| 1-5           | Work Unit Code (WUC)  |
| 6-8           | How-Malfunction Code (HMC)  |
| 10-15         | Observation Data  |
| 17            | Isochronal Indicator<br>= 1 Isochronal Inspection<br>= 2 Non-Isochronal Inspection          |
| 19            | Data Type:<br>For File 2B = 3 Unscheduled NORM Hours<br>For File 2C = 1 Unscheduled Manhour |
| 20            | Record Mark   |

On a recent IBM 370 run for an F-106 fleet of 150 aircraft and 2201 WUCs, total computer time was about 13 minutes. Records totaling 214,651 and 243,801 were generated for Files 2B and 2C, respectively. A sample output is shown in Figure 5-14.

#### 5.4.3 SORT UNSCHEDULED NORM HOUR

5.4.3.1 Purpose. The purpose of this task is to sort output File 2B for further processing.

5.4.3.2 Input Data and Procedures. The input consists of tape File 2B, as described in Paragraph 5.4.2.3.

5.4.3.3 Output Description. An output tape, 20 characters per record with a blocking factor of 90, consisting of unscheduled NORM hour records is sorted according to the following keys in ascending order.

| <u>Key</u> | <u>Column</u> | <u>Description</u>   |
|------------|---------------|----------------------|
| 1          | 17            | Isochronal Indicator |
| 2          | 19            | Data Type            |
| 3          | 1-5           | Work Unit Code       |

It took about three minutes on the IBM 370 to sort 214,651 records for the 150-aircraft F-106 fleet. A sample output is shown in Figure 5-15.

#### 5.4.4 MEAN AND VARIANCE OF UNSCHEDULED NORM HOUR

5.4.4.1 Purpose. This program generates an output file containing mean and variance unscheduled NORM hour data by WUC, isochronal subset type.





5.4.4.2 Input Data and Procedures. No input data is needed for this program. For a given WUC, data of unscheduled NORM hour will be accumulated. Values of mean and variance are then computed and are written on the output file.

5.4.4.3 Output Description. The output file has the following record format.

| <u>Column</u> | <u>Description</u>   |
|---------------|--|
| 1             | Isochronal Inspection Type<br>= 1 Isochronal<br>= 2 Non-Isochronal |
| 11            | Set to 3, for Unscheduled Norm Hour                                |
| 13-17         | Work Unit Code (WUC)   |
| 23-30         | Mean for Unscheduled NORM Hour                                     |
| 32-39         | Variance of Unscheduled NORM Hour                                  |
| 50            | Record Mark  |

It took five minutes on the IBM 370 to process 2872 records for the F-106 fleet. A sample output and output format are shown in Figures 5-16 and 5-11, respectively.

#### 5.4.5 SORT UNSCHEDULED MANHOUR

5.4.5.1 Purpose. The purpose of this task is to sort output File 2C for further processing.

5.4.5.2 Input Data and Procedures. The input consists of tape File 2C, as described in Paragraph 5.4.2.3.

5.4.5.3 Output Description. An output tape file, consisting of unscheduled manhours charged against a specific WUC and specific HMC, is sorted according to the following keys in ascending order.

| <u>Key</u> | <u>Column</u> | <u>Description</u>   |
|------------|---------------|--|
| 1          | 17            | Isochronal Indicator<br>= 1 Isochronal Subset<br>= 2 Non-Isochronal Subset |
| 2          | 19            | Data Type<br>= 1 Unscheduled Manhours                                      |
| 3          | 1-5           | Work Unit Code (WUC)   |
| 4          | 6-8           | How-Malfunction Code (HMC)   |

The output tape consists of 20-character data records, blocked 90 to a tape record. It took four minutes to sort 243,801 records for a fleet of 150 F-106 aircraft. A sample output is shown in Figure 5-17.









#### 5.4.6 MEAN AND VARIANCE OF UNSCHEDULED MANHOUR

5.4.6.1 Purpose. This program generates an output file containing mean and variance of unscheduled manhour data by HMC, WUC, and isochronal subset type.

5.4.6.2 Input Data and Procedures. No input data is needed for this program. For a given WUC and HMC, data of unscheduled manhours will be accumulated. Values of mean and variance are then computed and are written on an output file.

5.4.6.3 Output Description. The output consists of values of mean and variance of unscheduled manhour, WUC, and HMC. The output file has the following record format.

| <u>Column</u> | <u>Description</u>   |
|---------------|--|
| 1             | Isochronal Inspection Type<br>= 1 Isochronal<br>= 2 Non-Isochronal |
| 11            | Set to 2, for Unscheduled Manhour                                  |
| 13-17         | Work Unit Code (WUC)   |
| 19-21         | How-Malfunction Code (HMC)   |
| 23-30         | Mean for Unscheduled Manhour                                       |
| 32-39         | Variance for Unscheduled Manhour                                   |
| 50            | Record Mark  |

The tape file consists of 50-character data records, blocked 60 to a tape record. To generate 27,121 records for a fleet of 150 F-106 aircraft required six minutes on the IBM 370. A sample output from a recent F-106 run and the output record format are shown in Figures 5-18 and 5-11, respectively.

#### 5.4.7 MERGE AND ADD WUC GROUP IDENTIFICATION

5.4.7.1 Purpose. The purpose of this COBOL program is to merge the output files of Manhour and NORM, Mean and Variance of Unscheduled NORM Hour, and Mean and Variance of Unscheduled Manhour data into one file and to classify each record into a particular WUC group.

5.4.7.2 Input Data and Procedures. The input consists of three data tape files and a deck of cards defining the WUC groups. The three input data tape files are described in Paragraphs 5.4.1, 5.4.4, and 5.4.6 and the record layouts are given in Figure 5-11. A full description of collecting WUC data into groups is given in Paragraph 4.2.2. Essentially, data is collected at the three-digit level for a defined set of WUCs and at the two-digit level for the remaining data.



The data deck has the following format.

| <u>Card</u> | <u>Column</u> | <u>Description</u>              |
|-------------|---------------|---------------------------------|
| a           | 1-2           | Number of WUCs in WUC Set No. 1 |
| b           | 1-3           | WUCs in Set No. 1               |
| c           | 1-2           | Number of WUCs in WUC Set No. 2 |
| d           | 1-5           | WUCs in Set No. 2               |

A sample input data deck, that used for the F-106 Scheduled Maintenance Study, is shown in Figure 5-19.

The program reads WUC group data and assigns a group identifier to each WUC set. The first input file record is read, the appropriate group identifier and corresponding group WUC is added to the record, and the record is written on an output file. This is continued for each input record, then for each record on the second and third input files. After the last input record, the output tape record is padded with nines to end the routine.

5.4.7.3 Output Description. The output consists of a magnetic tape file, 50 characters to a data record, blocked 60 to a tape record. The record layout is shown in Figure 5-11. The significance of each variable is determined by reference to the *RECORD ID* in Column 11; this was assigned during creation of the three input data files. A sample of output data is shown in Figure 5-20. On a recent IBM 370 run for a fleet of 150 aircraft and 2201 WUCs, total computer time was two minutes. A total of 55,853 records were generated.

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JOB TITLE \_\_\_\_\_ ENGINEER \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ AND \_\_\_\_\_ EWO WAP \_\_\_\_\_ FUNCTION \_\_\_\_\_ ANALYST \_\_\_\_\_ DATE \_\_\_\_\_

| W-1        | W-2        | W-3        | W-4        | W-5        | W-6        | W-7        | W-8        |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0000000001 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000002 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000003 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000004 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000005 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000006 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000007 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000008 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000009 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000010 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000011 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000012 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000013 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000014 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000015 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000016 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000017 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000018 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000019 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000020 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000021 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000022 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000023 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000024 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000025 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000026 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000027 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000028 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000029 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000030 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000031 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000032 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000033 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000034 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000035 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000036 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000037 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000038 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000039 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000040 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000041 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000042 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000043 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000044 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000045 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000046 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000047 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000048 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000049 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |
| 0000000050 | 1111111112 | 2222222223 | 3333333324 | 4444444425 | 5555555526 | 6666666627 | 7777777728 |

Figure 5-19. Sample Input - Merge and Add WUC Group Identification





#### 5.4.8 SORT MANHOUR AND NORM DATA

5.4.8.1 Purpose. The purpose of this task is to sort the output file from Merge and Add WUC Group Identification for further processing.

5.4.8.2 Input Data and Procedures. The input consists of the tape file from the Merge and Add WUC Group Identification described in Paragraph 5.4.7.3.

5.4.8.3 Output Description. The output file, 50 characters to the data record, blocked 60 to a tape record, is sorted according to the following keys.

| <u>Key</u> | <u>Column</u> | <u>Description</u>                |
|------------|---------------|-----------------------------------|
| 1          | 1             | Aircraft Subset (Ascending)       |
| 2          | 2-3           | Group Identification (Ascending)  |
| 3          | 13-17         | WUC (Ascending)                   |
| 4          | 19-21         | HMC (Descending)                  |
| 5          | 11            | Record Identification (Ascending) |

It required about two minutes on the IBM 370 to sort 55,860 records for the 150-aircraft F-106 fleet.

#### 5.4.9 MEANS OF WUC SET

5.4.9.1 Purpose. The purpose of this task is to compute the mean values of various data from the data bank, by WUC group.

5.4.9.2 Input Data and Procedures. The input data consists of the sorted output of the data at the five-digit WUC level previously described. The program generates two output files: data at the five-digit WUC level and data at the WUC group level.

5.4.9.3 Output Description. The output consists of two magnetic tape files, both 50 characters to a data record, blocked 60 to a tape record. The format of each data record is shown in Figure 5-11.

At the five-digit WUC level, the following variables are computed and written on File -2.

$$C = \sum_{HMC} [\overline{MH/ma(WUC, HMC)} \cdot N_{uma}(WUC, HMC)]$$

$$N_2 = \sum_{HMC} N_{uma}(WUC, HMC)$$

$\sum_{HMC}$  indicates a summation over all HMCs applicable to a particular WUC.

A sample output is shown in Figure 5-21. At the WUC group level, the following variables are computed and written on File - 3.

Mean manhours per unscheduled maintenance action:

$$\overline{\text{MH/uma}} = \frac{1}{N_1} \sum_{\text{WUC}} \left\{ \sum_{\text{HMC}} [\overline{\text{MH/ma}}(\text{WUC}, \text{HMC}) \cdot N_{\text{uma}}(\text{WUC}, \text{HMC})] \right\}$$

$$N_1 = \sum_{\text{WUC}} \sum_{\text{HMC}} N_{\text{uma}}(\text{WUC}, \text{HMC})$$

Mean NORM per unscheduled maintenance action:

$$\overline{\text{NORM/uma}} = \frac{1}{N_1} \sum_{\text{WUC}} \left\{ N_2 \cdot \overline{\text{NORM/ma}}(\text{WUC}) \right\}$$

Mean manhours per periodic inspection repair action:

$$\overline{(\text{MH/rep})}_{\text{PE}} = \frac{\sum_{\text{WUC}} \left\{ \sum_{\text{HMC}} [\text{MH/ma}(\text{WUC}, \text{HMC}) \cdot N_{\text{rep}}(\text{WUC}, \text{HMC})_{\text{PE}}] \right\}}{\sum_{\text{WUC}} \sum_{\text{HMC}} [N_{\text{rep}}(\text{WUC}, \text{HMC})_{\text{PE}}]}$$

Mean manhours per hourly postflight inspection repair action:

$$\overline{(\text{MH/rep})}_{\text{HPO}} = \frac{\sum_{\text{WUC}} \left\{ \sum_{\text{HMC}} [\text{MH/ma}(\text{WUC}, \text{HMC}) \cdot N_{\text{rep}}(\text{WUC}, \text{HMC})_{\text{HPO}}] \right\}}{\sum_{\text{WUC}} \sum_{\text{HMC}} [N_{\text{rep}}(\text{WUC}, \text{HMC})_{\text{HPO}}]}$$

In these equations, the symbol  $\sum_{\text{WUC}}$  indicates a summation over all WUCs in the set.

A sample output is shown in Figure 5-22.

On a recent IBM 370 run for an F-106 fleet of 150 aircraft and 2201 WUCs, total computer time was two minutes. A total of 2886 records were generated on File -2 and 108 records were generated on File -3.

#### 5.4.10 VARIANCE OF WUC SET

5.4.10.1 Purpose. This COBOL program computes the variance of various data from the data bank and prints the final mean and variance results in convenient tabular form.









5.4.10.2 Input Data and Procedures. The input consists of three files: the sorted output data at the five-digit WUC level and the two files from the Mean of WUC Set program. The program computes the variance of NORM and manhours per unscheduled maintenance action, leads in the previously computed mean values, and then prints out six data results for each WUC group of each aircraft subset.

5.4.10.3 Output Description. The output consists of a file, 100 characters to a data record, blocked 20 to a tape record. The variances are first computed for the WUC group using all three input files as follows.

Variance of manhours per unscheduled maintenance action:

$$\sigma_{MH/uma}^2 = \frac{1}{N_1} \sum_{WUC} \left\{ N_2 \cdot A^2 + \sum_{HMC} \left[ N_{uma}(WUC, HMC) \cdot \sigma_{MH/ma}^2(WUC, HMC) + B^2 \right] \right\}$$

where:

$$A = \frac{C}{N_2} - \overline{MH/uma}$$

$$B = \overline{MH/ma}(WUC, HMC) - \frac{C}{N_2}$$

Variance of NORM per unscheduled maintenance action:

$$\sigma_{NORM/uma}^2 = \frac{1}{N_1} \sum_{WUC} N_2 \left\{ \sigma_{NORM/ma}^2(WUC) + \left[ \overline{NORM/ma}(WUC) - \overline{NORM/uma} \right]^2 \right\}$$

For each aircraft subset and WUC group, the output file contains:

- a. WUC group descriptor.
- b. Aircraft Subset.
- c. Mean Manhours/Unscheduled Maintenance Action.
- d. Variance of Manhours/Unscheduled Maintenance Action.
- e. Mean NORM/Unscheduled Maintenance Action.
- f. Variance of NORM/Unscheduled Maintenance Action.

- g. Mean Manhours/Periodic Inspection Repair Action.
- h. Mean Manhours/Hourly Postflight Inspection Repair Action.

A sample output is shown in Figure 5-23. It required two minutes to process the input files for 150 F-106 aircraft; 114 lines of output were generated.

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| GRUCP | AIRCRAFT | MEAN | VARIANCE | MEAN | VARIANCE | MEAN | VARIANCE |
|-------|----------|------|----------|------|----------|------|----------|
| 11J   | ISO      | 8.1  | 66.2     | 5.7  | 166.1    | 9.9  | 3.3      |
| 11K   | ISO      | 2.3  | 26.5     | 0.1  | 6.1      | 2.2  | 1.5      |
| 12B   | ISO      | 1.5  | 1.3      | 0.0  | 0.0      | 5.2  | 0.0      |
| 12C   | ISO      | 4.3  | 17.8     | 0.9  | 19.9     | 1.8  | 2.6      |
| 13C   | ISO      | 5.2  | 43.8     | 0.9  | 11.7     | 4.0  | 0.5      |
| 13J   | ISO      | 7.9  | 32.2     | 0.0  | 4.0      | 4.1  | 0.5      |
| 13K   | ISO      | 3.0  | 11.4     | 1.0  | 29.9     | 2.3  | 2.0      |
| 13M   | ISO      | 3.4  | 12.7     | 2.0  | 11.4     | 3.9  | 0.0      |
| 23K   | ISO      | 3.4  | 7.7      | 0.9  | 34.0     | 3.3  | 0.0      |
| 23M   | ISO      | 3.1  | 6.3      | 0.9  | 19.0     | 3.2  | 0.0      |
| 23N   | ISO      | 5.4  | 16.0     | 2.4  | 18.1     | 1.0  | 1.6      |
| 23Q   | ISO      | 4.3  | 12.0     | 1.8  | 9.8      | 1.4  | 8.4      |
| 23S   | ISO      | 4.9  | 33.2     | 0.7  | 62.6     | 1.0  | 4.9      |
| 23T   | ISO      | 7.0  | 82.4     | 2.4  | 12.7     | 6.4  | 0.1      |
| 41F   | ISO      | 3.7  | 3.8      | 1.4  | 27.0     | 1.5  | 5.5      |
| 41G   | ISO      | 3.4  | 3.5      | 0.9  | 27.3     | 2.0  | 3.9      |
| 41E   | ISO      | 3.2  | 3.0      | 0.9  | 9.7      | 1.0  | 0.0      |
| 42F   | ISO      | 5.6  | 41.9     | 1.0  | 14.6     | 2.0  | 0.0      |
| 42G   | ISO      | 0.9  | 1.0      | 0.0  | 2.0      | 1.0  | 0.0      |
| 42H   | ISO      | 3.7  | 13.4     | 1.3  | 29.2     | 3.8  | 0.0      |
| 44    | ISO      | 1.9  | 2.6      | 0.0  | 7.8      | 1.8  | 0.0      |
| 45E   | ISO      | 4.7  | 38.8     | 1.4  | 61.3     | 3.1  | 1.6      |
| 45J   | ISO      | 2.1  | 18.2     | 0.9  | 23.2     | 1.8  | 0.4      |
| 45    | ISO      | 2.9  | 18.2     | 0.9  | 13.6     | 1.8  | 1.6      |
| 46A   | ISO      | 8.4  | 105.1    | 1.0  | 19.0     | 3.1  | 5.5      |
| 46C   | ISO      | 9.6  | 61.3     | 1.4  | 2.7      | 6.9  | 5.9      |
| 46G   | ISO      | 4.7  | 47.4     | 1.7  | 4.8      | 2.0  | 1.0      |
| 46H   | ISO      | 7.2  | 96.9     | 0.2  | 2.7      | 2.7  | 7.7      |
| 46J   | ISO      | 3.2  | 46.5     | 0.8  | 5.5      | 6.6  | 2.8      |
| 46    | ISO      | 3.4  | 15.6     | 0.8  | 17.4     | 2.6  | 0.0      |
| 47    | ISO      | 4.3  | 30.4     | 1.4  | 16.8     | 5.9  | 0.0      |
| 49A   | ISO      | 4.4  | 1.3      | 1.1  | 10.7     | 3.7  | 1.9      |
| 49    | ISO      | 1.5  | 37.0     | 0.6  | 6.2      | 1.6  | 0.0      |
| 51    | ISO      | 1.5  | 22.3     | 0.4  | 7.5      | 1.9  | 4.4      |
| 52    | ISO      | 2.6  | 22.3     | 0.5  | 6.0      | 1.9  | 1.4      |
| 55    | ISO      | 4.1  | 25.2     | 0.7  | 8.9      | 7.5  | 4.0      |
| 63    | ISO      | 2.9  | 26.8     | 0.8  | 17.1     | 0.0  | 1.3      |
| 65    | ISO      | 2.5  | 12.5     | 0.7  | 8.4      | 1.2  | 0.0      |
| 71    | ISO      | 2.4  | 21.7     | 0.4  | 0.0      | 1.2  | 1.6      |
| 75    | ISO      | 2.9  | 16.8     | 0.4  | 1.9      | 3.6  | 5.7      |
| 93    | ISO      | 3.2  | 44.5     | 0.6  | 3.0      | 0.6  | 2.6      |
| 97    | ISO      | 4.8  | 23.1     | 0.8  | 1.9      | 2.1  | 2.4      |
| 74CJO | ISO      | 1.5  | 2.6      | 0.8  | 3.0      | 2.0  | 0.0      |
| 74A   | ISO      | 2.3  | 23.1     | 1.0  | 25.6     | 2.7  | 1.0      |
| 74B   | ISO      | 1.2  | 1.8      | 0.2  | 4.1      | 1.1  | 0.1      |
| 74C   | ISO      | 1.5  | 1.4      | 0.3  | 4.0      | 1.7  | 0.7      |
| 74D   | ISO      | 2.6  | 41.1     | 1.6  | 23.1     | 1.3  | 1.6      |
| 74F   | ISO      | 1.8  | 7.3      | 0.4  | 5.1      | 1.2  | 1.5      |
| 74H   | ISO      | 2.9  | 32.1     | 0.5  | 4.6      | 2.3  | 1.9      |
| 74K   | ISO      | 2.3  | 9.5      | 0.3  | 17.1     | 1.8  | 1.9      |
| 74L   | ISO      | 1.9  | 3.9      | 0.2  | 1.7      | 0.8  | 1.2      |
| 74P   | ISO      | 5.3  | 14.4     | 1.5  | 58.9     | 1.4  | 1.5      |
| 74Q   | ISO      | 5.3  | 11.4     | 0.2  | 3.3      | 1.4  | 0.6      |
| 11J   | NCN-ISO  | 6.4  | 61.4     | 2.2  | 123.3    | 2.6  | 4.9      |
| 11K   | NCN-ISO  | 2.9  | 30.1     | 0.4  | 8.7      | 1.7  | 1.4      |
| 11    | NCN-ISO  | 2.1  | 35.0     | 0.1  | 7.3      | 2.4  | 2.0      |
| 12B   | NCN-ISO  | 2.0  | 4.4      | 0.1  | 1.5      | 2.1  | 0.6      |
| 12    | NCN-ISO  | 2.5  | 13.3     | 0.1  | 1.1      | 1.6  | 1.7      |
| 13C   | NCN-ISO  | 4.8  | 41.9     | 1.3  | 38.1     | 2.7  | 1.3      |
| 13J   | NCN-ISO  | 3.2  | 21.2     | 0.2  | 0.1      | 2.1  | 1.6      |

Figure 5-23. Sample Output - Variance of WUC

SECTION 6  
COMPUTER SOURCE DECK LISTINGS

6.1 66-1 FILE GENERATION PROGRAMS  
6.1.1 66-1 SCREEN

```

//T9897P JOB 01: G. WANG :PRTY>02, TYPRUN>HOLD
//C9897C EXEC PGM=SL, TIME>02, ACCT>D35322107
//CHG.TU13 DU DISP>[PASS], UNIT>[T+R2,1,DEFER], DSN>B.9895402, CT13 1
// LABEL>[NL], C
// VUL>SER>F1 T13
//CHG.IU22 DU DSN>P.9895403, SPACE>[CYL,(1022,002)] D22-OUT
//CHG.INPUT DU =,SPACE>[CYL,(1,1)] 1440 CDS
UDU00 CU=LINE COMPILER G. WANG. C98970
U1040 DATE-WRITE... 5 JAN 72. C98970
U1050 REMARKS. C98970
U1060 PROGRAM SCREENS 66-1 DATA TAPE. C98970
U2000 ENVIRONMENT DIVISION. C98970
U2010 CONFIGURATION SECTION. C98970
U2020 SOURCE-COMPUTER, IBM-360. C98970
U2030 OBJECT-COMPUTER, IBM-360. C98970
U2100 INPUT-OUTPUT SECTION. C98970
U2110 FILE-CONTROL. C98970
U2120 SELECT INFILE ASSIGN TO UT-5-TU13 C98970
U2130 RESERVE 1 ALTERNATE AREA. C98970
U2140 SELECT OUTFILE ASSIGN TO UT-5-TU22 C98970
U2150 RESERVE 1 ALTERNATE AREA. C98970
U2160 SELECT SC-FLE ASSIGN TO DA-5-DT01 C98970
U2170 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD INFILE C98970
10120 RECURRING MODE IS F C98970
10130 BLOCK CONTAINS 30 RECORDS C98970
10140 RECORD CONTAINS 90 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE INDATA. C98970
10170 01 INDATA SYNC. C98970
10178 02 DATAB. C98970
10180 03 DATA1 PICTURE XX. C98970
10190 03 TIPL PICTURE X(4). C98970
10200 03 DATA2 PICTURE X(8). C98970
10210 02 SER-NO PICTURE X(8). C98970
10220 02 DATA3 PICTURE X(18). C98970
10228 02 DATE-III. C98970
10230 03 DAY PICTURE 99. C98970
10240 03 MONTH PICTURE 99. C98970
10250 03 YEAR PICTURE 9. C98970
10258 02 DATA7. C98970
10260 03 WUC PICTURE X(5). C98970
10270 03 ACTION PICTURE X. C98970
10280 03 WD PICTURE X. C98970
10290 03 HOW-MAL PICTURE X(3). C98970
10300 03 DATA4 PICTURE X(27). C98970
10310 03 REC-ID PICTURE X. C98970
10320 03 THM PICTURE X. C98970
10330 03 DATA5 PICTURE X. C98970
10340 02 FILLER PICTURE XXXX. C98970
10350 02 DATAB PICTURE X. C98970
11100 FU OUTFILE C98970
11120 RECURRING MODE IS F C98970
11130 BLOCK CONTAINS 30 RECORDS C98970
11140 RECORD CONTAINS 90 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE OUTDATA. C98970
11170 01 OUTDATA SYNC. C98970

```

|       |    |  |                                   |                  |        |
|-------|----|--|-----------------------------------|------------------|--------|
| 11178 | 02 | DATA1-OUT.                                     |                                   |                  | C98970 |
| 11180 | 03 | DATA1-OUT                                      | PICTURE XX.                       |                  | C98970 |
| 11190 | 03 | TYPE-OUT                                       | PICTURE X(4).                     |                  | C98970 |
| 11200 | 03 | DATA2-OUT                                      | PICTURE X(8).                     |                  | C98970 |
| 11210 | 02 | SER-NO-OUT                                     | PICTURE X(8).                     |                  | C98970 |
| 14220 | 02 | DATA3-OUT                                      | PICTURE X(18).                    |                  | C98970 |
| 11228 | 02 | DATE-OUT.                                      |                                   |                  | C98970 |
| 11230 | 03 | DAY-OUT  | PICTURE 99.                       |                  | C98970 |
| 11240 | 03 | MONTH-OUT                                      | PICTURE 99.                       |                  | C98970 |
| 11250 | 03 | YEAR-OUT                                       | PICTURE 9.                        |                  | C98970 |
| 11258 | 02 | DATA7-OUT.                                     |                                   |                  | C98970 |
| 11260 | 03 | WUC-OUT  | PICTURE X(5).                     |                  | C98970 |
| 11270 | 03 | ACTION-OUT                                     | PICTURE X.                        |                  | C98970 |
| 11280 | 03 | WD-OUT   | PICTURE X.                        |                  | C98970 |
| 11290 | 03 | HOW-MAL-OUT                                    | PICTURE XXX.                      |                  | C98970 |
| 11300 | 03 | DATA4-OUT                                      | PICTURE X(27).                    |                  | C98970 |
| 11310 | 03 | REC-ID-OUT                                     | PICTURE X.                        |                  | C98970 |
| 11320 | 03 | THM-OUT  | PICTURE X.                        |                  | C98970 |
| 11330 | 03 | DATA5-OUT                                      | PICTURE X.                        |                  | C98970 |
| 11340 | 02 | JDAY   | PICTURE 9999.                     |                  | C98970 |
| 11350 | 02 | DATA6-OUT                                      | PICTURE X.                        |                  | C98970 |
| 11500 | FD | SC-FLE   |                                   |                  | C98970 |
| 11510 |    | RECORDING MODE IS F                            |                                   |                  | C98970 |
| 11520 |    | BLOCK CONTAINS 20 RECORDS                      |                                   |                  | C98970 |
| 11530 |    | RECORD CONTAINS 80                             | CHARACTERS                        |                  | C98970 |
| 11540 |    | LABEL RECORDS ARE STANDARD                     |                                   |                  | C98970 |
| 11550 |    | DATA RECORDS ARE DATA-IN.                      |                                   |                  | C98970 |
| 11600 | 01 | DATA-IN SYNC.                                  |                                   |                  | C98970 |
| 11610 | 02 | SCREEN-DATA                                    | PICTURE X(80).                    |                  | C98970 |
| 11620 | 02 | FILLER REDEFINES SCREEN-DATA.                  |                                   |                  | C98970 |
| 11630 | 03 | DATA-1   | PICTURE X(4).                     |                  | C98970 |
| 11640 | 03 | FILLER   | PICTURE X(76).                    |                  | C98970 |
| 11650 | 02 | FILLER REDEFINES SCREEN-DATA.                  |                                   |                  | C98970 |
| 11660 | 03 | DATA-2   | PICTURE X.                        |                  | C98970 |
| 11670 | 03 | FILLER   | PICTURE X(79).                    |                  | C98970 |
| 11680 | 02 | FILLER REDEFINES SCREEN-DATA.                  |                                   |                  | C98970 |
| 11690 | 03 | DATA-3   | PICTURE 99.                       |                  | C98970 |
| 11700 | 03 | FILLER   | PICTURE X(78).                    |                  | C98970 |
| 11710 | 02 | FILLER REDEFINES SCREEN-DATA.                  |                                   |                  | C98970 |
| 11720 | 03 | DATA-4   | PICTURE X(8).                     |                  | C98970 |
| 11730 | 03 | FILLER   | PICTURE X(72).                    |                  | C98970 |
| 11740 | 02 | FILLER REDEFINES SCREEN-DATA.                  |                                   |                  | C98970 |
| 11750 | 03 | DATA-5   | PICTURE X(3).                     |                  | C98970 |
| 11760 | 03 | FILLER   | PICTURE X(77).                    |                  | C98970 |
| 30000 |    | WORKING-STORAGE SECTION.                       |                                   |                  | C98970 |
| 30010 | 01 | NINE SYNC.                                     |                                   |                  | C98970 |
| 30020 | 02 | FILLER   | PICTURE XX                        | VALUE 1991.      | C98970 |
| 30030 | 02 | FILLER   | PICTURE X(4)                      | VALUE 199991.    | C98970 |
| 30040 | 02 | FILLER   | PICTURE X(8)                      | VALUE 19999991.  | C98970 |
| 30050 | 02 | FILLER   | PICTURE X(8)                      | VALUE 199999991. | C98970 |
| 30060 | 02 | FILLER   | PICTURE X(18)                     | VALUE            | C98970 |
| 30070 |    |  | 19999999999999999991.             |                  | C98970 |
| 30080 | 02 | FILLER   | PICTURE 99                        | VALUE 99.        | C98970 |
| 30090 | 02 | FILLER   | PICTURE 99                        | VALUE 99.        | C98970 |
| 30100 | 02 | FILLER   | PICTURE 9                         | VALUE 9.         | C98970 |
| 30110 | 02 | FILLER   | PICTURE X(5)                      | VALUE 1999991.   | C98970 |
| 30120 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30130 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30140 | 02 | FILLER   | PICTURE XXX                       | VALUE 19991.     | C98970 |
| 30150 | 02 | FILLER   | PICTURE X(27)                     | VALUE            | C98970 |
| 30160 |    |  | 19999999999999999999999999999991. |                  | C98970 |
| 30170 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30180 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30190 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30200 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30210 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30220 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30230 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30240 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30250 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30260 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30270 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30280 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30290 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30300 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30310 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30320 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30330 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30340 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30350 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30360 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30370 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30380 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30390 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30400 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30410 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30420 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30430 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30440 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30450 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30460 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30470 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30480 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30490 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30500 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30510 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30520 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30530 | 02 | FILLER   | PICTURE X                         | VALUE 191.       | C98970 |
| 30540 | 01 | TWO-DAYS-IN-YEAR; REDEFINES DAYS-IN-YEAR SYNC. |                                   |                  | C98970 |
| 30550 | 02 | KDAYS OCCURS 12 TIMES                          |                                   |                  | C98970 |
| 30560 |    | PICTURE 999.                                   |                                   |                  | C98970 |
| 30600 | 01 | DAYS-IN-YEARS SYNC.                            |                                   |                  | C98970 |
| 30610 | 02 | FILLER   | PICTURE 9(4)                      | VALUE 0.         | C98970 |

|       |    |   |   |             |        |
|-------|----|---|---|-------------|--------|
| 30620 | 02 | FILLER  | PICTURE 9(4)                                | VALUE 365.  | C90970 |
| 30630 | 02 | FILLER  | PICTURE 9(4)                                | VALUE 730.  | C90970 |
| 30640 | 02 | FILLER  | PICTURE 9(4)                                | VALUE 1095. | C90970 |
| 30650 | 02 | FILLER  | PICTURE 9(4)                                | VALUE 1461. | C90970 |
| 30660 | 02 | FILLER  | PICTURE 9(4)                                | VALUE 1826. | C90970 |
| 30670 | 02 | FILLER  | PICTURE 9(4)                                | VALUE 2191. | C90970 |
| 30680 | 02 | FILLER  | PICTURE 9(4)                                | VALUE 2556. | C90970 |
| 30690 | 01 | DAY-IN-YEAR-TABLE                                       | REDEFINES DAYS-IN-YEARS SYNC.               |             | C90970 |
| 30700 | 02 | DAY-YEAR  | OCCURS 0 TIMES                              |             | C90970 |
| 30710 |    |   | PICTURE 9(4).                               |             | C90970 |
| 30800 | 01 | SER-NO-A  | PICTURE X(0) SYNC.                          |             | C90970 |
| 30810 | 01 | TARLE-S-N,  | REDEFINES SER-NO-A SYNC.                    |             | C90970 |
| 30820 | 02 | LISTS-S-N,  | OCCURS 8 TIMES,                             |             | C90970 |
| 30830 |    |   | PICTURE X.                                  |             | C90970 |
| 30890 | 01 | LIT-ZERO  | PICTURE XXX SYNC VALUE 10001.               |             | C90970 |
| 30900 | 01 | KOUNT   | PICTURE S999 COMPUTATIONAL VALUE ZERO SYNC. |             | C90970 |
| 30910 | 01 | KNT   | PICTURE S999 COMPUTATIONAL VALUE ZERO SYNC. |             | C90970 |
| 30920 | 01 | LOW-S-N SYNC  | PICTURE X(0).                               |             | C90970 |
| 30930 | 01 | HIGH-S-N SYNC   | PICTURE X(8).                               |             | C90970 |
| 30940 | 01 | LEAP-YEAR-68  | PICTURE 9 SYNC VALUE 4.                     |             | C90970 |
| 30950 | 01 | LEAP-YEAR-72  | PICTURE 9 SYNC VALUE 8.                     |             | C90970 |
| 30960 | 01 | A-C-TYPE SYNC   | PICTURE X(4).                               |             | C90970 |
| 30970 | 01 | RECURUS-READ  | PICTURE 9(6) SYNC VALUE ZERO.               |             | C90970 |
| 30980 | 01 | RECURUS-PASS  | PICTURE 9(6) SYNC VALUE ZERO.               |             | C90970 |
| 30990 | 01 | REC-IUENT SYNC  | PICTURE X.                                  |             | C90970 |
| 31010 | 01 | NO-REJ-A-C SYNC   | PICTURE 99.                                 |             | C90970 |
| 31020 | 01 | NO-REJ-HMC SYNC   | PICTURE 99.                                 |             | C90970 |
| 31030 | 01 | NO-REJ-ACTION SYNC                                      | PICTURE 99.                                 |             | C90970 |
| 31140 | 01 | REJ-S-N SYNC.   |   |             | C90970 |
| 31150 | 02 | R-S-N OCCURS 25 TIMES                                   | DEPENDING ON NO-REJ-A-C.                    |             | C90970 |
| 31160 |    |   | PICTURE X(0).                               |             | C90970 |
| 31250 | 01 | TARLE-ACTION-REJ SYNC.                                  |   |             | C90970 |
| 31260 | 02 | ACTION-REJ OCCURS 8 TIMES                               | DEPENDING ON NO-REJ-ACTION,                 |             | C90970 |
| 31270 |    |   | PICTURE X.                                  |             | C90970 |
| 50000 |    | PROCEDURE DIVISION.                                     |   |             | C90970 |
| 50010 |    | OPEN-FILES.   |   |             | C90970 |
| 50020 |    | OPEN INPUT INFILE, SC-FLE.                              |   |             | C90970 |
| 50030 |    | OPEN OUTPUT OUTFILE.                                    |   |             | C90970 |
| 50035 |    | PERFORM SCREEN-DATA-IN THRU END-S-D-I.                  |   |             | C90970 |
| 50040 |    | READ1.  |   |             | C90970 |
| 50050 |    | READ INFILE   |   |             | C90970 |
| 50060 |    | AT END GO TO BLOCK-CHECK.                               |   |             | C90970 |
| 50070 |    | ADD 1 TO RECORDS-READ.                                  |   |             | C90970 |
| 50080 |    | IF TYPE NOT EQUAL TO A-C-TYPE GO TO READ1.              |   |             | C90970 |
| 50090 |    | IF REC-ID NOT EQUAL TO REC-IDENT GO TO READ1.           |   |             | C90970 |
| 50100 |    | IF HOW-MAL LESS THAN LIT-ZERO GO TO READ1.              |   |             | C90970 |
| 50110 |    | IF DAY NOT GREATER THAN ZERO GO TO READ1.               |   |             | C90970 |
| 50120 |    | IF SER-NO EQUAL TO SPACE GO TO READ1.                   |   |             | C90970 |
| 50200 |    | SPECIAL-SCREEN.   |   |             | C90970 |
| 50210 |    | MOVE ZERO TO KOUNT.                                     |   |             | C90970 |
| 50220 |    | CHECK1.   |   |             | C90970 |
| 50230 |    | ADD 1 TO KOUNT.   |   |             | C90970 |
| 50240 |    | IF HOW-MAL IS EQUAL TO HOW-MAL-REJ [KOUNT] GO TO READ1. |   |             | C90970 |
| 50250 |    | IF KOUNT IS LESS THAN NO-REJ-HMC GO TO CHECK1.          |   |             | C90970 |
| 50300 |    | MOVE ZERO TO KOUNT.                                     |   |             | C90970 |
| 50310 |    | CHECK2.   |   |             | C90970 |
| 50320 |    | ADD 1 TO KOUNT.   |   |             | C90970 |
| 50330 |    | IF ACTION EQUAL TO ACTION-REJ [KOUNT] GO TO READ1.      |   |             | C90970 |
| 50340 |    | IF KOUNT IS LESS THAN NO-REJ-ACTION GO TO CHECK2.       |   |             | C90970 |
| 50400 |    | CHECK-S-N-FOR-8-DIGITS.                                 |   |             | C90970 |
| 50410 |    | MOVE SER-NO TO SER-NO-A.                                |   |             | C90970 |
| 50420 |    | IF LISTS-S-N (0) NOT EQUAL SPACE GO TO CHECK-S-N.       |   |             | C90970 |
| 50430 |    | MOVE 7 TO KOUNT.  |   |             | C90970 |
| 50440 |    | MOVE 8 TO KNT.  |   |             | C90970 |
| 50450 |    | LOOP1.  |   |             | C90970 |
| 50460 |    | MOVE LISTS-S-N [KOUNT] TO LISTS-S-N [KNT].              |   |             | C90970 |
| 50470 |    | IF KOUNT EQUAL TO 3 GO TO END-LOOP1.                    |   |             | C90970 |
| 50480 |    | SUBTRACT 1 FROM KOUNT.                                  |   |             | C90970 |
| 50490 |    | SUBTRACT 1 FROM KNT.                                    |   |             | C90970 |
| 50500 |    | GO TO LOOP1.  |   |             | C90970 |
| 50510 |    | END-LOOP1.  |   |             | C90970 |
| 50520 |    | MOVE ZERO TO LISTS-S-N [KOUNT].                         |   |             | C90970 |
| 50600 |    | CHECK-S-N.  |   |             | C90970 |
| 50610 |    | IF SER-NO-A IS LESS THAN LOW-S-N GO TO READ1.           |   |             | C90970 |
| 50620 |    | IF SER-NO-A IS GREATER THAN HIGH-S-N GO TO READ1.       |   |             | C90970 |
| 50700 |    | TEST-S-N.   |   |             | C90970 |
| 50710 |    | MOVE ZERO TO KOUNT.                                     |   |             | C90970 |
| 50720 |    | LOOP2.  |   |             | C90970 |
| 50730 |    | ADD 1 TO KOUNT.   |   |             | C90970 |
| 50740 |    | IF SER-NO-A IS EQUAL TO R-S-N [KOUNT] GO TO READ1.      |   |             | C90970 |
| 50750 |    | IF KOUNT IS LESS THAN NO-REJ-A-C GO TO LOOP2.           |   |             | C90970 |
| 50800 |    | CAL-DATL.   |   |             | C90970 |
| 50810 |    | COMPUTE KOUNT > YEAR - 4.                               |   |             | C90970 |
| 50820 |    | IF KOUNT IS LESS THAN 1 THEN ADD 10 TO KOUNT.           |   |             | C90970 |
| 50830 |    | MOVE MONTH TO KNT.                                      |   |             | C90970 |
| 50840 |    | COMPUTE JDAY > DAY < KDAY [KNT] < DAY-YEAR [KOUNT].     |   |             | C90970 |
| 50850 |    | IF KOUNT EQUAL LEAP-YEAR-68 GO TO LEAP-YEAR.            |   |             | C90970 |
| 50860 |    | IF KOUNT EQUAL LEAP-YEAR-72 GO TO LEAP-YEAR.            |   |             | C90970 |



```

805
812
04      NO REJ ACTION
H
J
T
U
*END
/*      PLACE TFG DATA BEFORE THIS CARD
//TPR,TU13  DU  DISP>[OLD,KEEP],VOL>SER>+F2,UNIT>T+F2,LABEL>X,ML]
//TPR,TU22  DD  DISP>[OLD,PASS]
//TPR,TPRIN DU  *,SPACE>[TRK,(1,1)]
T/P  DT01  1010080Z080
T/P  TU22  1020090Z090
/*

```

D22-PASS

### 6.1.2 66-1 SORT

```

//C9897S EXEC P9023N,TIME>010,ACCT>D35322107
//CHG,SORT1N  DU  DSN>+P,9895403,DISP>[OLD,DELETE],
//          CCX>[LRECL>0090,BLKSIZE>2700],LABEL>X,NSL,RETPD>000]
//CHG,SORTOUT DU  DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>+A,9895405, CT12  1
//          VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1,
//          I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12  2
//          DCB>[LRECL>0090,BLKSIZE>2700]
//CHG,SYSIN  DU  *,DCB>BLKSIZE>0080,SPACE>[TRK,(1,1)]
SORT  FIELDS>[015,008,CH,A,086,004,CH,A,046,005,CH,A,053,003,CH,A, C
051,002,CH,A,056,029,CH,A,023,023,CH,A],SIZE>E0050000
MODS  EIS>[E15,008,SORTLIB,N],E16>[E16,024,SORTLIB,N]
/*
//C9897P EXEC C9603N,TIME>01,ACCT>D35322107
//CHG,TU12   DD  DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>+A,9895405, CT12  1
//          VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1,
//          I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12  2
//          DD  *,SPACE>[TRK,(1,1)]
//CHG,TPRIN  DD  *,SPACE>[TRK,(1,1)]
T/P  TU12  1020090Z090
/*      PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.1.3 66-1 MERGE

```

//C9897M JOB 01: G. WANG : ,PRTY>02,TPRUN>HOLD
//C9897 EXEC P9023N,TIME>10,ACCT>D35323007
//CHG,SORT1N01 DU  DISP>[KEEP],UNIT>[T+F5,1,DEFER],DSN>+E,9895405, CT22  1
//          VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5,
//          I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22  2
//          DCB>[LRECL>0090,BLKSIZE>2700],LABEL>X,NSL,RETPD>001]
//CHG,SORT1N02 DU  DISP>[KEEP],UNIT>[T+F6,1,DEFER],DSN>+F,9895405, CT23  1
//          VOL>SER>[+F6,A+F6,B+F6,C+F6,D+F6,E+F6,F+F6,G+F6,H+F6,
//          I+F6,J+F6,K+F6,L+F6,M+F6,N+F6,O+F6,P+F6,Q+F6,R+F6,S+F6],CT23  2
//          DCB>[LRECL>0090,BLKSIZE>2700],LABEL>X,NSL,RETPD>001]
//CHG,SORT1N03 DU  DISP>[KEEP],UNIT>[T+F7,1,DEFER],DSN>+G,9895405, CT24  1
//          VOL>SER>[+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7,
//          I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7],CT24  2
//          DCB>[LRECL>0090,BLKSIZE>2700],LABEL>X,NSL,RETPD>001]
//CHG,SORT1N04 DU  DISP>[KEEP],UNIT>[T+F8,1,DEFER],DSN>+H,9895405, CT25  1
//          VOL>SER>[+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8,
//          I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8],CT25  2
//          DCB>[LRECL>0090,BLKSIZE>2700],LABEL>X,NSL,RETPD>001]
//CHG,SORT1N05 DD  DISP>[KEEP],UNIT>[T+F2,1,DEFER],DSN>+B,9895405, CT13  1
//          VOL>SER>[+F2,A+F2,B+F2,C+F2,D+F2,E+F2,F+F2,G+F2,H+F2,
//          I+F2,J+F2,K+F2,L+F2,M+F2,N+F2,O+F2,P+F2,Q+F2,R+F2,S+F2],CT13  2
//          DCB>[LRECL>0090,BLKSIZE>2700],LABEL>X,NSL,RETPD>001]
//CHG,SORT1N06 DU  DISP>[KEEP],UNIT>[T+F3,1,DEFER],DSN>+C,9895405, CT14  1
//          VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3,
//          I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3],CT14  2
//          DCB>[LRECL>0090,BLKSIZE>2700],LABEL>X,NSL,RETPD>001]
//CHG,SORT1N07 DD  DISP>[KEEP],UNIT>[T+F4,1,DEFER],DSN>+D,9895405, CT15  1
//          VOL>SER>[+F4,A+F4,B+F4,C+F4,D+F4,E+F4,F+F4,G+F4,H+F4,
//          I+F4,J+F4,K+F4,L+F4,M+F4,N+F4,O+F4,P+F4,Q+F4,R+F4,S+F4],CT15  2
//          DCB>[LRECL>0090,BLKSIZE>2700],LABEL>X,NSL,RETPD>001]
//CHG,SORTOUT DU  DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>+A,9895405, CT12  1
//          VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1,
//          I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12  2
//          DCB>[LRECL>0090,BLKSIZE>2700]
//CHG,SYSIN  DD  *,DCB>BLKSIZE>0080,SPACE>[TRK,(1,1)]
MERGE  FIELDS>[015,008,CH,A,086,004,CH,A,046,005,CH,A,053,003,CH,A, C
051,002,CH,A,056,029,CH,A,023,023,CH,A]
/*

```





```

50440 WRITE OUTREC FROM NINES. C98970
50450 ADD 1 TO KNT. C98970
50460 IF KNT IS LESS THAN 30 GO TO NINE-FILL. C98970
50470 GO TO CLOSE-FILES. C98970
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG.TFGIN DU *SPACE>[CYL,(1,1)] 1440 CDS
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU12 DU DISP>[OLD,KEEP],VOL>SER>+FI,UNIT>T+FI T12
//TPR.TU22 DU DISP>[OLD,KEEP],VOL>SER>+FB,UNIT>T+FB T22
//TPR.TPRIN DD *SPACE>[TRK,(1,1)]
T/P TU22 10100902090
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.1.5 66-1 COPY ACCEPTABLE AIRCRAFT

```

//19897F JOB 01: G. WANG, ;,PRTY>02,TPRUN>HOLD
//C98970 EXEC P9655L,TIME>10,ACCT>D35323007
//CHG.TU14 DU DISP>[KEEP],UNIT>[T+F3,1,DEFER],DSN>+C.9895440, CT14 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,6+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG.TU22 DU DISP>[PASS],UNIT>[T+F5,1,DEFER],DSN>+E.9895440, CT22 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,0+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG.INPUT DU *SPACE>[CYL,(1,1)] 1440 CDS
00000 COMLINE COMPILE G. WANG. C98970
01040 DATE-WRITTEN. 5 JAN 72. C98970
01050 REMARKS. C98970
01060 66-1 COPY ACCEPTABLE AIRCRAFT. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT INFILE ASSIGN TO UT-S-TU14 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT OUTFILE ASSIGN TO UT-S-TU22 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT ACCEPT-FILE ASSIGN TO DA-S-0701 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD INFILE C98970
10120 RECORDING MODE IS F C98970
10130 BLOCK CONTAINS 30 RECORDS C98970
10140 RECORD CONTAINS 90 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE INDATA. C98970
10170 01 INDATA SYNC. C98970
10178 02 DATAB. C98970
10180 03 DATA1 PICTURE XX. C98970
10190 03 TYPE PICTURE X(4). C98970
10200 03 DATA2 PICTURE X(8). C98970
10210 02 SER-NO PICTURE X(8). C98970
10220 02 DATA3 PICTURE X(18). C98970
10228 02 DATE-IN. C98970
10230 03 DAY PICTURE 99. C98970
10240 03 MONTH PICTURE 99. C98970
10250 03 YEAR PICTURE 9. C98970
10258 02 DATA7. C98970
10260 03 WUC PICTURE X(5). C98970
10270 03 ACTION PICTURE X. C98970
10280 03 WD PICTURE X. C98970
10290 03 HOW-MAL PICTURE X(3). C98970
10300 03 DATA4 PICTURE X(27). C98970
10310 03 REC-ID PICTURE X. C98970
10320 03 THM PICTURE X. C98970
10330 03 DATA5 PICTURE X. C98970
10340 02 FILLER PICTURE XXXX. C98970
10350 02 DATA6 PICTURE X. C98970
11100 FU OUTFILE C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 30 RECORDS C98970
11140 RECORD CONTAINS 90 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE OUTDATA. C98970
11170 01 OUTDATA SYNC. C98970
11178 02 DATAB-OUT. C98970
11180 03 DATA1-OUT PICTURE XX. C98970
11190 03 TYPE-OUT PICTURE X(4). C98970
11200 03 DATA2-OUT PICTURE X(8). C98970

```



|             |  |          |
|-------------|--|----------|
| 52010       | COMPUTE KOUNT > RECORDS-PASS - [(RECORDS-PASS / 30) * 30]. | C98970   |
| 52020       | IF KOUNT EQUAL ZERO GO TO CLOSE-FILES.                     | C98970   |
| 52040       | LOOPS.   | C98970   |
| 52050       | WRITE OUTDATA FROM NINE.                                   | C98970   |
| 52060       | ADD 1 TO KOUNT.  | C98970   |
| 52070       | IF KOUNT IS LESS THAN 30 GO TO LOOPS.                      | C98970   |
| 52100       | CLOSE-FILES.   | C98970   |
| 52110       | CLOSE INFILE WITH LOCK, ACCEPT-FILE WITH LOCK.             | C98970   |
| 52120       | CLOSE OUTFILE WITH LOCK.                                   | C98970   |
| 52140       | DISPLAY : NUMBER OF RECORDS READ : RECORDS-READ.           | C98970   |
| 52150       | UPON CONSOLE.  | C98970   |
| 52160       | DISPLAY : NUMBER OF RECORDS PASSED : RECORDS-PASS          | C98970   |
| 52170       | UPON CONSOLE.  | C98970   |
| 52180       | DISPLAY : EOJ C9897 : UPON CONSOLE.                        | C98970   |
| 52190       | GOBACK.  | C98970   |
| 70000       | READ-ACCEPT-DATA.  | C98970   |
| 70010       | READ ACCEPT-FILE AT END GO TO END-R-A-D.                   | C98970   |
| 70020       | MOVE DATA-1 TO NO-ACCEPT-A-C.                              | C98970   |
| 70030       | MOVE ZERO TO KNT.  | C98970   |
| 70040       | RAD-1.   | C98970   |
| 70050       | ADD 1 TO KNT.  | C98970   |
| 70060       | READ ACCEPT-FILE AT END GO TO END-R-A-D.                   | C98970   |
| 70070       | MOVE DATA-2 TO ACCEPT-A-C [KNT].                           | C98970   |
| 70080       | IF KNT IS LESS THAN NO-ACCEPT-A-C GO TO RAD-1.             | C98970   |
| 70090       | MOVE ACCEPT-A-C [1] TO TEMP-ACCEPT-A-C.                    | C98970   |
| 70100       | END-R-A-D, EXIT.   | C98970   |
| /*          | PLACE COBOL SOURCE BEFORE THIS CARD                        |          |
| //CHG,TFG1N | DD *SPACE>[CYL:(1,1)]                                      |          |
| IFG DT01    | 11 0202080   | 1440 CDS |
| 150         |  |          |
| 57000231    |  |          |
| 57000232    |  |          |
| 57000235    |  |          |
| 57000236    |  |          |
| 57000237    |  |          |
| 57000243    |  |          |
| 57000244    |  |          |
| 57002455    |  |          |
| 57002456    |  |          |
| 57002458    |  |          |
| 57002459    |  |          |
| 57002463    |  |          |
| 57002470    |  |          |
| 57002473    |  |          |
| 57002476    |  |          |
| 57002477    |  |          |
| 57002482    |  |          |
| 57002483    |  |          |
| 57002485    |  |          |
| 57002486    |  |          |
| 57002490    |  |          |
| 57002491    |  |          |
| 57002493    |  |          |
| 57002494    |  |          |
| 57002496    |  |          |
| 57002503    |  |          |
| 57002504    |  |          |
| 57002505    |  |          |
| 57002508    |  |          |
| 57002509    |  |          |
| 57002515    |  |          |
| 57002517    |  |          |
| 57002520    |  |          |
| 57002524    |  |          |
| 57002527    |  |          |
| 57002528    |  |          |
| 57002532    |  |          |
| 57002533    |  |          |
| 57002537    |  |          |
| 57002538    |  |          |
| 57002540    |  |          |
| 57002543    |  |          |
| 57002545    |  |          |
| 57002546    |  |          |
| 58000760    |  |          |
| 58000766    |  |          |
| 58000767    |  |          |
| 58000772    |  |          |
| 58000773    |  |          |
| 58000776    |  |          |
| 58000777    |  |          |
| 5800077A    |  |          |
| 58000780    |  |          |
| 58000781    |  |          |
| 58000783    |  |          |
| 58000785    |  |          |
| 58000786    |  |          |

58000788  
58000792  
58000797  
58000900  
58000901  
58000903  
58000904  
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59000138  
59000140  
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59000145  
59000146  
59000147  
59000149

59000151  
59000152  
59000153  
59000155  
59000157  
59000164

\*END

/\* PLACE TFG DATA BEFORE THIS CARD

//TPR.TU14 DD DISP>[OLD,KEEP],VOL>SER>+FS,UNIT>T+FS  
//TPR.TU22 DD DISP>[OLD,KEEP],VOL>SER>+FS,UNIT>T+FS  
//TPR.TPRIN DD +,SPACE>[TRK,[1,1]]

T14  
T22

T/P DT01 10200802080

/\* PLACE T/P CONTROL CARDS BEFORE THIS CARD

6.2 65-110 FILE GENERATION PROGRAMS  
 6.2.1 65-110 SCREEN

```

//C98976 JOB 01:1 6 WANG 1,PRTY>02,TYPRUN>HOLD
//C9897M EXEC PGM=SL,TIME>01,ACCT>035323007
//CHG.TU22 DD UISP>(PASS),UNIT>(T>FB,1,DEFEN),DSN>E,9895410, CT22 1
//
//CHG.INPUT DD *SPACE>(CYL:(1,1)) 1440 CDS
00000 COMBINE COMPILE 0, WANG, C98970
01040 DATE-WRITTEN. 29 DEC 71. C98970
01050 REMARKS. C98970
01060 SCREEN 05-110 DATA TAPE. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILL-CONTROL. C98970
02120 SELECT INFILE ASSIGN TO UT-5-TU22 C98970
02130 RESUME I ALTERNATE AREA. C98970
02140 SELECT OUTFILE ASSIGN TO DA-5-DT02 C98970
02150 RESUME I ALTERNATE AREA. C98970
02160 SELECT INDATA ASSIGN TO DA-5-DT01 C98970
02170 RESUME I ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD INFILE C98970
10110 C98970
10120 RECURRING MODE IS F C98970
10130 BLOCK CONTAINS 50 RECORDS C98970
10140 RECORD CONTAINS 60 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE INREC. C98970
10170 01 INREC SYNC. C98970
10180 02 TYPE PICTURE X(4). C98970
10190 02 DATA1. C98970
10192 03 FILLER PICTURE X(24). C98970
10194 03 MC PICTURE X. C98970
10196 03 FILLER PICTURE X(4). C98970
10198 03 WUC PICTURE X(5). C98970
10200 02 SER-NO PICTURE X(8). C98970
10210 02 DATA3 PICTURE XX. C98970
10212 02 FILLER PICTURE XXXX. C98970
10214 02 DATA4 PICTURE X. C98970
10220 02 YEAR PICTURE 99. C98970
10225 02 YEARC REDEFINES YEAR. PICTURE XX. C98970
10226 02 FILLER REDEFINES YEAR. C98970
10227 03 FILLER PICTURE X. C98970
10228 03 YEAR1 PICTURE 9. C98970
10230 02 DAY PICTURE 999. C98970
10231 02 DAYC REDEFINES DAY. PICTURE XXX. C98970
10232 02 FILLER REDEFINES DAY. C98970
10233 03 FILLER PICTURE X. C98970
10234 03 DAY2 PICTURE 99. C98970
10235 02 FILLER REDEFINES DAY. C98970
10236 03 FILLER PICTURE XX. C98970
10237 03 DAY1 PICTURE 9. C98970
10240 02 DATA5 PICTURE XX. C98970
10300 FD OUTFILE C98970
10310 RECURRING MODE IS F C98970
10320 BLOCK CONTAINS 50 RECORDS C98970
10330 RECORD CONTAINS 60 CHARACTERS C98970
10340 LABEL RECORDS ARE STANDARD C98970
10350 DATA RECORDS ARE OUTREC. C98970
10360 01 OUTREC SYNC. C98970
10370 02 TYPE-OUT PICTURE X(4). C98970
10380 02 DATA1-OUT PICTURE X(34). C98970
10390 02 SER-OUT PICTURE X(8). C98970
10400 02 DATA2-OUT PICTURE XX. C98970
10410 02 DAY-OUT PICTURE 9999. C98970
10420 02 DATA4-OUT PICTURE X. C98970
10430 02 YEAR-OUT PICTURE 99. C98970
10440 02 DAY-OUT PICTURE 999. C98970
10450 02 DATA5-OUT PICTURE XX. C98970
11000 FD INDATA C98970
11010 RECURRING MODE IS F C98970
11020 BLOCK CONTAINS 20 RECORDS C98970
11030 RECORD CONTAINS 80 CHARACTERS C98970
11040 LABEL RECORDS ARE STANDARD C98970
11050 DATA RECORDS ARE DATA-IN. C98970
11100 01 DATA-IN SYNC. C98970
11110 02 SCREEN-DATA-IN PICTURE X(80). C98970
11120 02 FILLER REDEFINES SCREEN-DATA-IN. C98970
11130 03 DATA-I PICTURE X(4). C98970
11140 03 FILLER PICTURE X(76). C98970
  
```





```

50470 MOVE YEAR TO YEAR-OUT. C98970
50480 MOVE UAY TO DAY-OUT. C98970
50490 MOVE UATAS TO DATAS-OUT. C98970
50500 WRITE OUTREC. C98970
50510 ADD 1 TO RECORDS-PASS. C98970
50515 IF RECORDS-PASS IS GREATER THAN 100 GO TO BLOCK-CHECK. C98970
50520 GO TO READ1. C98970
50600 BLOCK-CHECK. C98970
50610 COMPUTE KOUNT > RECORDS-PASS - [(RECORDS-PASS / 50) * 50]. C98970
50620 IF KOUNT EQUAL ZERO GO TO CLOSE-FILES. C98970
50640 LOOP1. C98970
50650 WRITE OUTREC FROM NINE. C98970
50660 ADD 1 TO KOUNT. C98970
50670 IF KOUNT IS LESS THAN 50 THEN GO TO LOOP1. C98970
50800 CLOSE-FILES. C98970
50810 CLOSE INFILE WITH LOCK, INDATA WITH LOCK. C98970
50820 CLOSE OUTFILE WITH LOCK. C98970
50840 DISPLAY : NUMBEN RECORDS READ : RECORDS-READ UPON CONSOLE. C98970
50850 DISPLAY : NUMBEN RECORDS PASS : RECORDS-PASS UPON CONSOLE. C98970
50860 DISPLAY : EOJ 9897 : UPON CONSOLE. C98970
50870 GORACK. C98970
51000 SCREEM-UATA. C98970
51010 READ INDATA AT END GO TO END-S-D. C98970
51020 MOVE UATA-1 TO A-C-TYPE. C98970
51050 READ INDATA AT END GO TO END-S-D. C98970
51060 MOVE UATA-2 TO NO-A-C. C98970
51070 MOVE ZEKO TO KOUNT. C98970
51080 S-D-1. C98970
51090 ADD 1 TO KOUNT. C98970
51100 READ INDATA AT END GO TO END-S-D. C98970
51110 MOVE TAIL-NO TO REJ-S-N [KOUNT]. C98970
51120 IF KOUNT IS LESS THAN NO-A-C GO TO S-D-1. C98970
51130 READ INDATA AT END GO TO END-S-D. C98970
51140 MOVE TAIL-NO TO LOW-S-N. C98970
51150 READ INDATA AT END GO TO END-S-D. C98970
51160 MOVE TAIL-NO TO HIGH-S-N. C98970
51170 READ INDATA INTO MC-WUC-REC, AT END GO TO END-S-D. C98970
51190 END-S-D. EXIT. C98970
80000 INSERT-WUC. C98970
80010 IF MC IS EQUAL TO MC-1 THEN MOVE PERIODIC-INSP TO WUC. C98970
80020 IF MC IS EQUAL TO MC-2 THEN MOVE WRLY-P-F-INSP TO WUC. C98970
/* PLACE COBOL SOURCE BEFORE THIS CARD C98970
//CH6.TFGIN DD *.SPACE>[CYL,[1,1]] WANG 1440 CDS
00000 GET TFG C98970
01000I 019999 REPLACE C98970
TFG DT01 11 0202080 'T
F106 A-C TYPE
13 NUMBER REJ A-C
57000234
57000239
57000240
57001523
57002507
57002513
57002516
57002519
57002523
57002529
58000795
59000061
59000150
57000001 LOW S-N
59999999 HIGH S-N
C03400 U63300
*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU22 DD DISP>[OLD,KEEP],VOL>SER>+FB,UNIT>T+FB,
// DCB>[DEN>2,TRTCH>ET,EROPT>SNP],LABEL>[.NL]
//TPR.TPRIN DD *.SPACE>[TRK,[1,1]]
T/P DT01 10100802080
T/P DT02 10200602060
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

CT22

### 6.2.2 65-110 SORT

```
//T9897L JOB 01: G. WANG : ,PRTY>02, TYPRUN>HOLD
//C9897S EXEC P9622N, W>199, TIME>03, ACCT>D35323007
//CHG. SORTIN DU DISP>[ ,KEEP ], UNIT>[ T+F5, I, DEFER ], CT22 1
// DSN>+E, 9895415, CT22 2
// VOL>SER>[ +F5, A+F5, B+F5, C+F5, D+F5, E+F5, F+F5, G+F5, H+F5, CT22 3
// I+F5, J+F5, K+F5, L+F5, M+F5, N+F5, O+F5, P+F5, Q+F5, R+F5, S+F5 ], CT22 4
// DCB>[ LRECL>0060, BLKSIZE>3000 ], LABEL>[ ,NSL, RETPD>099 ]
//CHG. SORTOUT DU DISP>[ ,KEEP ], UNIT>[ T+F1, I, DEFER ], DSN>+A, 9895425, CT12 1
// VOL>SER>[ +F1, A+F1, B+F1, C+F1, D+F1, E+F1, F+F1, G+F1, H+F1, CT12 2
// I+F1, J+F1, K+F1, L+F1, M+F1, N+F1, O+F1, P+F1, Q+F1, R+F1, S+F1 ], CT12 3
// DCB>[ LRECL>0060, BLKSIZE>3000 ]
//CHG. SYSIN DD * ,DCB>BLKSIZE>0080, SPACE>[ TRK, [1,1]]
SORT FIELDS>[ 039,008,CH,A,049,004,CH,A,059,001,CH,A,034,005,CH,A, C
029,008,CH,A,001,028,CH,A,030,004,CH,A ], SIZE>E0500000
MODS E15>[ E15,008,SORTLIB,N ], E18>[ E18,024,SORTLIB,N ]
/*
//C9897P EXEC C9603N, TIME>01, ACCT>D35322107
//CHG. TU12 DU DISP>[ ,KEEP ], UNIT>[ T+F1, I, DEFER ], DSN>+A, 9895425, CT12 1
// VOL>SER>[ +F1, A+F1, B+F1, C+F1, D+F1, E+F1, F+F1, G+F1, H+F1, CT12 2
// I+F1, J+F1, K+F1, L+F1, M+F1, N+F1, O+F1, P+F1, Q+F1, R+F1, S+F1 ] T12 3
//CHG. TPRIN DD * ,SPACE>[ TRK, [1,1]]
T/P TU12 10200602060
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD
```

### 6.2.3 65-110 MERGE

```
//C9897N JOB 01: G. WANG : ,PRTY>02, TYPRUN>HOLD
//C9897 EXEC P9625N, TIME>03, ACCT>D35323007
//CHG. SORTIN01 DU DISP>[ ,KEEP ], UNIT>[ A+F5, 2, DEFER ], DSN>+E, 9895425, CT22/23 1
// VOL>SER>[ +F5, A+F5, B+F5, C+F5, D+F5, E+F5, F+F5, G+F5, H+F5, CT22 2
// I+F5, J+F5, K+F5, L+F5, M+F5, N+F5, O+F5, P+F5, Q+F5, R+F5, S+F5 ], CT22 3
// DCB>[ LRECL>0060, BLKSIZE>3000 ], LABEL>[ ,NSL, RETPD>099 ]
//CHG. SORTIN02 DU DISP>[ ,KEEP ], UNIT>[ A+F7, 2, DEFER ], DSN>+G, 9895425, CT24/25 1
// VOL>SER>[ +F7, A+F7, B+F7, C+F7, D+F7, E+F7, F+F7, G+F7, H+F7, CT24 2
// I+F7, J+F7, K+F7, L+F7, M+F7, N+F7, O+F7, P+F7, Q+F7, R+F7, S+F7 ], CT24 3
// DCB>[ LRECL>0060, BLKSIZE>3000 ], LABEL>[ ,NSL, RETPD>099 ]
//CHG. SORTIN03 DD DISP>[ ,KEEP ], UNIT>[ A+F3, 2, DEFER ], DSN>+C, 9895430, CT14/15 1
// VOL>SER>[ +F3, A+F3, B+F3, C+F3, D+F3, E+F3, F+F3, G+F3, H+F3, CT14 2
// I+F3, J+F3, K+F3, L+F3, M+F3, N+F3, O+F3, P+F3, Q+F3, R+F3, S+F3 ], CT14 3
// DCB>[ LRECL>0060, BLKSIZE>3000 ], LABEL>[ ,NSL, RETPD>099 ]
//CHG. SORTOUT DD DISP>[ ,KEEP ], UNIT>[ A+F1, 2, DEFER ], DSN>+A, 9895430, CT12/13 1
// VOL>SER>[ +F1, A+F1, B+F1, C+F1, D+F1, E+F1, F+F1, G+F1, H+F1, CT12 2
// I+F1, J+F1, K+F1, L+F1, M+F1, N+F1, O+F1, P+F1, Q+F1, R+F1, S+F1 ], CT12 3
// DCB>[ LRECL>0060, BLKSIZE>3000 ]
//CHG. SYSIN DD * ,DCB>BLKSIZE>0080, SPACE>[ TRK, [1,1]]
MERGE FIELDS>[ 039,008,CH,A,049,004,CH,A,059,001,CH,A,034,005,CH,A, C
029,001,CH,A ]
/*
```

### 6.2.4 65-110 ELIMINATE DUPLICATE RECORDS

```
//C9897P JOB 01: G. WANG : ,PRTY>02, TYPRUN>HOLD
//C9897D JOB 01: G. WANG : ,PRTY>02, TYPRUN>HOLD
//C9897D EXEC P9655L, TIME>10, ACCT>D35323007
//CHG. TU12 DU DISP>[ ,PASS ], UNIT>[ T+F1, I, DEFER ], DSN>+A, 9895430, CT12 1
// VOL>SER>[ +F1, A+F1, B+F1, C+F1, D+F1, E+F1, F+F1, G+F1, H+F1, CT12 2
// I+F1, J+F1, K+F1, L+F1, M+F1, N+F1, O+F1, P+F1, Q+F1, R+F1, S+F1 ] T12 3
//CHG. TU14 DU DISP>[ ,PASS ], UNIT>[ T+F3, I, DEFER ], DSN>+C, 9895440, CT14 1
// VOL>SER>[ +F3, A+F3, B+F3, C+F3, D+F3, E+F3, F+F3, G+F3, H+F3, CT14 2
// I+F3, J+F3, K+F3, L+F3, M+F3, N+F3, O+F3, P+F3, Q+F3, R+F3, S+F3 ] T14 3
//CHG. INPUT DD * ,SPACE>[ CYL, [1,1]] 1440 CDS
0000 COMDINE COMPILE G. WANG. C98970
01050 DATE-WRITTEN. 27 DEC 71. C98970
01060 RLMARKS. PHRUGAM SIFTS 65-110 FILE TO ELIMINATE DUPLICATE C98970
01070 ADJACENT RECORDS. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT INFILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT OUTFILE ASSIGN TO UT-S-TU14 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
```



## 6.2.5 65-110 COPY ACCEPTABLE AIRCRAFT

```

//C9897F JOB 01:G. WANG 1,PRTY>04,TPRUN>HOLD
//C9897 EXEC P965SL,TIME>05,ACCT>D35323007
//CHG.TU12 DU DISP>(,PASS),UNIT>(T+F1,1,DEPER),DSN>A,9895435, C712 1
// VOL>SER>(+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, C712 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1) T12 3
//CHG.TU14 DU DISP>(,PASS),UNIT>(T+F3,1,DEPER),DSN>C,9895440, CT14 1
// VOL>SER>(+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3) T14 3
//CHG.INPUT DU 0,SPACE>(CYL,(1,1)) 1440 COS
0000 COMBINE COMPILE G. WANG, C98970
01040 DATE-WRITTEN: 29 DEC 71. C98970
01050 REMARKS. C98970
01060 65-110 COPY ACCEPTABLE AIRCRAFT. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT INFILE ASSIGN TO UT-S-TU14 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT OUTFILE ASSIGN TO UT-S-TU12 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT ACCEPT-FILE ASSIGN TO DA-S-0701 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FU INFILL C98970
10110 C98970
10120 RECURRING MODE IS F C98970
10130 BLOCK CONTAINS 50 RECORDS C98970
10140 RECORD CONTAINS 60 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE INREC. C98970
10170 01 INREC SYNC. C98970
10180 02 TITL PICTURE X(4). C98970
10190 02 DATA1. C98970
10192 03 FILLER PICTURE X(20). C98970
10194 03 MC PICTURE X. C98970
10196 03 FILLER PICTURE X(4). C98970
10198 03 NUC PICTURE X(5). C98970
10200 02 SER-NO PICTURE X(8). C98970
10210 02 DATA3 PICTURE XX. C98970
10212 02 FILLER PICTURE XXXX. C98970
10214 02 DATA4 PICTURE X. C98970
10220 02 YEAM PICTURE 99. C98970
10222 02 YEAMC REDEFINES YEAR PICTURE XX. C98970
10226 02 FILLER REDEFINES YEAR. C98970
10227 03 FILLER PICTURE X. C98970
10228 03 YEAM1 PICTURE 9. C98970
10230 02 DAY PICTURE 999. C98970
10231 02 DAYC REDEFINES DAY PICTURE XXX. C98970
10232 02 FILLER REDEFINES DAY. C98970
10233 03 FILLER PICTURE X. C98970
10234 03 DAY2 PICTURE 99. C98970
10235 02 FILLER REDEFINES DAY. C98970
10236 03 FILLER PICTURE XX. C98970
10237 03 DAY1 PICTURE 9. C98970
10240 02 DATA5 PICTURE XX. C98970
10300 FU OUTFILE C98970
10310 RECURRING MODE IS F C98970
10320 BLOCK CONTAINS 50 RECORDS C98970
10330 RECORD CONTAINS 60 CHARACTERS C98970
10340 LABEL RECORDS ARE OMITTED C98970
10350 DATA RECORDS ARE OUTREC. C98970
10360 01 OUTREC SYNC. C98970
10370 02 TYPL-OUT PICTURE X(8). C98970
10380 02 DATA1-OUT PICTURE X(34). C98970
10390 02 SER-OUT PICTURE X(8). C98970
10400 02 DATA3-OUT PICTURE XX. C98970
10410 02 DAY-OUT PICTURE 9999. C98970
10420 02 DATA4-OUT PICTURE X. C98970
10430 02 YEAM-OUT PICTURE 99. C98970
10440 02 DAY-OUT PICTURE 999. C98970
10450 02 DATA5-OUT PICTURE XX. C98970
11400 FJ ACCEPT-FILE C98970
11410 RECURRING MODE IS F C98970
11420 BLOCK CONTAINS 20 RECORDS C98970
11430 RECORD CONTAINS 80 CHARACTERS C98970
11440 LABEL RECORDS ARE STANDARD C98970
11450 DATA RECORDS ARE ACCEPT-REC. C98970
11460 01 ACCEPT-REC SYNC. C98970
11470 02 ACCEPT-DATA PICTURE X(80). C98970
11480 02 FILLER REDEFINES ACCEPT-DATA. C98970

```



```

50850      DISPLAY : NUMBER RECORDS PASS ; RECORDS-PASS UPON CONSOLE.      C98970
50860      DISPLAY : EOJ 9897 ; UPON CONSOLE.                             C98970
50870      GORACK.                                                         C98970
70000      READ-ACCEPT-DATA.                                               C98970
70010      READ ACCEPT-FILE AT END GO TO END-R-A-D.                       C98970
70020      MOVE DATA-1 TO NO-ACCEPT-A-C.                                  C98970
70030      MOVE ZERO TO KNT.                                              C98970
70040      RAD-1.                                                         C98970
70050      ADD 1 TO KNT.                                                  C98970
70060      READ ACCEPT-FILE AT END GO TO END-R-A-D.                       C98970
70070      MOVE DATA-2 TO ACCEPT-A-C (KNT).                               C98970
70080      IF KNT IS LESS THAN NO-ACCEPT-A-C GO TO RAD-1.                C98970
70090      MOVE ACCEPT-A-C (1) TO TEMP-ACCEPT-A-C.                       C98970
70100      END-R-A-D. EXIT.                                              C98970
/*      PLACE COBOL SOURCE BEFORE THIS CARD
//CHG,TFG1N DD *,SPACE>[CYL:(1,1)]
TFG DT01 11 0202080
150
57000231
57000232
57000235
57000236
57000237
57000243
57000244
57002455
57002456
57002458
57002459
57002463
57002470
57002473
57002476
57002477
57002482
57002483
57002485
57002486
57002490
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58000773
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58000778
58000780
58000781
58000783
58000785
58000786
58000788
58000792
58000797
58000900
58000901
58000903
58000904
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59000005
59000006

```

1440 CDS

5900007  
5900008  
5900010  
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5900151  
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5900153  
5900155  
5900157  
5900164

```
/*  
  PLACE TFG DATA BEFORE THIS CARD  
//TPR.TU12  DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1  
//TPR.TU14  DD DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3  
//TPR.TPR1M DD  *.SPACE>[TRK,(1,1)]  
T/P DT01  10200002080  
T/P TU12  :ALL0602060  
/*  
  PLACE T/P CONTROL CARDS BEFORE THIS CARD
```

T12  
T14





|       |    |                          |                                |                                |        |
|-------|----|--------------------------|--------------------------------|--------------------------------|--------|
| 30170 | 02 | FILLER                   | PICTURE 999                    | VALUE 243.                     | C98970 |
| 30180 | 02 | FILLER                   | PICTURE 999                    | VALUE 273.                     | C98970 |
| 30190 | 02 | FILLER                   | PICTURE 999                    | VALUE 304.                     | C98970 |
| 30200 | 02 | FILLER                   | PICTURE 999                    | VALUE 334.                     | C98970 |
| 30210 | 01 | NO-DAYS-IN-YEAR          | REDEFINES DAYS-IN-YEAR SYNC.   |                                | C98970 |
| 30220 | 02 | KUAYS OCCURS 12 TIMES    |                                |                                | C98970 |
| 30230 |    |                          | PICTURE 999.                   |                                | C98970 |
| 30240 | 01 | DAYS-IN-YEARS SYNC.      |                                |                                | C98970 |
| 30250 | 02 | FILLER                   | PICTURE 9999                   | VALUE 0.                       | C98970 |
| 30260 | 02 | FILLER                   | PICTURE 9999                   | VALUE 365.                     | C98970 |
| 30270 | 02 | FILLER                   | PICTURE 9999                   | VALUE 730.                     | C98970 |
| 30280 | 02 | FILLER                   | PICTURE 9999                   | VALUE 1095.                    | C98970 |
| 30290 | 02 | FILLER                   | PICTURE 9999                   | VALUE 1461.                    | C98970 |
| 30300 | 02 | FILLER                   | PICTURE 9999                   | VALUE 1826.                    | C98970 |
| 30310 | 02 | FILLER                   | PICTURE 9999                   | VALUE 2191.                    | C98970 |
| 30320 | 02 | FILLER                   | PICTURE 9999                   | VALUE 2556.                    | C98970 |
| 30330 | 02 | FILLER                   | PICTURE 9999                   | VALUE 2922.                    | C98970 |
| 30340 | 02 | FILLER                   | PICTURE 9999                   | VALUE 3287.                    | C98970 |
| 30350 | 02 | FILLER                   | PICTURE 9999                   | VALUE 3652.                    | C98970 |
| 30360 | 02 | FILLER                   | PICTURE 9999                   | VALUE 4017.                    | C98970 |
| 30370 | 01 | DAY-IN-YEAR-TABLE        | REDEFINES DAYS-IN-YEARS SYNC.  |                                | C98970 |
| 30380 | 02 | DAY-YEAR OCCURS 12 TIMES |                                |                                | C98970 |
| 30390 |    |                          | PICTURE 9999.                  |                                | C98970 |
| 30400 | 01 | KOUNT                    | PICTURE S999                   | COMPUTATIONAL VALUE ZERO SYNC. | C98970 |
| 30410 | 01 | KNT                      | PICTURE S999                   | COMPUTATIONAL VALUE ZERO SYNC. | C98970 |
| 30430 | 01 | KYEAR                    | PICTURE S99                    | COMPUTATIONAL VALUE ZERO SYNC. | C98970 |
| 30440 | 01 | DAYS                     | PICTURE S999                   | COMPUTATIONAL VALUE ZERO SYNC. | C98970 |
| 30450 | 01 | RECGR0S-READ             | PICTURE 9(6)                   | SYNC VALUE ZERO.               | C98970 |
| 30460 | 01 | RECR0S-PASS              | PICTURE 9(6)                   | SYNC VALUE ZERO.               | C98970 |
| 30470 | 01 | QMO-KNT                  | PICTURE 999                    | SYNC VALUE ZERO.               | C98970 |
| 30500 | 01 | SER-8-UGIT SYNC.         |                                |                                | C98970 |
| 30510 | 02 | POS-1-2                  | PICTURE XX.                    |                                | C98970 |
| 30520 | 02 | POS-3-4                  | PICTURE XX                     | VALUE :00:.                    | C98970 |
| 30530 | 02 | POS-5                    | PICTURE X.                     |                                | C98970 |
| 30540 | 02 | POS-6                    | PICTURE X.                     |                                | C98970 |
| 30550 | 02 | POS-7                    | PICTURE X.                     |                                | C98970 |
| 30560 | 02 | POS-8                    | PICTURE X.                     |                                | C98970 |
| 30570 | 01 | MONTHS-IN-YEAR SYNC.     |                                |                                | C98970 |
| 30580 | 02 | FILLER                   | PICTURE XXX                    | VALUE :JAN:.                   | C98970 |
| 30590 | 02 | FILLER                   | PICTURE XXX                    | VALUE :FEB:.                   | C98970 |
| 30600 | 02 | FILLER                   | PICTURE XXX                    | VALUE :MAR:.                   | C98970 |
| 30610 | 02 | FILLER                   | PICTURE XXX                    | VALUE :APR:.                   | C98970 |
| 30620 | 02 | FILLER                   | PICTURE XXX                    | VALUE :MAY:.                   | C98970 |
| 30630 | 02 | FILLER                   | PICTURE XXX                    | VALUE :JUN:.                   | C98970 |
| 30640 | 02 | FILLER                   | PICTURE XXX                    | VALUE :JUL:.                   | C98970 |
| 30650 | 02 | FILLER                   | PICTURE XXX                    | VALUE :AUG:.                   | C98970 |
| 30660 | 02 | FILLER                   | PICTURE XXX                    | VALUE :SEP:.                   | C98970 |
| 30670 | 02 | FILLER                   | PICTURE XXX                    | VALUE :OCT:.                   | C98970 |
| 30680 | 02 | FILLER                   | PICTURE XXX                    | VALUE :NOV:.                   | C98970 |
| 30690 | 02 | FILLER                   | PICTURE XXX                    | VALUE :DEC:.                   | C98970 |
| 30700 | 01 | NO-MONTHS-IN-YEAR        | REDEFINES MONTHS-IN-YEAR SYNC. |                                | C98970 |
| 30710 | 02 | KMO OCCURS 12 TIMES      |                                |                                | C98970 |
| 30720 |    |                          | PICTURE XXX.                   |                                | C98970 |
| 34000 | 01 | OUT-FILE-AIE-WORK SYNC.  |                                |                                | C98970 |
| 34010 | 02 | FILLER                   | PICTURE X(9)                   | VALUE SPACE.                   | C98970 |
| 34020 | 02 | WUC-OUT                  | PICTURE X(5)                   | VALUE SPACE.                   | C98970 |
| 34030 | 02 | FILLER                   | PICTURE X(8)                   | VALUE SPACE.                   | C98970 |
| 34040 | 02 | REPORT-CODE-OUT          | PICTURE X                      | VALUE SPACE.                   | C98970 |
| 34050 | 02 | FILLER                   | PICTURE X                      | VALUE SPACE.                   | C98970 |
| 34060 | 02 | SER-8-DIG-OUT            | PICTURE X(8)                   | VALUE SPACE.                   | C98970 |
| 34070 | 02 | FILLER                   | PICTURE X(10)                  | VALUE SPACE.                   | C98970 |
| 34080 | 02 | DOLLAR-SIGN              | PICTURE XX                     | VALUE :\$ :.                   | C98970 |
| 34090 | 02 | DAY-NO                   | PICTURE 9(4)                   | VALUE ZEROS.                   | C98970 |
| 34100 | 02 | FILLER                   | PICTURE X                      | VALUE SPACE.                   | C98970 |
| 34110 | 02 | RCDMK-0                  | PICTURE X                      | VALUE :#:.                     | C98970 |
| 35000 | 01 | EXCPTFILE-WORK-1 SYNC.   |                                |                                | C98970 |
| 35010 | 02 | FILLER                   | PICTURE X                      | VALUE SPACE.                   | C98970 |
| 35020 | 02 | RAN-M                    | PICTURE X(25)                  | VALUE                          | C98970 |
| 35030 |    |                          | : UNRECOGNIZABLE MONTH == 1.   |                                | C98970 |
| 35040 | 02 | SER-8-D-EXC              | PICTURE X(8)                   | VALUE SPACE.                   | C98970 |
| 35050 | 02 | FILLER                   | PICTURE X(2)                   | VALUE SPACE.                   | C98970 |
| 35060 | 02 | DAY-MO-YR-EXC            | PICTURE X(7)                   | VALUE SPACE.                   | C98970 |
| 35070 | 02 | FILLER                   | PICTURE X(36)                  | VALUE SPACE.                   | C98970 |
| 35080 | 02 | RECMAR                   | PICTURE X                      | VALUE :#:.                     | C98970 |
| 35100 | 01 | EXCPTFILE-WORK-2 SYNC.   |                                |                                | C98970 |
| 35110 | 02 | FILLER                   | PICTURE X(43)                  | VALUE SPACE.                   | C98970 |
| 35120 | 02 | REC-READ                 | PICTURE X(6)                   | VALUE IRC-IN>1.                | C98970 |
| 35130 | 02 | RCDS-IN                  | PICTURE 9(6).                  |                                | C98970 |
| 35140 | 02 | REC-PASS                 | PICTURE X(9)                   | VALUE 1/RCD-OUT>1.             | C98970 |
| 35150 | 02 | RCUS-OUT                 | PICTURE 9(6).                  |                                | C98970 |
| 35160 | 02 | RAD-MONTHS               | PICTURE X(6)                   | VALUE 1/0-MO>1.                | C98970 |
| 35170 | 02 | Q-MOS                    | PICTURE 9(3).                  |                                | C98970 |
| 35180 | 02 | RKDMK                    | PICTURE X                      | VALUE :#:.                     | C98970 |
| 50000 |    | PROCEDURE DIVISION.      |                                |                                | C98970 |

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50010 OPEN-FILES. C98970
50020 OPEN INPUT INCARD. C98970
50030 OPEN OUTPUT OUTFILE. C98970
50035 OPEN OUTPUT EXCPTFILE. C98970
50040 READ1. C98970
50050 READ INCARD C98970
50060 AT END GO TO BLOCK-CHECK. C98970
50070 ADD 1 TO RECORDS-READ. C98970
50080 TEST-SER-NO-COLS-S-8. C98970
50090 IF SER-C5 EQUAL SPACE C98970
50100 MOVE ZERO TO SER-C5. C98970
50110 IF SER-C6 EQUAL SPACE C98970
50120 MOVE ZERO TO SER-C6. C98970
50130 IF SER-C7 EQUAL SPACE C98970
50140 MOVE ZERO TO SER-C7. C98970
50150 IF SER-C8 EQUAL SPACE C98970
50160 MOVE ZERO TO SER-C8. C98970
50170 MOVE SER-2-3 TO POS-1-2. C98970
50180 MOVE SER-C5 TO POS-5. C98970
50190 MOVE SER-C6 TO POS-6. C98970
50200 MOVE SER-C7 TO POS-7. C98970
50210 MOVE SER-C8 TO POS-8. C98970
50220 DECODE-MONTH. C98970
50230 MOVE 1 TO KNT. C98970
50240 MO-LOC?. C98970
50250 IF KMO [KNT] EQUAL MONTH GO TO DATE-TO-DAYS. C98970
50260 ADD 1 TO KNT. C98970
50270 IF KNT IS LESS THAN 13 GO TO MO-LOOP. C98970
50280 BAU-MONTH. C98970
50290 MOVE SER-8-DIGIT TO SER-8-D-EXC. C98970
50300 MOVE DAY-MO-YR TO DAY-MO-YR-EXC. C98970
50310 ADD 1 TO QMO-KNT. C98970
50320 WRITE EXCPTFILE-MO FROM EXCPTFILE-WORK-1. C98970
50330 GO TO READ1. C98970
50400 DATE-TO-DAYS. C98970
50410 COMPUTE KYEAR > YR - 60. C98970
50420 COMPUTE DAYS > DA < KDAY [KNT]. C98970
50430 IF KYEAR EQUAL 4 GO TO LEAP-YEAR. C98970
50440 IF KYEAR EQUAL 8 GO TO LEAP-YEAR. C98970
50450 IF KYEAR EQUAL 12 GO TO LEAP-YEAR. C98970
50460 GO TO JULIAN-DAYS. C98970
50500 LEAP-YEAR. C98970
50510 IF KNT IS LESS THAN 3 GO TO JULIAN-DAYS. C98970
50520 ADD 1 TO DAYS. C98970
50540 JULIAN-DAYS. C98970
50550 COMPUTE DAY-NO > DAY-YEAR [KYEAR] < DAYS - 1461. C98970
51000 WRITE-OUTPUT. C98970
51010 MOVE WUC TO WUC-OUT. C98970
51020 MOVE REPORT-CODE TO REPORT-CODE-OUT. C98970
51030 MOVE SER-8-DIGIT TO SER-8-DIG-OUT. C98970
51040 WRITE OUTFILE-AIE FROM OUTFILE-AIE-WORK. C98970
51050 ADD 1 TO RECORDS-PASS. C98970
51060 GO TO READ1. C98970
52000 BLOCK-CHECK. C98970
52010 COMPUTE KOUNT > RECORDS-PASS - [(RECORDS-PASS / 60) * 60]. C98970
52020 IF KOUNT EQUAL ZERO GO TO WRITE-RECORD-KP. C98970
52040 LOOP3. C98970
52050 WRITE OUTFILE-AIE FROM NINE. C98970
52060 ADD 1 TO KOUNT. C98970
52070 IF KOUNT IS LESS THAN 60 GO TO LOOP3. C98970
52100 WRITE-RECORD-KP. C98970
52140 MOVE RECORDS-READ TO RCDS-IN. C98970
52150 MOVE RECORDS-PASS TO RCDS-OUT. C98970
52160 MOVE QMO-KNT TO Q-MOS. C98970
52180 WRITE EXCPTFILE-MO FROM EXCPTFILE-WORK-2. C98970
54000 CLOSE-FILES. C98970
54010 CLOSE INCARD WITH LOCK. C98970
54020 CLOSE EXCPTFILE WITH LOCK. C98970
54030 CLOSE OUTFILE WITH LOCK. C98970
54040 DISPLAY : EQ. C9897 : UPON CONSOLE. C98970
54050 GOBACK. C98970
/* PLACE CORUL SOURCE BEFORE THIS CARD
//CHG,IFGIN DD *.SPACE>[CYL,(1,1)]
1440 CDS
FE6 TUI4 11 030200
56- 456 14JUN65 A1 13000 A RH MLG FAILURE,ACFT DESTROYED
56- 459 6MAR67 1 750E1 A SELECTOR VALVE FAILURE
56- 461 17OCT65 1 51E00 A ADI MATERIAL FAILURE
56-0461 14AUG68 1 140C1 A HEP VALVE LEAK
56- 462 26JUL67 1 52DE1 A SHORTED FLT MODE CONTROL
56- 463 10MAY67 1 46NR1 A EJECTOR HOUSING ASSY MAT'L FAILURE
56-0463 15FEB68 1 138B1 A MALFUNCTION NG ACTUATING CYL
56- 465 17NOV67 1 45HA1 A SECOND HYD SYS ACCUMULATOR PUMP, FAILURE
57- 232 12JUL65 1 45EM1 A ACTUATOR FAILURE,PRESSURE LINE BROKE
57- 232 7OCT65 1 51E01 A DISPLACEMENT GYRO MALFUNCTION
57-0235 3MAR66 1 46LA1 A PYLON ASSY MATERIAL FAILURE
57-0241 23FEB67 1 14JF1 A ACTUATOR FAILURE
57- 243 19JUG66 1 14JF1 A SPEED BRAKE & DRUG CHUTE LOST

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|---------|---------|----------|--|
| 57-0482 | 29JUN67 | I 75GE1  | A MB-1 EJECTOR RACK MALFUNCTION                    |
| 57-0781 | 11MAY66 | I 42BA1  | A DC GENERATOR FAILURE                             |
| 57-2303 | 19CC66  | I 13UD1  | A NG DOOR ACTUATOR MATERIAL FAILURE                |
| 57-2431 | 20OCT65 | I 13DH1  | A LEAKING BRAKE RELAY ABORT                        |
| 57-2453 | 22MAR67 | I 45EMI  | A 'B'NUT FAILURE                                   |
| 57-2455 | 23SEP65 | I 71C00  | A TACAN MALFUNCTION                                |
| 57-2456 | 28JUN67 | I 75GE1  | A MB-1 EJECTOR RACK MALFUNCTION                    |
| 57-2457 | 30DEC66 | I 1NEA1  | A BLEED AIR DUCT MATERIAL FAILURE                  |
| 57-2457 | 22APR69 | A1 23JB0 | A MAIN GEAR ASSY HOUSING DESTROYED                 |
| 57-2458 | 28SEP65 | I 51AH1  | A ADI FAILURE                                      |
| 57-2459 | 29JUL66 | I 14JR1  | A LOST SPEED BRAKES AND DRAG CHUTE                 |
| 57-2461 | 15SEP65 | I 51E00  | A ADI FAILURE                                      |
| 57-2461 | 7OCT69  | I 46CVI  | A PILOT FLOAT VALVE MALFUNCTION                    |
| 57-2464 | 6ECC67  | I 14JA1  | A LOST RH SPEED BRAKE                              |
| 57-2465 | 21NOV67 | A2 13HD1 | A LH MLG MATERIAL FAILURE EYEBOLT ASSY PN 60248    |
| 57-2467 | 6OCC67  | I 14JA1  | A RH SPEED BRAKE MAT'L FAILURE                     |
| 57-2467 | 16FEB70 | I 13BA1  | A EYEBOLT ASSY FAILURE MLG                         |
| 57-2469 | 7DEC67  | A1 23BD0 | A N-2 COMPRESSOR SECTION FAILURE, ACFT DESTROYED   |
| 57-2472 | 7JAN67  | I 23JA0  | A QUICK DISCONNECT FAILURE                         |
| 57-2475 | 17JAN67 | I 23JA0  | A QUICK DISCONNECT FAILURE                         |
| 57-2476 | 24OCT66 | I 13AAF  | A GEAR LOCKING MECHANISM FAILURE                   |
| 57-2478 | 13APR65 | I 14JA1  | A LOST SPEED BRAKES AND DRAG CHUTE                 |
| 57-2478 | 30SEP65 | I 51AJ1  | A ADI FAILURE                                      |
| 57-2480 | 9SEP65  | I 51E00  | A ADI FAILURE                                      |
| 57-2482 | 27APR66 | I 42BA1  | A DC GENERATOR FAILURE                             |
| 57-2482 | 9JUN67  | I 42BA1  | A 056 GENERATOR FAILURE                            |
| 57-2483 | 13SEP65 | I 51E00  | A ADI FAILURE                                      |
| 57-2485 | 14SEP65 | I 51AJ1  | A SWITCHING GYRO FAILURE                           |
| 57-2487 | 8OCT65  | I 51AH1  | A ADI MATERIAL FAILURE                             |
| 57-2491 | 24OCT66 | I 93AEA  | A DRAG CHUTE MOVABLE JAW MALFUNCTION               |
| 57-2492 | 12JUL65 | I 23HAD  | A FUEL CONTROL MALFUNCTION                         |
| 57-2492 | 3SEP65  | I 51E00  | A ADI FAILURE                                      |
| 57-2492 | 11JUN70 | A1 13BA1 | A EYEBOLT ASSY FAILURE RH MLG                      |
| 57-2499 | 15APR69 | I 23SR0  | A CSD OIL STARVATION                               |
| 57-2500 | 27APR65 | I 52C00  | A AIR DATA COMP MALFUNCTION                        |
| 57-2500 | 29NOV68 | I 460A1  | A LH FUEL SHUT-OFF VALVE FAILURE                   |
| 57-2509 | 25SEP65 | I 51EC1  | A DISPL GYRO FAILURE                               |
| 57-2514 | 4OCT65  | I 51EA1  | A ADI FAILURE                                      |
| 57-2514 | 11OCC69 | I 23NOE  | A THROTTLE TELEFLEX CABLE BENT                     |
| 57-2515 | 26JUN69 | I 52CA1  | A AIR DATA COMPUTER MALFUNCTION                    |
| 57-2520 | 7SEP65  | I 51AH1  | A MD-1 GYRO REPLACED                               |
| 57-2520 | 11SEP68 | I 13EF1  | A SWITCH ROLLER MLG MATERIAL FAILURE               |
| 57-2522 | 22AJG68 | I 14CD1  | A HOUSING, ELEVON TORQUE TUBE FAILURE              |
| 57-2523 | 15SEP65 | I 51EC1  | A DISPLACEMENT GYRO FAILURE                        |
| 57-2526 | 26NOV65 | I 23HAD  | G MATERIAL MALFUNCTION                             |
| 57-2526 | 11OCT66 | I 23DC1  | A HEP VALVE MALFUNCTION                            |
| 57-2532 | 25OCT65 | I 51AG1  | A MALFUNCTION ATTITUDE INDICATOR                   |
| 57-2535 | 30OCT65 | I 51EA1  | A ADI FAILURE                                      |
| 57-2535 | 18NOV66 | I 75UD1  | A FWD PNEUMATIC SELECTOR VALVE FAILURE             |
| 57-2536 | 23MAY66 | A1 45EE1 | G FWD AIR FLASK MATERIAL FAILURE                   |
| 57-2538 | 10MAY65 | I 23GOR  | A ENGINE EYELID ACTUATOR MALFUNCTION               |
| 57-2539 | 27OCT65 | I 51AH1  | A MATERIAL FAILURE                                 |
| 57-2543 | 23JUL68 | I 45CH1  | A RAT DOOR FELL OUT                                |
| 57-2546 | 13MAY67 | I 14JE1  | A HYD RELIEF VALVE                                 |
| 57-2547 | 10JUN66 | I 45CA1  | A BROKEN PRI HYD LINE RAT DOOR                     |
| 58- 090 | 28MAR69 | I 45EC1  | A PRIORITY CHECK VALVE                             |
| 58- 759 | 4JUN66  | I 46EAA  | A EJECTOR ASSY FAILURE                             |
| 58- 759 | 11APR67 | A1 23JBC | A SCAVENGE PUMP FAILURE, ACFT DESTROYED            |
| 58- 760 | 17OCT65 | I 51E00  | A ADI MATERIAL FAILURE                             |
| 58- 765 | 8AUG65  | I 51E00  | A ADI MALFUNCTION                                  |
| 58- 766 | 21JUN65 | I 51E00  | A ADI FAILURE                                      |
| 58- 767 | 6MAY66  | I 42BA1  | A DC GENERATOR FAILURE                             |
| 58-0768 | 2SEP69  | A1 46JA1 | A RH MAIN FUEL SHUT-OFF VALVE PN132305-1 DESTROYED |
| 58- 769 | 10MAY66 | A1 74JE1 | A MA-1 DIGITAL COMPUTER FAILURE, ACFT DESTROYED    |
| 58- 773 | 6MAY65  | I 14GE1  | A THIM SWITCH MATERIAL FAILURE                     |
| 58- 776 | 15SEP65 | I 14AC1  | G BELL CRANK FAILURE                               |
| 58-0779 | 1JUN70  | I 23HAD  | G FUEL VALVE DEFECTIVE                             |
| 58- 781 | 4APR67  | I 21HAB  | A WINDSHIELD FAILED                                |
| 58-0783 | 6DEC66  | I 75BF1  | G AFT SELECTOR VALVE MATERIAL FAILURE              |
| 58- 789 | 17MAR66 | A1 14U00 | A ELEVON PLUMBING MATERIAL FAILURE, ACFT DESTROYED |
| 58- 790 | 18MAR67 | I 41EA1  | A MARMAN CLAMP CAME OFF                            |
| 58- 902 | 6OCT67  | I 75GE1  | A MB-1 EJECTOR RACK MALFUNCTION                    |
| 59-0006 | 17FEB66 | I 23HAD  | A FUEL CONTROL MALFUNCTION                         |
| 59- 008 | 28OCT65 | I 51AH1  | A MATERIAL FAILURE                                 |
| 59- 009 | 18JUN66 | I 52AA1  | A STABILITY AUGMENTATION AMPLIFIER FAILED          |
| 59- 009 | 16JUL66 | A1 13AAD | A LH MLG SIDE BRACE MATERIAL FAILURE               |
| 59- 011 | 10SEP65 | A1 13AAA | A RH MLG STRUT FAILURE                             |
| 59- 012 | 16MAY65 | I 11H00  | A CANOPY SEPARATED                                 |
| 59- 014 | 2NOV65  | I 13DH1  | A MATERIAL FAILURE-BRAKE RELAY VALVE               |
| 59- 014 | 24JAN66 | I 23HAD  | G FUEL CONTROL MALFUNCTION                         |
| 59-0014 | 10MAY69 | A1 14U00 | A FLT CONTROL SYS MATERIAL FAILURE                 |
| 59- 021 | 3NOV68  | I 13UH1  | A FWD ACTUATOR MLG FAILURE                         |
| 59-0023 | 29AUG68 | I 45BF1  | A SEC. HYD PUMP FAILED                             |
| 59- 026 | 21NOV68 | I 14JR1  | A LOST SPEED BRAKE AND ACTUATORS                   |
| 59- 027 | 10FEB67 | I 46HA1  | A RELIEF VALVE FAILURE                             |
| 59- 033 | 13OCT65 | I 51E00  | A ADI MATERIAL FAILURE                             |
| 59- 033 | 18MAY69 | I 14JA1  | A SPEED BRAKE SEPARATED FROM ACFT                  |

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| 59-036  | 4NOV65  | I 45A00  | A BRAKE SYSTEM MALFUNCTION                         |
| 59-036  | 12JUN67 | I 75GE1  | A MB-1 EJECTOR RACK MATERIAL FAILURE               |
| 59-0040 | 85FPO7  | I 14FA1  | A HYD RUDDER PACKAGE VALVE FAILURE                 |
| 59-041  | 75FRO5  | A1 13AAA | A LH MLG STRUT FAILURE,ACFT DESTROYED              |
| 59-042  | 15OCT65 | I 42AG1  | A FAULTY WIRING                                    |
| 59-044  | 28SEP65 | I 13DH1  | A BRAKE RELAY FAILURE                              |
| 59-044  | 3NOV65  | I 14A00  | A MATERIAL FAILURE                                 |
| 59-0044 | 27MAR68 | I 51EA1  | A ATTITUDE INDICATOR MALFUNCTION                   |
| 59-0047 | 1APR68  | I 51EA1  | A GYRO FAILURE                                     |
| 59-0052 | 10LCC66 | I 14JR1  | A LOST SPEED BRAKES AND DRAG CHUTE                 |
| 59-053  | 1JUN66  | I 23HAD  | G MALFUNCTION FUEL CONTROL                         |
| 59-054  | 30AUG65 | I 14JA1  | A LOST SPEED BRAKES AND DRAG CHUTE                 |
| 59-056  | 23FER67 | I 14JR1  | A LOST SPEED BRAKES                                |
| 59-057  | 19JUL67 | I 14JK1  | A LIMIT SWITCH FAILURE                             |
| 59-062  | 16MFR65 | I 51EB1  | A TURN RATE XMTR MALFUNCTION                       |
| 59-065  | 15MAR65 | I 23JHD  | A OIL SCAVENGER PUMP FAIL                          |
| 59-0065 | 27MAY70 | I 14UC1  | A HEP VALVE MALFUNCTION                            |
| 59-067  | 14OCT65 | I 51E00  | A ADI MATERIAL FAILURE                             |
| 59-0068 | 135FPO7 | A1 46WA1 | A FUEL SHUT-OFF VALVE FAILURE,PNI32305-1,DESTROYED |
| 59-074  | 26JUL68 | I 52AE1  | A POS,POTENTIOMETER,AILERON,DEFECTIVE              |
| 59-074  | 30AUG68 | I 14FA1  | A HYD PACKAGE DEFECTIVE                            |
| 59-076  | 13OCT65 | I 51E00  | A ADI MATERIAL FAILURE                             |
| 59-080  | 13OCT65 | I 51E00  | A ADI MATERIAL FAILURE                             |
| 59-082  | 19OCT65 | I 51C00  | A ADI MATERIAL FAILURE                             |
| 59-083  | 5OCT65  | I 51EC1  | A DISPLACEMENT GYRO FAILURE                        |
| 59-0085 | 10SEP69 | I 14AD1  | A DAMPER AMPLIFIER DEFECTIVE                       |
| 59-089  | 22DEC67 | I 14JA1  | A LOST SPEED BRAKES                                |
| 59-090  | 18MAR65 | I 45BF1  | A SECONDARY HYDRAULIC PUMP                         |
| 59-090  | 30JUN65 | I 11H00  | A CANOPY SEPARATED FROM ACFT                       |
| 59-091  | 5JUL67  | A2 13ACE | A NOSE GEAR PISTON,FAILURE                         |
| 59-092  | 23JUN65 | I 23JHD  | A MAIN OIL PUMP                                    |
| 59-096  | 7JAN70  | A2 13000 | A LANDING GEAR FAILURE                             |
| 59-097  | 6JUN67  | I 75GE1  | A MB-1 EJECTOR RACK MATERIAL FAILURE               |
| 59-100  | 16APR70 | A1 13AA1 | A LH MLG UPPER CYLINDER MATERIAL FAILURE           |
| 59-101  | 8FEB68  | I 13BE1  | A FAILURE MLG ACTUATING CYL                        |
| 59-101  | 7AUG68  | I 13BE1  | A SELECTOR VALVE MLG INTERNAL FAILURE              |
| 59-102  | 13DEC66 | I 14JF1  | A LH SPEED BRAKE CYLINDER FAILURE                  |
| 59-104  | 1UNOV66 | A2 45000 | A MLG'S FOLDED INHD                                |
| 59-109  | 2JUN67  | I 23SR0  | A CSD FAILURE                                      |
| 59-0112 | 18MFR68 | I 52AF1  | A PITCH-TRIM POTENTIOMETER FAILURE                 |
| 59-0121 | 15MAR68 | I 13BE1  | A SELECTOR VALVE MLG                               |
| 59-129  | 10CT65  | I 51EC1  | A DISPLACEMENT GYRO FAILURE                        |
| 59-133  | 14OCT66 | I 14JB1  | A SPEED BRAKE DOOR & ACTUATOR LOST                 |
| 59-0133 | 15NOV66 | I 44FP1  | G NOSE DOOR OPEN SOLENOID                          |
| 59-133  | 29DEC68 | I 51EC1  | A MALFUNCTION ATTITUDE INDICATOR                   |
| 59-0133 | 30OCT69 | I 23SR0  | A BAFFLE PLATE,OIL COOLER                          |
| 59-134  | 28NOV67 | I 14JA1  | A LOST RH SPEED BRAKE                              |
| 59-143  | 9SEP65  | I 51E00  | A ADI FAILURE                                      |
| 59-157  | 26JUL67 | I 41U00  | A T-BOLT MARMAN CLAMPS FAILURE                     |
| 59-158  | 29DEC68 | I 51EC1  | A MALFUNCTION ATTITUDE INDICATOR                   |
| 59-159  | 9MAR65  | I 23DC1  | A HEP VALVE MALFUNCTION                            |
| 59-160  | 31JAN67 | I 13LJ1  | A LH MLG SWICH FAILURE                             |
| 59-0161 | 26MAY69 | I 13MR1  | A MLG SAFETY SWITCH MALFUNCTION                    |
| 59-458  | 2MAY67  | I 46HA1  | A PRESSURE RELIEF VALVE MALFUNCTION                |
| 59-0164 | 21DEC70 | I 97000  | MAINTENANCE  |
| 59-0783 | 17DEC70 | I 45C00  | MATERIAL   |
| 59-0458 | 14DEC70 | I 14J00  | MAT.   |
| 57-2482 | 04DEC70 | I 13000  | PILOT  |
| 57-2496 | 03DEC70 | I 23000  | MAIN   |
| 59-0004 | 25NOV70 | I 97000  | PERSONNEL  |
| 59-0081 | 17NOV70 | I 13000  | MAT  |
| 59-0038 | 16NOV70 | I 13000  | MAIN   |
| 57-2509 | 12NOV70 | I 13000  |  |
| 59-0031 | 17OCT70 | I 13000  |  |
| 59-0109 | 08OCT70 | I 75000  |  |
| 59-0123 | 08OCT70 | I 93000  |  |
| 57-2487 | 29SEP70 | I 13000  |  |
| 57-2470 | 25SEP70 | I 14000  |  |
| 59-0060 | 24SEP70 | I 23000  |  |
| 59-0085 | 15SEP70 | I 13000  |  |
| 59-0164 | 04SEP70 | I 13AG1  |  |
| 59-0155 | 23AUG70 | I 13000  |  |
| 59-0903 | 13AUG70 | I 45000  | MAIN   |
| 59-0777 | 03AUG70 | I 46000  |  |
| 59-0776 | 28JUL70 | I 45000  |  |
| 59-0149 | 14JUL70 | I 46000  |  |
| 59-0772 | 01JUL70 | I 47000  |  |
| 59-0085 | 15JUN70 | I 13000  | BRAKES   |
| 57-2535 | 08JUN70 | I 45000  |  |
| 59-0774 | 01JUN70 | I 23H00  | FUEL VALVE   |
| 59-0016 | 26MAY70 | I 93000  |  |
| 59-0065 | 27MAY70 | I 14000  | HEP VALVE  |
| 57-2401 | 25MAY70 | I 93000  |  |
| 57-2529 | 22MAY70 | I 93000  |  |
| 59-0902 | 21MAY70 | I 75000  | MAT.   |
| 59-0059 | 01MAY70 | I 46000  | MAIN,  |
| 59-0782 | 30APR70 | I 13000  | DRAG CHUTE   |

|         |         |   |       |                      |
|---------|---------|---|-------|----------------------|
| 57-2967 | 23APR70 | 1 | 14000 |                      |
| 57-0232 | 22APR70 | 1 | 11000 |                      |
| 59-0026 | 18APR70 | 1 | 52000 | PILOT                |
| 59-0145 | 17APR70 | 1 | 75000 | MAIN                 |
| 57-2494 | 16APR70 | 1 | 93000 | MAIN                 |
| 59-0241 | 13APR70 | 1 | 14000 | SPEED BRAKES         |
| 59-0129 | 09APR70 | 1 | 75000 | MAIN                 |
| 59-0090 | 27MAR70 | 1 | 13000 | MAT                  |
| 58-0453 | 21MAR70 | 1 | 93000 |                      |
| 60-0453 | 20MAR70 | 1 | 93000 |                      |
| 57-0237 | 17MAR70 | 1 | 46000 | PILOT                |
| 59-0028 | 04MAR70 | 1 | 13000 | MAT                  |
| 57-2466 | 02MAR70 | 1 | 13000 | MAT                  |
| 59-0024 | 26FEB70 | 1 | 93000 |                      |
| 57-2539 | 25FEB70 | 1 | 13000 | MAIN                 |
| 57-2467 | 16FEB70 | 1 | 13000 | MAT                  |
| 56-0453 | 09FEB70 | 1 | 43000 | DRAG CHUTE           |
| 59-0058 | 05FEB70 | 1 | 13000 | OPERATOR             |
| 59-0131 | 01FEB70 | 1 | 11000 | CANOPY               |
| 59-0161 | 28JAN70 | 1 | 75000 | MAT                  |
| 57-2466 | 27JAN70 | 1 | 75000 | MAT                  |
| 59-0063 | 23JAN70 | 1 | 44000 | PER.                 |
| 57-2521 | 21JAN70 | 1 | 93000 | DRAG CHUTE           |
| 59-0103 | 21JAN70 | 1 | 14000 |                      |
| 59-0037 | 19JAN70 | 1 | 13000 | PER.                 |
| 57-2538 | 11JAN70 | 1 | 93000 | MAT                  |
| 57-0465 | 09JAN70 | 1 | 93000 | DRAG CHUTE           |
| 59-0018 | 21DEC71 | 1 | 93000 |                      |
| 59-0149 | 16DEC71 | 1 | 13000 |                      |
| 59-0132 | 15DEC71 | 1 | 13AHJ |                      |
| 59-0003 | 05DEC71 | 1 | 93AF1 |                      |
| 59-0003 | 26NOV71 | 1 | 93000 | DRAG CHUTE           |
| 59-0159 | 13NOV71 | 1 | 14000 | SPEED BRAKES         |
| 56-0509 | 10NOV71 | 1 | 43000 | DRAG CHUTE           |
| 59-0463 | 07NOV71 | 1 | 11FDA | MAT                  |
| 59-0016 | 04NOV71 | 1 | 13000 | MAIN                 |
| 59-0062 | 08NOV71 | 1 | 52FA1 | CPU111/2V            |
| 58-0785 | 26OCT71 | 1 | 23000 | FLAMEOUT             |
| 57-2506 | 26OCT71 | 1 | 46000 | MAT                  |
| 58-0781 | 14OCT71 | 1 | 13000 | MLG SELECTOR VALVE   |
| 59-0096 | 04OCT71 | 1 | 93000 | MAIN                 |
| 59-0046 | 04OCT71 | 1 | 97000 | MAIN                 |
| 59-0091 | 21SEP71 | 1 | 97000 | PILOT                |
| 57-2524 | 15SEP71 | 1 | 756F1 | MAT                  |
| 59-0060 | 07SEP71 | 1 | 40000 |                      |
| 59-0005 | 31AUG71 | 1 | 11000 | PILOT                |
| 57-0465 | 03SEP71 | 1 | 97000 | MAIN                 |
| 59-0158 | 26AUG71 | 1 | 13000 | DRAG CHUTE           |
| 59-0019 | 30AUG71 | 1 | 13000 |                      |
| 59-0006 | 18AUG71 | 1 | 23000 | MAT                  |
| 56-0459 | 16AUG71 | 1 | 93000 | PILOT                |
| 58-0778 | 30JUL71 | 1 | 12000 | PILOT                |
| 58-0778 | 30JUL71 | 1 | 12000 | PILOT                |
| 57-0460 | 25JUL71 | 1 | 13AJ1 |                      |
| 59-0160 | 04JUL71 | 1 | 97000 | SUPERVISORY          |
| 57-2505 | 08JUL71 | 1 | 14FA1 | MAT                  |
| 59-0059 | 06JUL71 | 1 | 13000 | MAT                  |
| 56-0458 | 06JUL71 | 1 | 23HAD | MAIN                 |
| 59-0015 | 14JUN71 | 1 | 11000 | MAIN                 |
| 57-2523 | 11JUN71 | 1 | 23000 | MAIN                 |
| 59-0091 | 10JUN71 | 1 | 13000 | MAT                  |
| 59-0141 | 26MAY71 | 1 | 13000 | MAT                  |
| 58-0778 | 19MAY71 | 1 | 93000 | MAIN                 |
| 57-2533 | 18MAY71 | 1 | 23EB0 | MAT                  |
| 57-0018 | 17MAY71 | 1 | 13AE1 | MAT                  |
| 59-0071 | 17MAY71 | 1 | 46000 | MAT                  |
| 57-2473 | 13MAY71 | 1 | 97000 | MAIN                 |
| 59-0165 | 30APR71 | 1 | 23EBC | MAT                  |
| 57-2543 | 29APR71 | 1 | 74K01 | MAT                  |
| 57-2536 | 26APR71 | 1 | 46000 | MAT                  |
| 59-0143 | 15APR71 | 1 | 46000 | MAIN                 |
| 57-2466 | 15APR71 | 1 | 11FCC | MAIN                 |
| 59-0112 | 09APR71 | 1 | 93000 | MAIN                 |
| 57-2463 | 24MAR71 | 1 | 13000 |                      |
| 59-0034 | 11MAR71 | 1 | 93AP1 | MAIN                 |
| 59-0063 | 09MAR71 | 1 | 11000 | PILOT                |
| 57-2519 | 08MAR71 | 1 | 52000 | MAT                  |
| 59-0032 | 01MAR71 | 1 | 13000 |                      |
| 58-0767 | 24FEB71 | 1 | 75000 |                      |
| 59-0027 | 22FEB71 | 1 | 46000 | MAIN                 |
| 56-0465 | 22FEB71 | 1 | 23000 | MAIN                 |
| 59-0044 | 03FEB71 | 1 | 97000 | PERSONNEL            |
| 59-0129 | 02FEB71 | 1 | 23000 | MAIN                 |
| 58-0785 | 15JAN71 | 1 | 14JR1 | MAT                  |
| 59-0034 | 08JAN71 | 1 | 47AK1 | PERSONNEL            |
| 59-0767 | 16JAN71 | 1 | 23000 | AFTLN NUMBER PROBLEM |

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54-0907 05A0070 A1 13041 RH MLG UOOR SHUTTLE VALVE
54-0116 28MAY70 A1 46HDD WING TANK RELEASE SWITCH
54-0100 16APR70 A1 13A00 LMG UPPER CYLINDER
54-0096 07JAN70 A2 13000 MLG
54-0163 30SEP71 A1 23AA0 P/N 318616
57-2544 29MAR71 A1 14JAI RH SPEED BRAKE
*END
/* PLACF TFG DATA BEFORE THIS CARD
//TPR,TU14 DD DISP>[OLD,PASS] D10-PASS
//TPR,TU22 DD DISP>[OLD,PASS] D22-PASS
//TPR,TPRIN DD *.SPACE>[TRK,[1,1]]
T/P DT01 10200002080
T/P TU14 10200002080
T/P TU22 0200002050
/* PLACF T/P CONTROL CARDS BEFORE THIS CARD
//C98975 EXEC P9622N,TIME>01,ACCT>D35323007
//CHG, SORTIN DD USN>P.9895453,DISP>[OLD,PASS], CD22/23 1
// DCB>[LRECL>0050,BLKSIZE>3000],LABEL>[,NSL,RETPD>099]
//CHG, SORTOUT DD DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>A.9895455, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0050,BLKSIZE>3000]
//CHG, SYSIN DD *.DCB>[BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[025,008,CH,A,045,004,CH,A,010,005,CH,A],SIZE>E0002000
MODS E15>[E.5,008>SORTLIB,N],E18>[E18,024>SORTLIB,N]
/*
//C9897P EXEC C9603N,TIME>01,ACCT>D35323007
//CHG,TU12 DD DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>A.9895455, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG,TPRIN DD *.SPACE>[TRK,[1,1]]
T/P TU12 0200502050
/* PLACF T/P CONTROL CARDS BEFORE THIS CARD

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6.3.2 AIE SCREEN

```

//I989/P JUB 01: G. WANG ;,PRTY>02,TPRIN>HOLD
//C98970 EXEC P9605L,TIME>01,ACCT>D35323007
//CHG,TU14 DD DISP>[PASS],UNIT>[T+F3,1,DEFER],DSN>C.9897013, CT14 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG,TU22 DD USN>P.9895953,SPACE>[CYL,[022,002]] D22-OUT
//CHG,INPUT DD *.SPACE>[CYL,[1,1]] 1440 CDS
00000 COMPILE COMPILE G. WANG, C98970
01040 DATE-WRITTEN. 14 JAN 72. C98970
01050 REMARKS. C98970
01060 SCREENS AIE DATA TAPE. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT INFIL ASSIGN TO UT-S-TU14 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT OUTFILE ASSIGN TO UT-S-TU22 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT SCREEN-FILE ASSIGN TO DA-S-DT01 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILL SECTION. C98970
10100 FD INFILL C98970
10110 C98970
10120 RECORING MODE IS F C98970
10130 BLOCK CONTAINS 60 RECORDS C98970
10140 RECPD CONTAINS 50 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE INREC. C98970
10170 01 INREC SYNC. C98970
10180 02 DATA. C98970
10190 03 DATAB PICTURE X(4). C98970
10200 03 TIPL PICTURE X(4). C98970
10210 03 DATAC PICTURE X(9). C98970
10220 02 DATE-IN. C98970
10230 03 YEAR PICTURE 9. C98970
10240 03 MONTH PICTURE 99. C98970
10250 03 DAY-IN PICTURE 99. C98970
10252 02 CATEGRP REDEFINES DATE-IN PICTURE X(8). C98970
10260 02 DATAD. C98970
10270 03 DATAE PICTURE XX. C98970
10280 03 S-N PICTURE X(8). C98970
10290 03 DATAF PICTURE X(12). C98970
10300 02 FILLER PICTURE X(4). C98970
10310 02 DATAG PICTURE XX. C98970

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|       |    |   |   |  |  |        |
|-------|----|---|---|--|--|--------|
| 11100 | FD | OU;FILE   |   |  |  | C98970 |
| 11110 |    |   |   |  |  | C98970 |
| 11120 |    | RECORDING MODE IS F                             |   |  |  | C98970 |
| 11130 |    | BLOCK CONTAINS 60 RECORDS                       |   |  |  | C98970 |
| 11140 |    | RECORD CONTAINS 50                              | CHARACTERS                                  |  |  | C98970 |
| 11150 |    | LABEL RECORDS ARE OMITTED                       |   |  |  | C98970 |
| 11160 |    | DATA RECORDS ARE OUTREC.                        |   |  |  | C98970 |
| 11170 | 01 | OU;REC SYNC.                                    |   |  |  | C98970 |
| 11180 | 02 | DATA1   | PICTURE X(17).                              |  |  | C98970 |
| 11190 | 02 | DATA-OUT  | PICTURE 9(5).                               |  |  | C98970 |
| 11200 | 02 | DATA2   | PICTURE X(22).                              |  |  | C98970 |
| 11210 | 02 | DATA  | PICTURE 9(4).                               |  |  | C98970 |
| 11220 | 02 | DATA3   | PICTURE XX.                                 |  |  | C98970 |
| 12000 | FD | SCREEN-FILE                                     |   |  |  | C98970 |
| 12010 |    | RECORDING MODE IS F                             |   |  |  | C98970 |
| 12020 |    | BLOCK CONTAINS 20 RECORDS                       |   |  |  | C98970 |
| 12030 |    | RECORD CONTAINS 80                              | CHARACTERS                                  |  |  | C98970 |
| 12040 |    | LABEL RECORDS ARE STANDARD                      |   |  |  | C98970 |
| 12050 |    | DATA RECORDS ARE SCREEN-REC.                    |   |  |  | C98970 |
| 12060 | 01 | SCF;LEN-REC SYNC.                               |   |  |  | C98970 |
| 12070 | 02 | SCREEN-DATA                                     | PICTURE X(80).                              |  |  | C98970 |
| 12080 | 02 | FILLER REDEFINES SCREEN-DATA.                   |   |  |  | C98970 |
| 12090 | 03 | DATA-1  | PICTURE X(4).                               |  |  | C98970 |
| 12100 | 03 | FILLER  | PICTURE X(76).                              |  |  | C98970 |
| 12110 | 02 | FILLER REDEFINES SCREEN-DATA.                   |   |  |  | C98970 |
| 12120 | 03 | DATA-2  | PICTURE 99.                                 |  |  | C98970 |
| 12130 | 03 | FILLER  | PICTURE X(78).                              |  |  | C98970 |
| 12140 | 02 | FILLER REDEFINES SCREEN-DATA.                   |   |  |  | C98970 |
| 12150 | 03 | DATA-3  | PICTURE X(8).                               |  |  | C98970 |
| 12160 | 03 | FILLER  | PICTURE X(72).                              |  |  | C98970 |
| 30000 |    | WORKING-STORAGE SECTION.                        |   |  |  | C98970 |
| 30010 | 01 | NINE SYNC.                                      |   |  |  | C98970 |
| 30020 | 02 | FILLER  | PICTURE X(17) VALUE                         |  |  | C98970 |
| 30030 |    |   | :9999999999999999991.                       |  |  | C98970 |
| 30040 | 02 | FILLER  | PICTURE 9(5) VALUE 99999.                   |  |  | C98970 |
| 30050 | 02 | FILLER  | PICTURE X(22) VALUE                         |  |  | C98970 |
| 30060 |    |   | :9999999999999999999999991.                 |  |  | C98970 |
| 30070 | 02 | FILLER  | PICTURE 9(4) VALUE 9999.                    |  |  | C98970 |
| 30080 | 02 | FILLER  | PICTURE XX VALUE :99:.                      |  |  | C98970 |
| 30400 | 01 | DAYS-IN-YEAR SYNC.                              |   |  |  | C98970 |
| 30410 | 02 | FILLER  | PICTURE 999 VALUE 0.                        |  |  | C98970 |
| 30420 | 02 | FILLER  | PICTURE 999 VALUE 31.                       |  |  | C98970 |
| 30430 | 02 | FILLER  | PICTURE 999 VALUE 59.                       |  |  | C98970 |
| 30440 | 02 | FILLER  | PICTURE 999 VALUE 90.                       |  |  | C98970 |
| 30450 | 02 | FILLER  | PICTURE 999 VALUE 120.                      |  |  | C98970 |
| 30460 | 02 | FILLER  | PICTURE 999 VALUE 151.                      |  |  | C98970 |
| 30470 | 02 | FILLER  | PICTURE 999 VALUE 181.                      |  |  | C98970 |
| 30480 | 02 | FILLER  | PICTURE 999 VALUE 212.                      |  |  | C98970 |
| 30490 | 02 | FILLER  | PICTURE 999 VALUE 243.                      |  |  | C98970 |
| 30500 | 02 | FILLER  | PICTURE 999 VALUE 273.                      |  |  | C98970 |
| 30510 | 02 | FILLER  | PICTURE 999 VALUE 304.                      |  |  | C98970 |
| 30520 | 02 | FILLER  | PICTURE 999 VALUE 334.                      |  |  | C98970 |
| 30530 | 01 | NO-DAYS-IN-YEAR; REDEFINES DAYS-IN-YEAR SYNC.   |   |  |  | C98970 |
| 30540 | 02 | NO DAYS OCCURS 12 TIMES                         |   |  |  | C98970 |
| 30550 |    |   | PICTURE 999.                                |  |  | C98970 |
| 30600 | 01 | DAYS-IN-YEARS SYNC.                             |   |  |  | C98970 |
| 30610 | 02 | FILLER  | PICTURE 9(4) VALUE 0.                       |  |  | C98970 |
| 30620 | 02 | FILLER  | PICTURE 9(4) VALUE 365.                     |  |  | C98970 |
| 30630 | 02 | FILLER  | PICTURE 9(4) VALUE 730.                     |  |  | C98970 |
| 30640 | 02 | FILLER  | PICTURE 9(4) VALUE 1095.                    |  |  | C98970 |
| 30650 | 02 | FILLER  | PICTURE 9(4) VALUE 1461.                    |  |  | C98970 |
| 30660 | 02 | FILLER  | PICTURE 9(4) VALUE 1826.                    |  |  | C98970 |
| 30670 | 02 | FILLER  | PICTURE 9(4) VALUE 2191.                    |  |  | C98970 |
| 30680 | 02 | FILLER  | PICTURE 9(4) VALUE 2556.                    |  |  | C98970 |
| 30690 | 01 | DAY-IN-YEAR-TABLE REDEFINES DAYS-IN-YEARS SYNC. |   |  |  | C98970 |
| 30700 | 02 | DAY-YEAR OCCURS 8 TIMES                         |   |  |  | C98970 |
| 30710 |    |   | PICTURE 9(4).                               |  |  | C98970 |
| 30900 | 01 | KOUNT   | PICTURE S999 COMPUTATIONAL VALUE ZERO SYNC. |  |  | C98970 |
| 30910 | 01 | RNT   | PICTURE S999 COMPUTATIONAL VALUE ZERO SYNC. |  |  | C98970 |
| 30920 | 01 | LOW-S-II  | PICTURE X(8).                               |  |  | C98970 |
| 30930 | 01 | HIGH-S-II                                       | PICTURE X(8).                               |  |  | C98970 |
| 30940 | 01 | LEAP-YEAR-68                                    | PICTURE 9 SYNC VALUE 4.                     |  |  | C98970 |
| 30950 | 01 | LEAP-YEAR-72                                    | PICTURE 9 SYNC VALUE 8.                     |  |  | C98970 |
| 30960 | 01 | TYPE-A-L  | PICTURE X(4).                               |  |  | C98970 |
| 30970 | 01 | RECORDS-READ                                    | PICTURE 9(6) SYNC VALUE ZERO.               |  |  | C98970 |
| 30980 | 01 | RECORDS-PASS                                    | PICTURE 9(6) SYNC VALUE ZERO.               |  |  | C98970 |
| 30990 | 01 | NO-IEJ-A-C                                      | PICTURE 99.                                 |  |  | C98970 |
| 31140 | 01 | REJ-S-N SYNC.                                   |   |  |  | C98970 |
| 31150 | 02 | R-S-N OCCURS 25 TIMES DEPENDING ON NO-REJ-A-C.  |   |  |  | C98970 |
| 31160 |    |   | PICTURE X(8).                               |  |  | C98970 |
| 50000 |    | PROCEDURE DIVISION.                             |   |  |  | C98970 |
| 50010 |    | OPEN-FILES.                                     |   |  |  | C98970 |
| 50020 |    | OPEN INPUT INFILE, SCREEN-FILE, OUTPUT OUTFILE. |   |  |  | C98970 |
| 50030 |    | PERFORM SCREEN-IN THRU END-SC-IN.               |   |  |  | C98970 |
| 50100 |    | READ-INPUT.                                     |   |  |  | C98970 |
| 50110 |    | HEAD INFILE                                     |   |  |  | C98970 |





### 6.3.3 AIE SORT

```

//C9897R EXEC P9622N,TIME>01,ACCT>D35323007
//CHG.SORTIN DU DSN>P.9895953,DISP>(OLD,DELETE), C022/23 1
// DCB>[LRECL>0050,BLKSIZE>3000],LABEL>[NSL,RETPD>000]
//CHG.SORTOUT DU DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>A.9895455, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0050,BLKSIZE>3000]
//CHG.SYSIN DU *,DCB>BLKSIZE>0080,SPACE>[TRK,(1,1)]
SORT FIELDS>[025,008,CH,A,045,004,CH,A,010,005,CH,A,001,050,CH,A], C
SIZE>E0010000
MODS E15>[E15,008,SORTLIB,N],E18>[E18,024,SORTLIB,N]
/*
//C9897Y EXEC C9603N,TIME>01,ACCT>D35323007
//CHG.TU12 DD DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>A.9895455, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TPRIN DD *,SPACE>[TRK,(1,1)]
T/P TU12 10500502050
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

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### 6.3.4 AIE MERGE

```

//I9897M JOB (1.: G. WANG : ,PRTY>02, TYPRUN>HOLD
//C9897N EXEC P9623N,TIME>02,ACCT>D35323007
//CHG.SORTIN01 DU DISP>[KEEP],UNIT>[T+F5,1,DEFER],DSN>E.9895455, CT22 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 3
// DCB>[LRECL>0050,HLKSIZE>3000],LABEL>[NSL,RETPD>099]
//CHG.SORTIN02 DU DISP>[KEEP],UNIT>[T+F6,1,DEFER],DSN>F.9895455, CT23 1
// VOL>SER>[+F6,A+F6,B+F6,C+F6,D+F6,E+F6,F+F6,G+F6,H+F6, CT23 2
// I+F6,J+F6,K+F6,L+F6,M+F6,N+F6,O+F6,P+F6,Q+F6,R+F6,S+F6],CT23 3
// DCB>[LRECL>0050,HLKSIZE>3000],LABEL>[NSL,RETPD>099]
//CHG.SORTIN03 DU DISP>[KEEP],UNIT>[T+F7,1,DEFER],DSN>G.9895455, CT24 1
// VOL>SER>[+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7],CT24 3
// DCB>[LRECL>0050,HLKSIZE>3000],LABEL>[NSL,RETPD>099]
//CHG.SORTIN04 DU DISP>[KEEP],UNIT>[T+F8,1,DEFER],DSN>H.9895455, CT25 1
// VOL>SER>[+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8],CT25 3
// DCB>[LRECL>0050,HLKSIZE>3000],LABEL>[NSL,RETPD>099]
//CHG.SORTIN05 DU DISP>[KEEP],UNIT>[T+F2,1,DEFER],DSN>B.9895455, CT13 1
// VOL>SER>[+F2,A+F2,B+F2,C+F2,D+F2,E+F2,F+F2,G+F2,H+F2, CT13 2
// I+F2,J+F2,K+F2,L+F2,M+F2,N+F2,O+F2,P+F2,Q+F2,R+F2,S+F2],CT13 3
// DCB>[LRECL>0050,HLKSIZE>3000],LABEL>[NSL,RETPD>099]
//CHG.SORTIN06 DU DISP>[KEEP],UNIT>[T+F3,1,DEFER],DSN>C.9895455, CT14 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3],CT14 3
// DCB>[LRECL>0050,HLKSIZE>3000],LABEL>[NSL,RETPD>099]
//CHG.SORTOUT DU DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>A.9895455, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0050,HLKSIZE>3000]
//CHG.SYSIN DD *,DCB>BLKSIZE>0080,SPACE>[TRK,(1,1)]
MERGE FIELDS>[025,008,CH,A,045,004,CH,A,010,005,CH,A]
/*
//C9897P EXEC C9603N,TIME>01,ACCT>D35323007
//CHG.TU12 DD DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>A.9895455, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C,1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU13 DD DISP>[KEEP],UNIT>[T+F2,1,DEFER],DSN>H.9895455, CT13 1
// VOL>SER>[+F2,A+F2,B+F2,C+F2,D+F2,E+F2,F+F2,G+F2,H+F2, CT13 2
// I+F2,J+F2,K+F2,L+F2,M+F2,N+F2,O+F2,P+F2,Q+F2,R+F2,S+F2] T13 3
//CHG.TU14 DD DISP>[KEEP],UNIT>[T+F3,1,DEFER],DSN>C.9895455, CT14 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG.TU22 DU DISP>[KEEP],UNIT>[T+F5,1,DEFER],DSN>E.9895455, CT22 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG.TU23 DU DISP>[KEEP],UNIT>[T+F6,1,DEFER],DSN>F.9895455, CT23 1
// VOL>SER>[+F6,A+F6,B+F6,C+F6,D+F6,E+F6,F+F6,G+F6,H+F6, CT23 2
// I+F6,J+F6,K+F6,L+F6,M+F6,N+F6,O+F6,P+F6,Q+F6,R+F6,S+F6] T23 3
//CHG.TU24 DD DISP>[KEEP],UNIT>[T+F7,1,DEFER],DSN>G.9895455, CT24 1
// VOL>SER>[+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7] T24 3
//CHG.TU25 DD DISP>[KEEP],UNIT>[T+F8,1,DEFER],DSN>H.9895455, CT25 1
// VOL>SER>[+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8] T25 3

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50130 MOVE INREC TO TMPREC. C98970
50140 READ INFILE C98970
50150 AT END GO TO WRITE-LAST. C98970
50160 GO TO COMPARE. C98970
50170 COUNT-DUPS. C98970
50175 IF INREC IS EQUAL TO NINES GO TO BLOCK-CHECK. C98970
50180 ADD 1 TO NUMBER-DUPS. C98970
50190 READ INFILE C98970
50200 AT END GO TO WRITE-LAST. C98970
50210 GO TO COMPARE. C98970
50220 WRITE-LAST. C98970
50230 WRITE OUTREC FROM TMPREC. C98970
50235 ADD 1 TO RECORDS-PASS. C98970
50240 CLOSE-FILES. C98970
50250 CLOSE INFILE WITH LOCK. C98970
50260 CLOSE OUTFILE WITH LOCK. C98970
50270 DISPLAY :NO, DUPS : NUMBER-DUPS UPON CONSOLE. C98970
50280 DISPLAY :EOJ 9897 : UPON CONSOLE. C98970
50290 GOBACK. C98970
50400 BLOCK-CHECK. C98970
50410 COMPUTE KNT = RECORDS-PASS - RECORDS-PASS / 60 * 60. C98970
50420 IF KNT IS EQUAL TO ZERO GO TO CLOSE-FILES. C98970
50430 NINE-FILL. C98970
50440 WRITE OUTREC FROM NINES. C98970
50450 ADD 1 TO KNT. C98970
50460 IF KNT IS LESS THAN 60 GO TO NINE-FILL. C98970
50470 GO TO CLOSE-FILES. C98970
/* PLACE CONTROL CARDS BEFORE THIS CARD
//CHG,TFGIN DU *SPACE>[CYL,(1:1)] 1440 CDS
/* PLACE TFD DATA BEFORE THIS CARD
//IPR,TU14 DU DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>+F3 T14
//IPR,TPR14 DU *SPACE>[TRK,(1:1)]
T/P TU14 10400902090
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.3.6 AIE COPY ACCEPTABLE AIRCRAFT

```

//C98971 JOB 01: G WANG ;,PRTY>02,TPHUN>HOLD
//C9897 EXEC P9055L,TIME>01,ACCT>D35323007
//CHG,TU12 DU DISP>[PASS],UNIT>[17F1,1,DEFER],DSN>+A,9895455, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// 1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG,TU22 DU DISP>[PASS],UNIT>[17F5,1,DEFER],DSN>+E,9895455, CT22 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// 1+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG,INPUT DU *SPACE>[CYL,(1:1)] 1440 CDS
00000 CONTINUE COMPILE G. WANG. C98970
01040 DATE-WRITTEN. 27 DEC 71. C98970
01050 REMARKS. C98970
01060 AIE COPY ACCEPTABLE AIRCRAFT. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT INFILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT OUTFILE ASSIGN TO UT-S-TU22 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT ACCEPT-FILE ASSIGN TO DA-S-DT01 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10020 FU INFILE C98970
10030 RECORDING MODE IS F C98970
10040 BLOCK CONTAINS 60 RECORDS C98970
10050 RECORD CONTAINS 50 CHARACTERS C98970
10060 LABEL RECORDS ARE OMITTED C98970
10070 DATA RECORDS ARE INREC. C98970
10080 01 INREC SYNC. C98970
10090 02 FILELEN PICTURE X(50), C98970
10100 FU OUTFILE C98970
10110 RECORDING MODE IS F C98970
10120 BLOCK CONTAINS 60 RECORDS C98970
10130 RECORD CONTAINS 50 CHARACTERS C98970
10140 LABEL RECORDS ARE OMITTED C98970
10150 DATA RECORDS ARE OUTREC. C98970
10160 01 OUTREC SYNC. C98970
10170 02 FILELEN PICTURE X(50). C98970
11400 FO ACCEPT-FILE C98970
11410 RECORDING MODE IS F C98970
11420 BLOCK CONTAINS 20 RECORDS C98970

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5900164

\*END

/\* PLACE TFG DATA BEFORE THIS CARD  
//TPR,TU12 DU DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1  
//TPR,TU22 DU DISP>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5  
//TPR,TPR1N DU \*,SPACE>[TRK,[1,1]]

T12  
T22

T/P DT01 102008^2080  
T/P TU22 10500502050

/\* PLACE T/P CONTROL CARDS BEFORE THIS CARD

6.4 IRAN FILE GENERATION PROGRAMS  
 6.4.1 IRAN FORMATTER OF ACCEPTANCE DATA

```

//T9897X JOB 01: G. WANG. 1,PRTY>02,TYPRUN>HOLD
//C9897X EXEC P9655L,TIME>02,ACCT>D35323007
//CHG,INPUT 00 *SPACE>CYL,(1,1))
1440 CDS
00000 COMBINE COMPILE 6. WANG. C98970
01040 DATE-WRITTEN. 31 JAN 72. C98970
01050 REMARKS. PROGRAM NAME- IRAN ACCEPTANCE DATE DATA PREPROCESSOR. C98970
01060 INPUT -IRAN ACCEPTANCE DATE DATA CARDS. C98970
01070 OUTPUT-IRAN ACCEPTANCE DATE DATA TAPE(8-DIG.SER.<JDATE), C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IHM-360. C98970
02030 OBJECT-COMPUTER. IHM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT INCAHDA ASSIGN TO UT-5-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT FILEACCP ASSIGN TO UT-5-TU13 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD INCARUA C98970
10120 RECURRING MODE IS F C98970
10130 BLOCK CONTAINS 01 RECORDS C98970
10140 RECORD CONTAINS 80 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE INCARUA-IRAN. C98970
10200 01 INCARUA-IRAN SYNC. C98970
10210 02 SEQ=1-2 PICTURE 99. C98970
10220 02 SEQ=3-6 PICTURE 9999. C98970
10230 02 FILLER PICTURE X(10). C98970
10240 02 M0 PICTURE 99. C98970
10250 02 FA PICTURE 99. C98970
10260 02 YK PICTURE 99. C98970
10270 02 FILLER PICTURE X(50). C98970
11100 FU FILLACCP C98970
11120 RECURRING MODE IS F C98970
11130 BLOCK CONTAINS 01 RECORDS C98970
11140 RECORD CONTAINS 80 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE FILEACCP-IRAN. C98970
11200 01 FILLACCP-IRAN SYNC. C98970
11210 02 FILLER PICTURE X(80). C98970
30000 WORKING-STORAGE SECTION. C98970
30020 01 JYR PICTURE S99 COMPUTATIONAL VALUE ZERO SYNC. C98970
30030 01 IYR PICTURE S99 COMPUTATIONAL VALUE ZERO SYNC. C98970
30040 01 IM0 PICTURE S99 COMPUTATIONAL VALUE ZERO SYNC. C98970
30050 01 I0A PICTURE S99 COMPUTATIONAL VALUE ZERO SYNC. C98970
30060 01 JUAY PICTURE S999 COMPUTATIONAL VALUE ZERO SYNC. C98970
30100 01 RECORDS-HEAD PICTURE 9(6) SYNC VALUE ZERO. C98970
30110 01 RECORDS-PASS PICTURE 9(6) SYNC VALUE ZERO. C98970
31000 01 DAYS-IN-YEAR SYNC. C98970
31010 02 FILLER PICTURE 999 VALUE 0. C98970
31020 02 FILLER PICTURE 999 VALUE 31. C98970
31030 02 FILLER PICTURE 999 VALUE 59. C98970
31040 02 FILLER PICTURE 999 VALUE 90. C98970
31050 02 FILLER PICTURE 999 VALUE 120. C98970
31060 02 FILLER PICTURE 999 VALUE 151. C98970
31070 02 FILLER PICTURE 999 VALUE 181. C98970
31080 02 FILLER PICTURE 999 VALUE 212. C98970
31090 02 FILLER PICTURE 999 VALUE 243. C98970
31100 02 FILLER PICTURE 999 VALUE 273. C98970
31110 02 FILLER PICTURE 999 VALUE 304. C98970
31120 02 FILLER PICTURE 999 VALUE 334. C98970
31130 01 NO-DAYS-IN-YEAR RPOEFINES DAYS-IN-YEAR SYNC. C98970
31140 02 KUAYS OCCURS 12 TIMES C98970
31150 PICTURE 999. C98970
32000 01 DAYS-IN-YEARS SYN. C98970
32010 02 FILLER PICTURE 9999 VALUE 0. C98970
32020 02 FILLER PICTURE 9999 VALUE 365. C98970
32030 02 FILLER PICTURE 9999 VALUE 730. C98970
32040 02 FILLER PICTURE 9999 VALUE 1095. C98970
32050 02 FILLER PICTURE 9999 VALUE 1461. C98970
32060 02 FILLER PICTURE 9999 VALUE 1826. C98970
32070 02 FILLER PICTURE 9999 VALUE 2191. C98970
32080 02 FILLER PICTURE 9999 VALUE 2556. C98970
32090 02 FILLER PICTURE 9999 VALUE 2922. C98970
32100 02 FILLER PICTURE 9999 VALUE 3287. C98970
32110 02 FILLER PICTURE 9999 VALUE 3652. C98970
32120 02 FILLER PICTURE 9999 VALUE 4017. C98970
32130 02 FILLER PICTURE 9999 VALUE 4383. C98970

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32140 02 FILLER          PICTURE 9999  VALUE 4748.      C98970
32150 02 FILLER          PICTURE 9999  VALUE 5113.      C98970
32160 02 FILLER          PICTURE 9999  VALUE 5478.      C98970
32170 02 FILLER          PICTURE 9999  VALUE 5844.      C98970
32180 02 FILLER          PICTURE 9999  VALUE 6209.      C98970
32190 02 FILLER          PICTURE 9999  VALUE 6574.      C98970
32200 02 FILLER          PICTURE 9999  VALUE 6939.      C98970
32210 02 FILLER          PICTURE 9999  VALUE 7305.      C98970
32220 01 DAY-IN-YEAR-TABLE REDEFINES DAYS-IN-YEARS SYNC. C98970
32230 02 DAY-YEAR OCCURS 21 TIMES C98970
32235 PICTURE 9999. C98970
36000 01 FILLACPT-IRAN-WORK SYNC. C98970
36010 02 SLRIAL          PICTURE 9(8). C98970
36020 02 FILLER          PICTURE XX      VALUE SPACE. C98970
36030 02 DAY-NO          PICTURE 59(4). C98970
36040 02 FILLER          PICTURE X(65)  VALUE SPACE. C98970
36050 02 RCDMK-0         PICTURE X      VALUE I#1. C98970
50000 PROCEDURE DIVISION. C98970
50010 OPEN-FILES. C98970
50020 OPEN INPUT INCARDA. C98970
50050 OPEN OUTPUT FILEACPT. C98970
50200 READ1. C98970
50210 READ INCARDA C98970
50220 AT END GO TO BLOCK-CHECK. C98970
50230 ADD 1 TO RECORDS-READ. C98970
50400 CONVERT-SERIAL-NO. C98970
50410 COMPUTE SERIAL > SER-1-2 * 1000000 < SER-3-6. C98970
50500 JUAY-SETUP1. C98970
50510 MOVE UA TO 10A. C98970
50520 MOVE MO TO 10M. C98970
50530 MOVE YR TO 1YR. C98970
50540 GO TO CONVERT-DATE. C98970
50700 CONVERT-DATE. C98970
50710 PERFORM DAYS-BEFORE-AFTER-DEC-31-64 THRU DAYS-END. C98970
50720 GO TO WRITE-OUTPUT. C98970
51000 DAYS-BEFORE-AFTER-DLC-31-64. C98970
51010 COMPUTE JYR > 1YR - 56. C98970
51020 COMPUTE JDAY > 1DA < KDAY [10M]. C98970
51030 IF JYR EQUAL 0 GO TO LEAP-YEAR. C98970
51040 IF JYR EQUAL 4 GO TO LEAP-YEAR. C98970
51050 IF JYR EQUAL 8 GO TO LEAP-YEAR. C98970
51060 IF JYR EQUAL 12 GO TO LEAP-YEAR. C98970
51070 IF JYR EQUAL 16 GO TO LEAP-YEAR. C98970
51080 IF JYR EQUAL 20 GO TO LEAP-YEAR. C98970
51090 GO TO JULIAN-DAYS. C98970
51100 LEAP-YEAR. C98970
51110 IF 10M IS LLSS THAN 3 GO TO JULIAN-DAYS. C98970
51120 ADD 1 TO JDAY. C98970
51130 JULIAN-DAYS. C98970
51140 COMPUTE DAY-NO > DAY-YEAR [JYR] < JDAY - 2922. C98970
51150 DAYS-END. EXIT. C98970
5000 WRITE-OUTPUT. C98970
60010 WRITE FILEACPT-IRAN FROM FILEACPT-IRAN-WORK. C98970
60020 ADD 1 TO RECORDS-PASS. C98970
60030 GO TO READ1. C98970
60200 BLOCK-CHECK. C98970
60210 GO TO CLOSE-FILES. C98970
60300 CLOSE-FILES. C98970
60310 CLOSE INCARDA WITH LOCK. C98970
60320 CLOSE FILEACPT WITH LOCK. C98970
60330 DISPLAY : CARDS READ 1 RECORDS-READ UPON CONSOLE. C98970
60340 DISPLAY : RECORDS-OT 1 RECORDS-PASS UPON CONSOLE. C98970
60350 DISPLAY : E0J C9897 1 UPON CONSOLE. C98970
60360 GOBACK. C98970
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG,TFGIN DD *.SPACE>[CYL,(1,1)]
1440 CDS
TFG TU12 11 0012080
57 229 0 7 158 1 1
57 230 0 6 158 1 1
57 231 0 7 158 1 1
57 232 0 7 158 1 1
57 235 0 8 158 1 1
57 236 0 9 158 1 1
57 237 0 9 158 1 1
57 241 0 9 158 1 1
57 243 0 10 158 1 1
57 244 0 12 158 1 1
57 245 0 11 158 1 1
57 246 0 3 159 1 1
572453 0 4 159 1 1
572455 0 4 159 1 1
572456 0 5 159 1 1
572457 0 4 159 1 1
572458 0 4 159 1 1
572459 0 5 159 1 1

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| 572461 0 | 5 159 1 1  |
| 572463 0 | 5 159 1 1  |
| 572464 0 | 5 159 1 1  |
| 572465 0 | 6 159 1 1  |
| 572466 0 | 4 159 1 1  |
| 572467 0 | 5 159 1 1  |
| 572469 0 | 5 159 1 1  |
| 572470 0 | 5 159 1 1  |
| 572472 0 | 5 159 1 1  |
| 572473 0 | 5 159 1 1  |
| 572475 0 | 6 159 1 1  |
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| 572478 0 | 6 159 1 1  |
| 572480 0 | 6 159 1 1  |
| 572481 0 | 6 159 1 1  |
| 572482 0 | 6 159 1 1  |
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| 572485 0 | 7 159 1 1  |
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| 572497 0 | 8 159 1 1  |
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| 572522 0 | 7 159 1 1  |
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| 572526 0 | 9 159 1 1  |
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| 572535 0 | 11 159 1 1 |
| 572536 0 | 11 159 1 1 |
| 572537 0 | 12 159 1 1 |
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| 572547 0 | 4 160 1 1  |
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| 58 793 0 | 12 159 1 1 |
| 58 797 0 | 11 159 1 1 |
| 58 798 0 | 11 159 1 1 |
| 58 900 0 | 3 160 1 1  |
| 58 901 0 | 4 160 1 1  |
| 58 902 0 | 5 160 1 1  |
| 58 903 0 | 6 160 1 1  |
| 58 904 0 | 6 160 1 1  |
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| 59 002 0 | 11 159 1 1 |
| 59 003 0 | 11 159 1 1 |
| 59 004 0 | 11 159 1 1 |
| 59 005 0 | 11 159 1 1 |
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| 59 008 0 | 12 159 1 1 |
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| 59 019 0 | 1 160 1 1  |
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| 59 023 0 | 2 160 1 1  |
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| 59 072 0 | 5 160 1 1  |
| 59 074 0 | 6 160 1 1  |
| 59 075 0 | 6 160 1 1  |
| 59 076 0 | 6 160 1 1  |
| 59 077 0 | 6 160 1 1  |

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59 078 0      6 160 1 1
59 079 0      6 160 1 1
59 080 0      6 160 1 1
59 081 0      6 160 1 1
59 082 0      6 160 1 1
59 083 0      6 160 1 1
59 084 0      6 160 1 1
59 085 0      6 160 1 1
59 086 0      6 160 1 1
59 088 0      7 160 1 1
59 089 0      7 160 1 1
59 090 0      7 160 1 1
59 091 0      7 160 1 1
59 092 0      7 160 1 1
59 093 0      8 160 1 1
59 094 0      7 160 1 1
59 095 0      7 160 1 1
59 096 0      8 160 1 1
59 097 0      7 160 1 1
59 099 0      8 160 1 1
59 100 0      8 160 1 1
59 101 0      7 160 1 1
59 102 0      8 160 1 1
59 103 0      8 160 1 1
59 104 0      7 160 1 1
59 105 0      8 160 1 1
59 106 0      8 160 1 1
59 108 0      8 160 1 1
59 109 0      8 160 1 1
59 110 0      8 160 1 1
59 112 0      10 160 1 1
59 115 0      11 160 1 1
59 116 0      11 160 1 1
59 118 0      11 160 1 1
59 119 0      11 160 1 1
59 121 0      9 160 1 1
59 122 0      11 160 1 1
59 123 0      11 160 1 1
59 125 0      11 160 1 1
59 126 0      11 160 1 1
59 127 0      9 160 1 1
59 128 0      11 160 1 1
59 129 0      12 160 1 1
59 130 0      11 160 1 1
59 131 0      11 160 1 1
59 132 0      11 160 1 1
59 133 0      12 160 1 1
59 134 0      1 161 1 1
59 135 0      12 160 1 1
59 136 0      1 161 1 1
59 137 0      1 161 1 1
59 138 0      1 161 1 1
59 140 0      1 161 1 1
59 141 0      1 161 1 1
59 143 0      1 161 1 1
59 144 0      1 161 1 1
59 145 0      2 161 1 1
59 146 0      1 161 1 1
59 147 0      2 161 1 1
59 148 0      1 161 1 1
59 149 0      6 160 1 1
59 151 0      6 160 1 1
59 152 0      7 160 1 1
59 153 0      7 160 1 1
59 155 0      8 160 1 1
59 157 0      8 160 1 1
59 158 0      10 160 1 1
59 159 0      9 160 1 1
59 160 0      11 160 1 1
59 161 0      9 160 1 1
59 162 0      12 160 1 1
59 163 0      12 160 1 1
59 164 0      1 161 1 1
59 165 0      1 161 1 1

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*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU13 DO DISP>[OLD,PASS]
//TPR.TPR1N DO /*,SPACE>[TRK,(1,1)]
T/P TU12 12000802080
T/P TU13 12000802080
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

D13-PASS



|       |    |   |                |              |        |
|-------|----|---|----------------|--------------|--------|
| 31050 | 02 | FILLER  | PICTURE 999    | VALUE 120.   | C98970 |
| 31060 | 02 | FILLER  | PICTURE 999    | VALUE 151.   | C98970 |
| 31070 | 02 | FILLER  | PICTURE 999    | VALUE 181.   | C98970 |
| 31080 | 02 | FILLER  | PICTURE 999    | VALUE 212.   | C98970 |
| 31090 | 02 | FILLER  | PICTURE 999    | VALUE 243.   | C98970 |
| 31100 | 02 | FILLER  | PICTURE 999    | VALUE 273.   | C98970 |
| 31110 | 02 | FILLER  | PICTURE 999    | VALUE 304.   | C98970 |
| 31120 | 02 | FILLER  | PICTURE 999    | VALUE 334.   | C98970 |
| 31130 | 01 | NO-DAYS-IN-YEAR REDEFINES DAYS-IN-YEAR SYNC.    |                |              | C98970 |
| 31140 | 02 | KWAYS OCCURS 12 TIMES                           |                |              | C98970 |
| 31150 |    |   | PICTURE 999.   |              | C98970 |
| 32000 | 01 | DAYS-IN-YEARS SYNC.                             |                |              | C98970 |
| 32010 | 02 | FILLER  | PICTURE 9999   | VALUE 0.     | C98970 |
| 32020 | 02 | FILLER  | PICTURE 9999   | VALUE 365.   | C98970 |
| 32030 | 02 | FILLER  | PICTURE 9999   | VALUE 730.   | C98970 |
| 32040 | 02 | FILLER  | PICTURE 9999   | VALUE 1095.  | C98970 |
| 32050 | 02 | FILLER  | PICTURE 9999   | VALUE 1461.  | C98970 |
| 32060 | 02 | FILLER  | PICTURE 9999   | VALUE 1826.  | C98970 |
| 32070 | 02 | FILLER  | PICTURE 9999   | VALUE 2191.  | C98970 |
| 32080 | 02 | FILLER  | PICTURE 9999   | VALUE 2556.  | C98970 |
| 32090 | 02 | FILLER  | PICTURE 9999   | VALUE 2922.  | C98970 |
| 32100 | 02 | FILLER  | PICTURE 9999   | VALUE 3287.  | C98970 |
| 32110 | 02 | FILLER  | PICTURE 9999   | VALUE 3652.  | C98970 |
| 32120 | 02 | FILLER  | PICTURE 9999   | VALUE 4017.  | C98970 |
| 32130 | 02 | FILLER  | PICTURE 9999   | VALUE 4383.  | C98970 |
| 32140 | 02 | FILLER  | PICTURE 9999   | VALUE 4748.  | C98970 |
| 32150 | 02 | FILLER  | PICTURE 9999   | VALUE 5113.  | C98970 |
| 32160 | 02 | FILLER  | PICTURE 9999   | VALUE 5478.  | C98970 |
| 32170 | 02 | FILLER  | PICTURE 9999   | VALUE 5844.  | C98970 |
| 32180 | 02 | FILLER  | PICTURE 9999   | VALUE 6209.  | C98970 |
| 32190 | 02 | FILLER  | PICTURE 9999   | VALUE 6574.  | C98970 |
| 32200 | 02 | FILLER  | PICTURE 9999   | VALUE 6939.  | C98970 |
| 32210 | 02 | FILLER  | PICTURE 9999   | VALUE 7305.  | C98970 |
| 32220 | 01 | DAY-IN-YEAR-TABLE REDEFINES DAYS-IN-YEARS SYNC. |                |              | C98970 |
| 32230 | 02 | DAY-YEAR OCCURS 21 TIMES                        |                |              | C98970 |
| 32235 |    |   | PICTURE 9999.  |              | C98970 |
| 33000 | 01 | FILLEVENT-IRAN-WORK2 SYNC.                      |                |              | C98970 |
| 33010 | 02 | SER-1-2-2                                       | PICTURE 99.    |              | C98970 |
| 33020 | 02 | SER-3-6-2                                       | PICTURE 9999.  |              | C98970 |
| 33030 | 02 | SERIES-2  | PICTURE X.     |              | C98970 |
| 33040 | 02 | FILLER  | PICTURE XX.    |              | C98970 |
| 33050 | 02 | MO-START-2                                      | PICTURE 99.    |              | C98970 |
| 33060 | 02 | DA-START-2                                      | PICTURE 99.    |              | C98970 |
| 33070 | 02 | YR-START-2                                      | PICTURE 99.    |              | C98970 |
| 33080 | 02 | FILLER  | PICTURE X.     |              | C98970 |
| 33090 | 02 | MO-UONE-2                                       | PICTURE 99.    |              | C98970 |
| 33100 | 02 | DA-UONE-2                                       | PICTURE 99.    |              | C98970 |
| 33110 | 02 | YR-UONE-2                                       | PICTURE 99.    |              | C98970 |
| 33120 | 02 | FILLER  | PICTURE XXXX.  |              | C98970 |
| 33130 | 02 | FL-HRS-CUM-2                                    | PICTURE 9999.  |              | C98970 |
| 33140 | 02 | FL-JEC-2  | PICTURE X.     |              | C98970 |
| 33150 | 02 | FL-U-TENTH-2                                    | PICTURE 9.     |              | C98970 |
| 33160 | 02 | FILLER  | PICTURE XX.    |              | C98970 |
| 33170 | 02 | TYPE-CODE-2                                     | PICTURE 99.    |              | C98970 |
| 33180 | 02 | FILLER  | PICTURE X(33). |              | C98970 |
| 33190 | 02 | MH-LABOR-2                                      | PICTURE 9999.  |              | C98970 |
| 33200 | 02 | FILLER  | PICTURE X(7).  |              | C98970 |
| 34000 | 01 | IRAN-OUT-WORKT SYNC.                            |                |              | C98970 |
| 34010 | 02 | SERIAL-T  | PICTURE 9(8)   | VALUE ZEROS. | C98970 |
| 34020 | 02 | SERIES-T  | PICTURE X      | VALUE SPACE. | C98970 |
| 34030 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34040 | 02 | ACCPY-DA-T                                      | PICTURE 9(5)   | VALUE ZEROS. | C98970 |
| 34050 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34060 | 02 | VISIT-T   | PICTURE 9      | VALUE ZEROS. | C98970 |
| 34065 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34070 | 02 | TYPE-CODE-T                                     | PICTURE 99     | VALUE ZEROS. | C98970 |
| 34080 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34090 | 02 | FL-HRS-C-T                                      | PICTURE 4(5)   | VALUE ZEROS. | C98970 |
| 34100 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34110 | 02 | AGE-STRY-T                                      | PICTURE 999    | VALUE ZEROS. | C98970 |
| 34120 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34130 | 02 | DA-NO-ST-T                                      | PICTURE 9999   | VALUE ZEROS. | C98970 |
| 34140 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34150 | 02 | DA-NO-FN-T                                      | PICTURE 59999  | VALUE ZEROS. | C98970 |
| 34160 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34170 | 02 | DURATION-DA-T                                   | PICTURE 999    | VALUE ZEROS. | C98970 |
| 34180 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34190 | 02 | MH-LABOR-T                                      | PICTURE 9999   | VALUE ZEROS. | C98970 |
| 34200 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34210 | 02 | TYPE-CODE-N-T-S                                 | PICTURE 99     | VALUE ZEROS. | C98970 |
| 34220 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34230 | 02 | FL-HRS-C-NXT-S                                  | PICTURE 9(5)   | VALUE ZEROS. | C98970 |
| 34240 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34250 | 02 | DA-NO-ST-NX-T-S                                 | PICTURE 59999  | VALUE ZEROS. | C98970 |
| 34260 | 02 | FILLER  | PICTURE X      | VALUE SPACE. | C98970 |
| 34270 | 02 | INTERVAL-DA-T                                   | PICTURE 9999   | VALUE ZEROS. | C98970 |

|       |    |                        |                |              |        |
|-------|----|------------------------|----------------|--------------|--------|
| 34280 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34290 | 02 | INT-MO-T               | PICTURE 999    | VALUE ZEROS. | C98970 |
| 34300 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34310 | 02 | INT-FL-HRS-1           | PICTURE 9[5]   | VALUE ZEROS. | C98970 |
| 34320 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34330 | 02 | R-MARK-T               | PICTURE X      | VALUE SPACE. | C98970 |
| 34400 | 01 | IRAN-OUT-WORKO SYNC.   |                |              | C98970 |
| 34410 | 02 | SERIAL-O               | PICTURE 9[8]   | VALUE ZEROS. | C98970 |
| 34420 | 02 | SERIES-O               | PICTURE X      | VALUE SPACE. | C98970 |
| 34430 | 02 | FILLER                 | PICTURE XX     | VALUE SPACE. | C98970 |
| 34440 | 02 | ACPT-DA-O              | PICTURE 59[4]  | VALUE ZEROS. | C98970 |
| 34450 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34460 | 02 | VISIT-O                | PICTURE 4      | VALUE ZEROS. | C98970 |
| 34465 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34470 | 02 | TYPL-CODE-O            | PICTURE 99     | VALUE ZEROS. | C98970 |
| 34480 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34490 | 02 | FL-HRS-C-O             | PICTURE 9[5]   | VALUE ZEROS. | C98970 |
| 34500 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34510 | 02 | AGE-STRT-O             | PICTURE 999    | VALUE ZEROS. | C98970 |
| 34520 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34530 | 02 | DA-NO-ST-O             | PICTURE 59999  | VALUE ZEROS. | C98970 |
| 34540 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34550 | 02 | DA-NO-FN-O             | PICTURE 59999  | VALUE ZEROS. | C98970 |
| 34560 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34570 | 02 | DURATION-DA-O          | PICTURE 999    | VALUE ZEROS. | C98970 |
| 34580 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34590 | 02 | MH-LABOR-O             | PICTURE 9999   | VALUE ZEROS. | C98970 |
| 34600 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34610 | 02 | TYPL-CODE-NAT-O        | PICTURE 99     | VALUE ZEROS. | C98970 |
| 34620 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34630 | 02 | FL-HRS-C-NXT-O         | PICTURE 9[5]   | VALUE ZEROS. | C98970 |
| 34640 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34650 | 02 | DA-NO-ST-NX-O          | PICTURE 59999  | VALUE ZEROS. | C98970 |
| 34660 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34670 | 02 | INTERVAL-DA-O          | PICTURE 9999   | VALUE ZEROS. | C98970 |
| 34680 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34690 | 02 | INTERVAL-WK-O          | PICTURE 999    | VALUE ZEROS. | C98970 |
| 34700 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34710 | 02 | INT-FL-HRS-O           | PICTURE 9[5]   | VALUE ZEROS. | C98970 |
| 34720 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 34730 | 02 | R-MARK-O               | PICTURE X      | VALUE 1#1.   | C98970 |
| 35000 | 01 | IRANREPORT-WORKP SYNC. |                |              | C98970 |
| 35010 | 02 | FILLER                 | PICTURE X[5]   | VALUE SPACE. | C98970 |
| 35020 | 02 | SERIAL-R               | PICTURE X[8]   | VALUE SPACE. | C98970 |
| 35030 | 02 | SERIES-R               | PICTURE X      | VALUE SPACE. | C98970 |
| 35040 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35050 | 02 | ACPT-DA-R              | PICTURE -[5].  |              | C98970 |
| 35060 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35070 | 02 | VISIT-R                | PICTURE X      | VALUE SPACE. | C98970 |
| 35080 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35090 | 02 | TYPL-CODE-R            | PICTURE Z9.    |              | C98970 |
| 35100 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35110 | 02 | FL-HRS-C-R             | PICTURE ZZZZ9. |              | C98970 |
| 35120 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35130 | 02 | AGE-STRT-R             | PICTURE ZZ9.   |              | C98970 |
| 35150 | 02 | DA-NO-ST-R             | PICTURE -[5].  |              | C98970 |
| 35170 | 02 | DA-NO-FN-R             | PICTURE -[5].  |              | C98970 |
| 35190 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35190 | 02 | DURATION-DA-R          | PICTURE ZZ9.   |              | C98970 |
| 35200 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35210 | 02 | MH-LABOR-R             | PICTURE X[4]   | VALUE SPACE. | C98970 |
| 35220 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35230 | 02 | TYPL-CODE-NAT-R        | PICTURE Z9.    |              | C98970 |
| 35240 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35250 | 02 | FL-HRS-C-NXT-R         | PICTURE ZZZZ9. |              | C98970 |
| 35260 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35270 | 02 | DA-NO-ST-NX-R          | PICTURE ZZZ9.  |              | C98970 |
| 35280 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35290 | 02 | INTERVAL-DA-R          | PICTURE ZZZ9.  |              | C98970 |
| 35300 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35310 | 02 | INTERVAL-WK-R          | PICTURE ZZ9.   |              | C98970 |
| 35320 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35330 | 02 | INT-FL-HRS-R           | PICTURE ZZZZ9. |              | C98970 |
| 35340 | 02 | FILLER                 | PICTURE XX     | VALUE SPACE. | C98970 |
| 35350 | 02 | MO-STRT-R              | PICTURE XX     | VALUE SPACE. | C98970 |
| 35360 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35370 | 02 | TA-STRT-R              | PICTURE XX     | VALUE SPACE. | C98970 |
| 35380 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35390 | 02 | YR-STRT-R              | PICTURE XX     | VALUE SPACE. | C98970 |
| 35400 | 02 | FILLER                 | PICTURE XX     | VALUE SPACE. | C98970 |
| 35410 | 02 | MO-CONF-R              | PICTURE XX     | VALUE SPACE. | C98970 |
| 35420 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35430 | 02 | DA-JONE-R              | PICTURE XX     | VALUE SPACE. | C98970 |
| 35440 | 02 | FILLER                 | PICTURE X      | VALUE SPACE. | C98970 |
| 35450 | 02 | YR-CONF-R              | PICTURE XX     | VALUE SPACE. | C98970 |
| 35460 | 02 | FILLER                 | PICTURE X[16]  | VALUE SPACE. | C98970 |
| 35470 | 02 | WEEK-M-R               | PICTURE X      | VALUE 1#1.   | C98970 |

|       |    |   |                |                            |           |        |
|-------|----|---|----------------|----------------------------|-----------|--------|
| 35600 | 01 | FILEACCPY-IRANW SYNC.                               |                |                            |           | C98970 |
| 35610 | 02 | SERIAL  | PICTURE 9(8)   | VALUE ZEROS.               |           | C98970 |
| 35620 | 02 | FILLER  | PICTURE XX.    |                            |           | C98970 |
| 35630 | 02 | DAY-NO-A  | PICTURE 59(4)  | VALUE ZEROS.               |           | C98970 |
| 35640 | 02 | FILLER  | PICTURE X(65). |                            |           | C98970 |
| 35650 | 02 | RCOMK-O   | PICTURE X.     |                            |           | C98970 |
| 37000 | 01 | IRANREPORT-TITLE-A SYNC.                            |                |                            |           | C98970 |
| 37010 | 02 | CAR-CODE-A  | PICTURE X      | VALUE !:.                  |           | C98970 |
| 37020 | 02 | FILLER  | PICTURE X(14)  | VALUE SPACE.               |           | C98970 |
| 37030 | 02 | T-10-24-A   | PICTURE X(9)   | VALUE ;ACCPY V T:.         |           | C98970 |
| 37040 | 02 | FILLER  | PICTURE X(12)  | VALUE SPACE.               |           | C98970 |
| 37050 | 02 | T-37-55-A   | PICTURE X(19)  | VALUE ;STRY CMPL DAYS      | !         | C98970 |
| 37060 | 02 | T-50-71-A   | PICTURE X(16)  | VALUE !-NEXT IRAN-- --!.   |           | C98970 |
| 37070 | 02 | T-72-90-A   | PICTURE X(19)  | VALUE ;INTERVALS--         | !         | C98970 |
| 37080 | 02 | T-91-99-A   | PICTURE X(9)   | VALUE ; PAGE!.             |           | C98970 |
| 37090 | 02 | PAGE-NO-A   | PICTURE 2229.  |                            |           | C98970 |
| 37095 | 02 | FILLER  | PICTURE X(10)  | VALUE SPACE.               |           | C98970 |
| 37100 | 02 | T-114-120-A   | PICTURE X(7)   | VALUE ;                    | !.        | C98970 |
| 37200 | 01 | IRANREPORT-TITL-B SYNC.                             |                |                            |           | C98970 |
| 37210 | 02 | CAR-CODE-B  | PICTURE X      | VALUE SPACE.               |           | C98970 |
| 37220 | 02 | FILLER  | PICTURE X(14)  | VALUE SPACE.               |           | C98970 |
| 37230 | 02 | T-10-32-B   | PICTURE X(17)  | VALUE ;DATE I Y F/M        | !         | C98970 |
| 37240 | 02 | T-33-49-B   | PICTURE X(17)  | VALUE ;AGE DATE DATE IN!   |           | C98970 |
| 37250 | 02 | FILLER  | PICTURE X(6)   | VALUE SPACE.               |           | C98970 |
| 37260 | 02 | T-50-71-B   | PICTURE X(16)  | VALUE ;T F/M STRY          | !         | C98970 |
| 37270 | 02 | T-72-90-B   | PICTURE X(9)   | VALUE ; WK FH!             |           | C98970 |
| 37280 | 02 | FILLER  | PICTURE X(5)   | VALUE SPACE.               |           | C98970 |
| 37290 | 02 | T-80-95-B   | PICTURE X(10)  | VALUE ;START               | !         | C98970 |
| 37300 | 02 | T-90-105-B  | PICTURE X(10)  | VALUE ;COMPLETE            | !         | C98970 |
| 37310 | 02 | FILLER  | PICTURE X(14)  | VALUE SPACE.               |           | C98970 |
| 37320 | 02 | T-120-B   | PICTURE X      | VALUE !:.                  |           | C98970 |
| 37400 | 01 | IRANREPORT-TITL-C SYNC.                             |                |                            |           | C98970 |
| 37410 | 02 | CAR-CODE-C  | PICTURE X      | VALUE SPACE.               |           | C98970 |
| 37420 | 02 | FILLER  | PICTURE X(4)   | VALUE SPACE.               |           | C98970 |
| 37430 | 02 | T-6-15-C  | PICTURE X(10)  | VALUE ;SERIAL              | !         | C98970 |
| 37440 | 02 | T-10-32-C   | PICTURE X(17)  | VALUE ;CODE S P X10        | !         | C98970 |
| 37450 | 02 | T-33-49-C   | PICTURE X(17)  | VALUE ;WK, CODE CODE IRAI. |           | C98970 |
| 37460 | 02 | T-50-55-C   | PICTURE X(6)   | VALUE IN M/H               | !         | C98970 |
| 37470 | 02 | T-50-74-C   | PICTURE X(19)  | VALUE ;Y X10 DATE DAYS     | !         | C98970 |
| 37480 | 02 | T-75-85-C   | PICTURE X(11)  | VALUE ;X10 X10             | !         | C98970 |
| 37482 | 02 | T-80-95-C   | PICTURE X(10)  | VALUE ;MO DA YR            | !         | C98970 |
| 37485 | 02 | T-90-105-C  | PICTURE X(10)  | VALUE ;MO DA YR            | !         | C98970 |
| 37490 | 02 | FILLER  | PICTURE X(14)  | VALUE SPACE.               |           | C98970 |
| 37500 | 02 | T-120-C   | PICTURE X      | VALUE !:.                  |           | C98970 |
| 37600 | 01 | IRANREPORT-TITL-D SYNC.                             |                |                            |           | C98970 |
| 37610 | 02 | CAR-CODE-D  | PICTURE X      | VALUE SPACE.               |           | C98970 |
| 37620 | 02 | FILLER  | PICTURE X(118) | VALUE SPACE.               |           | C98970 |
| 37630 | 02 | T-120-D   | PICTURE X      | VALUE !:.                  |           | C98970 |
| 46000 | 01 | NINES-8   | PICTURE 9(8)   | SYNC VALUE                 | 99999999. | C98970 |
| 46010 | 01 | JFLAG   | PICTURE 9      | SYNC VALUE                 | ZERO.     | C98970 |
| 46020 | 01 | IFLAG   | PICTURE 9      | SYNC VALUE                 | ZERO.     | C98970 |
| 46030 | 01 | PADE-CNT  | PICTURE 9999   | SYNC VALUE                 | ZERO.     | C98970 |
| 46050 | 01 | LINE-CNT  | PICTURE 99     | SYNC VALUE                 | ZERO.     | C98970 |
| 46060 | 01 | LINE-MAX-50   | PICTURE 99     | SYNC VALUE                 | 50.       | C98970 |
| 46070 | 01 | LAST-1  | PICTURE 9      | SYNC VALUE                 | 0.        | C98970 |
| 46080 | 01 | DAY-NO  | PICTURE 59(4). |                            |           | C98970 |
| 46090 | 01 | DA-NO-FN-5  | PICTURE 59(4)  | VALUE ZEROS.               |           | C98970 |
| 46100 | 01 | RCDS-ACCPY  | PICTURE 9(6)   | SYNC VALUE                 | 0.        | C98970 |
| 46110 | 01 | SPACE-CNT   | PICTURE 9(6)   | SYNC VALUE                 | 0.        | C98970 |
| 46120 | 01 | LINES-OUT   | PICTURE 9(6)   | SYNC VALUE                 | 0.        | C98970 |
| 50000 |    | PROCEDURE DIVISION.                                 |                |                            |           | C98970 |
| 50010 |    | OPEN-FILES.   |                |                            |           | C98970 |
| 50020 |    | OPEN INPUT FILEACCPY.                               |                |                            |           | C98970 |
| 50030 |    | OPEN INPUT FILEEVENT.                               |                |                            |           | C98970 |
| 50040 |    | OPEN OUTPUT IRANOUT.                                |                |                            |           | C98970 |
| 50050 |    | OPEN OUTPUT IRANREPORT.                             |                |                            |           | C98970 |
| 50090 |    | INITIALIZE-PAGE.                                    |                |                            |           | C98970 |
| 50110 |    | PERFORM TITLE-5 THRU TITLE-5-END.                   |                |                            |           | C98970 |
| 50200 |    | READ-FIRST-EVENT.                                   |                |                            |           | C98970 |
| 50210 |    | READ FILEEVENT INTO FILEEVENT-IRANWORK2             |                |                            |           | C98970 |
| 50220 |    | AT END GO TO EOF-FIRST-EVENT.                       |                |                            |           | C98970 |
| 50225 |    | MOVE TYPE-CODE-2 TO TYPE-CODE-NXT-0.                |                |                            |           | C98970 |
| 50227 |    | ADD 1 TO RECORDS-READ.                              |                |                            |           | C98970 |
| 50230 |    | COMPUTE SERIAL-; > SER-1-2-2 * 100000 < SER-3-6-2.  |                |                            |           | C98970 |
| 50240 |    | CALC-START-FINISH-DAYS.                             |                |                            |           | C98970 |
| 50250 |    | PERFORM DAY-NUMBERS THRU DAY-NUMBERS-END.           |                |                            |           | C98970 |
| 50300 |    | NEW-SERIAL-/0.                                      |                |                            |           | C98970 |
| 50310 |    | IF SERIAL EQUAL SERIAL-T GO TO SAME-120.            |                |                            |           | C98970 |
| 50320 |    | IF SERIAL EQUAL NINES-8 GO TO SAME-SERIAL-TEST-100. |                |                            |           | C98970 |
| 50330 |    | GO TO READ-NEXT-ACCEPTANCE-DATE-80.                 |                |                            |           | C98970 |
| 50700 |    | DAY-NUMBERS.  |                |                            |           | C98970 |
| 50710 |    | MOVE ZERO TO DA-NO-ST-NXT-0 DA-NO-FN-T.             |                |                            |           | C98970 |
| 50715 |    | IF YR-SIRT-2 IS LESS THAN 1 GO TO FINISH-DAYS.      |                |                            |           | C98970 |
| 50720 |    | MOVE MO-STRT-2 TO IMO.                              |                |                            |           | C98970 |
| 50730 |    | MOVE DA-STRT-2 TO IDA.                              |                |                            |           | C98970 |

|       |  |        |
|-------|--|--------|
| 50740 | MOVE YR-STRT-2 TO IYR.                                     | C98970 |
| 50750 | PERFORM DAYS-BEFORE-AFTER-DEC-31-64 THRU DAYS-END.         | C98970 |
| 50760 | MOVL UAY-NO TO DA-NO-ST-NXT-0.                             | C98970 |
| 50800 | FINISH-DAYS.   | C98970 |
| 50802 | IF MO-DONE-2 EQUAL SPACE MOVE ZEROS TO MO-DONE-2.          | C98970 |
| 50804 | IF DA-DONE-2 EQUAL SPACE MOVE ZEROS TO DA-DONE-2.          | C98970 |
| 50806 | IF YR-DONE-2 EQUAL SPACE MOVE ZEROS TO YR-DONE-2.          | C98970 |
| 50810 | IF YR-DONE-2 IS LESS THAN 1 GO TO CALC-FLIGHT-HRS-NXT.     | C98970 |
| 50820 | MOVE MO-DONE-2 TO IMO.                                     | C98970 |
| 50830 | MOVE UA-DONE-2 TO IDA.                                     | C98970 |
| 50840 | MOVE YR-DONE-2 TO IYR.                                     | C98970 |
| 50850 | PERFORM DAYS-BEFORE-AFTER-DEC-31-64 THRU DAYS-END.         | C98970 |
| 50860 | MOVE DAY-NO TO DA-NO-FN-T.                                 | C98970 |
| 50870 | CALC-FLIGHT-HRS-NXT.                                       | C98970 |
| 50872 | IF FL-HRS-CUM-2 EQUAL SPACE MOVE ZEROS TO FL-HRS-CUM-2.    | C98970 |
| 50875 | IF FL-O-TENTH-2 EQUAL SPACE MOVE ZEROS TO FL-O-TENTH-2.    | C98970 |
| 50880 | COMPUTE FL-HRS-C-NXT-0 > FL-HRS-CUM-2 * 10 < FL-O-TENTH-2. | C98970 |
| 50890 | DAY-NUMBERS-END. EXIT.                                     | C98970 |
| 51000 | DAYS-BEFORE-AFTER-DEC-31-64.                               | C98970 |
| 51010 | COMPUTE JYR > IYR - 56.                                    | C98970 |
| 51020 | COMPUTE JDAY > IDA < KDAY (IMO).                           | C98970 |
| 51030 | IF JYR EQUAL 0 GO TO LEAP-YEAR.                            | C98970 |
| 51040 | IF JYR EQUAL 4 GO TO LEAP-YEAR.                            | C98970 |
| 51050 | IF JYR EQUAL 8 GO TO LEAP-YEAR.                            | C98970 |
| 51060 | IF JYR EQUAL 12 GO TO LEAP-YEAR.                           | C98970 |
| 51070 | IF JYR EQUAL 16 GO TO LEAP-YEAR.                           | C98970 |
| 51080 | IF JYR EQUAL 20 GO TO LEAP-YEAR.                           | C98970 |
| 51090 | GO TO JULIAN-DAYS.   | C98970 |
| 51100 | LEAP-YEAR.   | C98970 |
| 51110 | IF IMO IS LESS THAN 3 GO TO JULIAN-DAYS.                   | C98970 |
| 51120 | ADD 1 TO JDAY.   | C98970 |
| 51130 | JULIAN-DAYS.   | C98970 |
| 51140 | COMPUTE DAY-NO > DAY-YEAR [JYR] < JDAY - 2922.             | C98970 |
| 51150 | DAYS-END. EXIT.  | C98970 |
| 51300 | TITLE-S.   | C98970 |
| 51310 | ADD 1 TO PAGE-CNT.   | C98970 |
| 51320 | MOVL PAGE-CNT TO PAGE-NO-A.                                | C98970 |
| 51330 | WRITE IRANREPORT-PRE FROM IRANREPORT-TITLE-A.              | C98970 |
| 51340 | WRITE IRANREPORT-PRE FROM IRANREPORT-TITLE-B.              | C98970 |
| 51350 | WRITE IRANREPORT-PRE FROM IRANREPORT-TITLE-C.              | C98970 |
| 51360 | WRITE IRANREPORT-PRE FROM IRANREPORT-TITLE-D.              | C98970 |
| 51370 | TITLE-S-END. EXIT.   | C98970 |
| 52000 | READ-NEXT-ACCEPTANCE-DATE-80.                              | C98970 |
| 52010 | READ FILEACPT INTO FILEACPT-IRANR.                         | C98970 |
| 52020 | AT END GO TO SET-NINES-8-90.                               | C98970 |
| 52025 | ADD 1 TO RCDS-ACCEPT.                                      | C98970 |
| 52030 | GO TO SAME-SERIAL-TEST-100.                                | C98970 |
| 52040 | SET-NINES-8-90.  | C98970 |
| 52050 | MOVE NINES-8 TO SERIAL.                                    | C98970 |
| 52060 | SAME-SERIAL-TEST-100.                                      | C98970 |
| 52070 | IF SERIAL EQUAL SERIAL-T GO TO SAME-120.                   | C98970 |
| 52080 | IF SERIAL IS LESS THAN SERIAL-T                            | C98970 |
| 52090 | GO TO READ-NEXT-ACCEPTANCE-DATE-80.                        | C98970 |
| 52100 | MOVE 11 TO JFLAG.  | C98970 |
| 52110 | SAME-120.  | C98970 |
| 52120 | IF IFLAG EQUAL ZERO GO TO ACPT-DATE-CODE-130.              | C98970 |
| 52130 | MOVE TYPE-CODE-NXT-S TO TYPE-CODE-NXT-0.                   | C98970 |
| 52140 | MOVE UA-NO-ST-NXT-S TO DA-NO-ST-NXT-0.                     | C98970 |
| 52150 | MOVE DA-NO-FN-S TO DA-NO-FN-T.                             | C98970 |
| 52160 | MOVE FL-HRS-C-NXT-S TO FL-HRS-C-NXT-0.                     | C98970 |
| 52170 | MOVE ZERO TO VISIT-0 IFLAG.                                | C98970 |
| 52200 | ACPT-DATE-CODE-130.  | C98970 |
| 52210 | MOVE ZERO TO ACPT-DA-0.                                    | C98970 |
| 52220 | IF JFLAG EQUAL ZERO MOVE DAY-NO-A TO ACPT-DA-0             | C98970 |
| 52230 | ACPT-DA-R.   | C98970 |
| 52240 | MOVE ZERO TO JFLAG.  | C98970 |
| 52250 | REPEAT-SAME-SER-SAVE-PRIOR-140.                            | C98970 |
| 52260 | MOVE SERIAL-T TO SERIAL-0 SERIAL-R.                        | C98970 |
| 52270 | MOVE SERIALS-2 TO SERIES-0 SERIES-R.                       | C98970 |
| 52280 | MOVE MO-STRT-2 TO MO-STRT-R.                               | C98970 |
| 52290 | MOVE UA-STRT-2 TO DA-STRT-R.                               | C98970 |
| 52300 | MOVE YR-STRT-2 TO YR-STRT-R.                               | C98970 |
| 52310 | MOVE MO-DONE-2 TO MO-DONE-R.                               | C98970 |
| 52320 | MOVE DA-DONE-2 TO DA-DONE-R.                               | C98970 |
| 52330 | MOVE YR-DONE-2 TO YR-DONE-R.                               | C98970 |
| 52340 | MOVE TYPE-CODE-NXT-0 TO TYPE-CODE-0 TYPE-CODE-R.           | C98970 |
| 52350 | MOVE MH-LABOR-2 TO MH-LABOR-0 MH-LABOR-R.                  | C98970 |
| 52360 | MOVE FL-HRS-C-NXT-0 TO FL-HRS-C-0 FL-HRS-C-R.              | C98970 |
| 52370 | MOVE UA-NO-ST-NXT-0 TO DA-NO-ST-0 DA-NO-ST-R.              | C98970 |
| 52380 | MOVE DA-NO-FN-T TO DA-NO-FN-0 DA-NO-FN-R.                  | C98970 |
| 52385 | AGE-CALC.  | C98970 |
| 52390 | MOVE ZERO TO AGE-STRT-0 DURATION-DA-0.                     | C98970 |
| 52410 | IF ACPT-DA-0 EQUAL ZERO GO TO DURA-DA-CALC.                | C98970 |
| 52420 | IF YR-STRT-R EQUAL ZERO GO TO DURA-DA-CALC.                | C98970 |
| 52430 | COMPUTE AGE-STR-0 > [DA-NO-ST-0 - ACPT-DA-0] / 7.          | C98970 |
| 52440 | DURA-DA-CALC.  | C98970 |
| 52450 | IF YR-STRT-R EQUAL ZERO GO TO READ-NEXT-IRAN-EVENT.        | C98970 |



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52460 IF YR-DUNE-R EQUAL ZERO GO TO READ-NEXT-IRAN-EVENT, C98970
52470 COMPUTE DURATION-DA-0 > DA-NO-FN-0 - DA-NO-ST-0, C98970
52500 READ-NEXT-IRAN-EVENT, C98970
52510 READ FILEEVENT INTO FILEEVENT-IRAN-WORK2 C98970
52520 AT END GO TO LAST-I-150. C98970
52525 ADD 1 TO RECORDS-READ, C98970
52530 GO TO NEXT-VISIT-160. C98970
52540 LAST-I-150. C98970
52550 MOVE II: TO LAST-I, C98970
52560 NEXT-VISIT-160. C98970
52570 ADD 1 TO VISIT-V, C98970
52580 IF LAST-I EQUAL ZERO MOVE TYPE-CODE-2 TO TYPE-CODE-NXT-0, C98970
52600 DAY-NOS-ANU-FLIGHT-HRS. C98970
52610 PERFORM DAY-NUMBERS THRU DAY-NUMBERS-END, C98970
52620 COMPUTE SERIAL- > SER-I-2-2 * 100000 < SER-3-6-2, C98970
52630 IF SERIAL-T EQUAL SERIAL-0 GO TO SER-SAME-180, C98970
52640 NEW-SERIAL-170-SAVE-NULL-OUTP, C98970
52650 MOVE TYPE-CODE-NXT-0 TO TYPE-CODE-NXT-S, C98970
52660 MOVL OA-NO-S-NXT-0 TO OA-NO-ST-NXT-S, C98970
52670 MOVE OA-NO-FN-T TO OA-NO-FN-S, C98970
52680 MOVE FL-HRS-L-NXT-0 TO FL-HRS-C-NXT-S, C98970
52690 END-FILE-MOVES-175, C98970
52700 MOVE ZERO TO TYPE-CODE-NXT-0 DA-NO-ST-NXT-0, C98970
52710 MOVE ZERO TO TYPE-CODE-NXT-R OA-NO-ST-NXT-R, C98970
52720 MOVE ZERO TO FL-HRS-C-NXT-0 FL-HRS-C-NXT-R, C98970
52730 MOVE ZERO TO INTERVAL-DA-0 INT-FL-HRS-0, C98970
52740 MOVE ZERO TO INTERVAL-DA-R INT-FL-HRS-R, C98970
52750 MOVL ZERO TO INTERVAL-WK-R, C98970
52760 MOVE ZERO TO INTERVAL-WK-0, C98970
52770 MOVE II: TO IFL'G, C98970
52775 IF LAST-I EQUAL II: GO TO LAST-OUTPUT-195, C98970
52780 GO TO WRITE-OUTPUT-190, C98970
52800 SER-SAME-180, C98970
52810 MOVE ZEROS TO INTERVAL-DA-0, C98970
52820 MOVE ZEROS TO INTERVAL-WK-0 INT-FL-HRS-0, C98970
52830 IF YR-STRT-2 EQUAL ZERO GO TO CALC-INTERVAL-WK, C98970
52840 IF YR-DUNE-R EQUAL ZERO GO TO CALC-INTERVAL-WK, C98970
52850 CALC-INTERVAL-OAY, C98970
52860 COMPUTE INTERVAL-OA-0 > OA-NO-ST-NXT-0 - OA-NO-FN-0, C98970
52870 CALC-INTERVAL-WK, C98970
52880 IF INTERVAL-DA-0 IS NOT GREATER THAN ZERO C98970
52890 GO TO CALC-INT-FL-HRS, C98970
52900 COMPUTE INTERVAL-WK-0 > INTERVAL-DA-0 * 7 / 10, C98970
52910 CALC-INT-FL-HRS, C98970
52920 IF FL-HRS-C-NXT-0 IS GREATER THAN ZERO GO TO TEST-2, C98970
52930 GO TO WRITE-OUTPUT-190, C98970
52940 TEST-2, C98970
52950 IF FL-HRS-C-0 IS GREATER THAN ZERO GO TO CALC-INTERVAL, C98970
52960 GO TO WRITE-OUTPUT-190, C98970
52970 CALC-INTERVAL, C98970
52980 COMPUTE INT-FL-HRS-0 > FL-HRS-C-NXT-0 - FL-HRS-C-0, C98970
53000 WRITE-OUTPUT-190, C98970
53090 IF LAST-I EQUAL II: GO TO END-FILE-MOVES-175, C98970
53095 LAST-OUTPUT-195, C98970
53100 MOVL VISIT-0 TO VISIT-R, C98970
53110 MOVL AGE-STRT-0 TO AGE-STRT-R, C98970
53120 MOVE DURATION-OA-0 TO DURATION-DA-R, C98970
53130 MOVE TYPE-CODE-NXT-0 TO TYPE-CODE-NXT-R, C98970
53140 MOVE FL-HRS-C-NXT-0 TO FL-HRS-C-NXT-R, C98970
53150 MOVE DA-NO-ST-NXT-0 TO DA-NO-ST-NXT-R, C98970
53160 MOVE INTERVAL-DA-0 TO INTERVAL-DA-R, C98970
53170 MOVE INTERVAL-WK-0 TO INTERVAL-WK-R, C98970
53180 MOVE INT-FL-HRS-0 TO INT-FL-HRS-R, C98970
53500 WRITE IRANOUT-PHE FROM IRAN-OUT-WORK0, C98970
53510 WRITE IRANREPORT-PRE FROM IRANREPORT-WORKR, C98970
53520 ADD 1 TO RECORDS-PASS, C98970
53530 IF LAST-I EQUAL II: GO TO END-FILE-2-240, C98970
53540 ADD 1 TO LINE-CNT, C98970
53550 IF IFLAG EQUAL ZERO C98970
53560 GO TO REPEAT-SAME-SER-SAVE-PROR-140, C98970
53570 IF LINE-CNT IS LESS THAN 50 GO TO PRINT-BLANK-LINE-220, C98970
53580 NEW-PAGE, C98970
53590 PERFORM TITLE-S THRU TITLE-S-END, C98970
53600 MOVE ZERO TO LINE-CNT, C98970
53610 GO TO NEW-SERIAL-70, C98970
53620 PRINT-BLANK-LINE-220, C98970
53630 WRITE IRANREPORT-PRE FROM IRANREPORT-TITLE-D, C98970
53640 ADD 1 TO LINE-CNT, C98970
53645 ADD 1 TO SPACE-CNT, C98970
53650 GO TO NEW-SERIAL-70, C98970
53660 END-FILE-2-240, C98970
62000 BLOCK-CHECK, C98970
62010 COMPUTE KOUNT > RECORDS-PASS - [(RECORDS-PASS / 30) * 30], C98970
62020 IF KOUNT EQUAL ZERO GO TO BLOCK-CHECK-2, C98970
62040 LOOP3, C98970
62050 WRITE IRANOUT-PRE FROM NINE, C98970

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62060      ADD 1 TO KOUNT.                                C98970
62070      IF KOUNT IS LESS THAN 30 GO TO LOOP3.        C98970
62100      BLOCK-CHECK=2.                                C98970
62110      COMPUTE LINES-OUT > * PAGE-CNT < RECORDS-PASS < SPACE-CNT. C98970
62115      COMPUTE KNT > LINES-OUT - [(LINES-OUT / 25) * 25]. C98970
62120      IF KNT EQUAL ZERO GO TO CLOSE-FILES.         C98970
62130      LOOP4.                                        C98970
62140      WRITE IRANREPORT-PRE FROM IRANREPORT-TITLE-D. C98970
62150      ADD 1 TO KNT.                                  C98970
62160      IF KNT IS LESS THAN 25 GO TO LOOP4.         C98970
62170      GO TO CLOSE-FILES.                            C98970
63900      EOF-FIRST-EVENT.                              C98970
63910      DISPLAY : NO EVNTS : UPON CONSOLE.          C98970
64000      CLOSE-FILES.                                  C98970
64010      CLOSE FILEACPT WITH LOCK.                   C98970
64020      CLOSE FILEEVENT WITH LOCK.                  C98970
64030      CLOSE IRANRPT WITH LOCK.                    C98970
64040      CLOSE IRANREPORT WITH LOCK.                 C98970
64100      DISPLAY : ACCEPT IN : RCDS-ACCEPT UPON CONSOLE. C98970
64110      DISPLAY : EVENT IN : RECORDS-READ UPON CONSOLE. C98970
64120      DISPLAY : IRAN OUT : RECORDS-PASS UPON CONSOLE. C98970
64140      DISPLAY : EOJ C9897 : UPON CONSOLE.         C98970
64150      GOBACK.                                       C98970

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/* PLACE COBOL SOURCE BEFORE THIS CARD

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//CHG,TFG1N DD *SPACE>(CYL,(1:1))

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1440 CDS

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TFG TU14 11 0012080
57 230A 091064 111664 834.7 1065 01 29 66
57 230A 100465 110965 1041.1 2066 01 88 74
57 230A 100768 122468 1924.8 1068 01 4245 124 35
57 231A 092864 120164 920.5 1065 01 79 63
57 231A 101465 111765 189.1 2066 01 88 33
57 231A 112068 030669 2004.7 1069 01 4507 128 79
570231A 042071 2680.0 10 02 90 52
57 232A 111565 011766 989.6 2066 02 114 92
57 232A 112067 022168 1478.7 1068 02 4140 140 73
57 232A 021670 032970 2036.6 1070 03 85 30
57 235A 070665 080665 1002.3 2066 03 96 63
57 235A 072666 091966 1211.0 3066 03 3676 100 88
57 235A 100266 123066 1233.1 2066 03 4463 129 67
57 235A 032169 052969 1749.3 1069 04 88 43
57 236A 120965 012266 1307.4 2066 04 4117 112 76
57 236A 110267 011868 1798.8 1068 04 3906 126 33
57 236A 012270 032570 1292.9 1070 04 88 58
57 237A 113065 012066 1128.6 2066 04 4110 113 69
57 237A 110467 021468 1548.1 1068 04 4145 136 72
57 237A 103069 011270 1106.0 1070 05 90 37
57 241A 031565 042165 1134.6 2065 05 105 50
57 241A 061466 080366 1521.5 3067 05 4022 124 63
57 241A 112466 012767 1593.7 1067 05 4878 136 74
57 241A 111968 020369 1047.8 1069
570241A 042271 2650.4 10
57 243A 012165 022065 1034.0 2065 05 78 37
57 243A 022366 040166 1198.1 3066 05 90 38
57 243A 011968 040360 1681.2 1068 05 4334 126 79
57 243A 032670 060170 2251.8 1070 05 4394 150 65
57 244A 120665 012866 1332.4 6265 04 97 55
57 244A 121366 022867 1552.1 1067 04 3173 110 75
57 244A 031169 050769 2147.9 1069 04 4507 138 65
57 245A 111765 010566 1083.5 2066 02 100 50
57 245A 042268 071168 1698.0 1068 02 3966 129 73
570245A 071070 091670 2217.2 10 6898
57 246A 112764 022865 1065 08 93
57 246A 092666 110866 6267 08 33
57 246A 080768 101068 1856.2 1069 08 4345 127 65
570246A 102170 011371 2333.1 10 6770
572453A 071564 090964 1065 09 78 54
572453A 123064 021565 2066 09 93 46
572453A 041766 052366 1159.7 3067 09 105 36
572453A 111667 021468 1554.5 1068 09 4564 117 58
572453A 020570 051070 1999.9 6370 09 4433 132 65
572455A 122464 020765 2065 08 69 39
572455A 041966 052666 1246.8 6366 08 85 37
572455A 103166 021367 1395.8 1067 08 4647 94107
572455A 052069 090369 1854.0 1068 08 5255 124 43
572456A 121064 020665 2065 09 66 56
572456A 042766 060366 1470.6 6366 09 85 36
572456A 030267 053067 1670.6 1067 09 4229 96 29
572456A 063069 090869 1149.4 1068 09 5051 112 69
572457A 010665 020165 2065 09 35
572457A 042166 052766 6366 09 36
572457A 011067 042567 1067 09 125
572457A 121168 022769 1069 09 76
572458A 051765 061565 1069.0 2065 09 76 30
572458A 052366 071166 1426.0 6366 09 88 48
572458A 041967 063067 1625.9 1067 09 3874 100 71
572458A 071769 092469 1143.4 1070 09 4341 125 67
572459A 120164 012465 2065 09 66 84

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|         |        |        |        |      |
|---------|--------|--------|--------|------|
| 572459A | 042766 | 061366 | 1277.3 | 6367 |
| 572459A | 102067 | 011168 | 526.3  | 1068 |
| 572459A | 121169 | 021970 | 2032.6 | 1070 |
| 572460A | 061265 | 071565 |        | 2065 |
| 572460A | 080866 | 123066 |        | 1067 |
| 572460A | 112268 | 022469 | 1654.0 | 1069 |
| 572460A | 040671 |        | 2248.8 | 10   |
| 572461A | 110964 | 012765 | 1059.3 | 1065 |
| 572461A | 051266 | 062266 | 1475.6 | 1066 |
| 572461A | 092368 | 121068 | 2077.3 | 6369 |
| 572461A | 020871 | 041571 | 2667.1 | 10   |
| 572463A | 050565 | 060265 | 1371.0 | 2065 |
| 572463A | 052566 | 072566 | 1663.0 | 6367 |
| 572463A | 022767 | 050467 | 1818.0 | 1067 |
| 572463A | 050669 | 071169 | 2263.7 | 1069 |
| 572464A | 042865 | 052065 | 1242.3 | 2065 |
| 572464A | 051366 | 060166 | 1451.3 | 6366 |
| 572464A | 120767 | 022968 | 1770.4 | 1068 |
| 572464A | 020670 | 041870 | 2261.4 | 1070 |
| 572465A | 060664 | 081864 | 505.6  | 1065 |
| 572465A | 090265 | 101165 | 719.3  | 6366 |
| 572465A | 071960 | 083166 | 895.9  | 3067 |
| 572465A | 070868 | 092068 | 1201.1 | 1068 |
| 572466A | 120164 | 012465 |        | 2065 |
| 572466A | 042766 | 060366 | 1382.7 | 6366 |
| 572466A | 113066 | 022467 | 1587.3 | 1067 |
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| 09 | 4079 | 102 | 81    |    |
| 09 | 4081 | 121 | 69    |    |
| 09 |      |     | 33    |    |
| 09 |      |     | 142   |    |
| 09 | 4995 | 118 | 92    |    |
| 09 |      | 68  | 78    |    |
| 09 |      | 85  | 40    |    |
| 09 | 4363 | 112 | 76    |    |
|    | 6919 |     |       |    |
| 09 |      | 61  | 28    |    |
| 09 |      | 86  | 21    |    |
| 09 | 3696 | 97  | 67    |    |
| 09 | 4430 | 121 | 65    |    |
| 09 |      | 72  | 30    |    |
| 09 |      | 84  | 18    |    |
| 09 | 4157 | 102 | 81    |    |
| 09 | 4165 | 126 | 67    |    |
| 10 |      | 61  | 73    |    |
| 10 |      | 74  | 37    |    |
| 10 |      | 88  | 42    |    |
| 10 | 3820 | 110 | 71    |    |
| 08 |      | 66  | 54    |    |
| 08 |      | 88  | 36    |    |
| 08 | 3778 | 81  | 84    |    |
| 08 | 5240 | 121 | 67    |    |
| 08 |      | 66  | 42    |    |
| 08 |      | 81  | 32    |    |
| 08 | 4946 | 113 | 78    |    |
|    | 6936 |     |       |    |
| 08 | 4143 |     | 48    |    |
| 08 |      |     | 45    |    |
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| 08 |      | 65  | 45    |    |
| 08 |      | 81  | 34    |    |
| 08 | 5339 |     | 98105 |    |
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| 08 |      |     | 51    |    |
| 08 |      |     | 35    |    |
| 08 |      |     | 74    |    |
| 08 |      | 67  | 47    |    |
| 08 |      | 85  | 50    |    |
| 08 | 5773 |     | 96    | 92 |
| 08 | 4674 | 120 | 67    |    |
| 08 |      |     | 81    |    |
| 08 |      |     | 31    |    |
| 08 |      |     | 42    |    |
| 08 | 4081 |     | 74    |    |
|    | 6431 |     |       |    |
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| 08 |      |     | 44    |    |
| 08 | 3477 |     | 70    |    |
| 08 | 4351 |     | 72    |    |
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| 08 |      | 84  | 42    |    |
| 08 | 4060 |     | 86    | 88 |
| 08 | 4252 | 114 | 76    |    |
| 09 |      |     | 53280 |    |
| 09 |      |     | 70    | 31 |
| 09 |      |     | 82    | 35 |
| 09 | 3896 | 104 | 72    |    |
| 09 | 4600 | 129 | 65    |    |
| 09 | 3476 | 66  | 58    |    |
| 09 |      |     | 70    | 25 |
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| 09 | 4697 | 109 | 66    |    |
|    | 7262 |     |       |    |
| 09 |      |     | 76    |    |
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| 09 |      |     | 40    |    |
| 09 | 3389 |     | 79    |    |
|    | 6940 |     |       |    |
| 09 |      | 70  | 30    |    |
| 09 |      | 82  | 24    |    |
| 09 | 4215 | 101 | 74    |    |
| 09 |      |     | 127   | 39 |
| 09 |      |     | 70    | 27 |
| 09 |      |     | 82    | 37 |
| 09 | 3518 | 88  | 91    |    |
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| 04 | 3650 | 88 64  |
| 04 | 4660 | 102 68 |
| 02 |      | 69 42  |
| 02 | 4552 | 89 83  |
| 02 | 3817 | 117 68 |
| 01 |      | 68 34  |
| 01 | 3949 | 101 58 |
|    | 7383 |        |
| 02 |      | 69 49  |
| 02 | 4356 | 94 42  |
| 02 | 4351 | 122 66 |
| 02 |      | 54 56  |
| 02 |      | 69 37  |
| 02 | 4174 | 105 76 |
| 01 |      | 68 26  |
| 01 | 4708 | 104 72 |
| 01 |      | 44     |
| 01 | 4527 | 80     |
| 01 |      | 69     |
| 02 |      | 54 64  |
| 02 |      | 69 46  |
| 02 | 3819 | 101 68 |
|    | 6802 |        |
| 02 |      | 85     |



|         |        |        |        |      |         |    |             |
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| 59 056A | 110466 | 020467 | 1513.1 | 1067 |         | 13 | 3967 92 85  |
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| 59 058A | 021069 | 052969 | 2198.1 | 1069 | 1       | 07 | 106109      |
| 59 059A | 070864 | 092364 | 1162.4 | 1065 |         | 07 | 52 77       |
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| 59 060A | 101167 | 121967 | 1845.1 | 1068 |         | 13 | 3676 90 68  |
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| 59 062A | 012766 | 022866 | 1331.5 | 6366 |         | 13 | 68 32       |
| 59 062A | 032268 | 060368 | 1951.1 | 1068 |         | 13 | 3628 96 71  |
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| 59 064A | 082067 | 111467 | 1253.6 | 1068 |         | 02 | 4195 88 85  |
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| 59 067A | 040265 | 051265 | 1037.4 | 2065 |         | 15 | 60 40       |
| 59 067A | 040566 | 051266 | 1287.6 | 6366 |         | 15 | 72 37       |
| 59 067A | 101166 | 123066 | 1397.7 | 1067 |         | 15 | 3251 77 49  |
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| 59 068A | 080364 | 101664 |        | 1065 |         | 15 | 74          |
| 59 068A | 040665 | 050465 |        | 6165 |         | 15 | 28          |

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| 59 068A | 0J2966 | 042866 |        | 6366 | 15      | 30     |
| 59 069A | 070964 | 092364 | 845.0  | 1065 | 15      | 50 75  |
| 59 069A | 040665 | 051565 | 1016.1 | 2065 | 15      | 58 39  |
| 59 069A | 032466 | 042866 | 1230.4 | 6366 | 15      | 69 34  |
| 59 069A | 090567 | 113067 | 1503.2 | 1068 | 15      | 88 56  |
| 59 069A | 111469 | 012770 | 1937.3 | 1070 | 15 3686 | 115 74 |
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| 59 071A | 042070 | 062970 | 2273.0 | 1070 | 15 4098 | 120 64 |
| 59 072A | 041465 | 051765 | 977.1  | 2065 | 15      | 60 33  |
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| 59 072A | 122166 | 031067 | 1320.0 | 1067 | 15 3327 | 90 78  |
| 59 072A | 041169 | 061869 | 190.1  | 1069 | 15      | 108 68 |
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| 59 074A | 111768 | 013169 | 1857.6 | 1069 | 15      | 103 75 |
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| 59 075A | 021270 | 042270 | 2264.4 | 1070 | 15 3841 | 116 69 |
| 59 076A | 033065 | 042765 | 1124.6 | 2065 | 15      | 57 28  |
| 59 076A | 031866 | 042066 | 1377.1 | 6366 | 15      | 69     |
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| 59 076A | 042269 | 062769 | 2131.2 | 1069 | 15 4243 | 117 65 |
| 59 077A | 033065 | 050365 | 1022.2 | 2065 | 15      | 57 34  |
| 59 077A | 033066 | 042966 | 1251.0 | 6366 | 15      | 70 31  |
| 59 077A | 111366 | 020367 | 1425.1 | 1067 | 15 3477 | 90 82  |
| 59 077A | 082868 | 103068 | 1864.4 | 1068 | 15 4088 | 98 65  |
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| 59 078A | 041867 | 070367 | 1589.4 | 1067 | 15 3637 | 81 76  |
| 59 078A | 062069 | 082869 | 2191.7 | 1070 | 15 4421 | 108 69 |
| 59 079A | 040665 | 051165 | 1055.6 | 2065 | 15      | 57 35  |
| 59 079A | 032966 | 042766 | 1297.2 | 6366 | 15      | 69 29  |
| 59 079A | 070168 | 091068 | 1902.9 | 1069 | 15      | 97 71  |
| 590079A | 092870 | 121170 | 2427.0 | 10   | 6884    |        |
| 59 080A | 041265 | 051165 | 1072.0 | 6165 | 15      | 57 30  |
| 59 080A | 032466 | 042566 | 1268.8 | 6366 | 15      | 68 32  |
| 59 080A | 061967 | 090167 | 1660.4 | 1067 | 15 3921 | 84 73  |
| 59 080A | 090469 | 110669 | 2227.4 | 1070 | 15 4238 | 112 63 |
| 59 081A | 041465 | 051865 | 1035.3 | 2065 | 15      | 57 34  |
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| 59 081A | 061768 | 083068 | 1887.6 | 1068 | 15      | 96 74  |
| 590081A | 081070 | 101370 | 2211.3 | 10   | 7046    |        |
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| 59 082A | 080367 | 102767 | 1608.7 | 1068 | 15 3560 | 86 86  |
| 59 082A | 100769 | 121869 | 2126.9 | 1070 | 15 5272 | 113 66 |
| 59 083A | 042065 | 052665 | 1033.7 | 2065 | 15      | 57 37  |
| 59 083A | 031866 | 042166 | 1257.9 | 6366 | 15      | 69 33  |
| 59 083A | 110867 | 020868 | 1692.4 | 1068 | 15 3775 | 89 90  |
| 59 083A | 122969 | 030670 | 2226.9 | 1070 | 15 3552 | 114 67 |
| 59 084A | 012465 | 032465 | 1072.0 | 1065 | 15      | 55 59  |
| 59 084A | 040866 | 051366 | 1389.4 | 6366 | 15      | 69 35  |
| 59 084A | 120568 | 022769 | 2059.0 | 1069 | 15 4646 | 102 84 |
| 590084A | 060771 |        | 2614.2 | 10   |         |        |
| 59 085A | 032265 | 041765 | 1141.4 | 2065 | 05      | 57 25  |
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| 59 085A | 031367 | 062367 | 1688.4 | 1067 | 05 3546 | 81101  |
| 59 085A | 061269 | 081869 | 2116.3 | 1069 | 05 4703 | 108 67 |
| 59 086A | 041066 | 062066 |        | 1066 | 16      | 62     |
| 59 086A | 062768 | 102568 |        | 1068 | 16      | 118    |
| 590086A | 033071 | 073071 | 952.0  | 10   |         |        |
| 59 088A | 092065 | 100665 | 1335.7 | 6266 | 01      | 62 17  |
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| 59 088A | 052770 |        |        | 1070 | 01      |        |
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| 59 089A | 111866 | 022267 | 1616.7 | 1067 | 01 3478 | 76 66  |
| 59 089A | 030569 | 051469 | 2220.9 | 1069 | 01 2403 | 104    |
| 59 090A | 100865 | 111265 | 1000.5 | 6266 | 01      | 64 35  |
| 59 090A | 091867 | 121467 | 1581.1 | 1068 | 01 3756 | 86 87  |
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| 59 091A | 100565 | 111065 | 1122.4 | 2066 | 01      | 64 35  |
| 59 091A | 113066 | 021967 | 1385.7 | 1067 | 01      | 76 82  |
| 59 091A | 010269 | 031269 | 1784.5 | 1069 | 01 4156 | 102 69 |
| 590091A | 061471 |        | 2637.5 | 10   |         |        |
| 59 092A | 093065 | 110565 | 1314.4 | 6266 | 01      | 62 37  |
| 59 092A | 011967 | 040467 | 1549.6 | 1067 | 01 3364 | 78 75  |
| 59 092A | 031969 | 052669 | 2154.3 | 1069 | 01 4341 | 104 38 |
| 59 093A | 101165 | 111665 | 1287.5 | 6266 | 01      | 62 35  |
| 59 093A | 060068 | 100968 | 1941.1 | 1068 | 01      | 96 65  |
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| 59 034A | 122969 | 030270 | 2344.1 | 1070 | 01 3629 | 113   | 59    |
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| 59 035A | 051668 | 072968 | 1901.5 | 1068 | 01 3737 | 93    | 73    |
| 59 035A | 062370 |        |        | 1070 | 01 3994 | 119   |       |
| 59 036A | 100565 | 110965 | 1155.5 | 6266 | 01      | 62    | 35    |
| 59 036A | 020067 | 041467 | 1443.0 | 1067 | 01 3303 | 78    | 64    |
| 59 036A | 051369 | 071469 | 2043.1 | 1069 | 01 4354 | 105   | 62    |
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| 59 037A | 042270 | 062970 | 2427.2 | 1070 | 01 4227 |       | 67    |
| 59 099A | 092865 | 110565 | 1221.2 | 6266 | 01      | 62    | 39    |
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| 59 100A | 032967 | 062367 | 1331.5 | 1067 | 01 3466 |       | 86    |
| 59 100A | 052669 | 082269 | 1928.6 | 1069 | 01 4469 |       | 87    |
| 59 101A | 092765 | 102865 | 1188.6 | 6266 | 01      | 62    | 32    |
| 59 101A | 041367 | 070367 | 1604.9 | 1067 | 01 3435 | 81    | 81    |
| 59 101A | 102469 | 010670 | 2358.2 | 1070 | 01 4610 | 112   | 74    |
| 59 102A | 101965 | 112465 | 1244.4 | 6266 | 01      | 62    | 36    |
| 59 102A | 022368 | 050968 | 1817.4 | 1068 | 01 3388 | 90    | 75    |
| 59 102A | 031970 | 052270 | 2413.3 | 1070 | 01 4336 | 115   | 63    |
| 59 103A | 081265 | 091565 | 1055.3 | 6266 | 13      | 60    | 34    |
| 59 103A | 100667 | 010268 | 1558.7 | 1068 | 13 3647 | 86    | 88    |
| 59 103A | 021170 | 042070 | 2073.4 | 1070 | 13 4663 | 114   | 69    |
| 59 104A | 071263 | 061564 | 749.0  | 1164 | 04      |       | 48338 |
| 59 104A | 122965 | 011966 | 1353.7 | 6266 | 04      | 65    | 22    |
| 59 104A | 070868 | 093068 | 1495.2 | 1069 | 04      |       | 96 83 |
| 590104A | 020471 | 040571 | 1948.2 | 10   |         | 6683  |       |
| 59 105A | 010866 | 020866 | 1505.7 | 6266 | 04      |       | 31    |
| 59 105A | 122766 | 031667 | 1681.9 | 1067 | 04 3096 |       | 71    |
| 59 105A | 052069 | 072469 | 2275.2 | 1069 | 04      |       | 65    |
| 59 106A | 122965 | 011966 | 1255.8 | 6266 | 15      | 65    | 22    |
| 59 106A | 020368 | 041568 | 1786.4 | 1068 | 15 4320 | 90    | 70    |
| 59 106A | 032470 | 052770 | 2275.2 | 1070 | 15 4314 | 115   | 63    |
| 59 108A | 050564 | 072764 | 985.5  | 1064 | 07      | 45    | 83    |
| 59 108A | 122365 | 012866 | 1416.7 | 6266 | 07      | 64    | 36    |
| 59 108A | 012368 | 040268 | 1968.4 | 1068 | 07 3708 | 89    | 69    |
| 59 108A | 060370 |        | 2550.9 | 1070 | 07      | 117   |       |
| 59 109A | 082664 | 103064 | 1079.3 | 1065 | 10      | 48    | 66    |
| 59 109A | 010566 | 020466 | 1461.5 | 6266 | 10      | 65    | 30    |
| 59 109A | 070868 | 091168 | 2021.8 | 1069 | 10 3638 | 94    | 64    |
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| 59 110A | 052267 | 073167 | 1753.0 | 1067 | 07      | 81    | 70    |
| 59 110A | 010870 | 031370 | 2343.9 | 1070 | 07 3808 | 113   | 70    |
| 59 112A | 060763 | 011364 | 580.1  | 1164 | 10      |       | 33221 |
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| 59 112A | 060166 | 072066 | 1176.0 | 6366 | 10      | 69    | 50    |
| 59 112A | 082668 | 110768 | 1650.5 | 1069 | 10 4742 | 96    | 73    |
| 590112A | 011871 | 032271 | 2307.9 | 10   |         | 6403  |       |
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| 59 115A | 031367 | 053167 | 1549.1 | 1067 | 13 3422 | 80    | 78    |
| 59 115A | 061869 | 092669 | 1894.4 | 1069 | 13      | 106   | 99    |
| 59 116A | 022765 | 031665 | 1054.2 | 2065 | 05      | 54    | 17    |
| 59 116A | 061566 | 002466 | 1459.9 | 6366 | 05      | 69    | 70    |
| 59 116A | 010567 | 032267 | 1588.9 | 1067 | 05 3590 | 78    | 75    |
| 59 116A | 013169 | 042369 | 1977.5 | 1069 | 05 5176 | 102   | 83    |
| 59 118A | 011366 | 021866 |        | 6266 | 05      |       | 36    |
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| 59 119A | 010366 | 020366 | 1427.2 | 6266 | 07      | 67    | 32    |
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| 59 121A | 101266 | 011167 |        | 1067 | 07 3358 |       | 90    |
| 59 122A | 031765 | 041765 | 1073.6 | 2065 | 05      | 57    | 31    |
| 59 122A | 062066 | 081566 | 1480.4 | 6366 | 05      | 70    | 56    |
| 59 122A | 112166 | 022467 | 1574.2 | 1067 | 05      | 86    | 95    |
| 59 122A | 012169 | 032869 | 2029.2 | 1069 | 05 4969 | 102   | 66    |
| 590122A | 062971 |        | 2726.1 | 10   |         |       |       |
| 59 123A | 031565 | 042065 | 996.9  | 2065 | 05      | 55    | 35    |
| 59 123A | 053166 | 072066 | 1309.9 | 6366 | 05      | 68    | 51    |
| 59 123A | 101266 | 012367 | 1395.2 | 1067 | 05 4337 | 85102 |       |
| 59 123A | 110768 | 021469 | 1786.0 | 1069 | 05 5234 | 98    | 99    |
| 590123A | 051171 |        | 2397.2 | 10   |         |       |       |
| 59 125A | 100864 | 120464 | 1094.8 | 1065 | 13      | 49    | 57    |
| 59 125A | 021165 | 031565 |        | 2065 | 13      | 54    | 32    |
| 59 125A | 020266 | 032466 | 1419.9 | 6366 | 13      | 66    | 50    |
| 59 125A | 083068 | 111268 | 2253.5 | 1069 | 13 4156 | 94    | 74    |
| 59 126A | 022765 | 031665 | 967.7  | 2065 | 05      | 54    | 17    |
| 59 126A | 061566 | 072866 | 1310.8 | 6366 | 05      | 69    | 43    |
| 59 126A | 052367 | 082367 | 1571.8 | 1067 | 05      | 80    | 91    |
| 59 126A | 072369 | 092969 | 2008.7 | 1069 | 05 4695 | 106   | 67    |
| 59 127A | 011265 | 022365 | 1121.3 | 2065 | 05      | 52    | 42    |
| 59 127A | 012666 | 022066 | 1349.9 | 6366 | 05      | 64    | 33    |

|         |        |        |        |      |       |         |        |
|---------|--------|--------|--------|------|-------|---------|--------|
| 59 127A | 033167 | 061967 | 1636.4 | 1067 |       | 05 3137 | 80 81  |
| 59 127A | 062869 | 110369 | 2201.6 | 1070 | 111 1 | 05 5365 | 106 67 |
| 59 128A | 031065 | 042065 | 999.2  | 2065 |       | 05      | 54 40  |
| 59 128A | 062066 | 072566 | 1381.8 | 6366 |       | 05 4984 | 69 35  |
| 59 128A | 060867 | 110367 | 1637.0 | 1067 |       | 05      | 82 87  |
| 59 128A | 092269 | 120169 | 2034.8 | 1069 | 1     | 05 5381 | 108 70 |
| 59 129A | 072764 | 092564 | 834.3  | 1065 |       | 13      | 46 59  |
| 59 129A | 010466 | 022466 | 1016.3 | 6265 |       | 13      | 62 41  |
| 59 129A | 111968 | 013169 | 1997.2 | 1069 |       | 13 4306 | 96 72  |
| 590129A | 112470 | 020871 | 2423.7 | 10   |       | 7076    |        |
| 59 130A | 121865 | 012766 | 1456.3 | 6266 |       | 13      | 61 40  |
| 59 130A | 012169 | 032869 | 2222.7 | 1069 |       | 13 5039 | 110 66 |
| 590130A | 021271 | 041571 | 2749.3 | 10   |       | 6708    |        |
| 59 131A | 012865 | 030165 | 1266.8 | 6165 |       | 13      | 52 32  |
| 59 131A | 021266 | 032266 | 1562.8 | 6365 |       | 13      | 64 38  |
| 59 131A | 060768 | 083068 | 2224.8 | 1068 |       | 13 3862 | 92 83  |
| 59 132A | 032365 | 040965 | 1096.2 | 2065 |       | 05      | 54 16  |
| 59 132A | 060166 | 072266 | 1462.2 | 6366 |       | 05      | 67 52  |
| 59 132A | 021767 | 051167 | 1663.1 | 1067 |       | 05 4292 | 77 83  |
| 59 132A | 040469 | 061969 | 2096.2 | 1069 |       | 05 6169 | 101 76 |
| 59 133A | 022365 | 032265 | 918.8  | 2065 |       | 05      | 53 27  |
| 59 133A | 060166 | 072066 | 1297.3 | 6366 |       | 05      | 68 50  |
| 59 133A | 090467 | 122067 | 1576.5 | 1068 |       | 05 4776 | 77108  |
| 59 133A | 120569 | 021870 | 1985.1 | 1070 | 1     | 05 4276 | 102 75 |
| 59 134A | 030465 | 040765 |        | 2065 |       | 05      | 33     |
| 59 134A | 062266 | 080266 |        | 6366 |       | 05      | 41     |
| 59 134A | 032868 | 061268 |        | 1068 |       | 05 3017 | 75     |
| 59 135A | 090464 | 090164 | 838.2  | 1065 |       | 05      | 46 57  |
| 59 135A | 031065 | 041365 | 1004.3 | 2065 |       | 05      | 53 33  |
| 59 135A | 053166 | 072266 | 1375.1 | 6366 |       | 05      | 66 52  |
| 59 135A | 062168 | 090968 | 1823.2 | 1068 |       | 05 4458 | 91 79  |
| 590135A | 120770 | 021471 | 2420.8 | 10   |       | 6971    |        |
| 59 136A | 100564 | 121164 | 976.4  | 1065 |       | 03      | 48 67  |
| 59 136A | 030465 | 033065 | 1084.5 | 2065 |       | 03      | 52 26  |
| 59 136A | 060566 | 072066 | 1536.5 | 6366 |       | 03      | 67 45  |
| 59 136A | 091068 | 111968 | 2024.1 | 1069 |       | 03 5623 | 93 81  |
| 590136A | 011571 | 031971 | 2556.6 | 10   |       | 6351    |        |
| 59 137A | 031765 | 040165 | 1117.5 | 2065 |       | 05      | 54 15  |
| 59 137A | 061366 | 072966 | 1450.2 | 6366 |       | 05      | 67 46  |
| 59 137A | 102267 | 011868 | 1793.1 | 1067 |       | 05 5954 | 82 88  |
| 59 137A | 022070 | 043070 | 2246.2 | 1070 |       | 05 4033 | 112 38 |
| 59 138A | 022065 | 032665 |        | 2065 |       | 13      | 52 35  |
| 59 138A | 030466 | 040566 | 1489.7 | 6366 |       | 13      | 64 32  |
| 59 138A | 021667 | 042867 | 1763.4 | 1067 |       | 13 3850 | 76 71  |
| 59 138A | 062669 | 090369 | 2427.7 | 1069 |       | 13      | 103 69 |
| 59 140A | 020265 | 030965 | 1047.7 | 2065 |       | 13      | 50 36  |
| 59 140A | 022366 | 032966 | 1239.8 | 6366 |       | 13      | 62 34  |
| 59 140A | 012467 | 032867 | 1438.1 | 1067 |       | 13 3124 | 73 63  |
| 59 140A | 102269 | 122969 | 2181.7 | 1070 |       | 13 5348 | 106 68 |
| 59 141A | 012265 | 022765 | 1078.4 | 2065 |       | 07      | 50 36  |
| 59 141A | 030266 | 040166 | 1375.6 | 6366 |       | 07      | 64 31  |
| 59 141A | 063167 | 120167 | 1772.1 | 1067 |       | 07 4137 | 81 62  |
| 59 141A | 011270 | 031970 | 2367.9 | 1070 | 111 1 | 07 4375 | 112 50 |
| 59 143A | 011965 | 022465 | 1115.4 | 2065 |       | 07      | 61 36  |
| 59 143A | 020366 | 030766 | 1483.1 | 6366 |       | 07      | 73 32  |
| 59 143A | 122068 | 031069 | 2150.7 | 1069 | 1     | 07      | 96 74  |
| 590143A | 012271 | 032971 | 2702.3 | 10   |       | 6764    |        |
| 59 144A | 011865 | 022765 | 1066.0 | 2065 |       | 07      | 49 40  |
| 59 144A | 011766 | 021466 | 1334.2 | 6366 |       | 07      | 61 28  |
| 59 144A | 120966 | 022367 | 1593.4 | 1067 |       | 07 2955 | 72 76  |
| 59 144A | 042469 | 070169 | 2172.1 | 1069 | 111 1 | 07 4866 | 100 68 |
| 59 145A | 012765 | 030965 | 1247.2 | 2065 |       | 07      | 49 41  |
| 59 145A | 030766 | 040566 | 1516.7 | 6366 |       | 07      | 62 29  |
| 59 145A | 120767 | 021968 | 1959.8 | 1068 |       | 07 3073 | 72 74  |
| 59 145A | 013070 | 040670 | 2547.5 | 1070 | 111 1 | 07 4072 | 109 67 |
| 59 146A | 123064 | 021765 | 1123.1 | 2065 |       | 03      | 48 49  |
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| 59 146A | 032769 | 061869 | 2267.7 | 1069 | 1     | 03 4501 | 83     |
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| 59 147A | 011967 | 032767 | 1540.3 | 1067 |       | 07 3332 | 84 67  |
| 59 147A | 072569 | 101369 | 2127.2 | 1070 |       | 07 5316 | 114109 |
| 59 148A | 020465 | 030865 |        | 6165 |       | 07      | 32     |
| 59 148A | 031666 | 041966 |        | 6366 |       | 07      | 34     |
| 59 148A | 120166 | 022767 |        | 1067 |       | 07 3136 | 89     |
| 59 149B | 103164 | 012865 | 691.3  | 1065 |       | 02      | 52 90  |
| 59 149B | 110165 | 122865 | 936.7  | 6266 |       | 02      | 66 59  |
| 59 149B | 090866 | 120866 | 1164.2 | 1067 |       | 02      | 76 91  |
| 59 149B | 011469 | 041169 | 1736.8 | 1069 |       | 02 5524 | 104 87 |
| 590149B | 012971 | 042871 | 2308.1 | 10   |       |         |        |
| 59 151B | 021065 | 031665 |        | 2065 |       | 07      | 55 34  |
| 59 151B | 012666 | 031466 | 1508.2 | 6366 |       | 07      | 66 45  |
| 59 151B | 030667 | 061667 | 1759.2 | 1067 |       | 07      | 80102  |
| 59 151B | 050269 | 080969 | 2325.1 | 1069 | 1     | 07 5861 | 106 98 |
| 59 152B | 020165 | 031765 |        | 2065 |       | 07      | 54 45  |
| 59 152B | 022166 | 041266 | 1412.6 | 6366 |       | 07      | 66 50  |
| 59 152B | 041268 | 072468 | 2015.1 | 1068 |       | 07 4839 | 92103  |

|         |        |        |        |      |    |             |
|---------|--------|--------|--------|------|----|-------------|
| 590152b | 072870 | 101470 | 2579.7 | 10   |    |             |
| 59 153b | 032965 | 050365 | 974.2  | 2065 | 10 | 8500        |
| 59 153b | 032366 | 050666 | 1258.8 | 6366 | 10 | 56 36       |
| 59 153b | 122966 | 080867 | 1443.7 | 1067 | 10 | 68 44       |
| 59 153b | 121569 | 031370 | 2253.7 | 1070 | 10 | 79221       |
| 59 155b | 092765 | 111265 | 976.5  | 6266 | 01 | 5251 114 88 |
| 59 155b | 070367 | 101367 | 1356.9 | 1068 | 01 | 61 47       |
| 59 155b | 080469 | 102469 | 1969.1 | 1070 | 01 | 5620 82102  |
| 59 157b | 102064 | 010865 | 780.7  | 1065 | 01 | 5157 108 81 |
| 59 157b | 030165 | 040665 | 847.8  | 2065 | 05 | 53 48       |
| 59 157b | 060766 | 081166 | 1260.3 | 6366 | 05 | 55 37       |
| 59 157b | 011768 | 043068 | 1613.0 | 1068 | 05 | 65 65       |
| 59 157b | 041670 |        |        | 1070 | 05 | 5700 89 72  |
| 59 158b | 022365 | 040565 | 956.1  | 2065 | 05 | 115         |
| 59 158b | 060166 | 072666 | 1401.0 | 6366 | 05 | 54 43       |
| 59 158b | 060667 | 100367 | 1700.0 | 1067 | 05 | 81 57       |
| 59 158b | 110369 | 020270 | 2200.0 | 1070 | 05 | 93119       |
| 59 159b | 082365 | 101265 |        | 6266 | 05 | 5250 109 92 |
| 59 159b | 031368 | 062068 |        | 1068 | 12 | 50          |
| 590159b | 062970 | 091870 | 2263.2 | 10   | 12 | 5409 78     |
| 59 160b | 081763 | 011764 | 679.3  | 1164 | 01 | 34153       |
| 59 160b | 02265  | 110965 | 1121.9 | 6266 | 01 | 58 48       |
| 59 160b | 113067 | 030668 | 1679.0 | 1068 | 01 | 4788 85 97  |
| 59 160b | 020370 | 042170 | 2310.9 | 1070 | 01 | 5281 112 77 |
| 59 161b | 121765 | 021466 | 1204.3 | 6266 | 15 | 61 69       |
| 59 161b | 040467 | 083067 | 1569.6 | 1067 | 15 | 79147       |
| 59 161b | 071569 | 102169 | 2132.1 | 1070 | 15 | 5388 104 98 |
| 59 162b | 121564 | 022865 | 1021.1 | 1065 | 13 | 49 44       |
| 59 162b | 011366 | 022566 | 1279.7 | 6366 | 13 | 62 43       |
| 59 162b | 110468 | 011769 | 2072.5 | 1069 | 13 | 4447 96 74  |
| 59 163b | 070765 | 082065 | 1005.2 | 6266 | 12 | 57 43       |
| 59 163b | 080266 | 021767 | 1318.0 | 1067 | 12 | 69120       |
| 59 163b | 031769 | 061369 | 1885.3 | 1067 | 12 | 5541 101 87 |
| 59 164b | 082565 | 101265 | 882.3  | 1066 | 12 | 56 48       |
| 59 164b | 022867 | 060567 | 1163.6 | 1067 | 12 | 74 97       |
| 59 164b | 091669 | 121669 | 1742.0 | 1070 | 12 | 5431 104 91 |
| 59 165b | 061065 | 072865 |        | 2065 | 12 | 54 49       |
| 59 165b | 112866 | 030767 | 605.8  | 1067 | 12 | 70101       |
| 59 165b | 081869 | 112869 | 1053.6 | 1070 | 12 | 6015 104102 |

```

*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU22 DU DISP>[OLD,KFEP],VOL>SER>+FS,UNIT>T+FS
//TPR,TPR1N DU *,SPACE>[TRK,[1,1]]
T/P TU13 12000802080
T/P TU14 12000802080
T/P TU22 12000802080
T/P TU23 12001202120
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.4.3 IRAN COPY ACCEPTABLE AIRCRAFT

```

//C9897J JUH 01: G WANG ;,PRTY>02,TPRUN>HOLD
//C9897 EXEC P9655L TIME>01,ACCT>D35323007
//CHG,TU12 DU DISP>[PASS],UNIT>[T+F1,1,DEFER],DSN>+A.9895422, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// 1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG,TU22 DU DISP>[PASS],UNIT>[T+FS,1,DEFER],DSN>+E.9895422, CT22 1
// VOL>SER>[+FS,A+FS,B+FS,C+FS,D+FS,E+FS,F+FS,G+FS,H+FS, CT22 2
// 1+FS,J+FS,K+FS,L+FS,M+FS,N+FS,O+FS,P+FS,Q+FS,R+FS,S+FS] T22 3
//CHG,INPUT DU *,SPACE>[CYL,[1,1]] 1440 CDS
0000 CUMBIN* COMPIL 6. WANG. C98970
01040 DATE-WRITE: 27 DEC 71. C98970
01050 REMARKS. IRAN COPY ACCEPTABLE AIRCRAFT. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT INFILE ASSIGN TO UT-S-TU12 C98970
02130 RESERV. 1 ALTERNATE AREA. C98970
02140 SELECT OUTFILE ASSIGN TO UT-S-TU22 C98970
02150 RESERV. 1 ALTERNATE AREA. C98970
02160 SELECT ACCEPT-FILE ASSIGN TO DA-S-DT01 C98970
02170 RESERV. 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10020 FD INFILE C98970
10030 RECORDING MODE IS F C98970
10040 BLOCK CONTAINS 30 RECORDS C98970
10050 RECORD CONTAINS 80 CHARACTERS C98970

```



/\* PLACE COBOL SOURCE BEFORE THIS CARD  
//LMO,IFGIN DU <SPACE>[CYL,(1,1)]  
IFG DTU1 11 0207080

1440 CDS

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\*END  
/\* PLACE TFG DATA BEFORE THIS CARD  
//TPR.TU12 DU DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 T12  
//TPR.TU22 DU DISP>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5 T22  
//TPR.TPK1N DD ,SPACE>[TRK,(1,1)]  
T/P TU22 10500802080

T/P DT01 10200802080  
/\* PLACE T/P CONTROL CARDS BEFORE THIS CARD



## 6.5 DATA BANK GENERATION PROGRAMS

### 6.5.1 SORT ACCEPTABLE WUC

```
//T9897A JOB 01.: G. WANG : ,PRTY>02, TYPRUN>HOLD
//C9897S EXEC C9601N, TIME>01, ACCT>035323007
//CHG, TU22 DU DISP>[ ,KEEP ], UNIT>[ T+F5, 1, DEFER ], DSN>*E, 9997401, CT22 1
// VOL>SER>[ +F5, A+F5, B+F5, C+F5, D+F5, E+F5, F+F5, G+F5, H+F5, CT22 2
// I+F5, J+F5, K+F5, L+F5, M+F5, N+F5, O+F5, P+F5, Q+F5, R+F5, S+F5 ] T22 3
//CHG, TFGIN DU *,SPACE>[ TRK, (5,5) ] 360 CDS
TFG TU22 11 050Z020
11U00
11C00
11CA1
11CAA
11CB1
11CBA
11CC1
11CCA
11C01
11CDA
11CE1
11CEA
11CF1
11CFA
11CG1
11CGA
11CH1
11CJ1
11U0U
11UA0
11UAA
11UAB
11UAC
11UAD
11UAE
11UAF
11UJU
11UBA
11UBB
11UBC
11UBD
11UBE
11UC0
11UCA
11UCB
11UCC
11UCU
11UCE
11UCF
11UCG
11UCH
11UCJ
11UCK
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11UDB
11UDC
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11UDH
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11UEB
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11UFJ
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11DGA
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110GF  
110GG  
110HO  
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110HB  
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110HD  
110HE  
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GENERAL DYNAMICS SAN DIEGO CALIF CONVAIR AEROSPACE DIV

F/G 1/5

F-106 SCHEDULED MAINTENANCE STUDY. USER'S MANUAL, (U)

SEP 72 G WANG, R S GROTE, J R COOPER

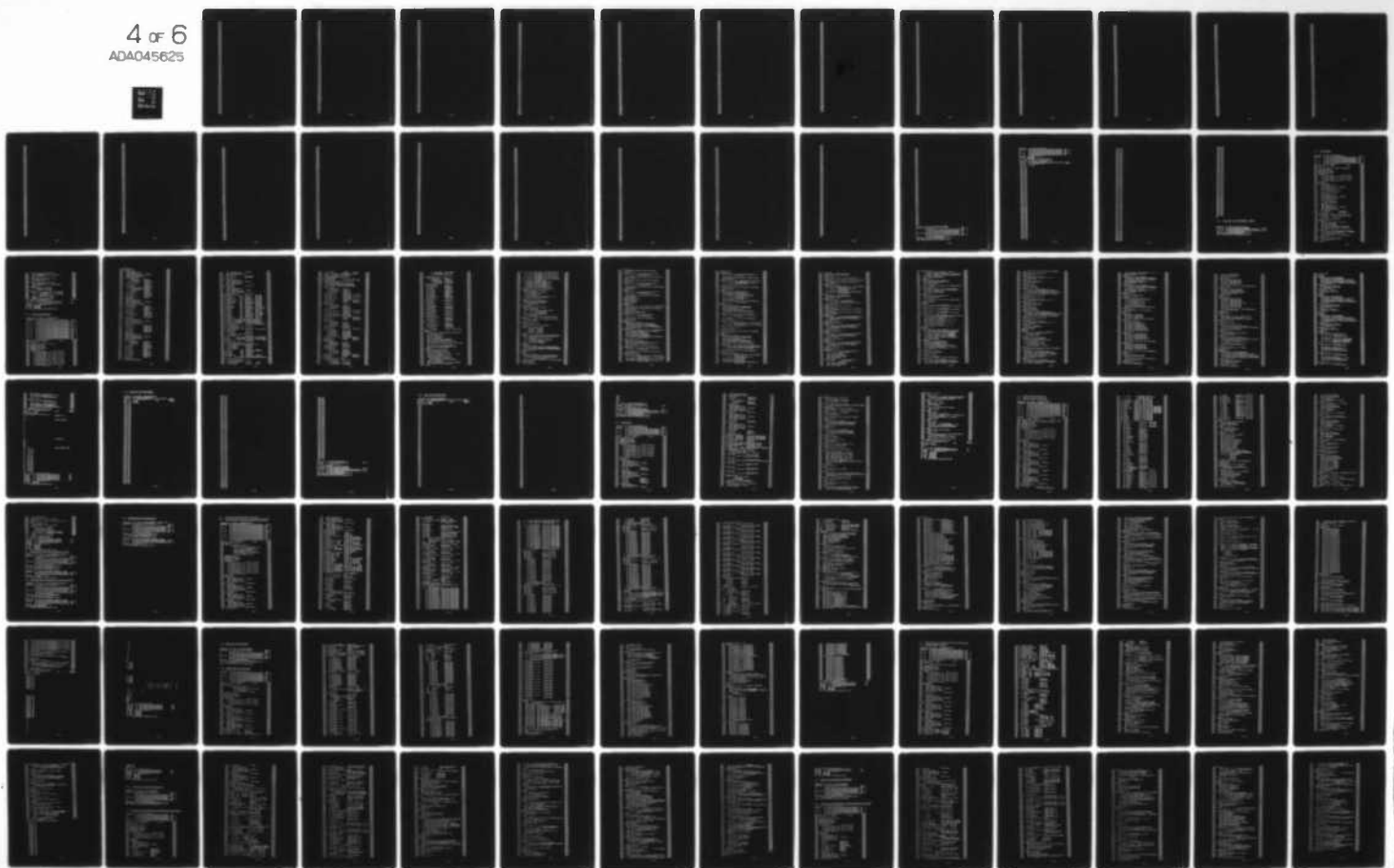
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4 OF 6

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 97AJ1  
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 97AN1  
 97AP1  
 97AQ1  
 97AU1  
 97BC1  
 97BD1  
 \*END

```

/*
//C98970 EXEC P9622N,W>19%,TIME>01,ACCT>D35323007
//CHG.SORTIN DU DISP>(KEEP),UNIT>(T+FS,1,DEFER), CT22 1
// DSN>A.9897401, CT22 2
// VOL>SER>(+FS,A+FS,R+FS,C+FS,D+FS,E+FS,F+FS,G+FS,H+FS, CT22 3
// I+FS,J+FS,K+FS,L+FS,M+FS,N+FS,O+FS,P+FS,Q+FS,R+FS,S+FS).CT22 4
// DCB>(LRECL>1020,HLKSIZE>1000),LABEL>(NSL,RETPO>099)
//CHG.SORTOUT DU DISP>(KEEP),UNIT>(T+F1,1,DEFER),DSN>A.9897402, CT12 1
// VOL>SER>(+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1),CT12 3
// DCB>(LRECL>1020,BLKSIZE>1000)
//CHG.SYSIN DU *DCB>HLKSIZE>0080,SPACE>(TRK,(1,1))
SORT FIELDS>(001,005,CH=,),SIZE>E0003000
MODS E15>(E15,008,SORTLI,=,N),E18>(E18,024,SOMTLI8,N)
  
```

```

/*
//C9897P EXEC C9603N,TIME>01,ACCT>D35323007
//CHG,TU12 DD DISP>X,KEEP,UNIT>[T+F1,1,DEFER],DSN>A,9897402, CT12 1
// VOL>SER>[+F',A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// 1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG,TU22 DD DISP>X,KEEP,UNIT>[T+FS,1,DEFER],DSN>E,9897401, CT22 1
// VOL>SER>[+FJ,A+FS,B+FS,C+FS,D+FS,E+FS,F+FS,G+FS,H+FS, CT22 2
// 1+FS,J+FS,K+FS,L+FS,M+FS,N+FS,O+FS,P+FS,Q+FS,R+FS,S+FS] T22 3
//CHG,TPR1M DD *,SPACE>[TRK,[1,1]]
T/P TU12 1050020Z020
T/P TU22 1050020Z020
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD
//T9897N JOB 01:1 0 WANG 1,PRTY>02,TPRUN>HOLD
//C9897W EXEC C9601N,TIME>03,ACCT>D35323007
//CHG,TU22 DD DSN>P,9897401,DISP>X,PASS,SPACE>X,CYL,[001,001]] D22-OUT
//CHG,TF61N DD *,SPACE>X,CYL,[1,1]] 1440 CDS
TFG TU22 11 020Z080
74AJ1 74AK1
74AK1 74AL1
74AKA 74ALA
74AM1 74AN1
74AN1 74AP1
74ANB 74APA
74ANC 74APB
74AND 74APC
74ANG 74APF
74ANH 74APG
74ANJ 74APH
74ANK 74APJ
74ANL 74APK
74ANM 74APL
74ANN 74APM
74ANO 74APP
74ANS 74APR
74ANT 74APS
74ANU 74APT
74ANV 74APU
74ANW 74APV
74ANX 74APW
74ANY 74APX
74ANZ 74APY
74AN2 74APZ
74AN3 74AP2
74AN4 74AP3
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74AN7 74AP6
74AN8 74AP7
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74ASA 74ATA
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74BD1 74BC1
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74BUB 74BKB
74BV1 74BS1
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74BX1 74BU1
74CH1 74BV1
74CN1 74BW1
74Z1 74BX1
74BZA 74BKA
74CP1 74BY1

```

74CA1 74UZ1  
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74CRB 74CCB  
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74CRH 74CCH  
74CRJ 74CCJ  
74CRK 74LCK  
74CRL 74CCL  
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74CSB 74CFB  
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74CF1 74CH1  
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74FEF 74FLF  
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74FCB 74FUB  
74FCC 74FUC  
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74FLE 74FUE  
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74FCH 74FUH  
74FCJ 74FUJ  
74FCK 74FUK  
74FCL 74FUL  
74FCM 74FUM  
74FCN 74FUN  
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 74GN1 74QA1  
 74GNA 74QAA  
 \*END

### 6.5.2 SORT WUC FOR CONVERSION - MERGE

```

/*
//C9897N EXEC P9622N,W>010,TIME>02,ACCT>D35323007
//CH0.SORTIN DD DSN>P.9897401,DISP>(OLD,DELETE), CORR/23 1
// DCB>(LRECL>3000,BLKSIZE>1600),LABEL>(NSL,RETPD>000)
//CH0.SORTOUT DD DSN>P.9897403,DISP>(,PASS),SPACE>(CYL,(001,001)), CD12/13 1
// DCB>(LRECL>0080,BLKSIZE>1600)
//CH0.SYSIN DD *,DCB>(LKSIZ>0080,SPACE>(TRK,(1,1))
SORT FIELDS>(002,005,CH,1),SIZE>E0000400
MOOS E15>(E15,008,SORTL'0,N),E18>(E18,024,SORTL'0,N)
/*
  
```

6.5.3 WUC MERGE

```

//C98970 EXEC P9655L,TIME>01,ACCT>D35323007
//CHG,TU12 DU DSN>P.9897403,DISP>[OLD,PASS] DI2-IN
//CHG,TU14 DU DISP>[PASS],UNIT>[T+F3,I,DEFER],DSN>C.9897402, CT14 1
// VOL>SER>[I+3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG,TU24 DU DISP>[PASS],UNIT>[T+F7,I,DEFER],DSN>G.9897404, CT24 1
// VOL>SER>[I+7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7] T24 3
//CHG,INPUT DD *,SPACE>[CYL,(1,I)] I440 CDS
00000 COMLINE COMPILE G. WANG C98970
01040 DATE-WRITTEN. 17 M/Y 72. C98970
01050 REMARKS. C98970
01060 MODIFY WUC FILE TO CONSIDER WUC CONVERSION. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE-65-110 ASSIGN TO UT-S-TU14 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02180 SELECT IN-FILE-66-1 ASSIGN TO UT-S-TU12 C98970
02190 RESERVE 1 ALTERNATE AREA. C98970
02200 SELECT IN-FILE-WUC ASSIGN TO UT-S-TU24 C98970
02210 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD IN-FILE-65-110 C98970
10120 RECORDING MODE IS F C98970
10130 BLOCK CONTAINS 50 RECORDS C98970
10140 RECORD CONTAINS 20 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE IN-REC-65-110. C98970
10170 01 IN-REC-65-110 SYNC. C98970
10180 02 OLD-REC-WUC PICTURE X(5). C98970
10190 02 FILLER PICTURE X(15). C98970
13100 FD IN-FILE-66-1 C98970
13110 RECORDING MODE IS F C98970
13120 BLOCK CONTAINS 20 RECORDS C98970
13130 RECORD CONTAINS 80 CHARACTERS C98970
13140 LABEL RECORDS ARE OMITTED C98970
13150 DATA RECORDS ARE IN-REC-66-1. C98970
13160 01 IN-REC-66-1 SYNC. C98970
13170 02 FILLER PICTURE X. C98970
13190 02 TAB2-WUC PICTURE X(5). C98970
13200 02 FILLER PICTURE X(74). C98970
14100 FD IN-FILE-WUC C98970
14120 RECORDING MODE IS F C98970
14130 BLOCK CONTAINS 50 RECORDS C98970
14140 RECORD CONTAINS 20 CHARACTERS C98970
14150 LABEL RECORDS ARE OMITTED C98970
14160 DATA RECORDS ARE REC-IN-WUC. C98970
14170 01 REC-IN-WUC SYNC. C98970
14180 02 IN-REC-WUC PICTURE XXXXX, C98970
14190 02 FILLER PICTURE X(15). C98970
30000 WORKING-STORAGE SECTION. C98970
30400 01 NO-WUC-PROC PICTURE 9999 VALUE ZERO SYNC. C98970
30420 01 NO-TAB2-PROC PICTURE 9999 VALUE ZERO SYNC. C98970
30440 01 TABLE4-WUC SYNC. C98970
30500 02 TABLE-WUC PICTURE X(5). C98970
30600 02 FILLER PICTURE X(15). C98970
50000 PROCEDURE DIVISION. C98970
50010 OPEN-FILES. C98970
50020 OPEN INPUT IN-FILE-65-110, IN-FILE-66-1. C98970
50030 OPEN OUTPUT IN-FILE-WUC. C98970
50040 MOVE ZERO TO NO-WUC-PROC. C98970
50050 MOVE ZERO TO NO-TAB2-PROC. C98970
50060 READ IN-FILE-65-110 AT END GO TO CLOSE-FILES. C98970
50070 READ IN-FILE-66-1 AT END GO TO CLOSE-FILES. C98970
50080 MOVE TAB2-WUC TO TABLE-WUC. C98970
50090 COMPARE-FILES. C98970
50100 IF OLD-REC-WUC LESS THAN TABLE-WUC GO TO TU14-LESS. C98970
50110 IF OLD-REC-WUC NOT EQUAL TO TABLE-WUC GO TO TU12-LESS. C98970
50120 WRITE REC-IN-WUC FROM IN-REC-65-110. C98970
50130 ADD 1 TO NO-WUC-PROC. C98970
50140 READ IN-FILE-65-110 AT END GO TO CLOSE-FILES. C98970
50150 GO TO R-TU12. C98970
50160 TU12-LESS. C98970
50170 WRITE REC-IN-WUC FROM TABLE4-WUC. C98970
50180 ADD 1 TO NO-TAB2-PROC. C98970
50190 GO TO R-TU12. C98970
50200 TU14-LESS. C98970

```

```

50210 WRITE REC-IN-WUC FROM IN-REC-65-110, C98970
50220 ADD 1 TO NO-WUC-PROC. C98970
50230 READ IN-FILE-65-110 AT END GO TO CLOSE-FILES. C98970
50240 GO TO COMPARE-FILES. C98970
50250 R-TU12. C98970
50260 READ IN-FILE-66-1 AT END GO TO R-TU14. C98970
50270 MOVE TAB2=WUC TO TABLE=WUC. C98970
50280 GO TO COMPARE-FILES. C98970
50290 R-TU14. C98970
50300 WRITE REC-IN-WUC FROM IN-REC-65-110. C98970
50305 ADD 1 TO NO-WUC-PROC. C98970
50310 READ IN-FILE-65-110 AT END GO TO CLOSE-FILES. C98970
50320 GO TO R-TU14. C98970
50720 CLOSE-FILES. C98970
50730 CLOSE IN-FILE-65-110 WITH LOCK. C98970
50760 IN-FILE-66-1 WITH LOCK. C98970
50780 IN-FILE=WUC WITH LOCK. C98970
50790 MESSAGES. C98970
50791 DISPLAY : RECS COPIED FROM WUC FILE 1 NO-WUC-PROC C98970
UPON CONSOLE. C98970
50800 DISPLAY 1 RECS COPIED FROM TABLE 2 1 NO-TAB2-PROC C98970
UPON CONSOLE. C98970
50820 DISPLAY 1 EOU C9897 1 UPON CONSOLE. C98970
50835 GOBACK. C98970
50840
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG.TFGIN DO *SPACE>[CYL,1,1]] 1440 CDS
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU14 00 01SP>[DLO,KEEP],VOL>SER>+F3,UNIT>T+F3 T14
//TPR.TU24 00 DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 T24
//TPR.TPRIN DU *SPACE>[TRK,1,1]]
T/P TU12 19980802080
T/P TU14 19980202020
T/P TU24 19980202020
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

#### 6.5.4 DATA BANK PROGRAM

```

//C9097E JOB 01: G. WANG :;PHTY>02;TYPRUN>M0LO
//C9897E EXEC F 3655L,TIME>30,ACCT>035323007
//CHG.TU12 C) DISP>[PASS],UNIT>[A+F1,2,DEFER],DSN>+A,9895440, CT12/13 1
VOL>SER>[+F1,A+F1,R+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU14 C) DISP>[PASS],UNIT>[T+F3,1,DEFER],DSN>+C,9895435, CT14 1
VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG.TU15 0) DISP>[PASS],UNIT>[T+F4,1,DEFER],DSN>+0,9895455, CT15 1
VOL>SER>[+F4,A+F4,B+F4,C+F4,D+F4,E+F4,F+F4,G+F4,H+F4, CT15 2
I+F4,J+F4,K+F4,L+F4,M+F4,N+F4,O+F4,P+F4,Q+F4,R+F4,S+F4] T15 3
//CHG.TU22 DU DISP>[PASS],UNIT>[A+F5,2,DEFER],DSN>+E,9897405, CT22/23 1
VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG.TU24 0) DISP>[PASS],UNIT>[T+F7,1,DEFER],DSN>+0,9897404, CT24 1
VOL>SER>[+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7] T24 3
//CHG.TU25 C) DISP>[PASS],UNIT>[T+F8,1,DEFER],DSN>+H,9895422, CT25 1
VOL>SER>[+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8] T25 3
//CHG.INPUT 0) *SPACE>[CYL,1,1]] 1440 CDS
0000 COMBINE COMPILE G. WANG C98970
01040 DATE-WRITTEN. 7 FEB 72. C98970
01050 REMARKS. C98970
01060 DATA BANK PROGRAM FOR VE-12. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE-65-110 ASSIGN TO UT-S-TU14 C98970
RESERVE 2 ALTERNATE AREA. C98970
02130 SELECT IN-FILE-IRAN ASSIGN TO UT-S-TU25 C98970
RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT IN-FILE-AIE ASSIGN TO UT-S-TU15 C98970
RESERVE 1 ALTERNATE AREA. C98970
02150 SELECT IN-FILE-66-1 ASSIGN TO UT-S-TU12 C98970
RESERVE 2 ALTERNATE AREA. C98970
02160 SELECT IN-FILE-WUC ASSIGN TO UT-S-TU24 C98970
RESERVE 1 ALTERNATE AREA. C98970
02170 SELECT OUT-FILE ASSIGN TO UT-S-TU22 C98970
RESERVE 2 ALTERNATE AREA. C98970
02180 SELECT DATA-IN-FILE ASSIGN TO DA-S-0T01 C98970
RESERVE 1 ALTERNATE AREA. C98970
02190
02200
02210
02220
02230
02240
02250

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|       |                                       |                |        |
|-------|---------------------------------------|----------------|--------|
| 10000 | DATA DIVISION.                        |                | C98970 |
| 10010 | FILE SECTION.                         |                | C98970 |
| 10100 | FD IN-FILE-65-110                     |                | C98970 |
| 10120 | RECORDING MODE IS F                   |                | C98970 |
| 10130 | BLOCK CONTAINS 50 RECORDS             |                | C98970 |
| 10140 | RECORD CONTAINS 60                    | CHARACTERS     | C98970 |
| 10150 | LABEL RECORDS ARE OMITTED             |                | C98970 |
| 10160 | DATA RECORDS ARE IN-REC-65-110.       |                | C98970 |
| 10170 | 01 IN-REC-65-110 SYNC.                |                | C98970 |
| 10180 | 02 MMS-65-110.                        |                | C98970 |
| 10190 | 03 MISSION-65-110                     | PICTURE X.     | C98970 |
| 10200 | 04 DESIGN-65-110                      | PICTURE XXX.   | C98970 |
| 10210 | 05 SERIES-65-110                      | PICTURE X.     | C98970 |
| 10220 | 02 FILLER                             | PICTURE X(23). | C98970 |
| 10230 | 02 MINT-CODE-65-110                   | PICTURE X.     | C98970 |
| 10240 | 02 FILLER                             | PICTURE X.     | C98970 |
| 10250 | 02 TIME-65-110                        | PICTURE 999.   | C98970 |
| 10260 | 02 WUC-65-110                         | PICTURE X(5).  | C98970 |
| 10340 | 02 WUC-2-65-110 REDEFINES WUC-65-110. |                | C98970 |
| 10350 | 04 LANDINGS-65-110                    | PICTURE 99.    | C98970 |
| 10360 | 05 SORTIES-65-110                     | PICTURE 99.    | C98970 |
| 10370 | 06 FILLER                             | PICTURE X.     | C98970 |
| 10380 | 02 SER-NO-65-110                      | PICTURE X(8).  | C98970 |
| 10390 | 02 FILLER                             | PICTURE XX.    | C98970 |
| 10400 | 02 J-DAY-65-110                       | PICTURE 9(4).  | C98970 |
| 10410 | 02 FILLER                             | PICTURE X(6).  | C98970 |
| 10420 | 02 REC-ID-65-110                      | PICTURE X.     | C98970 |
| 10430 | 02 FILLER                             | PICTURE X.     | C98970 |
| 11100 | FD IN-FILE-IRAN                       |                | C98970 |
| 11120 | RECORDING MODE IS F                   |                | C98970 |
| 11130 | BLOCK CONTAINS 30 RECORDS             |                | C98970 |
| 11140 | RECORD CONTAINS 80                    | CHARACTERS     | C98970 |
| 11150 | LABEL RECORDS ARE OMITTED             |                | C98970 |
| 11160 | DATA RECORDS ARE IN-REC-IRAN.         |                | C98970 |
| 11170 | 01 IN-REC-IRAN SYNC.                  |                | C98970 |
| 11180 | 02 SER-NO-IRAN                        | PICTURE X(8).  | C98970 |
| 11190 | 02 SERIES-IRAN                        | PICTURE X.     | C98970 |
| 11200 | 02 FILLER                             | PICTURE X(7).  | C98970 |
| 11210 | 02 IRAN-VIS-NO                        | PICTURE 9.     | C98970 |
| 11220 | 02 FILLER                             | PICTURE X.     | C98970 |
| 11230 | 02 IRAN-CODE                          | PICTURE 99.    | C98970 |
| 11240 | 02 FILLER                             | PICTURE X(11). | C98970 |
| 11250 | 02 IRAN-START-UAY                     | PICTURE S9999. | C98970 |
| 11260 | 02 FILLER                             | PICTURE X.     | C98970 |
| 11270 | 02 IRAN-END-DAY                       | PICTURE S9999. | C98970 |
| 11280 | 02 FILLER                             | PICTURE X(40). | C98970 |
| 12100 | FD IN-FILE-AIE                        |                | C98970 |
| 12120 | RECORDING MODE IS F                   |                | C98970 |
| 12130 | BLOCK CONTAINS 60 RECORDS             |                | C98970 |
| 12140 | RECORD CONTAINS 50                    | CHARACTERS     | C98970 |
| 12150 | LABEL RECORDS ARE OMITTED             |                | C98970 |
| 12160 | DATA RECORDS ARE IN-REC-AIE.          |                | C98970 |
| 12200 | 01 IN-REC-AIE SYNC.                   |                | C98970 |
| 12210 | 02 FILLER                             | PICTURE X(9).  | C98970 |
| 12220 | 02 WUC-AIE                            | PICTURE X(5).  | C98970 |
| 12230 | 02 FILLER                             | PICTURE X(10). | C98970 |
| 12290 | 02 SER-NO-AIE                         | PICTURE X(8).  | C98970 |
| 12300 | 02 FILLER                             | PICTURE X(12). | C98970 |
| 12310 | 02 J-DAY-AIE                          | PICTURE 9999.  | C98970 |
| 12320 | 02 FILLER                             | PICTURE XX.    | C98970 |
| 13100 | FD IN-FILE-66-1                       |                | C98970 |
| 13110 | RECORDING MODE IS F                   |                | C98970 |
| 13120 | BLOCK CONTAINS 30 RECORDS             |                | C98970 |
| 13130 | RECORD CONTAINS 90                    | CHARACTERS     | C98970 |
| 13140 | LABEL RECORDS ARE OMITTED             |                | C98970 |
| 13150 | DATA RECORDS ARE IN-REC-66-1.         |                | C98970 |
| 13160 | 01 IN-REC-66-1 SYNC.                  |                | C98970 |
| 13170 | 02 MMS-66-1.                          |                | C98970 |
| 13180 | 03 MISSION-66-1                       | PICTURE XXX.   | C98970 |
| 13190 | 04 DESIGN-66-1                        | PICTURE XXX.   | C98970 |
| 13200 | 05 SERIES-66-1                        | PICTURE X.     | C98970 |
| 13210 | 02 FILLER                             | PICTURE X(7).  | C98970 |
| 13220 | 02 SER-NO-66-1                        | PICTURE X(8).  | C98970 |
| 13230 | 02 FILLER                             | PICTURE X(23). | C98970 |
| 13240 | 02 WUC-66-1                           | PICTURE X(5).  | C98970 |
| 13300 | 02 AIC-66-1                           | PICTURE X.     | C98970 |
| 13310 | 02 WUC-66-1                           | PICTURE X.     | C98970 |
| 13320 | 02 HMC-66-1                           | PICTURE XXX.   | C98970 |
| 13330 | 02 UNITS-66-1                         | PICTURE 99.    | C98970 |
| 13340 | 02 LABOR-66-1                         | PICTURE 9(4).  | C98970 |
| 13370 | 02 FILLER                             | PICTURE X(24). | C98970 |
| 13380 | 02 J-DAY-66-1                         | PICTURE 9(4).  | C98970 |
| 13390 | 02 FILLER                             | PICTURE X.     | C98970 |
| 14100 | FD IN-FILL-WUC                        |                | C98970 |
| 14120 | RECORDING MODE IS F                   |                | C98970 |
| 14130 | BLOCK CONTAINS 50 RECORDS             |                | C98970 |





|       |    |                       |                                  |              |        |
|-------|----|-----------------------|----------------------------------|--------------|--------|
| 30930 | 02 | FILE-DATA-3           | PICTURE 9                        | VALUE 1.     | C98970 |
| 30940 | J2 | FILE-DATA-4           | PICTURE 9                        | VALUE 1.     | C98970 |
| 30950 | 01 | FILLER                | REDEFINES DEFINE-FILE-DATA SYNC. |              | C98970 |
| 30960 | 02 | FILE-DATA             | OCCURS 4 TIMES PICTURE 9.        |              | C98970 |
| 31100 | 01 | DEFINE-NO-CODES       | SYNC.                            |              | C98970 |
| 31290 | 02 | NON-CODE              | OCCURS 17 TIMES PICTURE X.       |              | C98970 |
| 31400 | 01 | WUC-ENGINE            | SYNC.                            |              | C98970 |
| 31490 | 02 | ENGINE-WUC            | PICTURE XXX OCCURS 7 TIMES.      |              | C98970 |
| 31600 | 01 | TABLE-WUC             | SYNC.                            |              | C98970 |
| 31610 | 02 | LIST-WUC              | OCCURS 3000 TIMES PICTURE X(5).  |              | C98970 |
| 32100 | 01 | WUC-DEFINE-TABLE      | SYNC.                            |              | C98970 |
| 33510 | 02 | WUC-POS-TYPE          | OCCURS 22 TIMES PICTURE XX.      |              | C98970 |
| 33520 | 02 | WUC-POS-START         | OCCURS 22 TIMES PICTURE 9999.    |              | C98970 |
| 33530 | 02 | WUC-POS-END           | OCCURS 22 TIMES PICTURE 9999.    |              | C98970 |
| 40000 | 01 | REC-TYPE-1            | SYNC.                            |              | C98970 |
| 40010 | 02 | MDS-TYPE-1.           |                                  |              | C98970 |
| 40020 | 03 | MISSION-TYPE-1        | PICTURE X.                       |              | C98970 |
| 40030 | 03 | DESIGN-TYPE-1         | PICTURE XXX.                     |              | C98970 |
| 40040 | 03 | SERIES-TYPE-1         | PICTURE X.                       |              | C98970 |
| 40050 | 02 | SER-NO-TYPE-1         | PICTURE X(8).                    |              | C98970 |
| 40060 | 02 | WEEK-NO-TYPE-1        | PICTURE 999.                     |              | C98970 |
| 40070 | 02 | FILLER                | PICTURE X(12)                    | VALUE SPACE. | C98970 |
| 40080 | 02 | FLT-TIME-TYPE-1       | PICTURE S9999.                   |              | C98970 |
| 40090 | 02 | FILLER                | PICTURE X(3)                     | VALUE SPACE. | C98970 |
| 40100 | 02 | SORTIES-TYPE-1        | PICTURE S9999.                   |              | C98970 |
| 40120 | 02 | LAHON-TYPE-1          | PICTURE S9999.                   |              | C98970 |
| 40130 | 02 | FILLER                | PICTURE X(05)                    | VALUE SPACE. | C98970 |
| 40140 | 02 | REC-ID-TYPE-1         | PICTURE 9                        | VALUE 1.     | C98970 |
| 40150 | 02 | FILLER                | PICTURE X                        | VALUE SPACE. | C98970 |
| 40400 | 01 | REC-TYPE-2            | SYNC.                            |              | C98970 |
| 40410 | 02 | MDS-TYPE-2.           |                                  |              | C98970 |
| 40420 | 03 | MISSION-TYPE-2        | PICTURE X.                       |              | C98970 |
| 40430 | 03 | DESIGN-TYPE-2         | PICTURE XXX.                     |              | C98970 |
| 40440 | 03 | SERIES-TYPE-2         | PICTURE X.                       |              | C98970 |
| 40450 | 02 | SER-NO-TYPE-2         | PICTURE X(8).                    |              | C98970 |
| 40460 | 02 | WEEK-NO-TYPE-2        | PICTURE 999.                     |              | C98970 |
| 40470 | 02 | FILLER                | PICTURE X(9)                     | VALUE SPACE. | C98970 |
| 40480 | 02 | INAV-VIS-NO-TYPE-2    | PICTURE S999.                    |              | C98970 |
| 40490 | 02 | FILLER                | PICTURE X(4)                     | VALUE SPACE. | C98970 |
| 40500 | 02 | INAV-COUE-TYPE-2      | PICTURE S999.                    |              | C98970 |
| 40510 | 02 | INAV-START-DAY-TYPE-2 | PICTURE S9999.                   |              | C98970 |
| 40530 | 02 | INAV-END-DAY-TYPE-2   | PICTURE S9999.                   |              | C98970 |
| 40540 | 02 | FILLER                | PICTURE X(05)                    | VALUE SPACE. | C98970 |
| 40550 | 02 | REC-ID-TYPE-2         | PICTURE 9                        | VALUE 2.     | C98970 |
| 40560 | 02 | FILLER                | PICTURE X                        | VALUE SPACE. | C98970 |
| 40700 | 01 | REC-TYPE-3            | SYNC.                            |              | C98970 |
| 40710 | 02 | MDS-TYPE-3.           |                                  |              | C98970 |
| 40720 | 03 | MISSION-TYPE-3        | PICTURE X.                       |              | C98970 |
| 40730 | 03 | DESIGN-TYPE-3         | PICTURE XXX.                     |              | C98970 |
| 40740 | 03 | SERIES-TYPE-3         | PICTURE X.                       |              | C98970 |
| 40750 | 02 | SER-NO-TYPE-3         | PICTURE X(8).                    |              | C98970 |
| 40760 | 02 | WEEK-NO-TYPE-3        | PICTURE 999.                     |              | C98970 |
| 40770 | 02 | WUC-TYPE-3            | PICTURE X(5).                    |              | C98970 |
| 40780 | 02 | FILLER                | PICTURE X(4)                     | VALUE SPACE. | C98970 |
| 40790 | 02 | DATA-TYPE-3A.         |                                  |              | C98970 |
| 40800 | 03 | UNITS-TYPE-3          | PICTURE S999.                    |              | C98970 |
| 40810 | 03 | LARON-TYPE-3          | PICTURE S9999.                   |              | C98970 |
| 40840 | 03 | AIE-TYPE-3            | PICTURE S999.                    |              | C98970 |
| 40850 | 03 | NORM-TYPE-3           | PICTURE S9999.                   |              | C98970 |
| 40874 | 03 | NDRS-TYPE-3           | PICTURE S9999.                   |              | C98970 |
| 40876 | 03 | UNITS-AIC-TYPE-3      | PICTURE S999.                    |              | C98970 |
| 40880 | 02 | FILLER                | PICTURE X(02)                    | VALUE SPACE. | C98970 |
| 40890 | 02 | REC-ID-TYPE-3         | PICTURE 9                        | VALUE 3.     | C98970 |
| 40900 | 02 | FILLER                | PICTURE X                        | VALUE SPACE. | C98970 |
| 41100 | 01 | REC-TYPE-4            | SYNC.                            |              | C98970 |
| 41110 | 02 | MDS-TYPE-4.           |                                  |              | C98970 |
| 41120 | 03 | MISSION-TYPE-4        | PICTURE X.                       |              | C98970 |
| 41130 | 03 | DESIGN-TYPE-4         | PICTURE XXX.                     |              | C98970 |
| 41140 | 03 | SERIES-TYPE-4         | PICTURE X.                       |              | C98970 |
| 41150 | 02 | SER-NO-TYPE-4         | PICTURE X(8).                    |              | C98970 |
| 41160 | 02 | WEEK-NO-TYPE-4        | PICTURE 999.                     |              | C98970 |
| 41170 | 02 | DATA-TYPE-4.          |                                  |              | C98970 |
| 41180 | 03 | WUC-TYPE-4            | PICTURE X(5).                    |              | C98970 |
| 41230 | 03 | WDC-TYPE-4            | PICTURE X.                       |              | C98970 |
| 41250 | 03 | HMC-TYPE-4            | PICTURE XXX.                     |              | C98970 |
| 41260 | 03 | UNITS-TYPE-4          | PICTURE S999.                    |              | C98970 |
| 41270 | 03 | MHRS-TYPE-4           | PICTURE S9999.                   |              | C98970 |
| 41280 | 02 | FILLER                | PICTURE X(16)                    | VALUE SPACE. | C98970 |
| 41290 | 02 | REC-ID-TYPE-4         | PICTURE 9                        | VALUE 4.     | C98970 |
| 41300 | 02 | FILLER                | PICTURE X                        | VALUE SPACE. | C98970 |
| 42000 | 01 | TABLE-3               | SYNC.                            |              | C98970 |
| 42010 | 02 | TABLE-3-ROW           | OCCURS 250 TIMES.                |              | C98970 |
| 42020 | 03 | TABLE-3-WUC           | PICTURE X(5).                    |              | C98970 |
| 42030 | 03 | TABLE-3-DATA.         |                                  |              | C98970 |
| 42040 | 04 | TABLE-3-UNITS         | PICTURE S999.                    |              | C98970 |
| 42050 | 04 | TABLE-3-LAHON         | PICTURE S9999.                   |              | C98970 |
| 42070 | 04 | TABLE-3-AIE           | PICTURE S999.                    |              | C98970 |

|       |    |  |                           |        |
|-------|----|--|---------------------------|--------|
| 42080 | 04 | TABLE-3-NORM   | PICTURE S9999.            | C98970 |
| 42120 | 04 | TABLE-3-NORS   | PICTURE S9999.            | C98970 |
| 42130 | 04 | TABLE-3-UNITS-ATC                                      |                           | C98970 |
| 42140 |    |  | PICTURE S999.             | C98970 |
| 42200 | 01 | TABLE-4 SYNC.  |                           | C98970 |
| 42210 | 02 | TABLE-4-ROW OCCURS 250 TIMES.                          |                           | C98970 |
| 42220 | 03 | TABLE-4-WUC  | PICTURE X(5).             | C98970 |
| 42230 | 03 | TABLE-4-WDC  | PICTURE X.                | C98970 |
| 42250 | 03 | TABLE-4-MMC  | PICTURE XXX.              | C98970 |
| 42260 | 03 | TABLE-4-UNITS  | PICTURE S999.             | C98970 |
| 42270 | 03 | TABLE-4-MHRS   | PICTURE S9999.            | C98970 |
| 43000 | 01 | DATA-IN-A SYNC.  |                           | C98970 |
| 43010 | 05 | WUC-SCHED-INSP   | PICTURE XX.               | C98970 |
| 43020 | 05 | FILLER   | PICTURE XXX.              | C98970 |
| 43030 | 05 | WUC-SPEC-INSP  | PICTURE XX.               | C98970 |
| 43040 | 05 | FILLER   | PICTURE XXX.              | C98970 |
| 43050 | 05 | FIRST-A-C  | PICTURE X(4).             | C98970 |
| 43060 | 05 | FILLER   | PICTURE XX.               | C98970 |
| 43070 | 05 | FIRST-WEEK   | PICTURE X(5).             | C98970 |
| 43080 | 05 | LAST-WEEK  | PICTURE X(5).             | C98970 |
| 43090 | 05 | FILLER   | PICTURE X.                | C98970 |
| 43100 | 05 | MISSION-IN   | PICTURE X.                | C98970 |
| 43110 | 05 | DESIGN-IN  | PICTURE XXX.              | C98970 |
| 43120 | 05 | NO-AC-TO-PROC  | PICTURE X(5).             | C98970 |
| 43130 | 05 | FILLER   | PICTURE X(40).            | C98970 |
| 43200 | 01 | DATA-IN-B SYNC.  |                           | C98970 |
| 43210 | 05 | NUM-ATC  | PICTURE 999.              | C98970 |
| 43220 | 05 | FILLER   | PICTURE X(77).            | C98970 |
| 43300 | 01 | DATA-IN-C SYNC.  |                           | C98970 |
| 43310 | 05 | X-CODE   | PICTURE X.                | C98970 |
| 43320 | 05 | FILLER   | PICTURE X(79).            | C98970 |
| 43400 | 01 | DATA-IN-D SYNC.  |                           | C98970 |
| 43410 | 05 | NUM-CODES  | PICTURE 999.              | C98970 |
| 43420 | 05 | NUM-NORM   | PICTURE 999.              | C98970 |
| 43430 | 05 | FILLER   | PICTURE X(74).            | C98970 |
| 43500 | 01 | DATA-IN-E SYNC.  |                           | C98970 |
| 43510 | 05 | NUM-ENG-WUC  | PICTURE 999.              | C98970 |
| 43520 | 05 | FILLER   | PICTURE X(77).            | C98970 |
| 43600 | 01 | DATA-IN-F SYNC.  |                           | C98970 |
| 43610 | 05 | EN-WUC-IN  | PICTURE XXX.              | C98970 |
| 43620 | 05 | FILLER   | PICTURE X(77).            | C98970 |
| 43700 | 01 | DATA-IN-G SYNC.  |                           | C98970 |
| 43710 | 05 | NUM-WUC-GROUPS   | PICTURE 999.              | C98970 |
| 43720 | 05 | FILLER   | PICTURE XXX.              | C98970 |
| 43730 | 05 | MAX-NUM-WUC  | PICTURE 9999.             | C98970 |
| 43740 | 05 | FILLER   | PICTURE X(70).            | C98970 |
| 43800 | 01 | DATA-IN-H SYNC.  |                           | C98970 |
| 43810 | 05 | WUC-2DIG-IN  | PICTURE XX.               | C98970 |
| 43820 | 05 | FILLER   | PICTURE XXX.              | C98970 |
| 43830 | 05 | FIRST-POSITION   | PICTURE X(5).             | C98970 |
| 43840 | 05 | LAST-POSITION  | PICTURE X(5).             | C98970 |
| 43850 | 05 | FILLER   | PICTURE X(65).            | C98970 |
| 43900 | 01 | FILLER SYNC.   |                           | C98970 |
| 43910 | 05 | LIST-ATC   | PICTURE X OCCURS 5 TIMES. | C98970 |
| 50000 |    | PROCEDURE DIVISION.                                    |                           | C98970 |
| 50010 |    | OPEN=FILES.  |                           | C98970 |
| 50020 |    | OPEN INPUT IN-FILE-65-I10, IN-FILE-IRAN, IN-FILE-AIE,  |                           | C98970 |
| 50030 |    | IN-FILE-66-I, IN-FILE-WUC.                             |                           | C98970 |
| 50040 |    | OPEN OUTPUT OUT-FILE.                                  |                           | C98970 |
| 50045 |    | OPEN INPUT OATA-IN-FILE.                               |                           | C98970 |
| 50050 |    | MOVL ZERO TO NO-A-C-PROC.                              |                           | C98970 |
| 50060 |    | MOVL ZERO TO IRAN-FLAG.                                |                           | C98970 |
| 50065 |    | PERFORM READ-OATA-IN-FILE THRU END-HDIF.               |                           | C98970 |
| 50070 |    | NOTE HEAD LIST OF WORK-UNIT-CODES.                     |                           | C98970 |
| 50080 |    | PERFORM READ-WUC-LIST THRU END-HEAD-WUC-LIST.          |                           | C98970 |
| 50085 |    | CLOSE IN-FILE-WUC WITH LOCK.                           |                           | C98970 |
| 50090 |    | NOTE FIND LOWEST SERIAL NUMBER AND WEEK FOR INPUT DATA |                           | C98970 |
| 50100 |    | FILLS.   |                           | C98970 |
| 50110 |    | PERFORM INIT-SN-WK THRU ENO-INIT-SN-WK.                |                           | C98970 |
| 50120 |    | NOTE FIND FILE WITH LOWEST SERIAL NUMBER-WEEK.         |                           | C98970 |
| 50130 |    | PERFORM ST-SN-WK THRU ENO-ST-SN-WK.                    |                           | C98970 |
| 50140 |    | NEW-SEP-NO.  |                           | C98970 |
| 50150 |    | MOVE FILE-LOW-DATA TO FILE-NO.                         |                           | C98970 |
| 50160 |    | MOVE SER-NO (FILE-NO) TO CUR-S-N.                      |                           | C98970 |
| 50170 |    | MOVE WEEK-NO (FILE-NO) TO CUR-WEEK.                    |                           | C98970 |
| 50180 |    | MOVE ZERO TO NO-WEEK-PROC.                             |                           | C98970 |
| 50190 |    | NOTE ROUTINE TO START DATA BANK WHEN                   | 65-110                    | C98970 |
| 50200 |    | AND 66-I IS AVAILABLE.                                 |                           | C98970 |
| 50210 |    | PERFORM START-BANK THRU END-START-BANK.                |                           | C98970 |
| 50220 |    | IF IRAN-FLAG NOT EQUAL TO ZERO,                        |                           | C98970 |
| 50230 |    | PERFORM RESET-WEEK THRU ENO-RESET.                     |                           | C98970 |
| 50240 |    | ELSE, PERFORM RESET-SER-NO THRU END-RESET.             |                           | C98970 |
| 50250 |    | MOVE ZERO TO IRAN-FLAG.                                |                           | C98970 |
| 50260 |    | MOVE ZERO TO NO-WEEK-PROC.                             |                           | C98970 |
| 50270 |    | IF DATA-AVAIL-CODE EQUAL TO ZERO GO TO SN-WEEK-DONE.   |                           | C98970 |
| 50280 |    | NOTE PROCESS ONE SERIAL NUMBER-WEEK.                   |                           | C98970 |
| 50290 |    | NEXT-WEEK.   |                           | C98970 |

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| 50301 | IF DATA-WEEK-2 IS NOT EQUAL TO ZERO PERFORM RESET-IRAN            | C98970 |
| 50302 | THRU END-RESET.   | C98970 |
| 50303 | IF DATA-WEEK-3 IS NOT EQUAL TO ZERO PERFORM RESET-AIE             | C98970 |
| 50304 | THRU END-RESET.   | C98970 |
| 50305 | IF DATA-WEEK-4 IS NOT EQUAL TO ZERO PERFORM RESET-66-1            | C98970 |
| 50306 | THRU END-RESET.   | C98970 |
| 50307 | IF DATA-WEEK-1 IS NOT EQUAL TO ZERO PERFORM RESET-65-110          | C98970 |
| 50308 | THRU END-RESET.   | C98970 |
| 50309 | IF DATA-WEEK-2 NOT EQUAL TO ZERO                                  | C98970 |
| 50310 | PERFORM SN-WK-IRAN THRU END-SN-WK-IRAN.                           | C98970 |
| 50320 | IF DATA-WEEK-3 NOT EQUAL TO ZERO                                  | C98970 |
| 50330 | PERFORM SN-WK-AIE THRU END-SN-WK-AIE.                             | C98970 |
| 50340 | IF DATA-WEEK-4 NOT EQUAL TO ZERO                                  | C98970 |
| 50350 | PERFORM SN-WK-66-1 THRU END-SN-WK-66-1.                           | C98970 |
| 50360 | IF DATA-WEEK-1 NOT EQUAL TO ZERO                                  | C98970 |
| 50370 | PERFORM SN-WK-65-110 THRU END-SN-WK-65-110.                       | C98970 |
| 50380 | SN-WEEK-DONE.   | C98970 |
| 50390 | PERFORM WRITE-BANK THRU END-WRITE-BANK.                           | C98970 |
| 50400 | ADD ONE TO CUR-WEEK.  | C98970 |
| 50410 | IF CUR-WEEK GREATER THAN LAST-WEEK                                | C98970 |
| 50420 | GO TO SERIAL-NO-DONE.   | C98970 |
| 50430 | IF IRAN-FLAG EQUAL TO ZERO  | C98970 |
| 50440 | GO TO WEEK-RESET.   | C98970 |
| 50450 | COMPUTE WEEK-NO-COMP $\geq$ (END-IRAN-DAY $\leq$ 3) / 7 $\leq$ 1. | C98970 |
| 50460 | IF CUR-WEEK GREATER THAN WEEK-NO-COMP                             | C98970 |
| 50470 | MOVE ZERO TO IRAN-FLAG.   | C98970 |
| 50480 | WEEK-RESET.   | C98970 |
| 50490 | PERFORM RESET-WEEK THRU END-RESET.                                | C98970 |
| 50500 | PERFORM DATA-AVAIL THRU END-DATA-AVAIL.                           | C98970 |
| 50510 | IF DATA-AVAIL-CODE EQUAL TO ZERO                                  | C98970 |
| 50520 | GO TO SN-WEEK-DONE.   | C98970 |
| 50530 | GO TO NEXT-WEEK.  | C98970 |
| 50540 | SERIAL-NO-DONE.   | C98970 |
| 50550 | PERFORM RESET-SER-NO THRU END-RESET.                              | C98970 |
| 50555 | MOVE ZLKO TO IRAN-FLAG.   | C98970 |
| 50560 | ADD ONE TO NO-A-C-PROC.   | C98970 |
| 50570 | IF NO-A-C-PROC IS NOT LESS THAN NO-AC-TO-PROC.                    | C98970 |
| 50580 | GO TO BLOCK-CHECK.  | C98970 |
| 50590 | NOTE CHECK IF ALL FILES HAVE EOF.                                 | C98970 |
| 50600 | PERFORM FILES-EOF THRU END-FILES-EOF.                             | C98970 |
| 50610 | IF ALL-EOF NOT EQUAL TO ZERO                                      | C98970 |
| 50620 | GO TO NEW-SER-NO.   | C98970 |
| 50630 | NOTE AIRCRAFT SERIAL NUMBERS PROCESSING COMPLETED.                | C98970 |
| 50640 | BLOCK-CHECK.  | C98970 |
| 50650 | COMPUTE KNT $\geq$ RECORDS-PASS - RECORDS-PASS / R-B * R-B.       | C98970 |
| 50660 | IF KNT EQUAL TO ZERO  | C98970 |
| 50670 | GO TO CLOSE-FILES.  | C98970 |
| 50680 | NINE-FILL.  | C98970 |
| 50690 | WRITE OUT-REC FROM NINES.   | C98970 |
| 50700 | ADD ONE TO KNT.   | C98970 |
| 50710 | IF KNT IS LESS THAN R-B GO TO NINE-FILL.                          | C98970 |
| 50720 | CLOSE-FILES.  | C98970 |
| 50730 | CLOSE IN-FILE-65-110 WITH LOCK.                                   | C98970 |
| 50740 | IN-FILE-IRAN WITH LOCK.   | C98970 |
| 50750 | IN-FILE-AIE WITH LOCK.  | C98970 |
| 50760 | IN-FILE-66-1 WITH LOCK.   | C98970 |
| 50780 | CJT-FILE WITH LOCK.   | C98970 |
| 50781 | CLOSE DATA-IN-FILE WITH LOCK.                                     | C98970 |
| 50790 | MESSAGES.   | C98970 |
| 50791 | DISPLAY : SER-NO : CUR-S-N : WEEK : CUR-WEEK UPON CONSOLE.        | C98970 |
| 50800 | DISPLAY : RECORDS WRITTEN IN DATA BANK : RECORDS-PASS             | C98970 |
| 50810 | UPON CONSOLE.   | C98970 |
| 50820 | DISPLAY : NUMBER A/C PROCESSED : NO-A-C-PROC                      | C98970 |
| 50830 | UPON CONSOLE.   | C98970 |
| 50831 | DISPLAY : MAX TAB 3 : MAX-TAB-3 : MAX TAB 4 :                     | C98970 |
| 50832 | MAX-TAB-4 UPON CONSOLE.   | C98970 |
| 50835 | DISPLAY : EOJ C9897 : UPON CONSOLE.                               | C98970 |
| 50840 | GOBACK.   | C98970 |
| 69000 | CHECK-IN-IPAN.  | C98970 |
| 69020 | MOVE ZERO TO IN-IRAN.   | C98970 |
| 69030 | IF IRAN-FLAG IS EQUAL TO ZERO GO TO END-CHECK-IN-IRAN.            | C98970 |
| 69040 | IF JDAY LESS THAN START-IRAN-DAY GO TO END-CHECK-IN-IRAN.         | C98970 |
| 69050 | IF JDAY GREATER THAN END-IRAN-DAY GO TO END-CHECK-IN-IRAN.        | C98970 |
| 69060 | MOVE ONE TO IN-IRAN.  | C98970 |
| 69070 | END-CHECK-IN-IRAN.  | C98970 |
| 69080 | EXIT.   | C98970 |
| 70000 | PROC-WUC.   | C98970 |
| 70010 | MOVE ZERO TO WUC-TYPE.  | C98970 |
| 70020 | IF WUC-TEMP IS EQUAL TO SPACE THEN GO TO END-PROC-WUC.            | C98970 |
| 70030 | IF WUC-MJR IS GREATER THAN WUC-09 GO TO PROC-WUC-NSO.             | C98970 |
| 70040 | IF WUC-MJR IS EQUAL TO WUC-SCHED-INSP GO TO                       | C98970 |
| 70050 | PROC-WUC-ACCPY-5G.  | C98970 |
| 70060 | IF WUC-MJR IS EQUAL TO WUC-SPEC-INSP GO TO PROC-WUC-ACCPY-5G.     | C98970 |
| 70070 | GO TO END-PROC-WUC.   | C98970 |
| 70100 | PROC-WUC-ACCPY-5G.  | C98970 |
| 70110 | MOVE I TO WUC-TYPE.   | C98970 |
| 70120 | GO TO END-PROC-WUC.   | C98970 |

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| 70200 | PROC-WUC-NSG.   | C98970 |
| 70210 | IF POS-TABLE-3 IS EQUAL TO ZERO GO TO PROC-WUC-3.             | C98970 |
| 70220 | MOVE 1 TO KNT.  | C98970 |
| 70230 | PROC-WUC-4.   | C98970 |
| 70240 | IF WUC-TEMP IS EQUAL TO TABLE-3-WUC [KNT] THEN GO TO          | C98970 |
| 70250 | PROC-WUC-ACCPY-NSG.   | C98970 |
| 70260 | ADD 1 TO KNT.   | C98970 |
| 70270 | IF KNT IS GREATER THAN POS-TABLE-3 THEN GO TO PROC-WUC-3.     | C98970 |
| 70280 | GO TO PROC-WUC-4.   | C98970 |
| 70300 | PROC-WUC-5.   | C98970 |
| 70310 | IF POS-TABLE-4 IS EQUAL TO ZERO GO TO PROC-WUC-ENG5.          | C98970 |
| 70320 | MOVE 1 TO KNT.  | C98970 |
| 70330 | PROC-WUC-6.   | C98970 |
| 70340 | IF WUC-TEMP IS EQUAL TO TABLE-4-WUC [KNT] THEN GO TO          | C98970 |
| 70350 | PROC-WUC-ACCPY-NSG.   | C98970 |
| 70360 | ADD 1 TO KNT.   | C98970 |
| 70370 | IF KNT IS GREATER THAN POS-TABLE-4 THEN GO TO PROC-WUC-ENG5.  | C98970 |
| 70380 | GO TO PROC-WUC-6.   | C98970 |
| 70400 | PROC-WUC-ENG5.  | C98970 |
| 70410 | MOVE 1 TO KNT.  | C98970 |
| 70420 | PROC-WUC-7.   | C98970 |
| 70430 | IF WUC-3-DIG IS EQUAL TO ENGINE-WUC [KNT] THEN GO TO          | C98970 |
| 70440 | PROC-WUC-ACCPY-ENG5.  | C98970 |
| 70450 | ADD 1 TO KNT.   | C98970 |
| 70460 | IF KNT IS GREATER THAN NUM-ENG-WUC GO TO PROC-WUC-MJR.        | C98970 |
| 70470 | GO TO PROC-WUC-7.   | C98970 |
| 70500 | PROC-WUC-ACCPY-ENG5.  | C98970 |
| 70510 | MOVE SPACE TO WUC-2-DIG.                                      | C98970 |
| 70520 | PROC-WUC-ACCPY-NSG.   | C98970 |
| 70530 | MOVE 2 TO WUC-TYPE.   | C98970 |
| 70540 | GO TO LND-PROC-WUC.   | C98970 |
| 70600 | PROC-WUC-MIN.   | C98970 |
| 70610 | MOVE 1 TO KNA.  | C98970 |
| 70620 | PROC-WUC-8.   | C98970 |
| 70630 | IF WUC-MJR IS EQUAL TO WUC-POS-TYPE [KNA] GO TO PROC-WUC-MIN. | C98970 |
| 70640 | ADD 1 TO KNA.   | C98970 |
| 70650 | IF KNA IS GREATER THAN NUM-WUC-GROUPS GO TO END-PROC-WUC.     | C98970 |
| 70660 | GO TO PROC-WUC-8.   | C98970 |
| 70700 | PROC-WUC-MIN.   | C98970 |
| 70710 | MOVE WUC-POS-START [KNA] TO KNT.                              | C98970 |
| 70720 | MOVE WUC-POS-END [KNA] TO KNR.                                | C98970 |
| 70800 | PROC-WUC-9.   | C98970 |
| 70810 | IF WUC-TEMP IS EQUAL TO LIST-WUC [KNT] GO TO                  | C98970 |
| 70820 | PROC-WUC-ACCPY-NSG.   | C98970 |
| 70830 | ADD 1 TO KNT.   | C98970 |
| 70840 | IF KNT IS GREATER THAN KNR GO TO END-PROC-WUC.                | C98970 |
| 70850 | GO TO PROC-WUC-9.   | C98970 |
| 70900 | END-PROC-WUC. EXIT.   | C98970 |
| 72000 | PROC-65-110.  | C98970 |
| 72010 | MOVE JDAY-65-110 TO JDAY.                                     | C98970 |
| 72020 | PERFORM CHECK-IN-IRAN THRU END-CHECK-IN-IRAN.                 | C98970 |
| 72030 | IF IN-IRAN IS EQUAL TO 1 GO TO END-PROC-65-110.               | C98970 |
| 72040 | IF REC-ID-65-110 IS EQUAL TO :2: GO TO PROC-65-110-A.         | C98970 |
| 72050 | IF REC-ID-65-110 IS GREATER THAN :2: GO TO PROC-65-110-B.     | C98970 |
| 72060 | GO TO END-PROC-65-110.  | C98970 |
| 72070 | PROC-65-110-B.  | C98970 |
| 72080 | IF REC-ID-65-110 IS GREATER THAN :9: GO TO END-PROC-65-110.   | C98970 |
| 72090 | NOTE REC-ID-65-110 HAS VALUE 3 TO 9 AT THIS POINT.            | C98970 |
| 72100 | ADD TIME-65-110 TO FLT-TIME-TYPE-1.                           | C98970 |
| 72105 | MOVE :1: TO REC-65-110-TYPE-1-ONLY.                           | C98970 |
| 72110 | ADD SORTIES-65-110 TO SORTIES-TYPE-1.                         | C98970 |
| 72120 | ADD LANDINGS-65-110 TO LANDINGS-TYPE-1.                       | C98970 |
| 72130 | IF SERIES-TYPE-1 IS EQUAL TO SPACE THEN MOVE SERIES-65-110    | C98970 |
| 72140 | TO SERIES-TYPE-1.   | C98970 |
| 72150 | GO TO END-PROC-65-110.  | C98970 |
| 72200 | PROC-65-110-A.  | C98970 |
| 72220 | MOVE WUC-65-110 TO WUC-TEMP.                                  | C98970 |
| 72230 | PERFORM PROC-WUC THRU END-PROC-WUC.                           | C98970 |
| 72240 | IF WUC-TYPE IS EQUAL TO ZERO GO TO END-PROC-65-110.           | C98970 |
| 72245 | MOVE :1: TO REC-65-110-TYPE-1-ONLY.                           | C98970 |
| 72250 | MOVE 1 TO KNT.  | C98970 |
| 72260 | IF POS-TABLE-3 EQUAL TO ZERO GO TO PROC-65-110-E.             | C98970 |
| 72270 | PROC-65-110-C.  | C98970 |
| 72280 | IF WUC-TEMP IS EQUAL TO TABLE-3-WUC [KNT] THEN GO TO          | C98970 |
| 72290 | PROC-65-110-D.  | C98970 |
| 72300 | ADD 1 TO KNT.   | C98970 |
| 72310 | IF KNT IS GREATER THAN POS-TABLE-3 GO TO PROC-65-110-E.       | C98970 |
| 72320 | GO TO PROC-65-110-C.  | C98970 |
| 72400 | PROC-65-110-E.  | C98970 |
| 72410 | MOVE KNT TO POS-TABLE-3.                                      | C98970 |
| 72414 | IF POS-TABLE-3 IS GREATER THAN MAX-TAB-3 MOVE POS-TABLE-3     | C98970 |
| 72415 | TO MAX-TAB-3.   | C98970 |
| 72420 | IF POS-TABLE-3 IS GREATER THAN TABLE-SIZE GO TO PROC-65-ERR.  | C98970 |
| 72430 | MOVE WUC-TEMP TO TABLE-3-WUC [KNT].                           | C98970 |
| 72440 | IF SERIES-TYPE-3 IS EQUAL TO SPACE THEN MOVE SERIES-65-110    | C98970 |
| 72450 | TO SERIES-TYPE-3.   | C98970 |

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| 72500 | PROC-65-110-0.  | C98970 |
| 72510 | MOVE I TO KNA.  | C98970 |
| 72520 | PROC-65-110-F.  | C98970 |
| 72530 | IF MAIT-CODE-65-110 IS EQUAL TO NOR-CODE [KNA] GO TO          | C98970 |
| 72540 | PROC-65-110-0.  | C98970 |
| 72550 | ADD I TO KNA.   | C98970 |
| 72560 | IF KNA IS GREATER THAN NUM-NCODES GO TO END-PROC-65-110.      | C98970 |
| 72570 | GO TO PROC-65-110-F.  | C98970 |
| 72600 | PROC-65-110-G.  | C98970 |
| 72610 | IF KNA IS NOT GREATER THAN NUM-NORM THEN ADD TIME-65-110 TO   | C98970 |
| 72620 | TABLE-3-NORM [KNT].   | C98970 |
| 72630 | IF KNA IS GREATER THAN NUM-NORM THEN ADD TIME-65-110 TO       | C98970 |
| 72640 | TABLE-3-NORM [KNT].   | C98970 |
| 72690 | GO TO END-PROC-65-110.  | C98970 |
| 72800 | PROC-65-ERR.  | C98970 |
| 72810 | DISPLAY : TABLE SIZE EXCEEDED IN TABLE-3 I UPON CONSOLE.      | C98970 |
| 72820 | GO TO CLOSE-FILES.  | C98970 |
| 72900 | END-PROC-65-110. EXIT.  | C98970 |
| 73000 | PROC-IRAN.  | C98970 |
| 73010 | MOVE IRAN-VIS-NO TO IRAN-VIS-NO-TYPE-2.                       | C98970 |
| 73020 | MOVE IRAN-CODE TO IRAN-CODE-TYPE-2.                           | C98970 |
| 73030 | MOVE IRAN-START-DAY TO IRAN-START-DAY-TYPE-2.                 | C98970 |
| 73040 | MOVE IRAN-START-DAY TO START-IRAN-DAY.                        | C98970 |
| 73050 | IF IRAN-END-DAY IS EQUAL TO ZERO THEN MOVE 9999 TO            | C98970 |
| 73060 | IRAN-END-DAY.   | C98970 |
| 73070 | MOVE IRAN-END-DAY TO IRAN-END-DAY-TYPE-2.                     | C98970 |
| 73080 | MOVE IRAN-END-DAY TO END-IRAN-DAY.                            | C98970 |
| 73090 | MOVE I TO IRAN-FLAG.  | C98970 |
| 73100 | IF SERIES-TYPE-2 IS EQUAL TO SPACE THEN MOVE SERIES-IRAN      | C98970 |
| 73110 | TO SERIES-TYPE-2.   | C98970 |
| 73900 | END-PROC-IRAN. EXIT.  | C98970 |
| 74000 | PROC-AIE.   | C98970 |
| 74010 | MOVE J-UY-AIE TO JOAY.  | C98970 |
| 74020 | PERFORM CHECK-IN-IRAN THRU END-CHECK-IN-IRAN.                 | C98970 |
| 74030 | IF IN-IRAN IS EQUAL TO 1 GO TO END-PROC-AIE.                  | C98970 |
| 74040 | MOVE WUC-AIE TO WUC-TEMP.                                     | C98970 |
| 74050 | PERFORM PROC-WUC THRU END-PROC-WUC.                           | C98970 |
| 74060 | IF WUC-TYPE IS EQUAL TO ZERO GO TO END-PROC-AIE.              | C98970 |
| 74100 | MOVE I TO KNT.  | C98970 |
| 74110 | IF POS-TABLE-3 IS EQUAL TO ZERO GO TO PROC-AIE-A.             | C98970 |
| 74120 | PROC-AIE-B.   | C98970 |
| 74130 | IF WUC-TEMP IS EQUAL TO TABLE-3-WUC [KNT] THEN GO TO          | C98970 |
| 74140 | PROC-AIE-C.   | C98970 |
| 74150 | ADD I TO KNT.   | C98970 |
| 74160 | IF KNT IS GREATER THAN POS-TABLE-3 GO TO PROC-AIE-A.          | C98970 |
| 74170 | GO TO PROC-AIE-B.   | C98970 |
| 74200 | PROC-AIE-A.   | C98970 |
| 74210 | MOVE KNT TO POS-TABLE-3.                                      | C98970 |
| 74214 | IF POS-TABLE-3 IS GREATER THAN MAX-TAB-3 MOVE POS-TABLE-3     | C98970 |
| 74215 | TO MAX-TAB-3.   | C98970 |
| 74220 | IF POS-TABLE-3 IS GREATER THAN TABLE-SIZE GO TO PROC-AIE-ERR. | C98970 |
| 74230 | MOVE WUC-TEMP TO TABLE-3-WUC [KNT].                           | C98970 |
| 74300 | PROC-AIE-C.   | C98970 |
| 74310 | ADD I TO TABLE-3-AIE [KNT].                                   | C98970 |
| 74320 | GO TO END-PROC-AIE.   | C98970 |
| 74910 | PROC-AIE-ERR.   | C98970 |
| 74920 | DISPLAY : TABLE-SIZE EXCEEDED IN TABLE-3 I UPON CONSOLE.      | C98970 |
| 74930 | GO TO CLOSE-FILES.  | C98970 |
| 74990 | END-PROC-AIE.   | C98970 |
| 75000 | PROC-66-1.  | C98970 |
| 75010 | MOVE J-UY-66-1 TO JOAY.                                       | C98970 |
| 75020 | PERFORM CHECK-IN-IRAN THRU END-CHECK-IN-IRAN.                 | C98970 |
| 75030 | IF IN-IRAN IS EQUAL TO 1 GO TO END-PROC-66-1.                 | C98970 |
| 75040 | MOVE WUC-66-1 TO WUC-TEMP.                                    | C98970 |
| 75050 | PERFORM PROC-WUC THRU END-PROC-WUC.                           | C98970 |
| 75060 | IF WUC-TYPE IS EQUAL TO 1 GO TO PROC-66-1-0.                  | C98970 |
| 75070 | IF WUC-TYPE IS NOT EQUAL TO 2 GO TO END-PROC-66-1.            | C98970 |
| 75100 | MOVE I TO KNT.  | C98970 |
| 75110 | IF POS-TABLE-4 IS EQUAL TO ZERO GO TO PROC-66-1-0.            | C98970 |
| 75120 | PROC-66-1-B.  | C98970 |
| 75130 | IF WUC-TEMP IS EQUAL TO TABLE-4-WUC [KNT] AND WUC-66-1 IS     | C98970 |
| 75140 | EQUAL TO TABLE-4-WUC [KNT] AND TABLE-4-HMC [KNT] IS           | C98970 |
| 75145 | EQUAL TO HMC-66-1 THEN GO TO PROC-66-1-HMC.                   | C98970 |
| 75150 | ADD I TO KNT.   | C98970 |
| 75160 | IF KNT IS GREATER THAN POS-TABLE-4 GO TO PROC-66-1-0.         | C98970 |
| 75170 | GO TO PROC-66-1-B.  | C98970 |
| 75200 | PROC-66-1-0.  | C98970 |
| 75210 | MOVE KNT TO POS-TABLE-4.                                      | C98970 |
| 75215 | IF POS-TABLE-4 IS GREATER THAN MAX-TAB-4 MOVE POS-TABLE-4     | C98970 |
| 75216 | TO MAX-TAB-4.   | C98970 |
| 75220 | IF POS-TABLE-4 IS GREATER THAN TABLE-SIZE GO TO               | C98970 |
| 75230 | PROC-66-1-ERR-1.  | C98970 |
| 75240 | MOVE WUC-TEMP TO TABLE-4-WUC [KNT].                           | C98970 |
| 75250 | MOVE WUC-66-1 TO TABLE-4-WUC [KNT].                           | C98970 |
| 75255 | MOVE HMC-66-1 TO TABLE-4-HMC [KNT].                           | C98970 |
| 75260 | IF SERIES-TYPE-4 IS EQUAL TO SPACE MOVE SERIES-66-1 TO        | C98970 |
| 75270 | SERIES-TYPE-4.  | C98970 |

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| 75440 | PROC-66-1-HMC.   | C98970 |
| 75450 | ADD UNITS-66-1 TO TABLE-4-UNITS [KNT].                       | C98970 |
| 75460 | ADD LABOR-66-1 TO TABLE-4-MHRS [KNT].                        | C98970 |
| 75500 | PROC-66-1-G.   | C98970 |
| 75510 | MOVE 1 TO KNT.   | C98970 |
| 75520 | IF POS-TABLE-3 IS EQUAL TO ZERO GO TO PROC-66-1-H.           | C98970 |
| 75530 | PROC-66-1-J.   | C98970 |
| 75540 | IF WUC-TEMP IS EQUAL TO TABLE-3-WUC [KNT] GO TO PROC-66-1-K. | C98970 |
| 75550 | ADD 1 TO KNT.  | C98970 |
| 75560 | IF KNT IS GREATER THAN POS-TABLE-3 GO TO PROC-66-1-H.        | C98970 |
| 75570 | GO TO PROC-66-1-J.   | C98970 |
| 75600 | PROC-66-1-H.   | C98970 |
| 75610 | MOVE .NT TO POS-TABLE-3.                                     | C98970 |
| 75614 | IF POS-TABLE-3 IS GREATER THAN MAX-TAB-3 MOVE POS-TABLE-3    | C98970 |
| 75615 | TO MAX-TAB-3.  | C98970 |
| 75620 | IF POS-TABLE-3 IS GREATER THAN TABLE-SIZE GO TO              | C98970 |
| 75630 | PROC-66-1-ERR-3.   | C98970 |
| 75640 | MOVE WUC-TEMP TO TABLE-3-WUC [KNT].                          | C98970 |
| 75650 | IF SERIES-TYPE-3 IS EQUAL TO SPACE THEN MOVE SERIES-66-1     | C98970 |
| 75660 | TO SERIES-TYPE-3.  | C98970 |
| 75700 | PROC-66-1-K.   | C98970 |
| 75710 | ADD UNITS-66-1 TO TABLE-3-UNITS [KNT].                       | C98970 |
| 75720 | ADD LABOR-66-1 TO TABLE-3-LABOR [KNT].                       | C98970 |
| 75730 | MOVE ZERO TO ATC-INDEX.                                      | C98970 |
| 75735 | PROC-66-1-K-L.   | C98970 |
| 75740 | ADD 1 TO ATC-INDEX.  | C98970 |
| 75745 | IF ATC-INDEX IS EQUAL TO LIST-ATC [ATC-INDEX]                | C98970 |
| 75750 | GO TO PROC-66-1-L.   | C98970 |
| 75755 | IF ATC-INDEX IS LESS THAN NUM-ATC GO TO PROC-66-1-K-L.       | C98970 |
| 75760 | GO TO END-PROC-66-1.   | C98970 |
| 75770 | PROC-66-1-L.   | C98970 |
| 75780 | ADD UNITS-66-1 TO TABLE-3-UNITS-ATC [KNT].                   | C98970 |
| 75790 | GO TO END-PROC-66-1.   | C98970 |
| 75900 | PROC-66-1-LMR-1.   | C98970 |
| 75910 | DISPLAY : TABLE-SIZE EXCEEDED IN TABLE 4 : UPON CONSOLE.     | C98970 |
| 75920 | GO TO CLOSE-FILES.   | C98970 |
| 75960 | PROC-66-1-LMR-3.   | C98970 |
| 75970 | DISPLAY : TABLE-SIZE EXCEEDED IN TABLE 3 : UPON CONSOLE.     | C98970 |
| 75980 | GO TO CLOSE-FILES.   | C98970 |
| 75990 | END-PROC-66-1. EXIT.   | C98970 |
| 76000 | READ-65-110.   | C98970 |
| 76010 | IF FILE-DATA-1 IS EQUAL TO ZERO, GO TO END-READ-65-110.      | C98970 |
| 76020 | READ IN-FILE-65-110, AT END GO TO READ-65-110-A.             | C98970 |
| 76030 | IF SER-NO-65-110 EQUAL TO EOF-S-N GO TO READ-65-110-A.       | C98970 |
| 76040 | GO TO END-READ-65-110.                                       | C98970 |
| 76050 | READ-65-110-A.   | C98970 |
| 76060 | MOVE ZERO TO FILE-DATA [1].                                  | C98970 |
| 76070 | END-READ-65-110. EXIT.                                       | C98970 |
| 76100 | READ-IRAN.   | C98970 |
| 76110 | IF FILE-DATA-2 IS EQUAL TO ZERO, GO TO END-READ-IRAN.        | C98970 |
| 76120 | READ IN-FILE-IRAN, AT END GO TO READ-IRAN-A.                 | C98970 |
| 76130 | IF SER-NO-IRAN EQUAL TO EOF-S-N GO TO READ-IRAN-A.           | C98970 |
| 76140 | GO TO END-READ-IRAN.   | C98970 |
| 76150 | READ-IRAN-A.   | C98970 |
| 76160 | MOVE ZERO TO FILE-DATA [2].                                  | C98970 |
| 76170 | END-READ-IRAN. EXIT.   | C98970 |
| 76200 | READ-AIE.  | C98970 |
| 76210 | IF FILE-DATA-3 IS EQUAL TO ZERO, GO TO END-READ-IRAN.        | C98970 |
| 76220 | READ IN-FILE-AIE, AT END GO TO READ-AIE-A.                   | C98970 |
| 76230 | IF SER-NO-AIE EQUAL TO EOF-S-N GO TO READ-AIE-A.             | C98970 |
| 76240 | GO TO END-READ-AIE.  | C98970 |
| 76250 | READ-AIE-A.  | C98970 |
| 76260 | MOVE ZERO TO FILE-DATA [3].                                  | C98970 |
| 76270 | END-READ-AIE. EXIT.  | C98970 |
| 76300 | READ-66-1.   | C98970 |
| 76310 | IF FILE-DATA-4 IS EQUAL TO ZERO, GO TO END-READ-66-1.        | C98970 |
| 76320 | READ IN-FILE-66-1, AT END GO TO READ-66-1-A.                 | C98970 |
| 76330 | IF SER-NO-66-1 EQUAL TO EOF-S-N GO TO READ-66-1-A.           | C98970 |
| 76340 | GO TO END-READ-66-1.   | C98970 |
| 76350 | READ-66-1-A.   | C98970 |
| 76360 | MOVE ZERO TO FILE-DATA [4].                                  | C98970 |
| 76370 | END-READ-66-1. EXIT.   | C98970 |
| 77000 | WRITE-BANK.  | C98970 |
| 77021 | IF REC-65-110-TYPE-1-ONLY IS EQUAL TO SPACE GO TO            | C98970 |
| 77022 | WRITE-BANK-TYPE-2.   | C98970 |
| 77030 | NOTE WHITE TYPE-1 RECORD.                                    | C98970 |
| 77040 | MOVE CUR-S-N TO SER-NO-TYPE-1.                               | C98970 |
| 77050 | MOVE CUR-WEEK TO WEEK-NO-TYPE-1.                             | C98970 |
| 77060 | WRITE OUT-REC FROM REC-TYPE-1.                               | C98970 |
| 77070 | ADD 1 TO RECORDS-PASS.                                       | C98970 |
| 77100 | WRITE-BANK-TYPE-2.   | C98970 |
| 77120 | IF CUR-WEEK-2 IS EQUAL TO ZERO GO TO                         | C98970 |
| 77130 | WRITE-BANK-TYPE-3.   | C98970 |
| 77140 | MOVE CUR-S-N TO SER-NO-TYPE-2.                               | C98970 |
| 77150 | MOVE CUR-WEEK TO WEEK-NO-TYPE-2.                             | C98970 |
| 77160 | WRITE OUT-REC FROM REC-TYPE-2.                               | C98970 |
| 77170 | ADD 1 TO RECORDS-PASS.                                       | C98970 |



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| 77200 | WRITE-BANK-TYPE-3.  | C98970 |
| 77220 | IF REC-65-110-TYPE-1-ONLY IS EQUAL TO SPACE AND             | C98970 |
| 77230 | DATA-WEEK-3 IS EQUAL TO ZERO AND                            | C98970 |
| 77231 | DATA-WEEK-4 IS EQUAL TO ZERO THEN GO TO WRITE-BANK-TYPE-4.  | C98970 |
| 77240 | IF POS-TABLE-3 IS EQUAL TO ZERO GO TO WRITE-BANK-TYPE-4.    | C98970 |
| 77250 | MOVE CUN-S-N TO SER-NO-TYPE-3.                              | C98970 |
| 77260 | MOVE CUN=WEEK TO WEEK-NO-TYPE-3.                            | C98970 |
| 77270 | MOVE 1 TO KNT.  | C98970 |
| 77280 | WRITE-BANK-A.   | C98970 |
| 77290 | MOVE TABLE-3=WUC [KNT] TO WUC-TYPE-3.                       | C98970 |
| 77300 | MOVE TABLE-3=DATAA [KNT] TO DATA-TYPE-3A.                   | C98970 |
| 77330 | WRITE OUT-REC FROM REC-TYPE-3.                              | C98970 |
| 77340 | ADD 1 TO RECORDS-PASS.                                      | C98970 |
| 77350 | ADD 1 TO KNT.   | C98970 |
| 77360 | IF KNT IS GREATER THAN POS-TABLE-3 GO TO WRITE-BANK-TYPE-4. | C98970 |
| 77370 | GO TO WRITE-BANK-A.   | C98970 |
| 77400 | WRITE-BANK-TYPE-4.  | C98970 |
| 77420 | IF DATA-WEEK-4 IS EQUAL TO ZERO GO TO END-WRITE-BANK.       | C98970 |
| 77440 | IF POS-TABLE-4 IS EQUAL TO ZERO GO TO END-WRITE-BANK.       | C98970 |
| 77450 | MOVE CUN-S-N TO SER-NO-TYPE-4.                              | C98970 |
| 77460 | MOVE CUN=WELK TO WEEK-NO-TYPE-4.                            | C98970 |
| 77490 | MOVE 1 TO KNT.  | C98970 |
| 77500 | WRITE-BANK-B.   | C98970 |
| 77510 | MOVE TABLE-4=ROW [KNT] TO DATA-TYPE-4.                      | C98970 |
| 77520 | WRITE OUT-REC FROM REC-TYPE-4.                              | C98970 |
| 77530 | ADD 1 TO RECORDS-PASS.                                      | C98970 |
| 77540 | ADD 1 TO KNT.   | C98970 |
| 77550 | IF KNT IS GREATER THAN POS-TABLE-4 GO TO END-WRITE-BANK.    | C98970 |
| 77560 | GO TO WRITE-BANK-B.   | C98970 |
| 77700 | END-WRITE-BANK. EXIT.                                       | C98970 |
| 78000 | INIT-SN-KK.   | C98970 |
| 78020 | INIT-65-110.  | C98970 |
| 78021 | PERFORM READ-65-110 THRU END-READ-65-110.                   | C98970 |
| 78022 | IF SER-NO-65-110 IS LESS THAN FIRST-A-C GO TO INIT-65-110.  | C98970 |
| 78040 | INIT-IRAN.  | C98970 |
| 78041 | PERFORM READ-IRAN THRU END-READ-IRAN.                       | C98970 |
| 78042 | IF SER-NO-IRAN IS LESS THAN FIRST-A-C GO TO INIT-IRAN.      | C98970 |
| 78060 | INIT-AIE.   | C98970 |
| 78062 | PERFORM READ-AIE THRU END-READ-AIE.                         | C98970 |
| 78063 | IF SER-NO-AIE IS LESS THAN FIRST-A-C GO TO INIT-AIE.        | C98970 |
| 78080 | INIT-66-1.  | C98970 |
| 78081 | PERFORM READ-66-1 THRU END-READ-66-1.                       | C98970 |
| 78082 | IF SER-NO-66-1 IS LESS THAN FIRST-A-C THEN GO TO INIT-66-1. | C98970 |
| 78100 | NOTE STORE SERIAL NUMBER, WEEK NUMBER INTO KEYS.            | C98970 |
| 78110 | MOVE SER-NO-65-110 TO SER-NO [1].                           | C98970 |
| 78120 | COMPUTE WEEK-NO [1] > [J-OAY-65-110 < 3] / 7 < 1.           | C98970 |
| 78130 | MOVE SER-NO-IRAN TO SER-NO [2].                             | C98970 |
| 78140 | COMPUTE WEEK-NO [2] > [IRAN-START-DAY < 3] / 7 < 1.         | C98970 |
| 78150 | MOVE SER-NO-AIE TO SER-NO [3].                              | C98970 |
| 78160 | COMPUTE WEEK-NO [3] > [J-OAY-AIE < 3] / 7 < 1.              | C98970 |
| 78170 | MOVE SER-NO-66-1 TO SER-NO [4].                             | C98970 |
| 78180 | COMPUTE WEEK-NO [4] > [J-OAY-66-1 < 3] / 7 < 1.             | C98970 |
| 78190 | END-INIT-SN-WK. EXIT.                                       | C98970 |
| 78200 | START-BANK.   | C98970 |
| 78220 | START-BANK-A.   | C98970 |
| 78230 | PERFORM DATA-AVAIL THRU END-DATA-AVAIL.                     | C98970 |
| 78240 | IF CUN=WEEK GREATER THAN LAST-WEEK GO TO END-START-BANK.    | C98970 |
| 78250 | IF DATA-AVAIL-CODE EQUAL TO ZERO GO TO START-BANK-D.        | C98970 |
| 78260 | IF DATA-AVAIL-CODE EQUAL TO 2 GO TO START-BANK-B.           | C98970 |
| 78270 | IF DATA-AVAIL-CODE EQUAL TO 4 GO TO START-BANK-D.           | C98970 |
| 78280 | IF DATA-AVAIL-CODE EQUAL TO 6 GO TO START-BANK-B.           | C98970 |
| 78281 | IF DATA-WEEK-1 IS EQUAL TO ZERO GO TO START-BANK-I.         | C98970 |
| 78282 | IF DATA-WEEK-4 IS EQUAL TO ZERO GO TO START-BANK-O.         | C98970 |
| 78290 | GO TO END-START-BANK.                                       | C98970 |
| 78300 | NOTL IRAN DATA AVAILABLE.                                   | C98970 |
| 78310 | START-BANK-B.   | C98970 |
| 78320 | PERFORM RESET-IRAN THRU END-RESET.                          | C98970 |
| 78330 | PERFORM PROC-IRAN THRU END-PROC-IRAN.                       | C98970 |
| 78340 | MOVE ZERO TO NO-WEEK-PROC.                                  | C98970 |
| 78350 | PERFORM READ-IRAN THRU END-READ-IRAN.                       | C98970 |
| 78360 | IF FILE-DATA-2 EQUAL TO ZERO GO TO START-BANK-C.            | C98970 |
| 78370 | MOVE SER-NO-IRAN TO SER-NO [2].                             | C98970 |
| 78380 | COMPUTE WEEK-NO [2] > [IRAN-START-DAY < 3] / 7 < 1.         | C98970 |
| 78390 | GO TO START-BANK-A.   | C98970 |
| 78400 | START-BANK-C.   | C98970 |
| 78410 | MOVE LOI-S-N TO SER-NO [2].                                 | C98970 |
| 78420 | MOVE LOI-JDAY TO WEEK-NO [2].                               | C98970 |
| 78430 | GO TO START-BANK-A.   | C98970 |
| 78440 | START-BANK-U.   | C98970 |
| 78450 | ADD ONE TO CUR-WEEK.  | C98970 |
| 78460 | ADD ONE TO NO-WEEK-PROC.                                    | C98970 |
| 78470 | IF DATA-AVAIL-CODE EQUAL TO ZERO GO TO START-BANK-A.        | C98970 |
| 78480 | START-BANK-E.   | C98970 |
| 78490 | PERFORM READ-AIE THRU END-READ-AIE.                         | C98970 |
| 78500 | IF FILE-DATA-3 EQUAL TO ZERO GO TO START-BANK-H.            | C98970 |
| 78510 | IF SER-NO-AIE NOT EQUAL TO CUR-S-N GO TO START-BANK-B.      | C98970 |
| 78520 | COMPUTE WEEK-NO-COMP > [J-DAY-AIE < 3] / 7 < 1.             | C98970 |



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| 78530 | IF WEEK-NO-COMP LESS THAN CUR-WEEK GO TO START-BANK-E.       | C98970 |
| 78540 | START-BANK-F.  | C98970 |
| 78550 | MOVE WEEK-NO-COMP TO WEEK-NO [3].                            | C98970 |
| 78560 | GO TO START-BANK-A.  | C98970 |
| 78570 | START-BANK-U.  | C98970 |
| 78580 | MOVE SER-NO-A1E TO SER-NO [3].                               | C98970 |
| 78585 | COMPUTE WEEK-NO-COMP > [J-DAY-A1E < 3] / 7 < 1.              | C98970 |
| 78590 | GO TO START-BANK-F.  | C98970 |
| 78600 | START-BANK-H.  | C98970 |
| 78610 | MOVE EOF-S-N TO SER-NO [3].                                  | C98970 |
| 78620 | MOVE EOF-JDAY TO WEEK-NO [3].                                | C98970 |
| 78630 | GO TO START-BANK-A.  | C98970 |
| 78640 | START-BANK-I.  | C98970 |
| 78641 | NOTE UPSPACE 66-1.   | C98970 |
| 78642 | ADD ONE TO CUR-WEEK.   | C98970 |
| 78643 | ADD ONE TO NO-WEEK-PROC.                                     | C98970 |
| 78645 | START-BANK-J.  | C98970 |
| 78646 | PERFORM READ-66-1 THRU END-READ-66-1.                        | C98970 |
| 78647 | IF FILE-DATA-4 EQUAL TO ZERO GO TO START-BANK-K.             | C98970 |
| 78648 | IF SER-NO-66-1 IS NOT EQUAL TO CUR-S-N GO TO START-BANK-L.   | C98970 |
| 78649 | COMPUTE WEEK-NO-COMP > [J-DAY-66-1 < 3] / 7 < 1.             | C98970 |
| 78650 | IF WEEK-NO-COMP LESS THAN CUR-WEEK GO TO START-BANK-J.       | C98970 |
| 78651 | START-BANK-M.  | C98970 |
| 78652 | MOVE WEEK-NO-COMP TO WEEK-NO [4].                            | C98970 |
| 78653 | GO TO START-BANK-A.  | C98970 |
| 78654 | START-BANK-L.  | C98970 |
| 78655 | MOVE SER-NO-66-1 TO SER-NO [4].                              | C98970 |
| 78656 | COMPUTE WEEK-NO-COMP > [J-DAY-66-1 < 3] / 7 < 1.             | C98970 |
| 78657 | GO TO START-BANK-M.  | C98970 |
| 78658 | START-BANK-N.  | C98970 |
| 78659 | MOVE EOF-S-N TO SER-NO [4].                                  | C98970 |
| 78660 | MOVE EOF-JDAY TO WEEK-NO [4].                                | C98970 |
| 78661 | GO TO START-BANK-A.  | C98970 |
| 78670 | START-BANK-O.  | C98970 |
| 78671 | NOTE UPSPACE 65-110.   | C98970 |
| 78672 | ADD ONE TO CUR-WEEK.   | C98970 |
| 78673 | ADD ONE TO NO-WEEK-PROC.                                     | C98970 |
| 78675 | START-BANK-P.  | C98970 |
| 78676 | PERFORM READ-65-110 THRU END-READ-65-110.                    | C98970 |
| 78677 | IF FILE-DATA-3 EQUAL TO ZERO GO TO START-BANK-Q.             | C98970 |
| 78678 | IF SER-NO-65-110 IS NOT EQUAL TO CUR-S-N GO TO START-BANK-Q. | C98970 |
| 78679 | COMPUTE WEEK-NO-COMP > [J-DAY-65-110 < 3] / 7 < 1.           | C98970 |
| 78680 | IF WEEK-NO-COMP LESS THAN CUR-WEEK GO TO START-BANK-R.       | C98970 |
| 78681 | START-BANK-S.  | C98970 |
| 78682 | MOVE WEEK-NO-COMP TO WEEK-NO [1].                            | C98970 |
| 78683 | GO TO START-BANK-A.  | C98970 |
| 78684 | START-BANK-U.  | C98970 |
| 78685 | MOVE SER-NO-65-110 TO SER-NO [1].                            | C98970 |
| 78686 | COMPUTE WEEK-NO-COMP > [J-DAY-65-110 < 3] / 7 < 1.           | C98970 |
| 78687 | GO TO START-BANK-S.  | C98970 |
| 78688 | START-BANK-P.  | C98970 |
| 78689 | MOVE EOF-S-N TO SER-NO [1].                                  | C98970 |
| 78690 | MOVE EOF-JDAY TO WEEK-NO [1].                                | C98970 |
| 78691 | GO TO START-BANK-A.  | C98970 |
| 78699 | END-START-BANK. EXIT.  | C98970 |
| 78700 | FILES-EOF.   | C98970 |
| 78720 | FILES-EOF-A.   | C98970 |
| 78730 | COMPUTE ALL-EOF > FILE-DATA [1] < FILE-DATA [2]              | C98970 |
| 78740 | < FILE-DATA [3] < FILE-DATA [4].                             | C98970 |
| 78750 | IF ALL-EOF EQUAL TO ZERO                                     | C98970 |
| 78760 | GO TO END-FILES-EOF.   | C98970 |
| 78770 | FILES-EOF-H.   | C98970 |
| 78780 | PERFORM ST-SN-WK THRU END-ST-SN-WK.                          | C98970 |
| 78790 | COMPUTE FILE-NO > FILE-LOW-DATA.                             | C98970 |
| 78800 | IF SER-NO [2] GREATER THAN SER-NO [FILE-NO]                  | C98970 |
| 78810 | GO TO FILES-EOF-C.   | C98970 |
| 78820 | MOVE WEEK-NO [FILE-NO] TO TEMP.                              | C98970 |
| 78821 | IF TEMP IS GREATER THAN LAST-WEEK                            | C98970 |
| 78830 | GO TO FILES-EOF-C.   | C98970 |
| 78840 | IF CUR-S-N LESS THAN SER-NO [FILE-NO]                        | C98970 |
| 78850 | GO TO END-FILES-EOF.   | C98970 |
| 78860 | FILES-EOF-C.   | C98970 |
| 78870 | GO TO FILES-EOF-O, FILES-EOF-E, FILES-EOF-F, FILES-EOF-G,    | C98970 |
| 78880 | DEPENDING ON FILE-LOW-DATA.                                  | C98970 |
| 78890 | FILES-EOF-O.   | C98970 |
| 78900 | PERFORM READ-65-110 THRU END-READ-65-110.                    | C98970 |
| 78910 | IF FILE-DATA-1 EQUAL TO ZERO GO TO FILES-EOF-A.              | C98970 |
| 78920 | IF SER-NO-65-110 LESS THAN CUR-S-N GO TO FILES-EOF-D.        | C98970 |
| 78930 | MOVE SER-NO-65-110 TO SER-NO [1].                            | C98970 |
| 78940 | COMPUTE WEEK-NO-COMP > [J-DAY-65-110 < 3] / 7 < 1.           | C98970 |
| 78950 | MOVE WEEK-NO-COMP TO WEEK-NO [1].                            | C98970 |
| 78960 | GO TO FILES-EOF-R.   | C98970 |
| 78970 | FILES-EOF-E.   | C98970 |
| 78980 | PERFORM READ-IRAN THRU END-READ-IRAN.                        | C98970 |
| 78990 | IF FILE-DATA-2 EQUAL TO ZERO GO TO FILES-EOF-A.              | C98970 |
| 79000 | IF SER-NO-IRAN LESS THAN CUR-S-N GO TO FILES-EOF-E.          | C98970 |
| 79010 | MOVE SER-NO-IRAN TO SER-NO [2].                              | C98970 |

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| 79020 | COMPUTE WEEK-NO-COMP > [IRAN-START-DAY < 3] / 7 < 1. | C98970 |
| 79030 | MOVE WELK-NO-COMP TO WEEK-NO [2].                    | C98970 |
| 79040 | GO TO FILES-EOF-B.                                   | C98970 |
| 79050 | FILES-EOF-F.   | C98970 |
| 79060 | PERFORM READ-AIE THRU END-READ-AIE.                  | C98970 |
| 79070 | IF FILE-DATA-3 EQUAL TO ZERO GO TO FILES-EOF-A.      | C98970 |
| 79080 | IF SER-NO-AIE LESS THAN CUR-S-N GO TO FILES-EOF-F.   | C98970 |
| 79090 | MOVE SER-NO-AIE TO SER-NO [3].                       | C98970 |
| 79100 | COMPUTE WEEK-NO-COMP > [J-DAY-AIE < 3] / 7 < 1.      | C98970 |
| 79110 | MOVE WEEK-NO-COMP TO WEEK-NO [3].                    | C98970 |
| 79120 | GO TO FILES-EOF-B.                                   | C98970 |
| 79130 | FILES-EOF-G.   | C98970 |
| 79140 | PERFORM READ-66-1 THRU END-READ-66-1.                | C98970 |
| 79150 | IF FILE-DATA-4 EQUAL TO ZERO GO TO FILES-EOF-A.      | C98970 |
| 79160 | IF SER-NO-66-1 LESS THAN CUR-S-N GO TO FILES-EOF-F.  | C98970 |
| 79170 | MOVE SER-NO-66-1 TO SER-NO [4].                      | C98970 |
| 79180 | COMPUTE WEEK-NO-COMP > [J-DAY-66-1 < 3] / 7 < 1.     | C98970 |
| 79190 | MOVE WELK-NO-COMP TO WEEK-NO [4].                    | C98970 |
| 79200 | GO TO FILES-EOF-B.                                   | C98970 |
| 79210 | END-FILES-EOF. EXIT.                                 | C98970 |
| 79500 | DATA-AVAIL.  | C98970 |
| 79510 | MOVE ZERO TO DATA-AVAIL-CODE.                        | C98970 |
| 79520 | MOVE ONE TO FILE-NO.                                 | C98970 |
| 79530 | DATA-AVAIL-A.  | C98970 |
| 79540 | MOVE ZERO TO DATA-WEEK [FILE-NO].                    | C98970 |
| 79550 | IF SER-NO [FILE-NO] NOT EQUAL TO CUR-S-N.            | C98970 |
| 79560 | GO TO DATA-AVAIL-B.                                  | C98970 |
| 79570 | MOVE WELK-NO [FILE-NO] TO TEMP.                      | C98970 |
| 79571 | IF TEMP IS NOT EQUAL TO CUR-WEEK.                    | C98970 |
| 79580 | GO TO DATA-AVAIL-B.                                  | C98970 |
| 79590 | MOVE ONE TO DATA-WEEK [FILE-NO].                     | C98970 |
| 79600 | COMPUTE KNR > 2 * [FILE-NO - 1].                     | C98970 |
| 79610 | COMPLETE DATA-AVAIL-CODE > DATA-AVAIL-CODE < KNR.    | C98970 |
| 79620 | DATA-AVAIL-B.  | C98970 |
| 79630 | ADD 1 TO FILE-NO.                                    | C98970 |
| 79640 | IF FILE-NO LESS THAN 5, GO TO DATA-AVAIL-A.          | C98970 |
| 79650 | END-DATA-AVAIL.                                      | C98970 |
| 79660 | EXIT.  | C98970 |
| 80000 | RESET-SER-NO.  | C98970 |
| 80010 | MOVE NINE-X1 TO SERIES-TYPE-1.                       | C98970 |
| 80020 | MOVE NINE-X1 TO SERIES-TYPE-2.                       | C98970 |
| 80030 | MOVE NINE-X1 TO SERIES-TYPE-3.                       | C98970 |
| 80040 | MOVE NINE-X1 TO SERIES-TYPE-4.                       | C98970 |
| 80050 | NOTE THIS SETS SERIES TO 9 IN ALL OUTPUT FILES.      | C98970 |
| 80200 | RESET-WELK.  | C98970 |
| 80221 | MOVE ZERO TO POS-TABLE-3.                            | C98970 |
| 80222 | MOVE ZERO TO POS-TABLE-4.                            | C98970 |
| 80230 | MOVE NINE-94 TO FLT-TIME-TYPE-1.                     | C98970 |
| 80240 | MOVE NINE-94 TO SORTIES-TYPE-1.                      | C98970 |
| 80250 | MOVE NINE-94 TO LANDINGS-TYPE-1.                     | C98970 |
| 80260 | MOVE NINE-93 TO IRAN-VIS-NO-TYPE-2.                  | C98970 |
| 80270 | MOVE NINE-93 TO IRAN-CODE-TYPE-2.                    | C98970 |
| 80280 | MOVE NINE-94 TO IRAN-START-DAY-TYPE-2.               | C98970 |
| 80290 | MOVE NINE-94 TO IRAN-END-DAY-TYPE-2.                 | C98970 |
| 80300 | MOVE SPACE TO REC-65-110-TYPE-1-ONLY.                | C98970 |
| 80400 | MOVE 1 TO KNT.                                       | C98970 |
| 80410 | RESET-TABLE-3.                                       | C98970 |
| 80420 | MOVE NINE-X5 TO TABLE-3-WUC [KNT].                   | C98970 |
| 80430 | MOVE NINE-93 TO TABLE-3-UNITS [KNT].                 | C98970 |
| 80440 | MOVE NINE-94 TO TABLE-3-LABOR [KNT].                 | C98970 |
| 80450 | MOVE NINE-94 TO TABLE-3-NORM [KNT].                  | C98970 |
| 80455 | MOVE NINE-93 TO TABLE-3-UNITS-ATC [KNT].             | C98970 |
| 80460 | MOVE NINE-94 TO TABLE-3-MORS [KNT].                  | C98970 |
| 80470 | ADD 1 TO KNT.  | C98970 |
| 80480 | IF KNT IS LESS THAN TAB-SIZ-1 GO TO RESET-TABLE-3.   | C98970 |
| 80490 | MOVE 1 TO KNT.                                       | C98970 |
| 80500 | RESET-TABLE-4.                                       | C98970 |
| 80510 | MOVE NINE-X5 TO TABLE-4-WUC [KNT].                   | C98970 |
| 80520 | MOVE NINE-X1 TO TABLE-4-WDC [KNT].                   | C98970 |
| 80620 | MOVE NINE-X3 TO TABLE-4-HMC [KNT].                   | C98970 |
| 80630 | MOVE NINE-93 TO TABLE-4-UNITS [KNT].                 | C98970 |
| 80640 | MOVE NINE-94 TO TABLE-4-MHRS [KNT].                  | C98970 |
| 80680 | ADD 1 TO KNT.  | C98970 |
| 80690 | IF KNT IS LESS THAN TAB-SIZ-1 GO TO RESET-TABLE-4.   | C98970 |
| 80800 | RESET-AIE.   | C98970 |
| 80810 | MOVE 1 TO KNT.                                       | C98970 |
| 80820 | RESET-AIE-1.   | C98970 |
| 80830 | MOVE ZERO TO TABLE-3-AIE [KNT].                      | C98970 |
| 80831 | MOVE SPACE TO TABLE-3-WUC [KNT].                     | C98970 |
| 80840 | ADD 1 TO KNT.  | C98970 |
| 80850 | IF KNT IS LESS THAN TAB-SIZ-1 GO TO RESET-AIE-1.     | C98970 |
| 80870 | MOVE SPACE TO SERIES-TYPE-3.                         | C98970 |
| 80890 | GO TO END-RESET.                                     | C98970 |
| 81000 | RESET-65-110.  | C98970 |
| 81010 | MOVE ZERO TO FLT-TIME-TYPE-1.                        | C98970 |
| 81020 | MOVE ZERO TO SORTIES-TYPE-1.                         | C98970 |

|       |  |        |
|-------|--|--------|
| 81030 | MOVE ZERO TO LANDINGS-TYPE-1.                                | C98970 |
| 81040 | MOVE SPACE TO SERIES-TYPE-3.                                 | C98970 |
| 81050 | MOVE SPACE TO SERIES-TYPE-1.                                 | C98970 |
| 81090 | MOVE 1 TO KNT.   | C98970 |
| 81100 | SET-TABLE-3-65-110.  | C98970 |
| 81110 | MOVE SPACE TO TABLE-3-WUC [KNT].                             | C98970 |
| 81120 | MOVE ZERO TO TABLE-3-UNITS [KNT].                            | C98970 |
| 81130 | MOVE ZERO TO TABLE-3-LABOR [KNT].                            | C98970 |
| 81140 | MOVE ZERO TO TABLE-3-NORM [KNT].                             | C98970 |
| 81150 | MOVE ZERO TO TABLE-3-NORS [KNT].                             | C98970 |
| 81160 | ADD . TO KNT.  | C98970 |
| 81170 | IF KNT IS LESS THAN TAB-SIZ-1 GO TO SET-TABLE-3-65-110.      | C98970 |
| 81290 | GO TO END-RESET.   | C98970 |
| 81400 | RESET-IRAN.  | C98970 |
| 81410 | MOVE NINE-93 TO IRAN-VIS-NO-TYPE-2.                          | C98970 |
| 81420 | MOVE NINE-93 TO IRAN-CODE-TYPE-2.                            | C98970 |
| 81430 | MOVE NINE-94 TO IRAN-START-DAY-TYPE-2.                       | C98970 |
| 81440 | MOVE NINE-94 TO IRAN-END-DAY-TYPE-2.                         | C98970 |
| 81450 | MOVE SPACE TO SERIES-TYPE-2.                                 | C98970 |
| 81490 | GO TO END-RESET.   | C98970 |
| 81600 | RESET-66-1.  | C98970 |
| 81610 | MOVE 1 TO KNT.   | C98970 |
| 81620 | SET-TABLE-4-66-1.  | C98970 |
| 81630 | MOVE SPACE TO TABLE-4-WUC [KNT].                             | C98970 |
| 81640 | MOVE ZERO TO TABLE-3-UNITS [KNT].                            | C98970 |
| 81641 | MOVE ZERO TO TABLE-3-LABOR [KNT].                            | C98970 |
| 81642 | MOVE SPACE TO TABLE-3-WUC [KNT].                             | C98970 |
| 81643 | MOVE ZERO TO TABLE-3-UNITS-ATC [KNT].                        | C98970 |
| 81650 | MOVE SPACE TO TABLE-4-WUC [KNT].                             | C98970 |
| 81690 | MOVE SPACE TO TABLE-4-HMC [KNT].                             | C98970 |
| 81700 | MOVE ZERO TO TABLE-4-UNITS [KNT].                            | C98970 |
| 81710 | MOVE ZERO TO TABLE-4-MHRS [KNT].                             | C98970 |
| 81740 | ADD 1 TO KNT.  | C98970 |
| 81750 | IF KNT IS LESS THAN TAB-SIZ-1 GO TO SET-TABLE-4-66-1.        | C98970 |
| 81780 | MOVE SPACE TO SERIES-TYPE-4.                                 | C98970 |
| 81790 | END-RESET. EXIT.   | C98970 |
| 86000 | READ-WUC-LIST.   | C98970 |
| 86010 | MOVE ZERO TO KNB.  | C98970 |
| 86020 | READ-L-W-1.  | C98970 |
| 86025 | ADD . TO KNB.  | C98970 |
| 86030 | READ IN-FILE-WUC AT END GO TO END-READ-WUC-LIST.             | C98970 |
| 86040 | MOVE IN-REC-WUC TO LIST-WUC [KNB].                           | C98970 |
| 86060 | IF KNB IS LESS THAN MAX-NUM-WUC GO TO READ-L-W-1.            | C98970 |
| 86070 | END-READ-WUC-LIST. EXIT.                                     | C98970 |
| 87000 | ST-SN-WK.  | C98970 |
| 87020 | MOVE EOF-S-N TO SN-TEMP.                                     | C98970 |
| 87030 | MOVE ONE TO FILE-NO.   | C98970 |
| 87040 | ST-SN-WK-A.  | C98970 |
| 87048 | MOVE FILE-DATA [FILE-NO] TO TEMP.                            | C98970 |
| 87050 | IF TEMP IS EQUAL TO ZERO, GO TO ST-SN-WK-B.                  | C98970 |
| 87060 | IF SFR-I.O [FILE-NO] GREATER THAN SN-TEMP, GO TO ST-SN-WK-B. | C98970 |
| 87070 | MOVE FILE-NO TO FILE-LOW-DATA.                               | C98970 |
| 87080 | MOVE SER-NO [FILE-NO] TO SN-TEMP.                            | C98970 |
| 87090 | ST-SN-WK-B.  | C98970 |
| 87100 | ADD ONE TO FILE-NO.  | C98970 |
| 87110 | IF FILE-NO LESS THAN 5, GO TO ST-SN-WK-A.                    | C98970 |
| 87130 | MOVE EOF-JDAY TO WEEK-NO-COMP.                               | C98970 |
| 87140 | MOVE ONE TO FILE-NO.   | C98970 |
| 87150 | ST-SN-WK-D.  | C98970 |
| 87160 | MOVE FILE-DATA [FILE-NO] TO TEMP.                            | C98970 |
| 87161 | IF TEMP IS EQUAL TO ZERO GO TO ST-SN-WK-E.                   | C98970 |
| 87170 | IF SER-NO [FILE-NO] NOT EQUAL TO SN-TEMP, GO TO ST-SN-WK-E.  | C98970 |
| 87180 | MOVE WEEK-NO [FILE-NO] TO TEMP.                              | C98970 |
| 87181 | IF TEMP IS GREATER THAN WEEK-NO-COMP, GO TO                  | C98970 |
| 87190 | ST-SN-WK-E.  | C98970 |
| 87200 | MOVE FILE-NO TO FILE-LOW-DATA.                               | C98970 |
| 87210 | MOVE WEEK-NO [FILE-NO] TO WEEK-NO-COMP.                      | C98970 |
| 87220 | ST-SN-WK-E.  | C98970 |
| 87230 | ADD ONE TO FILE-NO.  | C98970 |
| 87240 | IF FILE-NO LESS THAN 5, GO TO ST-SN-WK-D.                    | C98970 |
| 87250 | END-ST-SN-WK. EXIT.  | C98970 |
| 88000 | SN-WK-65-110.  | C98970 |
| 88030 | SN-WK-65-110-A.  | C98970 |
| 88040 | PERFORM PROC-65-110 THRU END-PROC-65-110.                    | C98970 |
| 88050 | PERFORM READ-65-110 THRU END-READ-65-110.                    | C98970 |
| 88060 | IF FILE-DATA-1 IS EQUAL TO ZERO, GO TO SN-WK-65-110-C.       | C98970 |
| 88070 | COMPUTE WEEK-NO-COMP > [J-DAY-65-110 < 3] / 7 < 1.           | C98970 |
| 88080 | IF SER-NO-65-110 NOT EQUAL TO CUR-S-N, GO TO SN-WK-65-110-B. | C98970 |
| 88090 | IF WEEK-NO-COMP NOT EQUAL TO CUR-WEEK, GO TO SN-WK-65-110-B. | C98970 |
| 88100 | GO TO SN-WK-65-110-A.  | C98970 |
| 88110 | SN-WK-65-110-B.  | C98970 |
| 88120 | MOVE SER-NO-65-110 TO SER-NO [1].                            | C98970 |
| 88130 | MOVE WEEK-NO-COMP TO WEEK-NO [1].                            | C98970 |
| 88140 | GO TO END-SN-WK-65-110.                                      | C98970 |
| 88150 | SN-WK-65-110-C.  | C98970 |
| 88160 | MOVE EOF-S-N TO SER-NO [1].                                  | C98970 |
| 88170 | MOVE EOF-JDAY TO WEEK-NO [1].                                | C98970 |

|       |  |        |
|-------|--|--------|
| 88180 | END-SN-WK-65-110.  | C98970 |
| 88190 | EXIT.  | C98970 |
| 88200 | SN-WK-IRAN.  | C98970 |
| 88230 | SN-WK-IRAN-A.  | C98970 |
| 88240 | PERFORM PROC-IRAN THRU END-PROC-IRAN.                      | C98970 |
| 88250 | PERFORM READ-IRAN THRU END-READ-IRAN.                      | C98970 |
| 88260 | IF FILE-OATA-2 IS EQUAL TO ZERO, GO TO SN-WK-IRAN-C.       | C98970 |
| 88270 | COMPUTE WEEK-NO-COMP > [IRAN-START-DAY < 3] / 7 < 1.       | C98970 |
| 88280 | IF SER-NO-IRAN NOT EQUAL TO CUR-S-N, GO TO SN-WK-IRAN-B.   | C98970 |
| 88290 | IF WEEK-NO-COMP NOT EQUAL TO CUR-WEEK, GO TO SN-WK-IRAN-B. | C98970 |
| 88300 | GO TO SN-WK-IRAN-A.  | C98970 |
| 88310 | SN-WK-IRAN-B.  | C98970 |
| 88320 | MOVE SER-NO-IRAN TO SER-NO [2].                            | C98970 |
| 88330 | MOVE WEEK-NO-COMP TO WEEK-NO [2].                          | C98970 |
| 88340 | GO TO END-SN-WK-IRAN.                                      | C98970 |
| 88350 | SN-WK-IRAN-C.  | C98970 |
| 88360 | MOVE EOF-S-N TO SER-NO [2].                                | C98970 |
| 88370 | MOVE EOF-JDAY TO WEEK-NO [2].                              | C98970 |
| 88380 | END-SN-WK-IRAN.  | C98970 |
| 88390 | EXIT.  | C98970 |
| 88400 | SN-WK-AIE.   | C98970 |
| 88430 | SN-WK-AIE-A.   | C98970 |
| 88440 | PERFORM PROC-AIE THRU END-PROC-AIE.                        | C98970 |
| 88450 | PERFORM READ-AIE THRU END-READ-AIE.                        | C98970 |
| 88460 | IF FILE-OATA-3 IS EQUAL TO ZERO, GO TO SN-WK-AIE-C.        | C98970 |
| 88470 | COMPUTE WEEK-NO-COMP > [J-DAY-AIE < 3] / 7 < 1.            | C98970 |
| 88480 | IF SER-NO-AIE NOT EQUAL TO CUR-S-N, GO TO SN-WK-AIE-B.     | C98970 |
| 88490 | IF WEEK-NO-COMP NOT EQUAL TO CUR-WEEK, GO TO SN-WK-AIE-B.  | C98970 |
| 88500 | GO TO SN-WK-AIE-A.   | C98970 |
| 88510 | SN-WK-AIE-B.   | C98970 |
| 88520 | MOVE SER-NO-AIE TO SER-NO [3].                             | C98970 |
| 88530 | MOVE WEEK-NO-COMP TO WEEK-NO [3].                          | C98970 |
| 88540 | GO TO END-SN-WK-AIE.                                       | C98970 |
| 88550 | SN-WK-AIE-C.   | C98970 |
| 88560 | MOVE EOF-S-N TO SER-NO [3].                                | C98970 |
| 88570 | MOVE EOF-JDAY TO WEEK-NO [3].                              | C98970 |
| 88580 | END-SN-WK-AIE.   | C98970 |
| 88590 | EXIT.  | C98970 |
| 88600 | SN-WK-66-1.  | C98970 |
| 88630 | SN-WK-66-1-A.  | C98970 |
| 88640 | PERFORM PROC-66-1 THRU END-PROC-66-1.                      | C98970 |
| 88650 | PERFORM READ-66-1 THRU END-READ-66-1.                      | C98970 |
| 88660 | IF FILE-DATA-4 IS EQUAL TO ZERO, GO TO SN-WK-66-1-C.       | C98970 |
| 88670 | COMPUTE WEEK-NO-COMP > [J-DAY-66-1 < 3] / 7 < 1.           | C98970 |
| 88680 | IF SER-NO-66-1 NOT EQUAL TO CUR-S-N, GO TO SN-WK-66-1-B.   | C98970 |
| 88690 | IF WEEK-NO-COMP NOT EQUAL TO CUR-WEEK, GO TO SN-WK-66-1-B. | C98970 |
| 88700 | GO TO SN-WK-66-1-A.  | C98970 |
| 88710 | SN-WK-66-1-B.  | C98970 |
| 88720 | MOVE SER-NO-66-1 TO SER-NO [4].                            | C98970 |
| 88730 | MOVE WEEK-NO-COMP TO WEEK-NO [4].                          | C98970 |
| 88740 | GO TO END-SN-WK-66-1.                                      | C98970 |
| 88750 | SN-WK-66-1-C.  | C98970 |
| 88760 | MOVE EOF-S-N TO SER-NO [4].                                | C98970 |
| 88770 | MOVE EOF-JDAY TO WEEK-NO [4].                              | C98970 |
| 88780 | END-SN-WK-66-1.  | C98970 |
| 88790 | EXIT.  | C98970 |
| 90000 | READ-OATA-IN-FILE.   | C98970 |
| 90010 | READ OATA-IN-FILE INTO OATA-IN-A;                          | C98970 |
| 90020 | AT END GO TO END-RDIF.                                     | C98970 |
| 90030 | READ OATA-IN-FILE INTO OATA-IN-B;                          | C98970 |
| 90040 | AT END GO TO END-RDIF.                                     | C98970 |
| 90050 | MOVE ZERO TO KNT.  | C98970 |
| 90060 | MOVE MISSION-IN TO MISSION-TYPE-1, MISSION-TYPE-2          | C98970 |
| 90070 | MISSION-TYPE-3, MISSION-TYPE-4.                            | C98970 |
| 90080 | MOVE DESIGN-IN TO DESIGN-TYPE-1, DESIGN-TYPE-2,            | C98970 |
| 90090 | DESIGN-TYPE-3, DESIGN-TYPE-4.                              | C98970 |
| 90100 | ROIF-A.  | C98970 |
| 90110 | READ OATA-IN-FILE INTO OATA-IN-C;                          | C98970 |
| 90120 | AT END GO TO END-RDIF.                                     | C98970 |
| 90130 | ADD 1 TO KNT.  | C98970 |
| 90140 | MOVE X-CODE TO LIST-ATC [KNT].                             | C98970 |
| 90150 | IF KNT IS LESS THAN NUM-ATC GO TO ROIF-A.                  | C98970 |
| 90200 | READ OATA-IN-FILE INTO OATA-IN-D;                          | C98970 |
| 90210 | AT END GO TO END-RDIF.                                     | C98970 |
| 90220 | MOVE ZERO TO KNT.  | C98970 |
| 90300 | ROIF-B.  | C98970 |
| 90310 | READ OATA-IN-FILE INTO OATA-IN-C;                          | C98970 |
| 90320 | AT END GO TO END-RDIF.                                     | C98970 |
| 90330 | ADD 1 TO KNT.  | C98970 |
| 90340 | MOVE X-CODE TO NOR-CODE [KNT].                             | C98970 |
| 90350 | IF KNT IS LESS THAN NUM-N-CODES GO TO ROIF-B.              | C98970 |
| 90400 | READ OATA-IN-FILE INTO OATA-IN-E;                          | C98970 |
| 90410 | AT END GO TO END-RDIF.                                     | C98970 |
| 90420 | MOVE ZERO TO KNT.  | C98970 |
| 90430 | ROIF-C.  | C98970 |
| 90440 | READ OATA-IN-FILE INTO OATA-IN-F;                          | C98970 |
| 90450 | AT END GO TO END-RDIF.                                     | C98970 |

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90460      ADD 1 TO KNT.                                C98970
90470      MOVE ENG=WUC-IN TO ENGINE=WUC [KNT].        C98970
90480      IF KNT IS LESS THAN NUM-ENG=WUC GO TO RDIF-C. C98970
90500      READ DATA-IN-FILE INTO DATA-IN=0.         C98970
90510                                     AT END GO TO END-RDIF. C98970
90520      MOVE ZEHO TO KNT.                            C98970
90530      RDIF-D.                                       C98970
90540      READ DATA-IN-FILE INTO DATA-IN-H.         C98970
90550                                     AT END GO TO END-RDIF. C98970
90560      ADD 1 TO KNT.                                C98970
90570      MOVE WUC-2DIG-IN TO WUC-POS-TYPE [KNT].     C98970
90580      MOVE FIRST-POSITION TO WUC-POS-START [KNT]. C98970
90590      MOVE LAST-POSITION TO WUC-POS-END [KNT].    C98970
90600      IF KNT IS LESS THAN NUM=WUC-GROUPS GO TO RDIF-D. C98970
90900      END-RDIF. EXIT.                              C98970

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/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG,TFGIN  DJ  *,SPACE)(CYL,(1,1))
00000      GET TFO:                                     WANG
010001 019999 REPLACE                                 C98970
TFG DT01 11 0202080                                  'T
03 04 57000230 0 357 F106 150

```

```

3
P
R
S
17 9
NUMBER OF ATC.
NUMBER OF NOR-NORM

```

A  
B  
C  
D  
E  
F  
G  
H  
K  
M  
N  
P  
R  
S  
T  
V  
W

```

7
23A
23B
23C
23D
23E
23G
23Z
22 2201
NUM WUC GROUPS, NUM WUC

```

```

11 1 250
12 251 288
13 289 403
14 404 498
23 499 745
41 746 848
42 849 895
44 896 919
45 920 1024
46 1025 1167
47 1168 1196
49 1197 1216
51 1217 1258
52 1259 1308
55 1309 1316
63 1317 1326
65 1327 1384
71 1385 1430
74 1431 1983
75 1984 2166
93 2167 2188
97 2189 2201

```

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*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU12  DU  DISP>(OLD,KEEP),VOL>SER>+F1,UNIT>T+F1 T12
//TPR,TU14  CJ  DISP>(OLD,KEEP),VOL>SER>+F3,UNIT>T+F3 T14
//TPR,TU15  CJ  DISP>(OLD,KEEP),VOL>SER>+F4,UNIT>T+F4 T15
//TPR,TU22  DO  DISP>(OLD,KEEP),VOL>SER>+F8,UNIT>T+F8 T22
//TPR,TU24  DO  DISP>(OLD,KEEP),VOL>SER>+F7,UNIT>T+F7 T24
//TPR,TU28  LJ  DISP>(OLD,KEEP),VOL>SER>+F8,UNIT>T+F8 T28
//TPR,TPRIN  FD  *,SPACE)(TRK,(1,1))
T/P DT01 10100802080
T/P TU22 19480502050
/* PLACE COBOL SOURCE BEFORE THIS CARD

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74COE 74CAE  
74CRI 74CCI  
74CHA 74CCA  
74CHB 74CCB  
74CHC 74CCC  
74CHD 74CCD  
74CHE 74CCL  
74CHF 74CCF  
74CRG 74CCG  
74CRH 74CCH  
74CRJ 74CCJ  
74CRK 74CCK  
74CRL 74CCL  
74CCL 74CDI  
74CS1 74CF1  
74CSA 74CFA  
74CSB 74CFB  
74CE1 74CG1  
74CF1 74CH1  
74CFA 74CHA  
74CT1 74CJ1  
74CTA 74CJA  
74CTB 74CJB  
74CTC 74CJC  
74CTD 74CJD  
74CTE 74CJE  
74CG1 74DB1  
74CH1 74DC1  
74CHA 74DCA  
74CHB 74DCB  
74CHC 74DCC  
74CHE 74DCD  
74CHF 74DCE  
74CK1 74DD1  
74E00 74F00  
74EB1 74FA0  
74FF1 74FB1  
74FE1 74FC1  
74FEA 74FCA  
74FEB 74FCB  
74FEC 74FCC  
74FED 74FCD  
74FEE 74FCE  
74FEF 74FCF  
74FC1 74FD1  
74FCA 74FDA  
74FCB 74FDB  
74FCC 74FDC  
74FCD 74FDD  
74FCE 74FDE  
74FCF 74FDF  
74FCG 74FDG  
74FCH 74FDH  
74FCJ 74FDJ  
74FCK 74FDK  
74FCL 74FDL  
74FCM 74FDM  
74FCN 74FDN  
74FCP 74FDP  
74FCQ 74FDQ  
74FCR 74FDR  
74FCS 74FDS  
74FCT 74FDT  
74FCU 74FDU  
74FCV 74FDV  
74FCW 74FDW  
74FCX 74FDX  
74FCY 74FDY  
74FCZ 74FDZ  
74FC2 74FD2  
74FC3 74FD3  
74FC4 74FD4  
74FC5 74FD5  
74FC6 74FD6  
74FC7 74FD7  
74FC8 74FD8  
74FC9 74FD9  
74FDA 74FEA  
74FDB 74FEB  
74FB1 74FF1  
74FBA 74FFA  
74FBB 74FFB  
74FBC 74FFC  
74FBD 74FFD  
74FBE 74FFE  
74FBF 74FFF  
74FBG 74FFG

74FBH 74FFH  
 74FBJ 74FFJ  
 74FBK 74FFK  
 74FBL 74FFL  
 74FBM 74FFM  
 74EVI 74FGI  
 74EWI 74FHI  
 74EXI 74FJI  
 74EUI 74FUI  
 74KMI 74KUI  
 74KBI 74KCI  
 74KBB 74KCB  
 74KCI 74KDI  
 74KDI 74KEI  
 74KDB 74KEB  
 74KDC 74KEC  
 74KEI 74KEI  
 74KEB 74KEB  
 74KEI 74KEI  
 74KEA 74KEA  
 74KEB 74KEB  
 74KEC 74KEC  
 74KFD 74KGD  
 74KFE 74KGE  
 74KFF 74KGF  
 74KFG 74KGG  
 74KFH 74KGH  
 74KFJ 74KGJ  
 74KFK 74KFK  
 74KFL 74KGL  
 74KGI 74KMI  
 74KMA 74KJA  
 74KPI 74KKI  
 74KQI 74KLI  
 74KRI 74KMI  
 74KSI 74KNI  
 74KTI 74KPI  
 74KUI 74KUI  
 74CEA 74CGA  
 74KVI 74KRI  
 74G00 74P00  
 74GA1 74PA1  
 74GU1 74PB1  
 74GD1 74PC1  
 74BF1 74PD1  
 74GF1 74PE1  
 74GG1 74PF1  
 74GA 74PFA  
 74GH1 74PG1  
 74GJ1 74PH1  
 74GK1 74PJ1  
 74GL1 74PK1  
 74GM1 74PL1  
 74GP1 74PM1  
 74GQ1 74PN1  
 74GR1 74PP1  
 74GN1 74QA1  
 74GNA 74QAA

```

*END
/*
//C9897H EXEC C 1603N,TIME>01,ACCT>D35323007
//CHG.TU23 D7 DSN>P.9897551,DISP*(OLD,PASS) D23-IN
//CHG.TPR1N DL *.SPACE*(TRK,(1,1))
T/P TU23 101.0802080
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD
//C9897D EXEC P9622P,W>010,TIME>01,ACCT>D35323007
//CHG.SORTIN D7 DSN>P.9897551,DISP*(OLD,DELETE), CD22/23 1
// D7*(LRECL>0000,BLKSIZE>1600),LABEL*(,NSL,RETPD>000)
//CHG.SORTOUT D7 DSN>P.9897553,DISP*(,PASS),SPACE*(CTL,(001,001)), CD12/13 1
// D7*(LRECL>0000,BLKSIZE>1600)
//CHG.SYSIN C3 *.DCB*(BLKSIZE>0000,SPACE*(TRK,(1,1)))
SORT FIELDS*(002,005,CH,A),SIZE*(00000000
MOOS E15*(E15,000,SORTLIB,N),E18*(E18,024,SORTLIB,N)
/*
  
```



## 6.5.6 SORT WUC FOR DELETION

```
//C9897A EXEC C,60IN,TIME>01,ACCT>03532507
//CHG,1U22 DN DSN>P,9897590,DISP,X,PASS),SPACEXCYL,(001,001)) D22-OUT
//CHG,TF6IN DD @,SPACEXCYL,(1,1)) 1440 CDS
00000 @&T TFS WANG C98970'T
010001 019999 R_PLACE 'T
TFG TU22 11 020Z000

74AEF
74AEH
74DE1
74DF1
74DG1
74DZ1
74KAA
74KAB
74KCA
74KEA
74KED
74ALA
74AL1
74APA
74APB
74APC
74APF
74APG
74APH
74APJ
74APK
74APL
74APM
74APP
74APR
74APS
74APT
74APU
74APV
74APW
74APX
74APY
74APZ
74AP2
74AP3
74AP4
74AP5
74AP6
74AP7
74ARB
74ARC
74ATA
74AU1
74BBA
74BB1
74BD1
74BKA
74BKB
74BRR
74BRB
74BS1
74BXA
74CD1
74CGA
74DB1
74DCA
74DCB
74DCC
74DCD
74DCE
74DC1
74DD1
74BY1
74CAB
74CAC
74CAD
74CAE
74CCA
74CCB
74CCC
74CCD
74CCE
74CCF
74CCG
74CCM
74CCJ
74CCR
```

74CCL  
74CFB  
74CJA  
74CJB  
74CJC  
74CJD  
74CJE  
74CJI  
74FA0  
74FK1  
74FG1  
74FH1  
74FJ1  
74F00  
74FFA  
74FFB  
74FFC  
74FFD  
74FFE  
74FFF  
74FFG  
74FFH  
74FFJ  
74FFK  
74FFL  
74FFM  
74FDC  
74FDD  
74FDE  
74FDF  
74FDG  
74FDM  
74FUJ  
74FOK  
74FUL  
74FUM  
74FUN  
74FDP  
74FDQ  
74FUR  
74FUS  
74FDT  
74FDU  
74FUV  
74FDW  
74FDX  
74FDY  
74FUZ  
74FU1  
74FD2  
74FD3  
74FD4  
74FD5  
74FD6  
74FD7  
74FD8  
74FD9  
74PA1  
74PB1  
74PC1  
74BE1  
74PE1  
74PFA  
74PF1  
74PG1  
74PH1  
74PJ1  
74PK1  
74PL1  
74QAA  
74QA1  
74PH1  
74PN1  
74PP1  
74P00  
74KCB  
74KEC  
74KGA  
74KGB  
74KGC  
74KGD  
74KGE  
74KGF  
74KGG  
74KGH  
74KGJ  
74K GK

```

74KGL
74KHI
74KJA
74KK1
74KL1
74KN1
*END
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD
//C9897B EXEC C9603N,TIME>01,ACCT>D35323007
//CHG.TU22 DD DSN>P.9897550,DISP>[OLD,PASS] D22-1N
T/P TU22 101C1802080
/* PLACE TFG DATA BEFORE THIS CARD
//C9897C EXEC P9622N,N>010,TIME>01,ACCT>35323007
//CHG.SORTIN DC DSN>P.9897550,DISP>[OLD,DELETE], CD22/23 1
// DCB>[LRECL>0080,BLKSIZE>1600],LABEL>X,NSL,RETPD>000
//CHG.SORTOUT DD DSN>P.9897552,DISP>[PASS],SPACE>[CYL,[001,001]], CO12/13 1
// DCU>[LRECL>0080,BLKSIZE>1600]
//CHG.SYSIN DC *DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[002,005,CH,A],SIZE>E0000300
MODS E15>[E15,008,SORTL18,N],E18>[E18,024,SORTL18,N]
/*

```

### 6.5.7 VERIFY WUC

```

//C9897F EXEC P9555L,TIME>05,ACCT>D35323007
//CHG.TU12 DD DSN>P.9897552,DISP>[OLD,PASS] D12-1N
//CHG.TU13 DD USN>P.9897553,DISP>[OLD,PASS] D13-1N
//CHG.TU14 DD DISP>[PASS],UNIT>[A+F3,2,DEFER],DSN>P.9897405, CT14/15 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// 1+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG.TU24 DD DISP>[PASS],UNIT>[A+F7,2,DEFER],DSN>P.9897405, CT24/25 1
// VOL>SER>[+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// 1+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7] T24 3
//CHG.INPUT DD *SPACE>[CYL,[1,1]] 1440 CDS
00000 CCMBINE COMPILE G. WANG. C98970
01050 DATE-WRITTEN. 15 MAY 72. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT TABLE-1-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT TABLE-2-FILE ASSIGN TO UT-S-TU13 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT DATA-IN-FILE ASSIGN TO UT-S-TU14 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
02180 SELECT DATA-OUT-FILE ASSIGN TO UT-S-TU24 C98970
02190 RESERVE 1 ALTERNATE AREA. C98970
02200 SELECT MSG-FILE ASSIGN TO DA-S-DT01 C98970
02210 RESERVE 1 ALTERNATE AREA. C98970
02220 SELECT CON-FILE ASSIGN TO DA-S-DT02 C98970
02230 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11200 FD TABLE-1-FILE C98970
11210 RECORDING MODE IS F C98970
11220 BLOCK CONTAINS 20 RECORDS C98970
11230 RECORD CONTAINS 80 CHARACTERS C98970
11240 LABEL RECORDS ARE OMITTED C98970
11250 DATA RECORDS ARE TABLE-1-REC. C98970
11260 01 TABLE-1-REC SYNC. C98970
11270 02 FILLER PICTURE X. C98970
11280 02 WUC-1 PICTURE X(5). C98970
11290 02 FILLER PICTURE X(74). C98970
12000 FD TABLE-2-FILE C98970
12010 RECORDING MODE IS F C98970
12020 BLOCK CONTAINS 20 RECORDS C98970
12030 RECORD CONTAINS 80 CHARACTERS C98970
12040 LABEL RECORDS ARE OMITTED C98970
12050 DATA RECORDS ARE TABLE-2-REC. C98970
12060 01 TABLE-2-REC SYNC. C98970
12070 02 FILLER PICTURE X. C98970
12080 02 WUC-2 PICTURE X(5). C98970
12090 02 FILLER PICTURE X. C98970
12100 02 WUC-3 PICTURE X(5). C98970
12110 02 FILLER PICTURE X(66). C98970
13000 FD DATA-1-FILE C98970
13010 RECORDING MODE IS F C98970
13020 BLOCK CONTAINS 60 RECORDS C98970
13030 RECORD CONTAINS 50 CHARACTERS C98970

```



|       |   |        |
|-------|---|--------|
| 50300 | READ-TABLE-2.   | C98970 |
| 50310 | READ TABLE-2-FILE, AT ENO GO TO R-D.                          | C98970 |
| 50320 | ADD 1 TO NO-TAB-2.  | C98970 |
| 50330 | MOVE WUC-2 TO TABLE-2 [1, NO-TAB-2].                          | C98970 |
| 50340 | MOVE WUC-3 TO TABLE-2 [2, NO-TAB-2].                          | C98970 |
| 50350 | GO TO READ-TABLE-2.   | C98970 |
| 50355 | R-D.  | C98970 |
| 50360 | PERFORM CHECK-WUC-DATA THRU ENO-CWD.                          | C98970 |
| 50370 | IF NO-ERRORS IS NOT EQUAL TO ZERO DISPLAY NO-ERRORS : ERRORS: | C98970 |
| 50380 | UPON CONSOLE, GO TO CFA.                                      | C98970 |
| 50400 | READ-DATA-INPUT.  | C98970 |
| 50410 | READ DATA-IN-FILE, AT ENO GO TO CLOSE-FILE.                   | C98970 |
| 50420 | ADD 1 TO REC-READ.  | C98970 |
| 50430 | IF WEEK IS LESS THAN WEEK-CHNG GO TO CHK-WUC.                 | C98970 |
| 50500 | COPY-REC.   | C98970 |
| 50510 | WRITE DATA-OUT-REC FROM DATA-IN-REC.                          | C98970 |
| 50520 | ADD 1 TO REC-PASS.  | C98970 |
| 50530 | GO TO READ-DATA-INPUT.  | C98970 |
| 50600 | CHK-WUC.  | C98970 |
| 50610 | IF WUC-2-DIGIT IS NOT EQUAL TO WUC2 GO TO COPY-REC.           | C98970 |
| 51000 | MOVE ZERO TO CNT.   | C98970 |
| 51010 | CHK-TAB-1.  | C98970 |
| 51020 | ADD 1 TO CNT.   | C98970 |
| 51030 | MOVE TABLE-1 [CNT] TO WUC-TEMP.                               | C98970 |
| 51040 | IF WUC IS LESS THAN WUC-TEMP GO TO END-CHK-TAB-1.             | C98970 |
| 51050 | IF WUC IS EQUAL TO WUC-TEMP GO TO DELETE-REC.                 | C98970 |
| 51060 | IF CNT IS LESS THAN NO-TAB-1 GO TO CHK-TAB-1.                 | C98970 |
| 51070 | END-CHK-TAB-1.  | C98970 |
| 51080 | MOVE ZERO TO CNT.   | C98970 |
| 51100 | CHK-TAB-2.  | C98970 |
| 51110 | ADD 1 TO CNT.   | C98970 |
| 51120 | MOVE TABLE-2 [1, CNT] TO WUC-TEMP.                            | C98970 |
| 51130 | IF WUC IS LESS THAN WUC-TEMP GO TO COPY-REC.                  | C98970 |
| 51140 | IF WUC IS EQUAL TO WUC-TEMP GO TO MOVE-WUC.                   | C98970 |
| 51150 | IF CNT IS LESS THAN NO-TAB-2 GO TO CHK-TAB-2.                 | C98970 |
| 51160 | GO TO COPY-REC.   | C98970 |
| 51200 | DELETE-REC.   | C98970 |
| 51210 | ADD 1 TO REC-DROP.  | C98970 |
| 51220 | GO TO READ-DATA-INPUT.  | C98970 |
| 51300 | MOVE-WUC.   | C98970 |
| 51310 | MOVE TABLE-2 [2, CNT] TO WUC.                                 | C98970 |
| 51320 | ADD 1 TO REC-CHNG.  | C98970 |
| 51330 | GO TO COPY-REC.   | C98970 |
| 52000 | CLOSE-FILE.   | C98970 |
| 52010 | COMPUTE CNT > REC-PASS - REC-PASS / 60 * 60.                  | C98970 |
| 52020 | IF CNT IS EQUAL TO ZERO GO TO CFA.                            | C98970 |
| 52100 | NINE-FILL.  | C98970 |
| 52110 | WRITE DATA-OUT-REC FROM NINES.                                | C98970 |
| 52120 | ADD 1 TO CNT.   | C98970 |
| 52130 | IF CNT IS LESS THAN 60 GO TO NINE-FILL.                       | C98970 |
| 52200 | CFA.  | C98970 |
| 52210 | MOVE REC-READ TO TEMP-NO.                                     | C98970 |
| 52220 | DISPLAY : REC-READ : TEMP-NO UPON CONSOLE.                    | C98970 |
| 52230 | MOVE REC-PASS TO TEMP-NO.                                     | C98970 |
| 52240 | DISPLAY : REC-PASS : TEMP-NO UPON CONSOLE.                    | C98970 |
| 52250 | MOVE REC-CHNG TO TEMP-NO.                                     | C98970 |
| 52260 | DISPLAY : REC-CHNG : TEMP-NO UPON CONSOLE.                    | C98970 |
| 52270 | MOVE REC-DROP TO TEMP-NO.                                     | C98970 |
| 52280 | DISPLAY : REC-DROP : TEMP-NO UPON CONSOLE.                    | C98970 |
| 52290 | DISPLAY : E0J 9897 : UPON CONSOLE.                            | C98970 |
| 52292 | CLOSE TABLE-1-FILE, TABLE-2-FILE, DATA-IN-FILE, CON-FILE,     | C98970 |
| 52294 | DATA-OUT-FILE, MSG-FILE.                                      | C98970 |
| 52300 | GOBACK.   | C98970 |
| 54000 | CHECK-WUC-DATA.   | C98970 |
| 54010 | MOVE ZERO TO CNT.   | C98970 |
| 54100 | CWDA.   | C98970 |
| 54110 | ADD 1 TO CNT.   | C98970 |
| 54120 | MOVE TABLE-2 [1, CNT] TO WUC-TEMP.                            | C98970 |
| 54130 | MOVE ZERO TO CNT.   | C98970 |
| 54200 | CWDB.   | C98970 |
| 54210 | ADD 1 TO CNT.   | C98970 |
| 54220 | IF TABLE-1 [CNT] IS GREATER THAN WUC-TEMP GO TO CWDC.         | C98970 |
| 54230 | IF TABLE-1 [CNT] IS EQUAL TO WUC-TEMP MOVE MSG-1 TO FILLER-A. | C98970 |
| 54235 | PERFORM BAO-DATA.   | C98970 |
| 54240 | IF CNT IS LESS THAN NO-TAB-1 GO TO CWDB.                      | C98970 |
| 54300 | CWDC.   | C98970 |
| 54310 | IF CNT IS LESS THAN NO-TAB-2 GO TO CWDA.                      | C98970 |
| 54320 | MOVE ZERO TO CNT.   | C98970 |
| 54400 | CWDD.   | C98970 |
| 54410 | ADD 1 TO CNT.   | C98970 |
| 54420 | MOVE TABLE-2 [2, CNT] TO WUC-TEMP.                            | C98970 |
| 54430 | MOVE ZERO TO CNT.   | C98970 |
| 54500 | CWDE.   | C98970 |
| 54510 | ADD 1 TO CNT.   | C98970 |
| 54515 | IF TABLE-1 [CNT] IS GREATER THAN WUC-TEMP GO TO CWDD.         | C98970 |
| 54520 | IF TABLE-1 [CNT] IS EQUAL TO WUC-TEMP GO TO CWDF.             | C98970 |
| 54530 | IF CNT IS LESS THAN NO-TAB-1 GO TO CWDE.                      | C98970 |

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54535 CWDH. C98970
54540 MOVE ZE10 TO KNT. C98970
54550 CWDH. C98970
54560 ADD 1 TO KNT. C98970
54565 IF TABL-2 [1, KNT] IS GREATER THAN WUC-TEMP GO TO B-D-A. C98970
54570 IF TABL-2 [1, KNT] IS EQUAL TO WUC-TEMP GO TO CWDH. C98970
54580 IF KNT IS LESS THAN NO-TAB-2 GO TO CWDH. C98970
54585 B-D-A. C98970
54590 MOVE MS -2 TO FILLER-A. C98970
54600 BAW-DATA. C98970
54610 MOVE WUC-TEMP TO WUC-MS6. C98970
54620 WRITE P.0-REC. C98970
54630 ADD 1 TO NO-ERRORS. C98970
54700 CWDH. C98970
54710 IF CNT IS LESS THAN NO-TAB-2 GO TO CWDH. C98970
54800 MOVE ZE10 TO KNT. C98970
54810 MOVE 1 TO CNT. C98970
54820 TAB-1-DUP. C98970
54830 ADD 1 TO KNT. C98970
54840 ADD 1 TO CNT. C98970
54845 MOVE TABLE-1 [KNT] TO WUC-TEMP. C98970
54850 IF WUC-TEMP IS EQUAL TO TABLE-1 [CNT] MOVE MS6-3 TO C98970
54855 FILLER-.. PERFORM BAD-DATA. C98970
54860 IF CNT IS LESS THAN NO-TAB-1 GO TO TAB-1-DUP. C98970
54900 MOVE ZERO TO KNT. C98970
54910 MOVE 1 TO CNT. C98970
54920 TAB-2-DUP. C98970
54930 ADD 1 TO KNT. C98970
54940 ADD 1 TO CNT. C98970
54945 MOVE TABLE-2 [1, KNT] TO WUC-TEMP. C98970
54950 IF WUC-TEMP IS EQUAL TO TABLE-2 [1, CNT] C98970
54960 MOVE MS6-4 TO FILLER-A, PERFORM BAD-DATA. C98970
54970 IF CNT IS LESS THAN NO-TAB-2 GO TO TAB-2-DUP. C98970
55000 MOVE 1 TO CNT. C98970
55010 CHK-LMS. C98970
55020 MOVE TABLE-2 [2, CNT] TO WUC-TEMP. C98970
55030 MOVE CN1 TO KNT. C98970
55040 CHK-LMSA. C98970
55050 ADD 1 TO KNT. C98970
55060 IF TABLE-2 [2, KNT] IS EQUAL TO WUC-TEMP MOVE MS6-5 TO C98970
55065 FILLER-.. PERFORM BAD-DATA. C98970
55070 IF KNT IS LESS THAN NO-TAB-2 GO TO CHK-LMSA. C98970
55080 ADD 1 TO CNT. C98970
55090 IF CNT IS LESS THAN NO-TAB-2 GO TO CHK-LMS. C98970
56000 END-CMD. E:IT. C98970
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG,TF6IN DU =,SPACE>[CYL,[1,1]] 1440 CDS
00000 GET TFG WANG C98970T
010001 014999 REP ACE 'T
TFG DT02 11 0202000
200 74
*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU14 DU DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3 T14
//TPR,TU24 DU DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 T24
//TPR,TPRIN DU =,SPACE>[TRK,[1,1]]
T/P TU12 1020002000
T/P TU13 1020002000
T/P TU14 1010002000
T/P TU24 1020050200
T/P DT01 1020070200
T/P DT02 1001002000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```







|       |    |  |                 |              |        |
|-------|----|--|-----------------|--------------|--------|
| 40770 | 02 | FILLER   | PICTURE X       | VALUE SPACE. | C98970 |
| 40780 | 02 | NSG-TOT  | PICTURE ZZZZZ9. |              | C98970 |
| 40790 | 02 | REC-KP-TOT   | PICTURE X(5)    | VALUE SPACE. | C98970 |
| 40800 | 01 | RCO-TOTALS SYNC.                                   |                 |              | C98970 |
| 40810 | 02 | FILLER   | PICTURE K       | VALUE SPACE. | C98970 |
| 40820 | 02 | RCUROS-INPUT                                       | PICTURE ZZZZZ9. |              | C98970 |
| 40830 | 02 | FILLER   | PICTURE K       | VALUE SPACE. | C98970 |
| 40840 | 02 | REC-3-4-OUT  | PICTURE ZZZZZ9. |              | C98970 |
| 40845 | 02 | FILLER   | PICTURE X       | VALUE SPACE. | C98970 |
| 40850 | 02 | SN-OUT   | PICTURE Z9.     |              | C98970 |
| 40860 | 02 | FILLER   | PICTURE K       | VALUE SPACE. | C98970 |
| 40865 | 02 | S6-GTOT  | PICTURE ZZZZZ9. |              | C98970 |
| 40870 | 02 | FILLER   | PICTURE X       | VALUE SPACE. | C98970 |
| 40875 | 02 | NSG-GTOT   | PICTURE ZZZZZ9. |              | C98970 |
| 40880 | 02 | FILLER   | PICTURE X       | VALUE SPACE. | C98970 |
| 40890 | 02 | R1-GTOT  | PICTURE ZZZZZ9. |              | C98970 |
| 40900 | 02 | FILLER   | PICTURE X       | VALUE SPACE. | C98970 |
| 40910 | 02 | R3-GTOT  | PICTURE ZZZZZ9. |              | C98970 |
| 40920 | 02 | FILLER   | PICTURE X       | VALUE SPACE. | C98970 |
| 40930 | 02 | R4-GTOT  | PICTURE ZZZZZ9. |              | C98970 |
| 40940 | 02 | FILLER   | PICTURE X(10)   | VALUE SPACE. | C98970 |
| 40980 | 01 | SN-TOT-UNK SYNC.                                   |                 |              | C98970 |
| 40990 | 02 | FILLER   | PICTURE X(70)   | VALUE SPACE. | C98970 |
| 50000 |    | PROCEURE DIVISION.                                 |                 |              | C98970 |
| 50010 |    | BANKI.   |                 |              | C98970 |
| 50020 |    | OPEN INPUT INFILE OUTPUT OUTBANK-FILE.             |                 |              | C98970 |
| 50030 |    | OPEN OUTPUT RCO-KP-FILE.                           |                 |              | C98970 |
| 50035 |    | OPEN OUTPUT S6-FIL. NSG-FILE.                      |                 |              | C98970 |
| 50040 |    | SUBTRACT 1 FROM SN-TOT-CNT.                        |                 |              | C98970 |
| 50100 |    | READ-IN.   |                 |              | C98970 |
| 50110 |    | MOVE TEST-A TO TEST-B.                             |                 |              | C98970 |
| 50120 |    | READ INFILE INTO I.-TEST                           |                 |              | C98970 |
| 50130 |    | AT ENO GO TO RECORD-KEEP.                          |                 |              | C98970 |
| 50135 |    | ADD 1 TO RECORDS-READ.                             |                 |              | C98970 |
| 50140 |    | MOVE SN-IN TO SN-A.                                |                 |              | C98970 |
| 50150 |    | MOVE WK-IN TO WK-A.                                |                 |              | C98970 |
| 50200 |    | COMPARE-SN.  |                 |              | C98970 |
| 50210 |    | IF SN-A EQUAL SN-B GO TO COMPARE-WK.               |                 |              | C98970 |
| 50212 |    | MOVE S6-CNT TO S6-TOT.                             |                 |              | C98970 |
| 50214 |    | MOVE NSG-CNT TO NSG-TOT.                           |                 |              | C98970 |
| 50220 |    | MOVE SN-B TO SN-TOT.                               |                 |              | C98970 |
| 50230 |    | MOVE FH-CNT TO FH-TOT.                             |                 |              | C98970 |
| 50240 |    | MOVL SORTIES-CNT TO SORTIES-TOT.                   |                 |              | C98970 |
| 50250 |    | MOVE LANDINGS-CNT TO LANDINGS-TOT.                 |                 |              | C98970 |
| 50252 |    | MOVE REC-1-CNT TO TYPE-1-TOT.                      |                 |              | C98970 |
| 50253 |    | MOVE REC-3-CNT TO TYPE-3-TOT.                      |                 |              | C98970 |
| 50254 |    | MOVE REC-4-CNT TO TYPE-4-TOT.                      |                 |              | C98970 |
| 50256 |    | ADD REC-1-CNT TO R1-G-CNT.                         |                 |              | C98970 |
| 50257 |    | ADD REC-3-CNT TO R3-G-CNT.                         |                 |              | C98970 |
| 50258 |    | ADD REC-4-CNT TO R4-G-CNT.                         |                 |              | C98970 |
| 50260 |    | WRITE SN-COUNT FROM SN-TOTAL.                      |                 |              | C98970 |
| 50270 |    | ADD 1 TO SN-TOT-CNT.                               |                 |              | C98970 |
| 50272 |    | IF TYPE-IN EQUAL 09: GO TO RECORD-KEEP.            |                 |              | C98970 |
| 50280 |    | MOVL ZEROS TO FH-CNT SORTIES-CNT LANDINGS-CNT.     |                 |              | C98970 |
| 50290 |    | MOVL ZEROS TO FH-HOLD FH-SUM-HOLD SORTIES-SUM-HOLD |                 |              | C98970 |
| 50300 |    | LANDINGS-SUM-HOLD.                                 |                 |              | C98970 |
| 50310 |    | MOVE ZEROS TO S6-CNT NSG-CNT                       |                 |              | C98970 |
| 50320 |    | REC-1-CNT  |                 |              | C98970 |
| 50330 |    | REC-3-CNT  |                 |              | C98970 |
| 50340 |    | REC-4-CNT.   |                 |              | C98970 |
| 50500 |    | GO TO COMPARE-WK-A-1.                              |                 |              | C98970 |
| 51000 |    | COMPARE-WK.  |                 |              | C98970 |
| 51010 |    | IF WK-A GREATER THAN WK-B GO TO COMPARE-WK-A-1.    |                 |              | C98970 |
| 51020 |    | GO TO TYPE-3.                                      |                 |              | C98970 |
| 51030 |    | COMPARE-WK-A-1.                                    |                 |              | C98970 |
| 51040 |    | IF TYPE-IN EQUAL 11: GO TO TYPE-1-PROC.            |                 |              | C98970 |
| 51050 |    | COMPARE-TYPE-3.                                    |                 |              | C98970 |
| 51060 |    | IF TYPE-IN EQUAL 13: GO TO TYPE-3-1.               |                 |              | C98970 |
| 51070 |    | IF TYPE-IN GREATER THAN 13: GO TO TYPE-4-1.        |                 |              | C98970 |
| 51080 |    | GO TO READ-IN.                                     |                 |              | C98970 |
| 51100 |    | TYPE-1-PROC.                                       |                 |              | C98970 |
| 51105 |    | ADD 1 TO REC-1-CNT.                                |                 |              | C98970 |
| 51110 |    | IF FH-IN LESS THAN ZERO GO TO TYPE-1-PROC-A.       |                 |              | C98970 |
| 51120 |    | ADD FH-IN TO FH-CNT.                               |                 |              | C98970 |
| 51130 |    | ADD SORTIES-IN TO SORTIES-CNT.                     |                 |              | C98970 |
| 51140 |    | ADD LANDINGS-IN TO LANDINGS-CNT.                   |                 |              | C98970 |
| 51150 |    | MOVE FH-IN TO FH-HOLD.                             |                 |              | C98970 |
| 51160 |    | GO TO TYPE-1-PROC-B.                               |                 |              | C98970 |
| 51200 |    | TYPE-1-PROC-A.                                     |                 |              | C98970 |
| 51202 |    | MOVE ZEROS TO FH-HOLD.                             |                 |              | C98970 |
| 51204 |    | TYPE-1-PROC-B.                                     |                 |              | C98970 |
| 51210 |    | MOVE FH-CNT TO FH-SUM-HOLD.                        |                 |              | C98970 |
| 51220 |    | MOVE SORTIES-CNT TO SORTIES-SUM-HOLD.              |                 |              | C98970 |
| 51230 |    | MOVE LANDINGS-CNT TO LANDINGS-SUM-HOLD.            |                 |              | C98970 |
| 51250 |    | GO TO READ-IN.                                     |                 |              | C98970 |
| 51300 |    | TYPE-3-1.  |                 |              | C98970 |
| 51310 |    | MOVE ZEROS TO FH-HOLD.                             |                 |              | C98970 |

|       |  |        |
|-------|--|--------|
| 51320 | MOVE IN-TEST TO REC-TYPE-3.                                | C98970 |
| 51330 | MOVE REC-1-HOLD TO REC-3-HOLD.                             | C98970 |
| 51340 | WRITE OUT-REC FROM REC-TYPE-3.                             | C98970 |
| 51350 | ADD 1 TO REC-3-CNT.  | C98970 |
| 51355 | ADD 1 TO RECORDS-PASS.                                     | C98970 |
| 51360 | IF WUC-1-IN EQUAL :0: GO TO SG-OUTPUT.                     | C98970 |
| 51370 | GO TO MSG-OUTPUT-3.  | C98970 |
| 52000 | TYPE-4-1.  | C98970 |
| 52010 | IF TYPE-IN GREATER THAN :4: GO TO TYPE-9-1.                | C98970 |
| 52020 | MOVE ZEROS TO FH-HOLD.                                     | C98970 |
| 52030 | MOVE IN-TEST TO REC-TYPE-4.                                | C98970 |
| 52040 | MOVE REC-1-HOLD TO REC-4-HOLD.                             | C98970 |
| 52050 | WRITE OUT-REC FROM REC-TYPE-4.                             | C98970 |
| 52060 | ADD 1 TO REC-4-CNT.  | C98970 |
| 52065 | ADD 1 TO RECORDS-PASS.                                     | C98970 |
| 52070 | GO TO MSG-OUTPUT-4.  | C98970 |
| 52100 | TYPE-9-1.  | C98970 |
| 52110 | IF TYPE-IN EQUAL :9: GO TO RECORD-KEEP.                    | C98970 |
| 52120 | GO TO READ-IN.   | C90970 |
| 54000 | TYPE-3.  | C98970 |
| 53010 | IF TYPE-IN EQUAL :3: GO TO TYPE-3-A.                       | C98970 |
| 53020 | IF TYPE-IN GREATER THAN :3: GO TO TYPE-4.                  | C98970 |
| 53030 | GO TO READ-IN.   | C98970 |
| 53100 | TYPE-3-A.  | C98970 |
| 53110 | MOVE IN-TEST TO REC-TYPE-3.                                | C98970 |
| 53120 | MOVE REC-1-HOLD TO REC-3-HOLD.                             | C98970 |
| 53130 | WRITE OUT-REC FROM REC-TYPE-3.                             | C98970 |
| 53140 | ADD 1 TO REC-3-CNT.  | C98970 |
| 53145 | ADD 1 TO RECORDS-PASS.                                     | C98970 |
| 53150 | IF WUC-1-IN EQUAL :1: GO TO SG-OUTPUT.                     | C98970 |
| 53160 | GO TO MSG-OUTPUT-3.  | C98970 |
| 53400 | TYPE-4.  | C98970 |
| 53410 | IF TYPE-IN EQUAL :4: GO TO TYPE-4-A.                       | C98970 |
| 53420 | GO TO TYPE-9.  | C98970 |
| 53500 | TYPE-4-A.  | C98970 |
| 53510 | MOVE IN-TEST TO REC-TYPE-4.                                | C98970 |
| 53520 | MOVE REC-1-HOLD TO REC-4-HOLD.                             | C98970 |
| 53530 | WRITE OUT-REC FROM REC-TYPE-4.                             | C98970 |
| 53540 | ADD 1 TO REC-4-CNT.  | C98970 |
| 53545 | ADD 1 TO RECORDS-PASS.                                     | C98970 |
| 53550 | GO TO MSG-OUTPUT-4.  | C98970 |
| 53900 | TYPE-9.  | C98970 |
| 53910 | IF TYPE-IN EQUAL :9: GO TO RECORD-KEEP.                    | C98970 |
| 53920 | GO TO READ-IN.   | C98970 |
| 54000 | SG-OUTPUT.   | C98970 |
| 54010 | WRITE SG-REC FROM REC-TYPE-3.                              | C98970 |
| 54020 | ADD 1 TO SG-CNT SG-RCNT.                                   | C90970 |
| 54050 | GO TO READ-IN.   | C98970 |
| 54100 | MSG-OUTPUT-3.  | C90970 |
| 54110 | WRITE MSG-REC FROM REC-TYPE-3.                             | C98970 |
| 54120 | ADD 1 TO MSG-CNT MSG-RCNT.                                 | C98970 |
| 54150 | GO TO READ-IN.   | C98970 |
| 54200 | MSG-OUTPUT-4.  | C98970 |
| 54210 | WRITE MSG-REC FROM REC-TYPE-4.                             | C98970 |
| 54220 | ADD 1 TO MSG-CNT MSG-RCNT.                                 | C98970 |
| 54250 | GO TO READ-IN.   | C98970 |
| 55000 | RECORD-KEEP.   | C98970 |
| 55060 | MOVE SN-TOT-BLNK TO SN-TOTAL.                              | C98970 |
| 55065 | SUBTRACT 1 FROM RECORDS-READ.                              | C98970 |
| 55070 | MOVE RECORDS-READ TO RECORDS-INPUT.                        | C98970 |
| 55080 | MOVE RECORDS-PASS TO REC-3-4-OUT.                          | C98970 |
| 55085 | SUBTRACT 2 FROM SN-TOT-CNT.                                | C90970 |
| 55087 | MOVE SN-TOT-CNT TO SN-OUT.                                 | C98970 |
| 55100 | MOVE SG-RCNT TO SG-GTOT.                                   | C98970 |
| 55110 | MOVE MSG-RCNT TO MSG-GTOT.                                 | C98970 |
| 55120 | MOVE R1-G-CNT TO R1-G-TOT.                                 | C98970 |
| 55130 | MOVE R3-G-CNT TO R3-G-TOT.                                 | C98970 |
| 55140 | MOVE R4-G-CNT TO R4-G-TOT.                                 | C98970 |
| 55290 | MOVE KCD-TOTALS TO SN-TOTAL.                               | C98970 |
| 55300 | WRITE SN-COUNT FROM SN-TOTAL.                              | C98970 |
| 55310 | ADD 2 TO SN-TOT-CNT.                                       | C98970 |
| 55400 | GO TO BLOCK-CHECK.   | C98970 |
| 62000 | BLOCK-CHECK.   | C98970 |
| 62010 | COMPUTE KOUNT > RECORDS-PASS - [(RECORDS-PASS / 40) * 40]. | C98970 |
| 62040 | LOOP3.   | C98970 |
| 62050 | WRITE OUT-REC FROM NINE.                                   | C98970 |
| 62060 | ADD 1 TO KOUNT.  | C98970 |
| 62070 | IF KOUNT IS LESS THAN 40 GO TO LOOP3.                      | C98970 |
| 62100 | BLOCK-CHECK-2.   | C98970 |
| 62115 | COMPUTE KNT > SN-TOT-CNT - [(SN-TOT-CNT / 25) * 25].       | C98970 |
| 62130 | LOOP4.   | C98970 |
| 62140 | WRITE SN-COUNT FROM NINE.                                  | C98970 |
| 62150 | ADD 1 TO KNT.  | C98970 |
| 62160 | IF KNT IS LESS THAN 25 GO TO LOOP4.                        | C98970 |
| 62200 | BLOCK-CHECK-3.   | C98970 |
| 62210 | COMPUTE SGCNT > SG-RCNT - [(SG-RCNT / 40) * 40].           | C98970 |
| 62220 | LOOP5.   | C98970 |

```

62230 WRITE MSG-REC FROM NINE. C98970
62240 ADD 1 TO MSGCNT. C98970
62250 IF MSGCNT IS LESS THAN 40 GO TO LOOP5. C98970
62300 BLOCK-CHECK-4. C98970
62310 COMPUTE MSGCNT = MSG-RCNT - [(MSG-RCNT / 40) * 40], C98970
62320 LOOP6. C98970
62330 WRITE MSG-REC FROM NINE. C98970
62340 ADD 1 TO MSGCNT. C98970
62350 IF MSGCNT IS LESS THAN 40 GO TO LOOP6. C98970
64000 CLOSE-FILES. C98970
64010 CLOSE INFILE WITH LOCK. C98970
64020 CLOSE OUTBANK-FILE WITH LOCK. C98970
64030 CLOSE RCD-KP-FILE WITH LOCK. C98970
64040 CLOSE SG-FILE NSG-FILE WITH LOCK. C98970
64110 DISPLAY : BANK IN : RECORDS-READ UPON CONSOLE. C98970
64120 DISPLAY : BANK OUT : RECORDS-PASS UPON CONSOLE. C98970
64140 DISPLAY : EOJ C9897 . UPON CONSOLE. C98970
64150 GOBACK. C98970
/* PLACE COHOL SOURCE BEFORE THIS CARD
//CHG.TFGIN DU *,SPACE>[CYL,(1,1)]
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU12 DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 T12
//TPR.TU14 DD DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3 T22
//TPR.TU22 DD DISP>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5 T24
//TPR.TU24 DD DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 T24
//TPR.TPRIN DU *,SPACE>[TRK,(1,1)]
T/P TU25 10100702070
T/P TU24 10400702070
T/P TU22 10800702070
T/P TU14 10400702070
T/P TU12 0800502050
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.6.2 REFORMATTED SUPPORT GENERAL WUC SORT

```

//T9897L JOB 01: G. WANG. :;PRTY>02, TYPRUN>HOLD SORT SG X1310
//C9897L EXEC P9622N, W>199, TIME>03, ACCT>D35323007 22/12 SORT
//CHG.SORTIN DU DISP>[KEEP],UNIT>[A+F5,2,DEFER], CT22/23 1
// DSN>E.9897408, CT22 2
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
// DCH>[LRECL>0070, BLKSIZE>2800], LABEL>I, NSL, RETPD>001]
//CHG.SORTOUT DU DISP>[PASS],UNIT>[A+F1,2,DEFER], DSN>A.9897418, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCH>[LRECL>0070, BLKSIZE>2800]
//CHG.SYSIN DU *,DCB>[BLKSIZE>0080,SPACE>[TRK,(1,1)]
SORT FIELDS>[006,008,CH,A,14,003,CH,A,017,005,CH,A, C
049,001,CH,A,7,SIZE>E0200000
MODS E15>[E15,008, SORTLIB,N],E18>[E18,024, SORTLIB,N]
/*
//C9897L EXEC C9603N, TIME>03, ACCT>D35323007 STDALONE T P 81150
//CHG.TU12 DU DISP>[KEEP],UNIT>[A+F1,2,DEFER], DSN>A.9897418, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TPRIN DU *,SPACE>[TRK,(1,1)]
T/P TU12 11000702070
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.6.3 REFORMATTED NON-SUPPORT GENERAL WUC SORT

```

//T9897M JOB 01: G. WANG. :;PRTY>02, TYPRUN>HOLD SORT NSG X1310
//C9897M EXEC P9622N, W>199, TIME>04, ACCT>D35323007 22/12 SORT
//CHG.SORTIN DU DISP>[KEEP],UNIT>[A+F5,2,DEFER], CT22/23 1
// DSN>E.9897409, CT22 2
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
// DCH>[LRECL>0070, BLKSIZE>2800], LABEL>I, NSL, RETPD>002]
//CHG.SORTOUT DU DISP>[PASS],UNIT>[A+F1,2,DEFER], DSN>A.9897419, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCH>[LRECL>0070, BLKSIZE>2800]
//CHG.SYSIN DU *,DCB>[BLKSIZE>0080,SPACE>[TRK,(1,1)]
SORT FIELDS>[006,008,CH,A,14,003,CH,A,017,005,CH,A, C
049,001,CH,A,7,SIZE>E0700000
MODS E15>[E15,008, SORTLIB,N],E18>[E18,024, SORTLIB,N]
/*
//C9897M EXEC C9603N, TIME>03, ACCT>D35323007 STDALONE T P 81150
//CHG.TU12 DU DISP>[KEEP],UNIT>[A+F1,2,DEFER], DSN>A.9897419, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TPRIN DU *,SPACE>[TRK,(1,1)]
T/P TU12 R0900702070001001001 D
T/P TU120080R1100702070001001001 D
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

#### 6.6.4 REFORMATTED DATA BANK SORT

```

//T9897K JOB 01.: G. WANG. :.PRTY>02.TYPRUN>HOLD SORT 01 X1310
//C9897K EXEC P9622N.W>199.TIME>04.ACCT>D35323007 22/12 SORT
//CHG.SORTIN DU DISP>[.KEEP],UNIT>[A+F5.2.DEFER], CT22/23 1
// DSN>E.989740,, CT22 2
// VOL>SER>[+F5.A+F5.B+F5.C+F5.D+F5.E+F5.F+F5.G+F5.H+F5. CT22 3
// I+F5.J+F5.K+F5.L+F5.M+F5.N+F5.O+F5.P+F5.Q+F5.R+F5.S+F5],CT22 4
// DCB>[LRECL>0070,BLKSIZE>2800],LABEL>[.NSL,RETPD>002]
//CHG.SORTOUT DU DISP>[.PASS],UNIT>[A+F1.2.DEFER],DSN>A.9897410. CT12/13 1
// VOL>SER>[+F1.A+F1.B+F1.C+F1.D+F1.E+F1.F+F1.G+F1.H+F1. CT12 2
// I+F1.J+F1.K+F1.L+F1.M+F1.N+F1.O+F1.P+F1.Q+F1.R+F1.S+F1],CT12 3
// DCB>[LRECL>0070,BLKSIZE>2800]
//CHG.SYSIN DU *.DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[017,005,CH,A,023,003,CH,A,006,008,CH,A, C
014,003,CH,A],SIZE>L0700000
MODS E15>[E15,008,SORTLIB,1],E18>[E18,024,SORTLIB,N]
/*
//C9897K EXEC C9603N.TIME>02.ACCT>D35323007 STOALONE 1 P 01134
//CHG.TUI2 DD DISP>[.KEEP],UNIT>[A+F1.2.DEFER],DSN>A.9897410. CT12/13 1
// VOL>SER>[+F1.A+F1.B+F1.C+F1.D+F1.E+F1.F+F1.G+F1.H+F1. CT12 2
// I+F1.J+F1.K+F1.L+F1.M+F1.N+F1.O+F1.P+F1.Q+F1.R+F1.S+F1] T12 3
//CHG.TPRIN DD *.SPACE>[TRK,[1,1]]
T/P TUI2 11000702070
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

6.7 PROGRAMS FOR FREQUENCY ANALYSES  
 6.7.1 TITLE FORMATTER AND FIVE-DIGIT WUC ANALYSIS

```

//C98970 JOB 01: G. WANG I,PRTY>02, TYPRUN>HOLD
//C98970 EXEC P965SL,TIME>02,ACCT>D35323007
//CHG, TU12 DD DISP>(,PASS),UNIT>(A+F1,2,DEFER),DSN>+A,9897416, CT12/13 1
// VOL>SER>(F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1) T12 3
//CHG, TU14 DU DISP>(,PASS),UNIT>(T+F3,1,DEFER),DSN>+C,9897440, CT14 1
// VOL>SER>(F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3) T14 3
//CHG, TU22 DD DISP>(,PASS),UNIT>(A+F5,2,DEFER),DSN>+E,9897441, CT22/23 1
// VOL>SER>(F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5) T22 3
//CHG, TU24 DU DISP>(,PASS),UNIT>(T+F7,1,DEFER),DSN>+G,9897442, CT24 1
// VOL>SER>(F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7) T24 3
//CHG, TU25 DU DISP>(,PASS),UNIT>(T+F9,1,DEFER),DSN>+H,9897443, CT25 1
// VOL>SER>(F9,A+F9,B+F9,C+F9,D+F9,E+F9,F+F9,G+F9,H+F9, CT25 2
// I+F9,J+F9,K+F9,L+F9,M+F9,N+F9,O+F9,P+F9,Q+F9,R+F9,S+F9) T25 3
//CHG, INPUT DU +,SPACE>(CYL(1,1)) 1440 CDS
0000 COMBINE >COMPILE G. WANG, C98970
01040 DATE-WRITE... 15 APR 72. C98970
01050 REMARKS. C98970
01060 MAINTENANCE STUDY PROGRAM 1A. C98970
01070 FREQUENCY ANALYSIS. C98970
01080 FREQUENCY OF WORK UNIT CODE REPAIR ACTION. C98970
01090 [5 DIGIT LEVEL] C98970
01100 COMPUTES FREQUENCY OF SPECIFIC SG-WUC. C98970
01110 FORMATS FREQUENCIES FOR TITLE. C98970
01120 COMPUTES FREQUENCY OF SPECIFIC WUC. C98970
01130 THIS REPEATED FOR EACH NON-SG-WUC AND HMC. C98970
01140 INPUT SORT SEQUENCE C98970
01150 WUC, HMC, SERIAL-NO, WEEK. C98970
02000 ENVIRONMENT DIVISION. -C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE=COMPUTER, IBM-360. C98970
02030 OBJECT=COMPUTER, IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT1 IN-FILE-UB ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT1 IN-FILE-ISC ASSIGN TO DA-S-DT01 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT1 OUT-JATA ASSIGN TO UT-S-TU22 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
02180 SELECT1 OUT-TITLES ASSIGN TO UT-S-TU14 C98970
02190 RESERVE 1 ALTERNATE AREA. C98970
02200 SELECT1 OUT-PRINT-NI ASSIGN TO UT-S-TU24 C98970
02210 RESERVE 1 ALTERNATE AREA. C98970
02220 SELECT1 OUT-PRINT-ISC ASSIGN TO UT-S-TU25 C98970
02230 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD IN-FILE-DB C98970
10110 BLOCK CONTAINS 40 RECORDS C98970
10140 RECORD CONTAINS 70 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE IN-REC-D-B. C98970
10200 01 IN-REC-U-B SYNC. C98970
10210 02 FILLER PICTURE X(70). C98970
11000 FD IN-FILE-ISC C98970
11020 RECORDING MODE IS F C98970
11030 BLOCK CONTAINS 20 RECORDS C98970
11040 RECORD CONTAINS 80 CHARACTERS C98970
11050 LABEL RECORDS ARE STANDARD C98970
11060 DATA RECORDS ARE IN-REC-ISC. C98970
11400 01 IN-REC-ISC SYNC. C98970
11410 02 FILLER PICTURE X(80). C98970
12100 FD OUT-DATA C98970
12120 RECORDING MODE IS F C98970
12130 BLOCK CONTAINS 23 RECORDS C98970
12140 RECORD CONTAINS 130 CHARACTERS C98970
12150 LABEL RECORDS ARE OMITTED C98970
12160 DATA RECORDS ARE TAPE-FILE. C98970
12180 01 TAPE-FILE SYNC PICTURE X(130). C98970
13100 FD OUT-TITLES C98970
13120 RECORDING MODE IS F C98970
13130 BLOCK CONTAINS 23 RECORDS C98970
13140 RECORD CONTAINS 130 CHARACTERS C98970
13150 LABEL RECORDS ARE OMITTED C98970
13160 DATA RECORDS ARE TAPE-FILE-TI. C98970
13170 01 TAPE-FILE-TI SYNC PICTURE X(130). C98970
14100 FD OUT-PRINT-NI C98970
  
```

|       |    |                                 |                               |        |
|-------|----|---------------------------------|-------------------------------|--------|
| 14120 |    | RECORUING MODE IS F             |                               |        |
| 14130 |    | BLOCK CONTAINS 15 RECORDS       |                               | C98970 |
| 14140 |    | RECORU CONTAINS 130             | CHARACTERS                    | C98970 |
| 14150 |    | LABEL RECORDS ARE OMITTED       |                               | C98970 |
| 14160 |    | DATA RECORDS ARE NI-DATA.       |                               | C98970 |
| 14170 | 01 | NI-DATA SYNC                    | PICTURE X(130).               | C98970 |
| 15100 | FD | OUT-PRINT-ISC                   |                               | C98970 |
| 15120 |    | RECORUING MODE IS F             |                               | C98970 |
| 15130 |    | BLOCK CONTAINS 15 RECORDS       |                               | C98970 |
| 15140 |    | RECORU CONTAINS 130             | CHARACTERS                    | C98970 |
| 15150 |    | LABEL RECORDS ARE OMITTED       |                               | C98970 |
| 15160 |    | DATA RECORDS ARE ISC-DATA.      |                               | C98970 |
| 15170 | 01 | ISC-DATA SYNC                   | PICTURE X(130).               | C98970 |
| 30000 |    | WORKING-STORAGE SECTION.        |                               | C98970 |
| 30010 | 77 | ISCHRONAL SYNC                  | PICTURE X.                    | C98970 |
| 30020 | 77 | WDC-TEMP SYNC                   | PICTURE X.                    | C98970 |
| 30040 | 77 | WEEK-TEMP SYNC                  | PICTURE 999.                  | C98970 |
| 30050 | 77 | KNT SYNC COMPUTATIONAL          | PICTURE S999.                 | C98970 |
| 30060 | 77 | CUR-SN                          | PICTURE X(A) VALUE SPACE.     | C98970 |
| 30070 | 77 | P-WLEK                          | PICTURE S999 COMPUTATIONAL.   | C98970 |
| 30080 | 77 | P-FLT-HRS                       | PICTURE S9(6) COMPUTATIONAL.  | C98970 |
| 30100 | 77 | NO-WUC SYNC                     | PICTURE 9999 VALUE ZERO.      | C98970 |
| 30170 | 77 | CNT SYNC COMPUTATIONAL          | PICTURE S999.                 | C98970 |
| 30400 | 77 | ISC-TEMP SYNC                   | PICTURE X(8) VALUE SPACE.     | C98970 |
| 30410 | 77 | PREV-TESTED-SN SYNC             | PICTURE X(8) VALUE SPACE.     | C98970 |
| 30420 | 77 | ISC-FLAG SYNC                   | PICTURE X VALUE SPACE.        | C98970 |
| 30430 | 77 | MIN-ISC-WEEK SYNC COMPUTATIONAL | PICTURE S999 VALUE <999.      | C98970 |
| 30500 | 77 | TEMP-WUC SYNC                   | PICTURE X(5).                 | C98970 |
| 30510 | 77 | TEMP-COL-NO SYNC                | PICTURE S99 COMPUTATIONAL.    | C98970 |
| 30520 | 77 | NO-WDC-COLS COMPUTATIONAL       | PICTURE S999 SYNC VALUE <21.  | C98970 |
| 30530 | 77 | BF COMPUTATIONAL                | PICTURE S999 SYNC VALUE <23.  | C98970 |
| 30540 | 77 | ONE SYNC                        | PICTURE X VALUE 111.          | C98970 |
| 30550 | 77 | TWO SYNC                        | PICTURE X VALUE 121.          | C98970 |
| 30560 | 77 | POS-WUC COMPUTATIONAL           | PICTURE S999.                 | C98970 |
| 30570 | 77 | ISC-TITLE-FLAG SYNC             | PICTURE X.                    | C98970 |
| 30580 | 77 | NI-TITLE-FLAG SYNC              | PICTURE X.                    | C98970 |
| 30590 | 77 | NI-LINE-FLAG SYNC               | PICTURE X.                    | C98970 |
| 30600 | 77 | ISC-LINE-FLAG SYNC              | PICTURE X.                    | C98970 |
| 30610 | 77 | PAGE-NUMBER-ISC                 | PICTURE S99 SYNC VALUE ZERO.  | C98970 |
| 30615 | 77 | PAGE-NUMBER-NI                  | PICTURE S99 SYNC VALUE ZERO.  | C98970 |
| 30620 | 77 | NO-REC-PRINT-ISC                | PICTURE 9(7) VALUE ZERO.      | C98970 |
| 30630 | 77 | NO-REC-PRINT-N                  | PICTURE 9(7) VALUE ZERO.      | C98970 |
| 30640 | 77 | NO-REC-TAPE                     | PICTURE 9(7) VALUE ZERO.      | C98970 |
| 30650 | 77 | NO-REC-TAPE-TI                  | PICTURE 9(7) VALUE ZERO.      | C98970 |
| 30660 | 77 | LINE-CNT-ISC COMPUTATIONAL      | PICTURE S999 SYNC.            | C98970 |
| 30670 | 77 | LINE-CNT-NI COMPUTATIONAL       | PICTURE S999 SYNC.            | C98970 |
| 30680 | 77 | LINE-PAGE COMPUTATIONAL         | PICTURE S999 VALUE <60 SYNC.  | C98970 |
| 30682 | 77 | SUM-INDEX COMPUTATIONAL         | PICTURE S999 VALUE ZERO SYNC. | C98970 |
| 30684 | 77 | TEMP-INDEX COMPUTATIONAL        | PICTURE S999 VALUE ZERO SYNC. | C98970 |
| 30686 | 77 | NUMBER-SGWUC COMPUTATIONAL      | PICTURE S999 VALUE ZERO SYNC. | C98970 |
| 30688 | 77 | TWO-DIGIT-COL COMPUTATIONAL     | PICTURE S999 VALUE ZERO SYNC. | C98970 |
| 30700 | 01 | WDC-FREQ-LINE-RPT SYNC.         |                               | C98970 |
| 30710 | 02 | FILLER                          | PICTURE X(18) VALUE           | C98970 |
| 30720 |    |                                 | :J WDC FREQUENCY 1.           | C98970 |
| 30730 | 02 | WUC-FREQ-RPT OCCURS 21 TIMES    |                               | C98970 |
| 30740 |    |                                 | PICTURE ZZZZZ.                | C98970 |
| 30750 | 02 | TOTAL-WDC-FREQ-RPT              | PICTURE Z(6).                 | C98970 |
| 30760 | 02 | FILLER                          | PICTURE X VALUE 121.          | C98970 |
| 31010 | 01 | NO-ISC SYNC.                    |                               | C98970 |
| 31020 | 02 | FILLER                          | PICTURE XX.                   | C98970 |
| 31030 | 02 | NO-ISC-AC                       | PICTURE S999.                 | C98970 |
| 31040 | 02 | FILLER                          | PICTURE X(75).                | C98970 |
| 31050 | 01 | ISC-A-C SYNC.                   |                               | C98970 |
| 31060 | 02 | FILLER                          | PICTURE XX.                   | C98970 |
| 31070 | 02 | ISC-TN                          | PICTURE X(0).                 | C98970 |
| 31080 | 02 | FILLER                          | PICTURE XX.                   | C98970 |
| 31090 | 02 | ISC-WK                          | PICTURE 999.                  | C98970 |
| 31100 | 02 | FILLER                          | PICTURE X(65).                | C98970 |
| 31200 | 01 | FILLER SYNC.                    |                               | C98970 |
| 31205 | 02 | FILLER OCCURS 36 TIMES.         |                               | C98970 |
| 31210 | 03 | ISC-AC-TN                       | PICTURE X(8).                 | C98970 |
| 31220 | 03 | ISC-AC-WK COMPUTATIONAL         | PICTURE S999.                 | C98970 |
| 31300 | 01 | INPUT-DJ SYNC.                  |                               | C98970 |
| 31310 | 02 | FILLER                          | PICTURE X(5).                 | C98970 |
| 31320 | 02 | SERIAL-NO                       | PICTURE X(8).                 | C98970 |
| 31330 | 02 | WEEK                            | PICTURE 999.                  | C98970 |
| 31340 | 02 | WUC                             | PICTURE X(5).                 | C98970 |
| 31350 | 02 | FILLER REDEFINES WUC.           |                               | C98970 |
| 31360 | 03 | WUC-2                           | PICTURE XX.                   | C98970 |
| 31370 | 03 | FILLER                          | PICTURE XXX.                  | C98970 |
| 31380 | 02 | WUC                             | PICTURE X.                    | C98970 |
| 31390 | 02 | HMC                             | PICTURE XXX.                  | C98970 |
| 31400 | 02 | MA                              | PICTURE 999.                  | C98970 |
| 31410 | 02 | FILLER                          | PICTURE X(20).                | C98970 |
| 31420 | 02 | IDENT                           | PICTURE X.                    | C98970 |
| 31430 | 02 | FILLER                          | PICTURE X(4).                 | C98970 |
| 31432 | 02 | FLT-HRS                         | PICTURE S9(6).                | C98970 |

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|-------|----|--------------------------------|---------------------------------|--------|
| 31434 |    | 02 FILLER                      | PICTURE X(11).                  | C98970 |
| 32000 | 01 | REPORT-10 SYNC.                |                                 | C98970 |
| 32010 |    | 02 FILLER                      | PICTURE X(50) VALUE             | C98970 |
| 32020 |    | 19897860 TF7919-02 142-8 1 1/2 |                                 | C98970 |
| 32030 |    | 02 FILLER                      | PICTURE X(50) VALUE SPACE.      | C98970 |
| 32040 |    | 02 FILLER                      | PICTURE X(30) VALUE             | C98970 |
| 32050 |    | !                              | !.                              | C98970 |
| 40000 | 01 | NEW-PAGE SYNC.                 |                                 | C98970 |
| 40010 |    | 02 FILLER                      | PICTURE X VALUE !.              | C98970 |
| 40020 |    | 02 FILLER                      | PICTURE X(120) VALUE SPACE.     | C98970 |
| 40030 |    | 02 FILLER                      | PICTURE X(6) VALUE : PAGE!      | C98970 |
| 40040 |    | 02 PAGE-NO                     | PICTURE Z9.                     | C98970 |
| 40050 |    | 02 FILLER                      | PICTURE X VALUE !.              | C98970 |
| 40060 | 01 | TITLE-LINE SYNC.               |                                 | C98970 |
| 40070 |    | 02 FILLER                      | PICTURE X(10) VALUE !S WUC > !. | C98970 |
| 40080 |    | 02 CUR-WUC                     | PICTURE X(5) VALUE SPACE.       | C98970 |
| 40090 |    | 02 FILLER                      | PICTURE X(5) VALUE SPACE.       | C98970 |
| 40100 |    | 02 ISC-TITLE                   | PICTURE X(13).                  | C98970 |
| 40110 |    | 02 FILLER                      | PICTURE X(96) VALUE SPACE.      | C98970 |
| 40120 |    | 02 FILLER                      | PICTURE X VALUE !.              | C98970 |
| 40130 | 01 | WHEN-DISC-CODE=TITLE SYNC.     |                                 | C98970 |
| 40140 |    | 05 FILLER                      | PICTURE X(18) VALUE             | C98970 |
| 40150 |    | ! WHEN DISC. CODE !.           |                                 | C98970 |
| 40160 |    | 05 WUC-TITLE-DATA              | PICTURE X(5) OCCURS 21 TIMES.   | C98970 |
| 40170 |    | 05 FILLER                      | PICTURE X(7) VALUE : !.         | C98970 |
| 40200 | 01 | SG-WUC-TITLE-1 SYNC.           |                                 | C98970 |
| 40210 |    | 05 FILLER                      | PICTURE X(18) VALUE SPACE.      | C98970 |
| 40220 |    | 05 SG-WUC-TITLE-1A             | PICTURE X(80).                  | C98970 |
| 40230 |    | 05 SG-WUC-TITLE-1B             | PICTURE X(25).                  | C98970 |
| 40240 |    | 05 FILLER                      | PICTURE X(7) VALUE : U M !.     | C98970 |
| 40300 | 01 | SG-WUC-TITLE-2 SYNC.           |                                 | C98970 |
| 40310 |    | 05 FILLER                      | PICTURE X(18) VALUE             | C98970 |
| 40315 |    | ! SUPPORT                      | !                               | C98970 |
| 40320 |    | 05 SG-WUC-TITLE-2A             | PICTURE X(80).                  | C98970 |
| 40330 |    | 05 SG-WUC-TITLE-2B             | PICTURE X(25).                  | C98970 |
| 40335 |    | 05 FILLER                      | PICTURE X(7) VALUE : N A !.     | C98970 |
| 40350 | 01 | SG-WUC-TITLE-3 SYNC.           |                                 | C98970 |
| 40360 |    | 05 FILLER                      | PICTURE X(18) VALUE             | C98970 |
| 40365 |    | ! GENERAL                      | !                               | C98970 |
| 40370 |    | 05 SG-WUC-TITLE-3A             | PICTURE X(80).                  | C98970 |
| 40380 |    | 05 SG-WUC-TITLE-3B             | PICTURE X(25).                  | C98970 |
| 40390 |    | 05 FILLER                      | PICTURE X(7) VALUE : S !.       | C98970 |
| 40410 | 01 | SG-WUC-TITLE-4 SYNC.           |                                 | C98970 |
| 40420 |    | 05 FILLER                      | PICTURE X(18) VALUE             | C98970 |
| 40425 |    | ! W.U.C.                       | !                               | C98970 |
| 40430 |    | 05 SG-WUC-TITLE-4A             | PICTURE X(80).                  | C98970 |
| 40440 |    | 05 SG-WUC-TITLE-4B             | PICTURE X(25).                  | C98970 |
| 40450 |    | 05 FILLER                      | PICTURE X(7) VALUE : C N !.     | C98970 |
| 40480 | 01 | SG-WUC-TITLE-5 SYNC.           |                                 | C98970 |
| 40490 |    | 05 FILLER                      | PICTURE X(18) VALUE SPACE.      | C98970 |
| 40500 |    | 05 SG-WUC-TITLE-5A             | PICTURE X(80).                  | C98970 |
| 40510 |    | 05 SG-WUC-TITLE-5B             | PICTURE X(25).                  | C98970 |
| 40520 |    | 05 FILLER                      | PICTURE X(7) VALUE : H T !.     | C98970 |
| 40620 | 01 | HMC-FREQ-LINE SYNC.            |                                 | C98970 |
| 40630 |    | 02 FILLER                      | PICTURE X(12) VALUE             | C98970 |
| 40640 |    | ! FREQ HMC > !.                |                                 | C98970 |
| 40650 |    | 02 CUM-HMC                     | PICTURE XXX.                    | C98970 |
| 40660 |    | 02 FILLER                      | PICTURE XXX VALUE ! !.          | C98970 |
| 40670 |    | 02 HMC-FREQ-PT                 | PICTURE Z(5)                    | C98970 |
| 40680 |    | OCCURS 21                      | TIMES.                          | C98970 |
| 40690 |    | 02 HMC-FREQ-TOTAL-RPT          | PICTURE Z(6).                   | C98970 |
| 40700 |    | 02 FILLER                      | PICTURE X VALUE !.              | C98970 |
| 40830 | 01 | TABLE-SG-WUC-VALUES SYNC.      |                                 | C98970 |
| 41092 |    | 02 SG-WUC OCCURS 14 TIMES      | PICTURE X(5).                   | C98970 |
| 41093 |    | 02 COL-NO OCCURS 14 TIMES      | PICTURE S99 COMPUTATIONAL.      | C98970 |
| 41100 | 01 | FILLER SYNC.                   |                                 | C98970 |
| 41105 |    | 02 TABLE-SG-WUC-FREQ-ISC.      |                                 | C98970 |
| 41125 |    | 03 SG-WUC-FREQ-ISC-1           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41126 |    | 03 SG-WUC-FREQ-ISC-2           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41127 |    | 03 SG-WUC-FREQ-ISC-3           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41128 |    | 03 SG-WUC-FREQ-ISC-4           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41129 |    | 03 SG-WUC-FREQ-ISC-5           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41130 |    | 03 SG-WUC-FREQ-ISC-6           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41131 |    | 03 SG-WUC-FREQ-ISC-7           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41132 |    | 03 SG-WUC-FREQ-ISC-8           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41133 |    | 03 SG-WUC-FREQ-ISC-9           | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41134 |    | 03 SG-WUC-FREQ-ISC-10          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41135 |    | 03 SG-WUC-FREQ-ISC-11          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41136 |    | 03 SG-WUC-FREQ-ISC-12          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41137 |    | 03 SG-WUC-FREQ-ISC-13          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41138 |    | 03 SG-WUC-FREQ-ISC-14          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41139 |    | 03 SG-WUC-FREQ-ISC-15          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41140 |    | 03 SG-WUC-FREQ-ISC-16          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41141 |    | 03 SG-WUC-FREQ-ISC-17          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41142 |    | 03 SG-WUC-FREQ-ISC-18          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41143 |    | 03 SG-WUC-FREQ-ISC-19          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 41144 |    | 03 SG-WUC-FREQ-ISC-20          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |

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|-------|----|---|------------------------------|--------|
| 41145 | 03 | SG-WUC-FREQ-ISC-21                      | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41146 | 02 | FILLER REDEFINES TABLE-SG-WUC-FREQ-ISC. |                              | C98970 |
| 41147 | 03 | SG-WUC-FREQ-ISC                         | PICTURE S9(5) COMPUTATIONAL  | C98970 |
| 41148 |    |   | OCCURS 21 TIMES.             | C98970 |
| 41150 | 02 | TABLE-SG-FREQ-NI.                       |                              | C98970 |
| 41170 | 03 | SG-WUC-FREQ-NI-1                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41171 | 03 | SG-WUC-FREQ-NI-2                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41172 | 03 | SG-WUC-FREQ-NI-3                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41173 | 03 | SG-WUC-FREQ-NI-4                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41174 | 03 | SG-WUC-FREQ-NI-5                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41175 | 03 | SG-WUC-FREQ-NI-6                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41176 | 03 | SG-WUC-FREQ-NI-7                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41177 | 03 | SG-WUC-FREQ-NI-8                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41178 | 03 | SG-WUC-FREQ-NI-9                        | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41179 | 03 | SG-WUC-FREQ-NI-10                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41180 | 03 | SG-WUC-FREQ-NI-11                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41181 | 03 | SG-WUC-FREQ-NI-12                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41182 | 03 | SG-WUC-FREQ-NI-13                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41183 | 03 | SG-WUC-FREQ-NI-14                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41184 | 03 | SG-WUC-FREQ-NI-15                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41185 | 03 | SG-WUC-FREQ-NI-16                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41186 | 03 | SG-WUC-FREQ-NI-17                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41187 | 03 | SG-WUC-FREQ-NI-18                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41188 | 03 | SG-WUC-FREQ-NI-19                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41189 | 03 | SG-WUC-FREQ-NI-20                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41190 | 03 | SG-WUC-FREQ-NI-21                       | PICTURE S9(5) COMPUTATIONAL. | C98970 |
| 41191 | 02 | FILLER REDEFINES TABLE-SG-FREQ-NI.      |                              | C98970 |
| 41192 | 03 | SG-WUC-FREQ-NI                          | PICTURE S9(5) COMPUTATIONAL  | C98970 |
| 41193 |    |   | OCCURS 21 TIMES.             | C98970 |
| 41200 | 01 | TAPE-OUT-ISC SYNC.                      |                              | C98970 |
| 41210 | 02 | FILLER                                  | PICTURE X VALUE (H).         | C98970 |
| 41220 | 02 | FILLER                                  | PICTURE X VALUE SPACE.       | C98970 |
| 41230 | 02 | CUR-WUC-IJC                             | PICTURE X(5).                | C98970 |
| 41240 | 02 | FILLER                                  | PICTURE X VALUE SPACE.       | C98970 |
| 41250 | 02 | CUR-HMC-ISC                             | PICTURE XXX.                 | C98970 |
| 41260 | 02 | FILLER                                  | PICTURE X VALUE SPACE.       | C98970 |
| 41280 | 02 | LIST-HMC-ISC.                           |                              | C98970 |
| 41290 | 03 | HMC-ISC-1                               | PICTURE S9(5).               | C98970 |
| 41300 | 03 | HMC-ISC-2                               | PICTURE S9(5).               | C98970 |
| 41310 | 03 | HMC-ISC-3                               | PICTURE S9(5).               | C98970 |
| 41320 | 03 | HMC-ISC-4                               | PICTURE S9(5).               | C98970 |
| 41330 | 03 | HMC-ISC-5                               | PICTURE S9(5).               | C98970 |
| 41340 | 03 | HMC-ISC-6                               | PICTURE S9(5).               | C98970 |
| 41350 | 03 | HMC-ISC-7                               | PICTURE S9(5).               | C98970 |
| 41360 | 03 | HMC-ISC-8                               | PICTURE S9(5).               | C98970 |
| 41370 | 03 | HMC-ISC-9                               | PICTURE S9(5).               | C98970 |
| 41380 | 03 | HMC-ISC-10                              | PICTURE S9(5).               | C98970 |
| 41390 | 03 | HMC-ISC-11                              | PICTURE S9(5).               | C98970 |
| 41400 | 03 | HMC-ISC-12                              | PICTURE S9(5).               | C98970 |
| 41410 | 03 | HMC-ISC-13                              | PICTURE S9(5).               | C98970 |
| 41420 | 03 | HMC-ISC-14                              | PICTURE S9(5).               | C98970 |
| 41430 | 03 | HMC-ISC-15                              | PICTURE S9(5).               | C98970 |
| 41440 | 03 | HMC-ISC-16                              | PICTURE S9(5).               | C98970 |
| 41450 | 03 | HMC-ISC-17                              | PICTURE S9(5).               | C98970 |
| 41460 | 03 | HMC-ISC-18                              | PICTURE S9(5).               | C98970 |
| 41470 | 03 | HMC-ISC-19                              | PICTURE S9(5).               | C98970 |
| 41480 | 03 | HMC-ISC-20                              | PICTURE S9(5).               | C98970 |
| 41490 | 03 | HMC-ISC-21                              | PICTURE S9(5).               | C98970 |
| 41491 | 02 | FILLER REDEFINES LIST-HMC-ISC.          |                              | C98970 |
| 41492 | 03 | HMC-ISC OCCURS 21 TIMES PICTURE S9(5).  |                              | C98970 |
| 41500 | 02 | HMC-FREQ-TOTAL-ISC                      | PICTURE S9(6).               | C98970 |
| 41510 | 02 | FILLER                                  | PICTURE X(7) VALUE I 1 #I.   | C98970 |
| 41600 | 01 | TAPE-OUT-NI SYNC.                       |                              | C98970 |
| 41610 | 02 | FILLER                                  | PICTURE X VALUE (H).         | C98970 |
| 41620 | 02 | FILLER                                  | PICTURE X VALUE SPACE.       | C98970 |
| 41630 | 02 | CUR-WUC-NI                              | PICTURE X(5).                | C98970 |
| 41640 | 02 | FILLER                                  | PICTURE X VALUE SPACE.       | C98970 |
| 41650 | 02 | CUR-HMC-NI                              | PICTURE XXX.                 | C98970 |
| 41660 | 02 | FILLER                                  | PICTURE X VALUE SPACE.       | C98970 |
| 41680 | 02 | LIST-HMC-NI.                            |                              | C98970 |
| 41700 | 03 | HMC-NI-1                                | PICTURE S9(5).               | C98970 |
| 41710 | 03 | HMC-NI-2                                | PICTURE S9(5).               | C98970 |
| 41720 | 03 | HMC-NI-3                                | PICTURE S9(5).               | C98970 |
| 41730 | 03 | HMC-NI-4                                | PICTURE S9(5).               | C98970 |
| 41740 | 03 | HMC-NI-5                                | PICTURE S9(5).               | C98970 |
| 41750 | 03 | HMC-NI-6                                | PICTURE S9(5).               | C98970 |
| 41760 | 03 | HMC-NI-7                                | PICTURE S9(5).               | C98970 |
| 41770 | 03 | HMC-NI-8                                | PICTURE S9(5).               | C98970 |
| 41780 | 03 | HMC-NI-9                                | PICTURE S9(5).               | C98970 |
| 41790 | 03 | HMC-NI-10                               | PICTURE S9(5).               | C98970 |
| 41800 | 03 | HMC-NI-11                               | PICTURE S9(5).               | C98970 |
| 41810 | 03 | HMC-NI-12                               | PICTURE S9(5).               | C98970 |
| 41820 | 03 | HMC-NI-13                               | PICTURE S9(5).               | C98970 |
| 41830 | 03 | HMC-NI-14                               | PICTURE S9(5).               | C98970 |
| 41840 | 03 | HMC-NI-15                               | PICTURE S9(5).               | C98970 |
| 41850 | 03 | HMC-NI-16                               | PICTURE S9(5).               | C98970 |
| 41850 | 03 | HMC-NI-17                               | PICTURE S9(5).               | C98970 |





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|-------|----|------------------------------|-------------------------------|--------|
| 44100 | 01 | SG-WUC-FREQ-LINE-3-ISC SYNC. |                               | C98970 |
| 44110 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44120 |    | //SUPPORT                    | :                             | C98970 |
| 44130 | 02 | SG-WUC-ISC-3                 | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44140 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44150 | 01 | SG-WUC-FREQ-LINE-4-ISC SYNC. |                               | C98970 |
| 44160 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44170 |    | // GENERAL                   | :                             | C98970 |
| 44180 | 02 | SG-WUC-ISC-4                 | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44190 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44200 | 01 | SG-WUC-FREQ-LINE-5-ISC SYNC. |                               | C98970 |
| 44210 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44220 |    | // W.U.C.                    | :                             | C98970 |
| 44230 | 02 | SG-WUC-ISC-5                 | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44240 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44250 | 01 | SG-WUC-FREQ-LINE-6-ISC SYNC. |                               | C98970 |
| 44260 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44270 |    | :5 FREQUENCY                 | :                             | C98970 |
| 44280 | 02 | SG-WUC-ISC-6                 | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44290 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44300 | 01 | SG-WUC-FREQ-LINE-1-NI SYNC.  |                               | C98970 |
| 44310 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44320 |    | //                           | :                             | C98970 |
| 44330 | 02 | SG-WUC-NI-1                  | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44340 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44350 | 01 | SG-WUC-FREQ-LINE-2-NI SYNC.  |                               | C98970 |
| 44360 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44370 |    | //                           | :                             | C98970 |
| 44380 | 02 | SG-WUC-NI-2                  | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44390 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44400 | 01 | SG-WUC-FREQ-LINE-3-NI SYNC.  |                               | C98970 |
| 44410 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44420 |    | //SUPPORT                    | :                             | C98970 |
| 44430 | 02 | SG-WUC-NI-3                  | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44440 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44450 | 01 | SG-WUC-FREQ-LINE-4-NI SYNC.  |                               | C98970 |
| 44460 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44470 |    | // GENERAL                   | :                             | C98970 |
| 44480 | 02 | SG-WUC-NI-4                  | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44490 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44500 | 01 | SG-WUC-FREQ-LINE-5-NI SYNC.  |                               | C98970 |
| 44510 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44520 |    | // W.U.C.                    | :                             | C98970 |
| 44530 | 02 | SG-WUC-NI-5                  | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44540 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44550 | 01 | SG-WUC-FREQ-LINE-6-NI SYNC.  |                               | C98970 |
| 44560 | 02 | FILLER                       | PICTURE X(18) VALUE           | C98970 |
| 44570 |    | :5 FREQUENCY                 | :                             | C98970 |
| 44580 | 02 | SG-WUC-NI-6                  | PICTURE X(5) OCCURS 21 TIMES. | C98970 |
| 44590 | 02 | FILLER                       | PICTURE X(7) VALUE : #1.      | C98970 |
| 44600 | 01 | FILLER SYNC.                 |                               | C98970 |
| 44610 | 02 | TEMP-NO                      | PICTURE Z(6).                 | C98970 |
| 44620 | 02 | FILLER REDEFINES TEMP-NO.    |                               | C98970 |
| 44630 | 03 | TEMP-1                       | PICTURE X.                    | C98970 |
| 44640 | 03 | TEMP-2                       | PICTURE X.                    | C98970 |
| 44650 | 03 | TEMP-3                       | PICTURE X.                    | C98970 |
| 44660 | 03 | TEMP-4                       | PICTURE X.                    | C98970 |
| 44670 | 03 | TEMP-5                       | PICTURE X.                    | C98970 |
| 44680 | 03 | TEMP-6                       | PICTURE X.                    | C98970 |
| 44700 | 01 | TEMP-PLACE SYNC.             |                               | C98970 |
| 44710 | 02 | FILLER                       | PICTURE X(4) VALUE SPACE.     | C98970 |
| 44720 | 02 | TEMP-PLACE-NO                | PICTURE X.                    | C98970 |
| 45000 | 01 | FILLER SYNC.                 |                               | C98970 |
| 45010 | 05 | WDC-INPUT.                   |                               | C98970 |
| 45020 | 10 | WDC-TITLE-INPUT              | PICTURE X(5).                 | C98970 |
| 45030 | 10 | FILLER                       | PICTURE X(75).                | C98970 |
| 45040 | 05 | FILLER REDEFINES WDC-INPUT.  |                               | C98970 |
| 45050 | 10 | FILLER                       | PICTURE X(4).                 | C98970 |
| 45060 | 10 | WDC-IN                       | PICTURE X.                    | C98970 |
| 45070 | 10 | FILLER                       | PICTURE X(75).                | C98970 |
| 45100 | 01 | NUMBER-CARD SYNC.            |                               | C98970 |
| 45110 | 05 | NUMBER-ITEMS                 | PICTURE 999.                  | C98970 |
| 45120 | 05 | FILLER                       | PICTURE XX.                   | C98970 |
| 45130 | 05 | INPUT-SG-CODE                | PICTURE X(5).                 | C98970 |
| 45140 | 05 | FILLER                       | PICTURE X(70).                | C98970 |
| 45200 | 01 | FILLER SYNC.                 |                               | C98970 |
| 45210 | 05 | SUM-WDC-COL                  | PICTURE S999 OCCURS 10 TIMES. | C98970 |
| 45300 | 01 | TEMP-INPUT-SG-WUC SYNC.      |                               | C98970 |
| 45310 | 05 | TEMP-SG-WUC-TITLE            | PICTURE X(25).                | C98970 |
| 45320 | 05 | FILLER                       | PICTURE X(55).                | C98970 |
| 45400 | 01 | TWO-DIGIT-CODE SYNC.         |                               | C98970 |
| 45410 | 05 | TWO-DIGIT                    | PICTURE XX.                   | C98970 |
| 45420 | 05 | FILLER                       | PICTURE XXX.                  | C98970 |
| 45500 | 01 | INTERCHANGE-COLS SYNC.       |                               | C98970 |
| 45510 | 05 | PHIN-COL                     | PICTURE 999.                  | C98970 |
| 45520 | 05 | SEC-COL                      | PICTURE 999.                  | C98970 |
| 45530 | 05 | FILLER                       | PICTURE X(74).                | C98970 |

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| 45560 | 01 | SPEC-SG-WUC-REC SYNC.   |                               | C98970 |
| 45570 | 05 | SPEC-SG-WUC   | PICTURE X(5).                 | C98970 |
| 45580 | 05 | SPEC-WELK-A   | PICTURE 999.                  | C98970 |
| 45590 | 05 | FILLER  | PICTURE X(72).                | C98970 |
| 45600 | 01 | FILLER SYNC.  |                               | C98970 |
| 45610 | 05 | SPLC-SG-WUC-LIST  | PICTURE X(5) OCCURS 10 TIMES. | C98970 |
| 45620 | 05 | SPEC-WELK-LIST  | PICTURE 999 OCCURS 10 TIMES.  | C98970 |
| 45630 | 01 | NO-SPEC-SG-WUC SYNC   | PICTURE S999 COMPUTATIONAL.   | C98970 |
| 45640 | 01 | SPEC-WUC SYNC   | PICTURE X(5).                 | C98970 |
| 45650 | 01 | SPEC-WELK SYNC  | PICTURE 999.                  | C98970 |
| 45660 | 01 | SPEC-IN-EX SYNC   | PICTURE S999 COMPUTATIONAL.   | C98970 |
| 50000 |    | PROCEDURE DIVISION.   |                               | C98970 |
| 50010 |    | OPEN=FILES.   |                               | C98970 |
| 50020 |    | OPEN INPUT IN-FILE-DR, IN-FILE-ISC, OUTPUT OUT-DATA,          |                               | C98970 |
| 50030 |    | OUT-PRINT-ISC, OUT-PRINT-NI, OUT-TITLES.                      |                               | C98970 |
| 50040 |    | PERFORM READ-ISC-A-C THRU END-RIAC.                           |                               | C98970 |
| 50045 |    | PERFORM READ-IN-TITLE-DATA THRU END-RITD.                     |                               | C98970 |
| 50047 |    | PERFORM READ-SPEC-SG-WUC THRU END-RSSW.                       |                               | C98970 |
| 50050 |    | WRITE NI-DATA FROM REPORT-ID.                                 |                               | C98970 |
| 50060 |    | WRITE ISC-DATA FROM REPORT-ID.                                |                               | C98970 |
| 50070 |    | ADD 1 TO NO-REC-PRINT-NI.                                     |                               | C98970 |
| 50080 |    | ADD 1 TO NC-REC-PRINT-ISC.                                    |                               | C98970 |
| 50100 |    | MOVL ZERO TO CNT.   |                               | C98970 |
| 50110 |    | RST-SG-WUC.   |                               | C98970 |
| 50120 |    | ADD 1 TO CNT.   |                               | C98970 |
| 50130 |    | MOVL ZERO TO SG-WUC-FREQ-ISC (CNT).                           |                               | C98970 |
| 50140 |    | MOVE ZERO TO SG-WUC-FREQ-NI (CNT).                            |                               | C98970 |
| 50150 |    | IF CNT IS LESS THAN NO-WDC-COLS, GO TO RST-SG-WUC.            |                               | C98970 |
| 50200 |    | MOVE 1 TO KNT.  |                               | C98970 |
| 50210 |    | MOVL SG-WUC (KNT) TO TEMP-WUC.                                |                               | C98970 |
| 50220 |    | MOVL COL-NC (KNT) TO TEMP-COL-NO.                             |                               | C98970 |
| 50230 |    | READ-SG-WUC.  |                               | C98970 |
| 50240 |    | READ IN-FILE-DB INTO INPUT-DB.                                |                               | C98970 |
| 50250 |    | AT END GO TO CLOSE-FILES.                                     |                               | C98970 |
| 50255 |    | IF MA IS LESS THAN ZERO GO TO READ-SG-WUC.                    |                               | C98970 |
| 50260 |    | IF WUC-Z IS EQUAL TO TWO-DIGIT PERFORM PROC-2-DIG-WUC.        |                               | C98970 |
| 50290 |    | NEXT-SG-WUC.  |                               | C98970 |
| 50300 |    | IF WUC IS LESS THAN TEMP-WUC, GO TO READ-SG-WUC.              |                               | C98970 |
| 50310 |    | IF WUC IS EQUAL TO TEMP-WUC GO TO PROC-SG-WUC.                |                               | C98970 |
| 50320 |    | IF WUC IS GREATER THAN 999999 GO TO SET-TITLE-1A.             |                               | C98970 |
| 50330 |    | ADD 1 TO KNT.   |                               | C98970 |
| 50340 |    | IF KNT IS GREATER THAN 14 GO TO SET-TITLE-1A.                 |                               | C98970 |
| 50350 |    | MOVL SG-WUC (KNT) TO TEMP-WUC.                                |                               | C98970 |
| 50360 |    | MOVL COL-NO (KNT) TO TEMP-COL-NO.                             |                               | C98970 |
| 50370 |    | GO TO NEXT-SG-WUC.  |                               | C98970 |
| 50400 |    | PROC-SG-WUC.  |                               | C98970 |
| 50410 |    | PERFORM CHECK-ISCHRONAL THRU END-CI.                          |                               | C98970 |
| 50411 |    | MOVE ZERO TO SPEC-INDEX.                                      |                               | C98970 |
| 50412 |    | TEST-SPLC-SG-WUC.   |                               | C98970 |
| 50413 |    | ADD 1 TO SPEC-INDEX.  |                               | C98970 |
| 50414 |    | IF WUC IS EQUAL TO SPEC-SG-WUC-LIST (SPEC-INDEX) GO TO        |                               | C98970 |
| 50415 |    | PROC-SPEC-SG-WUC.   |                               | C98970 |
| 50416 |    | IF SPEC-INDEX IS LESS THAN NO-SPEC-SG-WUC GO TO               |                               | C98970 |
| 50417 |    | TEST-SPEC-SG-WUC.   |                               | C98970 |
| 50420 |    | IF ISCHRONAL IS EQUAL TO ONE ADD MA TO SG-WUC-FREQ-ISC        |                               | C98970 |
| 50421 |    | (TEMP-COL-NO).  |                               | C98970 |
| 50430 |    | ELSE ADD MA TO SG-WUC-FREQ-NI (TEMP-COL-NO).                  |                               | C98970 |
| 50440 |    | GO TO READ-SG-WUC.  |                               | C98970 |
| 50500 |    | PROC-2-DIG-WUC.   |                               | C98970 |
| 50510 |    | PERFORM CHECK-ISCHRONAL THRU END-CI.                          |                               | C98970 |
| 50520 |    | IF ISCHRONAL IS EQUAL TO ONE, ADD MA TO SG-WUC-FREQ-ISC       |                               | C98970 |
| 50530 |    | (TWO-DIGIT-COL) ELSE ADD MA TO SG-WUC-FREQ-NI                 |                               | C98970 |
| 50540 |    | (TWO-DIGIT-COL).  |                               | C98970 |
| 50600 |    | SET-TITLE-1A.   |                               | C98970 |
| 50602 |    | MOVE ZERO TO CNT.   |                               | C98970 |
| 50604 |    | MOVL SG-WUC-FREQ-ISC (PRIM-COL) TO SG-WUC-FREQ-ISC (SEC-COL). |                               | C98970 |
| 50606 |    | SET-SG-WUC-ISC.   |                               | C98970 |
| 50608 |    | ADD 1 TO CNT.   |                               | C98970 |
| 50610 |    | MOVE SG-WUC-FREQ-ISC (CNT) TO TEMP-NO.                        |                               | C98970 |
| 50612 |    | MOVL TEMP-1 TO TEMP-PLACE-NO.                                 |                               | C98970 |
| 50614 |    | MOVE TEMP-PLACE TO SG-WUC-ISC-1 (CNT).                        |                               | C98970 |
| 50616 |    | MOVE TEMP-2 TO TEMP-PLACE-NO.                                 |                               | C98970 |
| 50618 |    | MOVL TEMP-PLACE TO SG-WUC-ISC-2 (CNT).                        |                               | C98970 |
| 50620 |    | MOVE TEMP-3 TO TEMP-PLACE-NO.                                 |                               | C98970 |
| 50622 |    | MOVL TEMP-PLACE TO SG-WUC-ISC-3 (CNT).                        |                               | C98970 |
| 50624 |    | MOVE TEMP-4 TO TEMP-PLACE-NO.                                 |                               | C98970 |
| 50626 |    | MOVE TEMP-PLACE TO SG-WUC-ISC-4 (CNT).                        |                               | C98970 |
| 50628 |    | MOVE TEMP-5 TO TEMP-PLACE-NO.                                 |                               | C98970 |
| 50630 |    | MOVL TEMP-PLACE TO SG-WUC-ISC-5 (CNT).                        |                               | C98970 |
| 50632 |    | MOVE TEMP-6 TO TEMP-PLACE-NO.                                 |                               | C98970 |
| 50634 |    | MOVE TEMP-PLACE TO SG-WUC-ISC-6 (CNT).                        |                               | C98970 |
| 50636 |    | IF CNT IS LESS THAN NO-WDC-COLS GO TO SET-SG-WUC-ISC.         |                               | C98970 |
| 50640 |    | MOVE SG-WUC-FREQ-NI (PRIM-COL) TO SG-WUC-FREQ-NI (SEC-COL).   |                               | C98970 |
| 50642 |    | MOVE ZERO TO CNT.   |                               | C98970 |

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| 50644 | SET-SG-WUC-NI.  | C98970 |
| 50646 | ADD 1 TO CNT.   | C98970 |
| 50648 | MOVE SG-WUC-FREQ-NI [CNT] TO TEMP-NO.                   | C98970 |
| 50650 | MOVE TEMP-1 TO TEMP-PLACE-NO.                           | C98970 |
| 50652 | MOVE TEMP-PLACE TO SG-WUC-NI-1 [CNT].                   | C98970 |
| 50654 | MOVE TEMP- TO TEMP-PLACE-NO.                            | C98970 |
| 50656 | MOVE TEMP-PLACE TO SG-WUC-NI-2 [CNT].                   | C98970 |
| 50658 | MOVE TEMP-3 TO TEMP-PLACE-NO.                           | C98970 |
| 50660 | MOVE TEMP-PLACE TO SG-WUC-NI-3 [CNT].                   | C98970 |
| 50662 | MOVE TEMP-4 TO TEMP-PLACE-NO.                           | C98970 |
| 50664 | MOVE TEMP-PLACE TO SG-WUC-NI-4 [CNT].                   | C98970 |
| 50666 | MOVE TEMP-5 TO TEMP-PLACE-NO.                           | C98970 |
| 50668 | MOVE TEMP-PLACE TO SG-WUC-NI-5 [CNT].                   | C98970 |
| 50670 | MOVE TEMP-6 TO TEMP-PLACE-NO.                           | C98970 |
| 50672 | MOVE TEMP-PLACE TO SG-WUC-NI-6 [CNT].                   | C98970 |
| 50674 | IF CNT IS LESS THAN NO-WDC-COLS GO TO SET-SG-WUC-NI.    | C98970 |
| 50700 | MOVE STORE TITLE FR USE LATER.                          | C98970 |
| 50710 | MOVE PAGE-NUMBER-NI TO PAGE-NO.                         | C98970 |
| 50720 | MOVL : NON-ISO : TO ISC-TITLE.                          | C98970 |
| 50730 | WRITE TAPE-FILE-TI FROM NEW-PAGE.                       | C98970 |
| 50740 | WRITE TAPE-FILE-TI FROM TITLE-LINE.                     | C98970 |
| 50750 | WRITE TAPE-FILE-TI FROM WHEN-DISC-CODE-TITLE.           | C98970 |
| 50760 | WRITE TAPE-FILE-TI FROM SG-WUC-TITLE-1.                 | C98970 |
| 50770 | WRITE TAPE-FILE-TI FROM SG-WUC-TITLE-2.                 | C98970 |
| 50780 | WRITE TAPE-FILE-TI FROM SG-WUC-TITLE-3.                 | C98970 |
| 50790 | WRITE TAPE-FILE-TI FROM SG-WUC-TITLE-4.                 | C98970 |
| 50800 | WRITE TAPE-FILE-TI FROM SG-WUC-TITLE-5.                 | C98970 |
| 50810 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-1-NI.          | C98970 |
| 50812 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-2-NI.          | C98970 |
| 50814 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-3-NI.          | C98970 |
| 50816 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-4-NI.          | C98970 |
| 50818 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-5-NI.          | C98970 |
| 50820 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-6-NI.          | C98970 |
| 50822 | ADD 14 TO NO-REC-TAPE-TI.                               | C98970 |
| 50830 | MOVE : ISCHRONAL : TO ISC-TITLE.                        | C98970 |
| 50850 | WRITE TAPE-FILE-TI FROM TITLE-LINE.                     | C98970 |
| 50920 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-1-ISC.         | C98970 |
| 50922 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-2-ISC.         | C98970 |
| 50924 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-3-ISC.         | C98970 |
| 50926 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-4-ISC.         | C98970 |
| 50928 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-5-ISC.         | C98970 |
| 50930 | WRITE TAPE-FILE-TI FROM SG-WUC-FREQ-LINE-6-ISC.         | C98970 |
| 50932 | ADD 7 TO NO-REC-TAPE-TI.                                | C98970 |
| 51000 | PERFORM RESET-HMC-LINE-NI THRU END-RESET-NI.            | C98970 |
| 51005 | PERFORM RESET-HMC-LINE-ISC THRU END-RESET-ISC.          | C98970 |
| 51010 | READ-NSG-WUC.   | C98970 |
| 51020 | READ IN-FILE-DB INTO INPUT-DB.                          | C98970 |
| 51030 | AT END GO TO CLOSE-TABLE.                               | C98970 |
| 51040 | IF IOENT 1: NOT EQUAL TO 14: GO TO READ-NSG-WUC.        | C98970 |
| 51050 | PERFORM PROC-WDC THRU END-PROC-WDC.                     | C98970 |
| 51060 | IF POS-WDC IS EQUAL TO ZERO GO TO READ-NSG-WUC.         | C98970 |
| 51100 | NEXT-WUC.   | C98970 |
| 51102 | MOVL ZERO TO PAGE-NUMBER-ISC.                           | C98970 |
| 51104 | MOVE ZERO TO PAGE-NUMBER-NI.                            | C98970 |
| 51110 | MOVE WUC TO CUR-WUC.                                    | C98970 |
| 51130 | MOVE SPACE TO ISC-TITLE-FLAG.                           | C98970 |
| 51140 | MOVE SPACE TO NI-TITLE-FLAG.                            | C98970 |
| 51150 | ADD 1 TO NO-WUC.  | C98970 |
| 51160 | PERFORM RESET-WUC-FREQ.                                 | C98970 |
| 51200 | NEXT-HMC.   | C98970 |
| 51210 | MOVE HMC TO CUR-HMC.                                    | C98970 |
| 51220 | MOVE SPACE TO ISC-LINE-FLAG.                            | C98970 |
| 51230 | MOVE SPACE TO NI-LINE-FLAG.                             | C98970 |
| 51240 | PERFORM CHECK-ISCHRONAL THRU END-CI.                    | C98970 |
| 51250 | IF ISCHRONAL IS EQUAL TO ONE PERFORM ADD-ISC.           | C98970 |
| 51260 | ELSE PERFORM ADD-NI.                                    | C98970 |
| 51300 | READ-OATA.  | C98970 |
| 51310 | READ IN-FILE-DB INTO INPUT-DB.                          | C98970 |
| 51320 | AT END GO TO CLOSE-TABLE.                               | C98970 |
| 51330 | IF IOENI IS NOT EQUAL TO 14: GO TO READ-OATA.           | C98970 |
| 51340 | PERFORM PROC-WDC THRU END-PROC-WDC.                     | C98970 |
| 51350 | IF POS-WDC IS EQUAL TO ZERO GO TO READ-OATA.            | C98970 |
| 51360 | PERFORM CHECK-ISCHRONAL THRU END-CI.                    | C98970 |
| 51370 | IF WUC IS NOT EQUAL TO CUR-WUC GO TO OUTPUT-TABLE-END.  | C98970 |
| 51380 | IF HMC IS NOT EQUAL TO CUR-HMC GO TO OUTPUT-LINE.       | C98970 |
| 51390 | IF ISCHRONAL IS EQUAL TO ONE PERFORM ADD-ISC.           | C98970 |
| 51400 | ELSE PERFORM ADD-NI.                                    | C98970 |
| 51490 | GO TO READ-OATA.  | C98970 |
| 51500 | RESET-HMC-LINE-NI.                                      | C98970 |
| 51510 | MOVE ZERO TO CNT.                                       | C98970 |
| 51520 | RESET-HMC-LINE-1.                                       | C98970 |
| 51530 | ADD 1 TO CNT.   | C98970 |
| 51550 | MOVE ZERO TO HMC-NI [CNT].                              | C98970 |
| 51560 | IF CNT IS LESS THAN NO-WDC-COLS GO TO RESET-HMC-LINE-1. | C98970 |
| 51590 | END-RESULT-NI. EXIT.                                    | C98970 |
| 51600 | WRITE-TITLE-NI.   | C98970 |
| 51610 | ADD 1 TO PAGE-NUMBER-NI.                                | C98970 |

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| 51620 | MOVE PAGE-NUMBER-NI TO PAGE-NO.                          | C98970 |
| 51630 | WRITE NI-DATA FROM NEW-PAGE.                             | C98970 |
| 51640 | MOVL : NO-ISO : TO ISC-TITLE.                            | C98970 |
| 51650 | WRITE NI-DATA FROM TITLE-LINE.                           | C98970 |
| 51660 | WRITE NI-DATA FROM WHEN-DISC-CODE-TITLE.                 | C98970 |
| 51670 | WRITE NI-DATA FROM SG-WUC-TITLE-1.                       | C98970 |
| 51680 | WRITE NI-DATA FROM SG-WUC-TITLE-2.                       | C98970 |
| 51690 | WRITE NI-DATA FROM SG-WUC-TITLE-3.                       | C98970 |
| 51700 | WRITE NI-DATA FROM SG-WUC-TITLE-4.                       | C98970 |
| 51710 | WRITE NI-DATA FROM SG-WUC-TITLE-5.                       | C98970 |
| 51720 | WRITE NI-DATA FROM SG-WUC-FREQ-LINE-1-NI.                | C98970 |
| 51722 | WRITE NI-DATA FROM SG-WUC-FREQ-LINE-2-NI.                | C98970 |
| 51724 | WRITE NI-DATA FROM SG-WUC-FREQ-LINE-3-NI.                | C98970 |
| 51725 | WRITE NI-DATA FROM SG-WUC-FREQ-LINE-4-NI.                | C98970 |
| 51726 | WRITE NI-DATA FROM SG-WUC-FREQ-LINE-5-NI.                | C98970 |
| 51727 | WRITE NI-DATA FROM SG-WUC-FREQ-LINE-6-NI.                | C98970 |
| 51730 | ADD 14 TO NO-REC-PRINT-NI.                               | C98970 |
| 51740 | MOVE 14 TO LINE-CNT-NI.                                  | C98970 |
| 51800 | WRITE-TITLE-ISC.   | C98970 |
| 51805 | ADD 1 TO PAGE-NUMBER-ISC.                                | C98970 |
| 51810 | MOVE PAGE-NUMBER-ISC TO PAGE-NO.                         | C98970 |
| 51820 | WRITE ISC-DATA FROM NEW-PAGE.                            | C98970 |
| 51830 | MOVL : ISOCHRONAL : TO ISC-TITLE.                        | C98970 |
| 51840 | WRITE ISC-DATA FROM TITLE-LINE.                          | C98970 |
| 51850 | WRITE ISC-DATA FROM WHEN-DISC-CODE-TITLE.                | C98970 |
| 51860 | WRITE ISC-DATA FROM SG-WUC-TITLE-1.                      | C98970 |
| 51870 | WRITE ISC-DATA FROM SG-WUC-TITLE-2.                      | C98970 |
| 51880 | WRITE ISC-DATA FROM SG-WUC-TITLE-3.                      | C98970 |
| 51890 | WRITE ISC-DATA FROM SG-WUC-TITLE-4.                      | C98970 |
| 51900 | WRITE ISC-DATA FROM SG-WUC-TITLE-5.                      | C98970 |
| 51910 | WRITE ISC-DATA FROM SG-WUC-FREQ-LINE-1-ISC.              | C98970 |
| 51912 | WRITE ISC-DATA FROM SG-WUC-FREQ-LINE-2-ISC.              | C98970 |
| 51914 | WRITE ISC-DATA FROM SG-WUC-FREQ-LINE-3-ISC.              | C98970 |
| 51915 | WRITE ISC-DATA FROM SG-WUC-FREQ-LINE-4-ISC.              | C98970 |
| 51916 | WRITE ISC-DATA FROM SG-WUC-FREQ-LINE-5-ISC.              | C98970 |
| 51917 | WRITE ISC-DATA FROM SG-WUC-FREQ-LINE-6-ISC.              | C98970 |
| 51920 | ADD 14 TO NO-REC-PRINT-ISC.                              | C98970 |
| 51930 | MOVE 14 TO LINE-CNT-ISC.                                 | C98970 |
| 52000 | PROC-WDC.  | C98970 |
| 52010 | MOVE ZERO TO POS-WDC.                                    | C98970 |
| 52020 | MOVL ZERO TO CNT.  | C98970 |
| 52030 | PROC-WDC-A.  | C98970 |
| 52040 | ADD 1 TO CNT.  | C98970 |
| 52050 | MOVE WDC-LIST [CNT] TO WDC-TEMP.                         | C98970 |
| 52060 | IF WDC IS LESS THAN WDC-TEMP GO TO END-PROC-WDC.         | C98970 |
| 52070 | IF WDC IS EQUAL TO WDC-TEMP GO TO PROC-WDC-C.            | C98970 |
| 52080 | IF CNT IS LESS THAN NO-WDC-COLS GO TO PROC-WDC-A.        | C98970 |
| 52100 | PROC-WDC-C.  | C98970 |
| 52110 | MOVL CNT TO POS-WDC.                                     | C98970 |
| 52140 | END-PROC-WDC. EXIT.                                      | C98970 |
| 52200 | OUTPUT-LINE-OF-NI-DATA.                                  | C98970 |
| 52220 | MOVE ZERO TO CNT.  | C98970 |
| 52230 | OUTPUT-LINE-NI-A.  | C98970 |
| 52240 | ADD 1 TO CNT.  | C98970 |
| 52250 | MOVE HMC-NI [CNT] TO HMC-FREQ-RPT [CNT].                 | C98970 |
| 52260 | IF CNT IS LESS THAN NO-WDC-COLS GO TO OUTPUT-LINE-NI-A.  | C98970 |
| 52300 | MOVL ZERO TO HMC-FREQ-TOTAL-NI.                          | C98970 |
| 52310 | MOVE ZERO TO CNT.  | C98970 |
| 52320 | SUM-NI-COL.  | C98970 |
| 52330 | ADD 1 TO CNT.  | C98970 |
| 52340 | MOVL SUM-WDC-COL [CNT] TO TEMP-INDEX.                    | C98970 |
| 52350 | ADD HMC-NI [TEMP-INDEX] TO HMC-FREQ-TOTAL-NI.            | C98970 |
| 52360 | IF CNT IS LESS THAN SUM-INDEX GO TO SUM-NI-COL.          | C98970 |
| 52390 | MOVE HMC-FREQ-TOTAL-NI TO HMC-FREQ-TOTAL-RPT.            | C98970 |
| 52392 | IF LINE-CNT-NI IS GREATER THAN LINE-PAGE                 | C98970 |
| 52394 | PERFORM WRITE-TITLE-NI.                                  | C98970 |
| 52400 | WRITE NI-DATA FROM HMC-FREQ-LINE.                        | C98970 |
| 52410 | ADD 1 TO NO-REC-PRINT-NI.                                | C98970 |
| 52415 | ADD 1 TO LINE-CNT-NI.                                    | C98970 |
| 52500 | MOVE CUR-WDC TO CUR-WUC-NI.                              | C98970 |
| 52510 | MOVL CUR-HMC TO CUR-HMC-NI.                              | C98970 |
| 52520 | WRITE TAPE-FILE FROM TAPE-OUT-NI.                        | C98970 |
| 52530 | ADD 1 TO NO-REC-TAPE.                                    | C98970 |
| 52540 | PERFORM RESET-HMC-LINE-NI THRU END-RESET-NI.             | C98970 |
| 52590 | END-OUTPUT-LINE-NI-DATA. EXIT.                           | C98970 |
| 52600 | OUTPUT-LINE-OF-ISC-DATA.                                 | C98970 |
| 52610 | MOVE ZERO TO CNT.  | C98970 |
| 52620 | OUTPUT-LINE-ISC-A.                                       | C98970 |
| 52630 | ADD 1 TO CNT.  | C98970 |
| 52640 | MOVE HMC-ISC [CNT] TO HMC-FREQ-RPT [CNT].                | C98970 |
| 52650 | IF CNT IS LESS THAN NO-WDC-COLS GO TO OUTPUT-LINE-ISC-A. | C98970 |
| 52700 | MOVE ZERO TO HMC-FREQ-TOTAL-ISC.                         | C98970 |
| 52710 | MOVE ZERO TO CNT.  | C98970 |
| 52720 | SUM-ISC-COL.   | C98970 |
| 52730 | ADD 1 TO CNT.  | C98970 |
| 52740 | MOVE SUM-WDC-COL [CNT] TO TEMP-INDEX.                    | C98970 |
| 52750 | ADD HMC-ISC [TEMP-INDEX] TO HMC-FREQ-TOTAL-ISC.          | C98970 |

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| 52760 | IF CNT IS LESS THAN SUM-INDEX GO TO SUM-ISC-COL.             | C98970 |
| 52790 | MOVE HMC-FREQ-TOTAL-ISC TO HMC-FREQ-TOTAL-RPT.               | C98970 |
| 52792 | IF LINE-CNT-ISC IS GREATER THAN LINE-PAGE                    | C98970 |
| 52794 | PERFORM WRITE-TITLE-ISC.                                     | C98970 |
| 52800 | WRITE ISC-DATA FROM HMC-FREQ-LINE.                           | C98970 |
| 52810 | ADD I TO NO-REC-PRINT-ISC.                                   | C98970 |
| 52820 | ADD I TO LINE-CNT-ISC.                                       | C98970 |
| 52900 | MOVE CUR-WUC TO CUR-WUC-ISC.                                 | C98970 |
| 52910 | MOVE LUN-HMC TO CUR-HMC-ISC.                                 | C98970 |
| 52920 | WRITE TAPE-FILE FROM TAPE-OUT-ISC.                           | C98970 |
| 52930 | ADD I TO NO-REC-TAPE.  | C98970 |
| 52980 | PERFORM RESET-HMC-LINE-ISC THRU END-RESET-ISC.               | C98970 |
| 52990 | END-OUTPUT-LINE-ISC-DATA. EXIT.                              | C98970 |
| 53000 | OUTPUT-TAULL-EMU.  | C98970 |
| 53010 | IF NI-LINE-FLAG IS EQUAL TO SPACE GO TO OUTPUT-WDC-NI.       | C98970 |
| 53020 | IF NI-TITLE-FLAG IS EQUAL TO SPACE PERFORM WRITE-TITLE-NI.   | C98970 |
| 53030 | MOVE ONL TO NI-TITLE-FLAG.                                   | C98970 |
| 53040 | PERFORM OUTPUT-LINE-OF-NI-DATA THRU END-OUTPUT-LINE-NI-DATA. | C98970 |
| 53060 | OUTPUT-WDC-NI.   | C98970 |
| 53070 | IF NI-TITLE-FLAG IS EQUAL TO SPACE GO TO OUTPUT-CHECK-ISC.   | C98970 |
| 53100 | MOVE ZERO TO TOTAL-WDC-FREQ-NI.                              | C98970 |
| 53110 | MOVE ZERO TO CNT.  | C98970 |
| 53120 | SUM-NI-WDC.  | C98970 |
| 53130 | ADD I TO CNT.  | C98970 |
| 53140 | MOVE SUM-WDC-COL [CNT] TO TEMP-INDEX.                        | C98970 |
| 53150 | ADD WDC-FREQ-NI [TEMP-INDEX] TO TOTAL-WDC-FREQ-NI.           | C98970 |
| 53160 | IF CNT IS LESS THAN SUM-INDEX GO TO SUM-NI-WDC.              | C98970 |
| 53170 | MOVE TOTAL-WDC-FREQ-NI TO TOTAL-WDC-FREQ-RPT.                | C98970 |
| 53180 | MOVE ZERO TO CNT.  | C98970 |
| 53190 | OUTPUT-A.  | C98970 |
| 53200 | ADD I TO CNT.  | C98970 |
| 53210 | MOVE WDC-FREQ-NI [CNT] TO WDC-FREQ-RPT [CNT].                | C98970 |
| 53220 | IF CNT IS LESS THAN NO-WDC-COLS. GO TO OUTPUT-A.             | C98970 |
| 53230 | WRITE NI-DATA FROM WDC-FREQ-LINE-RPT.                        | C98970 |
| 53235 | MOVE CUR-WUC TO CUR-WUC-W-NI.                                | C98970 |
| 53240 | WRITE TAPE-FILE FROM WDC-FREQ-DATA-NI.                       | C98970 |
| 53250 | ADD I TO NO-REC-TAPE. ADD I TO NO-REC-PRINT-NI.              | C98970 |
| 53260 | OUTPUT-LHECK-ISC.  | C98970 |
| 53270 | IF ISC-LINE-FLAG IS EQUAL TO SPACE GO TO OUTPUT-WDC-ISC.     | C98970 |
| 53280 | IF ISC-TITLE-FLAG IS EQUAL TO SPACE PERFORM WRITE-TITLE-ISC. | C98970 |
| 53290 | MOVE ONL TO ISC-TITLE-FLAG.                                  | C98970 |
| 53300 | PERFORM OUTPUT-LINE-OF-ISC-DATA THRU                         | C98970 |
| 53310 | END-OUTPUT-LINE-ISC-DATA.                                    | C98970 |
| 53320 | OUTPUT-WDC-ISC.  | C98970 |
| 53330 | IF ISC-TITLE-FLAG IS EQUAL TO SPACE GO TO CHECK-ID.          | C98970 |
| 53340 | MOVE ZERO TO TOTAL-WDC-FREQ-ISC.                             | C98970 |
| 53345 | MOVE ZERO TO CNT.  | C98970 |
| 53350 | SUM-ISC-WDC.   | C98970 |
| 53355 | ADD I TO CNT.  | C98970 |
| 53360 | MOVE SUM-WDC-COL [CNT] TO TEMP-INDEX.                        | C98970 |
| 53365 | ADD WDC-FREQ-ISC [TEMP-INDEX] TO TOTAL-WDC-FREQ-ISC.         | C98970 |
| 53370 | IF CNT IS LESS THAN SUM-INDEX GO TO SUM-ISC-WDC.             | C98970 |
| 53390 | MOVE TOTAL-WDC-FREQ-ISC TO TOTAL-WDC-FREQ-RPT.               | C98970 |
| 53400 | MOVE ZERO TO CNT.  | C98970 |
| 53410 | OUTPUT-B.  | C98970 |
| 53420 | ADD I TO CNT.  | C98970 |
| 53430 | MOVE WDC-FREQ-ISC [CNT] TO WDC-FREQ-RPT [CNT].               | C98970 |
| 53440 | IF CNT IS LESS THAN NO-WDC-COLS GO TO OUTPUT-B.              | C98970 |
| 53450 | WRITE ISC-DATA FROM WDC-FREQ-LINE-RPT.                       | C98970 |
| 53455 | MOVE CUR-WUC TO CUR-WUC-W-ISC.                               | C98970 |
| 53460 | WRITE TAPE-FILE FROM WDC-FREQ-DATA-ISC.                      | C98970 |
| 53470 | ADD I TO NO-REC-TAPE.  | C98970 |
| 53480 | ADD I TO NO-REC-PRINT-ISC.                                   | C98970 |
| 53481 | CHECK-ID.  | C98970 |
| 53485 | IF IDLN: IS EQUAL TO :9: GO TO CLOSE-FILES.                  | C98970 |
| 53490 | GO TO NLXT-WUC.  | C98970 |
| 53500 | CLOSE-TABLE.   | C98970 |
| 53510 | MOVE :9: TO IOENT.   | C98970 |
| 53520 | GO TO OUTPUT-TABLE-END.                                      | C98970 |
| 53700 | OUTPUT-LINE.   | C98970 |
| 53710 | IF NI-LINE-FLAG IS EQUAL TO SPACE GO TO OUTPUT-LINE-ISC.     | C98970 |
| 53720 | IF NI-TITLE FLAG IS EQUAL TO SPACE PERFORM WRITE-TITLE-NI.   | C98970 |
| 53730 | MOVE ONL TO NI-TITLE-FLAG.                                   | C98970 |
| 53740 | PERFORM OUTPUT-LINE-OF-NI-DATA THRU END-OUTPUT-LINE-NI-DATA. | C98970 |
| 53800 | OUTPUT-LINE-ISC.   | C98970 |
| 53810 | IF ISC-LINE-FLAG IS EQUAL TO SPACE GO TO NEXT-HMC.           | C98970 |
| 53820 | IF ISC-TITLE-FLAG IS EQUAL TO SPACE PERFORM WRITE-TITLE-ISC. | C98970 |
| 53830 | MOVE ONL TO ISC-TITLE-FLAG.                                  | C98970 |
| 53840 | PERFORM OUTPUT-LINE-OF-ISC-DATA THRU                         | C98970 |
| 53850 | END-OUTPUT-LINE-ISC-DATA.                                    | C98970 |
| 53890 | GO TO NLXT-HMC.  | C98970 |
| 53900 | RESLT-HMC-LINE-ISC.  | C98970 |
| 53910 | MOVE ZERO TO CNT.  | C98970 |
| 53920 | RESET-HMC-LINE-?   | C98970 |
| 53930 | ADD I TO CNT.  | C98970 |
| 53940 | MOVE ZERO TO HMC-ISC [CNT].                                  | C98970 |

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53950 IF CNT IS LESS THAN NO-WDC-COLS GO TO RESET-HMC-LINE-2, C98970
53990 END=RESLT-ISC, EXIT. C98970
54000 ADU=NI. C98970
54010 MOVE ONE TO NI=LINE-FLAG. C98970
54020 ADD MA TO HMC=NI [POS=WDC]. C98970
54030 ADD MA TO WUC=FREQ=NI [POS=WOC]. C98970
54100 ADU=ISC. C98970
54110 MOVE ONE TO ISC=LINE-FLAG. C98970
54120 ADD MA TO HMC=ISC [POS=WDC]. C98970
54130 ADD MA TO WUC=FREQ=ISC [POS=WDC]. C98970
55000 CLOSE=FILES. C98970
55010 COMPUTE CNT > NO-REC-TAPE - NO-REC-TAPE / BF * BF. C98970
55020 IF CNT IS EQUAL TO ZERO GO TO CF-1. C98970
55030 CF-2. C98970
55040 WRITE TAPE-FILE FROM NINE. C98970
55050 ADD I TO CNT. C98970
55060 IF CNT IS LESS THAN BF GO TO CF-2. C98970
55070 CF-1. C98970
55080 COMPUTE CNT > NO-REC-TAPE-TI - NO-REC-TAPE-TI / BF * BF. C98970
55090 IF CNT IS EQUAL TO ZERO GO TO CF-3. C98970
55100 CF-4. C98970
55110 WRITE TAPE-FILE-TI FROM NINE. C98970
55120 ADD I TO CNT. C98970
55130 IF CNT IS LESS THAN BF GO TO CF-4. C98970
55140 CF-3. C98970
55150 DISPLAY : NI TITLE RECORD : NO-REC-TAPE-TI UPON CONSOLE. C98970
55160 DISPLAY : NO TAPE RECS : NO-REC-TAPE UPON CONSOLE. C98970
55165 DISPLAY : NO OF W.U.C. : NO-WUC UPON CONSOLE. C98970
55170 DISPLAY : NO ISC PRINT REC : NO-REC-PRINT-ISC UPON CONSOLE. C98970
55180 DISPLAY : NO NI PRINT REC : NO-REC-PRINT-NI UPON CONSOLE. C98970
55190 DISPLAY : END OF JOB C9897 : UPON CONSOLE. C98970
55200 CLOSE IN=FILE-DB. C98970
55220 OUT=DATA. C98970
55230 OUT=PRINT-TSC. C98970
55235 IN=FILE-ISC. C98970
55240 OUT=PRINT-NI. C98970
55250 OUT-TITLES WITH LOCK. C98970
55290 GORACK. C98970
55400 PHUC=SPIC-SG-WUC. C98970
55410 IF SERIAL-NO IS NOT EQUAL TO CUR-SN GO TO NEW-SN-SG-WUC. C98970
55420 IF WEEK - P-WEEK IS GREATER THAN SPEC=WEEK-LIST [SPEC=INDEX] C98970
55425 GO TO ENO-SG-WUC-INSP. C98970
55430 NOT=ENO-SPEC-SG-WUC-INSP. C98970
55440 MOVE WEEK TO P-WEEK. C98970
55450 MOVE FLT-HRS TO P-FLT-HRS. C98970
55460 GO TO READ-SG-WUC. C98970
55500 NEW-SN-SG-WUC. C98970
55510 IF ISCHRONAL IS EQUAL TO ONE ADD 1 TO SG-WUC-FREQ=ISC C98970
55520 [TEMP=CO -NO] ELSE ADD 1 TO SG-WUC-FREQ=NI [TEMP=COL-NO]. C98970
55530 MOVE SERIAL-NO TO CUR-SN. C98970
55540 GO TO NOT=ENO-SPEC-SG-WUC-INSP. C98970
55600 ENO-SG-WUC-INSP. C98970
55610 IF ISCHRONAL IS EQUAL TO ONE ADD 1 TO SG-WUC-FREQ=ISC C98970
55620 [TEMP=COL-NO] ELSE ADD 1 TO SG-WUC-FREQ=NI [TEMP=COL-NO]. C98970
55630 GO TO NOT=ENO-SPEC-SG-WUC-INSP. C98970
70000 READ=ISC-A-C. C98970
70010 READ IN=FILE-ISC INTO NO-TSC AT END GO TO ENO-RIAC. C98970
70020 MOVE ZERO TO KNT. C98970
70030 RIAC. C98970
70040 ADD 1 TO KNT C98970
70050 READ IN=FILE-ISC INTO ISC-A-C AT END GO TO END-RIAC. C98970
70060 MOVE ISC-TN TO ISC-AC-TN [KNT]. C98970
70070 MOVE ISC-WK TO ISC-AC-WK [KNT]. C98970
70075 IF ISC-WK IS LESS THAN MIN-ISC-WEEK MOVE ISC-WK C98970
70076 TO MIN-ISC-WEEK. C98970
70080 IF KNT IS LESS THAN NO-ISC-AC GO TO RIAC. C98970
70090 END=RIAC, EXIT. C98970
70200 CHECK=ISCHRONAL. C98970
70210 IF SERIAL-NO IS NOT EQUAL TO PREV-TESTED-SN GO TO CHECK-1-2. C98970
70220 IF ISC+LAG IS EQUAL TO TWO GO TO ENO-CI. C98970
70230 IF ISCHRONAL IS EQUAL TO ONE AND WEEK IS NOT LESS THAN C98970
70232 MIN-ISC-WEEK, THEN GO TO ENO-CI. C98970
70240 CHECK-1-2. C98970
70250 MOVE TWO TO ISCHRONAL. C98970
70260 IF WEEK IS LESS THAN MIN-ISC-WEEK GO TO ENO-CI. C98970
70270 MOVE ZERO TO CNT. C98970
70280 CHECK-1-1. C98970
70290 ADD 1 TO CNT C98970
70300 MOVE ISC-AC-TN [CNT] TO ISC-TEMP. C98970
70310 IF SERIAL-NO IS LESS THAN ISC-TEMP GO TO CHECK-1-4. C98970
70320 IF SERIAL-NO IS EQUAL TO ISC-TEMP GO TO CHECK-1-1A. C98970
70330 IF CNT IS LESS THAN NO-ISC-AC GO TO CHECK-1-1. C98970
70340 CHECK-1-4. C98970
70350 MOVE TWO TO ISC-FLAG. C98970
70360 GO TO CHECK-1-3. C98970
70370 CHECK-1-1A. C98970
70380 MOVE ISC-AC-WK [CNT] TO WEEK-TEMP. C98970

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| 70390 | IF WEEK-TEMP IS EQUAL TO WEEK OR WEEK IS GREATER THAN         | C98970 |
| 70400 | WEEK-TEMP MOVE ONE TO ISCHRONAL.                              | C98970 |
| 70410 | MOVE ONE TO ISC-FLAG.   | C98970 |
| 70430 | CHECK-I-3.  | C98970 |
| 70440 | MOVE SERIAL-'0 TO PREV-TESTED-SN.                             | C98970 |
| 70450 | END-CI, EXIT.   | C98970 |
| 70500 | RESET-WUC-FREQ.   | C98970 |
| 70510 | MOVE ZERO TO WOC-FREQ-NI-1.                                   | C98970 |
| 70520 | MOVE ZERO TO WOC-FREQ-NI-2.                                   | C98970 |
| 70530 | MOVE ZERO TO WOC-FREQ-NI-3.                                   | C98970 |
| 70540 | MOVE ZERO TO WOC-FREQ-NI-4.                                   | C98970 |
| 70550 | MOVE ZERO TO WOC-FREQ-NI-5.                                   | C98970 |
| 70560 | MOVE ZERO TO WOC-FREQ-NI-6.                                   | C98970 |
| 70570 | MOVE ZERO TO WOC-FREQ-NI-7.                                   | C98970 |
| 70580 | MOVE ZERO TO WOC-FREQ-NI-8.                                   | C98970 |
| 70590 | MOVE ZERO TO WOC-FREQ-NI-9.                                   | C98970 |
| 70600 | MOVE ZERO TO WOC-FREQ-NI-10.                                  | C98970 |
| 70610 | MOVE ZERO TO WOC-FREQ-NI-11.                                  | C98970 |
| 70620 | MOVE ZERO TO WOC-FREQ-NI-12.                                  | C98970 |
| 70630 | MOVE ZERO TO WOC-FREQ-NI-13.                                  | C98970 |
| 70640 | MOVE ZERO TO WOC-FREQ-NI-14.                                  | C98970 |
| 70650 | MOVE ZERO TO WOC-FREQ-NI-15.                                  | C98970 |
| 70660 | MOVE ZERO TO WOC-FREQ-NI-16.                                  | C98970 |
| 70670 | MOVE ZERO TO WOC-FREQ-NI-17.                                  | C98970 |
| 70680 | MOVE ZERO TO WOC-FREQ-NI-18.                                  | C98970 |
| 70690 | MOVE ZERO TO WOC-FREQ-NI-19.                                  | C98970 |
| 70700 | MOVE ZERO TO WOC-FREQ-NI-20.                                  | C98970 |
| 70710 | MOVE ZERO TO WOC-FREQ-NI-21.                                  | C98970 |
| 70810 | MOVE ZERO TO WOC-FREQ-ISC-1.                                  | C98970 |
| 70820 | MOVE ZERO TO WOC-FREQ-ISC-2.                                  | C98970 |
| 70830 | MOVE ZERO TO WOC-FREQ-ISC-3.                                  | C98970 |
| 70840 | MOVE ZERO TO WOC-FREQ-ISC-4.                                  | C98970 |
| 70850 | MOVE ZERO TO WOC-FREQ-ISC-5.                                  | C98970 |
| 70860 | MOVE ZERO TO WOC-FREQ-ISC-6.                                  | C98970 |
| 70870 | MOVE ZERO TO WOC-FREQ-ISC-7.                                  | C98970 |
| 70880 | MOVE ZERO TO WOC-FREQ-ISC-8.                                  | C98970 |
| 70890 | MOVE ZERO TO WOC-FREQ-ISC-9.                                  | C98970 |
| 70900 | MOVE ZERO TO WOC-FREQ-ISC-10.                                 | C98970 |
| 70910 | MOVE ZERO TO WOC-FREQ-ISC-11.                                 | C98970 |
| 70920 | MOVE ZERO TO WOC-FREQ-ISC-12.                                 | C98970 |
| 70930 | MOVE ZERO TO WOC-FREQ-ISC-13.                                 | C98970 |
| 70940 | MOVE ZERO TO WOC-FREQ-ISC-14.                                 | C98970 |
| 70950 | MOVE ZERO TO WOC-FREQ-ISC-15.                                 | C98970 |
| 70960 | MOVE ZERO TO WOC-FREQ-ISC-16.                                 | C98970 |
| 70970 | MOVE ZERO TO WOC-FREQ-ISC-17.                                 | C98970 |
| 70980 | MOVE ZERO TO WOC-FREQ-ISC-18.                                 | C98970 |
| 70990 | MOVE ZERO TO WOC-FREQ-ISC-19.                                 | C98970 |
| 71000 | MOVE ZERO TO WOC-FREQ-ISC-20.                                 | C98970 |
| 71010 | MOVE ZERO TO WOC-FREQ-ISC-21.                                 | C98970 |
| 80000 | READ-IN-TITLE-0A1A.   | C98970 |
| 80010 | MOVE ZERO TO CNT.   | C98970 |
| 80020 | READ-WUC-INPUT.   | C98970 |
| 80030 | READ IN-FILE-ISC INTO WUC-INPUT.                              | C98970 |
| 80040 | AT END GO TO END-RITD.  | C98970 |
| 80050 | ADD 1 TO CNT.   | C98970 |
| 80060 | MOVE WUC-IN TO WDC-LIST [CNT].                                | C98970 |
| 80070 | MOVE WDC-TITLE-INPUT TO WDC-TITLE-DATA [CNT].                 | C98970 |
| 80080 | IF CNT IS LESS THAN 21 GO TO READ-WUC-INPUT.                  | C98970 |
| 80100 | READ-UNSCHEM-MAINT-COLS.                                      | C98970 |
| 80110 | READ IN-FILE-ISC INTO NUMBER-CARD.                            | C98970 |
| 80120 | AT END GO TO END-RITD.  | C98970 |
| 80130 | MOVE NUMBER-ITEMS TO SUM-INDEX.                               | C98970 |
| 80140 | MOVE ZERO TO CNT.   | C98970 |
| 80150 | READ-UNSCHEM-COLS.  | C98970 |
| 80160 | READ IN-FILE-ISC INTO NUMBER-CARD.                            | C98970 |
| 80170 | AT END GO TO END-RITD.  | C98970 |
| 80180 | ADD 1 TO CNT.   | C98970 |
| 80190 | MOVE NUMBER-ITEMS TO SUM-WDC-COL [CNT].                       | C98970 |
| 80200 | IF CNT IS LESS THAN SUM-INDEX GO TO READ-UNSCHEM-COLS.        | C98970 |
| 80290 | MOVE ZERO TO CNT.   | C98970 |
| 80300 | READ IN-FILE-ISC INTO NUMBER-CARD.                            | C98970 |
| 80310 | AT END GO TO END-RITD.  | C98970 |
| 80320 | MOVE NUMBER-ITEMS TO NUMBER-SGWUC.                            | C98970 |
| 80330 | READ-SGWUC-DATA.  | C98970 |
| 80340 | READ IN-FILE-ISC INTO NUMBER-CARD.                            | C98970 |
| 80350 | AT END GO TO END-RITD.  | C98970 |
| 80360 | ADD 1 TO CNT.   | C98970 |
| 80370 | MOVE NUMBER-ITEMS TO COL-NO [CNT].                            | C98970 |
| 80380 | MOVE INPUT-SG-CODE TO SG-WUC [CNT].                           | C98970 |
| 80390 | IF CNT IS LESS THAN NUMBER-SGWUC GO TO READ-SGWUC-DATA.       | C98970 |
| 80400 | READ-SGWUC-TITLE-INPUT.                                       | C98970 |
| 80410 | READ IN-FILE-ISC INTO SG-WUC-TITLE-1A, AT END GO TO END-RITD. | C98970 |
| 80420 | READ IN-FILE-ISC INTO SG-WUC-TITLE-2A, AT END GO TO END-RITD. | C98970 |
| 80430 | READ IN-FILE-ISC INTO SG-WUC-TITLE-3A, AT END GO TO END-RITD. | C98970 |
| 80440 | READ IN-FILE-ISC INTO SG-WUC-TITLE-4A, AT END GO TO END-RITD. | C98970 |
| 80450 | READ IN-FILE-ISC INTO SG-WUC-TITLE-5A, AT END GO TO END-RITD. | C98970 |



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80460 READ IN-FILE-ISC INTO TEMP-INPUT-SGWUC AT END GO TO END-RITD, C98970
80470 MOVE TEMP-SGWUC-TITLE TO SG-WUC-TITLE-1B. C98970
80480 READ IN-FILE-ISC INTO TEMP-INPUT-SGWUC AT END GO TO END-RITD. C98970
80490 MOVE TEMP-SGWUC-TITLE TO SG-WUC-TITLE-2B. C98970
80500 READ IN-FILE-ISC INTO TEMP-INPUT-SGWUC AT END GO TO END-RITD. C98970
80510 MOVE TEMP-SGWUC-TITLE TO SG-WUC-TITLE-3B. C98970
80520 READ IN-FILE-ISC INTO TEMP-INPUT-SGWUC AT END GO TO END-RITD. C98970
80530 MOVE TEMP-SGWUC-TITLE TO SG-WUC-TITLE-4B. C98970
80540 READ IN-FILE-ISC INTO TEMP-INPUT-SGWUC AT END GO TO END-RITD. C98970
80550 MOVE TEMP-SGWUC-TITLE TO SG-WUC-TITLE-5B. C98970
80600 READ-2-DIGIT-CODE. C98970
80610 READ IN-FILE-ISC INTO NUMBER-CARD, AT END GO TO END-RITD, C98970
80620 MOVE NUMBER-ITEMS TO TWO-DIGIT-COL. C98970
80630 MOVE INPUT-SC-CODE TO TWO-DIGIT-CODE. C98970
80700 READ-INTERCHANGE-COL. C98970
80710 READ IN-FILE-ISC INTO INTERCHANGE-COLS, AT END GO TO C98970
80720 END-RITD. C98970
80790 END-RITD. EXIT. C98970
80800 READ-SPEC-SG-WUC. C98970
80810 MOVE ZERO TO IO-SPEC-SG-WUC. C98970
80820 READ-SPEC. C98970
80830 READ IN-FILE-ISC INTO SPEC-SG-WUC-REC AT END GO TO END-RSSW. C98970
80840 ADD 1 TO NO-SPEC-SG-WUC. C98970
80850 MOVE SPEC-SG-WUC TO SPEC-SG-WUC-LIST [NO-SPEC-SG-WUC]. C98970
80860 SUBTRACT 1 FROM SPEC-WEEK-A DIVING C98970
80870 SPEC-WEEK-LIST [NO-SPEC-SG-WUC]. C98970
80880 GO TO READ-SPEC. C98970
80890 END-RSSW. EXIT. C98970
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG,TFGIN DU *SPACE>[CYL,1+1]] 1440 CDS
00000 GET TFG WANG C98970IT
010001 014999 REPLACE
TFG DT01 11 0202080 IT

```

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34
57000236 331
57000237 331
57000243 324
57000244 331
570002545 331
58000776 324
58000901 331
59000002 331
59000003 331
59000005 331
59000006 331
59000010 331
59000012 331

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59000015 331
59000018 331
59000019 331
59000026 331
59000030 331
59000054 324
59000057 324
59000058 324
59000059 324
59000104 331
59000105 331
59000108 324
59000110 324
59000119 324
59000141 324
59000143 324
59000144 324
59000145 324
59000147 324
59000151 324
59000152 324

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A
B
C
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G
H
J
K
M
N
P

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Q  
R  
S  
T  
U  
V  
W

9  
1  
2  
3  
4  
5  
6  
1b  
19  
20  
14  
9 03100  
7 03104  
8 03200  
8 03210  
10 03300  
17 03310  
17 03320

17 03330  
11 03400  
16 03600  
21 04141  
13 0421A  
13 04210  
18 04610

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| 1 | 2 | 2 | 1 | 3 | 4 | 1 | 2 | 2 | X |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | X |
| 9 | 0 | 0 | 0 | 0 | 0 | 9 | A | 0 | X |

|   |   |   |   |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| J | 3 | 4 | 4 |
| J | 3 | 6 | 1 |
| J | 2 | 1 | 4 |
| 0 | 0 | 0 | 1 |

14 04XXX  
7 12  
03300 J  
03310 J  
03320 J  
03330 J  
03400 5  
03600 5  
\*END

/\* PLACE TFG DATA BEFORE THIS CARD

|            |    |                                       |     |
|------------|----|---------------------------------------|-----|
| //TPR.TU12 | DU | DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 | T12 |
| //TPR.TU14 | DD | DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3 | T14 |
| //TPR.TU22 | DD | DISP>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5 | T22 |
| //TPR.TU24 | DD | DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 | T24 |
| //TPR.TU25 | DD | DISP>[OLD,KEEP],VOL>SER>+F8,UNIT>T+F8 | T25 |

//TPR.TPR1N DU \*,SPACE>[TRK,[1,1]]

|          |             |
|----------|-------------|
| T/P DT01 | 10100802080 |
| T/P TU14 | 10101302130 |
| T/P TU22 | 10101302130 |
| T/P TU24 | 1100130R000 |
| T/P TU25 | 1100130R000 |

/\* PLACE T/P CONTR. CARDS BEFORE THIS CARD

### 6. 7. 2 FREQUENCY ANALYSIS SORT

```

//T9897D JOB 01: G WANG I,PTY>02, TYPRUN>HOLD
//C9897S EXEC P90<2N,W>I 9,TIME>02,ACCT>D35323007 185
//CHG.SORTIN DU UISP>KEEP],UNIT>[A+F5,2,DEFER], CT22/23 1
// DSN>E.9897441, CT22 2
// VOL>SER>[+5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// I+F5,J+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
// DCB>[LRECL>0130,BLKSIZE>2900],LABEL>[NSL,RETPD>099]
//CHG.SORTOUT DU DISP>[KEEP],UNIT>[A+F1,2,DEFER],DSN>A.9897444, CT12/13 1
// VOL>SER>[+1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0130,BLKSIZE>2900]
//CHG.SYSIN DD *.DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[125,001,CH,A,003,003,CH,A,001,001,CH,A,009,003,CH,A], C
SIZE>E002(000
MODS E15>[E15,008,SORTLIB,N],E18>[E18,024,SORTLIB,N]
/*

```

### 6. 7. 3 THREE-DIGIT WUC ANALYSIS

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//C9897D EXEC P9655L,TIME>04,ACCT>D35323007 18
//CHG.IU12 DU UISP>[PASS],UNIT>[A+F1,2,DEFER],DSN>A.9897444, CT12/13 1
// VOL>SER>[+1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU14 DU UISP>[PASS],UNIT>[T+F3,1,DEFER],DSN>C.9897440, CT14 1
// VOL>SER>[+3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG.IU24 DU UISP>[PASS],UNIT>[T+F7,1,DEFER],DSN>G.9897448, CT24 1
// VOL>SER>[+7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7] T24 3
//CHG.INPUT DU *.SPACE>[CYL,[1,1]] 1440 CDS
U0000 COMBINE COMPILE G. WANG. C98970
U1040 DATE-WRITTEN: 26 APR 72. C98970
U1050 REMARKS. C98970
U1060 MAINTENANCE STUDY PROGRAM 18. C98970
U1070 FREQUENCY ANALYSIS. C98970
U1080 SIMILAP TO 1A, BUT AT 3 DIGIT WUC LEVEL. C98970
U1090 TITLES ARE USED FROM 1A. C98970
U1100 INPUT SORT SEQUENCE C98970
U1110 WUC [3 DIGIT], HMC, WDC-DATA. C98970
U2000 ENVIRONMENT DIVISION. C98970
U2010 CONFIGURATION SECTION. C98970
U2020 SOURCE-COMPUTER. IBM-360. C98970
U2030 OBJECT-COMPUTER. IBM-360. C98970
U2100 INPUT-OUTPUT SECTION. C98970
U2110 FILE-CONTROL. C98970
U2160 SELECT OUT-DATA ASSIGN TO UT-S-TU12 C98970
U2170 RESERVE 1 ALTERNATE AREA. C98970
U2180 SELECT OUT-TITLES ASSIGN TO UT-S-TU14 C98970
U2190 RESERVE 1 ALTERNATE AREA. C98970
U2200 SELECT OUT-PRINT-NI ASSIGN TO UT-S-TU24 C98970
U2210 RESERVE 1 ALTERNATE AREA. C98970
U3000 DATA DIVISION. C98970
U3010 FILE SECTION. C98970
U3100 FD OUT-DATA C98970
U3120 RECORDING MODE IS F C98970
U3130 BLOCK CONTAINS 23 RECORDS C98970
U3140 RECORD CONTAINS 130 CHARACTERS C98970
U3150 LABEL RECORDS ARE OMITTED C98970
U3160 DATA RECORDS ARE TAPE-FILE. C98970
U3170 01 TAPE-FILE SYNC PICTURE XL(130). C98970
U3180 FD OUT-TITLES C98970
U3120 RECORDING MODE IS F C98970
U3130 BLOCK CONTAINS 23 RECORDS C98970
U3140 RECORD CONTAINS 130 CHARACTERS C98970
U3150 LABEL RECORDS ARE OMITTED C98970
U3160 DATA RECORDS ARE TAPE-FILE-TI. C98970
U3170 01 TAPE-FILE-TI SYNC PICTURE X(130). C98970
U3180 FD OUT-PRINT-NI C98970
U3120 RECORDING MODE IS F C98970
U3130 BLOCK CONTAINS 15 RECORDS C98970
U3140 RECORD CONTAINS 130 CHARACTERS C98970
U3150 LABEL RECORDS ARE OMITTED C98970
U3160 DATA RECORDS ARE NI-DATA. C98970
U3170 01 NI-DATA SYNC PICTURE X(130). C98970
U3000 WORKING-STORAGE SECTION. C98970
U3010 77 CURISL SYNC PICTURE X. C98970
U3020 77 CUP-WUC SYNC PICTURE XXX. C98970
U3050 77 NNT SYNC COMPUTATIONAL PICTURE S999. C98970
U3010 77 NO-WUC SYNC PICTURE 9999 VALUE ZERO. C98970

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|       |    |                             |                              |        |
|-------|----|-----------------------------|------------------------------|--------|
| 30170 | 77 | CNT SYNC COMPUTATIONAL      | PICTURE S999.                | C98970 |
| 30520 | 77 | NO-WDC-COLS COMPUTATIONAL   | PICTURE S999 SYNC VALUE <21. | C98970 |
| 30540 | 77 | ONE SYNC                    | PICTURE X VALUE I11.         | C98970 |
| 30550 | 77 | TWO SYNC                    | PICTURE X VALUE I21.         | C98970 |
| 30560 | 77 | NI-TITLE-FLAG SYNC          | PICTURE X.                   | C98970 |
| 30590 | 77 | NI-LINE-FLAG SYNC           | PICTURE X.                   | C98970 |
| 30615 | 77 | PAGE-NUMBER-NI              | PICTURE S99 SYNC VALUE ZERO. | C98970 |
| 30630 | 77 | NO-REC-PRINT-NI             | PICTURE 9(7) VALUE ZERO.     | C98970 |
| 30670 | 77 | LINE-CNT-NI COMPUTATIONAL   | PICTURE S999 SYNC.           | C98970 |
| 30680 | 77 | LINE-PAGE COMPUTATIONAL     | PICTURE S999 VALUE <60 SYNC. | C98970 |
| 30700 | 01 | WDC-FREQ-LINE-RPT SYNC.     |                              | C98970 |
| 30710 | 02 | FILLER                      | PICTURE X(I8) VALUE          | C98970 |
| 30720 |    |                             | :J WDC FREQUENCY I.          | C98970 |
| 30730 | 02 | WUC-FREQ-RPT-2              | PICTURE Z(I0).               | C98970 |
| 30731 | 02 | WUC-FREQ-RPT-4              | PICTURE Z(I0).               | C98970 |
| 30732 | 02 | WUC-FREQ-RPT-6              | PICTURE Z(I0).               | C98970 |
| 30733 | 02 | WUC-FREQ-RPT-8              | PICTURE Z(I0).               | C98970 |
| 30734 | 02 | WUC-FREQ-RPT-10             | PICTURE Z(I0).               | C98970 |
| 30735 | 02 | WUC-FREQ-RPT-12             | PICTURE Z(I0).               | C98970 |
| 30736 | 02 | WUC-FREQ-RPT-14             | PICTURE Z(I0).               | C98970 |
| 30737 | 02 | WUC-FREQ-RPT-16             | PICTURE Z(I0).               | C98970 |
| 30738 | 02 | WUC-FREQ-RPT-18             | PICTURE Z(I0).               | C98970 |
| 30739 | 02 | WUC-FREQ-RPT-20             | PICTURE Z(I0).               | C98970 |
| 30740 | 02 | TOTAL-WDC-FREQ-RPT          | PICTURE Z(I1).               | C98970 |
| 30741 | 02 | FILLER                      | PICTURE X VALUE I21.         | C98970 |
| 30750 | 01 | WDC-FREQ-LINE-2-RPT SYNC.   |                              | C98970 |
| 30751 | 02 | FILLER                      | PICTURE X(I3) VALUE          | C98970 |
| 30752 |    |                             | :/                           | C98970 |
| 30753 | 02 | WUC-FREQ-RPT-1              | PICTURE Z(I0).               | C98970 |
| 30754 | 02 | WUC-FREQ-RPT-3              | PICTURE Z(I0).               | C98970 |
| 30755 | 02 | WUC-FREQ-RPT-5              | PICTURE Z(I0).               | C98970 |
| 30756 | 02 | WUC-FREQ-RPT-7              | PICTURE Z(I0).               | C98970 |
| 30757 | 02 | WUC-FREQ-RPT-9              | PICTURE Z(I0).               | C98970 |
| 30758 | 02 | WUC-FREQ-RPT-11             | PICTURE Z(I0).               | C98970 |
| 30759 | 02 | WUC-FREQ-RPT-13             | PICTURE Z(I0).               | C98970 |
| 30760 | 02 | WUC-FREQ-RPT-15             | PICTURE Z(I0).               | C98970 |
| 30761 | 02 | WUC-FREQ-RPT-17             | PICTURE Z(I0).               | C98970 |
| 30762 | 02 | WUC-FREQ-RPT-19             | PICTURE Z(I0).               | C98970 |
| 30763 | 02 | WUC-FREQ-RPT-21             | PICTURE Z(I0).               | C98970 |
| 30764 | 02 | FILLER                      | PICTURE X(7) VALUE I 21.     | C98970 |
| 32000 | 01 | REPORT-ID SYNC.             |                              | C98970 |
| 32010 | 02 | FILLER                      | PICTURE X(50) VALUE          | C98970 |
| 32020 |    | :S9897860 TF7919-02         | I42-8 I 1/2                  | C98970 |
| 32030 | 02 | FILLER                      | PICTURE X(50) VALUE SPACE.   | C98970 |
| 32040 | 02 | FILLER                      | PICTURE X(30) VALUE          | C98970 |
| 32050 |    | :                           | 21.                          | C98970 |
| 40000 | 01 | NEW-PAGE SYNC.              |                              | C98970 |
| 40010 | 02 | FILLER                      | PICTURE X(I20).              | C98970 |
| 40020 | 02 | PAGE-DATA                   | PICTURE X(I0).               | C98970 |
| 40030 | 02 | FILLER REDEFINES PAGE-DATA. |                              | C98970 |
| 40040 | 03 | FILLER                      | PICTURE X(7).                | C98970 |
| 40050 | 03 | PAGE-NO                     | PICTURE Z9.                  | C98970 |
| 40060 | 03 | FILLER                      | PICTURE X.                   | C98970 |
| 40070 | 01 | TITLE-LINE-NI SYNC.         |                              | C98970 |
| 40080 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40085 | 02 | WUC-NI                      | PICTURE XXX.                 | C98970 |
| 40090 | 02 | FILLER                      | PICTURE X(I17).              | C98970 |
| 40100 | 01 | TITLE-LINE-ISC SYNC.        |                              | C98970 |
| 40110 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40115 | 02 | WUC-ISC                     | PICTURE XXX.                 | C98970 |
| 40120 | 02 | FILLER                      | PICTURE X(I17).              | C98970 |
| 40130 | 01 | WHEN-UISG-CODE-TITLE SYNC.  |                              | C98970 |
| 40140 | 02 | FILLER                      | PICTURE X(I20).              | C98970 |
| 40150 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40200 | 01 | SG-WUC-TITLE-1 SYNC.        |                              | C98970 |
| 40210 | 02 | FILLER                      | PICTURE X(I20).              | C98970 |
| 40220 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40270 | 01 | SG-WUC-TITLE-2 SYNC.        |                              | C98970 |
| 40280 | 02 | FILLER                      | PICTURE X(I20).              | C98970 |
| 40290 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40340 | 01 | SG-WUC-TITLE-3 SYNC.        |                              | C98970 |
| 40350 | 02 | FILLER                      | PICTURE X(I20).              | C98970 |
| 40360 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40410 | 01 | SG-WUC-TITLE-4 SYNC.        |                              | C98970 |
| 40420 | 02 | FILLER                      | PICTURE X(I20).              | C98970 |
| 40430 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40480 | 01 | SG-WUC-TITLE-5 SYNC.        |                              | C98970 |
| 40490 | 02 | FILLER                      | PICTURE X(I20).              | C98970 |
| 40500 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40550 | 01 | SG-WUC-FREQ-LINE-ISC SYNC.  |                              | C98970 |
| 40560 | 02 | FILLER                      | PICTURE X(I20).              | C98970 |
| 40570 | 02 | FILLER                      | PICTURE X(I0).               | C98970 |
| 40620 | 01 | HMC-FREQ-LINE SYNC.         |                              | C98970 |
| 40630 | 02 | FILLER                      | PICTURE X(I2) VALUE          | C98970 |
| 40640 |    | :/FREQ HMC > I.             |                              | C98970 |
| 40650 | 02 | CUR-HMC                     | PICTURE XXX.                 | C98970 |

|       |    |                               |                        |        |
|-------|----|-------------------------------|------------------------|--------|
| 40660 | 02 | FILLER                        | PICTURE XXX VALUE 1 1. | C98970 |
| 40670 | 02 | HMC-FREQ-RPI                  | PICTURE Z(5)           | C98970 |
| 40680 |    |                               | OCCURS 21 TIMES.       | C98970 |
| 40690 | 02 | HMC-FREQ-TOTAL-RPT            | PICTURE Z(6).          | C98970 |
| 40700 | 02 | FILLER                        | PICTURE X VALUE 1#.    | C98970 |
| 40710 | 01 | SG-WUC-FREQ-LINE-NI SYNC.     |                        | C98970 |
| 40720 | 02 | FILLER                        | PICTURE X(120).        | C98970 |
| 40730 | 02 | FILLER                        | PICTURE X(10).         | C98970 |
| 41100 | 01 | DATA-IN SYNC.                 |                        | C98970 |
| 41110 | 02 | IDENT                         | PICTURE X.             | C98970 |
| 41120 | 02 | FILLER                        | PICTURE X.             | C98970 |
| 41130 | 02 | WUC                           | PICTURE XXX.           | C98970 |
| 41140 | 02 | FILLER                        | PICTURE XXX.           | C98970 |
| 41150 | 02 | HMC                           | PICTURE XXX.           | C98970 |
| 41160 | 02 | FILLER                        | PICTURE X.             | C98970 |
| 41170 | 02 | LIST-HMC-IN.                  |                        | C98970 |
| 41180 | 03 | HMC-IN-1                      | PICTURE S9(5).         | C98970 |
| 41190 | 03 | HMC-IN-2                      | PICTURE S9(5).         | C98970 |
| 41200 | 03 | HMC-IN-3                      | PICTURE S9(5).         | C98970 |
| 41210 | 03 | HMC-IN-4                      | PICTURE S9(5).         | C98970 |
| 41220 | 03 | HMC-IN-5                      | PICTURE S9(5).         | C98970 |
| 41230 | 03 | HMC-IN-6                      | PICTURE S9(5).         | C98970 |
| 41240 | 03 | HMC-IN-7                      | PICTURE S9(5).         | C98970 |
| 41250 | 03 | HMC-IN-8                      | PICTURE S9(5).         | C98970 |
| 41260 | 03 | HMC-IN-9                      | PICTURE S9(5).         | C98970 |
| 41270 | 03 | HMC-IN-10                     | PICTURE S9(5).         | C98970 |
| 41280 | 03 | HMC-IN-11                     | PICTURE S9(5).         | C98970 |
| 41290 | 03 | HMC-IN-12                     | PICTURE S9(5).         | C98970 |
| 41300 | 03 | HMC-IN-13                     | PICTURE S9(5).         | C98970 |
| 41310 | 03 | HMC-IN-14                     | PICTURE S9(5).         | C98970 |
| 41320 | 03 | HMC-IN-15                     | PICTURE S9(5).         | C98970 |
| 41330 | 03 | HMC-IN-16                     | PICTURE S9(5).         | C98970 |
| 41340 | 03 | HMC-IN-17                     | PICTURE S9(5).         | C98970 |
| 41350 | 03 | HMC-IN-18                     | PICTURE S9(5).         | C98970 |
| 41360 | 03 | HMC-IN-19                     | PICTURE S9(5).         | C98970 |
| 41370 | 03 | HMC-IN-20                     | PICTURE S9(5).         | C98970 |
| 41380 | 03 | HMC-IN-21                     | PICTURE S9(5).         | C98970 |
| 41390 | 02 | FILLER REDEFINES LIST-HMC-IN. |                        | C98970 |
| 41400 | 03 | HMC-IN OCCURS 21 TIMES        |                        | C98970 |
| 41410 |    |                               | PICTURE S9(5).         | C98970 |
| 41420 | 02 | HMC-FREQ-IN                   | PICTURE S9(6).         | C98970 |
| 41430 | 02 | FILLER                        | PICTURE X.             | C98970 |
| 41440 | 02 | ISCHRONAL                     | PICTURE Y.             | C98970 |
| 41450 | 02 | FILLER                        | PICTURE X(5).          | C98970 |
| 41600 | 01 | TAPE-OUT-NI SYNC.             |                        | C98970 |
| 41680 | 02 | LIST-HMC-NI.                  |                        | C98970 |
| 41690 | 03 | HMC-NI-1                      | PICTURE S9(5).         | C98970 |
| 41700 | 03 | HMC-NI-2                      | PICTURE S9(5).         | C98970 |
| 41710 | 03 | HMC-NI-3                      | PICTURE S9(5).         | C98970 |
| 41720 | 03 | HMC-NI-4                      | PICTURE S9(5).         | C98970 |
| 41730 | 03 | HMC-NI-5                      | PICTURE S9(5).         | C98970 |
| 41740 | 03 | HMC-NI-6                      | PICTURE S9(5).         | C98970 |
| 41750 | 03 | HMC-NI-7                      | PICTURE S9(5).         | C98970 |
| 41760 | 03 | HMC-NI-8                      | PICTURE S9(5).         | C98970 |
| 41770 | 03 | HMC-NI-9                      | PICTURE S9(5).         | C98970 |
| 41780 | 03 | HMC-NI-10                     | PICTURE S9(5).         | C98970 |
| 41790 | 03 | HMC-NI-11                     | PICTURE S9(5).         | C98970 |
| 41800 | 03 | HMC-NI-12                     | PICTURE S9(5).         | C98970 |
| 41810 | 03 | HMC-NI-13                     | PICTURE S9(5).         | C98970 |
| 41820 | 03 | HMC-NI-14                     | PICTURE S9(5).         | C98970 |
| 41830 | 03 | HMC-NI-15                     | PICTURE S9(5).         | C98970 |
| 41840 | 03 | HMC-NI-16                     | PICTURE S9(5).         | C98970 |
| 41850 | 03 | HMC-NI-17                     | PICTURE S9(5).         | C98970 |
| 41860 | 03 | HMC-NI-18                     | PICTURE S9(5).         | C98970 |
| 41870 | 03 | HMC-NI-19                     | PICTURE S9(5).         | C98970 |
| 41880 | 03 | HMC-NI-20                     | PICTURE S9(5).         | C98970 |
| 41890 | 03 | HMC-NI-21                     | PICTURE S9(5).         | C98970 |
| 41891 | 02 | FILLER REDEFINES LIST-HMC-NI. |                        | C98970 |
| 41892 | 03 | HMC-NI OCCURS 21 TIMES        | PICTURE S9(5).         | C98970 |
| 41900 | 02 | HMC-FREQ-TOTAL-NI             | PICTURE S9(6).         | C98970 |
| 42000 | 01 | WDC-FREQ-DATA-NI SYNC.        |                        | C98970 |
| 42040 | 02 | TABLE-WDC-FREQ-NI.            |                        | C98970 |
| 42050 | 03 | WDC-FREQ-NI-1                 | PICTURE S9(9).         | C98970 |
| 42060 | 03 | WDC-FREQ-NI-2                 | PICTURE S9(9).         | C98970 |
| 42070 | 03 | WDC-FREQ-NI-3                 | PICTURE S9(9).         | C98970 |
| 42080 | 03 | WDC-FREQ-NI-4                 | PICTURE S9(9).         | C98970 |
| 42090 | 03 | WDC-FREQ-NI-5                 | PICTURE S9(9).         | C98970 |
| 42100 | 03 | WDC-FREQ-NI-6                 | PICTURE S9(9).         | C98970 |
| 42110 | 03 | WDC-FREQ-NI-7                 | PICTURE S9(9).         | C98970 |
| 42120 | 03 | WDC-FREQ-NI-8                 | PICTURE S9(9).         | C98970 |
| 42130 | 03 | WDC-FREQ-NI-9                 | PICTURE S9(9).         | C98970 |
| 42140 | 03 | WDC-FREQ-NI-10                | PICTURE S9(9).         | C98970 |
| 42150 | 03 | WDC-FREQ-NI-11                | PICTURE S9(9).         | C98970 |
| 42160 | 03 | WDC-FREQ-NI-12                | PICTURE S9(9).         | C98970 |
| 42170 | 03 | WDC-FREQ-NI-13                | PICTURE S9(9).         | C98970 |
| 42180 | 03 | WDC-FREQ-NI-14                | PICTURE S9(9).         | C98970 |
| 42190 | 03 | WDC-FREQ-NI-15                | PICTURE S9(9).         | C98970 |



|       |   |        |
|-------|---|--------|
| 51080 | PERFORM RESET-WUC-FREQ.   | C98970 |
| 51090 | MOVE ISLCHONAL TO CURISC.   | C98970 |
| 51100 | HLXI-HMC.   | C98970 |
| 51110 | MOVE HMC TO CUR-HMC.  | C98970 |
| 51120 | MOVE SPACE TO NI-LINE-FLAG.   | C98970 |
| 51130 | PERFORM RESET-HMC-LINE-NI THRU END-RESET-NI.  | C98970 |
| 51140 | GO TO ACC-HMC.  | C98970 |
| 51200 | READ-DATA.  | C98970 |
| 51210 | READ OUT-DATA INTO DATA-IN, AT END GO TO CLOSE-FILES.   | C98970 |
| 51215 | IF IDENT IS EQUAL TO :9: GO TO CLOSE-FILES.   | C98970 |
| 51220 | IF IDENT IS EQUAL TO :H: GO TO CHECK-WUC.   | C98970 |
| 51230 | IF IDENT IS NOT EQUAL TO :W: GO TO ERROR-1.   | C98970 |
| 51240 | IF NI-LINE-FLAG IS EQUAL TO ONE PERFORM OUTPUT-LINE THRU END-OL.                              | C98970 |
| 51250 |   | C98970 |
| 51260 | PERFORM ACCUM-WUC-DATA.   | C98970 |
| 51270 | GO TO READ-DATA.  | C98970 |
| 51300 | CHECK-WUC.  | C98970 |
| 51310 | IF WUC IS EQUAL TO CUR-WUC GO TO CHECK-HMC.   | C98970 |
| 51320 | PERFORM WHITE-WUC THRU END-WRITE-WUC.   | C98970 |
| 51330 | GO TO NEXT-WUC.   | C98970 |
| 51400 | CHECK-HMC.  | C98970 |
| 51410 | IF HMC IS EQUAL TO CUR-HMC GO TO ACC-HMC.   | C98970 |
| 51420 | PERFORM OUTPUT-LINE THRU END-OL.  | C98970 |
| 51430 | GO TO NEXT-HMC.   | C98970 |
| 51500 | RESET-HMC-LINE-NI.  | C98970 |
| 51510 | MOVE ZERO TO CNT.   | C98970 |
| 51520 | RESET-HMC-LINE-1.   | C98970 |
| 51530 | ADD 1 TO CNT.   | C98970 |
| 51550 | MOVE ZERO TO HMC-NI [CNT].  | C98970 |
| 51560 | IF CNT IS LESS THAN NO-WUC-COLS GO TO RESET-HMC-LINE-1.                                       | C98970 |
| 51570 | MOVE ZERO TO HMC-FREQ-TOTAL-NI.   | C98970 |
| 51590 | END-RESET-NI. EXI.  | C98970 |
| 51600 | WHITE-TITLE-NI.   | C98970 |
| 51610 | ADD 1 TO PAGE-NUMBER-NI.  | C98970 |
| 51620 | MOVE PAGE-NUMBER-NI TO PAGE-NO.   | C98970 |
| 51630 | WRITE NI-DATA FROM NEW-PAGE.  | C98970 |
| 51635 | MOVE CUR-WUC TO WUC-NI.   | C98970 |
| 51640 | WRITE NI-DATA FROM TITLE-LINE-NI.   | C98970 |
| 51660 | WRITE NI-DATA FROM WHEN-DISC-CODE-TITLE.  | C98970 |
| 51670 | WRITE NI-DATA FROM SG-WUC-TITLE-1.  | C98970 |
| 51680 | WRITE NI-DATA FROM SG-WUC-TITLE-2.  | C98970 |
| 51690 | WRITE NI-DATA FROM SG-WUC-TITLE-3.  | C98970 |
| 51700 | WRITE NI-DATA FROM SG-WUC-TITLE-4.  | C98970 |
| 51710 | WRITE NI-DATA FROM SG-WUC-TITLE-5.  | C98970 |
| 51720 | WRITE NI-DATA FROM SG-WUC-FREQ-NI-1.  | C98970 |
| 51721 | WRITE NI-DATA FROM SG-WUC-FREQ-NI-2.  | C98970 |
| 51722 | WRITE NI-DATA FROM SG-WUC-FREQ-NI-3.  | C98970 |
| 51723 | WRITE NI-DATA FROM SG-WUC-FREQ-NI-4.  | C98970 |
| 51724 | WRITE NI-DATA FROM SG-WUC-FREQ-NI-5.  | C98970 |
| 51725 | WRITE NI-DATA FROM SG-WUC-FREQ-NI-6.  | C98970 |
| 51730 | ADD 14 TO NO-REC-PRINT-NI.  | C98970 |
| 51740 | MOVE 14 TO LINE-CNT-NI.   | C98970 |
| 51800 | WRITE-TITLE-15C.  | C98970 |
| 51810 | ADD 1 TO PAGE-NUMBER-NI   | C98970 |
| 51820 | MOVE PAGE-NUMBER-NI TO PAGE-NO.   | C98970 |
| 51830 | WRITE NI-DATA FROM NEW-PAGE.  | C98970 |
| 51835 | MOVE CUR-WUC TO WUC-15C.  | C98970 |
| 51840 | WRITE NI-DATA FROM TITLE-LINE-15C.  | C98970 |
| 51850 | WRITE NI-DATA FROM WHEN-DISC-CODE-TITLE.  | C98970 |
| 51860 | WRITE NI-DATA FROM SG-WUC-TITLE-1.  | C98970 |
| 51870 | WRITE NI-DATA FROM SG-WUC-TITLE-2.  | C98970 |
| 51880 | WRITE NI-DATA FROM SG-WUC-TITLE-3.  | C98970 |
| 51890 | WRITE NI-DATA FROM SG-WUC-TITLE-4.  | C98970 |
| 51900 | WRITE NI-DATA FROM SG-WUC-TITLE-5.  | C98970 |
| 51910 | WRITE NI-DATA FROM SG-WUC-FREQ-15C-1.   | C98970 |
| 51920 | WRITE NI-DATA FROM SG-WUC-FREQ-15C-2.   | C98970 |
| 51930 | WRITE NI-DATA FROM SG-WUC-FREQ-15C-3.   | C98970 |
| 51940 | WRITE NI-DATA FROM SG-WUC-FREQ-15C-4.   | C98970 |
| 51950 | WRITE NI-DATA FROM SG-WUC-FREQ-15C-5.   | C98970 |
| 51960 | WRITE NI-DATA FROM SG-WUC-FREQ-15C-6.   | C98970 |
| 51970 | ADD 14 TO NO-REC-PRINT-NI.  | C98970 |
| 51980 | MOVE 14 TO LINE-CNT-NI.   | C98970 |
| 52200 | OUTPUT-LINE-OF-NI-DATA.   | C98970 |
| 52220 | MOVE ZERO TO CNT.   | C98970 |
| 52230 | OUTPUT-LINE-NI-A.   | C98970 |
| 52240 | ADD 1 TO CNT.   | C98970 |
| 52250 | MOVE HMC-NI [CNT] TO HMC-FREQ-RPT [CNT].  | C98970 |
| 52260 | IF CNT IS LESS THAN NO-WUC-COLS GO TO OUTPUT-LINE-NI-A.                                       | C98970 |
| 52390 | MOVE HMC-FREQ-TOTAL-NI TO HMC-FREQ-TOTAL-RPT.   | C98970 |
| 52392 | IF LINE-CNT-NI IS GREATER THAN LINE-PAGE AND CURISC IS EQUAL TO TWO, PERFORM WRITE-TITLE-NI.  | C98970 |
| 52394 | IF LINE-CNT-NI IS GREATER THAN LINE-PAGE AND CURISC IS EQUAL TO ONE, PERFORM WRITE-TITLE-15C. | C98970 |
| 52396 | WRITE NI-DATA FROM HMC-FREQ-LINE.   | C98970 |
| 52397 | ADD 1 TO NO-REC-PRINT-NI.   | C98970 |
| 52400 | ADD 1 TO LINE-CNT-NI.   | C98970 |
| 52410 | ADD 1 TO LINE-CNT-NI.   | C98970 |
| 52415 | ADD 1 TO LINE-CNT-NI.   | C98970 |
| 52420 | MOVE SPACE TO NI-LINE-FLAG.   | C98970 |

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52590  END-OUTPUT-LINE-NI-DATA.  EXIT.  C98970
53100  WRITE-WUC.  C98970
53110  MOVE WDC-FREQ-NI-2 TO WDC-FREQ-RPT-2.  C98970
53120  MOVE WDC-FREQ-NI-4 TO WDC-FREQ-RPT-4.  C98970
53130  MOVE WDC-FREQ-NI-6 TO WDC-FREQ-RPT-6.  C98970
53140  MOVE WDC-FREQ-NI-8 TO WDC-FREQ-RPT-8.  C98970
53150  MOVE WDC-FREQ-NI-10 TO WDC-FREQ-RPT-10.  C98970
53160  MOVE WDC-FREQ-NI-12 TO WDC-FREQ-RPT-12.  C98970
53170  MOVE WDC-FREQ-NI-14 TO WDC-FREQ-RPT-14.  C98970
53180  MOVE WDC-FREQ-NI-16 TO WDC-FREQ-RPT-16.  C98970
53190  MOVE WDC-FREQ-NI-18 TO WDC-FREQ-RPT-18.  C98970
53200  MOVE WDC-FREQ-NI-20 TO WDC-FREQ-RPT-20.  C98970
53210  MOVE TOTAL-WDC-FREQ-NI TO TOTAL-WDC-FREQ-RPT.  C98970
53220  WRITE NI-DATA FROM WDC-FREQ-LINE-RPT.  C98970
53230  MOVE WDC-FREQ-NI-1 TO WDC-FREQ-RPT-1.  C98970
53240  MOVE WDC-FREQ-NI-3 TO WDC-FREQ-RPT-3.  C98970
53250  MOVE WDC-FREQ-NI-5 TO WDC-FREQ-RPT-5.  C98970
53260  MOVE WDC-FREQ-NI-7 TO WDC-FREQ-RPT-7.  C98970
53270  MOVE WDC-FREQ-NI-9 TO WDC-FREQ-RPT-9.  C98970
53280  MOVE WDC-FREQ-NI-11 TO WDC-FREQ-RPT-11.  C98970
53290  MOVE WDC-FREQ-NI-13 TO WDC-FREQ-RPT-13.  C98970
53300  MOVE WDC-FREQ-NI-15 TO WDC-FREQ-RPT-15.  C98970
53310  MOVE WDC-FREQ-NI-17 TO WDC-FREQ-RPT-17.  C98970
53320  MOVE WDC-FREQ-NI-19 TO WDC-FREQ-RPT-19.  C98970
53330  MOVE WDC-FREQ-NI-21 TO WDC-FREQ-RPT-21.  C98970
53340  WRITE NI-DATA FROM WDC-FREQ-LINE-2-RPT.  C98970
53350  ADD 2 TO NO-REC-PRINT-NI.  C98970
53390  END-WRITE-WUC.  EXIT.  C98970
53700  OUTPUT-LINE.  C98970
53710  IF NI-LINE-FLAG IS EQUAL TO SPACE 00 TO END-OL.  C98970
53720  IF NI-TITLE-FLAG IS EQUAL TO SPACE AND CURISC IS EQUAL TO  C98970
53722  ONE PERFORM WRITE-TITLE-ISC.  C98970
53724  IF NI-TITLE-FLAG IS EQUAL TO SPACE AND CURISC IS EQUAL TO  C98970
53726  TWO PERFORM WRITE-TITLE-NI.  C98970
53730  MOVE ONE TO NI-TITLE-FLAG.  C98970
53740  PERFORM OUTPUT-LINE-OF-NI-DATA THRU  C98970
53750  END-OUTPUT-LINE-NI-DATA.  C98970
53760  MOVE SPACE TO NI-LINE-FLAG.  C98970
53790  END-OL.  EXIT.  C98970
54900  ERROR=1.  C98970
54910  DISPLAY : INPUT DATA OUT OF SEQUENCE : UPON CONSOLE.  C98970
55000  CLOSE-FILES.  C98970
55010  PERFORM WRITE-WUC.  C98970
55165  DISPLAY : NO OF W.U.C. : NO-WUC UPON CONSOLE.  C98970
55180  DISPLAY : NO NI PRINT REC : NO-REC-PRINT-NI UPON CONSOLE.  C98970
55190  DISPLAY : END OF JOB C9897 : UPON CONSOLE.  C98970
55200  CLOSE OUT-OUT/.  C98970
55240  OUT-PRINT-NI.  C98970
55250  OUT-TITLES WITH LOCK.  C98970
55290  GORACK.  C98970
61500  ACC-HMC.  C98970
61510  ADD HMC-IN-1 TO HMC-NI-1.  C98970
61520  ADD HMC-IN-2 TO HMC-NI-2.  C98970
61530  ADD HMC-IN-3 TO HMC-NI-3.  C98970
61540  ADD HMC-IN-4 TO HMC-NI-4.  C98970
61550  ADD HMC-IN-5 TO HMC-NI-5.  C98970
61560  ADD HMC-IN-6 TO HMC-NI-6.  C90970
61570  ADD HMC-IN-7 TO HMC-NI-7.  C90970
61580  ADD HMC-IN-8 TO HMC-NI-8.  C98970
61590  ADD HMC-IN-9 TO HMC-NI-9.  C98970
61600  ADD HMC-IN-10 TO HMC-NI-10.  C98970
61610  ADD HMC-IN-11 TO HMC-NI-11.  C98970
61620  ADD HMC-IN-12 TO HMC-NI-12.  C98970
61630  ADD HMC-IN-13 TO HMC-NI-13.  C90970
61640  ADD HMC-IN-14 TO HMC-NI-14.  C98970
61650  ADD HMC-IN-15 TO HMC-NI-15.  C98970
61660  ADD HMC-IN-16 TO HMC-NI-16.  C98970
61670  ADD HMC-IN-17 TO HMC-NI-17.  C98970
61680  ADD HMC-IN-18 TO HMC-NI-18.  C98970
61690  ADD HMC-IN-19 TO HMC-NI-19.  C98970
61700  ADD HMC-IN-20 TO HMC-NI-20.  C98970
61710  ADD HMC-IN-21 TO HMC-NI-21.  C98970
61720  ADD HMC-FREQ-IN TO HMC-FREQ-TOTAL-NI.  C98970
61730  MOVE ONE TO NI-LINE-FLAG.  C98970
61740  GO TO READ-DATA.  C98970
61800  ACCUM-WUC-DATA.  C98970
61810  ADD HMC-IN-1 TO WDC-FREQ-NI-1.  C98970
61820  ADD HMC-IN-2 TO WDC-FREQ-NI-2.  C98970
61830  ADD HMC-IN-3 TO WDC-FREQ-NI-3.  C98970
61840  ADD HMC-IN-4 TO WDC-FREQ-NI-4.  C98970
61850  ADD HMC-IN-5 TO WDC-FREQ-NI-5.  C98970
61860  ADD HMC-IN-6 TO WDC-FREQ-NI-6.  C98970
61870  ADD HMC-IN-7 TO WDC-FREQ-NI-7.  C98970
61880  ADD HMC-IN-8 TO WDC-FREQ-NI-8.  C98970
61890  ADD HMC-IN-9 TO WDC-FREQ-NI-9.  C98970
61900  ADD HMC-IN-10 TO WDC-FREQ-NI-10.  C98970
61910  ADD HMC-IN-11 TO WDC-FREQ-NI-11.  C98970

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|             |  |          |
|-------------|--|----------|
| 61920       | ADD HMC-IN-12 TO WDC-FREQ-NI-12.         | C98970   |
| 61930       | ADD HMC-IN-13 TO WDC-FREQ-NI-13.         | C98970   |
| 61940       | ADD HMC-IN-14 TO WDC-FREQ-NI-14.         | C98970   |
| 61950       | ADD HMC-IN-15 TO WDC-FREQ-NI-15.         | C98970   |
| 61960       | ADD HMC-IN-16 TO WDC-FREQ-NI-16.         | C98970   |
| 61970       | ADD HMC-IN-17 TO WDC-FREQ-NI-17.         | C98970   |
| 61980       | ADD HMC-IN-18 TO WDC-FREQ-NI-18.         | C98970   |
| 61990       | ADD HMC-IN-19 TO WDC-FREQ-NI-19.         | C98970   |
| 62000       | ADD HMC-IN-20 TO WDC-FREQ-NI-20.         | C98970   |
| 62010       | ADD HMC-IN-21 TO WDC-FREQ-NI-21.         | C98970   |
| 62020       | ADD HMC-FREQ-IN TO TOTAL-WDC-FREQ-NI.    | C98970   |
| 70500       | RESET-WDC-FREQ.                          | C98970   |
| 70510       | MOVE ZERO TO WDC-FREQ-NI-1.              | C98970   |
| 70520       | MOVE ZERO TO WDC-FREQ-NI-2.              | C98970   |
| 70530       | MOVE ZERO TO WDC-FREQ-NI-3.              | C98970   |
| 70540       | MOVE ZERO TO WDC-FREQ-NI-4.              | C98970   |
| 70550       | MOVE ZERO TO WDC-FREQ-NI-5.              | C98970   |
| 70560       | MOVE ZERO TO WDC-FREQ-NI-6.              | C98970   |
| 70570       | MOVE ZERO TO WDC-FREQ-NI-7.              | C98970   |
| 70580       | MOVE ZERO TO WDC-FREQ-NI-8.              | C98970   |
| 70590       | MOVE ZERO TO WDC-FREQ-NI-9.              | C98970   |
| 70600       | MOVE ZERO TO WDC-FREQ-NI-10.             | C98970   |
| 70610       | MOVE ZERO TO WDC-FREQ-NI-11.             | C98970   |
| 70620       | MOVE ZERO TO WDC-FREQ-NI-12.             | C98970   |
| 70630       | MOVE ZERO TO WDC-FREQ-NI-13.             | C98970   |
| 70640       | MOVE ZERO TO WDC-FREQ-NI-14.             | C98970   |
| 70650       | MOVE ZERO TO WDC-FREQ-NI-15.             | C98970   |
| 70660       | MOVE ZERO TO WDC-FREQ-NI-16.             | C98970   |
| 70670       | MOVE ZERO TO WDC-FREQ-NI-17.             | C98970   |
| 70680       | MOVE ZERO TO WDC-FREQ-NI-18.             | C98970   |
| 70690       | MOVE ZERO TO WDC-FREQ-NI-19.             | C98970   |
| 70700       | MOVE ZERO TO WDC-FREQ-NI-20.             | C98970   |
| 70710       | MOVE ZERO TO WDC-FREQ-NI-21.             | C98970   |
| 70720       | MOVE ZERO TO TOTAL-WDC-FREQ-NI.          | C98970   |
| /*          | PLACE COBOL SOURCE BEFORE THIS CARD      |          |
| //CHG,TF01N | DD *SPACE>[CYL,(1,1)]                    | 1440 CDS |
| /*          | PLACE TFG DATA BEFORE THIS CARD          |          |
| //TPR,TU12  | DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 | T12      |
| //TPR,TU14  | DD DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3 | T14      |
| //TPR,TU24  | DD DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 | T24      |
| //TPR,TPR1N | DD *SPACE>[TRK,(1,1)]                    |          |
| T/P TU12    | 10101302130                              |          |
| T/P TU14    | 10101302130                              |          |
| T/P TU24    | 1100130R000                              |          |
| /*          | PLACE T/P CONTROL CARDS BEFORE THIS CARD |          |

6.8 PROGRAMS FOR MANHOOR AND NOR TIME ANALYSES  
 6.8.1 PREPROCESSOR - TASK II

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//T9897N JOB 01,1 G WANG 1,PRTY>02,TYPRUN>HOLD
//C98978 EXEC P965SL,TIME>15,ACCT>D35323007
//CHG,TU14 DU DISP>[PASS],UNIT>[T+F3,1,DEFER],DSN>C.9897416, CT14 2
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// 1+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG,TU22 DU DISP>[PASS],UNIT>[T+F5,1,DEFER],DSN>E.9897432, CT22 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// 1+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG,TU24 DU UISP>[PASS],UNIT>[T+F7,1,DEFER],DSN>G.9897429, CT24 1
// VOL>SER>[+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// 1+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7] T24 3
//CHG,INPUT DU *,SPACE>[C,Y,L,(1:1)] 1440 CDS
U0000 COMBINE COMPILER G. WANG. C98970
01040 DATE-WRITELN. 20 APR 72. C98970
01050 REMARKS. C98970
01060 PHASE 11 PRUGHAM C98970
01070 TASK 2A MANHOOR AND NOR TIME ANALYSIS. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER, IBM-360. C98970
02030 OBJECT-COMPUTER, IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE-U-B ASSIGN TO UT-S-TU14 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT IN-FILE-ISC ASSIGN TO DA-S-DT01 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT MSG-FILE ASSIGN TO DA-S-DT02 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
02180 SELECT OUT-FILE-1 ASSIGN TO UT-S-TU24 C98970
02190 RESERVE 1 ALTERNATE AREA. C98970
02200 SELECT OUT-FILE-2 ASSIGN TO UT-S-TU22 C98970
02210 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD IN-FILE-D-B C98970
10120 RECORING MODE IS F C98970
10130 BLOCK CONTAINS 40 RECORDS C98970
10140 RECORD CONTAINS 70 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE IN-REC-D-B. C98970
10200 01 IN-REC-D-B SYNC. C98970
10210 02 FILLER PICTURE X(70). C98970
10220 C98970
11300 FD IN-FILE-ISC C98970
11320 RECORING MODE IS F C98970
11330 BLOCK CONTAINS 20 RECORDS C98970
11340 RECORD CONTAINS 80 CHARACTERS C98970
11350 LABEL RECORDS ARE STANDARD C98970
11360 DATA RECORDS ARE IN-REC-ISC. C98970
11400 01 IN-REC-ISC SYNC. C98970
11410 02 FILLER PICTURE X(80). C98970
12100 FD OUT-FILE-1 C98970
12120 RECORING MODE IS F C98970
12130 BLOCK CONTAINS 90 RECORDS C98970
12140 RECORD CONTAINS 20 CHARACTERS C98970
12150 LABEL RECORDS ARE OMITTED C98970
12160 DATA RECORDS ARE OUT-REC-1. C98970
12200 01 OUT-REC-1 SYNC. C98970
12210 02 FILLER PICTURE X(20). C98970
13300 FD MSG-FILE C98970
13320 RECORING MODE IS F C98970
13330 BLOCK CONTAINS 20 RECORDS C98970
13340 RECORD CONTAINS 80 CHARACTERS C98970
13350 LABEL RECORDS ARE STANDARD C98970
13360 DATA RECORDS ARE MSG-REC. C98970
13400 01 MSG-REC SYNC. C98970
13410 02 FILLER PICTURE X(80). C98970
14100 FD OUT-FILE-2 C98970
14120 RECORING MODE IS F C98970
14130 BLOCK CONTAINS 90 RECORDS C98970
14140 RECORD CONTAINS 20 CHARACTERS C98970
14150 LABEL RECORDS ARE OMITTED C98970
14160 DATA RECORDS ARE OUT-REC-2. C98970
14200 01 OUT-REC-2 SYNC. C98970
14210 02 FILLER PICTURE X(20). C98970
30000 WORKING-STORAGE SECTION. C98970
30012 77 WUC-FLAG SYNC PICTURE X VALUE SPACE. C98970
30015 77 FLT-FLAG SYNC PICTURE X VALUE SPACE. C98970
30016 77 CUR-A5 SYNC PICTURE X VALUE SPACE. C98970
30017 77 DATA-65 SYNC PICTURE X VALUE SPACE. C98970
30020 77 CUR-DEFK SYNC PICTURE 999. C98970

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|-------|---|----------------|--------|
| 32100 | 05 GAP-WK-1   | PICTURE 99.    | C98970 |
| 32110 | 05 GAP-WK-2   | PICTURE 99.    | C98970 |
| 32120 | 05 FIEEER   | PICTURE X(31). | C98970 |
| 50000 | PROCEDURE DIVISION.   |                | C98970 |
| 50010 | OPEN-FILES.   |                | C98970 |
| 50020 | OPEN INPUT IN-FILE-D-B, IN-FILE-ISC.                        |                | C98970 |
| 50030 | OPEN OUTPUT MSG-FILE.                                       |                | C98970 |
| 50040 | OPEN OUTPUT OUT-FILE-1, OUT-FILE-2.                         |                | C98970 |
| 50050 | PERFORM READ-ISC-A-C THRU END-RIAC.                         |                | C98970 |
| 50060 | READ-INITIAL.   |                | C98970 |
| 50070 | READ IN-FILE-D-B INTO DATA-BANK-INPUT,                      |                | C98970 |
| 50080 | AT END GO TO CLOSE-FILES.                                   |                | C98970 |
| 50100 | CHECK-DATA.   |                | C98970 |
| 50120 | IF IDENT IS EQUAL TO 3 AND WUC-2 IS EQUAL TO 1031 GO TO     |                | C98970 |
| 50130 | PROC-II-1.  |                | C98970 |
| 50140 | IF IDENT IS EQUAL TO 3 AND WUC-2 IS EQUAL TO 1041 GO TO     |                | C98970 |
| 50150 | PROC-II-1.  |                | C98970 |
| 50160 | IF IDENT IS EQUAL TO 3 AND WUC-2 IS GREATER THAN 1091 GO TO |                | C98970 |
| 50170 | PROC-II-2A.   |                | C98970 |
| 50180 | IF IDENT IS EQUAL TO 4 GO TO PROC-II-2B.                    |                | C98970 |
| 50190 | GO TO READ-INITIAL.   |                | C98970 |
| 50200 | PROC-II-1.  |                | C98970 |
| 50210 | PERFORM CHECK-ISCHRONAL THRU END-CI.                        |                | C98970 |
| 50220 | MOVE ISCHRONAL TO CUR-ISC.                                  |                | C98970 |
| 50222 | MOVE IDENT TO CUR-ID.                                       |                | C98970 |
| 50230 | MOVE WUC TO CURWUC.   |                | C98970 |
| 50240 | MOVE WEEK TO CURWEEK.                                       |                | C98970 |
| 50250 | MOVE SERIAL-NO TO CUR-SER-NO.                               |                | C98970 |
| 50251 | MOVE FET-HRS TO CUR-FET-HRS.                                |                | C98970 |
| 50252 | MOVE TWO TO CUR-65.   |                | C98970 |
| 50253 | IF NORM-HR LESS THAN ZERO MOVE ONE TO CUR-65.               |                | C98970 |
| 50260 | INIT-SET.   |                | C98970 |
| 50270 | MOVE ONE TO FLT-FLAG.                                       |                | C98970 |
| 50271 | IF WUC EQUAL TO CI-HPREFLT MOVE TWO TO FLT-FLAG.            |                | C98970 |
| 50272 | IF WUC EQUAL TO CI-HPPOST MOVE TWO TO FET-FLAG.             |                | C98970 |
| 50273 | IF WUC EQUAL TO CI-SHPOST MOVE TWO TO FLT-FLAG.             |                | C98970 |
| 50274 | COMPUTE SUM-NORM > 0.                                       |                | C98970 |
| 50275 | IF FLT-FLAG EQUAL TO ONE AND NORM-HR GREATER THAN ZERO      |                | C98970 |
| 50276 | MOVE NORM-HR TO SUM-NORM.                                   |                | C98970 |
| 50280 | MOVE MAN-HR TO SUM-MAN-HR.                                  |                | C98970 |
| 50290 | ACC-SET.  |                | C98970 |
| 50300 | READ IN-FILE-D-B INTO DATA-BANK-INPUT                       |                | C98970 |
| 50310 | AT END GO TO CLOSE-FILES.                                   |                | C98970 |
| 50315 | PERFORM CHECK-ISCHRONAL THRU END-CI.                        |                | C98970 |
| 50320 | IF ISCHRONAL IS NOT EQUAL TO CUR-ISC GO TO SET-BREAK.       |                | C98970 |
| 50322 | IF IDENT NOT EQUAL TO CUR-ID GO TO SET-BREAK.               |                | C98970 |
| 50330 | IF WUC NOT EQUAL TO CURWUC GO TO SET-BREAK.                 |                | C98970 |
| 50340 | IF SERIAL-NO NOT EQUAL TO CUR-SER-NO GO TO SET-BREAK.       |                | C98970 |
| 50345 | MOVE TWO TO DATA-65.  |                | C98970 |
| 50346 | IF NORM-HR LESS THAN ZERO MOVE ONE TO DATA-65.              |                | C98970 |
| 50347 | GO TO CHECK-TYPE.   |                | C98970 |
| 50348 | NOT-SP-TYPE.  |                | C98970 |
| 50350 | SUBTRACT CURWEEK FROM WEEK GIVING WEEK-TEMP.                |                | C98970 |
| 50360 | IF WEEK-TEMP NOT EQUAL TO 1                                 |                | C98970 |
| 50370 | GO TO INTERNAL-BREAK.                                       |                | C98970 |
| 50380 | ADD MAN-HR TO SUM-MAN-HR.                                   |                | C98970 |
| 50385 | MOVE ONE TO FLT-FLAG.                                       |                | C98970 |
| 50390 | IF WUC EQUAL TO CI-PREFLT MOVE TWO TO FLT-FLAG.             |                | C98970 |
| 50400 | IF WUC EQUAL TO CI-BPOST MOVE TWO TO FLT-FLAG.              |                | C98970 |
| 50410 | IF WUC EQUAL TO CI-SHPOST MOVE TWO TO FLT-FLAG.             |                | C98970 |
| 50420 | IF FET-FLAG EQUAL TO ONE AND NORM-HR GREATER THAN ZERO      |                | C98970 |
| 50421 | ADD NORM-HR TO SUM-NORM.                                    |                | C98970 |
| 50425 | IF FLT-FLAG EQUAL TO TWO COMPUTE SUM-NORM > 0.              |                | C98970 |
| 50440 | MOVE WEEK TO CURWEEK.                                       |                | C98970 |
| 50442 | MOVE FET-HRS TO CUR-FET-HRS.                                |                | C98970 |
| 50443 | IF CUR-65 EQUAL TO TWO OR DATA-65 EQUAL TO TWO              |                | C98970 |
| 50444 | MOVE TWO TO CUR-65.   |                | C98970 |
| 50446 | MOVE IDENT TO CUR-ID.                                       |                | C98970 |
| 50450 | GO TO ACC-SET.  |                | C98970 |
| 50460 | SET-BREAK.  |                | C98970 |
| 50470 | PERFORM WRITE-I THRU END-WRITE-1.                           |                | C98970 |
| 50472 | COMPUTE SUM-NORM > 0.                                       |                | C98970 |
| 50474 | COMPUTE SUM-MAN-HR > 0.                                     |                | C98970 |
| 50480 | GO TO CHECK-DATA.   |                | C98970 |
| 50490 | INTERNAL-BREAK.   |                | C98970 |
| 50500 | PERFORM WRITE-I THRU END-WRITE-1.                           |                | C98970 |
| 50510 | MOVE WEEK TO CURWEEK.                                       |                | C98970 |
| 50512 | MOVE FET-HRS TO CUR-FET-HRS.                                |                | C98970 |
| 50515 | MOVE DATA-65 TO CUR-65.                                     |                | C98970 |
| 50516 | MOVE IDENT TO CUR-ID.                                       |                | C98970 |
| 50520 | GO TO INIT-SET.   |                | C98970 |
| 50530 | NOTE WRITE NORM-HR AND MAN-HR TOTALS ON OUTPUT FILE.        |                | C98970 |
| 50540 | WRITE-I.  |                | C98970 |
| 50550 | MOVE CUR-ISC TO ISC-OUT.                                    |                | C98970 |
| 50560 | MOVE CURWUC TO WUC-OUT.                                     |                | C98970 |
| 50570 | MOVE SPACE TO HMC-OUT.                                      |                | C98970 |
| 50575 | IF FLT-FLAG EQUAL TO TWO GO TO WRITE-I-A.                   |                | C98970 |

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| 50576 | IF CUR-65 EQUAL TO ONE GO TO WRITE-1-A.                      | C98970 |
| 50580 | MOVE SUM-NORM TO OBS.  | C98970 |
| 50590 | MOVE ONE TO DATA-TYPE.                                       | C98970 |
| 50600 | WRITE OUT-REC-2 FROM OUT-DATA.                               | C98970 |
| 50610 | ADD 1 TO NO-REC-2.   | C98970 |
| 50615 | WRITE-1-A.   | C98970 |
| 50620 | MOVE SUM-MAN-HR TO OBS.                                      | C98970 |
| 50630 | MOVE TWO TO DATA-TYPE.                                       | C98970 |
| 50640 | WRITE OUT-REC-2 FROM OUT-DATA.                               | C98970 |
| 50650 | ADD 1 TO NO-REC-2.   | C98970 |
| 50660 | END-WRITE-1. EXIT.   | C98970 |
| 51000 | CHECK-TYPE.  | C98970 |
| 51010 | MOVE ONE TO WUC-FLAG.  | C98970 |
| 51020 | IF WUC EQUAL TO CI-HPF MOVE TWO TO WUC-FLAG.                 | C98970 |
| 51030 | IF WUC EQUAL TO CI-MA1-1 MOVE TWO TO WUC-FLAG.               | C98970 |
| 51040 | IF WUC EQUAL TO CI-MA1-2 MOVE TWO TO WUC-FLAG.               | C98970 |
| 51050 | IF WUC EQUAL TO CI-MA1-3 MOVE TWO TO WUC-FLAG.               | C98970 |
| 51060 | IF WUC EQUAL TO CI-PERI MOVE TWO TO WUC-FLAG.                | C98970 |
| 51070 | IF WUC EQUAL TO CI-IRAN MOVE TWO TO WUC-FLAG.                | C98970 |
| 51080 | IF WUC-FLAG EQUAL TO ONE GO TO NOT-SP-TYPE.                  | C98970 |
| 51090 | SUBTRACT CURWEEK FROM WEEK GIVING WEEK-TEMP.                 | C98970 |
| 51100 | SP-TYPE.   | C98970 |
| 51110 | IF WUC LESS THAN CI-PERI AND WEEK-TEMP GREATER THAN GAP-WK-1 | C98970 |
| 51111 | GO TO INTERNAL-BREAK.  | C98970 |
| 51120 | IF WUC GREATER THAN CI-MA1-3 AND WEEK-TEMP GREATER THAN      | C98970 |
| 51121 | GAP-WK-2 GO TO INTERNAL-BREAK.                               | C98970 |
| 51132 | ADD MAN-HR TO SUM-MAN-HR.                                    | C98970 |
| 51134 | IF NORM-HR GREATER THAN ZERO ADD NORM-HR TO SUM-NORM.        | C98970 |
| 51140 | MOVE WEEK TO CURWEEK.  | C98970 |
| 51150 | MOVE FLT-HRS TO CUR-FLT-HRS.                                 | C98970 |
| 51152 | IF DATA-65 EQUAL TO TWO OR CUR-65 EQUAL TO TWO               | C98970 |
| 51153 | MOVE TWO TO CUR-65.  | C98970 |
| 51154 | MOVE IDENT TO CUR-ID.  | C98970 |
| 51160 | GO TO ACC-SET.   | C98970 |
| 55000 | PROC-II-2A.  | C98970 |
| 55010 | PERFORM CHECK-ISCHRONAL THRU END-CI.                         | C98970 |
| 55020 | MOVE ISCHRONAL TO CUR-ISC.                                   | C98970 |
| 55030 | MOVE WUC TO CURWUC.  | C98970 |
| 55050 | MOVE SERIAL-NO TO CUR-SER-NO.                                | C98970 |
| 55060 | MOVE IDENT TO CUR-ID.  | C98970 |
| 55070 | PERFORM WRITE-2 THRU END-WRITE-2.                            | C98970 |
| 55072 | MOVE TWO TO CUR-65.  | C98970 |
| 55073 | IF NORM-HR LESS THAN ZERO MOVE ONE TO CUR-65.                | C98970 |
| 55075 | SET-NEW.   | C98970 |
| 55080 | COMPUTE SUM-NORM > 0.  | C98970 |
| 55081 | IF NORM-HR GREATER THAN ZERO MOVE NORM-HR TO SUM-NORM.       | C98970 |
| 55090 | MOVE UNITS TO SUM-MA.  | C98970 |
| 55092 | IF UNITS EQUAL TO ZERO GO TO SET-FLAG.                       | C98970 |
| 55093 | MOVE CURWUC TO WUC-OUT.                                      | C98970 |
| 55094 | MOVE CUR-ISC TO ISC-OUT.                                     | C98970 |
| 55095 | PERFORM WRITE-3 THRU END-WRITE-3.                            | C98970 |
| 55096 | READ IN-FILE-D-B INTO DATA-BANK-INPUT AT END GO TO EOF-BRK.  | C98970 |
| 55097 | GO TO BREAK-1.   | C98970 |
| 55100 | SET-FLAG.  | C98970 |
| 55130 | READ IN-FILE-D-B INTO DATA-BANK-INPUT                        | C98970 |
| 55140 | AT END GO TO EOF-BRK.  | C98970 |
| 55150 | PERFORM CHECK-ISCHRONAL THRU END-CI.                         | C98970 |
| 55160 | IF IDENT EQUAL TO CUR-ID                                     | C98970 |
| 55170 | PERFORM WRITE-2 THRU END-WRITE-2.                            | C98970 |
| 55180 | IF ISCHRONAL NOT EQUAL TO CUR-ISC GO TO BREAK-1.             | C98970 |
| 55190 | IF WUC NOT EQUAL TO CURWUC GO TO BREAK-1.                    | C98970 |
| 55200 | IF SERIAL-NO NOT EQUAL TO CUR-SER-NO GO TO BREAK-1.          | C98970 |
| 55210 | IF IDENT NOT EQUAL TO CUR-ID GO TO BREAK-1.                  | C98970 |
| 55212 | MOVE TWO TO DATA-65.   | C98970 |
| 55213 | IF NORM-HR LESS THAN ZERO MOVE ONE TO DATA-65.               | C98970 |
| 55215 | IF CUR-65 EQUAL TO TWO OR DATA-65 EQUAL TO TWO               | C98970 |
| 55216 | MOVE TWO TO CUR-65.  | C98970 |
| 55220 | IF NORM-HR GREATER THAN ZERO ADD NORM-HR TO SUM-NORM.        | C98970 |
| 55230 | ADD UNITS TO SUM-MA.   | C98970 |
| 55231 | IF UNITS NOT EQUAL TO ZERO GO TO INT-BREAK.                  | C98970 |
| 55232 | GO TO SET-FLAG.  | C98970 |
| 55240 | INT-BREAK.   | C98970 |
| 55250 | MOVE CURWUC TO WUC-OUT.                                      | C98970 |
| 55260 | MOVE CUR-ISC TO ISC-OUT.                                     | C98970 |
| 55270 | PERFORM WRITE-3 THRU END-WRITE-3.                            | C98970 |
| 55280 | COMPUTE SUM-NORM > 0.  | C98970 |
| 55282 | COMPUTE SUM-MA > 0.  | C98970 |
| 55284 | GO TO SET-FLAG.  | C98970 |
| 55290 | BREAK-1.   | C98970 |
| 55322 | COMPUTE SUM-NORM > 0.  | C98970 |
| 55324 | COMPUTE SUM-MA > 0.  | C98970 |
| 55330 | GO TO CHECK-DATA.  | C98970 |
| 55390 | WRITE-2.   | C98970 |
| 55395 | IF NORM-HR LESS THAN ZERO GO TO END-WRITE-2.                 | C98970 |
| 55400 | MOVE ISCHRONAL TO ISC-OUT.                                   | C98970 |
| 55410 | MOVE WUC TO WUC-OUT.   | C98970 |
| 55420 | MOVE SPACE TO HMC-OUT.                                       | C98970 |

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| 55430 | MOVE NOHS=HR TO OHS.  | C98970 |
| 55440 | MOVE FOUR TO DATA-TYPE.                                       | C98970 |
| 55450 | WRITE OUT=REC-2 FROM OUT-DATA.                                | C98970 |
| 55460 | ADD 1 TO NO-REC-2.  | C98970 |
| 55470 | END-WRITE-2. EXIT.  | C98970 |
| 55480 | WRITE-3.  | C98970 |
| 55482 | IF CUR-65 EQUAL TO ONE GO TO END-WRITE-3.                     | C98970 |
| 55500 | MOVE SPACE TO HMC-OUT.  | C98970 |
| 55510 | DIVIDE SUM-MA INTO SUM-NORM GIVING OBS.                       | C98970 |
| 55520 | MOVE THREE TO DATA-TYPE.                                      | C98970 |
| 55530 | WRITE OUT-REC-2 FROM OUT-DATA.                                | C98970 |
| 55540 | ADD 1 TO NO-REC-2.  | C98970 |
| 55550 | END-WRITE-3. EXIT.  | C98970 |
| 55551 | EOF-BRK.  | C98970 |
| 55552 | IF SUM-NORM EQUAL TO ZERO GO TO CLOSE-FILES.                  | C98970 |
| 55553 | MOVE CUR=UC TO WUC-OUT.                                       | C98970 |
| 55554 | MOVE CUR=ISC TO ISC-OUT.                                      | C98970 |
| 55555 | PERFORM WRITE-3 THRU END-WRITE-3.                             | C98970 |
| 55556 | GO TO CLOSE-FILES.  | C98970 |
| 55560 | REMARK-2.   | C98970 |
| 55570 | NOTE COMPUTE RATIO OF MH TOTAL OVER MA TOTAL                  | C98970 |
| 55580 | DATA BANK RECORD TYPE 4.                                      | C98970 |
| 60000 | PROC-II-2B.   | C98970 |
| 60010 | PERFORM CHECK-ISCHRONAL THRU END-C1.                          | C98970 |
| 60020 | MOVE ISCHRONAL TO CUR=ISC.                                    | C98970 |
| 60030 | MOVE WUC TO CUR=WUC.  | C98970 |
| 60050 | MOVE SERIAL=NO TO CUR=SER=NO.                                 | C98970 |
| 60060 | MOVE IDENT TO CUR=ID.   | C98970 |
| 60070 | MOVE HMC TO CUR=HMC.  | C98970 |
| 60080 | SET-NEW-2.  | C98970 |
| 60090 | MOVE MAN=HR TO SUM=MAN=HR.                                    | C98970 |
| 60100 | MOVE UNITS TO SUM=MA.   | C98970 |
| 60102 | IF UNITS EQUAL TO ZERO GO TO SET-FLAG-2.                      | C98970 |
| 60103 | PERFORM WRITE-4 THRU END-WRITE-4.                             | C98970 |
| 60104 | READ IN=FILE=D-B INTO DATA-BANK-INPUT AT END GO TO EOF-BRK-2. | C98970 |
| 60105 | GO TO BREAK-2.  | C98970 |
| 60110 | SET-FLAG-2.   | C98970 |
| 60140 | READ IN=FILE=D-B INTO DATA-BANK-INPUT                         | C98970 |
| 60150 | AT END GO TO EOF-BRK-2.                                       | C98970 |
| 60160 | PERFORM CHECK-ISCHRONAL THRU END-C1.                          | C98970 |
| 60170 | IF ISCHRONAL NOT EQUAL TO CUR=ISC GO TO BREAK-2.              | C98970 |
| 60180 | IF WUC NOT EQUAL TO CUR=WUC GO TO BREAK-2.                    | C98970 |
| 60190 | IF SERIAL=NO NOT EQUAL TO CUR=SER=NO GO TO BREAK-2.           | C98970 |
| 60200 | IF IDENT NOT EQUAL TO CUR=ID GO TO BREAK-2.                   | C98970 |
| 60210 | IF HMC NOT EQUAL TO CUR=HMC GO TO BREAK-2.                    | C98970 |
| 60220 | ADD MAN=HR TO SUM=MAN=HR.                                     | C98970 |
| 60230 | ADD UNITS TO SUM=MA.  | C98970 |
| 60231 | IF UNITS NOT EQUAL TO ZERO GO TO INT-BREAK-2.                 | C98970 |
| 60232 | GO TO SET-FLAG-2.   | C98970 |
| 60240 | INT-BREAK-2.  | C98970 |
| 60250 | PERFORM WRITE-4 THRU END-WRITE-4.                             | C98970 |
| 60260 | COMPUTE SUM=MAN=HR > 0.                                       | C98970 |
| 60262 | COMPUTE SUM=MA > 0.   | C98970 |
| 60264 | GO TO SET-FLAG-2.   | C98970 |
| 60270 | BREAK-2.  | C98970 |
| 60282 | COMPUTE SUM=MAN=HR > 0.                                       | C98970 |
| 60284 | COMPUTE SUM=MA > 0.   | C98970 |
| 60290 | GO TO CHECK-DATA.   | C98970 |
| 60330 | WRITE-4.  | C98970 |
| 60340 | MOVE CUR=WUC TO WUC-OUT.                                      | C98970 |
| 60350 | MOVE CUR=ISC TO ISC-OUT.                                      | C98970 |
| 60360 | MOVE CUR=HMC TO HMC-OUT.                                      | C98970 |
| 60370 | IF SUM=MA EQUAL TO ZERO ADD 1 TO SUM=MA.                      | C98970 |
| 60300 | DIVIDE SUM=MA INTO SUM=MAN=HR                                 | C98970 |
| 60390 | GIVING OBS.   | C98970 |
| 60400 | MOVE ONE TO DATA-TYPE.  | C98970 |
| 60410 | WRITE OUT=REC-1 FROM OUT-DATA.                                | C98970 |
| 60420 | ADD 1 TO NO-REC-1.  | C98970 |
| 60430 | END-WRITE-4. EXIT.  | C98970 |
| 60440 | EOF-BRK-2.  | C98970 |
| 60450 | IF SUM=MAN=HR EQUAL TO ZERO GO TO CLOSE-FILES.                | C98970 |
| 60460 | PERFORM WRITE-4 THRU END-WRITE-4.                             | C98970 |
| 60470 | GO TO CLOSE-FILES.  | C98970 |
| 70000 | READ=ISC=A-C.   | C98970 |
| 70005 | READ IN=FILE=ISC INTO SPEC=WUC AT END GO TO END=RIAC.         | C98970 |
| 70010 | READ IN=FILE=ISC INTO NO=ISC AT END GO TO END=RIAC.           | C98970 |
| 70020 | MOVE ZERO TO KNT.   | C98970 |
| 70030 | RIAC.   | C98970 |
| 70040 | ADD 1 TO KNT.   | C98970 |
| 70050 | READ IN=FILE=ISC INTO ISC=A-C AT END GO TO END=RIAC.          | C98970 |
| 70060 | MOVE ISC=TN TO ISC=AC=TN [KNT].                               | C98970 |
| 70070 | MOVE ISC=WK TO ISC=AC=WK [KNT].                               | C98970 |
| 70075 | IF ISC=WK IS LESS THAN MIN=ISC=WEEK MOVE ISC=WK               | C98970 |
| 70076 | TO MIN=ISC=WEEK.  | C98970 |
| 70080 | IF KNT IS LESS THAN NO=ISC=AC GO TO RIAC.                     | C98970 |
| 70085 | CLOSE IN=FILE=ISC WITH LOCK.                                  | C98970 |
| 70090 | END=RIAC. EXIT.   | C98970 |

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70200 CHECK-ISCHRONAL. C98970
70210 IF SERIAL-NO IS NOT EQUAL TO PREV-TESTED-SN GO TO CHECK-I-2. C98970
70220 IF ISC-FLAG IS EQUAL TO TWO GO TO END-CI. C98970
70230 IF ISCHRONAL IS EQUAL TO ONE AND WEEK IS NOT LESS THAN C98970
70232 MIN-ISC-WEEK, THEN GO TO END-CI. C98970
70240 CHECK-I-2. C98970
70250 MOVE TWO TO ISCHRONAL. C98970
70260 IF WEEK IS LESS THAN MIN-ISC-WEEK GO TO END-CI. C98970
70270 MOVE ZERO TO CNT. C98970
70280 CHECK-I-1. C98970
70290 ADD I TO CNT. C98970
70300 MOVE ISC-AC-TN [CNT] TO ISC-TEMP. C98970
70310 IF SERIAL-NO IS LESS THAN ISC-TEMP GO TO CHECK-I-4. C98970
70320 IF SERIAL-NO IS EQUAL TO ISC-TEMP GO TO CHECK-I-1A. C98970
70330 IF CNT IS LESS THAN NO-ISC-AC GO TO CHECK-I-1. C98970
70340 CHECK-I-4. C98970
70350 MOVE TWO TO ISC-FLAG. C98970
70360 GO TO CHECK-I-3. C98970
70370 CHECK-I-1A. C98970
70380 MOVE ISC-AC-WK [CNT] TO WEEK-TEMP. C98970
70390 IF WEEK-TEMP IS EQUAL TO WEEK OR WEEK IS GREATER THAN C98970
70400 WEEK-TEMP MOVE ONE TO ISCHRONAL. C98970
70410 MOVE ONE TO ISC-FLAG. C98970
70430 CHECK-I-3. C98970
70440 MOVE SERIAL-NO TO PREV-TESTED-SN. C98970
70450 END-CI. EXIT. C98970
70510 NINE-FILL-2. C98970
70520 WRITE OUT-REC-2 FROM NINE. C98970
70530 ADD I TO KNT. C98970
70540 IF KNT IS LESS THAN 90 GO TO NINE-FILL-2. C98970
70550 N-F-2. EXIT. C98970
70600 NINE-FILL-1. C98970
70610 WRITE OUT-REC-1 FROM NINE. C98970
70620 ADD I TO KNT. C98970
70630 IF KNT IS LESS THAN 90 GO TO NINE-FILL-1. C98970
70640 N-F-1. EXIT. C98970
71800 CLOSE-FILES. C98970
71810 COMPUTE KNT > NO-REC-1 - NO-REC-1 / 90 * 90. C98970
71820 IF KNT IS ZERO GO TO CF-2. C98970
71830 PERFORM NINE-FILL-1 THRU N-F-1. C98970
71840 CF-2. C98970
71850 COMPUTE KNT > NO-REC-2 - NO-REC-2 / 90 * 90. C98970
71860 IF KNT IS ZERO GO TO CF-3. C98970
71870 PERFORM NINE-FILL-2 THRU N-F-2. C98970
71900 CF-3. C98970
71910 DISPLAY : NUMBER RECORDS-1 : NO-REC-1 UPON CONSOLE. C98970
71920 DISPLAY : NUMBER RECORDS-2 : NO-REC-2 UPON CONSOLE. C98970
71940 DISPLAY : END OF JOB C9897: UPON CONSOLE. C98970
71950 CLOSE IN-FILE-D-B, MSG-FILE, OUT-FILE-1, C98970
71960 OUT-FILE-2 WITH LOCK. C98970
71990 GOBACK. C98970

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/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG.TFGIN DD *,SPACE>[CYL,I,I]]
TFG DT01 11 020Z080
0330003310033200333003400036000310003200032100204

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1440 CDS

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34
57000236 331
57000237 331
57000243 324
57000244 331
57002545 331
58000776 324
50000901 331
59000002 331
59000003 331
59000005 331
59000006 331
59000010 331
59000012 331
59000015 331
59000018 331
59000019 331
59000026 331
59000030 331
59000054 324
59000057 324
59000058 324
59000059 324
59000104 331
59000105 331
59000108 324
59000110 324
59000119 324
59000141 324
59000143 324
59000144 324
59000145 324

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59000147 324
59000151 324
59000152 324
*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU14 DU DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3 T14
//TPR,TU22 DU DISP>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5 T22
//TPR,TU24 DU DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 T24
//TPR,TPRIN DD *,SPACE>[TRK,[1,1]]
T/P DT01 101008^2080
T/P DT02 101008^2080
T/P TU14 101007^2070
T/P TU22 101002^2020
T/P TU24 101002^2020
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6. 8. 2 SORT FOR SCHEDULED NORM HOURS

```

//T9897N JOB 01.: G WANG : ,PHTY>02,TYPRUN>HOLD
//C9897F EXEC P962 'N, #>060, TIME>04, ACCT>D35323007
//CHG, SORTIN DU DISP>[KEEP], UNIT>[A+F5, 2, DEFER], CT22/23 1
// DS>L.9897^32, CT22 2
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// 1+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
// DCB>[LRECL>0020, BLKSIZ>1800], LABEL>[, NSL, RETPD>099]
//CHG, SORTOUT DU DISP>[KEEP], UNIT>[A+F1, 2, DEFER], DSN>+A.9897^30, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// 1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0020, BLKSIZ>1800]
//CHG, SYSIN DD *,DCB>BLKSIZ>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[017, 01, CH, A, 019, 001, CH, A, 001, 005, CH, A], SIZE>E0350000
MODS E15>[E15, 008-SORTLIB, N], E18>[E18, 024, SORTLIB, N]
/*

```

### 6. 8. 3 CUMULATIVE DISTRIBUTION FOR SCHEDULED NORM HOURS

```

//C9897C EXEC P965E., TIME>30, ACCT>D35323007
//CHG, TU12 DU DISP>[PASS], UNIT>[T+F1, 1, DEFER], DSN>+A.9897^30, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// 1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG, TU25 DU DISP>[PASS], UNIT>[T+F8, 1, DEFER], DSN>+H.9897^31, CT25 1
// VOL>SER>[+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// 1+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8] T25 3
//CHG, INPUT DU *,SPACE>[CYL,[1,1]] 1440 CDS
00000 COMPILE COMPILE G. WANG. C98970
01040 DATE-WRITTEN. 7 APR 72. C98970
01050 REMARKS. C98970
01060 TASK 2 HIST OF WUC. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT HIST-FILE ASSIGN TO UT-S-TU25 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02200 SELECT IN-FILE-1SC ASSIGN TO DA-S-DT01 C98970
02210 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11000 FD IN-FILE C98970
11120 RECURRING MODE IS F C98970
11130 BLOCK CONTAINS 90 RECORDS C98970
11140 RECORD CONTAINS 20 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE IN-REC. C98970
11170 01 IN-REC SYC. C98970
11180 02 WUC PICTURE X(5). C98970
11182 02 FILLER PICTURE X(4). C98970
11183 02 OUS PICTURE S9(6). C98970
11184 02 OUS-1 REDEFINES OMS PICTURE S99999V9. C98970
11185 02 FILLER PICTURE X. C98970
11186 02 ISCHRONAL=NEW PICTURE X. C98970
11187 02 FILLER PICTURE X. C98970
11188 02 DATA-TYPE=NEW PICTURE X. C98970

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|       |    |  |                                 |        |
|-------|----|--|---------------------------------|--------|
| 11189 | 02 | FILLER   | PICTURE X.                      | C98970 |
| 11300 | FD | IN-FILL-ISC  |                                 | C98970 |
| 11320 |    | RECORDING MODE IS F                                |                                 | C98970 |
| 11330 |    | BLOCK CONTAINS 20 RECORDS                          |                                 | C98970 |
| 11340 |    | RECORD CONTAINS 80                                 | CHARACTERS                      | C98970 |
| 11350 |    | LABEL RECORDS ARE STANDARD                         |                                 | C98970 |
| 11360 |    | DATA RECORDS ARE IN-REC-ISC.                       |                                 | C98970 |
| 11400 | 01 | IN-REC-ISC SYNC.                                   |                                 | C98970 |
| 11410 |    | 02 FILLER  | PICTURE X(80).                  | C98970 |
| 12100 | FD | HIST-FILE  |                                 | C98970 |
| 12120 |    | RECORDING MODE IS F                                |                                 | C98970 |
| 12130 |    | BLOCK CONTAINS 15 RECORDS                          |                                 | C98970 |
| 12140 |    | RECORD CONTAINS 130                                | CHARACTERS                      | C98970 |
| 12150 |    | LABEL RECORDS ARE OMITTED                          |                                 | C98970 |
| 12160 |    | DATA RECORDS ARE HIST-REC.                         |                                 | C98970 |
| 12170 | 01 | HIST-REC SYNC.                                     |                                 | C98970 |
| 12180 |    | 02 FILLER  | PICTURE X(130).                 | C98970 |
| 30000 |    | WORKING-STORAGE SECTION.                           |                                 | C98970 |
| 30010 | 77 | KNT SYNC PICTURE S9(5).                            |                                 | C98970 |
| 30012 | 77 | OBS-ISO SYNC PICTURE S9(5)V99999.                  |                                 | C98970 |
| 30014 | 77 | OBS-NI SYNC PICTURE S9(5)V99999.                   |                                 | C98970 |
| 30020 | 01 | FILLER SYNC.                                       |                                 | C98970 |
| 30030 |    | 02 FREQ-HIST-VALUE OCCURS 2000 TIMES PICTURE S9(5) |                                 | C98970 |
| 30040 |    | COMPUTATIONAL.                                     |                                 | C98970 |
| 30050 | 01 | A PICTURE S9(5) COMPUTATIONAL.                     |                                 | C98970 |
| 30060 | 01 | NO-OF-HIST SYNC PICTURE 99999 VALUE ZERO.          |                                 | C98970 |
| 300A0 | 01 | ONE SYNC PICTURE X VALUE :1.                       |                                 | C98970 |
| 300B1 | 01 | TWO SYNC PICTURE X VALUE :2.                       |                                 | C98970 |
| 300B2 | 01 | THREE SYNC PICTURE X VALUE :3.                     |                                 | C98970 |
| 300B3 | 01 | FOUR SYNC PICTURE X VALUE :4.                      |                                 | C98970 |
| 300B4 | 01 | FIVE SYNC PICTURE X VALUE :5.                      |                                 | C98970 |
| 30090 | 01 | CNT SYNC PICTURE S9(5) COMPUTATIONAL.              |                                 | C98970 |
| 30100 | 01 | CUR-WUC-T SYNC.                                    |                                 | C98970 |
| 30110 |    | 02 FILLER  | PICTURE X(5) VALUE I WUC>1.     | C98970 |
| 30120 |    | 02 CUR-WUC   | PICTURE X(5).                   | C98970 |
| 30170 | 01 | ISCHRONAL SYNC                                     | PICTURE X.                      | C98970 |
| 30180 | 01 | DATA-TYPE SYNC                                     | PICTURE X.                      | C98970 |
| 30190 | 01 | MINUS-ONE COMPUTATIONAL                            | PICTURE S999 VALUE -1 SYNC.     | C98970 |
| 32000 | 01 | REPORT-ID SYNC.                                    |                                 | C98970 |
| 32010 |    | 02 FILLER  | PICTURE X(50) VALUE             | C98970 |
| 32020 |    | :S9897800 TF7919-01 142-8 1 1/2                    |                                 | C98970 |
| 32030 | 02 | FILLER   | PICTURE X(50) VALUE SPACE.      | C98970 |
| 32040 | 02 | FILLER   | PICTURE X(30) VALUE             | C98970 |
| 32050 |    | :  | :1.                             | C98970 |
| 46000 | 01 | MEAN COMPUTATIONAL SYNC                            | PICTURE S9(7)V99.               | C98970 |
| 46010 | 01 | VARIANCL COMPUTATIONAL SYNC                        | PICTURE S9(7)V99.               | C98970 |
| 46020 | 01 | TEMP-COMP  | PICTURE S9(7)V99.               | C98970 |
| 46100 | 01 | MEAN-VARIANCE-LINE SYNC.                           |                                 | C98970 |
| 46110 |    | 02 FILLER  | PICTURE X(50) VALUE             | C98970 |
| 46120 |    | :S   |                                 | C98970 |
| 46130 | 02 | FILLER   | PICTURE X(19) VALUE             | C98970 |
| 46140 |    | :  | MEAN >:.                        | C98970 |
| 46150 | 02 | MEAN-RPT   | PICTURE ZZZ9.9.                 | C98970 |
| 46160 | 02 | FILLER   | PICTURE X(30) VALUE             | C98970 |
| 46170 |    | :  | VARIANCE >1.                    | C98970 |
| 46180 | 02 | VARIANCE-RPT                                       | PICTURE ZZZZZ9.9.               | C98970 |
| 46190 | 02 | FILLER   | PICTURE X(16) VALUE             | C98970 |
| 46200 |    | :  | :1.                             | C98970 |
| 46300 | 01 | MEAN-U COMPUTATIONAL SYNC                          | PICTURE S9(5)V99999 VALUE ZERO. | C98970 |
| 46310 | 01 | VARIANCE-B COMPUTATIONAL SYNC                      | PICTURE S9(5)V99999             | C98970 |
| 46315 |    | VALUE ZERO.  |                                 | C98970 |
| 46320 | 01 | TEMP-COMP-I  | SYNC PICTURE S9(5)V99999        | C98970 |
| 46325 |    | VALUE ZERO.  |                                 | C98970 |
| 46330 | 01 | HIST-NO-OF-OBS-B                                   | SYNC PICTURE S9(5)V99999        | C98970 |
| 46335 |    | VALUE ZERO.  |                                 | C98970 |
| 46400 | 01 | MEAN-VARIANCE-LINE-B SYNC.                         |                                 | C98970 |
| 46410 |    | 02 FILLER  | PICTURE X(50) VALUE             | C98970 |
| 46420 |    | :S   |                                 | C98970 |
| 46430 | 02 | FILLER   | PICTURE X(16) VALUE             | C98970 |
| 46440 |    | :  | MEAN>:.                         | C98970 |
| 46450 | 02 | MEAN-RPT-B   | PICTURE ZZ9.99999.              | C98970 |
| 46460 | 02 | FILLER   | PICTURE X(28) VALUE             | C98970 |
| 46470 |    | :  | VARIANCE >:.                    | C98970 |
| 46480 | 02 | VARIANCE-RPT-B                                     | PICTURE ZZZ9.99999.             | C98970 |
| 46490 | 02 | FILLER   | PICTURE X(16) VALUE             | C98970 |
| 46500 |    | :  | :1.                             | C98970 |
| 47000 | 01 | HIST-VALUE-MAX SYNC                                | PICTURE S9999V99 VALUE -9999.9. | C98970 |
| 47010 | 01 | HIST-VALUE-MIN SYNC                                | PICTURE S9999V99 VALUE <9999.9. | C98970 |
| 47015 | 01 | HIST-VALUE-MI SYNC                                 | PICTURE S9999V99 VALUE <9999.9. | C98970 |
| 47020 | 01 | HIST-NO-OF-OBS SYNC                                | PICTURE S9(5) VALUE ZERO.       | C98970 |
| 47030 | 01 | HIST-NO-OF-INTERVALS SYNC                          | PICTURE 999V99 VALUE 50.        | C98970 |
| 47040 | 01 | HIST-INPUT-VMAX-VMIN SYNC                          | PICTURE 9 VALUE ZERO.           | C98970 |
| 47050 | 01 | HIST-DIST SYNC                                     | PICTURE X VALUE :11.            | C98970 |
| 47060 | 01 | HIST-INDEX SYNC COMPUTATIONAL                      |                                 | C98970 |
| 47070 |    |  | PICTURE S999 VALUE ZERO.        | C98970 |
| 47080 | 01 | HIST-INDEX-2 SYNC COMPUTATIONAL                    |                                 | C98970 |
| 47090 |    |  | PICTURE S999 VALUE ZERO.        | C98970 |

|       |    |                             |   |        |
|-------|----|-----------------------------|---|--------|
| 47100 | 01 | HIST-TEMP SYNC              | PICTURE S99999V99 VALUE ZERO.                                 | C98970 |
| 47110 | 01 | HIST-INTERVAL-SIZE SYNC     | PICTURE S999V99 VALUE ZERO                                    | C98970 |
| 47120 |    | COMPUTATIONAL.              |   | C98970 |
| 47150 | 01 | HIST-FLAG SYNC              | PICTURE X VALUE :0:.  | C98970 |
| 47160 | 01 | HIST-SCALE-VALUE SYNC       | COMPUTATIONAL   | C98970 |
| 47170 |    |                             | PICTURE S999 VALUE <1.  | C98970 |
| 47180 | 01 | HIST-PERCENT SYNC           | PICTURE S999V99 COMPUTATIONAL.                                | C98970 |
| 47190 | 01 | HIST-CUM SYNC               | PICTURE S999V99 COMPUTATIONAL.                                | C98970 |
| 47200 | 01 | HIST-LINE SYNC              | COMPUTATIONAL   | C98970 |
| 47210 |    |                             | PICTURE S999 VALUE ZERO.                                      | C98970 |
| 47220 | 01 | HIST-PAGE-FLAG SYNC         | PICTURE S999 VALUE <75.                                       | C98970 |
| 47230 | 01 | HIST-LINE-CAT SYNC          | PICTURE S999.   | C98970 |
| 47300 | 01 | HIST-LR#-1 SYNC             | PICTURE X(10) VALUE   | C98970 |
| 47310 |    |                             | :ERROR NO 01.   | C98970 |
| 47320 | 01 | HIST-LR#-3 SYNC.            |   | C98970 |
| 47330 | 02 | FILLER                      | PICTURE X(5) VALUE :BS > 1.                                   | C98970 |
| 47340 | 02 | HIST-ERR-2                  | PICTURE S9(5) VALUE ZERO.                                     | C98970 |
| 47350 | 01 | HIST-ERR-4 SYNC             | PICTURE X(10) VALUE   | C98970 |
| 47360 |    |                             | :ERROR MAX:.  | C98970 |
| 47370 | 01 | HIST-ERR-5 SYNC             | PICTURE X(10) VALUE   | C98970 |
| 47380 |    |                             | :MIN BAD. :.  | C98970 |
| 47390 | 01 | HIST-OUT-RANGE-VALUE SYNC   | PICTURE S999 COMPUTATIONAL.                                   | C98970 |
| 47500 | 01 | FILLER SYNC.                |   | C98970 |
| 47510 | 02 | FILLER OCCURS 200 TIMES.    |   | C98970 |
| 47530 | 03 | HIST-TABLE                  | PICTURE S9(5) COMPUTATIONAL.                                  | C98970 |
| 47540 | 03 | HIST-UPPER-LIMIT            | PICTURE S999V99 COMPUTATIONAL.                                | C98970 |
| 47550 | 03 | HIST-TABLE-SCALED           | PICTURE S999V99 COMPUTATIONAL.                                | C98970 |
| 47560 | 01 | HIST-NEW-PAGE SYNC.         |   | C98970 |
| 47570 | 02 | FILLER                      | PICTURE X VALUE :1:.  | C98970 |
| 47580 | 02 | FILLER                      | PICTURE X(122) VALUE SPACE.                                   | C98970 |
| 47582 | 02 | FILLER                      | PICTURE X(5) VALUE :PAGE :.                                   | C98970 |
| 47584 | 02 | HIST-PAGE-NO                | PICTURE 9.  | C98970 |
| 47590 | 02 | FILLER                      | PICTURE X VALUE :2:.  | C98970 |
| 47600 | 01 | HIST-TITLE SYNC.            |   | C98970 |
| 47610 | 02 | FILLER                      | PICTURE X(3) VALUE :S 1.                                      | C98970 |
| 47620 | 02 | HIST-TITLE-1.               |   | C98970 |
| 47621 | 03 | FILLER                      | PICTURE X(10) VALUE SPACE.                                    | C98970 |
| 47630 | 02 | HIST-TITLE-2.               |   | C98970 |
| 47631 | 03 | FILLER                      | PICTURE X(10) VALUE SPACE.                                    | C98970 |
| 47640 | 02 | HIST-TITLE-3                | PICTURE X(10) VALUE SPACE.                                    | C98970 |
| 47650 | 02 | HIST-TITLE-4                | PICTURE X(10) VALUE SPACE.                                    | C98970 |
| 47660 | 02 | FILLER                      | PICTURE X(24) VALUE   | C98970 |
| 47670 |    |                             | : NO OF OBSERVATIONS >:.                                      | C98970 |
| 47680 | 02 | HIST-NO-OF-OBS-RPT          | PICTURE ZZZZ9.  | C98970 |
| 47690 | 02 | FILLER                      | PICTURE X(13) VALUE   | C98970 |
| 47700 |    |                             | : VALUE MAX > :.  | C98970 |
| 47710 | 02 | HIST-VALUE-MAX-RPT          | PICTURE ----.9.   | C98970 |
| 47720 | 02 | FILLER                      | PICTURE X(13) VALUE   | C98970 |
| 47730 |    |                             | : VALUE MIN > :.  | C98970 |
| 47740 | 02 | HIST-VALUE-MIN-RPT          | PICTURE ----.9.   | C98970 |
| 47750 | 02 | FILLER                      | PICTURE X(10) VALUE   | C98970 |
| 47760 |    |                             | : :.  | C98970 |
| 47900 | 01 | HIST-OUT-LINE SYNC.         |   | C98970 |
| 47910 | 02 | FILLER                      | PICTURE X(50) VALUE   | C98970 |
| 47920 |    |                             | :/----- .   | C98970 |
| 47922 | 02 | FILLER                      | PICTURE X(80) VALUE   | C98970 |
| 47930 |    |                             | :/----- .   | C98970 |
| 47940 |    |                             | :/-----: :.   | C98970 |
| 47950 | 01 | HIST-LABEL SYNC.            |   | C98970 |
| 47960 | 02 | FILLER                      | PICTURE X(50) VALUE   | C98970 |
| 47970 |    |                             | :/ MIDPNT PCNT CUM FREQ 1...5...10...15...20...:              | C98970 |
| 47974 | 02 | FILLER                      | PICTURE X(80) VALUE   | C98970 |
| 47980 |    |                             | :25...30...35...40...45...50...55...60...65...70...75...80... | C98970 |
| 47990 |    |                             | :85...90...95...100: :.                                       | C98970 |
| 48000 | 01 | HIST-LINE-OUT SYNC.         |   | C98970 |
| 48010 | 02 | FILLER                      | PICTURE X VALUE :/:.  | C98970 |
| 48020 | 02 | HIST-LINE-RPT               | PICTURE ZZ9.  | C98970 |
| 48030 | 02 | FILLER                      | PICTURE X VALUE SPACE.  | C98970 |
| 48040 | 02 | HIST-MID POINT-RPT          | PICTURE ----.9.   | C98970 |
| 48060 | 02 | HIST-PERCENT-RPT            | PICTURE ZZ9.9.  | C98970 |
| 48070 | 02 | FILLER                      | PICTURE X VALUE SPACE.  | C98970 |
| 48080 | 02 | HIST-CUM RPT                | PICTURE ZZ9.9.  | C98970 |
| 48100 | 02 | HIST-FREQ-RPT               | PICTURE ZZZZ9.  | C98970 |
| 48110 | 02 | FILLER                      | PICTURE X VALUE SPACE.  | C98970 |
| 48120 | 02 | HIST-POINT OCCURS 100 TIMES |   | C98970 |
| 48130 |    |                             | PICTURE X.  | C98970 |
| 48140 | 02 | FILLER                      | PICTURE X VALUE :2:.  | C98970 |
| 48150 | 01 | HIST-OUT-RANGE-REC SYNC.    |   | C98970 |
| 48160 | 02 | FILLER                      | PICTURE X(35) VALUE   | C98970 |
| 48170 |    |                             | :/ NUMBER OF OUT OF RANGE VALUES >1.                          | C98970 |
| 48180 | 02 | HIST-OUT-RANGE-RPT          | PICTURE ZZ9.  | C98970 |
| 48190 | 02 | FILLER                      | PICTURE X(91) VALUE SPACE.                                    | C98970 |
| 48191 | 02 | FILLER                      | PICTURE X VALUE :2:.  | C98970 |
| 48200 | 01 | HIST-SCALE-LINE SYNC.       |   | C98970 |
| 48210 | 02 | FILLER                      | PICTURE X(27) VALUE   | C98970 |
| 48220 |    |                             | :/ SCALING FACTOR > 1.  | C98970 |
| 48230 | 02 | HIST-SCALE-RPT              | PICTURE ZZ9.  | C98970 |

|       |    |   |                                |        |
|-------|----|---|--------------------------------|--------|
| 48240 | 02 | FILLER  | PICTURE X(099) VALUE SPACE.    | C98970 |
| 48250 | 02 | FILLER  | PICTURE X VALUE I#:            | C98970 |
| 48300 | 01 | FILLER SYNC.  |                                | C98970 |
| 48310 | 02 | HISI-VALUE OCCURS 2000 TIMES                                  |                                | C98970 |
| 48320 |    |   | PICTURE S9999V9 COMPUTATIONAL. | C98970 |
| 48350 | 01 | NORS-AC-WK SYNC.  |                                | C98970 |
| 48360 | 05 | NO-AC-WK-ISO  | PICTURE S9(5).                 | C98970 |
| 48370 | 05 | NO-AC-WK-N1   | PICTURE S9(5).                 | C98970 |
| 48380 | 05 | CUTOFF-ISO  | PICTURE S9(2).                 | C98970 |
| 48390 | 05 | CUTOFF-N:   | PICTURE S9(2).                 | C98970 |
| 48395 | 05 | FILLER  | PICTURE X(66).                 | C98970 |
| 50000 |    | PROCEDURE DIVISION.   |                                | C98970 |
| 50010 |    | OPEN INPUT IN-FILE, IN-FILE-ISC.                              |                                | C98970 |
| 50020 |    | OPEN OUTPUT HIST-FILE.  |                                | C98970 |
| 50022 |    | READ IN-FILE-ISC INTO NORS-AC-WK AT END GO TO CLOSE-FILES.    |                                | C98970 |
| 50023 |    | MOVE NO-AC-WK-ISO TO OBS-ISO.                                 |                                | C98970 |
| 50024 |    | MOVE NO-AC-WK-N1 TO OBS-N1.                                   |                                | C98970 |
| 50030 |    | MOVE 2000 TO KNT.   |                                | C98970 |
| 50040 |    | PERFORM RESET-TABLE THRU END-RST-TABLE.                       |                                | C98970 |
| 50050 |    | READ IN-FILE, AT END GO TO CLOSE-FILES.                       |                                | C98970 |
| 50060 |    | WRITE HIST-HI C FROM REPORT-ID.                               |                                | C98970 |
| 50100 |    | PARA-1.   |                                | C98970 |
| 50110 |    | MOVE 1 TO HIST-NO-OF-OBS.                                     |                                | C98970 |
| 50120 |    | MOVE WUC TO CUR-WUC.  |                                | C98970 |
| 50140 |    | MOVE UATA-TYPE-NEW TO DATA-TYPE.                              |                                | C98970 |
| 50150 |    | MOVE ISCHRONAL-NEW TO ISCHRONAL.                              |                                | C98970 |
| 50160 |    | IF DATA-TYPE IS EQUAL TO FIVE GO TO WEEKS-DATA ELSE GO TO     |                                | C98970 |
| 50170 |    | FLT-DATA.   |                                | C98970 |
| 50200 |    | READ1.  |                                | C98970 |
| 50210 |    | READ IN-FILE AT END GO TO CLOSE-FILES.                        |                                | C98970 |
| 50220 |    | IF UATA-TYPE-NEW IS EQUAL TO 19: GO TO CLOSE-FILES.           |                                | C98970 |
| 50230 |    | IF WUC IS NOT EQUAL TO CUR-WUC GO TO PARA-2.                  |                                | C98970 |
| 50250 |    | ADD 1 TO HIST-NO-OF-OBS.                                      |                                | C98970 |
| 50260 |    | IF UATA-TYPE IS EQUAL TO FIVE GO TO WEEKS-DATA ELSE GO TO     |                                | C98970 |
| 50270 |    | FLT-DATA.   |                                | C98970 |
| 50300 |    | PARA-2.   |                                | C98970 |
| 50310 |    | PERFORM SET-HISTOG THRU END-SH.                               |                                | C98970 |
| 50320 |    | PERFORM RESET-TABLE THRU END-RST-TABLE.                       |                                | C98970 |
| 50330 |    | GO TO PARA-1.   |                                | C98970 |
| 50400 |    | RESET-TABLE.  |                                | C98970 |
| 50410 |    | MOVE ZERO TO CNT.   |                                | C98970 |
| 50420 |    | RST.  |                                | C98970 |
| 50430 |    | ADD 1 TO CNT.   |                                | C98970 |
| 50440 |    | MOVE MINUS-ONE TO HIST-VALUE [CNT].                           |                                | C98970 |
| 50445 |    | MOVE ZERO TO FREQ-HIST-VALUE [CNT].                           |                                | C98970 |
| 50450 |    | IF CNT IS LESS THAN KNT GO TO RST.                            |                                | C98970 |
| 50455 |    | MOVE ZERO TO KNT.   |                                | C98970 |
| 50460 |    | END-RST-TABLE. EXIT.  |                                | C98970 |
| 50510 |    | SET-HISTOG.   |                                | C98970 |
| 50515 |    | IF HIST-NO-OF-OBS IS NOT GREATER THAN CUTOFF-N1 AND ISCHRONAL |                                | C98970 |
| 50516 |    | NOT EQUAL TO ONE GO TO END-SH.                                |                                | C98970 |
| 50517 |    | IF HIST-NO-OF-OBS IS NOT GREATER THAN CUTOFF-ISO AND          |                                | C98970 |
| 50518 |    | ISCHRONAL IS EQUAL TO ONE GO TO END-SH.                       |                                | C98970 |
| 50520 |    | IF ISCHRONAL IS EQUAL TO ONE MOVE : ISO : 1 TO                |                                | C98970 |
| 50530 |    | HIST-TITLE-4. ELSE MOVE : NON-ISO : TO HIST-TITLE-4.          |                                | C98970 |
| 50540 |    | IF DATA-TYPE EQUAL TO ONE MOVE : NORM-HR : TO HIST-TITLE-3.   |                                | C98970 |
| 50541 |    | IF DATA-TYPE EQUAL TO TWO MOVE : MAN-HR : TO HIST-TITLE-3.    |                                | C98970 |
| 50542 |    | IF DATA-TYPE EQUAL TO THREE MOVE : NORM/MA :                  |                                | C98970 |
| 50544 |    | TO HIST-TITLE-3.  |                                | C98970 |
| 50545 |    | IF UATA-TYPE EQUAL TO FOUR MOVE : NORS :                      |                                | C98970 |
| 50546 |    | TO HIST-TITLE-3.  |                                | C98970 |
| 50560 |    | MOVE CUR-WUC-T TO HIST-TITLE-1.                               |                                | C98970 |
| 50540 |    | PERFORM WRITE-HISTOGRAM THRU END-HIST.                        |                                | C98970 |
| 50600 |    | IF HIST-FLAG IS EQUAL TO 11: THEN GO TO CF1.                  |                                | C98970 |
| 50610 |    | ADD 1 TO NO-OF-HISTS.   |                                | C98970 |
| 50620 |    | END-SH. EXIT.   |                                | C98970 |
| 51000 |    | WEEKS-DATA.   |                                | C98970 |
| 51010 |    | MOVE ZERO TO CNT.   |                                | C98970 |
| 51020 |    | WEEK-A.   |                                | C98970 |
| 51030 |    | ADD 1 TO CNT.   |                                | C98970 |
| 51040 |    | IF OBS IS EQUAL TO HIST-VALUE [CNT] GO TO WEEK-C.             |                                | C98970 |
| 51050 |    | IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO WEEK-B.       |                                | C98970 |
| 51060 |    | IF CNT IS LESS THAN 2000 GO TO WEEK-A.                        |                                | C98970 |
| 51070 |    | DISPLAY : MORE THAN 2000 FREQUENCY OCCURENCES 1 UPON CONSOLE. |                                | C98970 |
| 51080 |    | GO TO CF1.  |                                | C98970 |
| 51090 |    | WEEK-B.   |                                | C98970 |
| 51100 |    | MOVE OBS TO HIST-VALUE [CNT].                                 |                                | C98970 |
| 51110 |    | IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT.              |                                | C98970 |
| 51120 |    | WEEK-C.   |                                | C98970 |
| 51130 |    | ADD 1 TO FREQ-HIST-VALUE [CNT].                               |                                | C98970 |
| 51140 |    | GO TO READ1.  |                                | C98970 |
| 52000 |    | FLT-DATA.   |                                | C98970 |
| 52010 |    | MOVE ZERO TO CNT.   |                                | C98970 |
| 52020 |    | FLT-A.  |                                | C98970 |
| 52030 |    | ADD 1 TO CNT.   |                                | C98970 |

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52040 IF UP5-1 IS EQUAL TO HIST-VALUE [CNT] GO TO FLT-C. C98970
52050 IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO FLT-B. C98970
52060 IF CNT IS LES THAN 2000 GO TO FLT-A. C98970
52070 DISPLAY : MORE THAN 2000 FREQUENCY OCCURENCES I UPON CONSOLE. C98970
52080 GO TO CFI. C98970
52090 FLT-B. C98970
52100 MOVE UP5-1 TO HIST-VALUE [CNT]. C98970
52110 IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT. C98970
52120 FLT-C. C98970
52130 ADD 1 TO FREQ-HIST-VALUE [CNT]. C98970
52140 GO TO HEAD1. C98970
52200 CLOSE-FILLS. C98970
52205 PERFORM SET-HISTOG THRU END-SH. C98970
52207 CFI. C98970
52210 CLOSE IN-FILE HIST-FILE, IN-FILE-ISC. C98970
52211 IF HIST-FLAG IS EQUAL TO :1: DISPLAY : HIST ERROR I UPON C98970
52212 CONSOLL. C98970
52215 DISPLAY : NO F HISTOGRAMS > I NO-OF-HISTS UPON CONSOLE. C98970
52220 DISPLAY : EIJ C9897 : UPON CONSOLE. C98970
52230 GOBACK. C98970
94000 COMPUTE-M-V. C98970
94010 IF ISCHRONAL EQUAL TO ONE MOVE OBS-ISO TO HIST-NO-OF-OBS-B C98970
94020 ELSE MOVE OBS-NI TO HIST-NO-OF-OBS-B. C98970
94030 MOVE ZERO TO CNT. C98970
94040 MOVE ZERO TO MEAN-B. C98970
94050 CMV-1-B. C98970
94060 ADD 1 TO CNT. C98970
94070 COMPUTE TEMP-COMP-B > HIST-VALUE [CNT] * C98970
94080 FREQ-HIST-VALUE [CNT]. C98970
94090 ADD TEMP-COMP-B TO MEAN-B. C98970
94100 IF CNT IS LLES THAN KNT GO TO CMV-1-B. C98970
94110 DIVIDE HIST-NO-OF-OBS-B INTO MEAN-B. C98970
94120 MOVE ZERO TO CNT. C98970
94130 MOVE ZERO TO VARIANCE-B. C98970
94140 CMV-2-R. C98970
94150 ADD 1 TO CNT. C98970
94160 COMPUTE TEMP-COMP-B > [(HIST-VALUE [CNT] - MEAN-B) ** 2] * C98970
94170 FREQ-HIST-VALUE [CNT]. C98970
94180 ADD TEMP-COMP-B TO VARIANCE-B. C98970
94190 IF CNT LLES THAN KNT GO TO CMV-2-B. C98970
94200 COMPUTE VARIANCE-B > VARIANCE-B / [HIST-NO-OF-OBS-B - 1]. C98970
94210 MOVE MEAN-B TO MEAN-RPT-B. C98970
94220 MOVE VARIANCE-B TO VARIANCE-RPT-B. C98970
94250 WRITE HIST-REC FROM MEAN-VARIANCE-LINE-B. C98970
94260 END-CMV-R. EXIT. C98970
95000 COMPUTE-MEAN-VARIANCE. C98970
95005 IF HIST-NO-OF-OBS EQUAL TO 1 GO TO CMV-3. C98970
95010 MOVE ZERO TO CNT. C98970
95020 MOVE ZERO TO MEAN. C98970
95030 CMV-1. C98970
95040 ADD 1 TO CNT. C98970
95050 COMPUTE TEMP-COMP > HIST-VALUE [CNT] * FREQ-HIST-VALUE [CNT]. C98970
95060 ADD TEMP-COMP TO MEAN. C98970
95070 IF CNT IS LES THAN KNT GO TO CMV-1. C98970
95080 DIVIDE HIST-NO-OF-OBS INTO MEAN. C98970
95090 MOVE ZERO TO CNT. C98970
95100 MOVE ZERO TO VARIANCE. C98970
95110 CMV-2. C98970
95120 ADD 1 TO CNT. C98970
95130 COMPUTE TEMP-COMP > [(HIST-VALUE [CNT] - MEAN) ** 2] * C98970
95140 FREQ-HIST-VALUE [CNT]. C98970
95150 ADD TEMP-COMP TO VARIANCE. C98970
95160 IF CNT IS LLES THAN KNT GO TO CMV-2. C98970
95170 COMPUTE VARIANCE > VARIANCE / [HIST-NO-OF-OBS - 1]. C98970
95180 MOVE MEAN TO MEAN-RPT. C98970
95190 MOVE VARIANCE TO VARIANCE-RPT. C98970
95191 GO TO CMV-4. C98970
95192 CMV-3. C98970
95193 MOVE ZERO TO VARIANCE-RPT. C98970
95194 MOVE HIST-VALUE [I] TO MEAN-RPT. C98970
95195 CMV-4. C98970
95200 WRITE HIST-REC FROM MEAN-VARIANCE-LINE. C98970
95290 END-CMV. EXIT. C98970
95300 DLT-NO-OBS. C98970
95311 IF DATA-TYPL NOI LQUAL TO FOUR GO TO NOT-NORS. C98970
95312 IF ISCHRONAL EQUAL TO ONL MOVE OBS-ISO TO HIST-NO-OF-OBS-RPT C98970
95313 ELSE MOVE OBS-NI TO HIST-NO-OF-OBS-RPT. C98970
95314 GO TO BOTH-NORS. C98970
95315 NOT-NORS. C98970
95320 MOVE HIST-NO-OF-OBS TO HIST-NO-OF-OBS-RPT. C98970
95325 BOTH-NORS. C98970
95330 END-DLT-NO-OBS. EXIT. C98970
97000 WRITE-HISTOGRAM. C98970
97080 MOVE :0: TO HIST-FLAG. C98970
97090 MOVE ZERO TO HIST-OUT-RANGE-VALUE. C98970
97100 MOVE ZERO TO HIST-PAGE-NO. C98970
97140 MOVE -999.9 TO HIST-VALUE-MAX. C98970

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|       |  |        |
|-------|--|--------|
| 97150 | MOVL <9999.9 TO HIST-VALUE-MIN.                              | C98970 |
| 97200 | MOVL ZERO TO HIST-INDEX.                                     | C98970 |
| 97210 | HIST-FIND=VMAX-VMIN.   | C98970 |
| 97220 | ADD I TO HIST-INDEX.   | C98970 |
| 97230 | MOVL HIST-VALUE [HIST-INDEX] TO HIST-TEMP.                   | C98970 |
| 97240 | IF HIST-TEMP IS GREATER THAN HIST-VALUE-MAX THEN MOVE        | C98970 |
| 97250 | HIST-TEMP TO HIST-VALUE-MAX.                                 | C98970 |
| 97260 | IF HIST-TEMP IS LESS THAN HIST-VALUE-MIN THEN MOVE           | C98970 |
| 97270 | HIST-TEMP TO HIST-VALUE-MIN.                                 | C98970 |
| 97280 | IF HIST-INDEX IS LESS THAN KNT THEN GO TO                    | C98970 |
| 97281 | HIST-FIND=VMAX-VMIN.   | C98970 |
| 97282 | MOVL ZERO TO HIST-TEMP.                                      | C98970 |
| 97283 | MOVL HIST-VALUE-MIN TO HIST-VALUE-MI.                        | C98970 |
| 97284 | SET-LOW.   | C98970 |
| 97285 | IF HIST-VALUE-MI LESS THAN 100 GO TO GOT-LOW.                | C98970 |
| 97286 | SUBTRACT 100 FROM HIST-VALUE-MI.                             | C98970 |
| 97287 | ADD 100 TO HIST-TEMP.  | C98970 |
| 97288 | GO TO SLT-LOW.   | C98970 |
| 97289 | GOT-LOW.   | C98970 |
| 97290 | MOVL HIST-TEMP TO HIST-VALUE-MI.                             | C98970 |
| 97292 | COMPUTE HIST-NO-OF-INTERVALS >                               | C98970 |
| 97294 | [HIST-VALUE-MAX - HIST-VALUE-MI] / 4 < 4.                    | C98970 |
| 97300 | HIST-PRINT-TITLE.  | C98970 |
| 97301 | IF HIST-NO-OF-INTERVALS IS LESS THAN 50 MOVE 50 TO           | C98970 |
| 97302 | HIST-NO-OF-INTERVALS.  | C98970 |
| 97304 | ADD I TO HIST-PAGE-NO.                                       | C98970 |
| 97306 | MOVL 5 TO HIST-LINE-CNT.                                     | C98970 |
| 97310 | WRITE HIST-REC FROM HIST-NEW-PAGE.                           | C98970 |
| 97311 | PERFORM DET-NO-OBS THRU END-DET-NO-OBS.                      | C98970 |
| 97330 | MOVL HIST-VALUE-MAX TO HIST-VALUE-MAX-RPT.                   | C98970 |
| 97340 | MOVL HIST-VALUE-MIN TO HIST-VALUE-MIN-RPT.                   | C98970 |
| 97350 | WRITE HIST-REC FROM HIST-TITLE.                              | C98970 |
| 97351 | IF DATA-TYPE NOT EQUAL TO FOUR PERFORM COMPUTE-MEAN-VARIANCE | C98970 |
| 97352 | THRU END-CMV ELSE PERFORM COMPUTE-M-V THRU END-CMV-B.        | C98970 |
| 97356 | IF HIST-VALUE-MAX EQUAL TO ZERO GO TO END-HIST.              | C98970 |
| 97358 | IF DATA-TYPE EQUAL TO FOUR GO TO END-HIST.                   | C98970 |
| 97360 | WRITE HIST-REC FROM HIST-DOT-LINE.                           | C98970 |
| 97370 | WRITE HIST-REC FROM HIST-LABEL.                              | C98970 |
| 97380 | WRITE HIST-REC FROM HIST-DOT-LINE.                           | C98970 |
| 97390 | HIST-DUMMY.  | C98970 |
| 97410 | IF HIST-VALUE-MAX IS LESS THAN HIST-VALUE-MIN THEN GO TO     | C98970 |
| 97420 | HIST-ERROR-2.  | C98970 |
| 97430 | IF HIST-NO-OF-INTERVALS IS GREATER THAN 200 THEN MOVE 200    | C98970 |
| 97440 | TO HIST-NO-OF-INTERVALS.                                     | C98970 |
| 97441 | MOVL ZERO TO HIST-INDEX.                                     | C98970 |
| 97442 | HIST-RST.  | C98970 |
| 97443 | ADD I TO HIST-INDEX.   | C98970 |
| 97444 | MOVL ZERO TO HIST-TABLE [HIST-INDEX].                        | C98970 |
| 97445 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS              | C98970 |
| 97446 | THEN GO TO HIST-RST.   | C98970 |
| 97450 | MOVE 4.0 TO HIST-INTERVAL-SIZE.                              | C98970 |
| 97500 | NOTE COMPUTE UPPER LIMIT FOR EACH INTERVAL.                  | C98970 |
| 97510 | MOVL ZERO TO HIST-INDEX.                                     | C98970 |
| 97520 | MOVL HIST-VALUE-MI TO HIST-TEMP.                             | C98970 |
| 97530 | HIST-INC-INTERVAL.   | C98970 |
| 97540 | ADD I TO HIST-INDEX.   | C98970 |
| 97550 | ADD HIST-INTERVAL-SIZE TO HIST-TEMP.                         | C98970 |
| 97560 | MOVL HIST-TEMP TO HIST-UPPER-LIMIT [HIST-INDEX].             | C98970 |
| 97570 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN         | C98970 |
| 97580 | GO TO HIST-INC-INTERVAL.                                     | C98970 |
| 97600 | NOTE PLACE OCCURANCE INTO APPROPRIATE CHANNEL.               | C98970 |
| 97610 | MOVL ZERO TO HIST-INDEX-2.                                   | C98970 |
| 97620 | HIST-OCCURANCE.  | C98970 |
| 97630 | ADD I TO HIST-INDEX-2.                                       | C98970 |
| 97640 | MOVL HIST-VALUE [HIST-INDEX-2] TO HIST-TEMP.                 | C98970 |
| 97650 | MOVL ZERO TO HIST-INDEX.                                     | C98970 |
| 97660 | HIST-INTERVAL.   | C98970 |
| 97670 | ADD I TO HIST-INDEX.   | C98970 |
| 97675 | MOVL HIST-VALUE [HIST-INDEX-2] TO A.                         | C98970 |
| 97680 | IF HIST-TEMP IS NOT GREATER THAN HIST-UPPER-LIMIT            | C98970 |
| 97690 | [HIST-INDEX] THEN GO TO HIST-ADD-TABLE.                      | C98970 |
| 97700 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO   | C98970 |
| 97710 | HIST-INTERVAL.   | C98970 |
| 97720 | ADD A TO HIST-OUT-RANGE-VALUE.                               | C98970 |
| 97730 | GO TO HIST-NO-AUD.   | C98970 |
| 97740 | HIST-ADD-TABLE.  | C98970 |
| 97750 | ADD A TO HIST-TABLE [HIST-INDEX].                            | C98970 |
| 97751 | HIST-NO-AUD.   | C98970 |
| 97760 | IF HIST-INDEX-2 IS LESS KNT GO TO HIST-OCCURANCE.            | C98970 |
| 97800 | NOTE COMPUTE SCALE VALUE.                                    | C98970 |
| 97810 | MOVL HIST-TABLE [I] TO HIST-TEMP.                            | C98970 |
| 97820 | MOVL 1 TO HIST-INDEX.  | C98970 |
| 97830 | HIST-SCALE.  | C98970 |
| 97840 | ADD I TO HIST-INDEX.   | C98970 |
| 97850 | IF HIST-TABLE [HIST-INDEX] IS GREATER THAN HIST-TEMP THEN    | C98970 |
| 97860 | MOVL HIST-TABLE [HIST-INDEX] TO HIST-TEMP.                   | C98970 |
| 97870 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO   | C98970 |

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97880                                HIST-SCALE.                                C98970
97890    COMPUTE HIST-SCALE-VALUE > [HIST-TEMP < 99] / 100.                C98970
97895    IF HIST-SCALE-VALUE LESS THAN 1 MOVE 1 TO HIST-SCALE-VALUE.        C98970
97900    MOVE ZERO TO HIST-INDEX.                                            C98970
97910    HIST-SCALED-VALUE..                                                C98970
97920    ADD 1 TO HIST-INDEX.                                                C98970
97930    COMPUTE HIST-TABLE-SCALED (HIST-INDEX) >                            C98970
97940        HIST-TABLE (HIST-INDEX) / HIST-SCALE-VALUE.                    C98970
97950    IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO        C98970
97960        HIST-SCALED-VALUES.                                            C98970
98000    NOTE PREPARE OUTPUT DATA.                                         C98970
98010    DIVIDE 2 INTO HIST-INTERVAL-SIZE.                                  C98970
98020    MOVE ZERO TO HIST-CUM.                                             C98970
98030    MOVE ZERO TO HIST-LINE.                                            C98970
98040    HIST-PREPARE.                                                       C98970
98050    ADD 1 TO HIST-LINE.                                                 C98970
98060    MOVE HIST-LINE TO HIST-LINE-RPT.                                    C98970
98070    COMPUTE HIST-TEMP > HIST-UPPER-LIMIT (HIST-LINE)                    C98970
98080        - HIST-INTERVAL-SIZE.                                          C98970
98090    MOVE HIST-TEMP TO HIST-MID-POINT-RPT.                              C98970
98100    COMPUTE HIST-PERCENT > HIST-TABLE (HIST-LINE) * 100                C98970
98110        / HIST-NO-OF-OBS.                                             C98970
98120    MOVE HIST-PERCENT TO HIST-PERCENT-RPT.                             C98970
98130    ADD HIST-PERCENT TO HIST-CUM.                                       C98970
98140    MOVE HIST-CUM TO HIST-CUM-RPT.                                       C98970
98150    MOVE HIST-TABLE (HIST-LINE) TO HIST-FREQ-RPT.                      C98970
98160    MOVE ZERO TO HIST-INDEX.                                            C98970
98170    IF HIST-DIST IS NOT EQUAL TO 0: GO TO HIST-CUM-1.                  C98970
98180    COMPUTE HIST-INDEX-2 > HIST-TABLE-SCALED (HIST-LINE) < 0.5.        C98970
98190    IF HIST-INDEX-2 IS EQUAL TO ZERO GO TO HIST-PREP-SPACE.            C98970
98200    HIST-PREP-DIST.                                                      C98970
98210    ADD 1 TO HIST-INDEX.                                                 C98970
98220    MOVE 0: TO HIST-POINT (HIST-INDEX).                                C98970
98230    IF HIST-INDEX IS LESS THAN HIST-INDEX-2 GO TO HIST-PREP-DIST.      C98970
98240    IF HIST-INDEX IS EQUAL TO 100 THEN GO TO HIST-WRITE.              C98970
98250    HIST-PREP-SPACE.                                                    C98970
98260    ADD 1 TO HIST-INDEX.                                                 C98970
98270    MOVE SPACE TO HIST-POINT (HIST-INDEX).                             C98970
98280    IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-PREP-SPACE.         C98970
98290    GO TO HIST-WRITE.                                                  C98970
98300    HIST-CUM-1.                                                         C98970
98310    ADD 1 TO HIST-INDEX.                                                 C98970
98320    MOVE SPACE TO HIST-POINT (HIST-INDEX).                             C98970
98330    IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-CUM-1.              C98970
98338    COMPUTE HIST-INDEX > HIST-CUM < 0.5.                               C98970
98339    IF HIST-INDEX IS EQUAL TO ZERO GO TO HIST-WRITE.                  C98970
98340    MOVE 0: TO HIST-POINT (HIST-INDEX).                                C98970
98400    HIST-WRITE.                                                         C98970
98410    WRITE HIST-REC FROM HIST-LINE-OUT.                                  C98970
98412    ADD 1 TO HIST-LINE-CNT.                                             C98970
98414    IF HIST-PAGE-FLAG IS EQUAL TO ZERO GO TO HIST-NO-PAGING.          C98970
98415    IF HIST-LINE-CNT IS EQUAL TO HIST-PAGE-FLAG                        C98970
98416        THEN PERFORM HIST-PRINT-TITLE.                                C98970
98417    HIST-NO-PAGING.                                                      C98970
98420    IF HIST-LINE IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO        C98970
98430        HIST-PREPARE.                                                 C98970
98440    WRITE HIST-REC FROM HIST-DOT-LINE.                                   C98970
98450    MOVE HIST-SCALE-VALUE TO HIST-SCALE-RPT.                           C98970
98460    WRITE HIST-REC FROM HIST-SCALE-LINE.                                C98970
98470    IF HIST-OUT-RANGE-VALUE IS EQUAL TO ZERO GO TO HIST-WRITE-B.      C98970
98480    MOVE HIST-OUT-RANGE-VALUE TO HIST-OUT-RANGE-RPT.                  C98970
98490    WRITE HIST-REC FROM HIST-OUT-RANGE-REC.                            C98970
98500    HIST-WRITE-B.                                                       C98970
98510    WRITE HIST-REC FROM HIST-DOT-LINE.                                  C98970
98520    GO TO END-HIST.                                                     C98970
99000    HIST-ERR-1.                                                         C98970
99010    WRITE HIST-REC FROM HIST-TITLE.                                     C98970
99020    MOVE HIST-ERR-1 TO HIST-TITLE-1.                                    C98970
99030    MOVE HIST-NO-OF-OBS TO HIST-FRR-2.                                  C98970
99040    WRITE HIST-REC FROM HIST-TITLE.                                     C98970
99050    MOVE 1: TO HIST-FLAG.                                               C98970
99060    GO TO END-HIST.                                                     C98970
99100    HIST-ERR-2.                                                         C98970
99110    MOVE HIST-ERR-4 TO HIST-TITLE-1.                                    C98970
99120    MOVE HIST-ERR-5 TO HIST-TITLE-2.                                    C98970
99130    WRITE HIST-REC FROM HIST-TITLE.                                     C98970
99140    MOVE 1: TO HIST-FLAG.                                               C98970
99150    GO TO END-HIST.                                                     C98970
99200    HIST-ERR-3.                                                         C98970
99210    MOVE 1: TO HIST-FLAG.                                               C98970
99290    END-HIST. EXIT.                                                    C98970
/*    PLACE COBOL SOURCE BEFORE
//CHG,TFGIN  DU  *SPICE)(CYL,(1,1))
TFG DTUI  11  0202080
01020210220515
*END

```

1440 CDS

```

/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU12 DU DISP>(OLD,KEEP),VOL>SER>+F1,UNIT>T+F1 T12
//TPR.TU25 DD DISP>(OLD,KEEP),VOL>SER>+F8,UNIT>T+F8 T25
//TPR.TPRIN DD *,SPACE>(TRK,[1,1])
T/P DT01 1010080Z080
T/P TU12 1010020Z020
T/P TU25 1100130R000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

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#### 6. 8. 4 SORT FOR UNSCHEDULED MANHOURS

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//T9897N JOB 01: G WANG :;PRTY>02, TYPRUN>HOLD
//C9897F EXEC P9622N>W(60,TIME>04,ACCT>D35323007
//CHG.SORTIN DU DISP>(KEEP),UNIT>(A+F5,2,DEFER), CT22/23 1
// VOL>SER>(A+B, A+F5, B+F5, C+F5, D+F5, E+F5, F+F5, G+F5, H+F5, CT22 2
// I+F5, J+F5, K+F5, L+F5, M+F5, N+F5, O+F5, P+F5, Q+F5, R+F5, S+F5), CT22 3
// DCH>(LRECL>0020, BLKSIZE>1800), LABEL>(NSL, RETPD>099) CT22 4
//CHG.SORTOUT DU DISP>(KEEP),UNIT>(A+F1,2,DEFER),DSN>A.9897430, CT12/13 1
// VOL>SER>(F1, A+F1, B+F1, C+F1, D+F1, E+F1, F+F1, G+F1, H+F1, CT12 2
// I+F1, J+F1, K+F1, L+F1, M+F1, N+F1, O+F1, P+F1, Q+F1, R+F1, S+F1), CT12 3
// DCH>(LRECL>0020, BLKSIZE>1800)
//CHG.SYSIN DU *,DCL>BLKSIZE>0080,SPACE>(TRK,[1,1])
SORT FIELDS>(017,001,CH,A,019,001,CH,A,001,005,CH,A,006,003,CH,A) C
SIZE>E0250000
MODS E15>(E15,008,SORTLIB,N);E18>(E18,024,SORTLIB,N)
/*

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#### 6. 8. 5 CUMULATIVE DISTRIBUTION FOR UNSCHEDULED MANHOURS

```

//C9897N EXEC P9655L,TIME>16,ACCT>D35323007
//CHG.TU12 DU DISP>(PASS),UNIT>(T+F1,1,DEFER),DSN>A.9897430, CT12 1
// VOL>SER>(F1, A+F1, B+F1, C+F1, D+F1, E+F1, F+F1, G+F1, H+F1, CT12 2
// I+F1, J+F1, K+F1, L+F1, M+F1, N+F1, O+F1, P+F1, Q+F1, R+F1, S+F1) T12
//CHG.TU25 DU DISP>(PASS),UNIT>(T+F8,1,DEFER),DSN>H.9897431, CT25 1
// VOL>SER>(F8, A+F8, B+F8, C+F8, D+F8, E+F8, F+F8, G+F8, H+F8, CT25 2
// I+F8, J+F8, K+F8, L+F8, M+F8, N+F8, O+F8, P+F8, Q+F8, R+F8, S+F8) T25 3
//CHG.INPUT DU *,SPACE>(CTL,[1,1]) 1440 CDS
00000 COMBINE COMPILE G. WANG. C98970
01040 DATE-WRITTEN. 7 APR 72. C98970
01050 REMARKS. C98970
01060 TASK 2C HIST OF WUC&HMC. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILL-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT HIST-FILE ASSIGN TO UT-S-TU25 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02200 SELECT IN-FILE-ISC ASSIGN TO DA-S-DT01 C98970
02210 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11100 FD IN-FILL C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 90 RECORDS C98970
11140 RECORD CONTAINS 20 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE IN-REC. C98970
11170 01 IN-REC SYNC. C98970
11180 02 WUC PICTURE X(5). C98970
11181 02 HMC PICTURE X(3). C98970
11182 02 FILLER PICTURE X. C98970
11183 02 OBS PICTURE S9(6). C98970
11184 02 OBS-1 REDEFINES OBS PICTURE S99999V9. C98970
11185 02 FILLER PICTURE X. C98970
11186 02 ISCHRONAL-NEW PICTURE X. C98970
11187 02 FILLER PICTURE X. C98970
11188 02 DATA-TYPE-NEW PICTURE X. C98970
11189 02 FILLER PICTURE X. C98970
11300 FD IN-FILE-ISC C98970
11320 RECORDING MODE IS F C98970
11330 BLOCK CONTAINS 20 RECORDS C98970
11340 RECORD CONTAINS 80 CHARACTERS C98970
11350 LABEL RECORDS ARE STANDARD C98970
11360 DATA RECORDS ARE IN-REC-ISC. C98970
11400 01 IN-REC-ISC SYNC. C98970

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|       |    |   |                                 |        |
|-------|----|---|---------------------------------|--------|
| 11410 |    | U2 FILLER                                       | PICTURE X(80).                  | C98970 |
| 12100 | FO | HISI-FILE                                       |                                 | C98970 |
| 12120 |    | RECURRING MODE IS F                             |                                 | C98970 |
| 12130 |    | BLOCK CONTAINS 15 RECORDS                       |                                 | C98970 |
| 12140 |    | RECORD CONTAINS 130                             | CHARACTERS                      | C98970 |
| 12150 |    | LABEL RECORDS ARE OMITTED                       |                                 | C98970 |
| 12160 |    | DATA RECORDS A E HIST-REC.                      |                                 | C98970 |
| 12170 | 01 | HIST-REC SYNC.                                  |                                 | C98970 |
| 12180 |    | U2 FILLER                                       | PICTURE X(130).                 | C98970 |
| 30000 |    | WORKING-STORAGE SECTION.                        |                                 | C98970 |
| 30010 | 77 | KNT SYNC PICTURE S9(5).                         |                                 | C98970 |
| 30020 | 01 | FILLER SYNC.                                    |                                 | C98970 |
| 30030 | 02 | FRLQ-HIST-VALUE OCCURS 1000 TIMES PICTURE S9(5) |                                 | C98970 |
| 30040 |    | COMPUTATIONAL.                                  |                                 | C98970 |
| 30050 | 01 | A PICTURE S9(5) COMPUTATIONAL.                  |                                 | C98970 |
| 30060 | 01 | NO-OF-HISTS SYNC                                | PICTURE 9999 VALUE ZERO.        | C98970 |
| 30080 | 01 | ONE SYNC  | PICTURE X VALUE :1:.            | C98970 |
| 30082 | 01 | TWO SYNC  | PICTURE X VALUE :2:.            | C98970 |
| 30090 | 01 | CNT SYNC  | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 30100 | 01 | CUR-WUC-T SYNC.                                 |                                 | C98970 |
| 30110 | 02 | FILLER  | PICTURE X(5) VALUE : WUC>I,     | C98970 |
| 30120 | 02 | CUR-WUC   | PICTURE X(5).                   | C98970 |
| 30130 | 01 | CUR-HMC-T SYNC.                                 |                                 | C98970 |
| 30140 | 02 | FILLER  | PICTURE X(5) VALUE : HMC>I,     | C98970 |
| 30150 | 02 | CUR-HMC   | PICTURE X(3).                   | C98970 |
| 30160 | 02 | FILLER  | PICTURE XX VALUE SPACE.         | C98970 |
| 30170 | 01 | ISCHRONAL SYNC                                  | PICTURE X.                      | C98970 |
| 30180 | 01 | DATA-TYPE SYNC                                  | PICTURE X.                      | C98970 |
| 30190 | 01 | MINUS-ONE COMPUTATIONAL                         | PICTURE S999 VALUE -1 SYNC.     | C98970 |
| 32000 | 01 | HEPUPT-10 SYNC.                                 |                                 | C98970 |
| 32010 | 02 | FILLER  | PICTURE X(50) VALUE             | C98970 |
| 32020 |    | 198897860 TF7919-01                             | 142-A 1 1/2                     | C98970 |
| 32030 | 02 | FILLER  | PICTURE X(50) VALUE SPACE.      | C98970 |
| 32040 | 02 | FILLER  | PICTURE X(30) VALUE             | C98970 |
| 32050 |    | :   | :;.                             | C98970 |
| 46000 | 01 | MEAN COMPUTATIONAL SYNC                         | PICTURE S9(7)V99.               | C98970 |
| 46010 | 01 | VARIANCE COMPUTATIONAL SYNC                     | PICTURE S9(7)V99.               | C98970 |
| 46020 | 01 | TEMP-COMP                                       | PICTURE S9(7)V99.               | C98970 |
| 46100 | 01 | MEAN-VARIANCE-LINE SYNC.                        |                                 | C98970 |
| 46110 | 02 | FILLER  | PICTURE X(50) VALUE             | C98970 |
| 46120 |    | :S  |                                 | C98970 |
| 46130 | 02 | FILLER  | PICTURE X(19) VALUE             | C98970 |
| 46140 |    | :   | MEAN >:.                        | C98970 |
| 46150 | 02 | MEAN-RPT  | PICTURE ZZZ9.9.                 | C98970 |
| 46160 | 02 | FILLER  | PICTURE X(30) VALUE             | C98970 |
| 46170 |    | :   | VARIANCE >:.                    | C98970 |
| 46180 | 02 | VARIANCE-RPT                                    | PICTURE ZZZZZ9.9.               | C98970 |
| 46190 | 02 | FILLER  | PICTURE X(16) VALUE             | C98970 |
| 46200 |    | :   | :;.                             | C98970 |
| 47000 | 01 | HIST-VALUE-MAX SYNC                             | PICTURE S9999V99 VALUE -9999.9. | C98970 |
| 47010 | 01 | HIST-VALUE-MIN SYNC                             | PICTURE S9999V99 VALUE <9999.9. | C98970 |
| 47015 | 01 | HIST-VALUE-M1 SYNC                              | PICTURE S9999V99 VALUE <9999.9. | C98970 |
| 47020 | 01 | HISI-NO-OF-ORS SYNC                             | PICTURE S9(5) VALUE ZERO.       | C98970 |
| 47030 | 01 | HISI-NO-OF-INTERVALS SYNC                       | PICTURE 999V99 VALUE 50.        | C98970 |
| 47040 | 01 | HIST-INPUT-VMAX-VMIN SYNC                       | PICTURE 9 VALUE ZERO.           | C98970 |
| 47050 | 01 | HIST-UBST SYNC                                  | PICTURE X VALUE :1:.            | C98970 |
| 47060 | 01 | HIST-INDEX SYNC COMPUTATIONAL                   |                                 | C98970 |
| 47070 |    |   | PICTURE S999 VALUE ZERO.        | C98970 |
| 47080 | 01 | HIST-INDEX-2 SYNC COMPUTATIONAL                 |                                 | C98970 |
| 47090 |    |   | PICTURE S999 VALUE ZERO.        | C98970 |
| 47100 | 01 | HIST-TEMP SYNC                                  | PICTURE S99999V99 VALUE ZERO.   | C98970 |
| 47110 | 01 | HIST-INTERVAL-SIZE SYNC                         | PICTURE S9999V99 VALUE ZERO     | C98970 |
| 47120 |    | COMPUTATIONAL.                                  |                                 | C98970 |
| 47150 | 01 | HIST-FLAG SYNC                                  | PICTURE X VALUE 101.            | C98970 |
| 47160 | 01 | HIST-SCALE-VALUE SYNC COMPUTATIONAL             |                                 | C98970 |
| 47170 |    |   | PICTURE S999 VALUE <1.          | C98970 |
| 47180 | 01 | HIST-PERCENT S HC                               | PICTURE S999V99 COMPUTATIONAL.  | C98970 |
| 47190 | 01 | HIST-LUM SYNC                                   | PICTURE S999V99 COMPUTATIONAL.  | C98970 |
| 47200 | 01 | HIST-LINE SYNC COMPUTATIONAL                    |                                 | C98970 |
| 47210 |    |   | PICTURE S999 VALUE ZERO.        | C98970 |
| 47220 | 01 | HIST-PAGE-FLAG SYNC                             | PICTURE S999 VALUE <75.         | C98970 |
| 47230 | 01 | HIST-LINE-CNT SYNC                              | PICTURE S999.                   | C98970 |
| 47300 | 01 | HIST-ERR-1 SYNC                                 | PICTURE X(10) VALUE             | C98970 |
| 47310 |    | :ERROR NO 0:.                                   |                                 | C98970 |
| 47320 | 01 | HIST-ERR-3 SYNC.                                |                                 | C98970 |
| 47330 | 02 | FILLER  | PICTURE X(5) VALUE :RS > I.     | C98970 |
| 47340 | 02 | HIST-ERR-2                                      | PICTURE S9(5) VALUE ZERO.       | C98970 |
| 47350 | 01 | HIST-ERR-4 SYNC                                 | PICTURE X(10) VALUE             | C98970 |
| 47360 |    | :ERROR MAX:.                                    |                                 | C98970 |
| 47370 | 01 | HIST-ERR-5 SYNC                                 | PICTURE X(10) VALUE             | C98970 |
| 47380 |    | :MIN BAD. :.                                    |                                 | C98970 |
| 47390 | 01 | HIST-OUT-RANGE-VALUE SYNC                       | PICTURE S999 COMPUTATIONAL.     | C98970 |
| 47500 | 01 | FILLER SYNC.                                    |                                 | C98970 |
| 47510 | 02 | FILLER OCCURS 200 TIMES.                        |                                 | C98970 |
| 47530 | 03 | HISI-TABLE                                      | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 47540 | 03 | HIST-UPPER-LIMIT                                | PICTURE S9999V99 COMPUTATIONAL. | C98970 |



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47550      03 HIST-TABLE-SCALED      PICTURE S999V99 COMPUTATIONAL.  C98970
47560 01 HIST-NL*-PAGE SYNC.        C98970
47570 02 FILLER                      PICTURE X VALUE I!:.          C98970
47580 02 FILLER                      PICTURE X(122) VALUE SPACE.   C98970
47582 02 FILLER                      PICTURE X(5) VALUE I*PAGE !.  C98970
47584 02 HIST-PAGE-NO                PICTURE 9.                    C98970
47590 02 FILLER                      PICTURE X VALUE !*:.          C98970
47600 01 HIST-TITLE SYN.            C98970
47610 02 FILLER                      PICTURE X(3) VALUE I$ !.      C98970
47620 02 HIST-TITLE-1.               C98970
47621 03 FILLER                      PICTURE X(10) VALUE SPACE.    C98970
47630 02 HIST-TITLE-2.               C98970
47631 03 FILLER                      PICTURE X(10) VALUE SPACE.    C98970
47640 02 HIST-TITLE-3                C98970
47640 02 HIST-TITLE-3                PICTURE X(10) VALUE SPACE.    C98970
47650 02 HIST-TITLE-4                C98970
47660 02 FILLER                      PICTURE X(10) VALUE SPACE.    C98970
47660 02 FILLER                      PICTURE X(24) VALUE           C98970
47670 : NO OF OBSERVATIONS >!.      C98970
47680 02 HIST-NO-OF-OBS-RPT          PICTURE Z22Z9.                C98970
47690 02 FILLER                      PICTURE X(13) VALUE           C98970
47700 : VALUE MAX > !.              C98970
47710 02 HIST-VALUE-MAX-RPT          PICTURE ----.9.                C98970
47720 02 FILLER                      PICTURE X(13) VALUE           C98970
47730 : VALUE MIN > !.              C98970
47740 02 HIST-VALUE-MIN-RPT          PICTURE ----.9.                C98970
47750 02 FILLER                      PICTURE X(18) VALUE           C98970
47760 : !.                            C98970
47900 01 HIST-OUT-LINE SYNC.        C98970
47910 02 FILLER                      PICTURE X(50) VALUE           C98970
47920 : !.                            C98970
47922 02 FILLER                      PICTURE X(80) VALUE           C98970
47930 : !.                            C98970
47940 : !.                            C98970
47940 - : !.                            C98970
47950 01 HIST-LABEL SYNC.          C98970
47960 02 FILLER                      PICTURE X(50) VALUE           C98970
47970 : !/ MIDPNT PCNT CUM FREQ 1...5...10...15...20... C98970
47974 02 FILLER                      PICTURE X(80) VALUE           C98970
47980 - :25...30...35...40...45...50...55...60...65...70...75...80... C98970
47990 - :85...90...95...100!:.        C98970
48000 01 HIST-LINE-OUT SYNC.       C98970
48010 02 FILLER                      PICTURE X VALUE I!:.          C98970
48020 02 HIST-LINE-TPT              PICTURE Z29.                    C98970
48030 02 FILLER                      PICTURE X VALUE SPACE.        C98970
48040 02 HIST-MID-POINT-RPT          PICTURE ----.9.                C98970
48060 02 HIST-PERCENT-RPT           PICTURE Z29.9.                  C98970
48070 02 FILLER                      PICTURE X VALUE SPACE.        C98970
48080 02 HIST-CUM-RPT               PICTURE Z29.9.                  C98970
48100 02 HIST-FREQ-RPT              PICTURE Z22Z9.                  C98970
48110 02 FILLER                      PICTURE X VALUE SPACE.        C98970
48120 02 HIST-POINT OCCURS 100 TIMES C98970
48130 PICTURE X.                      C98970
48140 02 FILLER                      PICTURE X VALUE !*:.          C98970
48150 01 HIST-OUT-RANGE-REC SYNC.   C98970
48160 02 FILLER                      PICTURE X(35) VALUE           C98970
48170 : !/ NUMBER OF OUT OF RANGE VALUES >!. C98970
48180 02 HIST-OUT-RANGE-RPT          PICTURE Z29.                    C98970
48190 02 FILLER                      PICTURE X(91) VALUE SPACE.    C98970
48191 02 FILLER                      PICTURE X VALUE !*:.          C98970
48200 01 HIST-SCALE-LINE SYNC.     C98970
48210 02 FILLER                      PICTURE X(27) VALUE           C98970
48220 : !/ SCALING FACTOR > !.      C98970
48230 02 HIST-SCALE-RPT             PICTURE Z29.                    C98970
48240 02 FILLER                      PICTURE X(099) VALUE SPACE.   C98970
48250 02 FILLER                      PICTURE X VALUE !*!.          C98970
48300 01 FILLER SYNC.              C98970
48310 02 HIST-VALUE OCCURS 1000 TIMES C98970
48320 PICTURE S999V99 COMPUTATIONAL. C98970
48350 01 HIST-AC-WK SYC.            C98970
48350 05 CUTOFF-ISO                  PICTURE S9(2).                 C98970
48390 05 CUTOFF-NI                   PICTURE S9(2).                 C98970
48395 05 FILLER                      PICTURE X(76).                 C98970
50000 PROCEDURE DIVISION          C98970
50010 OPEN INPUT IN-FILE, IN-FILE-ISC. C98970
50020 OPEN OUTPUT HIST-FILE.        C98970
50022 READ IN-FILE-ISC INTO HIST-AC-WK AT END GO TO CLOSE-FILES. C98970
50030 MOVE 1000 TO NNT.              C98970
50040 PERFORM RESULT-TABLE THRU END-RST-TABLE. C98970
50050 HEAD IN-FILE, AT END GO TO CLOSE-FILES. C98970
50060 WRITE HIST-REC FROM REPORT-ID. C98970
50100 PARA-1.                        C98970
50110 MOVE 1 TO HIST-NO-OF-OBS.      C98970
50120 MOVE WUC TO CL1=WUC.            C98970
50130 MOVE H%L TO CL2=HMC.           C98970
50140 MOVE DATA-TYPE-NEW TO DATA-TYPE. C98970
50150 MOVE ISCHRONAL-NEW TO ISCHRONAL. C98970
50160 IF DATA-TYPE NOT EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO C98970
50170 FLT-DATA.                      C98970

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|       |   |        |
|-------|---|--------|
| 50200 | READ1.  | C98970 |
| 50210 | READ IN-FILE, AT LND GO TO CLOSE-FILES.                       | C98970 |
| 50220 | IF DATA-TYPL-NEW IS EQUAL TO :9: GO TO CLOSE-FILES.           | C98970 |
| 50230 | IF WUC IS NOT EQUAL TO CUR-WUC GO TO PARA-2.                  | C98970 |
| 50240 | IF HMC IS NOT EQUAL TO CUR-HMC GO TO PARA-2.                  | C98970 |
| 50250 | ADD 1 TO HIST-NO-OF-OBS.                                      | C98970 |
| 50260 | IF DATA-TYPL NOT EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO     | C98970 |
| 50270 | FLT-DATA.   | C98970 |
| 50300 | PARA-2.   | C98970 |
| 50310 | PERFORM SET-HISTOG THRU END-SH.                               | C98970 |
| 50320 | PERFORM RESET-TABLE THRU END-RST-TABLE.                       | C98970 |
| 50330 | GO TO PARA-1.   | C98970 |
| 50400 | RSET-TABLE.   | C98970 |
| 50410 | MOVE ZERO TO CNT.   | C98970 |
| 50420 | RST.  | C98970 |
| 50430 | ADD 1 TO CNT.   | C98970 |
| 50440 | MOVE MINUS-ONE TO HIST-VALUE [CNT].                           | C98970 |
| 50445 | MOVE ZERO TO FREQ-HIST-VALUE [CNT].                           | C98970 |
| 50450 | IF CNT IS LESS THAN KNT GO TO RST.                            | C98970 |
| 50455 | MOVE ZERO TO KNT.   | C98970 |
| 50460 | END-RST-TABLE, LXIT.  | C98970 |
| 50510 | SET-HISTOG.   | C98970 |
| 50515 | IF HIST-NO-OF-OBS IS NOT GREATER THAN CUTOFF-NI AND ISCHRONAL | C98970 |
| 50516 | NOT EQUAL TO ONE GO TO END-SH.                                | C98970 |
| 50517 | IF HIST-NO-OF-OBS IS NOT GREATER THAN CUTOFF-ISO AND          | C98970 |
| 50518 | ISCHRONAL IS EQUAL TO ONE GO TO END-SH.                       | C98970 |
| 50520 | IF ISCHRONAL IS EQUAL TO ONE MOVE I ISO : TO                  | C98970 |
| 50530 | HIST-TITLE-4, ELSE MOVE : NON-ISO : TO HIST-TITLE-4.          | C98970 |
| 50540 | IF DATA-TYPE IS EQUAL TO ONE MOVE : MAN-HR/MA: TO             | C98970 |
| 50550 | HIST-TITLE-3, ELSE MOVE : FLT-HOURS: TO HIST-TITLE-3.         | C98970 |
| 50560 | MOVE CUR-WUC-1 TO HIST-TITLE-1.                               | C98970 |
| 50570 | MOVE CUR-HMC-1 TO HIST-TITLE-2.                               | C98970 |
| 50580 | PERFORM WHITE HISTOGRAM THRU END-HIST.                        | C98970 |
| 50600 | IF HIST-FLAG 'S EQUAL TO :I: THEN GO TO CFI.                  | C98970 |
| 50610 | ADD 1 TO NO-OF-HISTS.   | C98970 |
| 50620 | END-SH, LXIT.   | C98970 |
| 51000 | WEEKS-DATA.   | C98970 |
| 51010 | MOVE ZERO TO CNT.   | C98970 |
| 51020 | WEEK-A.   | C98970 |
| 51030 | ADD 1 TO CNT.   | C98970 |
| 51040 | IF OBS IS EQUAL TO HIST-VALUE [CNT] GO TO WEEK-C.             | C98970 |
| 51050 | IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO WEEK-B.       | C98970 |
| 51060 | IF CNT IS LESS THAN 1000 GO TO WEEK-A.                        | C98970 |
| 51070 | DISPLAY : MORE THAN 1000 FREQUENCY OCCURENCES : UPON CONSOLE. | C98970 |
| 51080 | GO TO CFI.  | C98970 |
| 51090 | WEEK-B.   | C98970 |
| 51100 | MOVE OBS TO HIST-VALUE [CNT].                                 | C98970 |
| 51110 | IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT.              | C98970 |
| 51120 | WEEK-C.   | C98970 |
| 51130 | ADD 1 TO FREQ-HIST-VALUE [CNT].                               | C98970 |
| 51140 | GO TO READ1.  | C98970 |
| 52000 | FLT-DATA.   | C98970 |
| 52010 | MOVE ZERO TO CNT.   | C98970 |
| 52020 | FLT-A.  | C98970 |
| 52030 | ADD 1 TO CNT.   | C98970 |
| 52040 | IF OBS-1 IS EQUAL TO HIST-VALUE [CNT] GO TO FLT-C.            | C98970 |
| 52050 | IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO FLT-B.        | C98970 |
| 52060 | IF CNT IS LESS THAN 1000 GO TO FLT-A.                         | C98970 |
| 52070 | DISPLAY : MORE THAN 1000 FREQUENCY OCCURENCES : UPON CONSOLE. | C98970 |
| 52080 | GO TO CFI.  | C98970 |
| 52090 | FLT-B.  | C98970 |
| 52100 | MOVE OBS-1 TO HIST-VALUE [CNT].                               | C98970 |
| 52110 | IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT.              | C98970 |
| 52120 | FLT-C.  | C98970 |
| 52130 | ADD 1 TO FREQ-HIST-VALUE [CNT].                               | C98970 |
| 52140 | GO TO READ1.  | C98970 |
| 52200 | CLOSE-FILES.  | C98970 |
| 52205 | PERFORM SET-HISTOG THRU END-SH.                               | C98970 |
| 52207 | CFI.  | C98970 |
| 52210 | CLOSE IN-FILE, HIST-FILE, IN-FILE-ISC.                        | C98970 |
| 52211 | IF HIST-FLAG IS EQUAL TO :II DISPLAY I HIST ERROR I UPON      | C98970 |
| 52212 | CONSOLE.  | C98970 |
| 52215 | DISPLAY : NO OF HISTOGRAMS > I NO-OF-HISTS UPON CONSOLE.      | C98970 |
| 52220 | DISPLAY : E0J C9897P : UPON CONSOLE.                          | C98970 |
| 52230 | GOBACK.   | C98970 |
| 95000 | COMPUTE-MEAN-VARIANCE.  | C98970 |
| 95005 | IF HIST-NO-OF-OBS EQUAL TO 1 GO TO CMV-3.                     | C98970 |
| 95010 | MOVE ZERO TO CNT.   | C98970 |
| 95020 | MOVE ZERO TO MEAN.  | C98970 |
| 95030 | CMV-1.  | C98970 |
| 95040 | ADD 1 TO CNT.   | C98970 |
| 95050 | COMPUTE TEMP-COMP > HIST-VALUE [CNT] * FREQ-HIST-VALUE [CNT]. | C98970 |
| 95060 | ADD TEMP-COMP TO MEAN.  | C98970 |
| 95070 | IF CNT IS LESS THAN KNT GO TO CMV-1.                          | C98970 |
| 95080 | DIVIDE HIST-NO-OF-OBS INTO MEAN.                              | C98970 |
| 95090 | MOVE ZERO TO CNT.   | C98970 |
| 95100 | MOVE ZERO TO VARIANCE.  | C98970 |

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|-------|---|--------|
| 95110 | CMV-2.  | C98970 |
| 95120 | ADD 1 TO CNT.   | C98970 |
| 95130 | COMPUTE TEMP-COMP > ((HIST-VALUE [CNT] - MEAN) ** 2) *<br>FREQ-HIST-VALUE [CNT].      | C98970 |
| 95140 |   | C98970 |
| 95150 | ADD TEMP-COMP TO VARIANCE.  | C98970 |
| 95160 | IF CNT IS LESS THAN KNT GO TO CMV-2.  | C98970 |
| 95170 | COMPUTE VARIANCE > VARIANCE / [HIST-NO-OF-OBS - 1].                                   | C98970 |
| 95180 | MOVL MEAN TO MEAN-RPT.  | C98970 |
| 95190 | MOVE VARIANCE TO VARIANCE-RPT.  | C98970 |
| 95191 | GO TO CMV-4.  | C98970 |
| 95192 |   | C98970 |
| 95193 | CMV-3.  | C98970 |
| 95193 | MOVL ZERO TO VARIANCE-RPT.  | C98970 |
| 95194 | MOVE HIST-VALUE [1] TO MEAN-RPT.  | C98970 |
| 95195 |   | C98970 |
| 95200 | CMV-4.  | C98970 |
| 95200 | WRITE HIST-REC FROM MEAN-VARIANCE-LINE.   | C98970 |
| 95290 | END-CMV.  | C98970 |
| 97000 | WRITE-HISTOGRAM.  | C98970 |
| 97080 | MOVE 10; TO HIST-FLAG.  | C98970 |
| 97090 | MOVE ZERO TO HIST-OUT-RANGE-VALUE.  | C98970 |
| 97100 | MOVE ZERO TO HIST-PAGE-NO.  | C98970 |
| 97140 | MOVE -9999.9 TO HIST-VALUE-MAX.   | C98970 |
| 97150 | MOVE 9999.9 TO HIST-VALUE-MIN.  | C98970 |
| 97200 | MOVL ZERO TO HIST-INDEX.  | C98970 |
| 97210 | HIST-FIND-VMAX-VMIN.  | C98970 |
| 97220 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97230 | MOVL HIST-VALUE [HIST-INDEX] TO HIST-TEMP.  | C98970 |
| 97240 | IF HIST-TLMP IS GREATER THAN HIST-VALUE-MAX THEN MOVE<br>HIST-TEMP TO HIST-VALUE-MAX. | C98970 |
| 97250 |   | C98970 |
| 97260 | IF HIST-TEMP IS LESS THAN HIST-VALUE-MIN THEN MOVE<br>HIST-TEMP TO HIST-VALUE-MIN.    | C98970 |
| 97270 |   | C98970 |
| 97280 | IF HIST-INDEX IS LESS THAN KNT THEN GO TO<br>HIST-FIND-VMAX-VMIN.                     | C98970 |
| 97281 |   | C98970 |
| 97282 | MOVL ZERO TO HIST-VALUE-MI.   | C98970 |
| 97283 | MOVE HIST-VALUE-MIN TO HIST-TEMP.   | C98970 |
| 97284 |   | C98970 |
| 97284 | SET-LOW.  | C98970 |
| 97285 | IF HIST-TLMP LESS THAN 100 GO TO GOT-LOW.   | C98970 |
| 97286 | SUBTRACT 100 FROM HIST-TEMP.  | C98970 |
| 97287 | ADD 100 TO HIST-VALUE-MI.   | C98970 |
| 97288 | GO TO SET-LOW.  | C98970 |
| 97289 |   | C98970 |
| 97289 | GOT-LOW.  | C98970 |
| 97292 |   | C98970 |
| 97294 | COMPUTE HIST-NO-OF-INTERVALS ><br>[HIST-VALUE-MAX - HIST-VALUE-MI] / 1.0 < 4.         | C98970 |
| 97300 | HIST-PRINT-TITLE.   | C98970 |
| 97301 | IF HIST-NO-OF-INTERVALS IS LESS THAN 50 MOVE 50 TO<br>HIST-NO-OF-INTERVALS.           | C98970 |
| 97302 |   | C98970 |
| 97304 | ADD 1 TO HIST-PAGE-NO.  | C98970 |
| 97306 | MOVL 5 TO HIST-LINE-CNT.  | C98970 |
| 97310 | WRITE HIST-REC FROM HIST-NEW-PAGE.  | C98970 |
| 97320 | MOVE HIST-NO-OF-OBS TO HIST-NO-OF-OBS-RPT.  | C98970 |
| 97330 | MOVL HIST-VALUE-MAX TO HIST-VALUE-MAX-RPT.  | C98970 |
| 97340 | MOVE HIST-VALUE-MIN TO HIST-VALUE-MIN-RPT.  | C98970 |
| 97350 | WRITE HIST-REC FROM HIST-TITLE.   | C98970 |
| 97355 | PERFORM COMPUTE-MEAN-VARIANCE THRU END-CMV.   | C98970 |
| 97356 | IF HIST-VALUE-MAX EQUAL TO ZERO GO TO END-HIST.                                       | C98970 |
| 97360 | WRITE HIST-REC FROM HIST-DOT-LINE.  | C98970 |
| 97370 | WRITE HIST-REC FROM HIST-LABEL.   | C98970 |
| 97380 | WRITE HIST-REC FROM HIST-DOT-LINE.  | C98970 |
| 97390 | HIST-OMMY.  | C98970 |
| 97410 | IF HIST-VALUE-MAX IS LESS THAN HIST-VALUE-MIN THEN GO TO<br>HIST-ERROR-2.             | C98970 |
| 97420 |   | C98970 |
| 97430 | IF HIST-NO-OF-INTERVALS IS GREATER THAN 200 THEN MOVE 200<br>TO HIST-NO-OF-INTERVALS. | C98970 |
| 97440 |   | C98970 |
| 97441 | MOVE ZERO TO HIST-INDEX.  | C98970 |
| 97442 |   | C98970 |
| 97442 | HIST-RST.   | C98970 |
| 97443 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97444 | MOVE ZERO TO HIST-TARLE [HIST-INDEX].   | C98970 |
| 97445 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS<br>THEN GO TO HIST-RST.               | C98970 |
| 97446 |   | C98970 |
| 97450 | MOVE 1.0 TO HIST-INTERVAL-SIZE.   | C98970 |
| 97500 | NOTE COMPUTE UPPER LIMIT FOR EACH INTERVAL.   | C98970 |
| 97510 | MOVE ZERO TO HIST-INDEX.  | C98970 |
| 97520 | MOVL HIST-VALUE-MI TO HIST-TEMP.  | C98970 |
| 97530 | HIST-INC-INTERVAL.  | C98970 |
| 97540 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97550 | ADD HIST-INTERVAL-SIZE TO HIST-TEMP.  | C98970 |
| 97560 | MOVE HIST-TEMP TO HIST-UPPER-LIMIT [HIST-INDEX].                                      | C98970 |
| 97570 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN<br>GO TO HIST-INC-INTERVAL.      | C98970 |
| 97580 |   | C98970 |
| 97600 | NOTE PLACE OCCURANCL INTO APPROPRIATE CHANNEL.  | C98970 |
| 97610 | MOVE ZERO TO HIST-INDEX-2.  | C98970 |
| 97620 | HIST-OCCURANCE.   | C98970 |
| 97630 | ADD 1 TO HIST-INDEX-2.  | C98970 |
| 97640 | MOVE HIST-VALUE [HIST-INDEX-2] TO HIST-TEMP.  | C98970 |
| 97650 | MOVL ZERO TO HIST-INDEX.  | C98970 |
| 97660 | HIST-INTERVAL.  | C98970 |
| 97670 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97675 | MOVE FREQ-HIST-VALUE [HIST-INDEX-2] TO A.   | C98970 |

|       |   |                       |        |
|-------|---|-----------------------|--------|
| 97680 | IF HIST-TEMP .IS NOT GREATER THAN HIST-UPPER-LIMIT            | C98970                |        |
| 97690 | [HIST-INDEX] THLN GO TO HIST-ADD-TABLE.                       | C98970                |        |
| 97700 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    | C98970                |        |
| 97710 | HIST-INTERVAL.  | C98970                |        |
| 97720 | ADD A TO HIST-OUT-RANGE-VALUE.                                | C98970                |        |
| 97730 | GO TO HIST-NO-AUD.  | C98970                |        |
| 97740 | HIST-ADD-TABLE.   | C98970                |        |
| 97750 | ADD A TO HIST-TABLE [HIST-INDEX].                             | C98970                |        |
| 97751 | HIST-NO-AUD.  | C98970                |        |
| 97760 | IF HIST-INDEX-2 IS LESS KNT                                   | GO TO HIST-OCCURANCE. | C98970 |
| 97800 | NOTL COMPUTE SCALE VALUE.                                     | C98970                |        |
| 97810 | MOVE HIST-TABLE [1] TO HIST-TEMP.                             | C98970                |        |
| 97820 | MOVE 1 TO HIST-INDEX.   | C98970                |        |
| 97830 | HIST-SCALE.   | C98970                |        |
| 97840 | ADD 1 TO HIST-INDEX.  | C98970                |        |
| 97850 | IF HIST-TABLE [HIST-INDEX] IS GREATER THAN HIST-TEMP THEN     | C98970                |        |
| 97860 | MOVL HIST-TABLE [HIST-INDEX] TO HIST-TEMP.                    | C98970                |        |
| 97870 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    | C98970                |        |
| 97880 | HIST-SCALE.   | C98970                |        |
| 97890 | COMPUTE HIST-SCALE-VALUE > [HIST-TEMP < 99] / 100.            | C98970                |        |
| 97895 | IF HIST-SCALE-VALUE LESS THAN 1 MOVE 1 TO HIST-SCALE-VALUE.   | C98970                |        |
| 97900 | MOVE ZERO TO HIST-INDEX.                                      | C98970                |        |
| 97910 | HIST-SCALED-VALUE.  | C98970                |        |
| 97920 | ADD 1 TO HIST-INDEX.  | C98970                |        |
| 97930 | COMPUTE HIST-TABLE-SCALD [HIST-INDEX] >                       | C98970                |        |
| 97940 | HIST-TABLE [HIST-INDEX] / HIST-SCALE-VALUE.                   | C98970                |        |
| 97950 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    | C98970                |        |
| 97960 | HIST-SCALED-VALUES.   | C98970                |        |
| 98000 | NOTE PREPARE OUTPUT DATA.                                     | C98970                |        |
| 98010 | DIVIDE 2 INTO HIST-INTERVAL-SIZE.                             | C98970                |        |
| 98020 | MOVL ZERO TO HIST-CUM.  | C98970                |        |
| 98030 | MOVL ZERO TO HIST-LINE.                                       | C98970                |        |
| 98040 | HIST-PREPARE.   | C98970                |        |
| 98050 | ADD 1 TO HIST-LINE.   | C98970                |        |
| 98060 | MOVE HIST-LINE TO HIST-LINE-RPT.                              | C98970                |        |
| 98070 | COMPUTE HIST-TEMP > HIST-UPPER-LIMIT [HIST-LINE]              | C98970                |        |
| 98080 | - HIST-INTERVAL-SIZE.   | C98970                |        |
| 98090 | MOVE HIST-TEMP TO HIST-MID-POINT-RPT.                         | C98970                |        |
| 98100 | COMPUTE HIST-PERCENT > HIST-TABLE [HIST-LINE] * 100           | C98970                |        |
| 98110 | / HIST-NO-OF-OBS.   | C98970                |        |
| 98120 | MOVE HIST-PERCENT TO HIST-PERCENT-RPT.                        | C98970                |        |
| 98130 | ADD HIST-PERCENT TO HIST-CUM.                                 | C98970                |        |
| 98140 | MOVE HIST-CUM TO HIST-CUM-RPT.                                | C98970                |        |
| 98150 | MOVE HIST-TABLE [HIST-LINE] TO HIST-FREQ-RPT.                 | C98970                |        |
| 98160 | MOVL ZERO TO HIST-INDEX.                                      | C98970                |        |
| 98170 | IF HIST-DIST .IS NOT EQUAL TO :0: GO TO HIST-CUM-1.           | C98970                |        |
| 98180 | COMPUTE HIST-INDEX-2 > HIST-TABLE-SCALED [HIST-LINE] < 0.5.   | C98970                |        |
| 98190 | IF HIST-INDEX-2 IS EQUAL TO ZERO GO TO HIST-PREP-SPACE.       | C98970                |        |
| 98200 | HIST-PREP-DIST.   | C98970                |        |
| 98210 | ADD 1 TO HIST-INDEX.  | C98970                |        |
| 98220 | MOVE :0: TO HIST-POINT [HIST-INDEX].                          | C98970                |        |
| 98230 | IF HIST-INDEX IS LESS THAN HIST-INDEX-2 GO TO HIST-PREP-DIST. | C98970                |        |
| 98240 | IF HIST-INDEX IS EQUAL TO 100 THEN GO TO HIST-WRITE.          | C98970                |        |
| 98250 | HIST-PREP-SPACE.  | C98970                |        |
| 98260 | ADD 1 TO HIST-INDEX.  | C98970                |        |
| 98270 | MOVL SPACE TO HIST-POINT [HIST-INDEX].                        | C98970                |        |
| 98280 | IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-PREP-SPACE.    | C98970                |        |
| 98290 | GO TO HIST-WRITE.   | C98970                |        |
| 98300 | HIST-CUM-1.   | C98970                |        |
| 98310 | ADD 1 TO HIST-INDEX.  | C98970                |        |
| 98320 | MOVE SPACE TO HIST-POINT [HIST-INDEX].                        | C98970                |        |
| 98330 | IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-CUM-1.         | C98970                |        |
| 98338 | COMPUTE HIST-INDEX > HIST-CUM < 0.5.                          | C98970                |        |
| 98339 | IF HIST-INDEX IS EQUAL TO ZERO GO TO HIST-WRITE.              | C98970                |        |
| 98340 | MOVL :0: TO HIST-POINT [HIST-INDEX].                          | C98970                |        |
| 98400 | HIST-WRITE.   | C98970                |        |
| 98410 | WRITE HIST-REC FROM HIST-LINE-OUT.                            | C98970                |        |
| 98412 | ADD 1 TO HIST-LINE-CNT.                                       | C98970                |        |
| 98414 | IF HIST-PAGL-FLAG IS EQUAL TO ZERO GO TO HIST-NO-PAGING.      | C98970                |        |
| 98415 | IF HIST-LINE-CNT IS EQUAL TO HIST-PAGE-FLAG                   | C98970                |        |
| 98416 | THEN PERFORM HIST-PRINT-TITLE.                                | C98970                |        |
| 98417 | HIST-NO-PAGING.   | C98970                |        |
| 98420 | IF HIST-LINE IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO     | C98970                |        |
| 98430 | HIST-PREPARE.   | C98970                |        |
| 98440 | WRITE HIST-REC FROM HIST-OUT-LINE.                            | C98970                |        |
| 98450 | MOVE HIST-SCALE-VALUE TO HIST-SCALE-RPT.                      | C98970                |        |
| 98460 | WRITE HIST-REC FROM HIST-SCALE-LINE.                          | C98970                |        |
| 98470 | IF HIST-OUT-RANGE-VALUE IS EQUAL TO ZERO GO TO HIST-WRITE-B.  | C98970                |        |
| 98480 | MOVE HIST-OUT-RANGE-VALUE TO HIST-OUT-RANGE-RPT.              | C98970                |        |
| 98490 | WRITE HIST-REC FROM HIST-OUT-RANGE-REC.                       | C98970                |        |
| 98500 | HIST-WRITE-B.   | C98970                |        |
| 98510 | WRITE HIST-REC FROM HIST-OUT-LINE.                            | C98970                |        |
| 98520 | GO TO END-HIST.   | C98970                |        |
| 99000 | HIST-ERROR-I.   | C98970                |        |

AD-A045 625

GENERAL DYNAMICS SAN DIEGO CALIF CONVAIR AEROSPACE DIV

F/G 1/5

F-106 SCHEDULED MAINTENANCE STUDY. USER'S MANUAL, (U)

SEP 72 G WANG, R S GROTE, J R COOPER

F41608-71-D-1383

UNCLASSIFIED

GDCA-AHD72-006

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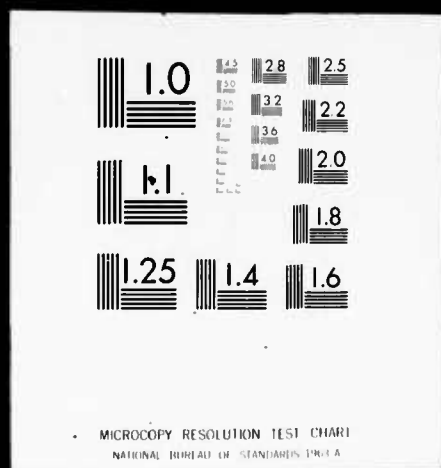
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99010 WRITE HIST-REC FROM HIST-TITLE.
99020 MOVE HIST-ERR-1 TO HIST-TITLE-1.
99030 MOVE HIST-NO-OF-OBS TO HIST-ERR-2.
99040 WRITE HIST-REC FROM HIST-TITLE.
99050 MOVE :1: TO HIST-FLAG.
99060 GO TO END-HIST.
99100 HIST-ERRON-2.
99110 MOVE HIST-ERR-4 TO HIST-TITLE-1.
99120 MOVE HIST-FNR-5 TO HIST-TITLE-2.
99130 WRITE HIST-REC FROM HIST-TITLE.
99140 MOVE :1: TO HIST-FLAG.
99150 GO TO END-HIST.
99200 HIST-ERR-3.
99210 MOVE :1: TO HIST-FLAG.
99990 END-HIST. EXIT.
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG,TFGIN DD *SPACE(CYL,1,1)
TFG DT01 11 0202080
0515
*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU12 DU DISP(COLD,KEEP),VOL(SER)+F1,UNIT(T+F1
//TPR,TU25 DU DISP(COLD,KEEP),VOL(SER)+F8,UNIT(T+F8
//TPR,TPHIN DU *SPACE(TRK,1,1)
T/P DT01 10100802080
T/P TU12 10100202020
T/P TU25 1100130R000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

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1440 CDS

T12  
T25

6.9 PROGRAMS FOR INTERVAL LENGTH ANALYSES  
 6.9.1 PREPROCESSOR - TASK III

```

//C98978 JOB OI: G. WANG. ;,PN7Y>02,7YPRUN>HOLD
//C98978 EXEC P965SL,TIME>03,ACCT>D35323007
//CHG.TU14 DU DISP>[,PASS],UNIT>[A+F3,2,DEFER],DSN>+C.9897416, CT14/15 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG.TU22 DU DISP>[,PASS],UNIT>[A+F5,2,DEFER],DSN>+E.9897429, CT22/23 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG.TU24 DU DISP>[,PASS],UNIT>[T+F7,1,DEFER],DSN>+6.9897426, CT24 1
// VOL>SER>[+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7] T24 3
//CHG.INPUT DU .SPACE>[CYL,(1,1)] 1440 COS
U0000 COMBINF COMPILE G. WANG. C98970
U1000 IDENTIFICATION DIVISION. C98970
U1010 PROGRAM-ID. C9897
U1020 AUTHOR. A. J. ROWKEN. C98970
U1030 INSTALLATION. GENERAL DYNAMICS/CONVAIR. C98970
U1040 DATE-WRITTEN. 20 MAR 72. C98970
U1050 REMARKS. C98970
U1060 MAINTENANCE STUDY PROGRAM 3A. C98970
U1070 INTERVAL LENGTH ANALYSIS. C98970
U1080 TOTAL TASK COMPRISES OF FIVE PARTS C98970
U1090 1. CALCULATION OF INTERVALS FOR ALL AIRCRAFT C98970
U1100 SUB-SET, FOR BOTH INSPECTION INTERVAL C98970
U1110 LENGTHS AND REPAIR ACTION INTERVALS. C98970
U1120 ALL OBSERVATION ACCUMULATED IN TWO C98970
U1130 TAPE-FILES [PROGRAM 3A] C98970
U1140 2. SORTING OF INSPECTION INTERVAL LENGTHS TO C98970
U1150 GROUP AIRCRAFT SUB-SETS AND WUC. C98970
U1160 3. SORTING OF REPAIR INTERVAL LENGTHS TO C98970
U1170 GROUP AIRCRAFT SUB-SETS, WUC AND HMC. C98970
U1180 4. PREPARE DISTRIBUTIONS FOR INSPECTION C98970
U1190 INTERVALS [PROGRAM 3B]. C98970
U1200 5. PREPARE DISTRIBUTIONS FOR REPAIR ACTION C98970
U1210 INTERVALS [PROGRAM 3C]. C98970
U2000 ENVIRONMENT DIVISION. C98970
U2010 CONFIGURATION SECTION. C98970
U2020 SOURCE-COMPUTER. IBM-360. C98970
U2030 OBJECT-COMPUTER. IBM-360. C98970
U2100 INPUT-OUTPUT SECTION. C98970
U2110 FILE-CONTROL. C98970
U2120 SELECT IN-FILE-D-B ASSIGN TO UT-S-TU14 C98970
U2130 RESERVE 1 ALTERNATE AREA. C98970
U2140 SELECT IN-FILE-ISC ASSIGN TO DA-S-UT01 C98970
U2150 RESERVE 1 ALTERNATE AREA. C98970
U2160 SELECT OUT-FILE-1 ASSIGN TO UT-S-TU22 C98970
U2190 RESERVE 1 ALTERNATE AREA. C98970
U2200 SELECT OUT-FILL-2 ASSIGN TO UT-S-TU24 C98970
U2210 RESERVE 1 ALTERNATE AREA. C98970
U3000 DATA DIVISION. C98970
U3010 FILE SECTION. C98970
U3010 FD IN-FILL-D-B C98970
U3012 RECORING MODE IS F C98970
U3013 BLOCK CONTAINS 40 RECORDS C98970
U3014 RECORD CONTAINS 70 CHARACTERS C98970
U3015 LABEL RECORDS ARE OMITTED C98970
U3016 DATA RECORDS ARE IN-REC-D-B. C98970
U3020 01 IN-REC-D-B SYNC. C98970
U3021 02 FILLER PICTURE X(70). C98970
U3022 C98970
U3100 FD IN-FILE-ISC C98970
U3102 RECORING MODE IS F C98970
U3103 BLOCK CONTAINS 20 RECORDS C98970
U3104 RECORD CONTAINS 80 CHARACTERS C98970
U3105 LABEL RECORDS ARE STANDARD C98970
U3106 DATA RECORDS ARE IN-REC-ISC. C98970
U3140 01 IN-REC-ISC SYNC. C98970
U3141 02 FILLER PICTURE X(80). C98970
U3142 C98970
U3200 FD OUT-FILE-1 C98970
U3212 RECORING MODE IS F C98970
U3213 BLOCK CONTAINS 40 RECORDS C98970
U3214 RECORD CONTAINS 20 CHARACTERS C98970
U3215 LABEL RECORDS ARE OMITTED C98970
U3216 DATA RECORDS ARE OUT-REC-1, C98970
U3220 01 OUT-REC-1 SYNC. C98970
U3221 02 FILLER PICTURE X(20). C98970
U3222 C98970
U3400 FD OUT-FILL-2 C98970
U3412 RECORING MODE IS F C98970
U3413 BLOCK CONTAINS 40 RECORDS C98970
U3414 RECORD CONTAINS 20 CHARACTERS C98970
U3415 LABEL RECORDS ARE OMITTED C98970
U3416 DATA RECORDS ARE OUT-REC-2. C98970

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|-------|---|--------|
| 50070 | READ IN-FILE-0-B INTO DATA-BANK-INPUT,                        | C98970 |
| 50080 | AT END GO TO CLOSE-FILES.                                     | C98970 |
| 50100 | CHECK-DATA.   | C98970 |
| 50120 | IF IDENT IS EQUAL TO 3 GO TO PROC-III-2.                      | C98970 |
| 50160 | IF IDENT IS EQUAL TO 4 GO TO PROC-III-1.                      | C98970 |
| 50170 | GO TO READ-INITIAL.   | C98970 |
| 50200 | PROC-III-2.   | C98970 |
| 50201 | PERFORM CHECK-15CHRONAL THRU END-CI.                          | C98970 |
| 50202 | MOVE 15CHRONAL TO CUR-ISC.                                    | C98970 |
| 50210 | MOVE WUC TO CURWUC.   | C98970 |
| 50220 | MOVE WEEK TO CURWEEK.   | C98970 |
| 50230 | MOVE SERIAL-NO TO CUR-SER-NO.                                 | C98970 |
| 50250 | MOVE FLT-HRS TO CUR-FLT-HRS.                                  | C98970 |
| 50260 | GO TO SET-FLAG.   | C98970 |
| 50300 | PROC-III-2A.  | C98970 |
| 50301 | PERFORM CHECK-15CHRONAL THRU END-CI.                          | C98970 |
| 50302 | IF 15CHRONAL IS NOT EQUAL TO CUR-ISC GO TO CHECK-DATA.        | C98970 |
| 50310 | IF WUC IS NOT EQUAL TO CURWUC GO TO CHECK-DATA.               | C98970 |
| 50320 | IF SERIAL-NO IS NOT EQUAL TO CUR-SER-NO GO TO CHECK-DATA.     | C98970 |
| 50330 | MOVE ZERO TO SPEC-INDEX.                                      | C98970 |
| 50331 | PROC-III-2H.  | C98970 |
| 50332 | ADD 1 TO SPEC-INDEX.  | C98970 |
| 50333 | IF WUC IS EQUAL TO SPEC-SGWUC-LIST [SPEC-INDEX] GO TO         | C98970 |
| 50334 | PROC-SPEC-SGWUC.  | C98970 |
| 50335 | IF SPEC-INDEX IS LESS THAN NO-SPEC-SG-WUC GO TO PROC-III-2B.  | C98970 |
| 50337 | IF UNITS IS NEGATIVE GO TO READ-SUB.                          | C98970 |
| 50340 | COMPUTE DELTA-WEEK > WEEK - CURWEEK - 1.                      | C98970 |
| 50350 | MOVE WEEK TO CURWEEK.   | C98970 |
| 50360 | COMPUTE DELTA-FLT-HRS > FLT-HRS - CUR-FLT-HRS.                | C98970 |
| 50380 | MOVE FLT-HRS TO CUR-FLT-HRS.                                  | C98970 |
| 50400 | IF FLAG EQUAL ZERO GO TO SET-FLAG.                            | C98970 |
| 50410 | MOVE DELTA-WEEK TO OBS.                                       | C98970 |
| 50420 | MOVE ONE TO DATA-TYPE.  | C98970 |
| 50430 | WRITE OUT-REC-2 FROM OUT-DATA.                                | C98970 |
| 50440 | MOVE DELTA-FLT-HRS TO OBS.                                    | C98970 |
| 50450 | MOVE TWO TO DATA-TYPE.  | C98970 |
| 50460 | WRITE OUT-REC-2 FROM OUT-DATA.                                | C98970 |
| 50465 | ADD 2 TO NO-REC-2.  | C98970 |
| 50500 | SET-FLAG.   | C98970 |
| 50510 | MOVE 1 TO FLAG.   | C98970 |
| 50520 | IF UNITS IS EQUAL TO ZERO THEN MOVE ZERO TO FLAG.             | C98970 |
| 50525 | READ-SUB.   | C98970 |
| 50530 | READ IN-FILL-D-B INTO DATA-BANK-INPUT,                        | C98970 |
| 50540 | AT END GO TO CLOSE-FILES.                                     | C98970 |
| 50550 | GO TO PROC-III-2A.  | C98970 |
| 50600 | PROC-SPEC-SGWUC.  | C98970 |
| 50610 | COMPUTE DELTA-WEEK > WEEK - CURWEEK - 1.                      | C98970 |
| 50615 | SUBTRACT 2 FROM SPEC-WEEK-LIST [SPEC-INDEX] GIVING SPEC-WEEK. | C98970 |
| 50620 | IF DELTA-WEEK IS GREATER THAN SPEC-WEEK GO TO                 | C98970 |
| 50625 | END-SG-WUC-INSPEC.  | C98970 |
| 50630 | NOT-END-SG-WUC-INSPEC.  | C98970 |
| 50640 | MOVE FLT-HRS TO CUR-FLT-HRS.                                  | C98970 |
| 50650 | MOVE WEEK TO CURWEEK.   | C98970 |
| 50660 | GO TO READ-SUB.   | C98970 |
| 50700 | END-SG-WUC-INSPEC.  | C98970 |
| 50710 | MOVE DELTA-WEEK TO OBS.                                       | C98970 |
| 50720 | MOVE ONE TO DATA-TYPE.  | C98970 |
| 50730 | WRITE OUT-REC-2 FROM OUT-DATA.                                | C98970 |
| 50740 | COMPUTE OBS > FLT-HRS - CUR-FLT-HRS.                          | C98970 |
| 50750 | MOVE TWO TO DATA-TYPE.  | C98970 |
| 50760 | WRITE OUT-REC-2 FROM OUT-DATA.                                | C98970 |
| 50770 | ADD 2 TO NO-REC-2.  | C98970 |
| 50780 | GO TO NOT-END-SG-WUC-INSPEC.                                  | C98970 |
| 51000 | PROC-III-1.   | C98970 |
| 51030 | MOVE WUC TO CURWUC.   | C98970 |
| 51040 | PERFORM CHECK-15CHRONAL THRU END-CI.                          | C98970 |
| 51050 | MOVE SERIAL-NO TO CUR-SER-NO.                                 | C98970 |
| 51060 | MOVE 15CHRONAL TO CUR-ISC.                                    | C98970 |
| 51070 | MOVE HMC TO CURHMC.   | C98970 |
| 51080 | MOVE WEEK TO WEEK-HMC.  | C98970 |
| 51090 | MOVE FLT-HRS TO FLT-HRS-HMC.                                  | C98970 |
| 51100 | READ-III-1.   | C98970 |
| 51110 | READ IN-FILE-D-B INTO DATA-BANK-INPUT,                        | C98970 |
| 51120 | AT END GO TO CLOSE-FILES.                                     | C98970 |
| 51130 | IF IDENT IS EQUAL TO 9 THEN GO TO CLOSE-FILES.                | C98970 |
| 51140 | IF IDENT IS NOT EQUAL TO 4 GO TO READ-III-1.                  | C98970 |
| 51145 | IF UNITS IS EQUAL TO ZERO GO TO READ-III-1.                   | C98970 |
| 51150 | IF HMC IS NOT EQUAL TO CURHMC GO TO PROC-III-1.               | C98970 |
| 51160 | IF SERIAL-NO IS NOT EQUAL TO CUR-SER-NO GO TO PROC-III-1.     | C98970 |
| 51170 | IF WUC IS NOT EQUAL TO CURWUC GO TO PROC-III-1.               | C98970 |
| 51180 | PERFORM CHECK-15CHRONAL THRU END-CI.                          | C98970 |
| 51190 | IF 15CHRONAL IS NOT EQUAL TO CUR-ISC GO TO PROC-III-1.        | C98970 |
| 51300 | WRITE-HMC.  | C98970 |
| 51310 | COMPUTE DELTA-WEEK > WEEK - WEEK-HMC.                         | C98970 |
| 51320 | COMPUTE DELTA-FLT-HRS > FLT-HRS - FLT-HRS-HMC.                | C98970 |
| 51340 | MOVE WEEK TO WEEK-HMC.  | C98970 |

|       |  |        |
|-------|--|--------|
| 51350 | MOVE FL1-HRS TO FL7-HRS-HMC.                                 | C98970 |
| 51360 | MOVE DELTA-WEEK TO OBS.                                      | C98970 |
| 51370 | MOVE ONE TO LATA-TYPE.                                       | C98970 |
| 51390 | WRITE OUT-REC-1 FROM OUT-OATA.                               | C98970 |
| 51395 | ADD 1 TO NO-REC-1.   | C98970 |
| 51397 | IF UNITS IS GREATER THAN <1 PERFORM WRITE-ZERO-DATA THRU     | C98970 |
| 51398 | END-WRITE-ZERO-DATA.   | C98970 |
| 51400 | MOVE DELTA-FLT-HRS TO OBS.                                   | C98970 |
| 51410 | MOVE TWO TO OATA-TYPE.                                       | C98970 |
| 51420 | WRITE OUT-REC-1 FROM OUT-OATA.                               | C98970 |
| 51425 | ADD 1 TO NO-REC-1.   | C98970 |
| 51430 | IF UNITS IS GREATER THAN <1 PERFORM WRITE-ZERO-DATA THRU     | C98970 |
| 51432 | END-WRITE-ZERO-DATA.   | C98970 |
| 51480 | GO TO PROC-1.1-1.  | C98970 |
| 51800 | CLOSE-FILLS.   | C98970 |
| 51810 | COMPUTE KNT > NO-REC-1 - NO-REC-1 / 90 * 90.                 | C98970 |
| 51820 | IF KNT IS ZERO GO TO CF-2.                                   | C98970 |
| 51830 | PERFORM NINE-FILL-1 THRU N-F-1.                              | C98970 |
| 51840 | CF-2.  | C98970 |
| 51850 | COMPUTE KNT > NO-REC-2 - NO-REC-2 / 90 * 90.                 | C98970 |
| 51860 | IF KNT IS ZERO GO TO CF-3.                                   | C98970 |
| 51870 | PERFORM NINE-FILL-2 THRU N-F-2.                              | C98970 |
| 51900 | CF-3.  | C98970 |
| 51910 | DISPLAY : NUMBER RECORDS-1 I NO-REC-1 UPON CONSOLE.          | C98970 |
| 51920 | DISPLAY : NUMBER RECORDS-2 I NO-REC-2 UPON CONSOLE.          | C98970 |
| 51940 | DISPLAY : END OF JOB C98970 UPON CONSOLE.                    | C98970 |
| 51950 | CLOSE IN-FILE=D-B, OUT-FILE-1, IN-FILE=ISC,                  | C98970 |
| 51960 | OUT-FILE-2 WITH LOCK.  | C98970 |
| 51990 | GOBACK.  | C98970 |
| 52000 | WRITE-ZERO-OATA.   | C98970 |
| 52010 | MOVE UNITS TO CNT.   | C98970 |
| 52020 | MOVE ZERO TO OBS.  | C98970 |
| 52030 | W-Z-0.   | C98970 |
| 52040 | SUBTRACT 1 FROM CNT.   | C98970 |
| 52050 | WRITE OUT-REC-1 FROM OUT-OATA.                               | C98970 |
| 52055 | ADD 1 TO NO-REC-1.   | C98970 |
| 52060 | IF CNT IS GREATER THAN 1 GO TO W-Z-0.                        | C98970 |
| 52070 | END-WRITE-ZERO-OATA.   | C98970 |
| 70000 | READ-ISC-A-C.  | C98970 |
| 70010 | READ IN-FILE-ISC INTO NO-ISC A7 END GO TO END-RIAC.          | C98970 |
| 70020 | MOVE ZERO TO KNT.  | C98970 |
| 70030 | RIAC.  | C98970 |
| 70040 | ADD 1 TO KNT.  | C98970 |
| 70050 | READ IN-FILE-ISC INTO ISC-A-C A7 END GO TO END-RIAC.         | C98970 |
| 70060 | MOVE ISC-TN TO ISC-AC-TN [KNT].                              | C98970 |
| 70070 | MOVE ISC-WK TO ISC-AC-WK [KNT].                              | C98970 |
| 70075 | IF ISC-WK IS LESS THAN MIN-ISC-WEEK MOVE ISC-WK              | C98970 |
| 70076 | TO IN-ISC-WEEK.  | C98970 |
| 70080 | IF KNT IS LESS THAN NO-ISC-AC GO TO RIAC.                    | C98970 |
| 70090 | END-RIAC. EXIT.  | C98970 |
| 70200 | CHECK-ISCHRONAL.   | C98970 |
| 70210 | IF SERIAL-NO IS NOT EQUAL TO PREV-TESTED-SN GO TO CHECK-I-2. | C98970 |
| 70220 | IF ISC-FLAG IS EQUAL TO TWO GO TO END-CI.                    | C98970 |
| 70230 | IF ISCHRONAL IS EQUAL TO ONE AND WEEK IS NOT LESS THAN       | C98970 |
| 70232 | MIN-ISC-WEEK, THEN GO TO END-CI.                             | C98970 |
| 70240 | CHECK-I-2.   | C98970 |
| 70250 | MOVE TWO TO ISCHRONAL.                                       | C98970 |
| 70260 | IF WEEK IS LESS THAN MIN-ISC-WEEK GO TO END-CI.              | C98970 |
| 70270 | MOVE ZERO TO CNT.  | C98970 |
| 70280 | CHECK-I-1.   | C98970 |
| 70290 | ADD 1 TO CNT.  | C98970 |
| 70300 | MOVE ISC-AC-N [CNT] TO ISC-TEMP.                             | C98970 |
| 70310 | IF SERIAL-NO IS LESS THAN ISC-TEMP GO TO CHECK-I-4.          | C98970 |
| 70320 | IF SERIAL-NO IS EQUAL TO ISC-TEMP GO TO CHECK-I-1A.          | C98970 |
| 70330 | IF CNT IS LESS THAN NO-ISC-AC GO TO CHECK-I-1.               | C98970 |
| 70340 | CHECK-I-4.   | C98970 |
| 70350 | MOVE TWO TO ISC-FLAG.  | C98970 |
| 70360 | GO TO CHECK-I-3.   | C98970 |
| 70370 | CHECK-I-1A.  | C98970 |
| 70380 | MOVE ISC-AC-WK [CNT] TO WEEK-TEMP.                           | C98970 |
| 70390 | IF WEEK-TEMP IS EQUAL TO WEEK OR WEEK IS GREATER THAN        | C98970 |
| 70400 | WEEK-TEMP MOVE ONE TO ISCHRONAL.                             | C98970 |
| 70410 | MOVE ONE TO ISC-FLAG.  | C98970 |
| 70430 | CHECK-I-3.   | C98970 |
| 70440 | MOVE SERIAL-NO TO PREV-TESTED-SN.                            | C98970 |
| 70450 | END-CI. EXIT.  | C98970 |
| 70510 | NINE-FILL-2.   | C98970 |
| 70520 | WRITE OUT-REC-2 FROM NINE.                                   | C98970 |
| 70530 | ADD 1 TO KNT.  | C98970 |
| 70540 | IF KNT IS LESS THAN 90 GO TO NINE-FILL-2.                    | C98970 |
| 70550 | N-F-2. EXIT.   | C98970 |
| 70600 | NINE-FILL-1.   | C98970 |
| 70610 | WRITE OUT-REC-1 FROM NINE.                                   | C98970 |
| 70620 | ADD 1 TO KNT.  | C98970 |
| 70630 | IF KNT IS LESS THAN 90 GO TO NINE-FILL-1.                    | C98970 |
| 70640 | N-F-1. EXIT.   | C98970 |
| 85000 | READ-SPEC-SG-WUC.  | C98970 |

```

85010      MOVL ZERO TO NO-SPEC-SG-WUC.                C98970
85020      READ-SPEC.                                  C98970
85030      READ IN-FILE-1SC INTO SPEC-SG-WUC-REC AT END 00 TO END-RSSW. C98970
85040      ADD 1 TO NO-SPEC-SG-WUC.                   C98970
85050      MOVE SPEC-SG WUC TO SPEC-SG-WUC-LIST [NO-SPEC-SG-WUC]. C98970
85060      MOVE SPEC-WEEK-A TO SPEC-WEEK-LIST [NO-SPEC-SG-WUC]. C98970
85070      GO TO READ-SPEC.                            C98970
85090      END-RSSW. EXIT.                             C98970
/*        PLACF COHOL SOURCE BEFORE THIS CARD
//CHG.(F01N DU *.SPACE>CYL,[[1,1]]                 1440 CDB
TFG U101 11 080208
34
57000236 331
57000237 331
57000243 324
57000244 331
57002545 331
58000776 324

```

```

58000901 331
59000002 331
59000003 331
59000005 331
59000006 331
59000010 331
59000012 331
59000015 331
59000018 331
59000019 331
59000026 331
59000030 331
59000054 324
59000057 324
59000058 324
59000059 324
59000104 331
59000105 331
59000108 324
59000110 324
59000119 324
59000141 324
59000143 324
59000144 324
59000145 324
59000147 324
59000151 324
59000152 324

```

```

03300 3
03310 3
03320 3
03330 3
03400 5
03600 5

```

```

/*        PLACE TFG DATA BEFORE THIS CARD
//TPR,TU14 DU DIS>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3 T14
//TPR,TU22 DU DIS>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5 T22
//TPR,TU24 DU DIS>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 T24
//TPR,TPR1N DU *.SPACE>[TRK,[[1,1]]
T/P DT01 1010080208
T/P TU14 1010070207
T/P TU22 1010020202
T/P TU24 1010020202
/*        PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### C.9.2 SORT FOR INSPECTION LENGTH INTERVALS

```

//C9897F EXEC P4622N,W060,TIME>03,ACCT>035323007 385
//CHG.SORTIN DD DIS>[KEEP],UNIT>[A+F5,2,DEFER], CT22/23 1
//          DSN>E.9897426, CT22 2
//          VOL>SLR>[F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
//          1+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
//          DCH>[LRECL>0020,RLKSIZE>1800],LABEL>[NSL,RETPD>099]
//CHG.SORTOUT DU DIS>[KEEP],UNIT>[A+F1,2,DEFER],DSN>A.9897427, CT12/13 1
//          VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
//          1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
//          DCH>[LRECL>0020,RLKSIZE>1800]
//CHG.SYSIN DU *.DLB>BLKSIZE>0080,SPACE>[TRK,[[1,1]]
SORT FIELDS>[017,001,019,001,CH,A,001,005,CH,A,SIZE>E0200000
MODS E15>[E15,008,SORTLIB,N],E18>[E18,024,SORTLIB,N]
/*

```

### 6.9.3 CUMULATIVE DISTRIBUTION FOR INSPECTION LENGTH INTERVALS

```

//C9897E EXEC P9655L,TIME>04,ACCT>035323007
//CHG.TU12 DD DISP>[PASS],UNIT>[T+F1,I,DEFER],DSN>+A,9897427, CT12 1
// VOL>SER>L+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1 T12 3
//CHG.TU25 DU DISP>[PASS],UNIT>[T+F8,I,DEFER],DSN>+H,9897428, CT25 1
// VOL>SER>L+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8 T25 3
//CHG.INPUT DU *,S^ACE>[CYL,[1,1]] 1440 CDS
00400 COMBINE COMPILE 6. WANG. C98970
01050 REMARKS. C98970
01060 MAINTENANCE STUDY PROGRAM JB. C98970
01070 INSPECTION INTERVAL LENGTHS. C98970
01080 PREPARES CUMULATIVE DISTRIBUTION OF INSPECTION C98970
01090 INTERVAL LENGTHS. C98970
01110 AIRCRAFT SUB-SET, DATA-TYPE, WUC. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER, IBM-360. C98970
02030 OBJECT-COMPUTER, IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT HIST-FILE ASSIGN TO UT-S-TU25 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
09000 SELECT CUT-OFF-FILE ASSIGN TO DA-S-DT03 C98970
09010 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11000 FD IN-FILE C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 90 RECORDS C98970
11140 RECORD CONTAINS 20 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE IN-REC. C98970
11170 01 IN-REC SYNC. C98970
11180 02 WUC PICTURE X(5). C98970
11182 02 FILLER PICTURE X(4). C98970
11183 02 OBS PICTURE S9(6). C98970
11184 02 OBS-1 REFINES OBS PICTURE S99999VS. C98970
11185 02 FILLER PICTURE X. C98970
11186 02 ISCHRONAL-NEW PICTURE X. C98970
11187 02 FILLER PICTURE X. C98970
11188 02 DATA-TYPE-NEW PICTURE X. C98970
11189 02 FILLER PICTURE X. C98970
12100 FD HIST-FILE C98970
12120 RECORDING MODE IS F C98970
12130 BLOCK CONTAINS 15 RECORDS C98970
12140 RECORD CONTAINS 130 CHARACTERS C98970
12150 LABEL RECORDS ARE OMITTED C98970
12160 DATA RECORDS ARE HIST-REC. C98970
12170 01 HIST-REC SYNC. C98970
12180 02 FILLER PICTURE X(130). C98970
29000 FD CUT-OFF-FILE C98970
29010 RECORDING MODE IS F C98970
29020 BLOCK CONTAINS 20 RECORDS C98970
29030 RECORD CONTAINS 80 CHARACTERS C98970
29040 LABEL RECORDS ARE STANDARD C98970
29050 DATA RECORDS ARE CUT-OFF-REC. C98970
29060 01 CUT-OFF-REC SYNC. C98970
29070 05 NI-CUT-OFF PICTURE 9(5). C98970
29080 05 ISO-CUT-OFF PICTURE 9(5). C98970
29090 05 FILLER PICTURE X(70). C98970
30000 WORKING-STORAGE SECTION. C98970
30010 77 KNT SYNC PICTURE S9(5). C98970
30020 01 FILLER SYNC. C98970
30030 02 FREQ-HIS-VALUE OCCURS 1000 TIMES PICTURE S9(5) C98970
30040 COMPUTATIONAL. C98970
30050 01 A PICTURE S9(5) COMPUTATIONAL. C98970
30060 01 NO-OF-HISTS SYNC PICTURE 9999 VALUE ZERO. C98970
30070 01 TWO SYNC PICTURE X VALUE 121. C98970
30080 01 ONE SYNC PICTURE X VALUE 111. C98970
30090 01 CNT SYNC PICTURE S9(5) COMPUTATIONAL. C98970
30100 01 CUR-WUC-T SYNC. C98970
30110 02 FILLER PICTURE X(5) VALUE 1 WUC>1. C98970
30120 02 CUR-WUC PICTURE X(5). C98970
30170 01 ISCHRONAL SYNC PICTURE X. C98970
30180 01 DATA-TYPE SYNC PICTURE X. C98970
30190 01 MINUS-ONE COMPUTATIONAL PICTURE S999 VALUE -1 SYNC. C98970
32000 01 REPORT-ID SYNC. C98970
32010 02 FILLER PICTURE X(50) VALUE C98970
32020 199807860 TF7919-02 142-8 1 1/2 1. C98970
32030 02 FILLER PICTURE X(50) VALUE SPACE. C98970
32040 02 FILLER PICTURE X(30) VALUE C98970

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32050          ;
46000 01 MEAN COMPUTATIONAL SYNC PICTURE S9(7)V99. C98970
46010 01 VARIANCE COMPUTATIONAL SYNC PICTURE S9(7)V99. C98970
46020 01 TEMP-COMP PICTURE S9(7)V99. C98970
46100 01 MEAN-VARIANCE-LINE SYNC. C98970
46110 02 FILLER PICTURE X(50) VALUE C98970
46120 :S ;. C98970
46130 02 FILLER PICTURE X(19) VALUE C98970
46140 : MEAN >: C98970
46150 02 MEAN-RPT PICTURE ZZZ9.9. C98970
46160 02 FILLER PICTURE X(30) VALUE C98970
46170 : VARIANCE >: C98970
46180 02 VARIANCE-RPT PICTURE ZZZZZ9.9. C98970
46190 02 FILLER PICTURE X(16) VALUE C98970
46200 : ;. C98970
47000 01 HIST-VALUE-MAX SYNC PICTURE S9999V99 VALUE -9999.9. C98970
47010 01 HIST-VALUE-MIN SYNC PICTURE S9999V99 VALUE <9999.9. C98970
47020 01 HIST-NO-OF-OBS SYNC PICTURE S9(5) VALUE ZERO. C98970
47030 01 HIST-NO-OF-INTERVALS SYNC PICTURE 999V99 VALUE 50. C98970
47040 01 HIST-INPUT-VMAX-VMIN SYNC PICTURE 9 VALUE ZERO. C98970
47050 01 HIST-DIST SYNC PICTURE X VALUE :!: C98970
47060 01 HIST-INDEX SYNC COMPUTATIONAL C98970
47070 PICTURE S999 VALUE ZERO. C98970
47080 01 HIST-INDEX-2 SYNC COMPUTATIONAL C98970
47090 PICTURE S999 VALUE ZERO. C98970
47100 01 HIST-TEMP SYNC PICTURE S99999V99 VALUE ZERO. C98970
47110 01 HIST-INTERVAL-SIZE SYNC PICTURE S999V99 VALUE ZERO C98970
47120 COMPUTATIONAL. C98970
47150 01 HIST-FLAG SYNC PICTURE X VALUE :0: C98970
47160 01 HIST-SCALE-VALUE SYNC COMPUTATIONAL C98970
47170 PICTURE S999 VALUE <1. C98970
47180 01 HIST-PERCENT SYNC PICTURE S9999V99 COMPUTATIONAL. C98970
47190 01 HIST-CUM SYNC PICTURE S9999V99 COMPUTATIONAL. C98970
47200 01 HIST-LINE SYNC COMPUTATIONAL C98970
47210 PICTURE S999 VALUE ZERO. C98970
47220 01 HIST-PAGE-FLAG SYNC PICTURE S999 VALUE <75. C98970
47230 01 HIST-LINE-CNT SYNC PICTURE S999. C98970
47300 01 HIST-ERR-1 SYNC PICTURE X(10) VALUE C98970
47310 :ERROR NO 0: C98970
47320 01 HIST-ERR-3 SYNC. C98970
47330 02 FILLER PICTURE X(5) VALUE :85 > 1. C98970
47340 02 HIST-ERR-2 PICTURE S9(5) VALUE ZERO. C98970
47350 01 HIST-ERR-4 SYNC PICTURE X(10) VALUE C98970
47360 :ERROR MAX: C98970
47370 01 HIST-ERR-5 SYNC PICTURE X(10) VALUE C98970
47380 :-MIN BAD. : C98970
47390 01 HIST-OUT-RANGE-VALUE SYNC PICTURE S999 COMPUTATIONAL. C98970
47500 01 FILLER SYNC. C98970
47510 02 FILLER 0 CURS 200 TIMES. C98970
47530 03 HIST-TABLE PICTURE S9(5) COMPUTATIONAL. C98970
47540 03 HIST-UPPER-LIMIT PICTURE S9999V99 COMPUTATIONAL. C98970
47550 03 HIST-TABLE-SCALED PICTURE S999V99 COMPUTATIONAL. C98970
47560 01 HIST-NEW-PAGE SYNC. C98970
47570 02 FILLER PICTURE X VALUE :!: C98970
47580 02 FILLER PICTURE X(122) VALUE SPACE. C98970
47582 02 FILLER PICTURE X(5) VALUE :PAGE :. C98970
47584 02 HIST-PAGE-NO PICTURE 9. C98970
47590 02 FILLER PICTURE X VALUE :!: C98970
47600 01 HIST-TITLE SYNC. C98970
47610 02 FILLER PICTURE X(3) VALUE :S :. C98970
47620 02 HIST-TITLE-1. C98970
47621 03 FILLER PICTURE X(10) VALUE SPACE. C98970
47630 02 HIST-TITLE-2. C98970
47631 03 FILLER PICTURE X(10) VALUE SPACE. C98970
47640 02 HIST-TITLE-3 PICTURE X(10) VALUE SPACE. C98970
47650 02 HIST-TITLE-4 PICTURE X(10) VALUE SPACE. C98970
47660 02 FILLER PICTURE X(24) VALUE C98970
47670 : NO OF OBSERVATIONS >: C98970
47680 02 HIST-NO-OF-OBS-RPT PICTURE ZZZZ9. C98970
47690 02 FILLER PICTURE X(13) VALUE C98970
47700 : VALUE MAX > :. C98970
47710 02 HIST-VALUE-MAX-RPT PICTURE -----9. C98970
47720 02 FILLER PICTURE X(13) VALUE C98970
47730 : VALUE MIN > :. C98970
47740 02 HIST-VALUE-MIN-RPT PICTURE -----9. C98970
47750 02 FILLER PICTURE X(18) VALUE C98970
47760 : ;. C98970
47900 01 HIST-UNIT-LIN: SYNC. C98970
47910 02 FILLER PICTURE X(50) VALUE C98970
47920 : /-----: C98970
47922 02 FILLER PICTURE X(80) VALUE C98970
47930 :-----: C98970
47940 : ;. C98970
47950 01 HIST-LABEL SYNC. C98970
47960 02 FILLER PICTURE X(50) VALUE C98970
47970 : / MIDPNT PCNT CUM FREQ 1...5...10...15...20...1. C98970
47974 02 FILLER PICTURE X(40) VALUE :. C98970
47980 : :25...30...35...40...45...50...55...60...65...70...75...80... C98970
47990 : :85...90...95...100:!. C98970

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|       |    |  |                                |        |
|-------|----|--|--------------------------------|--------|
| 48000 | 01 | HIST-LINE-OUT SYNC.                                      |                                | C98970 |
| 48010 | 02 | FILLER   | PICTURE X VALUE 1/1.           | C98970 |
| 48020 | 02 | HIST-LINE-RPT  | PICTURE Z29.                   | C98970 |
| 48030 | 02 | FILLER   | PICTURE X VALUE SPACE.         | C98970 |
| 48040 | 02 | HIST-MID-POINT-RPT                                       | PICTURE ----.9.                | C98970 |
| 48060 | 02 | HIST-PERCENT-RPT   | PICTURE Z29.9.                 | C98970 |
| 48070 | 02 | FILLER   | PICTURE X VALUE SPACE.         | C98970 |
| 48080 | 02 | HIST-CUM RPT   | PICTURE Z29.9.                 | C98970 |
| 48100 | 02 | HIST-FREQ-RPT  | PICTURE ZZZZ9.                 | C98970 |
| 48110 | 02 | FILLER   | PICTURE X VALUE SPACE.         | C98970 |
| 48120 | 02 | HIST-POINT OCCURS 100 TIMES                              |                                | C98970 |
| 48130 |    |  | PICTURE X.                     | C98970 |
| 48140 | 02 | FILLER   | PICTURE X VALUE 1#1.           | C98970 |
| 48150 | 01 | HIST-OUT-RANGE-REC SYNC.                                 |                                | C98970 |
| 48160 | 02 | FILLER   | PICTURE X(35) VALUE            | C98970 |
| 48170 |    | :/ NUMBER OF OUT OF RANGE VALUES >1.                     |                                | C98970 |
| 48180 | 02 | HIST-OUT-RANGE-RPT                                       | PICTURE Z29.                   | C98970 |
| 48190 | 02 | FILLER   | PICTURE X(91) VALUE SPACE.     | C98970 |
| 48191 | 02 | FILLER   | PICTURE X VALUE 1#1.           | C98970 |
| 48200 | 01 | HIST-SCALE-LINE SYNC.                                    |                                | C98970 |
| 48210 | 02 | FILLER   | PICTURE X(27) VALUE            | C98970 |
| 48220 |    | :/ SCALING FACTOR > 1.                                   |                                | C98970 |
| 48230 | 02 | HIST-SCALE-RPT   | PICTURE Z29.                   | C98970 |
| 48240 | 02 | FILLER   | PICTURE X(99) VALUE SPACE.     | C98970 |
| 48250 | 02 | FILLER   | PICTURE X VALUE 1#1.           | C98970 |
| 48300 | 01 | FILLER SYNC.   |                                | C98970 |
| 48310 | 02 | HIST-VALUE OCCURS 1000 TIMES                             |                                | C98970 |
| 48320 |    |  | PICTURE S9999V9 COMPUTATIONAL. | C98970 |
| 50000 |    | PROCEDURE DIVISION.                                      |                                | C98970 |
| 50001 |    | OPEN INPUT CUT-OFF-FILE.                                 |                                | C98970 |
| 50002 |    | READ CUT-OFF-FILE AT END GO TO CLOSE-FILES.              |                                | C98970 |
| 50003 |    | CLOSE CUT-OFF-FILE WITH LOCK.                            |                                | C98970 |
| 50010 |    | OPEN INPUT IN-FILE.                                      |                                | C98970 |
| 50020 |    | OPEN OUTPUT HIST-FILE.                                   |                                | C98970 |
| 50030 |    | MOVE 1000 TO CNT.  |                                | C98970 |
| 50040 |    | PERFORM RESET-TABLE THRU ENO-RST-TABLE.                  |                                | C98970 |
| 50050 |    | READ IN-FILE; AT END GO TO CLOSE-FILES.                  |                                | C98970 |
| 50060 |    | WRITE HIST-REC FROM REPORT-10.                           |                                | C98970 |
| 50100 |    | PARA-1.  |                                | C98970 |
| 50110 |    | MOVE 1 TO HIST-NO-OF-OBS.                                |                                | C98970 |
| 50120 |    | MOVE WUC TO CUR-WUC.                                     |                                | C98970 |
| 50140 |    | MOVE DATA-TYPE-NEW TO DATA-TYPE.                         |                                | C98970 |
| 50150 |    | MOVE ISCHRONAL-NEW TO ISCHRONAL.                         |                                | C98970 |
| 50160 |    | IF DATA-TYPE IS EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO |                                | C98970 |
| 50170 |    | FLT-DATA.  |                                | C98970 |
| 50200 |    | READ1.   |                                | C98970 |
| 50210 |    | READ IN-FILE; AT END GO TO CLOSE-FILES.                  |                                | C98970 |
| 50220 |    | IF DATA-TYPE-NEW IS EQUAL TO :9: GO TO CLOSE-FILES.      |                                | C98970 |
| 50230 |    | IF WUC IS NOT EQUAL TO CUR-WUC GO TO PARA-2.             |                                | C98970 |
| 50250 |    | ADD 1 TO HIST-NO-OF-OBS.                                 |                                | C98970 |
| 50260 |    | IF DATA-TYPE IS EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO |                                | C98970 |
| 50270 |    | FLT-DATA.  |                                | C98970 |
| 50300 |    | PARA-2.  |                                | C98970 |
| 50310 |    | PERFORM SET-HISTOG THRU END-SH.                          |                                | C98970 |
| 50320 |    | PERFORM RESET-TABLE THRU ENO-RST-TABLE.                  |                                | C98970 |
| 50330 |    | GO TO PARA-1.  |                                | C98970 |
| 50400 |    | RESET-TABLE.   |                                | C98970 |
| 50410 |    | MOVE ZERO TO CNT.  |                                | C98970 |
| 50420 |    | RST.   |                                | C98970 |
| 50430 |    | ADD 1 TO CNT.  |                                | C98970 |
| 50440 |    | MOVE MINUS-ONE TO HIST-VALUE [CNT].                      |                                | C98970 |
| 50445 |    | MOVE ZERO TO FREQ-HIST-VALUE [CNT].                      |                                | C98970 |
| 50450 |    | IF CNT IS LESS THAN KNT GO TO RST.                       |                                | C98970 |
| 50455 |    | MOVE ZERO TO CNT.  |                                | C98970 |
| 50460 |    | ENO-RST-TABLE, EXIT.                                     |                                | C98970 |
| 50510 |    | SET-HISTOG.  |                                | C98970 |
| 50512 |    | IF ISCHRONAL IS EQUAL TO ONE AND HIST-NO-OF-OBS IS NOT   |                                | C98970 |
| 50514 |    | GREATER THAN 150-CUT-OFF GO TO END-SH.                   |                                | C98970 |
| 50516 |    | IF ISCHRONAL IS EQUAL TO TWO AND HIST-NO-OF-OBS IS NOT   |                                | C98970 |
| 50518 |    | GREATER THAN 150-CUT-OFF GO TO END-SH.                   |                                | C98970 |
| 50520 |    | IF ISCHRONAL IS EQUAL TO ONE MOVE : 150 : TO             |                                | C98970 |
| 50530 |    | HIST-TITLE-4, ELSE MOVE : NON-150 : TO HIST-TITLE-4.     |                                | C98970 |
| 50540 |    | IF DATA-TYPE IS EQUAL TO ONE MOVE : WEEKS : TO           |                                | C98970 |
| 50550 |    | HIST-TITLE-3, ELSE MOVE : FLT-HOURS : TO HIST-TITLE-3.   |                                | C98970 |
| 50560 |    | MOVE CUR-WUC-T TO HIST-TITLE-1.                          |                                | C98970 |
| 50590 |    | PERFORM WRITE-HISTOGRAM THRU ENO-HIST.                   |                                | C98970 |
| 50600 |    | IF HIST-FLAG IS EQUAL TO :1: THEN GO TO CFI.             |                                | C98970 |
| 50610 |    | ADD 1 TO NO-OF-HISTS.                                    |                                | C98970 |
| 50620 |    | END-SH, EXIT.  |                                | C98970 |
| 51000 |    | WEEKS-DATA.  |                                | C98970 |
| 51010 |    | MOVE ZERO TO CNT.  |                                | C98970 |
| 51020 |    | WEEK-A.  |                                | C98970 |
| 51030 |    | ADD 1 TO CNT   |                                | C98970 |
| 51040 |    | IF OBS IS EQUAL TO HIST-VALUE [CNT] GO TO WEEK-C.        |                                | C98970 |
| 51050 |    | IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO WEEK-B.  |                                | C98970 |
| 51060 |    | IF CNT IS LESS THAN 1000 GO TO WEEK-A.                   |                                | C98970 |



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51070 DISPLAY : MORE THAN 1000 FREQUENCY OCCURENCES I UPON CONSOLE. C98970
51080 GO TO CF1. C98970
51090 WEEK-B. C98970
51100 MOVE OBS TO HIST-VALUE [CNT]. C98970
51110 IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT. C98970
51120 WEEK-C. C98970
51130 ADD 1 TO FREQ-HIST-VALUE [CNT]. C98970
51140 GO TO READ1. C98970
52000 FLT-DATA. C98970
52010 MOVE ZERO TO CNT. C98970
52020 FLT-A. C98970
52030 ADD 1 TO CNT. C98970
52040 IF OBS-1 IS EQUAL TO HIST-VALUE [CNT] GO TO FLT-C. C98970
52050 IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO FLT-B. C98970
52060 IF CNT IS LESS THAN 1000 GO TO FLT-A. C98970
52070 DISPLAY : MORE THAN 1000 FREQUENCY OCCURENCES I UPON CONSOLE. C98970
52080 GO TO CF1. C98970
52090 FLT-B. C98970
52100 MOVE OBS-1 TO HIST-VALUE [CNT]. C98970
52110 IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT. C98970
52120 FLT-C. C98970
52130 ADD 1 TO FREQ-HIST-VALUE [CNT]. C98970
52140 GO TO READ1. C98970
52200 CLOSE-FILES. C98970
52205 PERFORM SET- HISTOG THRU END-SH. C98970
52207 CF1. C98970
52210 CLOSE IN-FIL, HIST-FILE. C98970
52211 IF HIST-FLAG IS EQUAL TO III DISPLAY I HIST ERROR I UPON C98970
52212 CONSOLE. C98970
52215 DISPLAY : NO OF HISTOGRAMS > I NO-OF-HISTS UPON CONSOLE. C98970
52220 DISPLAY : EOJ C9897 : UPON CONSOLE. C98970
52230 GORACK. C98970
95000 COMPUTE-MEAN-VARIANCE. C98970
95010 MOVL ZERO TO CNT. C98970
95020 MOVL ZERO TO MEAN. C98970
95030 CMV-1. C98970
95040 ADD 1 TO CNT. C98970
95050 COMPUTE TEMP-COMP > HIST-VALUE [CNT] * FREQ-HIST-VALUE [CNT]. C98970
95060 ADD TEMP-COMP TO MEAN. C98970
95070 IF CNT IS LESS THAN KNT GO TO CMV-1. C98970
95080 DIVIDE HIST-10-OF-OBS INTO MEAN. C98970
95090 MOVE ZERO TO CNT. C98970
95100 MOVE ZERO TO VARIANCE. C98970
95105 IF HIST-NO-OF-OBS IS LESS THAN 2 GO TO END-CMV. C98970
95110 CMV-2. C98970
95120 ADD 1 TO CNT. C98970
95130 COMPUTE TEMP-COMP > [(HIST-VALUE [CNT] - MEAN) ** 2] * C98970
95140 FREQ-HIST-VALUE [CNT]. C98970
95150 ADD TEMP-COMP TO VARIANCE. C98970
95160 IF CNT IS LESS THAN KNT GO TO CMV-2. C98970
95170 COMPUTE VARIANCE > VARIANCE / (HIST-NO-OF-OBS - 1). C98970
95180 MOVE MEAN TO MEAN-RPT. C98970
95190 MOVE VARIANCE TO VARIANCE-RPT. C98970
95200 WRITE HIST-REC FROM MEAN-VARIANCE-LINE. C98970
95290 END-CMV. EX.T. C98970
97000 WRITE-HISTOGRAM. C98970
97080 MOVE :0: TO HIST-FLAG. C98970
97090 MOVE ZERO TO HIST-OUT-RANGE-VALUE. C98970
97100 MOVE ZERO TO HIST-PAGE-NO. C98970
97140 MOVE .9999.9 TO HIST-VALUE-MAX. C98970
97150 MOVE .9999.9 TO HIST-VALUE-MIN. C98970
97200 MOVE ZERO TO HIST-INDEX. C98970
97210 HIST-FIND-VMAX-VMIN. C98970
97220 ADD 1 TO HIST-INDEX. C98970
97230 MOVE HIST-VALUE [HIST-INDEX] TO HIST-TEMP. C98970
97240 IF HIST-TEMP IS GREATER THAN HIST-VALUE-MAX THEN MOVE C98970
97250 HIST-TEMP TO HIST-VALUE-MAX. C98970
97260 IF HIST-TEMP IS LESS THAN HIST-VALUE-MIN THEN MOVE C98970
97270 HIST-TEMP TO HIST-VALUE-MIN. C98970
97280 IF HIST-INDEX IS LESS THAN KNT THEN GO TO C98970
97290 HIST-FIND-VMAX-VMIN. C98970
97292 IF DATA-TYPE IS EQUAL TO ONE COMPUTE HIST-NO-OF-INTERVALS > C98970
97294 HIST-VALUE-MAX / 4. C98970
97296 IF DATA-TYPE IS EQUAL TO TWO COMPUTE HIST-NO-OF-INTERVALS > C98970
97298 HIST-VALUE-MAX / 8 < 4. C98970
97300 HIST-PRINT-TITLE. C98970
97301 IF HIST-NO-OF-INTERVALS IS LESS THAN 50 MOVE 50 TO C98970
97302 HIST-NO-OF-INTERVALS. C98970
97304 ADD 1 TO HIST-PAGE-NO. C98970
97306 MOVE 5 TO HIST-LINE-CNT. C98970
97310 WRITE HIST-REC FROM HIST-NEW-PAGE. C98970
97320 MOVE HIST-NO-OF-OBS TO HIST-NO-OF-OBS-RPT. C98970
97330 MOVE HIST-VALUE-MAX TO HIST-VALUE-MAX-RPT. C98970
97340 MOVE HIST-VALUE-MIN TO HIST-VALUE-MIN-RPT. C98970
97350 WRITE HIST-REC FROM HIST-TITLE. C98970
97355 PERFORM COMPUTE-MEAN-VARIANCE THRU END-CMV. C98970

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|       |   |        |
|-------|---|--------|
| 97360 | WRITE HIST-REC FROM HIST-DOT-LINE.                            | C98970 |
| 97370 | WRITE HIST-REC FROM HIST-LAHL.                                | C98970 |
| 97380 | WRITE HIST-REC FROM HIST-DOT-LINE.                            | C98970 |
| 97390 | HIST-DUMMY.   | C98970 |
| 97410 | IF HIST-VALUE-MAX IS LESS THAN HIST-VALUE-MIN THEN GO TO      | C98970 |
| 97420 | HIST-ERROR-2.   | C98970 |
| 97430 | IF HIST-NO-OF-INTERVALS IS GREATER THAN 200 THEN MOVE 200     | C98970 |
| 97440 | TO HIST-NO-OF-INTERVALS.                                      | C98970 |
| 97441 | MOVE ZERO TO HIST-INDEX.                                      | C98970 |
| 97442 | HIST-RST.   | C98970 |
| 97443 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97444 | MOVE ZERO TO HIST-TABLE [HIST-INDEX].                         | C98970 |
| 97445 | IF HIST-INDE: IS LESS THAN HIST-NO-OF-INTERVALS               | C98970 |
| 97446 | THEN GO TO HIST-RST.  | C98970 |
| 97450 | IF DATA-TYPE IS EQUAL TO ONE MOVE 1.0 TO HIST-INTERVAL-SIZE,  | C98970 |
| 97460 | ELSE MOVE 0.0 TO HIST-INTERVAL-SIZE.                          | C98970 |
| 97500 | NOTE COMPUTE UPPER LIMIT FOR EACH INTERVAL.                   | C98970 |
| 97510 | MOVE ZERO TO HIST-INDEX.                                      | C98970 |
| 97520 | MOVE ZERO TO HIST-TEMP.                                       | C98970 |
| 97530 | HIST-INC-INTERVAL.  | C98970 |
| 97540 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97550 | ADD HIST-INTERVAL-SIZE TO HIST-TEMP.                          | C98970 |
| 97560 | MOVE HIST-TEMP TO HIST-UPPER-LIMIT [HIST-INDEX].              | C98970 |
| 97570 | IF HIST-INDE: IS LESS THAN HIST-NO-OF-INTERVALS THEN          | C98970 |
| 97580 | GO TO HIST-INC-INTERVAL.                                      | C98970 |
| 97600 | NOTE PLACE OCCURANCE INTO APPROPRIATE CHANNEL.                | C98970 |
| 97610 | MOVE ZERO TO HIST-INDEX-2.                                    | C98970 |
| 97620 | HIST-OCCURANCE.   | C98970 |
| 97630 | ADD 1 TO HIST-INDEX-2.  | C98970 |
| 97640 | MOVE HIST-VALUE [HIST-INDEX-2] TO HIST-TEMP.                  | C98970 |
| 97650 | MOVE ZERO TO HIST-INDEX.                                      | C98970 |
| 97660 | HIST-INTERVAL.  | C98970 |
| 97670 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97675 | MOVE FREQ-HIST-VALUE [HIST-INDEX-2] TO A.                     | C98970 |
| 97680 | IF HIST-TEMP IS NOT GREATER THAN HIST-UPPER-LIMIT             | C98970 |
| 97690 | [HIST-INDEX] THEN GO TO HIST-ADD-TABLE.                       | C98970 |
| 97700 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    | C98970 |
| 97710 | HIST-INTERVAL.  | C98970 |
| 97720 | ADD A TO HIST-OUT-RANGE-VALUE.                                | C98970 |
| 97730 | GO TO HIST-NO-ADD.  | C98970 |
| 97740 | HIST-ADD-TABLE.   | C98970 |
| 97750 | ADD A TO HIST-TABLE [HIST-INDEX].                             | C98970 |
| 97760 | HIST-ADD-TABLE.   | C98970 |
| 97770 | IF HIST-INDEX > HIST-NO-OF-INTERVALS                          | C98970 |
| 97780 | NOTE COMPUTE SCALE VALUE.                                     | C98970 |
| 97810 | MOVE HIST-TABLE [1] TO HIST-TEMP.                             | C98970 |
| 97820 | MOVE 1 TO HIST-INDEX.   | C98970 |
| 97830 | HIST-SCALE.   | C98970 |
| 97840 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97850 | IF HIST-TABLE [HIST-INDEX] IS GREATER THAN HIST-TEMP THEN     | C98970 |
| 97860 | MOVE HIST-TABLE [HIST-INDEX] TO HIST-TEMP.                    | C98970 |
| 97870 | IF HIST-INDE: IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    | C98970 |
| 97880 | HIST-SCALE.   | C98970 |
| 97890 | COMPUTE HIST-SCALE-VALUE > [HIST-TEMP < 99] / 100.            | C98970 |
| 97895 | IF HIST-SCALE-VALUE IS LESS THAN 1 MOVE 1 TO                  | C98970 |
| 97896 | HIST-SCALE-VALUE.   | C98970 |
| 97900 | MOVE ZERO TO HIST-INDEX.                                      | C98970 |
| 97910 | HIST-SCALED-VALUES.   | C98970 |
| 97920 | ADD 1 TO HIST-INDEX.  | C98970 |
| 97930 | COMPUTE HIST-TABLE-SCALED [HIST-INDEX] >                      | C98970 |
| 97940 | HIST-TABLE [HIST-INDEX] / HIST-SCALE-VALUE.                   | C98970 |
| 97950 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    | C98970 |
| 97960 | HIST-SCALED-VALUES.   | C98970 |
| 98000 | NOTE PREPARE OUTPUT DATA.                                     | C98970 |
| 98010 | DIVIDE < INTO HIST-INTERVAL-SIZE.                             | C98970 |
| 98020 | MOVE ZERO TO HIST-CUM.  | C98970 |
| 98030 | MOVE ZERO TO HIST-LINE.                                       | C98970 |
| 98040 | HIST-PREPARE.   | C98970 |
| 98050 | ADD 1 TO HIST-LINE.   | C98970 |
| 98060 | MOVE HIST-LINE TO HIST-LINE-RPT.                              | C98970 |
| 98070 | COMPUTE HIST-TEMP > HIST-UPPER-LIMIT [HIST-LINE]              | C98970 |
| 98080 | - HIST-INTERVAL-SIZE.   | C98970 |
| 98090 | MOVE HIST-TEMP TO HIST-MID-POINT-RPT.                         | C98970 |
| 98100 | COMPUTE HIST-PERCENT > HIST-TABLE [HIST-LINE] * 100           | C98970 |
| 98110 | / HIST-NO-OF-OBS.   | C98970 |
| 98120 | MOVE HIST-PERCENT TO HIST-PERCENT-RPT.                        | C98970 |
| 98130 | ADD HIST-PERCENT TO HIST-CUM.                                 | C98970 |
| 98140 | MOVE HIST-CUM TO HIST-CUM-RPT.                                | C98970 |
| 98150 | MOVE HIST-TABLE [HIST-LINE] TO HIST-FREQ-RPT.                 | C98970 |
| 98160 | MOVE ZERO TO HIST-INDEX.                                      | C98970 |
| 98170 | IF HIST-DIST IS NOT EQUAL TO 0: GO TO HIST-CUM-1.             | C98970 |
| 98180 | COMPUTE HIST-INDEX-2 > HIST-TABLE-SCALED [HIST-LINE] < 0.5.   | C98970 |
| 98190 | IF HIST-INDEX-2 IS EQUAL TO ZERO GO TO HIST-PREP-SPACE.       | C98970 |
| 98200 | HIST-PREP-DIST.   | C98970 |
| 98210 | ADD 1 TO HIST-INDEX.  | C98970 |
| 98220 | MOVE 0: TO HIST-POINT [HIST-INDEX].                           | C98970 |
| 98230 | IF HIST-INDE: IS LESS THAN HIST-INDEX-2 GO TO HIST-PREP-DIST. | C98970 |

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98240 IF HIST-INDEX IS EQUAL TO 100 THEN GO TO HIST-WRITE. C98970
98250 HIST-PPRP-SPACE. C98970
98260 ADD I TO HIST-INDEX. C98970
98270 MOVE SPACE TO HIST-POINT [HIST-INDEX]. C98970
98280 IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-PREP-SPACE. C98970
98290 GO TO HIST-WRITE. C98970
98300 HIST-CUM-1. C98970
98310 ADD I TO HIST-INDEX. C98970
98320 MOVE SPACE TO HIST-POINT [HIST-INDEX]. C98970
98330 IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-CUM-1. C98970
98338 COMPUTE HIST-INDEX > HIST-CUM < 0.5. C98970
98339 IF HIST-INDEX IS EQUAL TO ZERO GO TO HIST-WRITE. C98970
98340 MOVE :I: TO HIST-POINT [HIST-INDEX]. C98970
98400 HIST-WRITE. C98970
98410 WRITE HIST-RFC FROM HIST-LINE-OUT. C98970
98412 ADD I TO HIST-LINE-CNT. C98970
98414 IF HIST-PAGE-FLAG IS EQUAL TO ZERO GO TO HIST-NO-PAGING. C98970
98415 IF HIST-LINE-CNT IS EQUAL TO HIST-PAGE-FLAG C98970
98416 THEN PERFORM HIST-PRINT-TITLE. C98970
98417 HIST-NO-PAGING. C98970
98420 IF HIST-LINE IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO C98970
98430 HIST-PREPARE. C98970
98440 WRITE HIST-REC FROM HIST-DOT-LINE. C98970
98450 MOVE HIST-SCALE-VALUE TO HIST-SCALE-RPT. C98970
98460 WRITE HIST-RFC FROM HIST-SCALE-LINE. C98970
98470 IF HIST-OUT-RANGE-VALUE IS EQUAL TO ZERO GO TO HIST-WRITE-B. C98970
98480 MOVE HIST-OUT-RANGE-VALUE TO HIST-OUT-RANGE-RPT. C98970
98490 WRITE HIST-RFC FROM HIST-OUT-RANGE-REC. C98970
98500 HIST-WRITE-B. C98970
98510 WRITE HIST-RFC FROM HIST-DOT-LINE. C98970
98520 GO TO END-HIST. C98970
99000 HIST-ERROR-1. C98970
99010 WRITE HIST-RFC FROM HIST-TITLE. C98970
99020 MOVE HIST-ERR-1 TO HIST-TITLE-1. C98970
99030 MOVE HIST-NO-OF-OBS TO HIST-ERR-2. C98970
99040 WRITE HIST-RFC FROM HIST-TITLE. C98970
99050 MOVE :I: TO HIST-FLAG. C98970
99060 GO TO END-HIST. C98970
99100 HIST-ERROR-2. C98970
99110 MOVE HIST-ERR-4 TO HIST-TITLE-1. C98970
99120 MOVE HIST-ERR-5 TO HIST-TITLE-2. C98970
99130 WRITE HIST-RFC FROM HIST-TITLE. C98970
99140 MOVE :I: TO HIST-FLAG. C98970
99150 GO TO END-HIST. C98970
99200 HIST-ERR-3. C98970
99210 MOVE :I: TO HIST-FLAG. C98970
99990 END-HIST. EXIT. C98970
/* PLACE COBOL SOURCE BEFORE
//CHG,TFGIN DU *,SPACE>[CYL,[1,1]] 1440 CDS
TFG DT03 I1 0202080
5 0
*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU12 DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 T12
//TPR,TU25 DD DISP>[OLD,KEEP],VOL>SER>+F8,UNIT>T+F8 T25
//TPR,TPRIN DU *,SPACE>[TRK,[1,1]]
T/P TU25 1998130R000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

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#### 6.9.4 SORT FOR REPAIR ACTION INTERVALS

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//T9897J JOB 01: G WANG : ,PRTY>02, TYPRUN>HOLD
//C9897F EXEC P9622M, W.060, TIME>05, ACCT>035323007
//CHG.SORTIN DD DISP>[KEEP], UNIT>[A+F5,2,DEFER], JCS
// CSN>+E.9897429, CT22/23 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 3
// DCB>[LRECL>0020, BLKSIZE>1800], LABEL>[ ,NSL, RETPD>099]
//CHG.SORTOUT DD DISP>[KEEP], UNIT>[A+F1,2,DEFER], DSN>+A.9897430, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0020, BLKSIZE>1800]
//CHG.SYSIN DD *,DCB>BLKSIZE>0080, SPACE>[TRK,[1,1]]
SORT FIELDS>[017,001,[4,A,019,001,CH,A,001,005,CH,A,006,003,CH,A], C
SIZE>E0300000
MODS E15>[E15,008,SORTLIB,N],E18>[E18,024,SORTLIB,N]
/*

```

## 6.9.5 CUMULATIVE DISTRIBUTION FOR REPAIR ACTION INTERVALS

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//C9897C EXEC P9855L,TIME>10,ACCT>D35323007
//CHG.TU12 DD DIS>[E,PASS],UNIT>[A+F1.2,DEFER],DSN>+A.9897430; CT12/13 1
// VOL>SER>+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1; CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU25 DD DIS>[E,PASS],UNIT>[T+F8.1,DEFER],DSN>+H.9897431; CT25 1
// VOL>SER>+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8; CT25 2
// I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8] T25 3
//CHG.INPUT DD *,SPACE>[CYL,(1,1)] 1440 CDS
00000 COMBINE COMPILE G. WANG. C98970
01040 DATE-WRITTEN: 7 APR 72. C98970
01050 REMARKS. C98970
01060 MAINTENANCE STUDY PROGRAM 3C. C98970
01070 REPAIR ACTION INTERVALS. C98970
01080 PREPARES CUMULATIVE DISTRIBUTION OF REPAIR ACTION C98970
01090 INTERVALS. C98970
01100 INPUT SORT SEQUENCE C98970
01110 AIRCRAFT SUB-SET, DATA-TYPE, WUC, HMC, C98970
02000 ENVIRONMENT DIVISION, C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER, IBM-360. C98970
02030 OBJECT-COMPUTER, IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT HIST-FILE ASSIGN TO UT-S-TU25 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
09000 SELECT CUT-OFF-FILE ASSIGN TO DA-S-DT03 C98970
09010 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11100 FD IN-FILE C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 90 RECORDS C98970
11140 RECORD CONTAINS 20 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE IN-REC. C98970
11170 01 IN-REC SYNC. C98970
11180 02 WUC PICTURE X(5). C98970
11181 02 HMC PICTURE X(3). C98970
11182 02 FILLER PICTURE X. C98970
11183 02 OBS PICTURE S9(6). C98970
11184 02 OBS-1 REDEFINES OBS PICTURE S99999V9. C98970
11185 02 FILLER PICTURE X. C98970
11186 02 ISCHRONAL-NEW PICTURE X. C98970
11187 02 FILLER PICTURE X. C98970
11188 02 DATA-TYPE-NEW PICTURE X. C98970
11189 02 FILLER PICTURE X. C98970
12100 FD HIST-FILE C98970
12120 RECORDING MODE IS F C98970
12130 BLOCK CONTAINS 15 RECORDS C98970
12140 RECORD CONTAINS 130 CHARACTERS C98970
12150 LABEL RECORDS ARE OMITTED C98970
12160 DATA RECORDS ARE HIST-REC. C98970
12170 01 HIST-REC SYNC. C98970
12180 02 FILLER PICTURE X(130). C98970
29000 FU CUT-OFF-FILE C98970
29010 RECORDING MODE IS F C98970
29020 BLOCK CONTAINS 20 RECORDS C98970
29030 RECORD CONTAINS 80 CHARACTERS C98970
29040 LABEL RECORDS ARE STANDARD C98970
29050 DATA RECORDS ARE CUT-OFF-REC. C98970
29060 01 CUT-OFF-REC SYNC. C98970
29070 05 NI-CUT-OFF PICTURE 9(5). C98970
29080 05 ISO-CUT-OFF PICTURE 9(5). C98970
29090 05 FILLER PICTURE X(70). C98970
30000 WORKING-STORAGE SECTION. C98970
30010 77 KNT SYNC PICTURE S9(5). C98970
30020 01 FILLER SYNC. C98970
30030 02 FREQ-HIST-VALUE OCCURS 1000 TIMES PICTURE S9(5) C98970
30040 COMPUTATIONAL. C98970
30050 01 A PICTURE S9(5) COMPUTATIONAL. C98970
30060 01 NO-OF-HISTS SYNC PICTURE 9999 VALUE ZERO. C98970
30070 01 TWO SYNC PICTURE X VALUE !2!. C98970
30080 01 ONE SYNC PICTURE X VALUE !1!. C98970
30090 01 CNT SYNC PICTURE S9(5) COMPUTATIONAL. C98970
30100 01 CUR-WUC-T SYNC. C98970
30110 02 FILLER PICTURE X(5) VALUE ! WUC>!. C98970
30120 02 CUR-WUC PICTURE X(5). C98970
30130 01 CUR-HMC-T SYNC. C98970
30140 02 FILLER PICTURE X(5) VALUE ! HMC>!. C98970
30150 02 CUR-HMC PICTURE X(3). C98970
30160 02 FILLER PICTURE XX VALUE SPACE. C98970
30170 01 ISCHRONAL SYNC PICTURE X. C98970

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|       |    |                                     |                                 |        |
|-------|----|-------------------------------------|---------------------------------|--------|
| 30180 | 01 | DATA-TYPE SYNC                      | PICTURE X.                      | C98970 |
| 30190 | 01 | MINUS-ONE COMPUTATIONAL             | PICTURE S999 VALUE -1 SYNC.     | C98970 |
| 32000 | 01 | REPOPT-IO SYNC.                     |                                 | C98970 |
| 32010 | 02 | FILLER                              | PICTURE X(50) VALUE             | C98970 |
| 32020 |    | :\$989/A60 TF7919-02 142-A 1 1/2    |                                 | C98970 |
| 32030 | 02 | FILLER                              | PICTURE X(50) VALUE SPACE.      | C98970 |
| 32040 | 02 | FILLER                              | PICTURE X(30) VALUE             | C98970 |
| 32050 |    | :                                   | #:.                             | C98970 |
| 46000 | 01 | MEAN COMPUTATIONAL SYNC.            | PICTURE S9(7)V99.               | C98970 |
| 46010 | 01 | VARIANCE COMPUTATIONAL SYNC         | PICTURE S9(7)V99.               | C98970 |
| 46020 | 01 | TEMP-COMP                           | PICTURE S9(7)V99.               | C98970 |
| 46100 | 01 | MEAN-VARIANCE-LINE SYNC.            |                                 | C98970 |
| 46110 | 02 | FILLER                              | PICTURE X(50) VALUE             | C98970 |
| 46120 |    | :S                                  |                                 | C98970 |
| 46130 | 02 | FILLER                              | PICTURE X(19) VALUE             | C98970 |
| 46140 |    | :                                   | MEAN >:.                        | C98970 |
| 46150 | 02 | MEAN-RPT                            | PICTURE ZZZ9.9.                 | C98970 |
| 46160 | 02 | FILLER                              | PICTURE X(30) VALUE             | C98970 |
| 46170 |    | :                                   | VARIANCE >:.                    | C98970 |
| 46180 | 02 | VARIANCE-RPT                        | PICTURE ZZZZZ9.9.               | C98970 |
| 46190 | 02 | FILLER                              | PICTURE X(16) VALUE             | C98970 |
| 46200 |    | :                                   | #:.                             | C98970 |
| 47000 | 01 | HIST-VALUE-MAX SYNC                 | PICTURE S9999V99 VALUE -9999.9. | C98970 |
| 47010 | 01 | HIST-VALUE-MIN SYNC                 | PICTURE S9999V99 VALUE <9999.9. | C98970 |
| 47020 | 01 | HIST-NO-OF-OPS SYNC                 | PICTURE S9(5) VALUE ZERO.       | C98970 |
| 47030 | 01 | HIST-NO-OF-INTERVALS SYNC           | PICTURE 999V99 VALUE 50.        | C98970 |
| 47040 | 01 | HIST-INPUT-VM:X-VMIN SYNC           | PICTURE 9 VALUE ZERO.           | C98970 |
| 47050 | 01 | HIST-DIST SYNC                      | PICTURE X VALUE :1:.            | C98970 |
| 47060 | 01 | HIST-INDEX SYNC COMPUTATIONAL       | PICTURE S999 VALUE ZERO.        | C98970 |
| 47070 |    |                                     |                                 | C98970 |
| 47080 | 01 | HIST-INDEX=2 SYNC COMPUTATIONAL     | PICTURE S999 VALUE ZERO.        | C98970 |
| 47090 |    |                                     |                                 | C98970 |
| 47100 | 01 | HIST-TEMP SYNC                      | PICTURE S99999V99 VALUE ZERO.   | C98970 |
| 47110 | 01 | HIST-INTERVAL-SIZE SYNC             | PICTURE S999V99 VALUE ZERO      | C98970 |
| 47120 |    | COMPUTATIONAL.                      |                                 | C98970 |
| 47150 | 01 | HIST-FLAG SYNC                      | PICTURE X VALUE :0:.            | C98970 |
| 47160 | 01 | HIST-SCALE-VALUE SYNC COMPUTATIONAL | PICTURE S999 VALUE <1.          | C98970 |
| 47170 |    |                                     |                                 | C98970 |
| 47180 | 01 | HIST-PERCENT SYNC                   | PICTURE S999V99 COMPUTATIONAL.  | C98970 |
| 47190 | 01 | HIST-LUM SYNC                       | PICTURE S999V99 COMPUTATIONAL.  | C98970 |
| 47200 | 01 | HIST-LINE SYNC COMPUTATIONAL        |                                 | C98970 |
| 47210 |    |                                     | PICTURE S999 VALUE ZERO.        | C98970 |
| 47220 | 01 | HIST-PAGE-FLAG SYNC                 | PICTURE S999 VALUE <75.         | C98970 |
| 47230 | 01 | HIST-LINE-CNT SYNC                  | PICTURE S999.                   | C98970 |
| 47300 | 01 | HIST-ERR-1 SYNC                     | PICTURE X(10) VALUE             | C98970 |
| 47310 |    | :ERROR NO 0:.                       |                                 | C98970 |
| 47320 | 01 | HIST-ERR-3 SYNC.                    |                                 | C98970 |
| 47330 | 02 | FILLER                              | PICTURE X(5) VALUE :BS >:.      | C98970 |
| 47340 | 02 | HIST-ERR-2                          | PICTURE S9(5) VALUE ZERO.       | C98970 |
| 47350 | 01 | HIST-ERR-4 SYNC                     | PICTURE X(10) VALUE             | C98970 |
| 47360 |    | :ERROR MAX:.                        |                                 | C98970 |
| 47370 | 01 | HIST-ERR-5 SYNC                     | PICTURE X(10) VALUE             | C98970 |
| 47380 |    | :MIN BAD. :.                        |                                 | C98970 |
| 47390 | 01 | HIST-OUT-RANGE-VALUE SYNC           | PICTURE S999 COMPUTATIONAL.     | C98970 |
| 47400 | 01 | FILLER SYNC.                        |                                 | C98970 |
| 47510 | 02 | FILLER OCCURS 200 TIMES.            |                                 | C98970 |
| 47530 | 03 | HIST-TABLE                          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 47540 | 03 | HIST UPPER-LIMIT                    | PICTURE S9999V99 COMPUTATIONAL. | C98970 |
| 47550 | 03 | HIST-TABLE-SCALED                   | PICTURE S999V99 COMPUTATIONAL.  | C98970 |
| 47560 | 01 | HIST-NUM-PAGE SYNC.                 |                                 | C98970 |
| 47570 | 02 | FILLER                              | PICTURE X VALUE :1:.            | C98970 |
| 47580 | 02 | FILLER                              | PICTURE X(122) VALUE SPACE.     | C98970 |
| 47582 | 02 | FILLER                              | PICTURE X(5) VALUE :PAGE :.     | C98970 |
| 47584 | 02 | HIST-PAGE-NO                        | PICTURE 9.                      | C98970 |
| 47590 | 02 | FILLER                              | PICTURE X VALUE :1:.            | C98970 |
| 47600 | 01 | HIST-TITLE SYNC.                    |                                 | C98970 |
| 47610 | 02 | FILLER                              | PICTURE X(3) VALUE :S :.        | C98970 |
| 47620 | 02 | HIST-TITLE-1.                       |                                 | C98970 |
| 47621 | 03 | FILLER                              | PICTURE X(10) VALUE SPACE.      | C98970 |
| 47630 | 02 | HIST-TITLE-2.                       |                                 | C98970 |
| 47631 | 03 | FILLER                              | PICTURE X(10) VALUE SPACE.      | C98970 |
| 47640 | 02 | HIST-TITLE-3                        | PICTURE X(10) VALUE SPACE.      | C98970 |
| 47650 | 02 | HIST-TITLE-4                        | PICTURE X(10) VALUE SPACE.      | C98970 |
| 47660 | 02 | FILLER                              | PICTURE X(24) VALUE             | C98970 |
| 47670 |    | : NO OF OBSERVATIONS >:.            |                                 | C98970 |
| 47680 | 02 | HIST-NO-F-OBS-RPT                   | PICTURE ZZZ29.                  | C98970 |
| 47690 | 02 | FILLER                              | PICTURE X(13) VALUE             | C98970 |
| 47700 |    | : VALUE MAX >:.                     |                                 | C98970 |
| 47710 | 02 | HIST-VALUE-MAX-RPT                  | PICTURE ----.9.                 | C98970 |
| 47720 | 02 | FILLER                              | PICTURE X(13) VALUE             | C98970 |
| 47730 |    | : VALUE MIN >:.                     |                                 | C98970 |
| 47740 | 02 | HIST-VALUE-MIN-RPT                  | PICTURE ----.9.                 | C98970 |
| 47750 | 02 | FILLER                              | PICTURE X(18) VALUE             | C98970 |
| 47760 |    | :                                   | #:.                             | C98970 |
| 47900 | 01 | HIST-UOT-LINE SYNC.                 |                                 | C98970 |
| 47910 | 02 | FILLER                              | PICTURE X(50) VALUE             | C98970 |
| 47920 |    | :/-----:.                           |                                 | C98970 |

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47922 02 FILLER PICTURE X(80) VALUE C98970
47930 :----- C98970
47940 :-----: C98970
47950 01 HIST-LABEL SYNC. C98970
47960 02 FILLER PICTURE X(50) VALUE C98970
47970 :// MIDPNT PCNT CUM FREQ 1...5...10...15...20... C98970
47974 02 FILLER PICTURE X(80) VALUE C98970
47980 :25...30...35...40...45...50...55...60...65...70...75...80... C98970
47990 :85...90...95...100... C98970
48000 01 HIST-LINE-OUT SYNC. C98970
48010 02 FILLER PICTURE X VALUE !/! C98970
48020 02 HIST-LINE-RPT PICTURE ZZ9. C98970
48030 02 FILLER PICTURE X VALUE SPACE. C98970
48040 02 HIST-MID-POINT-RPT PICTURE ---,9. C98970
48060 02 HIST-PERCENT-RPT PICTURE ZZ9.9. C98970
48070 02 FILLER PICTURE X VALUE SPACE. C98970
48080 02 HIST-CUM-RPT PICTURE ZZ9.9. C98970
48100 02 HIST-FREQ-RPT PICTURE ZZZZ9. C98970
48110 02 FILLER PICTURE X VALUE SPACE. C98970
48120 02 HIST-POINT OCCURS 100 TIMES C98970
48130 PICTURE X. C98970
48140 02 FILLER PICTURE X VALUE !:!. C98970
48150 01 HIST-OUT-RANGE-REC SYNC. C98970
48160 02 FILLER PICTURE X(35) VALUE C98970
48170 :// NUMBER OF OUT OF RANGE VALUES >!. C98970
48180 02 HIST-OUT-RANGE-RPT PICTURE ZZ9. C98970
48190 02 FILLER PICTURE X(91) VALUE SPACE. C98970
48191 02 FILLER PICTURE X VALUE !:!. C98970
48200 01 HIST-SCALE-LINE SYNC. C98970
48210 02 FILLER PICTURE X(27) VALUE C98970
48220 :// SCALING FACTOR > !. C98970
48230 02 HIST-SCALE-RPT PICTURE ZZ9. C98970
48240 02 FILLER PICTURE X(99) VALUE SPACE. C98970
48250 02 FILLER PICTURE X VALUE !:!. C98970
48300 01 FILLER SYNC. C98970
48310 02 HIST-VALUE OCCURS 1000 TIMES C98970
48320 PICTURE S9999V9 COMPUTATIONAL. C98970
50000 PROCEDURE DIVISION. C98970
50001 OPEN INPUT CUT-OFF-FILE. C98970
50002 HEAD CUT-OFF-FILE AT END GO TO CLOSE-FILES. C98970
50003 CLOSE CUT-OFF-FILE WITH LOCK. C98970
50010 OPEN INPUT IN-FILE. C98970
50020 OPEN OUTPUT HIST-FILE. C98970
50030 MOVE 1000 TO CNT. C98970
50040 PERFORM RESET-TABLE THRU END-RST-TABLE. C98970
50050 READ IN-FILE. AT END GO TO CLOSE-FILES. C98970
50060 WRITE HIST-REC FROM REPORT-ID. C98970
50100 PARA-1. C98970
50110 MOVE 1 TO HIST-NO-OF-OBS. C98970
50120 MOVE WUC TO CUR-WUC. C98970
50130 MOVE HMC TO CUR-HMC. C98970
50140 MOVE DATA-TYPE-NEW TO DATA-TYPE. C98970
50150 MOVE ISCHRONAL-NEW TO ISCHRONAL. C98970
50160 IF DATA-TYPE IS EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO C98970
50170 FLT-DATA. C98970
50200 READ1. C98970
50210 READ IN-FILE. AT END GO TO CLOSE-FILES. C98970
50220 IF DATA-TYPE-NEW IS EQUAL TO 19: GO TO CLOSE-FILES. C98970
50230 IF WUC IS NOT EQUAL TO CUR-WUC GO TO PARA-2. C98970
50240 IF HMC IS NOT EQUAL TO CUR-HMC GO TO PARA-2. C98970
50250 ADD 1 TO HIST-NO-OF-OBS. C98970
50260 IF DATA-TYPE IS EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO C98970
50270 FLT-DATA. C98970
50300 PARA-2. C98970
50310 PERFORM SET-HISTOG THRU END-SH. C98970
50320 PERFORM RESET-TABLE THRU END-RST-TABLE. C98970
50330 GO TO PARA-1. C98970
50400 RESET-TABLE. C98970
50410 MOVE ZERO TO CNT. C98970
50420 RST. C98970
50430 ADD 1 TO CNT. C98970
50440 MOVE MINUS-ONE TO HIST-VALUE [CNT]. C98970
50445 MOVE ZERO TO HIST-HIST-VALUE [CNT]. C98970
50450 IF CNT IS LESS THAN KNT GO TO RST. C98970
50455 MOVE ZERO TO KNT. C98970
50460 END-RST-TABLE. EXIT. C98970
50510 SET-HISTOG. C98970
50512 IF ISCHRONAL IS EQUAL TO ONE AND HIST-NO-OF-OBS IS NOT C98970
50514 GREATER THAN ISO-CUT-OFF GO TO END-SH. C98970
50516 IF ISCHRONAL IS EQUAL TO TWO AND HIST-NO-OF-OBS IS NOT C98970
50518 GREATER THAN NI-CUT-OFF GO TO END-SH. C98970
50520 IF ISCHRONAL IS EQUAL TO ONE MOVE : ISO : TO C98970
50530 HIST-TITLE-4, ELSE MOVE : NON-ISO : TO HIST-TITLE-4. C98970
50540 IF DATA-TYPE IS EQUAL TO ONE MOVE : WEEKS : TO C98970
50550 HIST-TITLE-3, ELSE MOVE : FLT-HOURS: TO HIST-TITLE-3. C98970
50560 MOVE CUR-WUC-T TO HIST-TITLE-1. C98970
50570 MOVE CUR-HMC-; TO HIST-TITLE-2. C98970

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|       |  |        |
|-------|--|--------|
| 50590 | PERFORM WRITE HISTOGRAM THRU END-HIST.   | C98970 |
| 50600 | IF HIST-FLAG IS EQUAL TO 111 THEN GO TO CF1.   | C98970 |
| 50610 | ADD 1 TO NO-OF-HISTS.  | C98970 |
| 50620 | END-SH. EXIF.  | C98970 |
| 51000 | WEEKS-DATA.  | C98970 |
| 51010 | MOVL ZERO TO CNT.  | C98970 |
| 51020 | WEEK-A.  | C98970 |
| 51030 | ADD 1 TO CNT.  | C98970 |
| 51040 | IF OBS IS EQUAL TO HIST-VALUE [CNT] GO TO WEEK-C.                                      | C98970 |
| 51050 | IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO WEEK-B.                                | C98970 |
| 51060 | IF CNT IS LESS THAN 1000 GO TO WEEK-A.   | C98970 |
| 51070 | DISPLAY : MORE THAN 1000 FREQUENCY OCCURENCES : UPON CONSOLE.                          | C98970 |
| 51080 | GO TO CF1.   | C98970 |
| 51090 | WEEK-B.  | C98970 |
| 51100 | MOVE OBS TO HIST-VALUE [CNT].  | C98970 |
| 51110 | IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT.                                       | C98970 |
| 51120 | WEEK-C.  | C98970 |
| 51130 | ADD 1 TO FREQ-HIST-VALUE [CNT].  | C98970 |
| 51140 | GO TO READ1.   | C98970 |
| 52000 | FLT-DATA.  | C98970 |
| 52010 | MOVE ZERO TO CNT.  | C98970 |
| 52020 | FLT-A.   | C98970 |
| 52030 | ADD 1 TO CNT.  | C98970 |
| 52040 | IF OBS-1 IS EQUAL TO HIST-VALUE [CNT] GO TO FLT-C.                                     | C98970 |
| 52050 | IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO FLT-B.                                 | C98970 |
| 52060 | IF CNT IS LESS THAN 1000 GO TO FLT-A.  | C98970 |
| 52070 | DISPLAY : MORE THAN 1000 FREQUENCY OCCURENCES : UPON CONSOLE.                          | C98970 |
| 52080 | GO TO CF1.   | C98970 |
| 52090 | FLT-B.   | C98970 |
| 52100 | MOVE OBS-1 TO HIST-VALUE [CNT].  | C98970 |
| 52110 | IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT.                                       | C98970 |
| 52120 | FLT-C.   | C98970 |
| 52130 | ADD 1 TO FREQ-HIST-VALUE [CNT].  | C98970 |
| 52140 | GO TO READ1.   | C98970 |
| 52200 | CLOSE-FILES.   | C98970 |
| 52205 | PERFORM SET-HISTOG THRU END-SH.  | C98970 |
| 52207 | CF1.   | C98970 |
| 52210 | CLOSE IN-FILE HIST-FILE.   | C98970 |
| 52211 | IF HIST-FLAG IS EQUAL TO 11: DISPLAY : HIST ERROR : UPON                               | C98970 |
| 52212 | CONSOLE.   | C98970 |
| 52215 | DISPLAY : NO OF HISTOGRAMS > : NO-OF-HISTS UPON CONSOLE.                               | C98970 |
| 52220 | DISPLAY : E0J C9897P : UPON CONSOLE.   | C98970 |
| 52230 | GORACK.  | C98970 |
| 95000 | COMPUTE-MEAN-VARIANCE.   | C98970 |
| 95010 | MOVE ZERO TO CNT.  | C98970 |
| 95020 | MOVE ZERO TO MEAN.   | C98970 |
| 95030 | CMV-1.   | C98970 |
| 95040 | ADD 1 TO CNT.  | C98970 |
| 95050 | COMPUTE TEMP-COMP > HIST-VALUE [CNT] * FREQ-HIST-VALUE [CNT].                          | C98970 |
| 95060 | ADD TEMP-COMP TO MEAN.   | C98970 |
| 95070 | IF CNT IS LESS THAN KNT GO TO CMV-1.   | C98970 |
| 95080 | DIVIDE HIST-NO-OF-OBS INTO MEAN.   | C98970 |
| 95090 | MOVE ZERO TO NT.   | C98970 |
| 95100 | MOVE ZERO TO VARIANCE.   | C98970 |
| 95105 | IF HIST-NO-OF-OBS IS LESS THAN 2 GO TO END-CMV.  | C98970 |
| 95110 | CMV-2.   | C98970 |
| 95120 | ADD 1 TO CNT.  | C98970 |
| 95130 | COMPUTE TEMP-COMP > [(HIST-VALUE [CNT] - MEAN) ** 2] *<br>FREQ-HIST-VALUE [CNT].       | C98970 |
| 95140 | ADD TEMP-COMP TO VARIANCE.   | C98970 |
| 95160 | IF CNT IS LESS THAN KNT GO TO CMV-2.   | C98970 |
| 95170 | COMPUTE VARIANCE > VARIANCE / [HIST-NO-OF-OBS - 1].                                    | C98970 |
| 95180 | MOVE MEAN TO MEAN-RPT.   | C98970 |
| 95190 | MOVE VARIANCE TO VARIANCE-RPT.   | C98970 |
| 95200 | WRITE HIST-REP FROM MEAN-VARIANCE-LINE.  | C98970 |
| 95290 | END-CMV. EXIT.   | C98970 |
| 97000 | WRITE-HISTOGRAM.   | C98970 |
| 97080 | MOVE 10: TO HIST-FLAG.   | C98970 |
| 97090 | MOVE ZERO TO HIST-OUT-RANGE-VALUE.   | C98970 |
| 97100 | MOVE ZERO TO HIST-PAGE-NO.   | C98970 |
| 97140 | MOVE <999.9 TO HIST-VALUE-MAX.   | C98970 |
| 97150 | MOVE <999.9 TO HIST-VALUE-MIN.   | C98970 |
| 97200 | MOVE ZERO TO HIST-INDEX.   | C98970 |
| 97210 | HIST-FIND-VMAX-VMIN.   | C98970 |
| 97220 | ADD 1 TO HIST-INDEX.   | C98970 |
| 97230 | MOVE HIST-VALUE [HIST-INDEX] TO HIST-TEMP.   | C98970 |
| 97240 | IF HIST-TEMP IS GREATER THAN HIST-VALUE-MAX THEN MOVE<br>HIST-TEMP TO HIST-VALUE-MAX.  | C98970 |
| 97260 | IF HIST-TEMP IS LESS THAN HIST-VALUE-MIN THEN MOVE<br>HIST-TEMP TO HIST-VALUE-MIN.     | C98970 |
| 97270 | IF HIST-INDEX IS LESS THAN KNT THEN GO TO<br>HIST-FIND-VMAX-VMIN.                      | C98970 |
| 97292 | IF DATA-TYPE IS EQUAL TO ONE COMPUTE HIST-NO-OF-INTERVALS ><br>HIST-VALUE-MAX < 4.     | C98970 |
| 97294 | IF DATA-TYPE IS EQUAL TO TWO COMPUTE HIST-NO-OF-INTERVALS ><br>HIST-VALUE-MAX / 8 < 4. | C98970 |
| 97298 | HIST-PRINT-TITLE.  | C98970 |
| 97300 |  | C98970 |

|       |  |        |
|-------|--|--------|
| 97301 | IF HIST-NO-OF-INTERVALS IS LESS THAN 50 MOVE 50 TO           | C98970 |
| 97302 | HIST-NO-OF-INTERVALS.  | C98970 |
| 97304 | ADD 1 TO HIST-PAGE-NO.                                       | C98970 |
| 97306 | MOVL 5 TO HIST-LINE-CNT.                                     | C98970 |
| 97310 | WRITE HIST-REC FROM HIST-NEW-PAGE.                           | C98970 |
| 97320 | MOVE HIST-NO-OF-OBS TO HIST-NO-OF-OBS-RPT.                   | C98970 |
| 97330 | MOVE HIST-VALUE-MAX TO HIST-VALUE-MAX-RPT.                   | C98970 |
| 97340 | MOVE HIST-VALUE-MIN TO HIST-VALUE-MIN-RPT.                   | C98970 |
| 97350 | WRITE HIST-REC FROM HIST-TITLE.                              | C98970 |
| 97355 | PERFORM COMPUTE-MEAN-VARIANCE THRU END-CMV.                  | C98970 |
| 97360 | WRITE HIST-REC FROM HIST-DOT-LINE.                           | C98970 |
| 97370 | WRITE HIST-REC FROM HIST-LABEL.                              | C98970 |
| 97380 | WRITE HIST-REC FROM HIST-DOT-LINE.                           | C98970 |
| 97390 | HIST-DUMMY.  | C98970 |
| 97410 | IF HIST-VALUE-MAX IS LESS THAN HIST-VALUE-MIN THEN GO TO     | C98970 |
| 97420 | HIST-ERROR-2.  | C98970 |
| 97430 | IF HIST-NO-OF-INTERVALS IS GREATER THAN 200 THEN MOVE 200    | C98970 |
| 97440 | TO HIST-NO-OF-INTERVALS.                                     | C98970 |
| 97441 | MOVE ZERO TO HIST-INDEX.                                     | C98970 |
| 97442 | HIST-RST.  | C98970 |
| 97443 | ADD 1 TO HIST-INDEX.   | C98970 |
| 97444 | MOVL ZERO TO HIST-TABLE [HIST-INDEX].                        | C98970 |
| 97445 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS              | C98970 |
| 97446 | THEN GO TO HIST-RST.   | C98970 |
| 97450 | IF DATA-TYPE IS EQUAL TO ONE MOVE 1.0 TO HIST-INTERVAL-SIZE, | C98970 |
| 97460 | ELSE MOVE 8.0 TO HIST-INTERVAL-SIZE.                         | C98970 |
| 97500 | NOTE COMPUTE UPPER LIMIT FOR EACH INTERVAL.                  | C98970 |
| 97510 | MOVE ZERO TO HIST-INDEX.                                     | C98970 |
| 97520 | MOVE ZERO TO HIST-TEMP.                                      | C98970 |
| 97530 | HIST-INC-INTERVAL.   | C98970 |
| 97540 | ADD 1 TO HIST-INDEX.   | C98970 |
| 97550 | ADD HIST-INTERVAL-SIZE TO HIST-TEMP.                         | C98970 |
| 97560 | MOVL HIST-TEMP TO HIST-UPPER-LIMIT [HIST-INDEX].             | C98970 |
| 97570 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN         | C98970 |
| 97580 | GO TO HIST-INC-INTERVAL.                                     | C98970 |
| 97600 | NOTE PLACE OCCURANCE INTO APPROPRIATE CHANNEL.               | C98970 |
| 97610 | MOVL ZERO TO HIST-INDEX-2.                                   | C98970 |
| 97620 | HIST-OCCURANCE.  | C98970 |
| 97630 | ADD 1 TO HIST-INDEX-2.                                       | C98970 |
| 97640 | MOVL HIST-VALUE [HIST-INDEX-2] TO HIST-TEMP.                 | C98970 |
| 97650 | MOVE ZERO TO HIST-INDEX.                                     | C98970 |
| 97660 | HIST-INTERVAL.   | C98970 |
| 97670 | ADD 1 TO HIST-INDEX.   | C98970 |
| 97675 | MOVE HIST-VALUE [HIST-INDEX-2] TO A.                         | C98970 |
| 97680 | IF HIST-TEMP IS NOT GREATER THAN HIST-UPPER-LIMIT            | C98970 |
| 97690 | [HIST-INDEX] THEN GO TO HIST-ADD-TABLE.                      | C98970 |
| 97700 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO   | C98970 |
| 97710 | HIST-INTERVAL.   | C98970 |
| 97720 | ADD A TO HIST-OUT-RANGE-VALUE.                               | C98970 |
| 97730 | GO TO HIST-NO-ADD.   | C98970 |
| 97740 | HIST-ADD-TABLE.  | C98970 |
| 97750 | ADD A TO HIST-TABLE [HIST-INDEX].                            | C98970 |
| 97751 | HIST-NO-ADD.   | C98970 |
| 97760 | IF HIST-INDEX-2 IS LESS KNT GO TO HIST-OCCURANCE.            | C98970 |
| 97800 | NOTE COMPUTE SCALE VALUE.                                    | C98970 |
| 97810 | MOVE HIST-TABLE [1] TO HIST-TEMP.                            | C98970 |
| 97820 | MOVE 1 TO HIST-INDEX.  | C98970 |
| 97830 | HIST-SCALE.  | C98970 |
| 97840 | ADD 1 TO HIST-INDEX.   | C98970 |
| 97850 | IF HIST-TABLE [HIST-INDEX] IS GREATER THAN HIST-TEMP THEN    | C98970 |
| 97860 | MOVE HIST-TABLE [HIST-INDEX] TO HIST-TEMP.                   | C98970 |
| 97870 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO   | C98970 |
| 97880 | HIST-SCALE.  | C98970 |
| 97890 | COMPUTE HIST-SCALE-VALUE > [HIST-TEMP < 99] / 100.           | C98970 |
| 97895 | IF HIST-SCALE-VALUE IS LESS THAN 1 MOVE 1 TO                 | C98970 |
| 97896 | HIST-SCALE-VALUE.  | C98970 |
| 97900 | MOVE ZERO TO HIST-INDEX.                                     | C98970 |
| 97910 | HIST-SCALED-VALUE.   | C98970 |
| 97920 | ADD 1 TO HIST-INDEX.   | C98970 |
| 97930 | COMPUTE HIST-TABLE-SCALED [HIST-INDEX] >                     | C98970 |
| 97940 | HIST-TABLE [HIST-INDEX] / HIST-SCALE-VALUE.                  | C98970 |
| 97950 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO   | C98970 |
| 97960 | HIST-SCALED-VALUES.  | C98970 |
| 98000 | NOTE PREPARE OUTPUT DATA.                                    | C98970 |
| 98010 | DIVIDE 2 INTO HIST-INTERVAL-SIZE.                            | C98970 |
| 98020 | MOVE ZERO TO HIST-CUM.                                       | C98970 |
| 98030 | MOVE ZERO TO HIST-LINE.                                      | C98970 |
| 98040 | HIST-PREPARE.  | C98970 |
| 98050 | ADD 1 TO HIST-LINE.  | C98970 |
| 98060 | MOVE HIST-LINE TO HIST-LINE-RPT.                             | C98970 |
| 98070 | COMPUTE HIST-TEMP > HIST-UPPER-LIMIT [HIST-LINE]             | C98970 |
| 98080 | - HIST-INTERVAL-SIZE.  | C98970 |
| 98090 | MOVE HIST-TEMP TO HIST-MID-POINT-RPT.                        | C98970 |
| 98100 | COMPUTE HIST-PERCENT > HIST-TABLE [HIST-LINE] * 100          | C98970 |
| 98110 | / HIST-NO-OF-OBS.  | C98970 |
| 98120 | MOVE HIST-PERCENT TO HIST-PERCENT-RPT.                       | C98970 |
| 98130 | ADD HIST-PERCENT TO HIST-CUM.                                | C98970 |



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98140     MOVE HIST-CUM 10 HIST-CUM-RPT.                                C98970
98150     MOVE HIST-TABLE [HIST-LINE] TO HIST-FREQ-RPT.                C98970
98160     MOVE ZERO TO HIST-INDEX.                                       C98970
98170     IF HIST-DIST ?S NOT EQUAL TO :0: GO TO HIST-CUM-1.           C98970
98180     COMPUTE HIST-INDEX-2 > HIST-TABLE-SCALED [HIST-LINE] < 0.5.   C98970
98190     IF HIST-INDEX-2 IS EQUAL TO ZERO GO TO HIST-PREP-SPACE.       C98970
98200 HIST-PRLP-DIST.                                                    C98970
98210     ADD I TO HIST-INDEX.                                           C98970
98220     MOVE :0: TO HIST-POINT [HIST-INDEX].                          C98970
98230     IF HIST-INDEX IS LESS THAN HIST-INDEX-2 00 TO HIST-PREP-DIST. C98970
98240     IF HIST-INDEX IS EQUAL TO 100 THEN GO TO HIST-WRITE.         C98970
98250 HIST-PRLP-SPACE.                                                  C98970
98260     ADD I TO HIST-INDX.                                            C98970
98270     MOVE SPACE TO HIST-POINT [HIST-INDEX].                       C98970
98280     IF HIST-INDX IS LESS THAN 100 THEN GO TO HIST-PREP-SPACE.    C98970
98290     GO TO HIST-WRITE.                                              C98970
98300 HIST-CUM-1.                                                       C98970
98310     ADD I TO HIST-INDEX.                                           C98970
98320     MOVE SPACE TO HIST-POINT [HIST-INDEX].                       C98970
98330     IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-CUM-1.       C98970
98338     COMPUTE HIST-INDEX > HIST-CUM < 0.5.                         C98970
98333     IF HIST-INDX IS EQUAL TO ZERO GO TO HIST-WRITE.             C98970
98340     MOVE :0: TO HIST-POINT [HIST-INDEX].                          C98970
98400 HIST-WRITE.                                                       C98970
98410     WRITE HIST-REC FROM HIST-LINE-OUT.                             C98970
98412     ADD I TO HIST-LINE-CNT.                                        C98970
98414     IF HIST-PAGE-FLAG IS EQUAL TO ZERO GO TO HIST-NO-PAGING.    C98970
98415     IF HIST-LINE-CNT IS EQUAL TO HIST-PAGE-FLAG                   C98970
98416         THLN PERFORM HIST-PRINT-TITLE.                             C98970
98417 HIST-NO-PAGING.                                                  C98970
98420     IF HIST-LINE IS LESS THAN HIST-NO-OF-INTERVALS THEN 00 TO   C98970
98430         HIST-PREPARE.                                              C98970
98440     WRITE HIST-REC FROM HIST-DOT-LINE.                             C98970
98450     MOVE HIST-SCALE-VALUE TO HIST-SCALE-RPT.                     C98970
98460     WRITE HIST-REC FROM HIST-SCALE-LINE.                         C98970
98470     IF HIST-OUT-RANGE-VALUE IS EQUAL TO ZERO GO TO HIST-WRITE-B. C98970
98480     MOVE HIST-OUT-RANGE-VALUE TO HIST-OUT-RANGE-RPT.            C98970
98490     WRITE HIST-REC FROM HIST-OUT-RANGE-REC.                       C98970
98500 HIST-WRITE-B.                                                    C98970
98510     WRITE HIST-REC FROM HIST-OUT-LINE.                             C98970
98520     GO TO END-HIST.                                               C98970
99000 HIST-ERR0K-1.                                                   C98970
99010     WRITE HIST-REC FROM HIST-TITLE.                                C98970
99020     MOVE HIST-ERR-1 TO HIST-TITLE-1.                              C98970
99030     MOVE HIST-NO-OF-OBS TO HIST-ERR-2.                            C98970
99040     WRITE HIST-REC FROM HIST-TITLE.                                C98970
99050     MOVE :1: TO HIST-FLAG.                                        C98970
99060     GO TO END-HIST.                                               C98970
99100 HIST-ERR0K-2.                                                   C98970
99110     MOVE HIST-ERR-4 TO HIST-TITLE-1.                              C98970
99120     MOVE HIST-ERR-3 TO HIST-TITLE-2.                              C98970
99130     WRITE HIST-REC FROM HIST-TITLE.                                C98970
99140     MOVE :1: TO HIST-FLAG.                                        C98970
99150     GO TO END-HIST.                                               C98970
99200 HIST-EPH-3.                                                     C98970
99210     MOVE :1: TO HIST-FLAG.                                        C98970
99990 END-HIST. EXIT.                                                 C98970
/*     PLACE CONTRL SOURCE BEFORE
//CHG.TFGIN DD *SPACE>[CYL,(1,1)]
TF6 DT03 11 0202080
10 4
*END
/*     PLACF TFG DATA BEFORE THIS CARD
//TPR.TU12 OU DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 T12
//TPR.TU25 OU DISP>[OLD,KEEP],VOL>SER>+F8,UNIT>T+F8 T25
//TPR.TPH1N DD *SPACE>[TRK,(1,1)]
T/P TU12 10100202020
T/P TU25 1100130R000
/*     PLACE T/P CONTRL CARDS BEFORE THIS CARD

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|       |    |                   |                  |                     |        |
|-------|----|-------------------|------------------|---------------------|--------|
| 40600 | 01 | SN-TOTAL SYNC.    |                  |                     | C98970 |
| 40610 | 02 | CAR-CONTROL       | PICTURE X        | VALUE SPACE.        | C98970 |
| 40620 | 02 | FH-IOT            | PICTURE ZZZZZ9.  |                     | C98970 |
| 40630 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40640 | 02 | SORTIES-TJT       | PICTURE ZZZZ9.   |                     | C98970 |
| 40650 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40660 | 02 | LANJINGS-TOT      | PICTURE ZZZZ9.   |                     | C98970 |
| 40670 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40680 | 02 | TYPE-1-TCT        | PICTURE ZZZZZ9.  |                     | C98970 |
| 40690 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40700 | 02 | TYPE-3-TOT        | PICTURE ZZZZZZ9. |                     | C98970 |
| 40710 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40720 | 02 | TYPE-4-TCT        | PICTURE ZZZZZZ9. |                     | C98970 |
| 40730 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40740 | 02 | SN-TOT            | PICTURE X(8).    |                     | C98970 |
| 40750 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40760 | 02 | SG-TOT            | PICTURE ZZZZZ9.  |                     | C98970 |
| 40770 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40780 | 02 | NSG-TOT           | PICTURE ZZZZZ9.  |                     | C98970 |
| 40790 | 02 | REC-KP-TCT        | PICTURE X(15)    | VALUE SPACE.        | C98970 |
| 40800 | 01 | RCO-TOTALS SYNC.  |                  |                     | C98970 |
| 40810 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40820 | 02 | RECORUS-INPUT     | PICTURE ZZZZZZ9. |                     | C98970 |
| 40830 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40840 | 02 | OBSERVE-CUT       | PICTURE ZZZZZZ9. |                     | C98970 |
| 40845 | 02 | FILLER            | PICTURE X(5)     | VALUE SPACE.        | C98970 |
| 40865 | 02 | SG-TOT            | PICTURE ZZZZZZ9. |                     | C98970 |
| 40870 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40875 | 02 | NSG-TOT           | PICTURE ZZZZZZ9. |                     | C98970 |
| 40880 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40890 | 02 | P1-G-TOT          | PICTURE ZZZZZZ9. |                     | C98970 |
| 40900 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40910 | 02 | R2-G-TOT          | PICTURE ZZZZZZ9. |                     | C98970 |
| 40920 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 40930 | 02 | R3-G-TOT          | PICTURE ZZZZZZ9. |                     | C98970 |
| 40940 | 02 | FILLER            | PICTURE X(20)    | VALUE SPACE.        | C98970 |
| 40980 | 01 | RCO-KP-BLNK SYNC. |                  |                     | C98970 |
| 40990 | 02 | FILLER            | PICTURE X(80)    | VALUE SPACE.        | C98970 |
| 41000 | 01 | RCO-KP-CARD SYNC. |                  |                     | C98970 |
| 41010 | 02 | FILLER            | PICTURE X(80)    | VALUE SPACE.        | C98970 |
| 41400 | 01 | RCO-KP-IAPE SYNC. |                  |                     | C98970 |
| 41410 | 02 | FILLER            | PICTURE X(80)    | VALUE SPACE.        | C98970 |
| 42000 | 01 | O-REC SYNC.       |                  |                     | C98970 |
| 42010 | 02 | FILLER            | PICTURE XX       | VALUE SPACE.        | C98970 |
| 42020 | 02 | SN-0              | PICTURE X(A).    |                     | C98970 |
| 42030 | 02 | IU-0              | PICTURE X(K).    |                     | C98970 |
| 42035 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 42040 | 02 | OU-1              | PICTURE X(6).    |                     | C98970 |
| 42045 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 42050 | 02 | OU-2              | PICTURE X(6).    |                     | C98970 |
| 42055 | 02 | FILLER            | PICTURE X        | VALUE SPACE.        | C98970 |
| 42060 | 02 | OU-3              | PICTURE X(6).    |                     | C98970 |
| 42065 | 02 | FILLER            | PICTURE XX       | VALUE SPACE.        | C98970 |
| 42070 | 02 | RCO-MK-0          | PICTURE X        | VALUE :#1.          | C98970 |
| 48000 |    | LINKAGE SECTION.  |                  |                     | C98970 |
| 48010 | 77 | INTYP             | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48020 | 77 | IEOFI             | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48070 | 77 | ISN               | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48080 | 77 | IWK               | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48090 | 77 | IWUC12            | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48100 | 77 | XWUC3             | PICTURE X(4).    |                     | C98970 |
| 48110 | 77 | XWUC4             | PICTURE X(4).    |                     | C98970 |
| 48120 | 77 | XWUC5             | PICTURE X(4).    |                     | C98970 |
| 48130 | 77 | XWDL              | PICTURE X(4).    |                     | C98970 |
| 48140 | 77 | XHMC              | PICTURE X(4).    |                     | C98970 |
| 48150 | 77 | IUNITS            | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48160 | 77 | ILABOR            | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48170 | 77 | IAIE              | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48180 | 77 | INOKM             | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48190 | 77 | INOKS             | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48200 | 77 | ITYPE             | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48220 | 77 | ISFH              | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48230 | 77 | ISSUPT            | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 48240 | 77 | ISLAND            | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 49000 | 77 | INI               | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 49010 | 77 | ITI               | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 49020 | 77 | IDATA1            | PICTURE S9(8)    | COMPUTATIONAL SYNC. | C98970 |
| 49030 | 77 | IDATA2            | PICTURE S9(8)    | COMPUTATIONAL SYNC. | C98970 |
| 49040 | 77 | ABLANK            | PICTURE X(4).    |                     | C98970 |
| 49220 | 77 | IBSGC1            | PICTURE S9(6)    | COMPUTATIONAL SYNC. | C98970 |
| 49230 | 77 | ABSGC2            | PICTURE X(4).    |                     | C98970 |
| 49240 | 77 | ABSGC3            | PICTURE X(4).    |                     | C98970 |
| 49250 | 77 | ABSGC4            | PICTURE X(4).    |                     | C98970 |
| 49300 | 77 | IAI               | PICTURE X(4).    |                     | C98970 |
| 49310 | 77 | IA2               | PICTURE X(4).    |                     | C98970 |

|       |    |      |   |        |
|-------|----|------|---|--------|
| 49320 | 77 | IA3  | PICTURE X(4).   | C98970 |
| 49330 | 77 | IA4  | PICTURE X(4).   | C98970 |
| 49340 | 77 | IA5  | PICTURE X(4).   | C98970 |
| 49350 | 77 | IA6  | PICTURE X(4).   | C98970 |
| 49360 | 77 | IA7  | PICTURE X(4).   | C98970 |
| 49370 | 77 | IA8  | PICTURE X(4).   | C98970 |
| 49380 | 77 | IA9  | PICTURE X(4).   | C98970 |
| 49400 | 77 | ISNO | PICTURE S9(6) COMPUTATIONAL SYNC.                       | C98970 |
| 49410 | 77 | IDO  | PICTURE S9(6) COMPUTATIONAL SYNC.                       | C98970 |
| 49420 | 77 | IOR1 | PICTURE S9(6) COMPUTATIONAL SYNC.                       | C98970 |
| 49430 | 77 | IOR2 | PICTURE S9(6) COMPUTATIONAL SYNC.                       | C98970 |
| 49440 | 77 | IOR3 | PICTURE S9(6) COMPUTATIONAL SYNC.                       | C98970 |
| 50000 |    |      | PROCEDURE DIVISION.                                     | C98970 |
| 50010 |    |      | CARD1.  | C98970 |
| 50012 |    |      | ENTRY :CREAD1: USING IN1, IT1, IDATA1, IDATA2, ABLANK.  | C98970 |
| 50020 |    |      | IF EFLAG EQUAL :1: GO TO READ-1.                        | C98970 |
| 50030 |    |      | OPEN OUTPUT 'CD-KP-FILE OFILE1.                         | C98970 |
| 50035 |    |      | OPEN INPUT 'G-FILE MSG-FILE CARD-FILE.                  | C98970 |
| 50040 |    |      | MOVE :1: TO FFLAG.                                      | C98970 |
| 51000 |    |      | REAU-1.   | C98970 |
| 51010 |    |      | PERFORM READ A-CARD THRU CARD-EXIT.                     | C98970 |
| 51020 |    |      | IF CARD-EOF-SW EQUAL :1: GO TO READ-1-EXIT.             | C98970 |
| 51030 |    |      | ADD 1 TO CARD-CNT1.                                     | C98970 |
| 51100 |    |      | MOVE-LINK1.   | C98970 |
| 51120 |    |      | MOVE UATA2-1 TO IDATA2.                                 | C98970 |
| 51130 |    |      | MOVE ABLANK-1 TO ABLANK.                                | C98970 |
| 51140 |    |      | REAU-1-EXIT.  | C98970 |
| 51145 |    |      | MOVE UATA1-1 TO IDATA1.                                 | C98970 |
| 51190 |    |      | GOPACK.   | C98970 |
| 52000 |    |      | CARD2.  | C98970 |
| 52010 |    |      | ENTRY :CREAD2: USING IN1, IT1, ABS0C1, ABS0C2, ABS0C3,  | C98970 |
| 52020 |    |      | ABS0C4.   | C98970 |
| 52030 |    |      | PERFORM READ-A-CARD THRU CARD-EXIT.                     | C98970 |
| 52040 |    |      | IF CARD-EOF-SW EQUAL :1: GO TO READ-2-EXIT.             | C98970 |
| 52050 |    |      | ADD 1 TO CARD-CNT2.                                     | C98970 |
| 52100 |    |      | MOVE-LINK2.   | C98970 |
| 52110 |    |      | MOVE ABS0C1-2 TO ABS0C1.                                | C98970 |
| 52120 |    |      | MOVE ABS0C2-2 TO ABS0C2.                                | C98970 |
| 52130 |    |      | MOVE ABS0C3-2 TO ABS0C3.                                | C98970 |
| 52140 |    |      | MOVE ABS0C4-2 TO ABS0C4.                                | C98970 |
| 52180 |    |      | REAU-2-EXIT.  | C98970 |
| 52190 |    |      | GOPACK.   | C98970 |
| 53000 |    |      | CARD3.  | C98970 |
| 53010 |    |      | ENTRY :CREAD3: USING IN1, IT1, IA1, IA2, IA3, IA4, IA5, | C98970 |
| 53020 |    |      | IA6, IA7, IA8, IA9.                                     | C98970 |
| 53030 |    |      | PERFORM READ-A-CARD THRU CARD-EXIT.                     | C98970 |
| 53040 |    |      | IF CARD-EOF-SW EQUAL :1: GO TO READ-3-EXIT.             | C98970 |
| 53050 |    |      | ADD 1 TO CARD-CNT3.                                     | C98970 |
| 53100 |    |      | MOVE-LINK3.   | C98970 |
| 53110 |    |      | MOVE A1-3 TO IA1.                                       | C98970 |
| 53120 |    |      | MOVE A2-3 TO IA2.                                       | C98970 |
| 53130 |    |      | MOVE A3-3 TO IA3.                                       | C98970 |
| 53140 |    |      | MOVE A4-3 TO IA4.                                       | C98970 |
| 53150 |    |      | MOVE A5-3 TO IA5.                                       | C98970 |
| 53160 |    |      | MOVE A6-3 TO IA6.                                       | C98970 |
| 53170 |    |      | MOVE A7-3 TO IA7.                                       | C98970 |
| 53180 |    |      | MOVE A8-3 TO IA8.                                       | C98970 |
| 53190 |    |      | MOVE A9-3 TO IA9.                                       | C98970 |
| 53280 |    |      | READ-3-EXIT.  | C98970 |
| 53290 |    |      | GOPACK.   | C98970 |
| 55000 |    |      | TAPES-IN.   | C98970 |
| 55020 |    |      | ENTRY :COHRI: USING INTYP, IEOF1,                       | C98970 |
| 55022 |    |      | ISN, INK, IWUC12, XWUC3, XWUC4, XWUC5, XWDC, XHMC,      | C98970 |
| 55024 |    |      | IUNITS, ILABOR, IAIE, INORM, INORS, ITYPE, ISFH,        | C98970 |
| 55026 |    |      | ISSORT, ISLANU.   | C98970 |
| 55040 |    |      | IF INTYP EQUAL MSG-ID GO TO READ-MSG-1.                 | C98970 |
| 55050 |    |      | PERFORM READ-SG THRU READ-SG-EXIT.                      | C98970 |
| 55060 |    |      | IF IEOF1 EQUAL 1 GO TO TAPE-EXIT-SG.                    | C98970 |
| 55070 |    |      | ADD 1 TO SG-CNT.  | C98970 |
| 55100 |    |      | MOVE-LINK-SG.   | C98970 |
| 55110 |    |      | MOVE SN TO ISN.   | C98970 |
| 55120 |    |      | MOVE INK TO INK.  | C98970 |
| 55130 |    |      | MOVE IWUC12 TO IWUC12.                                  | C98970 |
| 55140 |    |      | MOVE WUC3 TO XWUC3.                                     | C98970 |
| 55150 |    |      | MOVE WUC4 TO XWUC4.                                     | C98970 |
| 55160 |    |      | MOVE WUC5 TO XWUC5.                                     | C98970 |
| 55170 |    |      | MOVE WUC TO XWDC.                                       | C98970 |
| 55180 |    |      | MOVE HVC TO XHMC.                                       | C98970 |
| 55190 |    |      | MOVE UNITS TO IUNITS.                                   | C98970 |
| 55200 |    |      | MOVE LABOR TO ILABOR.                                   | C98970 |
| 55210 |    |      | MOVE AIE TO IAIE.                                       | C98970 |
| 55220 |    |      | MOVE NORM TO INORM.                                     | C98970 |
| 55230 |    |      | MOVE NORS TO INORS.                                     | C98970 |
| 55240 |    |      | MOVE IYPE-N TO ITYPE.                                   | C98970 |
| 55250 |    |      | MOVE SFH TO ISFH.                                       | C98970 |
| 55260 |    |      | MOVE SSORT TO ISSORT.                                   | C98970 |
| 55270 |    |      | MOVE SLANU TO ISLANU.                                   | C98970 |

|       |  |        |
|-------|--|--------|
| 55400 | TAPE-EXIT-5G.  | C98970 |
| 55410 | GOBACK.  | C98970 |
| 55500 | READ-NSG-1.  | C98970 |
| 55510 | PERFORM READ-NSG THRU READ-NSG-EXIT.                       | C98970 |
| 55520 | IF ILOF1 EQUAL 2 GO TO TAPE-EXIT-NSG.                      | C98970 |
| 55530 | ADD 1 TO NSG-CNT.  | C98970 |
| 55600 | MOVE-LINK-NSG.   | C98970 |
| 55610 | MOVE SN TO ISN.  | C98970 |
| 55620 | MOVE WK TO IWK.  | C98970 |
| 55630 | MOVE WUC12 TO IWUC12.                                      | C98970 |
| 55640 | MOVE WUC3 TO XWUC3.  | C98970 |
| 55650 | MOVE WUC4 TO XWUC4.  | C98970 |
| 55660 | MOVE WUC5 TO XWUC5.  | C98970 |
| 55670 | MOVE WUC TO XWUC.  | C98970 |
| 55680 | MOVE HMC TO XHMC.  | C98970 |
| 55690 | MOVE UNITS TO IUNITS.                                      | C98970 |
| 55700 | MOVE LABOR TO ILABOR.                                      | C98970 |
| 55705 | IF TYPE-N EQUAL :4: GO TO BY-PASS-TYPE-4.                  | C98970 |
| 55710 | MOVE AIE TO IAIE.  | C98970 |
| 55720 | MOVE NORM TO INORM.  | C98970 |
| 55730 | MOVE NORS TO INORS.  | C98970 |
| 55735 | BY-PASS-TYPE-4.  | C98970 |
| 55740 | MOVE TYPE-N TO ITYPE.                                      | C98970 |
| 55750 | MOVE SFH TO ISFH.  | C98970 |
| 55760 | MOVE SORT TO ISSORT.                                       | C98970 |
| 55770 | MOVE SLAND TO ISLAND.                                      | C98970 |
| 55900 | TAPE-EXIT-NSG.   | C98970 |
| 55910 | GOBACK.  | C98970 |
| 57000 | TAPE-01.   | C98970 |
| 57010 | ENTRY :COBOUT: USING ISNO, IDO, IOB1, IOB2, IOB3.          | C98970 |
| 57040 | MOVE ISNC TO SN-0.   | C98970 |
| 57050 | MOVE IDO TO ID-0.  | C98970 |
| 57060 | MOVE IOB1 TO OB-1.   | C98970 |
| 57070 | MOVE IOB2 TO OB-2.   | C98970 |
| 57080 | MOVE IOB3 TO OB-3.   | C98970 |
| 57170 | WRITE OFILE1-REC FROM O-REC.                               | C98970 |
| 57180 | ADD 1 TO RECORDS-PASS.                                     | C98970 |
| 57190 | GOBACK.  | C98970 |
| 59000 | READ-A-CARD.   | C98970 |
| 59010 | READ CARD-FILE INTO CARD-DATA                              | C98970 |
| 59020 | AT END GO TO CARD-EOF.                                     | C98970 |
| 59030 | IF TEST-123 EQUAL :99: GO TO CARD-EOF.                     | C98970 |
| 59040 | NOTE DEBLG WRITE CARD IMAGEX XX XX.                        | C98970 |
| 59050 | MOVE CARD-DATA TO RCD-KP-CARD.                             | C98970 |
| 59060 | WRITE RCD-KP FROM RCD-KP-CARD.                             | C98970 |
| 59070 | ADD 1 TO RCD-KP-CNT.                                       | C98970 |
| 59090 | GO TO CARD-XIT.  | C98970 |
| 59100 | CARD-EOF.  | C98970 |
| 59110 | CLOSE CARD-FILE WITH LOCK.                                 | C98970 |
| 59120 | MOVE :1: TO CARD-EOF-SW.                                   | C98970 |
| 59130 | CARD-EXIT. EXIT.   | C98970 |
| 59200 | READ-SG.   | C98970 |
| 59210 | READ SG-FILE INTO SG-NSG-REC                               | C98970 |
| 59220 | AT END GO TO SG-EOF.                                       | C98970 |
| 59230 | IF TYPE-N EQUAL :9: GO TO SG-EOF.                          | C98970 |
| 59290 | GO TO READ-SG-EXIT.  | C98970 |
| 59300 | SG-EOF.  | C98970 |
| 59310 | CLOSE SG-FILE WITH LOCK.                                   | C98970 |
| 59320 | MOVE 1 TO ILOF1 SGEOF.                                     | C98970 |
| 59330 | READ-SG-EXIT. EXIT.  | C98970 |
| 59500 | READ-NSG.  | C98970 |
| 59510 | READ NSG-FILE INTO SG-NSG-REC                              | C98970 |
| 59520 | AT END GO TO NSG-EOF.                                      | C98970 |
| 59530 | IF TYPE-N EQUAL :4: GO TO NSG-EOF.                         | C98970 |
| 59590 | GO TO READ-NSG-EXIT.                                       | C98970 |
| 59600 | NSG-EOF.   | C98970 |
| 59610 | CLOSE NSG-FILE WITH LOCK.                                  | C98970 |
| 59620 | MOVE 2 TO ILOF1 NSGEOF.                                    | C98970 |
| 59630 | READ-NSG-EXIT. EXIT.                                       | C98970 |
| 61000 | BLOCK-CHECK.   | C98970 |
| 61010 | ENTRY :CLOSEF: USING IT1.                                  | C98970 |
| 61100 | EOJ-RCD-KEEPING.   | C98970 |
| 61110 | MOVE SG-CN TO SG-GTOT.                                     | C98970 |
| 61120 | MOVE NSG-CNT TO NSG-GTOT.                                  | C98970 |
| 61130 | MOVE CARD-CNT1 TO R1-GTOT.                                 | C98970 |
| 61140 | MOVE CARD-CNT2 TO R2-GTOT.                                 | C98970 |
| 61150 | MOVE CARD-CNT3 TO R3-GTOT.                                 | C98970 |
| 61160 | COMPUTE RECORDS-READ > CARD-CNT1 < CARD-CNT2 < CARD-CNT3.  | C98970 |
| 61170 | MOVE RECORDS-READ TO RECORDS-INPUT.                        | C98970 |
| 61180 | MOVE RECORDS-PASS TO OBSERVE-OUT.                          | C98970 |
| 61300 | WRITE RCD-KP FROM RCD-TOTALS.                              | C98970 |
| 61310 | ADD 1 TO RCD-KP-CNT.                                       | C98970 |
| 62010 | COMPUTE KOUNT > RECORDS-PASS = ((RECORDS-PASS / 70) * 70). | C98970 |



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//C9897J EXEC P964SG,PARM,ASSY>[MAP,LIST,BCD],
// PARM.LKED>:LIST,XREF:,TIME>06,ACCT>035323007
//ASSY.SYSIN DD DAT,SPACE>LCYL,(1,1)
C FORTRAN-COBOL LINK TEST, JOHN LINK,
C 19 APRIL 1972
C THIS DRIVER CALCULATES OBSERVATIONS FOR GROUPS 1 - 6
C THIS PROGRAM GENERATE OBSERVATION DATA TAPES FOR FUTURE ANALYSIS
C OBSERVATION TAPE FOR AIRCRAFT LEVEL
C
C COLUMN VALUE DESCRIPTION
C J-10 ZERO AIRCRAFT LEVEL
C
C 12 1 NON ISO
C ISO
C 13-14 01 NORM HOURS / PERIODIC
C 02 NORM HOURS / HOURLY POSTFLIGHT
C 03 AIE / SORTIE
C 04 FH / WEEK
C 05 SORTIE / WEEK
C 06 LANDING / WEEK
C 15 1 ORIGINS - HOURLY POSTFLIGHT
C 2 ORIGINS - MA
C 3 ORIGINS - PERIODIC
C 16 1 INDEPENDENT VARIABLE - WEEK
C 2 INDEPENDENT VARIABLE - FLIGHT HOURS
C 3 INDEPENDENT VARIABLE - SORTIE
C 4 INDEPENDENT VARIABLE - LANDING
C 18-23 NUMERATOR OF DEPENDENT VARIABLE
C 25-30 DENOMINATOR OF DEPENDENT VARIABLE
C 32-37 INDEPENDENT VARIABLE
C
C COMMON SECTION
C *****
C COMMON AIE,BLANK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICI,UIFH,D,L,UIS,DL,DS,DUMMY,DKW,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 IU,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNOM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFLEI,OUT,PDATA,
4 PIDATA ,PNSGWK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSGL,
5 PSGWK,PTN,PWKI,ETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WUC
C DIMENSION SECTION
C *****
C DIMENSION CNORM(2),CWK(3),NSGWUC(4),PDATA(4),PIDATA(4),
1 PWKI(3),SGNI(2),SGWUC(4)
C DIMENSION BSUC(4,3)
C TYPE SPECIFICATION SECTION
C *****
C INTEGER AIE,BLANK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICI,UIFH,D,L,DIS,DL,DS,DUMMY,DKW,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 IU,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNOM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFLEI,OUT,PDATA,
4 PIDATA ,PNSGWK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSGL,
5 PSGWK,PTN,PWKI,ETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WUC
C *****
C READ IN LAHD INPUT DESCRIPTION FOR GROUPS 1-6
C CALL CINI
C *****
C POSITION THE SGWUC FILE FOR THE FIRST TIME ONLY
C READ A SUPPORT GENERAL RECORD FROM THE DATA BANK VIA COBOL ON S0F
C TYPE = 1
C300 CALL C0F1
C CHECK TAIL NUMBER AGAINST 99999999 ERROR
C IF (SGSN = 9999999) J05,10000,305
C CHECK END OF FILE FOR ERROR
C305 IF (SGEOF) 10000,310,10000
C CHECK TAIL NUMBER AGAINST STARTING TAIL NUMBER
C310 IF (SGSN = STN) .00,320,320
C READ A NON-SUPPORT GENERAL RECORD FOR FIRST TIME
C320 TYPE = 2
C CALL C0B1
C CHECK TAIL NUMBER AGAINST 99999999 ERROR
C IF (NSGSN = 99999999) J25,10000,325
C CHECK END OF FILE FOR ERROR
C325 IF (NSGEOF) 10000,330,10000
C POSITION THE SG FILE
C330 CALL SGPOS1
C FIND END OF INITIAL INSPECTION
C FIND END OF CURRENT INSPECTION
C335 CALL FESG1
C CHECK FOR PREVIOUS INSPECTION FLAG
C IF (PSGI) 340,340,805
C SAVE REQUIRED DATA FROM THE SG RECORD

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340 PDATA(1) = PSGWK
PDATA(2) = PSGCFH
PDATA(3) = PSGCS
PDATA(4) = PSGCL
C SET UP NLW ORIGINS
DO 800 I=1,NSGRC
PWKI(1) = CWK(1)
800 CONTINUE
C CHECK TO SEE IF INSPECTION IS A PERIODIC
805 IF (CWK(SGPI)) A10,810,817
C CHECK IF THERE WAS EVER A PERIODIC
810 IF (PPI) A25,A25,820
C SAVE LAST PERIODIC INFORMATION
817 PPI = 1
PS = PSGCS
PIDATA(1) = PSGWK
PIDATA(2) = PSGCFH
PIDATA(3) = PSGCS
PIDATA(4) = PSGCL
C CALCULATE GROUPS 3,4,5,6
820 CALL FLNSGI
C WAS THERE A PREVIOUS INSPECTION
825 IF (PSGI) 900,900,830
C DO NORM DATA
830 CALL VARIT2
900 PSGI = CI
C CHECK FOR CHANGE IN TAIL NUMBER
IF (PTN - SGN) 1000,920,1000
920 IF (PTN - NSGN) 1000,930,1000
C CHECK FOR END OF TIME
930 IF (SETIME - SGWK) 1100,950,950
950 IF (SETIME - NSGWK) 1100,935,935
- TEST TAIL NUMBER AGAINST BLOCKING FLAG
1000 IF (SGSN - 9999999) 1015,11000,11000
1015 IF (SGEOF) 11000, 020,11000
1020 IF (NSGSN - 9999999) 1025,11000,11000
1025 IF (NSGEOF) 11000,1029,11000
C CHECK FOR LAST TAIL NUMBER
1029 IF (NSGSN - LTN) 1030,1030,11000
1030 IF (SGSN - ETN) 1040,1040,11000
1040 IWAY = 1
GO TO 330
1160 IWAY = 2
GO TO 330
10000 CONTINUE
WRITE (6,10010)
10010 FORMAT (7H STOP1 )
GO TO 11010
11000 CONTINUE
WRITE (6,11005)
11005 FORMAT (7H STOP4 )
11010 CONTINUE
ITI = 0
CALL CLOSEF (111)
CALL EQUJSG
CALL EXIT
END
SUBROUTINE CINI
C THIS SUBROUTINE READS IN THE MODEL DEFINITION FOR GROUP 1
C ALSO BASIC INITIALIZATION
C COMMON SECTION
C
C .....
COMMON AIE,BLANK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICT,DIHM,DIL,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NN,G,NONS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNOM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OF,ILE1,OUT,PDATA,
4 PIDATA ,PNSGWK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSOL,
5 PSGWK,PTN,PWKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN1,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WDC
C DIMENSION SECTION
C
C .....
DIMENSION CNORM(2),CWK(3),NSGWUC(4),PDATA(4),PIDATA(4),
1 PWKI(3),SGNI(2),SGWUC(4)
DIMENSION BSGC(4,3)
C
C .....
C TYPE SPECIFICATION SECTION
INTEGER AIE,BLANK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICT,DIHM,DIL,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NN,G,NONS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNOM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OF,ILE1,OUT,PDATA,
4 PIDATA ,PNSGWK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSOL,
5 PSGWK,PTN,PWKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN1,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WDC
C
C .....

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C BASIC INITIALIZATION SECTION
C INITIALIZE FILE NUMBERS
  OFILL1 = 1
  IN = 5
  OUT = 6
  SGF = 11
  NSGF = 12
C INITIALIZE FLAGS
  LCFINE = 0
  NSGEOF = 0
  IWAY = 1
  NNSG = 2
  NSGBC = 3
  IT = 1
C -----
C CAMD INPUT DEFINITION SECTION
C -----
C THE FOLLOWING COMMENTS TELL HOW YOU READ DATA IN VIA FORTRAN
C HEAD IN START WEEK AND END WEEK OF ANALYSIS
C HEAD IN A BLANK FIELD
C HEAD (IN,5) STIME,ETIME,BLANK
C 5 FORMAT (2I10,A4)
C HEAD IN TAILNUMBER RANGE
C HEAD (IN,5) STN,ETN
C HEAD IN SUPPORT GENERAL NORM INDICES
C HEAD (IN,5) (SGNI(I),I=1,NNSG)
C HEAD IN SUPPORT GENERAL PERIODIC INDEX
C HEAD (IN,5) SGPI
C HEAD IN BASIC SUPPORT GENERAL CODES
C DO 50 I=1,NSGBC
C HEAD (IN,15) (BSGC(J,I),J=1,4)
C 15 FORMAT (12,3A1)
C 50 CONTINUE
C HEAD IN FIRS AIRCRAFT SUBSET INFORMATION
C HEAD (IN,5) SSTNO,SSSWK
C -----
C THE FOLLOWING IS HOW YOU READ CARD INPUT VIA COBOL LINKAGE
C HEAD IN START WEEK AND END WEEK OF ANALYSIS
C HEAD IN A BLANK FIELD
C CALL CREAD1
  1 (IN,IT,STIME,ETIME,BLANK)
C HEAD IN TAILNUMBER RANGE
C CALL CREAD1
  1 (IN,IT,STN,ETN,DUMMY)
C HEAD IN SUPPORT GENERAL NORM INDICES
C CALL CREAD1
  1 (IN,IT,SGNI(1),SGNI(2),DUMMY)
C HEAD IN SUPPORT GENERAL PERIODIC INDEX
C CALL CREAD1
  1 (IN,IT,SGPI,DUMMY,DUMMY)
C HEAD IN BASIC SUPPORT GENERAL CODES
  IT = 2
  DO 50 I=1,NSGBC
  CALL CREAD2
  1 (IN,IT,BSGC(1,I),BSGC(2,I),BSGC(3,I),BSGC(4,I))
50 CONTINUE
  IT = 1
C HEAD IN FIRS AIRCRAFT SUBSET INFORMATION
C CALL CREAD1
  1 (IN,IT,SSTNO,SSSWK,DUMMY)
  IF (IT = 3) 65,60,65
60 CALL CREAD3
  1 (IN,IT,DUMMY,DUMMY,DUMMY,DUMMY,DUMMY)
  2 (IN,IT,DUMMY,DUMMY,DUMMY,DUMMY)
65 CONTINUE
  RETURN
  END
SUBROUTINE CUB1
THIS SUBROUTINE CALL A COBOL SUBROUTINE TO READ THE DATA BANK
C COMMON SECTION
C -----
COMMON AIE,BLANK,BSGC,CRS01,CI,CNORM,CSON,CTYPE,CWK,DCT,UDN,
1 DFH,DICT,DIFFH,DIL,DIS,DL,DS,DUMMY,DWK,ENSWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,I1,IWAY,NNSG,NOHS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNC,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFILEI,OUT,PDATA,
4 PIDATA ,PSGWK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSGK,PSGL,
5 PSGWK,PTN,PAKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SGL,
6 SGN1,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7 STIME,STN,TYPE,WC:
C DIMENSION SECTION
C -----
DIMENSION CNORM(2),CWK(3),NSWUC(4),PDATA(4),PIDATA(4),
1 PWKI(3),SGNI(2),SGWUC(4)
DIMENSION BSGC(4,3)
C TYPE SPECIFICATION SECTION

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C      .....
C      INTEGER AIE,RL,NK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICI,DIFH,DIL,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNCM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OF,ILEI,OUT,PDATA,
4 PIDATA,PN,PSGK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSGK,PSGL,
5 PSGWK,PTN,PWKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WDC
GO TO (IU,100),TYPE
C      READ A SUPPORT GENERAL RECORD
10 CALL CORRC1
   * (SGF,SGEOF,SGSN,SGWK,SGWUC(1),SGWUC(2),SGWUC(3),SGWUC(4),DUMMY,
   * DUMMY,SGU,SGHR,DUMMY,SGNORM,DUMMY,SGFH,SGCFH,SGCS,SGCL)
C      CHECK NORM HOURS
IF (SGNORM) 20,40 40
20 SGNORM = 0
40 RETURN
C      READ A NON-SUPPORT GENERAL RECORD
100 CALL CORRC1
   * (NSGF,NSGEOF,NSGSN,NSGWK,NSGWUC(1),NSGWUC(2),NSGWUC(3),NSGWUC(4),
   * WUC,HMC,NSGU,NSGR,AIE,NSGNOM,NORS,CTYPE,NSGCFH,NSGCS,NSGCL)
RETURN
END
SUBROUTINE S6POS1
THIS SUBROUTINE POSITION SG FILE FOR NEW AIRCRAFT SUBSET DEPENDING
ON IWAY FOR GROUP, I-6
C      COMMON SECTION
C      .....
C      COMMON AIE,RL,NK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICI,DIFH,DIL,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNCM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OF,ILEI,OUT,PDATA,
4 PIDATA,PN,PSGK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSGK,PSGL,
5 PSGWK,PTN,PWKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WDC
C      DIMENSION SECTION
C      .....
C      DIMENSION CNORM(2),CWK(3),NSGWUC(4),PDATA(4),PIDATA(4),
1 PWKI(3),SGNI(2),SGWUC(4)
DIMENSION BSGC(4,3)
C      TYPE SPECIFICATION SECTION
C      .....
C      INTEGER AIE,RL,NK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICI,DIFH,DIL,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNCM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OF,ILEI,OUT,PDATA,
4 PIDATA,PN,PSGK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSGK,PSGL,
5 PSGWK,PTN,PWKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WDC
C      INITIALIZE PREVIOUS WEEK INDICES TO -1
C      .....
C      SET PSGI TO ZERO
PSGI = 0
C      SET PPI TO ZERO
PPI = 0
C      INITIALIZE PREVIOUS WEEK INDICES TO -1
DO 300 I=1,NSGRC
PWKI(I) = -1
300 CONTINUE
GO TO (320,325),IWAY
C      ENTER HERE FOR BEGINNING OF NEW AIRCRAFT
C      INITIALIZE AIRCRAFT START TIME
320 SSTIME = STIME
C      INITIALIZE AIRCRAFT SUBSET NUMBER
SGNI = 1
C      SAVE PREVIOUS TAIL NUMBER
PTN = SGSN
C      CHECK IF TAILNUMBER SUBSET EXIST
IF (SGSN = SSTNO) 331,332,330
C      ENTER HERE FOR BEGINNING OF AIRCRAFT SUBSET
UPDATE AIRCRAFT SUBSET NUMBER
C      325 SSN = SGNI + 1
INITIALIZE AIRCRAFT SUBSET START TIME
SSTIME = SSSWK
C      READ IN SUBSET INFORMATION
C 330 READ (IN,35) SSTN,SSSWK
C 35 FORMAT (2I10,A4)
330 CALL CREAD1
I (IN,IT,SSTNO,SSSWK,DUMMY)
C      CHECK FOR CHANGE IN TAIL NUMBER
IF (SGSN = SSTNO) 331,332,320
C      INITIALIZE AIRCRAFT END TIME

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```

331 SETIME = ETIME
GO TO 340
C SET END TIME OF SUBSET
332 SETIME = SSSWK
C CHECK WEEK NUMBER AGAINST STARTING WEEK
340 IF (SGWK - SSTEM) 345,349,349
C HEAD A SUPPORT GENERAL RECORD FROM THE DATA BANK VIA COBOL ON SGP
345 TYPE = 1
CALL COBI
C CHECK BLOCKING FLAG
IF (SGSN - 9999999) 347,10200,347
C CHECK FOR END OF INFORMATION (EOF)
347 IF (SGEOF) 10200,340,10200
-----
C CHECK FOR CHANGE IN TAIL NUMBER
349 IF (SGSN - PTN) 3,0,350,320
C CHECK IF A SUBSET EXISTS
350 IF (SGSN - SSTM) 352,351,320
C CHECK ENUTIME
351 IF (SLTIME - SGWK) 325,325,360
C CHECK ENUTIME
352 IF (SLTIME - SGWK) 345,345,360
C FIND NEXT LEGAL SGWUC
360 CALL FLSG1
RETURN
10200 CONTINUE
WRITE (6,10210)
10210 FORMAT (13H SGEOF STOP2 )
IT1 = 0
CALL CLOSIF (IT1)
CALL LOJMSG
CALL LXIT
END
SUBROUTINE FLSG1
THIS SUBROUTINE FINDS A LEGAL SGWUC
C COMMON SECTION
-----
COMMON AIE,BL,NK,BSGC,CBSGI,C1,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICT,DIFH,DI',DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OF,ILE1,OUT,PDATA,
4 PIDATA ,PNSGWK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSGL,
5 PSGWK,PTN,PWKI,SFTIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN1,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTEM,SSTNO,
7STIME,STN,TYPE,WDC
C DIMENSION SECTION
-----
DIMENSION CNOHM(2),CWK(3),NSGWUC(4),PDATA(4),PIDATA(4),
1 PWKI(3),SGNI(2),SGWUC(4)
DIMENSION BSGC(4,?)
C TYPE SPECIFICATION SECTION
-----
INTEGER AIE,BL,NK,BSGC,CBSGI,C1,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICT,DIFH,DI',DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OF,ILE1,OUT,PDATA,
4 PIDATA ,PNSGWK,PPI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSGL,
5 PSGWK,PTN,PWKI,SFTIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN1,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTEM,SSTNO,
7STIME,STN,TYPE,WDC
-----
C 360 DO 369 C1SGI = 1,NSGBC
C CHECK ALL CHARACTERS OF SGWUC
DO 365 I=1,4
IF (BSGC(I,CBSGI) - SGWUC(I)) 362,365,362
362 IF (BSGC(I,CBSGI) - BLANK) 369,410,369
365 CONTINUE
GO TO 410
369 CONTINUE
ENTRY FNLSG1
TYPE = 1
HEAD A SG RECORD
CALL COBI
C CHECK TAIL NUMBER AGAINST 99999999 PADDING OF LAST LAST BLOCK
IF (SGSN - 99999999) 375,405,375
C CHECK FOR EOF
375 IF (SGEOF) 400,360,400

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C   SET TAIL NUMBER TO 99999999
400 SGN = 99999999
405 CBSG1 = (SGBC + I
410 CONTINUE
    CI = CBSG1
    RETURN
    END
    SUBROUTINE FLSGI
C   THIS SUBROUTINE FINDS THE END OF THE CURRENT INSPECTION AND
C   SUMS UP THE NORM HOURS
C   COMMON SECTION
C
C   -----
COMMON      AIE,RL,NK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICT,DIFH,DII,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNORM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFILE1,OUT,PDATA,
4 PIDATA      ,PNSGWK,PSI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSQL,
5 PSGWK,PTN,PWKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WDL
C   DIMENSION SECTION
C   -----
DIMENSION  CNORM(2),CWK(3),NSGWUC(4),PDATA(4),PIDATA(4),
1 PWK(3),SGN(2),GWUC(4)
DIMENSION BSGC(4,*)
C   TYPE SPECIFICATION SECTION
C   -----
INTEGER    AIE,RL,NK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICT,DIFH,DII,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NORS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNORM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFILE1,OUT,PDATA,
4 PIDATA      ,PNSGWK,PSI,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSQL,
5 PSGWK,PTN,PWKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN,SGNORM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7STIME,STN,TYPE,WDL
C   -----
C   INITIALIZE CURRENT WEEK INDICES
10 DO 15 I=1,NSGRC
    CWK(I) = -1
15 CONTINUE
C   INITIALIZE SUM OF NORM HOURS
    CNORM(1) = 0
    CNORM(2) = 0
C   SAVE LAST SG RECORD INFORMATION
20 PSGWK = SGWK
    PSGCFH = SGCFH
    PSGCS = SGCS
    PSGCL = SGCL
    CWK(3) = SGWK
C   CHECK TO SEE IF NORM HOURS EXIT
    IF (CI = SGN(1)) 60,50,60
50 CNORM(1) = CNORM(1) + SGNORM
    GO TO 80
60 IF (CI = SGN(2)) 80,70,80
70 CNORM(2) = CNORM(2) + SGNORM
C   FIND NEXT LEGAL SGWUC
C   CALL FNLSGI
80 IF (SGWK = SETIME) 85,300,300
85 IF (PTN = SGN(100) 88,300
C   CALCULATE DIFFERENCE IN WEEK FIELD FOR CONSECUTIVE SG RECORDS
88 UNK = SGWK - PSGWK
C   CHECK FOR CHANGE IN WEEK
    IF (DWK) 300,20,90
C   IS PREVIOUS SG INLEX = 3(3400),
90 IF (PSGI-3) 95,10,95
C   IS DIFF. IN WEEKS MORE THAN 2,
95 IF (UNK-3) 20,20,200
C   IS DIFF. IN WEEKS MORE THAN 4.
100 IF (UNK-5) 20,20,200
C   CHECK CWK
200 DO 240 I=1,NSGRC
    IF (CWK(I)) 240,20,210
210 IF (CWK(I) - PSGWK) 230,240,230
230 CWK(I) = -1
240 CONTINUE
    ESGWK = PSGWK
    RETURN
300 CONTINUE
    IF (CI = SGN(1)) 360,350,360
350 CNORM(1) = CNORM(1) + SGNORM
    GO TO 380
360 IF (CI = SGN(2)) 380,370,380
370 CNORM(2) = CNORM(2) + SGNORM
380 ESGWK = SETIME + 1
    RETURN
    END

```



```

C -----
INTEGER AIE, BLANK, BSGC, CBSGI, CI, CNORM, CS6N, CTYPE, CWK, DCT, DDN,
1 DFH, DICT, DIFH, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2 ID, IN, IT, IWAY, NN, G, NOR, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
3 NSGHN, NSGN, NSGNOM, NSGSN, NSGU, NSGWK, NSGUC, OAIE, OFILEI, OUT, PDATA,
4 PIDATA, PISGWK, PI, PS, PSGCFH, PSCL, PS6CS, PS6DL, PS6I, PS6K, PS6L,
5 PSGWK, PTN, PwKI, SL TIME, SGCFH, SGCL, SGCS, SGEOF, SGF, SGFH, S6NR, SOL,
6 S6NI, S6NOM, S6PI, S6SN, S6U, S6WK, S6WUC, SSN, SSSWK, S5TIME, S5TNO,
75TIME, STN, TYPE, WOC
ENTRY VARITZ
C SAVE TAIL NUMBER
IPTN = PTN
C ZERO OUT PREVIOUS TAIL NUMBER
PTN = 0
UCT = (PSGWK - PDATA(1)) * 10
DFH = PSGCFH - PDATA(2)
US = (PSGCS - PDATA(3)) * 10
UL = (PSGCL - PDATA(4)) * 10
DO 600 I=1, NMSG
C CHECK IF NORM DATA EXISTS
K=SN(I)
IF (CWK(K)) 600, 600, 100
100 DO 590 J=1, NS6U
IF (PwKI(J)) 590, 590, 400
C OUTPUT OBSERVATIONS
400 DDN = 10
CS6N = CNORM(I)
CALCULATE ID FOR OUTPUT
ID = 10000 * SSN + 100 * I + 10 * J + I
CALL COROUT
* (PTN, ID, CS6N, DDN, DCT)
C 490 FORMAT (2X, I8, 4I6)
C CALCULATE ID FOR OUTPUT
ID = 10000 * SSN + 100 * I + 10 * J + 2
CALL COROUT
* (PTN, ID, CS6N, DDN, DFH)
C WRITE (OTAPE1, 490) PTN, ID, CS6N, DDN, DFH
C CALCULATE ID FOR OUTPUT
ID = 10000 * SSN + 100 * I + 10 * J + 3
CALL COROUT
* (PTN, ID, CS6N, DDN, DS)
C WRITE (OTAPE1, 490) PTN, ID, CS6N, DDN, DS
C CALCULATE ID FOR OUTPUT
ID = 10000 * SSN + 100 * I + 10 * J + 4
CALL COROUT
* (PTN, ID, CS6N, DDN, DL)
C WRITE (OTAPE1, 490) PTN, ID, CS6N, DDN, DL
590 CONTINUE
600 CONTINUE
PDATA(1) = PSGWK
PDATA(2) = PSGCFH
PDATA(3) = PSGCS
PDATA(4) = PSGCL
C SET UP NEW ORIGIN
DO 800 I=1, NS6U
PwKI(I) = CWK(I)
800 CONTINUE
C RESTORE TAIL NUMBER
PTN = IPTN
RETURN
ENTRY VAR3T6
C SAVE TAIL NUMBER
IPTN = PTN
C ZERO OUT PREVIOUS TAIL NUMBER
PTN = 0
DICT = (NSGWK - FIDATA(1)) * 10
DIFH = NSGCFH - FIDATA(2)
DIS = (NSGCS - FIDATA(3)) * 10
DIL = (NSGCL - FIDATA(4)) * 10
US = (NSGCS - PS) * 10
IF (US) 900, 900, 850
850 CONTINUE
OAIE = 10 * AIE
DDN = DS

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C   CALCULATE ID FOR OUTPUT
    ID = 10000 * SSN + 300 + 10 * SGPI + 1
    CALL COROUT
    * ( PTN, ID, O, IE, DDN, DICT)
C   CALCULATE ID FOR OUTPUT
    ID = 10000 * SSN + 300 + 10 * SGPI + 2
    CALL COROUT
    * ( PTN, ID, U, AIE, DDN, DIFH)
C   CALCULATE ID FOR OUTPUT
    ID = 10000 * SSN + 300 + 10 * SGPI + 3
    CALL COROUT
    * ( PTN, ID, O, AIE, DDN, DIS)
C   CALCULATE ID FOR OUTPUT
    ID = 10000 * SSN + 300 + 10 * SGPI + 4
    CALL COROUT
    * ( PTN, ID, O, AIE, DDN, DIL)
900 IF (UIC) 1000, 1000, 950
C   CALCULATE ID FOR OUTPUT
950 CONTINUE
    ID = 10000 * SSN + 400 + 10 * SGPI + 2
    CALL COROUT
    * ( PTN, ID, U, FM, DICT, DIFH)
C   CALCULATE ID FOR OUTPUT
    ID = 10000 * SSN + 500 + 10 * SGPI + 3
    CALL COROUT
    * ( PTN, ID, U, S, UIC, DIS)
C   CALCULATE ID FOR OUTPUT
    ID = 10000 * SSN + 600 + 10 * SGPI + 4
    CALL COROUT
    * ( PTN, ID, U, IL, DICT, DIL)
C   RESTORE TAIL NUMBER
1000 CONTINUE
    PTN = IPIN
    RETURN
    END

/*   REQUIRED PLACE FORTRAN OLD SOURCE BEFORE THIS CARD
//LKED.AUDCALL DU USN>PGMLIB,DISP>SMR,VOL>SER>T11,UNIT>DSK
//LKED.SYSIN DU DATA,SPACE>[TRK,(5,5)]
INCLUDE AUDCALL(8777)
/*   REQUIRED PLACE LINKEDIT CONTROL CARDS IF ANY BEFORE THIS CARD
//CHG.FT01F001 DU DISP>[PASS],UNIT>[A+F1,2,DEFER],DSN>+A,9897419, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//
//CHG.FT03F001 DU UISP>[PASS],UNIT>[T+F3,1,DEFER],DSN>+C,9897418, CT14 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//
//CHG.FT04F001 DU USN>+P,9897415,DISP>[OLD,PASS] 015-IN
//CHG.FT08F001 DU DISP>[PASS],UNIT>[A+F5,2,DEFER],DSN>+E,9897412, CT22/23 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//
//CHG.FT11F001 DD DSN>+P,9897413,DISP>[PASS],SPACE>[CYL,(009,001)] 025-OUT
//
//C9897U EXEC C960JN,TT>E>02,ACCT>D35323007 STDALONE JOHN LINK
//CHG.TU12 DD UISP>[KEEP],UNIT>[A+F1,2,DEFER],DSN>+A,9897419, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU14 DD UISP>[KEEP],UNIT>[T+F3,1,DEFER],DSN>+C,9897418, CT14 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG.TU15 DU USN>+P,9897415,DISP>[OLD,DELETE] 015-IN

//CHG.TU22 DD DISP>[KEEP],UNIT>[T+F5,1,DEFER],DSN>+E,9897412, CT22 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG.TU25 DD USN>+P,9897413,DISP>[OLD,DELETE] 025-IN
//CHG.TPRIN DD *SPACE>[TRK,(1,1)]

I/P TU15 1040080208
T/P TU25 1040080208
T/P TU22 1002040204
T/P TU14 1002070207
T/P TU12 1002070207
/*   PLACE T/P CONTROL CARDS BEFORE THIS CARD

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C .....
COMMON AIE, BLANK, BSGC, CBSG1, CI, CNORM, CSGN, CTYPE, CWK, DCT, DON,
1 DFH, DICT, DIFH, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2 IU, IN, IT, IWAY, INSG, NORS, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEF, NSGF,
3 NSGHR, NSGN, NSGNOM, NSGSN, NSGU, NSGWK, NSGWUC, OAIE, OFILE1, OUT, PDATA,
4 PIJATA, PMSGWK, PPI, PS, PSGCFH, PSGCL, PSGCS, PSGDL, PSGI, PSGK, PSGL,
5 PSWK, PIN, PKI, SETIME, SGCFH, SGCL, SGCS, SGEF, SGF, SGFH, SGHR, SGL,
6 SGI1, SGNOM, SGI, SGN, SGI, SGN, SGI, SGN, SGI, SGN, SGI, SGN, SGI, SGN,
7 STIME, STI, TYPE, WDC
COMMON UNSG, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IVENT, IEND, IGRP,
1 IMAT, IMAX, ISET, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
2, PMSGCF, PMSGCL, PMSGCS, WDCD
COMMON IP(7)
COMMON IDA
C DIMENSION SECTION
C .....
DIMENSION CNORM(2), CWK(3), NSGWUC(4), PDATA(4), PIDATA(4).
1 PWK1(3), SGI(2), SGWUC(4)
DIMENSION USG(4,3)
DIMENSION CMA(200), DVD(4), IDA(4), IMAT(3,7), NENSGG(7).
1 PDATA2(4,3), WDCD(9)
DIMENSION UNSG(4,200)
DIMENSION GRPID(7), GRPSEQ(7)
C TYPE SPECIFICATION SECTION
C .....
INTEGER AIE, BLANK, BSGC, CBSG1, CI, CNORM, CSGN, CTYPE, CWK, DCT, DON,
1 DFH, DICT, DIFH, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2 IU, IN, IT, IWAY, INSG, NORS, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEF, NSGF,
3 NSGHR, NSGN, NSGNOM, NSGSN, NSGU, NSGWK, NSGWUC, OAIE, OFILE1, OUT, PDATA,
4 PIJATA, PMSGWK, PPI, PS, PSGCFH, PSGCL, PSGCS, PSGDL, PSGI, PSGK, PSGL,
5 PSWK, PIN, PKI, SETIME, SGCFH, SGCL, SGCS, SGEF, SGF, SGFH, SGHR, SGL,
6 SGI1, SGNOM, SGI, SGN, SGI, SGN, SGI, SGN, SGI, SGN, SGI, SGN, SGI, SGN,
7 STIME, STI, TYPE, WDC
INTEGER UNSG, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IVENT, IEND, IGRP,
1 IMAT, IMAX, ISET, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
2, PMSGCF, PMSGCL, PMSGCS, WDCD
C .....
COMMON CA(200), CMA(200), PS2
INTEGER CA, CMA, PS2
COMMON ABOK(1,2), WDC1(3)
INTEGER ABOK(1), WDC1
COMMON ISW1
COMMON IPI
C READ IN CARD INPUT DESCRIPTIONS FOR GROUPS 7-10
CALL CIP2
C .....
C POSITION THE SGWUC FILE FOR THE FIRST TIME ONLY
C HEAD A SUPPORT GENERAL RECORD FROM THE DATA BANK VIA CGBOL ON SGP
TYPE = 1
300 CALL COR2
C CHECK TAIL NUMBER AGAINST 99999999 ERROR
IF (SGSN = 9999999) 305,10000,305
C CHECK FOR END OF FILE ERROR
305 IF (SGEUF) 10000,310,10000
C CHECK TAIL NUMBER AGAINST STARTING TAIL NUMBER
310 IF (SGSI = SIN) 300,320,320
C HEAD A NON-SUPPORT GENERAL RECORD FOR FIRST TIME
320 TYPE = 2
CALL COR2
C CHECK TAIL NUMBER AGAINST 99999999 ERROR
IF (NSGSN = 9999999) 325,10000,325
C CHECK FOR END OF FILE ERROR
325 IF (NSGEUF) 10000,330,10000
C POSITION THE SG FILE
330 CALL SGPOS2
C FIND END OF INITIAL INSPECTION
C FIND END OF CURRENT INSPECTION
335 CALL FESG2
C SAVE REQUIRED DATA FROM THE SG RECORD
IF (PSGI) 340,340,337
337 CONTINUE
CALL VIB
ISW1 = 1
340 PDA(A2(1), IPI) = PSWK
PDA(A2(2), IPI) = PSGCFH
PDA(A2(3), IPI) = PSGCS
PDA(A2(4), IPI) = PSGCL
PS2 = PSGCS
PSGI = IPI
ISTAR = 0
IEND = 0
DO 500 I=1, NWUCGP
ISTAR = IEND + I
IEND = IEND + NENSGG(I)
C CHECK TO SEE IF INSPECTION BELONG TO THE WUC GROUP
IF (IMAT(IPI, I)) 500,500,400
400 CONTINUE

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C   SAVE INSPECTION INDEX TO CURRENT INDEX
      IPI(I) = IPI
C   INITIALIZE CUMULATIVE MAINTENANCE ACTIONS TO ZERO
      UD 490 J=15(AH,IEND)
      CMA(J) = 0
      CRA(J) = 0
      CA(J) = 0
400  CONTINUE
500  CONTINUE
C   CALCULATE GROUPS 7,8,9,10
805  CALL FLNSG2
C   CHECK FOR CHANGE IN TAIL NUMBER
      IF (PTN - NSGSM) 1000,920,1000
420  IF (PTN - NSGSM) 1000,930,1000
C   CHECK FOR END OF TIME
430  IF (SETIME = 5GWK) 1100,950,950
450  IF (SETIME = NSGWK) 1100,335,335
C   TEST TAIL NUMBER AGAINST BLOCKING FLAG
C   TEST FOR END OF INFORMATION FLAG
1000 IF (SGSM - 9999999) 1010,11000,11000
1010 IF (NSGSM - 9999999) 1020,11000,11000
C   CHECK FOR LAST TAIL NUMBER
1020 IF (NSGSM - ETI) 1030,1030,11000
1030 IF (SGSM - LTM) 1040,1040,11000
1040 IWAY = 1
      GO TO 330
1100 IWAY = 2
      GO TO 330
10000 CONTINUE
      WRITE (6,10010)
10010 FORMAT (7H SIOPI I
      GO TO 11010
11000 CONTINUE
      WRITE (6,11005)
11005 FORMAT (7H SIOPI I
11010 CONTINUE
      ITI = 0
      CALL CLOSEF (ITI)
      CALL EQUJSG
      CALL EXIT
      END
SUBROUTINE CIM2
C   THIS SUBROUTINE READS IN THE MODEL DEFINITION FOR VARIABLES 7-17
C   ALSO BASIC INITIALIZATION
C   COMMON SECTION
C   *****
COMMON      AIL,BLANK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICT,UIF4,DIL,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NOHS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNOM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFILE1,OUT,PDATA,
4 PIUATA ,PNSGWK,PP1,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSGL,
5 PSWK,PIN,PWK1,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN1,SGNOM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
75TIME,STN,TYPE,WDC
COMMON      BMSG,CMA,CUMA,DVD,GRPID,GRPSEQ,ID2,IUENT,IEND,IORP,
1 IMAT,IMAX,ISE1,ISTAN,ITIME,IV,NENSGG,NESE,NSET,NWDC,NWUCOP,PDATA2
2,PNSGCF,PNSGCL,PNSGCS,WDCD
COMMON IP(7)
COMMON IUA
C   DIMENSION SECTION
C   *****
DIMENSION      CNORM(2),CWK(3),NSGWUC(4),PDATA(4),PIDATA(4),
1 PWK1(3),SGU(2),SGWUC(4)
DIMENSION      BSGC(4,3)
DIMENSION      CMA(200),DVD(4),IDA(4),IMAT(3,7),NENSGG(7),
1 PDATA2(4,3),WDCU(9)
DIMENSION      BMSG(4,200)
DIMENSION      GRPID(7),GRPSEQ(7)
C   *****
C   TYPE SPECIFICATION SECTION
      INTEGER      AIL,BLANK,BSGC,CBSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DFH,DICT,UIF4,DIL,DIS,DL,DS,DUMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IN,IT,IWAY,NNSG,NOHS,NSGBC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,NSGNOM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFILE1,OUT,PDATA,
4 PIUATA ,PNSGWK,PP1,PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSGL,
5 PSWK,PIN,PWK1,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SQL,
6 SGN1,SGNOM,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
75TIME,STN,TYPE,WDC
      INTEGER      BMSG,CMA,CUMA,DVD,GRPID,GRPSEQ,ID2,IDENT,IEND,IORP,
1 IMAT,IMAX,ISE1,ISTAN,ITIME,IV,NENSGG,NESE,NSET,NWDC,NWUCOP,PDATA2
2,PNSGCF,PNSGCL,PNSGCS,WDCD

```

```

C .....
COMMON CA(200),CHA(200),PS2
INTEGR CA,CHA,PS2
COMMON ABUNT(2),WDCI(3)
INTEGR ABUNT,WDCI
COMMON ISWT
COMMON IP
C BASIC INITIALIZATION SECTION
C INITIALIZE FILE NUMBERS
OFILE1 = 1
IN = 5
OUT = 6
SGF = 11
NSGF = 12
C INITIALIZE FLGS
SGLUP = 0
NSGUP = 0
IRAY = 1
NWDU = 9
IDA(1) = 701
IDA(2) = 802
IDA(3) = 903
IDA(4) = 1004
IT = 1
C .....
C CARD INPUT DEFINITION SECTION
C THE FOLLOWING IS HOW YOU READ CARD INPUT VIA COBOL LINKAGE
C READ IN START WEEK AND END WEEK OF ANALYSIS
C READ IN A BLANK FIELD
CALL CREAD1
1 (IN,IT,STIME,ETIME,BLANK)
C READ IN TAIL NUMBER RANGE
CALL CREAD1
1 (IN,IT,STN,LTN,BLANK)
C READ IN NUMBER OF ENTRIES IN SG DICTIONARY
C READ IN NUMBER OF NSG GROUPS
CALL CREAD1
1 (IN,IT,NSGC,NWUCGP,DUMMY)
C READ IN SUPPORT GENERAL DICTIONARY
IT = 1
DO 50 I=1,NSGC
CALL CREAD2
1 (IN,IT,BSGC(1,I),BSGC(2,I),BSGC(3,I),BSGC(4,I))
50 CONTINUE
C INITIALIZE INSPECTION USE MATRIX TO ZERO
DO 100 I=1,NSGC
DO 100 J=1,NWUCGP
IMAT(I,J) = 0
100 CONTINUE
C INITIALIZE STARTING AND ENDING VALUES OF DO LOOP TO READ IN WUC GROUP
ISTAK = 0
IEND = 0
DO 200 I=1,NWUCGP
IT = 1
C READ IN GROUP ID
C READ GROUP SEQUENCE START
CALL CREAD1
1 (IN,IT,GRPID(I),GRPSEQ(I),DUMMY)
C READ IN NUMBER OF INSPECTIONS ASSOCIATED WITH THIS WUC GROUP
C READ IN NUMBER OF NSG ASSOCIATED WITH THIS WUC GROUP
CALL CREAD1
1 (IN,IT,INSG,INSGG(I),DUMMY)
C FIND OUT WHICH ENTRY OF THE INSPECTION MATRIX NEEDS MODIFICATION
IT = 2
DO 100 L=1,INSG
C READ IN SGWUC ASSOCIATED WITH THIS NSG GROUP
CALL CREAD2
1 (IN,IT,SGWUC(1),SGWUC(2),SGWUC(3),SGWUC(4))
DO 150 J=1,NSGC
DO 125 K=1,4
IF (SGWUC(K) = BSGC(K,J))150,125,150
125 CONTINUE
IMAT(J,I) = 1
GO TO 160
150 CONTINUE
160 CONTINUE
C UPDATE STARTING AND ENDING VALUES OF DO LOOP TO READ IN WUC GROUP
ISTAK = IEND + 1
IEND = IEND + INSGG(I)
DO 190 J=ISTAK,IEND
CALL CREAD2
1 (IN,IT,BNSGC(1,J),BNSGC(2,J),BNSGC(3,J),BNSGC(4,J))
190 CONTINUE
200 CONTINUE

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C   INITIALIZE NUMBER OF WUC DEFINITIONS TO IEND
    NSET = IEND
    IT = 3
C   READ IN WHEN DISCOVERED CODE DICTIONARY
    CALL CREAD3
    I (IN,IT,WDCU(1),WDCU(2),WDCU(3),WDCU(4),WDCU(5),WDCU(6),WDCU(7),
    2 WUCU(8),WDCU(9))
C   READ IN WDC INSPECTION
    CALL CREAD3
    * (IN,IT,WDCI(1),WDCI(2),WDCI(3),DUMMY,DUMMY,DUMMY,DUMMY,DUMMY,
    * DUMMY,DUMMY,DUMMY)
    IT = 1
C   READ IN ABORT INDICES
    CALL CREAD1
    * (IN,IT,ABORT(1),ABORT(2),DUMMY)
C   READ IN FIRST AIRCRAFT SUBSET INFORMATION
    CALL CREAD1
    I (IT,IT,SS1(1),SSWK,DUMMY)
    RETURN
    END
C   SUBROUTINE C002
    THIS SUBROUTINE CALL A FORTRAN SUBROUTINE TO READ THE DATA BANK
C   COMMON SECTION
C   -----
C   COMMON      AIE, BLANK, BSGC, CMSGI, CI, CNORM, CSGN, CTYPE, CWK, DCT, DDN,
    1 DFH, DICT, UIF, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
    2 IU, IN, IT, IWK, NNSG, NORS, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
    3 NSGHR, NSGN, NSGNOM, NSGSN, NSGU, NSGWK, NSGWUC, OAIE, OFILE1, OUT, PDATA,
    4 PIDATA, PMSGWK, PPI, PS, PSGCFH, PSGCL, PSGCS, PSGDL, PSGI, PSOK, PSGL,
    5 PSWK, PTN, PWI, SETIME, SGCFH, SGCL, SGCS, SGEOF, SGF, SGFH, SGHR, SGL,
    6 SGN, SGNORM, GPI, SGN, SGU, SGWK, SGWUC, SSN, SSSWK, SSTIME, SSTNO,
    7 STIME, STN, TYPE, WDC
    COMMON      BMSGC, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IDENT, IEND, IGRP,
    1 IMAT, IMAX, ISLT, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
    2, PNSGCF, PNSGCL, PNSGCS, WDCD
    COMMON IP(7)
    COMMON IOH
C   DIMENSION SECTION
C   -----
C   DIMENSION      CNORM(2), CWK(3), NSGWUC(4), PDATA(4), PIDATA(4),
    1 PWI(3), SGT(2), SGWUC(4)
    DIMENSION BSGC(4,3)
    DIMENSION      CMA(200), DVD(4), IDA(4), IMAT(3,7), NENSGG(7),
    1 PDATA2(4,3), WDCD(9)
    DIMENSION BMSGC(4,200)
    DIMENSION      GRPID(7), GRPSEQ(7)
C   TYPE SPECIFICATION SECTION
C   -----
C   INTEGER      AIE, BLANK, BSGC, CMSGI, CI, CNORM, CSGN, CTYPE, CWK, DCT, DDN,
    1 DFH, DICT, UIF, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
    2 IU, IN, IT, IWK, NNSG, NORS, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
    3 NSGHR, NSGN, NSGNOM, NSGSN, NSGU, NSGWK, NSGWUC, OAIE, OFILE1, OUT, PDATA,
    4 PIDATA, PMSGWK, PPI, PS, PSGCFH, PSGCL, PSGCS, PSGDL, PSGI, PSOK, PSGL,
    5 PSWK, PTN, PWI, SETIME, SGCFH, SGCL, SGCS, SGEOF, SGF, SGFH, SGHR, SGL,
    6 SGN, SGNORM, GPI, SGN, SGU, SGWK, SGWUC, SSN, SSSWK, SSTIME, SSTNO,
    7 STIME, STN, TYPE, WDC
    INTEGER      BMSGC, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IDENT, IEND, IGRP,
    1 IMAT, IMAX, ISLT, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
    2, PNSGCF, PNSGCL, PNSGCS, WDCD
    COMMON      CA(200), CRA(200), PS2
    INTEGER      CA, CRA, PS2
    COMMON      ABORT(1,2), WDCI(3)
    INTEGER      ABORT1, WDCI
    COMMON      ISWI
    COMMON      IMI
    GO TO (IO,IOG),TYPE
C   READ A SUPPORT GENERAL RECORD
    10 CALL CORHD1
    * (SGF, SGL, OF, SN, SGWK, SGWUC(1), SGWUC(2), SGWUC(3), SGWUC(4), DUMMY,
    * DUMMY, SGU, SGN, DUMMY, SGNORM, DUMMY, SGFH, SGCFH, SGCS, SGL)
    RETURN
C   READ A NON-SUPPORT GENERAL RECORD
    100 CALL CORHD1
    * (NSGF, NSGEOF, NSGSN, NSGWK, NSGWUC(1), NSGWUC(2), NSGWUC(3), NSGWUC(4),
    * WDC, HMC, NSGU, NSGHR, AIE, NSGNOM, NORS, CTYPE, NSGCFH, NSGCS, NSGCL)

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RETURN
END
SUBROUTINE S0052
THIS SUBROUTINE POSITION SG FILE FOR NEW AIRCRAFT SUBSET DEPENDING
ON IWAY FOR GROUPS 7-17
COMMON SECTION
-----
COMMON AIE, BLANK, BSGC, CBSGI, CI, CNORM, CSGN, CTYPE, CWK, DCT, DDN,
1 DFH, DICT, UIFI, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2 ID, IN, IT, IWAY, NNSG, NNS, NSGUC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
3 NSGHR, NSGN, NSGNOM, NSGNS, NSGU, NSGWK, NSGWUC, OAI, OFILEI, OUT, PDATA,
4 PIDATA, PPSGWK, PPI, PS, PSGCFH, PSGCL, PSOC, PSODL, PSOI, PSOK, PSOL,
5 PSWK, PTN, PPI, SETIME, SGC, SGCL, SGCS, SOE, SGF, SGFH, SGHR, SGL,
6 SGN, SGNOM, SGI, SGN, SGO, SGWK, SGWUC, SSN, SSSWK, SSTIME, SSTNO,
7 STIME, STN, TYPE, WUC
COMMON BNSGC, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IDENT, IEND, IORP,
1 IMAT, IMAX, ISET, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
2, PNSGCF, PNSGCL, PNSGCS, WDCD
COMMON IP(17)
COMMON IWA
C DIMENSION SECTION
-----
C DIMENSION CNORM(2), CWK(3), NSGWUC(4), PDATA(4), PIDATA(4),
1 PWA(3), SGN(2), SGWUC(4)
C DIMENSION BSGC(4,3)
C DIMENSION CMA(200), DVD(4), IDA(4), IMAT(3,7), NENSGG(7),
1 PDATA2(4,3), JCU(9)
C DIMENSION BNSGC(4,200)
C DIMENSION GRPID(7), GRPSEQ(7)
C TYPE SPECIFICATION SECTION
-----
C INTEGER AIE, BLANK, BSGC, CBSGI, CI, CNORM, CSGN, CTYPE, CWK, DCT, DDN,
1 DFH, DICT, UIFI, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2 ID, IN, IT, IWAY, NNSG, NNS, NSGUC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
3 NSGHR, NSGN, NSGNOM, NSGNS, NSGU, NSGWK, NSGWUC, OAI, OFILEI, OUT, PDATA,
4 PIDATA, PPSGWK, PPI, PS, PSGCFH, PSGCL, PSOC, PSODL, PSOI, PSOK, PSOL,
5 PSWK, PTN, PPI, SETIME, SGC, SGCL, SGCS, SOE, SGF, SGFH, SGHR, SGL,
6 SGN, SGNOM, SGI, SGN, SGO, SGWK, SGWUC, SSN, SSSWK, SSTIME, SSTNO,
7 STIME, STN, TYPE, WUC
C INTEGER BNSGC, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IDENT, IEND, IORP,
1 IMAT, IMAX, ISET, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
2, PNSGCF, PNSGCL, PNSGCS, WDCD
COMMON CA(200), CHA(200), PS2
C INTEGER CA, CHA, PS2
COMMON ARGH(2), WDCI(3)
C INTEGER ARGH, WDCI
COMMON ISAT
COMMON IP(17)
C ISW = 0
C SET PSOI TO ZERO
C PSOI = 0
C INITIALIZE PREVIOUS WEEK INDICES TO -1
-----
C DO 200 I=1, NWUCGP
  IP(I) = -1
200 CONTINUE
C INITIALIZE CUMULATIVE MAINTENANCE ACTIONS TO -1
C DO 300 I=1, NSET
  CRA(I) = -1
  CA(I) = -1
  CMA(I) = -1
300 CONTINUE
C GO TO (320,325), IWAY
-----
C ENTER HERE FOR BEGINNING OF NEW AIRCRAFT
C INITIALIZE AIRCRAFT START TIME
C 320 SSIIME = SIME
C INITIALIZE AIRCRAFT SUBSET NUMBER
C SSI = 1
C SAVE PREVIOUS TAIL NUMBER
C PTH = SGN
C CHECK IF TAIL NUMBER SUBSET EXIST
C IF (SGN = SSI) 331,332,330
-----
C ENTER HERE FOR BEGINNING OF AIRCRAFT SUBSET
C UPDATE AIRCRAFT SUBSET NUMBER
C 325 SSI = SSI + 1
C INITIALIZE AIRCRAFT SUBSET START TIME
C SSTIME = SSSWK
C READ IN SUBSET INFORMATION
C 330 READ (IN,35) SSTNO, SSSWK
C 35 FORMAT (211, A4)
C 330 CALL CRFAC
  I TIN, IT, SSI, SSSWK, DUMMY)
C CHECK FOR CHANGE IN TAIL NUMBER
C IF (SGN = SSI) 331,332,320
C INITIALIZE AIRCRAFT LNO TIME

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331 SETIME = ITIME
    GO TO 340
C
C 332 SETIME = SGWK
    CHECK WFLR NUMBER AGAINST STARTING WEEK
C 340 IF (SGWK = 55, IML) 345, 349, 349
    READ A SUPPORT GENERAL RECORD FROM THE DATA BANK VIA COBOL ON S6F
C 345 IYPI = 1
    CALL COP2
C
    CHECK BLOCKING FLAG
    IF (COGN = 99900000) 347, 10200, 347
    CHECK FOR END OF INFORMATION (EOF)
C 347 IF (SGLOF) 10210, 340, 10200
    -----
C
    CHECK FOR CHANGE IN TAIL NUMBER
C 349 IF (SGSN = PIN, 320, 350, 320
    CHECK IF A SUBSET EXISTS
C 350 IF (SGSN = SSTNO) 352, 351, 320
    CHECK ENDTIML
C 351 IF (SETIME = SGWK) 325, 325, 360
    CHECK ENDTIME
C 352 IF (SETIME = SGWK) 345, 345, 360
    FIND NEXT LEGAL SGWUC
C 360 CALL FLS62
    RETURN
10200 CONTINUE
    WRITE (6, 10210)
10210 FORMAT (13H 50 OF STOP2 )
    ITI = 0
    CALL CLOSEF (I, 1)
    CALL LOJMS6
    CALL EXIT
    END

SUBROUTINE FLS62
    -----
C
C THIS SUBROUTINE FINDS A LEGAL SGWUC
C
C COMMON SECTION
    -----
C
    COMMON /IE BLANK, BSGC, CBSGI, CI, CNORM, CSGN, CTYPE, CWK, DCT, DDN,
1 DFH, DICT, DIFH, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2 ID, IN, IT, IWAY, NNSG, NORS, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
3 NSGHR, NSGN, NSGNOM, NSGSN, NSGU, NSGWK, NSGWUC, OATF, OFILE1, OUT, PDATA,
4 PIDATA, PISWK, PPI, PS, PSGCFH, PSGCL, PSGCS, PSGDL, PSGI, PSGL, PSGL,
5 PSWK, PTN, PWK, SETIME, SGCFH, SGCL, SGCS, SGEOF, SGF, SGFH, SGHR, SGL,
6 SGN, SGNORM, SGP1, SGN, SGN, SGU, SGWK, SGWUC, SSN, SSSWK, SSTEME, SSTNO,
7 STIME, STN, TYPE, WUC
    COMMON /UNS C, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IDENT, IEND, IGRP,
1 IMAT, IMAX, ISET, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
2, PNSGCF, PNSGCL, PNSGCS, WDCD
    COMMON IP(7)
    COMMON IDA
C
C DIMENSION SECTION
    -----
C
    DIMENSION CNORM(2), CWK(3), NSGWUC(4), PDATA(4), PIDATA(4),
1 PWK(3), SGN(7), SGWUC(4)
    DIMENSION BSGC(4, 3)
    DIMENSION CMA(200), DVD(4), IDA(4), IMAT(3, 7), NENSGG(7),
1 PDATA2(4, 3), WDCD(9)
    DIMENSION PNSGCF(4, 200)
    DIMENSION GRPID(7), GRPSEQ(7)
C
C TYPE SPECIFICATION SECTION
    -----
C
    INTEGER /ALL, BLANK, BSGC, CBSGI, CI, CNORM, CSGN, CTYPE, CWK, DCT, UDN,
1 DFH, DICT, DIFH, DIL, DIS, DL, DS, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2 ID, IN, IT, IWAY, NNSG, NORS, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
3 NSGHR, NSGN, NSGNOM, NSGSN, NSGU, NSGWK, NSGWUC, OATF, OFILE1, OUT, PDATA,
4 PIDATA, PISWK, PPI, PS, PSGCFH, PSGCL, PSGCS, PSGDL, PSGI, PSGL, PSGL,
5 PSWK, PTN, PWK, SETIME, SGCFH, SGCL, SGCS, SGEOF, SGF, SGFH, SGHR, SGL,
6 SGN, SGNORM, SGP1, SGN, SGN, SGU, SGWK, SGWUC, SSN, SSSWK, SSTEME, SSTNO,
7 STIME, STN, TYPE, WUC
    INTEGER /UNSGC, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IDENT, IEND, IGRP,
1 IMAT, IMAX, ISET, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
2, PNSGCF, PNSGCL, PNSGCS, WDCD
    COMMON /CA(200), CHA(200), PS2
    INTEGER /CA, CRA, PS2
    COMMON /ABORTI(2), WDCI(3)
    INTEGER /ABORTI, WDCI
    COMMON /SWT
    COMMON /IP1
C 360 DO 369 C, 369 = 1, NSGHC
    CHECK ALL CHARACTERS OF SGWUC
    DO 365 I=1, 4
    IF (BSGC(I, C(S:I)) = SGWUC(I)) 362, 365, 362
C 362 IF (BSGC(I, C(S:I)) = BLANK) 369, 410, 369
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365 CONTINUE
GO TO 410
369 CONTINUE
ENTRY FNLSG2
TYPE = 1
C READ A SG RECORD
CALC CDR2
C CHECK TAIL NUMBER AGAINST 99999999 PADDING OF LAST LAST BLOCK
IF (SGSN = 99999999) 375,405,375
C CHECK FOR EOF
375 IF (SGEOF) 400-360,400
C SET TAIL NUMBER TO 99999999
400 SGSN = 99999999
405 CHSG1 = NSGUC - 1
410 CONTINUE
CI = CHSG1
RETURN
END
SUBROUTINE FLSG2
THIS SUBROUTINE FINDS THE END OF THE CURRENT INSPECTION
C COMMON SECTION
C
COMMON /AIE,HLANK,NSGC,CHSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DPH,DIC),DIPH,DIL,DIS,DL,DS,DIMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IL,II,IWAY, NNSG,NOHS,NSGHC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,SGNUM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFLEI,OUT,PDATA,
4 PIDATA, PPSGWK, PPI, PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSGL,
5 PSHWK,PIN,PKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SGL,
6 SGN,SGNOK,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7 STIME,STIME,TYPE,WDC
COMMON /HNSC,CMA,CUMA,DVD,GRPID,GRPSEQ,IO2,IDENT,IEND,IGRP,
1 IMAT,IMAX,ISET,ISTAR,ITIME,IV,NENSGG,NSG,NSET,NWDC,NWUCGP,PDATA2
2,PNSGCF,PNSGCL,PNSGCS,WDC
COMMON /IP(7)
COMMON /ID
C DIMENSION SECTION
C
DIMENSION CNORM(2),CWK(3),NSGWUC(4),PDATA(4),PIDATA(4),
1 PPKI(3),SGCL(3),SGWUC(4)
DIMENSION /NSC(4,5)
DIMENSION /CMA(200),DVD(4),IDA(4),IMAT(3,7),NENSGG(7),
1 PDATA2(4,3),WDC(9)
DIMENSION /HNSC(4,200)
DIMENSION /GRPID(7),GRPSEQ(7)
C TYPE SPECIFICATION SECTION
C
INTEGER /AIE,HLANK,NSGC,CHSGI,CI,CNORM,CSGN,CTYPE,CWK,DCT,DDN,
1 DPH,DIC),DIPH,DIL,DIS,DL,DS,DIMMY,DWK,ENSGWK,ESGWK,ETIME,ETN,HMC,
2 ID,IL,II,IWAY, NNSG,NOHS,NSGHC,NSGCFH,NSGCL,NSGCS,NSGEOF,NSGF,
3 NSGHR,NSGN,SGNUM,NSGSN,NSGU,NSGWK,NSGWUC,OAIE,OFLEI,OUT,PDATA,
4 PIDATA, PPSGWK, PPI, PS,PSGCFH,PSGCL,PSGCS,PSGDL,PSGI,PSOK,PSGL,
5 PSHWK,PIN,PKI,SETIME,SGCFH,SGCL,SGCS,SGEOF,SGF,SGFH,SGHR,SGL,
6 SGN,SGNOK,SGPI,SGSN,SGU,SGWK,SGWUC,SSN,SSSWK,SSTIME,SSTNO,
7 STIME,STIME,TYPE,WDC
INTEGER /HNSC,CMA,CUMA,DVD,GRPID,GRPSEQ,IO2,IDENT,IEND,IGRP,
1 IMAT,IMAX,ISET,ISTAR,ITIME,IV,NENSGG,NSG,NSET,NWDC,NWUCGP,PDATA2
2,PNSGCF,PNSGCL,PNSGCS,WDC
COMMON /CA(200),CHA(200),PS2
INTEGER CA,CHA,PS2
COMMON /ABOR)I(2),WDCI(3)
INTEGER ABOR)I,WUCI
COMMON /SWT
COMMON /IP)
C
C SAVE LAST SG RECORD INFORMATION
20 PSHWK = SGWK
PSGCFH = SGCFH
PSGCS = SGCS
PSGCL = SGCL

```





```

C   CHECK WEEK BEFORE THE START OF NEXT INSPECTION
400 IF (NSGWK = SGWK) 410,410,810
410 CONTINUE
    GO TO (420,430),ITIME
420 CONTINUE
    ITIME = 2
C   SAVE PREVIOUS WEEK
    PNSGWK = NSGWK
    PNSGCF = NSGCFH
    PNSGCS = NSGCS
    PNSGCL = NSGCL
430 CONTINUE
    IRA = 0
    MAI = 0
    AI = 0
C   CHECK FOR CHANGE IN WEEK
    IF (PNSGWK = NSGWK) 790,440,790
440 CONTINUE
    IF (PNSGCF = PTN) 790,450,790
450 CONTINUE
C   CHECK FOR VALID WHEN DISCOVERED CODE
    DO 520 I=1,NWDC
    IF (WDCC(I) = WC.) 520,590,520
520 CONTINUE
    DO 540 K=1,NSGBC
    IF (WDC - WULI(K)) 540,550,540
540 CONTINUE
    GO TO 370
550 CONTINUE
    IRA = K
    GO TO 619
590 CONTINUE
    MAI = I
600 CONTINUE
    IF (I = APORTI(1)) 602,615,602
602 IF (I = ADOR(1)) 619,615,619
615 AI = I
619 CONTINUE
    IS(AR) = 0
    IEND = 0
    DO 700 I=1,NWUCGP
    IS(AR) = IEND + I
    IEND = IEND + NENSGL(I)
    DO 690 J = ISTAR,IEND
    DO 680 K=1,4
    IF (UNSGC(K,J) = NSGWC(K)) 620,680,620
620 IF (UNSGC(K,J) = BLANK) 690,720,690
680 CONTINUE
    GO TO 720
690 CONTINUE
700 CONTINUE
    GO TO 370
720 CONTINUE
    IF (MAI) 725,750,725
725 CONTINUE
C   ACCUMULATE MAINTENANCE ACTIONS
    CMA(J) = CMA(J) + SGU
    IF (AI) 730,370,730
730 CA(J) = CA(J) + NSGU
    GO TO 370
750 CONTINUE
    IF (IRA) 760,370,760
760 CMA(J) = CMA(J) + NSGU
    GO TO 370
790 CONTINUE
    CALL V7710
C   ZERO OUT -CA- ARRAY -
    ISTAR = 0
    IEND = 0
    DO 795 I=1,NWUCGP
    ISTAR = IEND + 1
    IEND = IEND + NENSGL(I)
    DO 795 J=ISTAR,IEND
    CA(J) = 0
795 CONTINUE
C   RE=INITIALIZE -ITIME- TO I -
    ITIME = I
C   GO SEE IF TIME OF NEXT INSPECTION IS EXCEEDED -
    GO TO 400
800 PMSGN = 9999999
805 ENSWK = SETIME + I
810 RETURN
    END
SUBROUTINE V442
COMMON SECTION

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C      .....
COMMON      AIE, BLANK, BSGC, CBSGI, CI, CNORM, CSGN, CTYPE, CWK, DCT, DDN,
1  DFH, DIC, UIF, H, DL, DIS, DL, US, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2  ID, IN, IT, IMAY, NISG, NOHS, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
3  NSGHR, NSGN, NSGNM, NSGSN, NSGU, NSGWK, NSGWUC, OAIE, OFILE1, OUT, PDATA,
4  PIUATA      , PISGWK, PPI, PS, PSGCFH, PSGCL, PSGCS, PSGDL, PSGI, PSGR, PSGL,
5  PSWK, PTN, PAKI, JETIME, SGCFH, SGCL, SGCS, SGEOF, SGF, SGFH, SGHR, SGL,
6  SGN1, SGNOM, SGP, SGN, SGN, SGWK, SGWUC, SSN, SSSWK, SSTIME, SSTNO,
7  STIME, STI, TYPE, WUC
COMMON      B, SGC, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IDENT, IEND, IGRP,
1  IMA1, IMAX, ISET, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
2, PNSGCF, PNSGCL, PNSGCS, WDCD
COMMON IP(7)
COMMON IDA
C      DIMENSION SECTION
C      .....
DIMENSION      CNORM(2), CWK(3), NSGWUC(4), PDATA(4), PIUATA(4),
1  PAK(3), SGL(2), SGWUC(4)
DIMENSION      USGC(4, 3)
DIMENSION      CMA(200), DVD(4), IDA(4), IMAT(3, 7), NENSGG(7),
1  PDA(A2(4, 3), WDCD(4))
DIMENSION      PNSGC(4, 200)
DIMENSION      GRPID(7), GRPSEQ(7)
C      TYPE SPECIFICATION SECTION
C      .....
INTEGER      AIE, BLANK, BSGC, CBSGI, CI, CNORM, CSGN, CTYPE, CWK, DCT, DDN,
1  DFH, DIC, UIF, H, DL, DIS, DL, US, DUMMY, DWK, ENSGWK, ESGWK, ETIME, ETN, HMC,
2  ID, IN, IT, IMAY, NISG, NOHS, NSGBC, NSGCFH, NSGCL, NSGCS, NSGEOF, NSGF,
3  NSGHR, NSGN, NSGNM, NSGSN, NSGU, NSGWK, NSGWUC, OAIE, OFILE1, OUT, PDATA,
4  PIUATA      , PISGWK, PPI, PS, PSGCFH, PSGCL, PSGCS, PSGDL, PSGI, PSGR, PSGL,
5  PSWK, PTN, PAKI, JETIME, SGCFH, SGCL, SGCS, SGEOF, SGF, SGFH, SGHR, SGL,
6  SGN1, SGNOM, SGP, SGN, SGN, SGWK, SGWUC, SSN, SSSWK, SSTIME, SSTNO,
7  STIME, STI, TYPE, WUC
INTEGER      B, SGC, CMA, CUMA, DVD, GRPID, GRPSEQ, ID2, IDENT, IEND, IGRP,
1  IMA1, IMAX, ISET, ISTAR, ITIME, IV, NENSGG, NESG, NSET, NWDC, NWUCGP, PDATA2
2, PNSGCF, PNSGCL, PNSGCS, WDCD
COMMON      CA(200), CHA(200), PS2
INTEGER      CA, CHA, PS2
COMMON      APOM(1, 2), WUCI(3)
INTEGER      ARUH(1, WUCI)
COMMON      ISWT
COMMON      IP1
INTEGER      CAA
ENTRY V7110
IEND = 0
ISWT = 0
DO 200 IONP=1, NWUCGP
C      CALCULATE FIRST HALF OF OUTPUT IDENT
ISTAR = IEND + I
IEND = IEND + NENSGG(IGRP)
IMAX = IP(IONP)
IF (IMAX) 200, 201, 100
100 CONTINUE
UVU(1) = I0 + (PNSGWK - PDATA2(1, IMAX))
UVU(2) = PNSGCF - PDATA2(2, IMAX)
UVU(3) = I0 + (PNSGCS - PDATA2(3, IMAX))
UVU(4) = I0 + (PNSGCL - PDATA2(4, IMAX))
US = (PNSGCS - PS2) * I0
DO 190 J = ISTAR, IEND
ISET = J - ISTAR
C      CALCULATE SECOND HALF OF OUTPUT ID
IDEN1 = 1000 + GRPID(IGRP) + GRPSEQ(IONP) + ISET
CUMA = I0 + CMA(J)
DO 180 K=1, 4
IF (UVU(K)) 180, 180, 170
170 CONTINUE
ID2 = IDEN1 + 10000 * SSN + I0 * IMAX
IV = DVD(K)
CALL CORUHI
• (IDENT, ID2, CUMA, DVD(K), IV)

```

```

IF (U.) IAN,IAN,1'S
175 ID2 = 10000*SN + K + 2000 + 10*IMAX
    CAA = 10*CA(J)
    CALL COBOUT
    * (IDENT, ID2, CAA, (S, IV))
180 CONTINUE
190 CONTINUE
200 CONTINUE
    PS2 = PNSGCS
    RETURN
    ENTHY V16
    UDN = 1
    IEND = 0
    ISTAR = 0
    UO 1200 1GRP=1, IWUCGP
    ISTAR = IEND + 1
    IFUO = IEND + PNSGGG(1GRP)
    IF (IMAT(C1,1GRP), 1200,1200,300)
300 IMAX = IP(1GRP)
    IF (IMAX) 1200,1200,1100
1100 CONTINUE
    UVD(1) = 10 * (PNSGK - PDATA2(1,IMAX))
    UVD(2) = PNSGCF - PDATA2(2,IMAX)
    UVD(3) = 10 * (PNSGCS - PDATA2(3,IMAX))
    UVD(4) = 10 * (PNSGCL - PDATA2(4,IMAX))
    UO 1190 J=ISTAR, IEND
    ISET = J-ISTAR
C CALCULATE SECOND HALF OF OUTPUT ID
    IDENT = 1000*GRP1(1GRP) + GRPSEQ(1GRP) + ISET
    UO 1180 K=1,4
    ID2 = 10000*SN + K + 1800 + 10*IMAX + 100000*C1
    CALL COBOUT
    * (IDENT, ID2, CRA(J, UDN, DVD(K))
1180 CONTINUE
1190 CONTINUE
1200 CONTINUE
    RETURN
    ENU
/* REQUIRED PLACE FORTRAN BCD SOURCE BEFORE THIS CARD
//LKED,ADDCALL DU DSN*MLIN,DISP*SHN,VOL*SER>11,UNIT>DSK
//LKED,SYSH DU DATA SPACE>LTKR,(5,5) 360 CDS
    INCLUDE ADCALL(0777)
/* REQUIRED PLACE LINKED CONTROL CARDS IF ANY BEFORE THIS CARD
//CHG.(TU10) DU DSN*P.9897415,UNIT>(A+F1,2,DEFER),DSN>A.9897419, CT12/13 1
//
// VOL*SER>+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 0
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1 T12 3
//CHG.(TU10F001 DU DISP>(PASS),UNIT>(T+F3,1,DEFER),DSN>E.9897418, CT14 1
// VOL*SER>+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3 T14 3
//CHG.(TU10F001 DU DSN*P.9897415,DISP>(OLD),PASS] 015-IN
//CHG.(TU10F001 DU DISP>(PASS),UNIT>(A+F5,2,DEFER),DSN>E.9897412, CT22/23 1
// VOL*SER>+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5 T22 3
//CHG.(TU11F001 DU DSN*P.9897413,DISP>(PASS),SPACE>(CYL,(009,001)) 025-OUT
/*
//C98974 EXEC C96030,TIME>02,ACCT>D35323007 SYDALONE JOHN LINK
//CHG.(TU12 DU DISP>(KEEP),UNIT>(A+F1,2,DEFER),DSN>A.9897419, CT12/13 1
//
// VOL*SER>+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1 T12 3
//CHG.(TU14 DU DISP>(KEEP),UNIT>(T+F3,1,DEFER),DSN>C.9897418, CT14 1
//
// VOL*SER>+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3 T14 3
//CHG.(TU15 DU DSN*P.9897415,DISP>(OLD,DELETE) 015-IN
//CHG.(TU22 DU DISP>(KEEP),UNIT>(T+F5,1,DEFER),DSN>E.9897412, CT22 1
// VOL*SER>+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5 T22 3
//CHG.(TU25 DU DSN*P.9897413,DISP>(OLD,DELETE) 025-IN
//CHG.(TPRIN DU *SPACE>(TRK,(1,1))
T/P TU15 1040000208
T/P TU25 1040000208
T/P TU22 1040000204
T/P TU14 1040070207
T/P TU12 1040070207
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.10.3 SORT AIRCRAFT LEVEL OBSERVATIONS

```

//T9897Z JOB 01: G. WANG. : ,PRTY>02,TYP(UN)>HOLD X1310
//C9897Z EXEC P9622N,W>159,TIME>03,ACCT>D35323007 22/12 SORT
//CHG.SORT11N DU DISP>[KEEP],UNIT>[A+F5,2,DEFER], CT22/23 1
// DSN>+E.9897412, CT22 2
// VOL>SER>[+5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
// DCB>[LRECL>0040,BLKSIZE>2800],LABEL>[NSL,RETPD>099]
//CHG.SORTOUT DU DISP>[PASS],UNIT>[A+F1,2,DEFER],DSN>+A.9897411, CT12/13 1
// VOL>SER>[+1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0040,BLKSIZE>2800]
//CHG.SYSIN DD *,DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[003,014,CH,A,032,006,CH,A],SIZE>E0600000
MODS E15>[E15,008,SORTLIB,N],E18>[E18,024,SORTLIB,N]
/*

```

### 6.10.4 SORT WUC LEVEL OBSERVATIONS

```

//T9897SB JOB 01: G. WANG. : ,PRTY>02,TYP(UN)>HOLD SORT IV-1A X1310
//C9897H EXEC P9622N,W>19,TIME>06,ACCT>D35323007 22/12 SORT
//CHG.SORT11N DU DISP>[KEEP],UNIT>[A+F5,2,DEFER], CT22/23 1
// DSN>+E.9897412, CT22 2
// VOL>SER>[+5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
// DCB>[LRECL>0040,BLKSIZE>2800],LABEL>[NSL,RETPD>001]
//CHG.SORTOUT DU DISP>[PASS],UNIT>[A+F1,2,DEFER],DSN>+A.9897421, CT12/13 1
// VOL>SER>[+1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0040,BLKSIZE>2800]
//CHG.SYSIN DD *,DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[003,014,CH,A,032,006,CH,A],SIZE>E1200000
MODS E15>[E15,008,SORTLIB,N],E18>[E18,024,SORTLIB,N]
/*
//C9897H EXEC C9603N,TIML>01,ACCT>D35323007 STDALONE T P
//CHG.TUI2 DU DISP>[KEEP],UNIT>[A+F1,2,DEFER],DSN>+A.9897421, CT12/13 1
// VOL>SER>[+1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TPRIN DD *,SPACE>[TRK,[1,1]]
T/P TUI2 10040402040
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.10.5 MERGE WUC LEVEL OBSERVATIONS

```

//T9897MA JOB 01: G. WANG. : ,PRTY>02,TYP(UN)>HOLD MLRUF X2 X1310
//C9897A EXEC P9622N,W>19,TIME>03,ACCT>D35323007 MAX 7-WAY MERGE
//CHG.SORTIN01 DU DISP>[KEEP],UNIT>[I+F5,1,DEFER],DSN>+E.9897421, CT22 1
// VOL>SER>[+5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 3
// DCB>[LRECL>0040,BLKSIZE>2800],LABEL>[NSL,RETPD>099]
//CHG.SORTIN02 DU DISP>[KEEP],UNIT>[I+F6,1,DEFER],DSN>+F.9897421, CT23 1
// VOL>SER>[+1,A+F6,B+F6,C+F6,D+F6,E+F6,F+F6,G+F6,H+F6, CT23 2
// I+F6,J+F6,K+F6,L+F6,M+F6,N+F6,O+F6,P+F6,Q+F6,R+F6,S+F6],CT23 3
// DCB>[LRECL>0040,BLKSIZE>2800],LABEL>[NSL,RETPD>099]
//CHG.SORTIN03 DU DISP>[KEEP],UNIT>[I+F7,1,DEFER],DSN>+G.9897421, CT24 1
// VOL>SER>[+1,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7],CT24 3
// DCB>[LRECL>0040,BLKSIZE>2800],LABEL>[NSL,RETPD>099]
//CHG.SORTIN04 DU DISP>[KEEP],UNIT>[I+F8,1,DEFER],DSN>+H.9897421, CT25 1
// VOL>SER>[+1,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8],CT25 3
// DCB>[LRECL>0040,BLKSIZE>2800],LABEL>[NSL,RETPD>099]
//CHG.SORTIN07 DU DISP>[KEEP],UNIT>[I+F4,1,DEFER],DSN>+D.9897421, CT15 1
// VOL>SER>[+4,A+F4,B+F4,C+F4,D+F4,E+F4,F+F4,G+F4,H+F4, CT15 2
// I+F4,J+F4,K+F4,L+F4,M+F4,N+F4,O+F4,P+F4,Q+F4,R+F4,S+F4],CT15 3
// DCB>[LRECL>0040,BLKSIZE>2800],LABEL>[NSL,RETPD>099]
//CHG.SORTOUT DD DISP>[KEEP],UNIT>[A+F1,2,DEFER],DSN>+A.9897411, CT12/13 1
// VOL>SER>[+1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0040,BLKSIZE>2800]
//CHG.SYSIN DD *,DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
MERGE FIELDS>[003,014,CH,A,032,006,CH,A]
/*

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```

50020 OPEN INPUT OFILE1 OUIPUT OFILECNT. C98970
50030 READ-IN. C98970
50040 READ OFILE1 INTO U-REC C98970
50050 AT END GO TO RECORD-KEEP. C98970
50070 IF FINIS-HFC-SW EQUAL :1: GO TO TEST-SN. C98970
50080 MOVE SN-O TO SN-C. C98970
50090 MOVE ID-O TO ID-C. C98970
50095 MOVE ZEROS TO OUS-CNT OBS-SN-CNT SN-OBS-CNT. C98970
50100 MOVE :1: TO F.HST-REC-SW. C98970
50105 GO TO READ-N. C98970
50110 TEST-SN. C98970
50115 ADD 1 TO OBS-CNT RECORDS-READ. C98970
50120 IF SN-O EQUAL SN-C GO TO TEST-ID. C98970
50125 LAST-CHANGE. C98970
50130 MOVE OBS-CNT TO CNT-C. C98970
50140 ADD OBS-CNT TO OUS-SN-CNT. C98970
50150 MOVE OBS-SN-CNT TO SN-OBS-CNT. C98970
50155 ADD 1 TO RECORDS-PASS. C98970
50160 WRITE OUS-REC-CNT FROM O-REC-CNT. C98970
50170 MOVE ZEROS TO OBS-CNT OBS-SN-CNT SN-OBS-CNT. C98970
50180 MOVE SN-O TO SN-C. C98970
50190 MOVE ID-O TO ID-C. C98970
50195 IF SN-O EQUAL :99999999: C98970
50196 GO TO RECORD-KEEP. C98970
50200 GO TO READ-IN. C98970
50210 TEST-ID. C98970
50220 IF ID-O EQUAL ID-C GO TO READ-IN. C98970
50230 MOVE OBS-CNT TO CNT-C. C98970
50240 ADD OBS-CNT TO OBS-SN-CNT. C98970
50250 WRITE OBS-REC-CNT FROM O-REC-CNT. C98970
50255 ADD 1 TO RECORDS-PASS. C98970
50260 MOVE ZEROS TO OBS-CNT. C98970
50270 MOVE SN-O TO SN-C. C98970
50280 MOVE ID-O TO ID-C. C98970
50290 GO TO READ-IN. C98970
61000 RECORD-KEEP. C98970
61010 COMPUTE KOUNT > RECORDS-PASS - [(RECORDS-PASS / 90) * 90]. C98970
61020 LOOP3. C98970
61030 WRITE OBS-REC-CNT FROM NINE-30. C98970
61040 ADD 1 TO KOUNT. C98970
61050 IF KOUNT IS LESS THAN 90 GO TO LOOP3. C98970
64000 CLOSE-FILES. C98970
64010 CLOSE OFILECNT OFILE1 WITH LOCK. C98970
64020 DISPLAY : IN : RECORDS-READ UPON CONSOLE. C98970
64030 DISPLAY : OUT : RECORDS-PASS UPON CONSOLE. C98970
64040 DISPLAY : END 9897 : UPON CONSOLE. C98970
64050 GORACK. C98970
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG,TFGIN DD *,SPACE>[CYL,(1,1)]
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU12 DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 T12
//TPR,TU24 DD DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 T24
//TPR,TPRIN DD *,SPACE>[TRK,(1,1)]
T/P TU24 11000302030
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.10.7 REGRESSION AND CORRELATION ANALYSIS

```

//C9897T JOB 01: G. WANG. :PRTY>05 X1310
//C9897T EXEC P9627L,TIME>1,ACCT>D35323007 PUT PROGRAM IN LIBRARY
//CHG,INPUT DD *,SPACE>[CYL,(1,1)] 1440 CDS
00000 CUMMINE COMPIL 0. WANO. C98970
01040 DATE-WRITTEN. 25 APR 72. C98970
01050 REMARKS. PHASE II- TASK IV- II-STATISTICS FORTRAN COBOL LINK. C98970
01070 INPUT/OUTPUT - COBOL. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT OFILE1 ASSIGN TO UT-S-FT01F001 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELLCI OFILECNT ASSIGN TO UT-S-FT10F001 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02180 SELECT STATRPORT ASSIGN TO UT-S-FT11F001 C98970
02190 RESERVE ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
14100 FD STATREPORT C98970
14120 RECORDING MORE IS F C98970
14130 BLOCK CONTAINS 15 RECORDS C98970
14140 RECORD CONTAINS 130 CHARACTERS C98970
14150 LABEL RECORD AND OMITTED C98970

```

|       |    |                                  |   |    |        |
|-------|----|----------------------------------|---|----|--------|
| 14160 |    | DATA RECORDS ARE STATREPORT-REC. |   |    | C98970 |
| 14200 | 01 | STAI-HLC SYNC.                   |   |    | C98970 |
| 14210 | 02 | FILLER                           | PICTURE X(130).                             |    | C98970 |
| 17100 | FU | OFFILE1                          |   |    | C98970 |
| 17120 |    | RECURRING MODE IS F              |   |    | C98970 |
| 17130 |    | BLOCK CONTAINS 70 RECORDS        |   |    | C98970 |
| 17140 |    | RECORD CONTAINS 40               | CHARACTERS                                  |    | C98970 |
| 17150 |    | LABEL RECORDS ARE OMITTED        |   |    | C98970 |
| 17160 |    | DATA RECORDS ARE OFFILE1-REC.    |   |    | C98970 |
| 17200 | 01 | OFFILE1-REC SYNC.                |   |    | C98970 |
| 17210 | 02 | FILLER                           | PICTURE X(40).                              |    | C98970 |
| 18100 | FU | OFFILE41                         |   |    | C98970 |
| 18120 |    | RECURRING MODE IS F              |   |    | C98970 |
| 18130 |    | BLOCK CONTAINS 90 RECORDS        |   |    | C98970 |
| 18140 |    | RECORD CONTAINS 30               | CHARACTERS                                  |    | C98970 |
| 18150 |    | LABEL RECORDS ARE OMITTED        |   |    | C98970 |
| 18160 |    | DATA RECORDS ARE OBS-REC-CNT.    |   |    | C98970 |
| 18200 | 01 | OBS-REC-CNT SYNC.                |   |    | C98970 |
| 18210 | 02 | FILLER                           | PICTURE X(30).                              |    | C98970 |
| 30000 |    | WORKING-STORAGE SECTION.         |   |    | C98970 |
| 30100 | 01 | BLNK-130 SYNC.                   |   |    | C98970 |
| 30110 | 02 | FILLER                           | PICTURE X(129) VALUE SPACE.                 |    | C98970 |
| 30120 | 02 | PK-MK                            | PICTURE X VALUE :#.                         |    | C98970 |
| 30200 | 01 | PAGLCNT                          | PICTURE 9999 SYNC VALUE ZERO.               |    | C98970 |
| 30210 | 01 | LINL-LNI                         | PICTURE 99 SYNC VALUE ZERO.                 |    | C98970 |
| 30220 | 01 | LINL-MAX-62                      | PICTURE 99 SYNC VALUE 62.                   |    | C98970 |
| 30230 | 01 | LINLS-OUT                        | PICTURE 9(6) SYNC VALUE 0.                  |    | C98970 |
| 30240 | 01 | FREQ-CNT                         | PICTURE 9(6) SYNC VALUE 0.                  |    | C98970 |
| 30250 | 01 | OBS-CNT                          | PICTURE 9(6) SYNC VALUE 0.                  |    | C98970 |
| 30260 | 01 | EFLAG                            | PICTURE X SYNC VALUE :01.                   |    | C98970 |
| 30270 | 01 | FREQEOF                          | PICTURE X SYNC VALUE :01.                   |    | C98970 |
| 30280 | 01 | OBSEOF                           | PICTURE X SYNC VALUE :01.                   |    | C98970 |
| 30290 | 01 | STATCNT                          | PICTURE 9(6) SYNC VALUE 0.                  |    | C98970 |
| 30310 | 01 | RECURS-HEAD                      | PICTURE 9(7) SYNC VALUE ZERO.               |    | C98970 |
| 30320 | 01 | RECURS-PASS                      | PICTURE 9(7) SYNC VALUE ZERO.               |    | C98970 |
| 30400 | 01 | KOUNT                            | PICTURE 9999 SYNC VALUE ZERO COMPUTATIONAL. |    | C98970 |
| 32000 | 01 | REPORT-ID SYNC.                  |   |    | C98970 |
| 32010 | 02 | FILLER                           | PICTURE X(50) VALUE                         |    | C98970 |
| 32020 |    | :9999760 TF7919-01 142-8 1 1/2   |   | 1. | C98970 |
| 32030 | 02 | FILLER                           | PICTURE X(50) VALUE SPACE.                  |    | C98970 |
| 32040 | 02 | FILLER                           | PICTURE X(30) VALUE                         |    | C98970 |
| 32050 |    | :                                | #:.   |    | C98970 |
| 42000 | 01 | O-REC SYNC.                      |   |    | C98970 |
| 42010 | 02 | FILLER                           | PICTURE XX VALUE SPACE.                     |    | C98970 |
| 42020 | 02 | SN-0                             | PICTURE X(8) VALUE SPACE.                   |    | C98970 |
| 42030 | 02 | IU-0                             | PICTURE X(6) VALUE SPACE.                   |    | C98970 |
| 42035 | 02 | FILLER                           | PICTURE X VALUE SPACE.                      |    | C98970 |
| 42040 | 02 | OU-1                             | PICTURE X(6).                               |    | C98970 |
| 42045 | 02 | FILLER                           | PICTURE X VALUE SPACE.                      |    | C98970 |
| 42050 | 02 | OU-2                             | PICTURE X(6).                               |    | C98970 |
| 42055 | 02 | FILLER                           | PICTURE X VALUE SPACE.                      |    | C98970 |
| 42060 | 02 | OU-3                             | PICTURE X(6).                               |    | C98970 |
| 42065 | 02 | FILLER                           | PICTURE XX VALUE SPACE.                     |    | C98970 |
| 42070 | 02 | PCD-MK-0                         | PICTURE X VALUE :#.                         |    | C98970 |
| 42360 | 01 | O-PLC-CNT SYNC.                  |   |    | C98970 |
| 42310 | 02 | FILLER                           | PICTURE XX VALUE SPACE.                     |    | C98970 |
| 42320 | 02 | SN-C                             | PICTURE X(8).                               |    | C98970 |
| 42330 | 02 | IU-C                             | PICTURE X(6).                               |    | C98970 |
| 42340 | 02 | CNT-C                            | PICTURE X(6) VALUE :0000001.                |    | C98970 |
| 42350 | 02 | FILLER                           | PICTURE X VALUE SPACE.                      |    | C98970 |
| 42355 | 02 | SN-OBS-CNT                       | PICTURE 222229 VALUE :0000001.              |    | C98970 |
| 42360 | 02 | RLD-MK-C                         | PICTURE X VALUE :#.                         |    | C98970 |
| 44000 | 01 | TITLE-0 SYNC.                    |   |    | C98970 |
| 44010 | 02 | CAN-0                            | PICTURE X VALUE :#.                         |    | C98970 |
| 44020 | 02 | FILLER                           | PICTURE X(45) VALUE SPACE.                  |    | C98970 |
| 44030 | 02 | T-1-52-64                        | PICTURE X(16) VALUE :CORRELATION, REB1.     |    | C98970 |
| 44040 | 02 | T-1-65 85                        | PICTURE X(18) VALUE :SESSION STATISTICS!    |    | C98970 |
| 44050 | 02 | FILLER                           | PICTURE X(38) VALUE SPACE.                  |    | C98970 |
| 44060 | 02 | PAGL-NO-0                        | PICTURE X(5) VALUE :PAGE 1.                 |    | C98970 |
| 44070 | 02 | PAGL-C-T                         | PICTURE 2229.                               |    | C98970 |
| 44080 | 02 | FILLER                           | PICTURE XX VALUE SPACE.                     |    | C98970 |
| 44090 | 02 | T-0-HECMK                        | PICTURE X VALUE :#.                         |    | C98970 |
| 44100 | 01 | TITLE-HLK SYNC.                  |   |    | C98970 |
| 44110 | 02 | CAN-BL                           | PICTURE X VALUE SPACE.                      |    | C98970 |
| 44120 | 02 | FILLER                           | PICTURE X(124) VALUE SPACE.                 |    | C98970 |
| 44130 | 02 | T-HLK-HECMK                      | PICTURE X VALUE :#.                         |    | C98970 |
| 44200 | 01 | TITLE-1 SYNC.                    |   |    | C98970 |
| 44210 | 02 | CAN-1                            | PICTURE X VALUE SPACE.                      |    | C98970 |
| 44220 | 02 | SN-H                             | PICTURE X(8).                               |    | C98970 |
| 44230 | 02 | IU-H                             | PICTURE X(6).                               |    | C98970 |
| 44240 | 02 | CC-H                             | PICTURE X(5) VALUE : CC> 1.                 |    | C98970 |
| 44250 | 02 | CC-U-H                           | PICTURE -(7).9(5).                          |    | C98970 |
| 44260 | 02 | A-H                              | PICTURE X(4) VALUE : A> 1.                  |    | C98970 |
| 44270 | 02 | A-D-H                            | PICTURE -(8).9(5).                          |    | C98970 |
| 44280 | 02 | B-H                              | PICTURE X(4) VALUE : B> 1.                  |    | C98970 |
| 44290 | 02 | B-D-H                            | PICTURE -(8).9(5).                          |    | C98970 |
| 44300 | 02 | SLR-H                            | PICTURE X(6) VALUE : SEN> 1.                |    | C98970 |



|       |    |   |                    |                       |        |
|-------|----|---|--------------------|-----------------------|--------|
| 44310 | 02 | SEL-D-I   | PICTURE -(8).9(5). |                       | C98970 |
| 44320 | 02 | SEL-R   | PICTURE X(6)       | VALUE I SEE> I.       | C98970 |
| 44330 | 02 | SEL-D-R   | PICTURE -(8).9(5). |                       | C98970 |
| 44340 | 02 | F-H   | PICTURE X(4)       | VALUE I F> ;.         | C98970 |
| 44350 | 02 | F-D-R   | PICTURE -(8).9(5). |                       | C98970 |
| 44360 | 02 | FILLER  | PICTURE X          | VALUE SPACE.          | C98970 |
| 44370 | 02 | T-1-RECMK   | PICTURE X          | VALUE I#;.            | C98970 |
| 44400 | 01 | TITLE-2 SYNC.   |                    |                       | C98970 |
| 44410 | 02 | CAK-2   | PICTURE X          | VALUE SPACE.          | C98970 |
| 44420 | 02 | FILLEP  | PICTURE X(14)      | VALUE SPACE.          | C98970 |
| 44430 | 02 | XBAR-R  | PICTURE X(7)       | VALUE I XBAR> I.      | C98970 |
| 44440 | 02 | XBAR-D-R  | PICTURE -(8).9(5). |                       | C98970 |
| 44450 | 02 | XSIG-R  | PICTURE X(9)       | VALUE I XSIGMA> I.    | C98970 |
| 44460 | 02 | XSIG-D-R  | PICTURE -(8).9(5). |                       | C98970 |
| 44470 | 02 | YBAR-R  | PICTURE X(7)       | VALUE I YBAR> I.      | C98970 |
| 44480 | 02 | YBAR-D-R  | PICTURE -(8).9(5). |                       | C98970 |
| 44490 | 02 | YSIG-R  | PICTURE X(9)       | VALUE I YSIGMA> I.    | C98970 |
| 44500 | 02 | YSIG-D-R  | PICTURE -(8).9(5). |                       | C98970 |
| 44510 | 02 | N-H   | PICTURE X(4)       | VALUE I N> ;.         | C98970 |
| 44520 | 02 | N-D-R   | PICTURE ZZZZZ9.    |                       | C98970 |
| 44530 | 02 | FILLEP  | PICTURE X(16)      | VALUE SPACE.          | C98970 |
| 44540 | 02 | T-2-RECMK   | PICTURE X          | VALUE I#;.            | C98970 |
| 48000 |    | LINKAGE SECTION.  |                    |                       | C98970 |
| 48010 | 77 | ISNOF   | PICTURE S9(8)      | COMPUTATIONAL SYNC.   | C98970 |
| 48020 | 77 | IDNOF   | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 48030 | 77 | JFRE0   | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 48040 | 77 | ISNO  | PICTURE S9(8)      | COMPUTATIONAL SYNC.   | C98970 |
| 48050 | 77 | IDO   | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 48060 | 77 | IOB1  | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 48070 | 77 | IOB2  | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 48080 | 77 | IOB3  | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 48090 | 77 | FSNS  | PICTURE S9(8)      | COMPUTATIONAL SYNC.   | C98970 |
| 48100 | 77 | FID   | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 48110 | 77 | FCORR   |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48120 | 77 | FINTER  |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48130 | 77 | F SloPE   |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48140 | 77 | FSTDEV  |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48150 | 77 | FSTDEL  |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48160 | 77 | FOULSI  |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48170 | 77 | FXBAR   |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48180 | 77 | FXSIG   |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48190 | 77 | FYBAR   |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48200 | 77 | FYSIG   |                    | COMPUTATIONAL-1 SYNC. | C98970 |
| 48210 | 77 | IFRLO   | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 48220 | 77 | ITI   | PICTURE S9(6)      | COMPUTATIONAL SYNC.   | C98970 |
| 50000 |    | PROCEDURE DIVISION.                                     |                    |                       | C98970 |
| 50010 |    | STATS-IN.   |                    |                       | C98970 |
| 50020 |    | ENTRY :COHFRO: USING ISNOF, IDNOF, JFRE0.               |                    |                       | C98970 |
| 50030 |    | IF EFLAG EQUAL :1: GO TO FREQ-IN.                       |                    |                       | C98970 |
| 50040 |    | OPEN INPUT OFILECNT OFILE1.                             |                    |                       | C98970 |
| 50050 |    | OPEN OUTPUT STATREPORT.                                 |                    |                       | C98970 |
| 50060 |    | MOVE :1: TO EFLAG.                                      |                    |                       | C98970 |
| 50062 |    | WRITE STAT-REC FROM REPORT-ID.                          |                    |                       | C98970 |
| 50064 |    | ADD 1 TO LINES-OUT.                                     |                    |                       | C98970 |
| 50070 |    | PERFORM PAGE-FLIP THRU PAGE-FLIP-EXIT.                  |                    |                       | C98970 |
| 55100 |    | FREQ-IN.  |                    |                       | C98970 |
| 55110 |    | PERFORM READ-FREQ THRU READ-FREQ-EXIT.                  |                    |                       | C98970 |
| 55120 |    | IF FREQLOF EQUAL :1: GO TO FREQ-EXIT.                   |                    |                       | C98970 |
| 55130 |    | AND 1 TO FREQ-CNT.                                      |                    |                       | C98970 |
| 55140 |    | MOVE-LINK-FREQ.   |                    |                       | C98970 |
| 55150 |    | MOVE SN-C TO ISNOF.                                     |                    |                       | C98970 |
| 55160 |    | MOVE ID-C TO IDNOF.                                     |                    |                       | C98970 |
| 55170 |    | MOVE CNT-C TO JFRE0.                                    |                    |                       | C98970 |
| 55200 |    | FREQ-EXIT.  |                    |                       | C98970 |
| 55210 |    | GORACK.   |                    |                       | C98970 |
| 56010 |    | OBSERVATIONS-IN.  |                    |                       | C98970 |
| 56020 |    | ENTRY :COB0BS: USING ISNO, IDO, IOB1, IOB2, IOB3.       |                    |                       | C98970 |
| 56030 |    | OBS-IN.   |                    |                       | C98970 |
| 56040 |    | PERFORM READ-OBS THRU READ-OBS-EXIT.                    |                    |                       | C98970 |
| 56050 |    | IF OBSLOF EQUAL :1: GO TO OBS-EXIT.                     |                    |                       | C98970 |
| 56060 |    | ADD 1 TO OBS-CNT.                                       |                    |                       | C98970 |
| 56070 |    | MOVE-LINK-OBS.  |                    |                       | C98970 |
| 56080 |    | MOVE SN-O TO ISNO.                                      |                    |                       | C98970 |
| 56090 |    | MOVE ID-O TO IDO.                                       |                    |                       | C98970 |
| 56100 |    | MOVE OB-1 TO IOB1.                                      |                    |                       | C98970 |
| 56110 |    | MOVE OB-2 TO IOB2.                                      |                    |                       | C98970 |
| 56120 |    | MOVE OB-3 TO IOB3.                                      |                    |                       | C98970 |
| 56200 |    | OBS-EXIT.   |                    |                       | C98970 |
| 56210 |    | GORACK.   |                    |                       | C98970 |
| 57000 |    | REPORT-OUT.   |                    |                       | C98970 |
| 57010 |    | ENTRY :COB0T2: USING FSNS, FID, FCORR, FINTER, F SloPE, |                    |                       | C98970 |
| 57020 |    | FSTDEV, FSTDEL, FQULST, FXBAR, FXSIG, FYBAR, FYSIG,     |                    |                       | C98970 |
| 57030 |    | IFRLO.  |                    |                       | C98970 |
| 57040 |    | WRITE STAT-REC FROM TITLE-BLK.                          |                    |                       | C98970 |
| 57050 |    | LINK-1.   |                    |                       | C98970 |
| 57060 |    | MOVE FSNS TO SN-R.                                      |                    |                       | C98970 |
| 57070 |    | MOVE FID TO ID-R.                                       |                    |                       | C98970 |

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57080      MOVE FCGRR TO CC-D-R.                C98970
57090      MOVE FINER TO A-D-R.                C98970
57100      MOVE FSLOPE TO B-D-R.              C98970
57110      MOVE FSLOEV TO SER-D-R.            C98970
57120      MOVE FSTJEE TO SEE-D-R.           C98970
57130      MOVE FOUTST TO F--R.              C98970
57150      WRITE STAT-REC FROM TITLE-1.       C98970
57160      LINE-2.                             C98970
57170      MOVE FXUR TO XBAR-D-R.             C98970
57180      MOVE FXSIG TO XSIG-D-R.           C98970
57190      MOVE FYBAR TO YBAR-D-R.           C98970
57200      MOVE FYSIG TO YSIG-D-R.           C98970
57210      MOVE IFHTO TO N-D-R.              C98970
57220      WRITE STAT-REC FROM TITLE-2.       C98970
57225      ADD I TO STATCNT.                  C98970
57230      ADD 3 TO LINE-CNT LINES-OUT.       C98970
57240      IF LINE-CNT EQUAL LINE-MAX-62     C98970
57250          PERFORM PAGE-FLIP THRU PAGE-FLIP-EXIT. C98970
57300      REPORT-OUT-LATT.                   C98970
57310      GOBACK.                            C98970
59000      READ-FREQ.                          C98970
59010          READ OFILECNT INTO O-REC-CNT   C98970
59020              AT END GO TO FREQ-EOF.     C98970
59030          IF SN-C EQUAL :99999999: MOVE SN-C TO ISNOF C98970
59040              GO TO FREQ-LOF.            C98970
59050          GO TO READ-FREQ-EXIT.          C98970
59060      FREQ-EOF.                           C98970
59080          MOVE :I: TO FREQEOF.           C98970
59100      READ-FREQ-EXIT.                     C98970
59200      READ-OR5.                           C98970
59210          READ OFILE1 INTO O-REC         C98970
59220              AT END GO TO OBS-EOF.     C98970
59230          IF SN-O EQUAL :99999999: MOVE SN-O TO ISNO C98970
59240              GO TO OBS-EOF.            C98970
59250          GO TO READ-OBS-EXIT.          C98970
59260      OBS-EOF.                            C98970
59280          MOVE :I: TO OBSEOF.            C98970
59300      READ-OBS-EXIT.                     C98970
59400      PAGE-FLIP.                          C98970
59405          MOVE ZLMO TO LINE-CNT.         C98970
59410          ADD 1 TO PAGECNT.              C98970
59420          MOVE PAGECNT TO PAGE-CNT.      C98970
59422          WRITE STAT-REC FROM TITLE-BLK. C98970
59424          WRITE STAT-REC FROM TITLE-BLK. C98970
59426          ADD 2 TO LINES-OUT.           C98970
59430          WRITE STAT-REC FROM TITLE-0.   C98970
59440          WRITE STAT-REC FROM TITLE-BLK. C98970
59450          ADD 2 TO LINE-CNT LINES-OUT.   C98970
59490      PAGE-FLIP-EXIT.                     C98970
61000      BLKCHK-CHECK.                      C98970
61010          ENTRY :CLOSE: USING IT1.      C98970
61020          COMPUTE KOUNT > LINES-OUT - [(LINES-OUT / 15) * 15]. C98970
61030      LOOP3.                             C98970
61040          WRITE STAT-REC FROM TITLE-BLK. C98970
61050          ADD 1 TO KOUNT.                C98970
61060          IF KOUNT IS LESS THAN 15 GO TO LOOP3. C98970
64000      CLOSE-FILES.                       C98970
64010          CLOSE OFILECNT OFILE1 STATREPORT WITH LOCK. C98970
64020          DISPLAY : FREQ-IN : FREQ-CNT UPON CONSOLE. C98970
64030          DISPLAY : OBS -IN : OBS-CNT UPON CONSOLE. C98970
64040          DISPLAY : STATS-O : STATCNT UPON CONSOLE. C98970
64050          DISPLAY : EOJ 9897: UPON CONSOLE. C98970
64060          GOBACK.                       C98970
/*
//CHG.SYSIN DD DATA,SPACE>(TRK,(1,1))
NAME C877SERJ
/*
//C98970 EXEC P96,56,PARM,ASSY>(MAP,LIST,BCD),
//          PARMLKED>:LIST,XREF:,TIME>04,ACCT>D35323007 C
//ASSY.SYSIN DD DATA,SPACE>(CYL,(1,1))
C          FORTRAN-COJOL LINK TEST, JOHN LINK, KELLY B. 1440 CDS
C          27 APRIL 1972
C          THIS IS THE DRIVER TO CALCULATE THE STATISTICS
DIMENSION X(10000),XBAR(2),STD(2),SKEW(2),CURT(2),C(2),S(4),B(4),
I A(4),N(4),F(4),IDATA(3),IDI(2),ID2(2)
DIMENSION B(2)
INTEGER OFILE1,OFILE2,OUT
L = 2
NVAR = 2
MAX = 5000
BAD(1) = -9999.
BAD(2) = -9999.
MIN = 4
C          READ FREQUENCY TAPE
10 CONTINUE
CALL CORFRQ (IDI(1),IDI(2),NUMBER)

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C   CHECK FOR BLOCKING FLAG
   IF (IDI(1) - 9999999) 20,1000,1000
20  CONTINUE
C   CHECK FOR MINIMUM NUMBER OF OBSERVATIONS
   IF (NUMBER - MIN) 10,30,30
C   CHECK FOR MAXIMUM NUMBER OF OBSERVATIONS
30  IF (NUMBER - MAX) 40,40,800
40  NSKIP = 0
C   READ OBSERVATION TAPE AND POSITION IT
300 CONTINUE
   CALL COBORS (ID2(1),ID2(2),IDATA(1),IDATA(2),IDATA(3))
C   CHECK ID ON OBSERVATION TAPE VS ID ON FREQUENCY TAPE
   IF (IDI(1) - ID2(1)) 10,310,300
310 IF (IDI(2) - ID2(2)) 10,320,300
320 CONTINUE
C   DO FIRST POINT
   IF (IDATA(2)) 325,322,325
322 CONTINUE
   IDATA(2) = 1
325 CONTINUE
   X(I) = FLOAT (IDATA(1))/FLOAT(IDATA(2))
   J=NUMBER+1
   A(J) = FLOAT (IDATA(3)) / 10.0
   DO 350 I=2,NUMBER
   IF (NSKIP) 310,380,350
350 DO 360 K = 1,NSKIP
360 CALL COBORS (ID2(1),ID2(2),IDATA(1),IDATA(2),IDATA(3))
C   HEAD IN OBSERVATIONS
380 CONTINUE
   CALL COBORS (ID2(1),ID2(2),IDATA(1),IDATA(2),IDATA(3))
   IF (IDATA(2)) 385,382,385
382 CONTINUE
   IDATA(2) = 1
385 CONTINUE
   X(I) = FLOAT (IDATA(1))/FLOAT(IDATA(2))
   J = NUMBER + 1
   X(J) = FLOAT (IDATA(3)) / 10.0
390 CONTINUE
C   DO DATA CORRELATION AND REGRESSION ANALYSIS
   CALL MISH (NUMBER,NVAR,X,BAD,XBAR,STD,SKEW,CURT,R,N,A,B,S,IER)
   IF (IER) 500,405,500
405 CONTINUE
   CALL SEESUB (N ,STD,R,L,SEE,F)
C   WRITE STATISTICS
407 CONTINUE
   CALL COPUT2
   *(IDI(1),IDI(2),R(L),A(L),B(L),S(L),SEE,F,XBAR(2),STD(2),XBAR(1),
   * STD(1),NUMBER)
C   GO TO READ IN NEXT FREQUENCY
   GO TO 10
500 CONTINUE
   R(L) = 0.0
   A(L) = 0.0
   U(L) = 0.0
   S(L) = 0.0
   SEE = 0.0
   F = 0.0
   STD(1) = 0.0
   STD(2) = 0.0
   GO TO 407
800 CONTINUE
   NSKIP = NUMBER / MAX
   NUMBER = NUMBER / (NSKIP + 1)
   GO TO 300
1000 CONTINUE
C   CLOSE ALL FILES
   ITI = 0
   CALL CLOSEF (ITI)
   CALL EOJMSG
   CALL EXIT
   END
SUBROUTINE MISR (NO,M,X,CODE,XBAR,STD,SKEW,CURT,R,N,A,B,S,IER) MISR 0
C   DETAIL LEVEL STATISTICAL ANALYZER = SUB MISR MISR 10
C   FOR A DESCRIPTION OF MISR USAGE AND EXPLANATION OF TERMS, MISR 20
C   SEE THE SS-7360 MANUAL. MISR 30
C   MISR 40
C   DIMENSION X(1),CODE(1),XBAR(1),STD(1),SKEW(1),CURT(1),R(1),N(1) MISR 50
C   DIMENSION A(1),B(1),S(1) MISR 60
C   MISR 70
C   COMPUTE MEANS MISR 80

```

|   |  |          |
|---|--|----------|
| C | IEH=0  | MISR 90  |
|   | L=U  | MISR 100 |
|   | DO 50 J=1,M  | MISR 110 |
|   | FN=0.0   | MISR 120 |
|   | XBAR(J)=0.0  | MISR 130 |
|   | DO 20 I=1,N0                                       | MISR 140 |
|   | L=L+1  | MISR 150 |
|   | IF (X(L)-CUDL(J)) 10,20,10                         | MISR 160 |
|   | 10 FN=FN+1.0                                       | MISR 170 |
|   | XBAR(J)=XBAR(J)+X(L)                               | MISR 180 |
|   | 20 CONTINUE  | MISR 190 |
|   | IF (FN) 30,3 *40                                   | MISR 200 |
|   | 30 XBAR(J)=0.0                                     | MISR 210 |
|   | GO TO 50   | MISR 220 |
|   | 40 XBAR(J)=XBAR(J)/FN                              | MISR 230 |
|   | 50 CONTINUE  | MISR 240 |
| C | SET-UP WORK AREAS AND TEST WHETHER DATA IS MISSING | MISR 250 |
| C |  | MISR 260 |
| C |  | MISR 270 |
|   | L=0  | MISR 280 |
|   | DO 260 J=1,M                                       | MISR 290 |
|   | LJJ=NO*(J-1)                                       | MISR 300 |
|   | SKEW(J)=0.0  | MISR 310 |
|   | CURT(J)=0.0  | MISR 320 |
|   | KI=M*(J-1)   | MISR 330 |
|   | KJ=J-M   | MISR 340 |
|   | DO 250 I=1,J                                       | MISR 350 |
|   | KI=KI+1  | MISR 360 |
|   | KJ=KJ+M  | MISR 370 |
|   | SUMX=0.0   | MISR 380 |
|   | SUMY=0.0   | MISR 390 |
|   | II=0.0   | MISR 400 |
|   | IJ=0.0   | MISR 410 |
|   | III=0.0  | MISR 420 |
|   | IJJ=0.0  | MISR 430 |
|   | TIJ=0.0  | MISR 440 |
|   | NIJ=0  | MISR 450 |
|   | LI=NO*(I-1)  | MISR 460 |
|   | LJ=LJJ   | MISR 470 |
|   | L=L+1  | MISR 480 |
|   | DO 90 K=1,NO                                       | MISR 490 |
|   | LI=LI+1  | MISR 500 |
|   | LJ=LJ+1  | MISR 510 |
|   | IF (X(LI)-COUE(I)) 60,90,60                        | MISR 520 |
|   | 60 IF (X(LJ)-COUE(J)) 70,90,70                     | MISR 530 |
| C |  | MISR 540 |
| C | BOTH DATA ARE PRESENT                              | MISR 550 |
| C |  | MISR 560 |
|   | 70 XX=X(LI)-XBAR(I)                                | MISR 570 |
|   | YY=X(LJ)-XBAR(J)                                   | MISR 580 |
|   | II=II+XX   | MISR 590 |
|   | III=III+XX**2                                      | MISR 600 |
|   | IJ=IJ+YY   | MISR 610 |
|   | IJJ=IJJ+YY**2                                      | MISR 620 |
|   | TIJ=TIJ+XX*YY                                      | MISR 630 |
|   | NIJ=NIJ+1  | MISR 640 |
|   | SUMX=SUMX+X(LI)                                    | MISR 650 |
|   | SUMY=SUMY+X(LJ)                                    | MISR 660 |
|   | IF (I-J) 90,80,80                                  | MISR 670 |
|   | 80 SKEW(J)=SKEW(J)+YY**3                           | MISR 680 |
|   | CURT(J)=CURT(J)+YY**4                              | MISR 690 |
|   | 90 CONTINUE  | MISR 700 |
| C |  | MISR 710 |
| C | COMPUTE SUM OF CROSS-PRODUCTS OF DEVIATIONS        | MISR 720 |
| C |  | MISR 730 |
|   | IF (NIJ) 110,110,100                               | MISR 740 |
|   | 100 FN=NIJ   | MISR 750 |
|   | M(L)=TIJ-TI*T/FN                                   | MISR 760 |
|   | N(L)=NIJ   | MISR 770 |
|   | III=III-TI*II/FN                                   | MISR 780 |
|   | IJJ=IJJ-TJ*TJ/FN                                   | MISR 790 |
| C |  | MISR 800 |
| C | COMPUTE STANDARD DEVIATION, SKEWNESS, AND KURTOSIS | MISR 810 |
| C |  | MISR 820 |
|   | 110 IF (I-J) 180, 20,180                           | MISR 830 |
|   | 120 IF (M(J)-2) 130,130,140                        | MISR 840 |
|   | 130 IEH=1  | MISR 850 |
|   | M(L)=1.0L75  | MISR 860 |
|   | A(K1)=1.0E75                                       | MISR 870 |
|   | B(K1)=1.0E75                                       | MISR 880 |
|   | S(K1)=1.0E75                                       | MISR 890 |
|   | GO TO 160  | MISR 900 |
|   |  | MISR 910 |

```

C
140 STD(J)=R(L)
    R(L)=1.0
    A(K1)=0.0
    B(K1)=1.0
    S(K1)=0.0
C
    IF (STD(J)-(1.0E-20)) 150,150,170
150 IER=2
160 STD(J)=1.0E75
    SKLW(J)=1.0E75
    CURT(J)=1.0E75
    GO TO 260
C
170 WORK=STD(J)/FN
    SKLW(J)=(SKLW(J)/FN)/(WORK+SQRT(WORK))
    CURT(J)=((CURT(J)/FN)/WORK**2)-3.0
    STD(J)=SQRT(STD(J)/(FN-1.0))
    GO TO 260
C
    COMPUTE REGRESSION COEFFICIENTS
C
180 IF (N1J-2) 190,190,210
190 IER=1
200 R(L)=1.0E75
    A(K1)=1.0E75
    B(K1)=1.0E75
    S(K1)=1.0E75
    A(KJ)=1.0E75
    B(KJ)=1.0E75
    S(KJ)=1.0E75
    GO TO 250
C
210 IF (T11-(1.0E-0)) 230,230,220
220 IF (TJJ-(1.0E-20)) 230,230,240
230 IER=2
    GO TO 200
C
240 SUMX=SUMX/FN
    SUMY=SUMY/FN
    B(K1)=R(L)/T11
    A(KJ)=SUMY-B(K1)*SUMX
    B(KJ)=R(L)/TJJ
    A(KJ)=SUMX-B(KJ)*SUMY
C
    COMPUTE CORRELATION COEFFICIENTS
C
    R(L)=R(L)/(SQRT(T11)*SQRT(TJJ))
C
    COMPUTE STANDARD ERRORS OF REGRESSION COEFFICIENTS
C
    RR=R(L)**2
    SUMX=(TJJ-TJJ*RR)/(FN-2)
    S(K1)=SQRT(SUMX/T11)
    SUMY=(T11-T11*RR)/(FN-2)
    S(KJ)=SQRT(SUMY/TJJ)
C
250 CONTINUE
260 CONTINUE
C
    RETURN
    END
    SUBROUTINE SEEJUD (N, STD, R, K, SEE, F)
    DETAIL LEVEL STATISTICAL ANALYZER - SUB SEESUR
C
    SUB TO COMPUTE STD ERROR OF ESTIMATE AND F LEVEL.
C
    DIMENSION N(1), R(1)
    SEE = 0.0
    F = 0.0
    FN = N(K)
    IF (R(K) = 1.1) 5,5,20
    5 TEMP = 1.0 - R(K)*R(K)
    IF (TEMP) 20,20,10
    10 SEE = STD * SQRT (TEMP)
    F = R(K)*R(K) * (FN-2.0) / TEMP
    20 RETURN
    END
/*
/* REQUIRED PLACE FORTRAN UCD SOURCE BEFORE THIS CARD
//LKED.ADCALL DU USN>PGML18,DISP>SHR,VOL>SER>111,UNIT>OSK
//LKED.SYSIN DU D,TA,SPACE>[TRK,(5,S)]
    INCLUDE ADUCAL1LC877S]
/*
/* REQUIRED PLACE LINKEDIT CONTROLCARDS IF ANY BEFORE THIS CARD
//CHG.FTU1F001 DU LISP>[PASS],UNIT>[A+F1,2,DEFER],DSN>A,9897411, CT12/13 I
//
// VOL>SER>[+F1,A+F1,H+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
//
// 1+F1, +F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3

```

```

MISR 920
MISR 930
MISR 940
MISR 950
MISR 960
MISR 970
MISR 980
MISR 990
MISR1000
MISR1010
MISR1020
MISR1030
MISR1040
MISR1050
MISR1060
MISR1070
MISR1080
MISR1090
MISR1100
MISR1110
MISR1120
MISP1130
MISR1140
MISR1150
MISR1160
MISR1170
MISR1180
MISR1190
MISR1200
MISP1210
MISR1220
MISP1230
MISR1240
MISR1250
MISR1260
MISR1270
MISR1280
MISP1290
MISR1300
MISP1310
MISR1320
MISR1330
MISR1340
MISR1350
MISR1360
MISR1370
MISR1380
MISR1390
MISR1400
MISR1410
MISR1420
MISR1430
MISR1440
MISR1460
MISR1470
MISR1490
MISR1500
MISR1510
MISR1520
MISR1530
MISR1540
MISR1550
SEEB 0
SEEB 10
SEEB 20
SEEB 30
SEEB 40
SEEB 50
SEEB 60
SEEB 70
SEEB 90
SEEB 100
SEEB 110
SEEB 120
SEEB 130
SEEB 140

```

360 CDS

```

//CHG.F110F001 CU DISP(L,PASS),UNIT)(T+F7,1,DEFER),DSN>G,9897414, CT24 1
// VOL>SER>I(+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I(+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7) T24 3
//CHG.F111F001 CU DISP(L,PASS),UNIT)(T+F8,1,DEFER),DSN>H,9897425, CT25 1
// VOL>SER>I(+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// I(+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8) T25 3
//
//C9897U EXEC C9803N,TIME>02,ACCT>D35323007 STDALONE JOHN LINK
//CHG.TU12 DU DISP(L,PASS),UNIT)(A+F1,2,DEFER),DSN>A,9897411, CT12/13 1
// VOL>SER>I(+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I(+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1) T12 3
//CHG.TU24 DU DISP(L,PASS),UNIT)(T+F7,1,DEFER),DSN>G,9897414, CT24 1
// VOL>SER>I(+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I(+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7) T24 3
//CHG.TU25 DU DISP(L,PASS),UNIT)(T+F8,1,DEFER),DSN>H,9897425, CT25 1
// VOL>SER>I(+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// I(+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8) T25 3
//CHG.TPRIN DU +,SPACE>(TRK,(1,1))
TYP TU25 1998130R000
TYP TU24 1002030Z030
TYP TU12 1002040Z140
// PLACE TYP CONTROL CARDS BEFORE THIS CARD
//C9897U EXEC C9803N,TIME>02,ACCT>D35323007 STDALONE JOHN LINK
//CHG.TU12 DU DISP(L,KEEP),UNIT)(A+F1,2,DEFER),DSN>A,9897411, CT12/13 1
// VOL>SER>I(+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I(+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1) T12 3
//CHG.TU24 DU DISP(L,KEEP),UNIT)(T+F7,1,DEFER),DSN>G,9897414, CT24 1
// VOL>SER>I(+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// I(+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7) T24 3
//CHG.TU25 DU DISP(L,KEEP),UNIT)(T+F8,1,DEFER),DSN>H,9897425, CT25 1
// VOL>SER>I(+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// I(+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8) T25 3
//CHG.IPRIN DU +,SPACE>(TRK,(1,1))
TYP TU25 1998130R000
TYP TU24 1002030Z030
TYP TU12 1002040Z140
// PLACE TYP CONTROL CARDS BEFORE THIS CARD

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## 6.10.8 TREND ANALYSIS

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//C9897E JOB 01: G. WANG 1,PTY>02,TPPRUN>HOLD TASK 4 TREND ANAL
//C9897E EXEC P9803N,TIME>10,ACCT>D35323007
//CHG.TU12 DU DISP(L,PASS),UNIT)(T+F1,1,DEFER),DSN>A,9897414, CT12 1
// VOL>SER>I(+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I(+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1) T12 3
//CHG.TU14 DU DISP(L,PASS),UNIT)(A+F3,2,DEFER),DSN>C,9897411, CT14/15 1
// VOL>SER>I(+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// I(+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3) T14 3
//CHG.TU22 DU DISP(L,PASS),UNIT)(A+F5,2,DEFER),DSN>E,9897415, CT22/23 1
// VOL>SER>I(+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I(+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5) T22 3
//CHG.INPUT DU +,PACE>(CYL,(1,1)) 1440 CDS
UN000 COMBINE COMPILE G. WANG. C98970
U1000 IDENTIFICATION DIVISION. C98970
U1010 PROGRAM-10. C98970
U1020 AUTHOR. A. J. R WKER C98970
U1030 INSTALLATION. GENERAL DYNAMICS/CONVAIR. C98970
U1040 DATE-WRITTEN. 3 MAY 72. C98970
U1050 REMARKS. C98970
U2000 ENVIRONMENT DIVISION. C98970
U2010 CONFIGURATION SECTION. C98970
U2020 SOURCE-COMPUTER. IBM-360. C98970
U2030 OBJECT-COMPUTER. IBM-360. C98970
U2100 INPUT-OUTPUT SECTION. C98970
U2110 FILE-CONTROL. C98970
U2120 SELECT ORG-FILE ASSIGN TO UT-5-TU14 C98970
U2130 RESERVE 1 ALTERNATE AREA. C98970
U2140 SELECT FREQ-FILE ASSIGN TO UT-5-TU12 C98970
U2150 RESERVE 1 ALTERNATE AREA. C98970
U2160 SELECT REPO-T-FILE ASSIGN TO UT-5-TU22 C98970
U2170 RESERVE 1 ALTERNATE AREA. C98970
U3200 SELECT DEP-AXIS-FILE ASSIGN TO UT-5-TU13 C98970
U3210 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11100 FU FREQ-FILE C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 40 RECORDS C98970
11140 RECORD CONTAINS 30 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE FREQ-REC, C98970
11170 01 FREQ-REC SYNC. C98970

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|       |    |                                  |   |            |
|-------|----|----------------------------------|---|------------|
| 11180 | 02 | FILLER                           | PICTURE XX.                                 | C98970     |
| 11190 | 02 | FREQ-IND-NT.                     |   | C98970     |
| 11200 | 03 | AIRCRAFT-LEVEL                   | PICTURE X(8).                               | C98970     |
| 11210 | 03 | FILLER REDEFINES AIRCRAFT-LEVEL. |   | C98970     |
| 11220 | 04 | GROUP-ID                         | PICTURE X(5).                               | C98970     |
| 11230 | 04 | WUC-SET                          | PICTURE X(3).                               | C98970     |
| 11240 | 03 | FREQ-CUN-INSP                    | PICTURE X.                                  | C98970     |
| 11250 | 03 | FREQ-ISO                         | PICTURE X.                                  | C98970     |
| 11260 | 03 | FREQ-DATA-TYPE                   | PICTURE XX.                                 | C98970     |
| 11270 | 03 | FREQ-ORIGIN                      | PICTURE X.                                  | C98970     |
| 11280 | 03 | FREQ-IND-VAR                     | PICTURE X.                                  | C98970     |
| 11290 | 02 | FREQ-OBS                         | PICTURE 9(6).                               | C98970     |
| 11300 | 02 | FILLER                           | PICTURE X.                                  | C98970     |
| 11310 | 02 | FREQ-TOTAL-OBS                   | PICTURE X(6).                               | C98970     |
| 11320 | 02 | FILLER                           | PICTURE X.                                  | C98970     |
| 12100 | FD | OBS-FILE                         |   | C98970     |
| 12120 |    | RECORDING MODE IS F              |   | C98970     |
| 12130 |    | BLOCK CONTAINS 70 RECORDS        |   | C98970     |
| 12140 |    | RECORD CONTAINS 40               | CHARACTERS                                  | C98970     |
| 12150 |    | LABEL RECORDS ARE OMITTED        |   | C98970     |
| 12160 |    | DATA RECORDS ARE OBS-REC.        |   | C98970     |
| 12170 | 01 | OBS-REC SYNC.                    |   | C98970     |
| 12180 | 02 | FILLER                           | PICTURE XX.                                 | C98970     |
| 12190 | 02 | OBS-IDENT                        | PICTURE X(14).                              | C98970     |
| 12200 | 02 | FILLER                           | PICTURE X.                                  | C98970     |
| 12210 | 02 | OBS-NUM                          | PICTURE 99999V9.                            | C98970     |
| 12220 | 02 | FILLER                           | PICTURE X.                                  | C98970     |
| 12230 | 02 | OBS-DENUM                        | PICTURE 99999V9.                            | C98970     |
| 12240 | 02 | FILLER                           | PICTURE X.                                  | C98970     |
| 12250 | 02 | OBS-IND                          | PICTURE 99999V9.                            | C98970     |
| 12260 | 02 | FILLER                           | PICTURE XXX.                                | C98970     |
| 22100 | FD | REPORT-FILE                      |   | C98970     |
| 22120 |    | RECORDING MODE IS F              |   | C98970     |
| 22130 |    | BLOCK CONTAINS 15 RECORDS        |   | C98970     |
| 22140 |    | RECORD CONTAINS 130              | CHARACTERS                                  | C98970     |
| 22150 |    | LABEL RECORDS ARE OMITTED        |   | C98970     |
| 22160 |    | DATA RECORDS ARE PLOT-REC.       |   | C98970     |
| 22170 | 01 | PLOT-REC SYNC.                   |   | C98970     |
| 22180 | 02 | FILLER                           | PICTURE X(130).                             | C98970     |
| 23100 | FD | DEP-AXIS-FILE                    |   | C98970     |
| 23120 |    | RECORDING MODE IS F              |   | C98970     |
| 23130 |    | BLOCK CONTAINS 20 RECORDS        |   | C98970     |
| 23140 |    | RECORD CONTAINS 80               | CHARACTERS                                  | C98970     |
| 23150 |    | LABEL RECORDS ARE OMITTED        |   | C98970     |
| 23160 |    | DATA RECORDS ARE DEP-AXIS-REC.   |   | C98970     |
| 23170 | 01 | DEP-AXIS-REC SYNC                | PICTURE X(80).                              | C98970     |
| 30000 |    | WORKING-STORAGE SECTION.         |   | C98970     |
| 30010 | 77 | LINE-CNT                         | SYNC PICTURE 9(4) VALUE ZERO.               | C98970     |
| 30020 | 77 | TOTAL-LINE-CNT                   | SYNC PICTURE 9(7) VALUE ZERO.               | C98970     |
| 30040 | 77 | TABLE-POS                        | COMPUTATIONAL PICTURE 5999 VALUE ZERO SYNC. | C98970     |
| 30050 | 77 | NO-LINE                          | COMPUTATIONAL PICTURE 5999 VALUE 479 SYNC.  | C98970     |
| 30060 | 77 | TEMP-LOC                         | COMPUTATIONAL PICTURE 5999999V9(4) SYNC.    | C98970     |
| 30070 | 77 | LINE-POS                         | COMPUTATIONAL PICTURE 5999 VALUE ZERO SYNC. | C98970     |
| 30080 | 77 | TEMP-VALUE                       | COMPUTATIONAL PICTURE 5999999V9(4) SYNC.    | C98970     |
| 30090 | 77 | DEP-INTLRVPL                     | COMPUTATIONAL PICTURE 5999V9(4) SYNC.       | C98970     |
| 30100 | 77 | MIN-DEP-VALUE                    | COMPUTATIONAL PICTURE 5999999V9(4) SYNC.    | C98970     |
| 30120 | 77 | MONL                             | COMPUTATIONAL PICTURE 599 VALUE -1 SYNC.    | C98970     |
| 30130 | 77 | CNT                              | COMPUTATIONAL PICTURE 5999 VALUE ZERO SYNC. | C98970     |
| 30140 | 77 | PAGE-NO                          | COMPUTATIONAL PICTURE 599 VALUE ZERO SYNC.  | C98970     |
| 30150 | 77 | MAX-DEP-VALUE                    | COMPUTATIONAL PICTURE 59(5)V9(4) SYNC.      | C98970     |
| 30160 | 77 | DEP-1                            | COMPUTATIONAL PICTURE 59(5)V9(4) SYNC.      | C98970     |
| 30170 | 77 | DEP-2                            | COMPUTATIONAL PICTURE 59(5)V9(4) SYNC.      | C98970     |
| 30180 | 77 | DEP-3                            | COMPUTATIONAL PICTURE 59(5)V9(4) SYNC.      | C98970     |
| 30190 | 77 | DEP-4                            | COMPUTATIONAL PICTURE 59(5)V9(4) SYNC.      | C98970     |
| 30200 | 77 | TEMP                             | COMPUTATIONAL SYNC PICTURE 59(5).           | C98970     |
| 30250 | 77 | IND-KNT                          | COMPUTATIONAL SYNC PICTURE 5999 VALUE ZERO. | C98970     |
| 30260 | 77 | IND-INT                          | COMPUTATIONAL SYNC PICTURE 5999.            | C98970     |
| 30270 | 77 | SOM                              | COMPUTATIONAL PICTURE 5999999V9(4).         | C98970     |
| 30280 | 77 | NO-OF-OBS                        | COMPUTATIONAL PICTURE 599999V9(4).          | C98970     |
| 30290 | 77 | OBS-CNT                          | COMPUTATIONAL PICTURE 5999.                 | C98970     |
| 30300 | 77 | IND-CNT                          | COMPUTATIONAL PICTURE 5999 VALUE ZERO.      | C98970     |
| 30310 | 77 | OBS-FACTOR                       | COMPUTATIONAL PICTURE 5999 VALUE ZERO.      | C98970     |
| 30320 | 77 | START-FLAG                       | COMPUTATIONAL PICTURE X VALUE SPACE.        | C98970     |
| 30330 | 77 | NO-PLOTS                         | SYNC PICTURE 9(6) VALUE ZERO.               | C98970     |
| 30340 | 77 | NINE SYNC                        | PICTURE X(14) VALUE                         | C98970     |
| 30350 |    | 9999999999999999.                |   | C98970     |
| 30360 | 77 | MAX-ALLOW-IND                    | COMPUTATIONAL PICTURE 59(7).                | C98970     |
| 30370 | 77 | NUMERATOR                        | COMPUTATIONAL PICTURE 59(5)V9(4).           | C98970     |
| 30380 | 77 | DENOMINATOR                      | COMPUTATIONAL PICTURE 59(5)V9(4).           | C98970     |
| 31000 | 01 | DEP-TITLE SYNC.                  |   | C98970     |
| 31010 | 02 | FILLER                           | PICTURE X(40) VALUE SPACE.                  | C98970     |
| 31020 | 02 | DEPENDENT-TITLE                  | PICTURE X(80).                              | C98970     |
| 31030 | 02 | FILLER                           | PICTURE X(10) VALUE :                       | #1. C98970 |
| 31100 | 01 | IND-PEP-TITLE SYNC.              |   | C98970     |
| 31110 | 02 | IND-BLOCK                        | PICTURE X(80).                              | C98970     |
| 31120 | 02 | FILLER REDEFINES IND-BLOCK.      |   | C98970     |
| 31130 | 03 | IND                              | PICTURE X OCCURS 80 TIMES.                  | C98970     |

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| 31300 | 01 | FILLER SYNC.  |                            | C98970 |
| 31310 | 02 | FILLER OCCURS 200 TIMES.                                |                            | C98970 |
| 31320 | 03 | IND-VALUE   | PICTURE S9(6).             | C98970 |
| 31330 | 03 | DEF-VALUE   | PICTURE S9(5)V9(4).        | C98970 |
| 31400 | 01 | PLOT-TITLE SYNC.  |                            | C98970 |
| 31410 | 02 | FILLER  | PICTURE X(22) VALUE        | C98970 |
| 31420 |    | :1  | CURRENT IDENT :            | C98970 |
| 31430 | 02 | CUR-ID  | PICTURE X(16) VALUE SPACE. | C98970 |
| 31440 | 02 | FILLER  | PICTURE X(85) VALUE SPACE. | C98970 |
| 31450 | 02 | FILLER  | PICTURE X(4) VALUE :PAGE1. | C98970 |
| 31460 | 02 | PAGE-NUM-RPT  | PICTURE Z9.                | C98970 |
| 31470 | 02 | FILLER  | PICTURE X VALUE 1#1.       | C98970 |
| 31600 | 01 | DEP-AXIS SYNC.  |                            | C98970 |
| 31610 | 02 | FILLER  | PICTURE X(14) VALUE SPACE. | C98970 |
| 31620 | 02 | DEP-MIN-RPT   | PICTURE ZZZZ9.999.         | C98970 |
| 31630 | 02 | FILLER  | PICTURE X(11) VALUE SPACE. | C98970 |
| 31640 | 02 | DEP-1-RPT   | PICTURE ZZZZ9.999.         | C98970 |
| 31650 | 02 | FILLER  | PICTURE X(11) VALUE SPACE. | C98970 |
| 31660 | 02 | DEP-2-RPT   | PICTURE ZZZZ9.999.         | C98970 |
| 31670 | 02 | FILLER  | PICTURE X(11) VALUE SPACE. | C98970 |
| 31680 | 02 | DEP-3-RPT   | PICTURE ZZZZ9.999.         | C98970 |
| 31690 | 02 | FILLER  | PICTURE X(11) VALUE SPACE. | C98970 |
| 31700 | 02 | DEP-4-RPT   | PICTURE ZZZZ9.999.         | C98970 |
| 31710 | 02 | FILLER  | PICTURE X(11) VALUE SPACE. | C98970 |
| 31720 | 02 | DEP-MAX-RPT   | PICTURE ZZZZ9.999.         | C98970 |
| 31730 | 02 | FILLER  | PICTURE X(7) VALUE         | C98970 |
| 31740 |    | :   | #:.                        | C98970 |
| 31800 | 01 | DEP-LINE SYNC.  |                            | C98970 |
| 31810 | 02 | FILLER  | PICTURE X(50) VALUE        | C98970 |
| 31820 |    | :   | ----- ----- ----- 1.       | C98970 |
| 31830 | 02 | FILLER  | PICTURE X(50) VALUE        | C98970 |
| 31840 |    | :   | ----- ----- ----- 1.       | C98970 |
| 31850 | 02 | FILLER  | PICTURE X(30) VALUE        | C98970 |
| 31860 |    | :   | ----- -----                | C98970 |
| 31900 | 01 | PLOT-LINE SYNC.   |                            | C98970 |
| 31910 | 02 | FILLER  | PICTURE X(8) VALUE SPACE.  | C98970 |
| 31920 | 02 | IND-OUT   | PICTURE X.                 | C98970 |
| 31930 | 02 | FILLER  | PICTURE X(2) VALUE SPACE.  | C98970 |
| 31940 | 02 | WEEK-RPT  | PICTURE ZZZZZ9.            | C98970 |
| 31950 | 02 | FILLER  | PICTURE XX VALUE SPACE.    | C98970 |
| 31955 | 02 | IND-AXIS-SYMB   | PICTURE X VALUE 11#.       | C98970 |
| 31960 | 02 | OUTPUT-LINE OCCURS 100 TIMES                            |                            | C98970 |
| 31970 |    | :   | PICTURE X.                 | C98970 |
| 31980 | 02 | FILLER  | PICTURE X(10) VALUE        | C98970 |
| 31990 |    | :   | #:.                        | C98970 |
| 33000 | 01 | REPORT-ID SYNC.   |                            | C98970 |
| 33010 | 02 | FILLER  | PICTURE X(50) VALUE        | C98970 |
| 33020 |    | :S0897C60 TF7919-01 142-8 1 1/2                         |                            | C98970 |
| 33030 | 02 | FILLER  | PICTURE X(50) VALUE SPACE. | C98970 |
| 33040 | 02 | FILLER  | PICTURE X(30) VALUE        | C98970 |
| 33050 |    | :   | #:.                        | C98970 |
| 35300 | 01 | FILLER SYNC.  |                            | C98970 |
| 35310 | 02 | DEP-AXIS-LIST OCCURS 15 TIMES                           |                            | C98970 |
| 35320 |    | :   | PICTURE X(80).             | C98970 |
| 39060 | 01 | CUT-OFF-REL SYNC.                                       |                            | C98970 |
| 39070 | 05 | CUTOFF  | PICTURE 9(5).              | C98970 |
| 39090 | 05 | FILLER  | PICTURE X(75).             | C98970 |
| 50000 |    | PROCEDURE DIVISION.                                     |                            | C98970 |
| 50010 |    | OPEN INPUT OPS-FILE,                                    |                            | C98970 |
| 50020 |    | FREQ-FILE,  |                            | C98970 |
| 50025 |    | DEP-AXIS-FILE,  |                            | C98970 |
| 50030 |    | OUTPUT  | REPORT-FILE.               | C98970 |
| 50040 |    | MOVE ZERO TO IND-CNT.                                   |                            | C98970 |
| 50050 |    | PERFORM READ-DEP-AXIS THRU END-RDA.                     |                            | C98970 |
| 50070 |    | WRITE PLOT-REC FROM REPORT-ID.                          |                            | C98970 |
| 50100 |    | READ-FREQ-FILE.   |                            | C98970 |
| 50110 |    | READ FREQ-FILE, AT END GO TO FREQ-ERROR.                |                            | C98970 |
| 50115 |    | IF FREQ-IDENT IS EQUAL TO NINE GO TO FREQ-ERROR.        |                            | C98970 |
| 50120 |    | COMPUTE OBS-FACTOR > (FREQ-ORS < 4999) / 5000.          |                            | C98970 |
| 50130 |    | IF FREQ-IND-VAR IS EQUAL TO :1: PERFORM SET-WEEKS.      |                            | C98970 |
| 50140 |    | IF FREQ-IND-VAR IS EQUAL TO 12: PERFORM SET-FLT-HRS.    |                            | C98970 |
| 50150 |    | IF FREQ-IND-VAR IS EQUAL TO :31: PERFORM SET-SORTIES.   |                            | C98970 |
| 50160 |    | IF FREQ-IND-VAR IS EQUAL TO :4: PERFORM SET-LANDING.    |                            | C98970 |
| 50170 |    | COMPUTE MAY-ALLOW-IND > 200 * IND-INT.                  |                            | C98970 |
| 50190 |    | MOVE IND-INT TO TEMP.                                   |                            | C98970 |
| 50200 |    | MOVE ZERO TO SOM.                                       |                            | C98970 |
| 50210 |    | MOVE ZERO TO NO-OF-ORS.                                 |                            | C98970 |
| 50220 |    | PERFORM SET-DEP-TITLE THRU END-SDT.                     |                            | C98970 |
| 50230 |    | PERFORM RESET-TABLE THRU END-R-T.                       |                            | C98970 |
| 50240 |    | MOVE 1 TO IND-CNT.                                      |                            | C98970 |
| 50250 |    | MOVE IND-INT TO IND-VALUE (IND-CNT).                    |                            | C98970 |
| 50300 |    | READ-OPS-FILE.  |                            | C98970 |
| 50305 |    | IF START-FLAG IS EQUAL TO :1: MOVE SPACE TO START-FLAG. |                            | C98970 |
| 50306 |    | GO TO OFA.  |                            | C98970 |
| 50310 |    | MOVE ZERO TO OBS-CNT.                                   |                            | C98970 |
| 50320 |    | ROF.  |                            | C98970 |



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|-------|---|--------|
| 50330 | HEAD OBS-FILE, AT END GO TO CF-2.                             | C98970 |
| 50335 | IF OBS-IDENT IS EQUAL TO NINE GO TO CF-2.                     | C98970 |
| 50340 | ADD 1 TO OBS-CNT.   | C98970 |
| 50350 | IF OBS-CNT IS LESS THAN OBS-FACTOR GO TO ROF.                 | C98970 |
| 50360 | ROF.  | C98970 |
| 50400 | IF OBS-IDENT IS EQUAL TO FREQ-IDENT,                          | C98970 |
| 50410 | GO TO CURRENT-DATA.   | C98970 |
| 50415 | IF NO-OF-OBS IS EQUAL TO ZERO GO TO FILL-IND-VALUE.           | C98970 |
| 50416 | COMPUTE DEP-VALUE (IND-CNT) > SOM / NO-OF-OBS.                | C98970 |
| 50420 | FILL-IND-VALUE  | C98970 |
| 50430 | IF IND-CNT IS GREATER THAN 99 GO TO SET-PLOT.                 | C98970 |
| 50440 | ADD 1 TO IND-CNT, ADD IND-INT TO TEMP.                        | C98970 |
| 50450 | MOVE TEMP TO IND-VALUE (IND-CNT) GO TO FILL-IND-VALUE.        | C98970 |
| 50460 | SET-PLOT. PERFORM PLOT-DATA THRU END-PD.                      | C98970 |
| 50470 | GO TO HEAD-FREQ-FILE.   | C98970 |
| 51000 | PLOT-DATA.  | C98970 |
| 51004 | IF FREQ-OBS IS LESS THAN CUTOFF GO TO END-PD.                 | C98970 |
| 51010 | MOVE ZERO TO PAGE-NO.   | C98970 |
| 51020 | MOVE 99900 TO MIN-DEP-VALUE.                                  | C98970 |
| 51030 | MOVE ZERO TO CNT.   | C98970 |
| 51040 | MOVE ZERO TO MAX-DEP-VALUE.                                   | C98970 |
| 51050 | MOVE 111 TO START-FLAG.                                       | C98970 |
| 51100 | FIND-MIN-MAX.   | C98970 |
| 51110 | ADD 1 TO CNT.   | C98970 |
| 51120 | MOVE DEP-VALUE (CNT) TO TEMP-LOC.                             | C98970 |
| 51125 | IF TEMP-LOC IS EQUAL TO NONE, GO TO NEXT-VALUE.               | C98970 |
| 51130 | IF TEMP-LOC IS GREATER THAN MAX-DEP-VALUE,                    | C98970 |
| 51140 | MOVE TEMP-LOC TO MAX-DEP-VALUE.                               | C98970 |
| 51150 | IF TEMP-LOC IS LESS THAN MIN-DEP-VALUE,                       | C98970 |
| 51160 | MOVE TEMP-LOC TO MIN-DEP-VALUE.                               | C98970 |
| 51210 | NEXT-VALUE.   | C98970 |
| 51270 | IF CNT IS LESS THAN IND-CNT GO TO FIND-MIN-MAX.               | C98970 |
| 51280 | IF MAX-DEP-VALUE IS EQUAL TO ZERO GO TO END-PD.               | C98970 |
| 51282 | IF MAX-DEP-VALUE IS NOT LESS THAN 10, GO TO HUND-SCALE.       | C98970 |
| 51284 | MOVE ZERO TO MIN-DEP-VALUE.                                   | C98970 |
| 51286 | IF MAX-DEP-VALUE IS NOT LESS THAN 1,                          | C98970 |
| 51288 | MOVE 10 TO MAX-DEP-VALUE. GO TO COMPUTE-INTERVAL.             | C98970 |
| 51290 | IF MAX-DEP-VALUE IS NOT LESS THAN 0.1,                        | C98970 |
| 51292 | MOVE 1 TO MAX-DEP-VALUE. GO TO COMPUTE-INTERVAL.              | C98970 |
| 51294 | IF MAX-DEP-VALUE IS NOT LESS THAN 0.01,                       | C98970 |
| 51296 | MOVE 0.1 TO MAX-DEP-VALUE. GO TO COMPUTE-INTERVAL.            | C98970 |
| 51298 | MOVE 0.01 TO MAX-DEP-VALUE.                                   | C98970 |
| 51299 | COMPUTE-INTERVAL.   | C98970 |
| 51300 | COMPUTE DEP-INTERVAL > (MAX-DEP-VALUE - MIN-DEP-VALUE) / 100. | C98970 |
| 51310 | COMPUTE DEP-1 > MIN-DEP-VALUE < (DEP-INTERVAL * 20).          | C98970 |
| 51320 | COMPUTE DEP-2 > MIN-DEP-VALUE < (DEP-INTERVAL * 40).          | C98970 |
| 51330 | COMPUTE DEP-3 > MIN-DEP-VALUE < (DEP-INTERVAL * 60).          | C98970 |
| 51340 | COMPUTE DEP-4 > MIN-DEP-VALUE < (DEP-INTERVAL * 80).          | C98970 |
| 51350 | MOVE MIN-DEP-VALUE TO DEP-MIN-RPT.                            | C98970 |
| 51360 | MOVE DEP-1 TO DEP-1-RPT.                                      | C98970 |
| 51370 | MOVE DEP-2 TO DEP-2-RPT.                                      | C98970 |
| 51380 | MOVE DEP-3 TO DEP-3-RPT.                                      | C98970 |
| 51390 | MOVE DEP-4 TO DEP-4-RPT.                                      | C98970 |
| 51400 | MOVE MAX-DEP-VALUE TO DEP-MAX-RPT.                            | C98970 |
| 51410 | MOVE FREQ-IDENT TO CUR-ID.                                    | C98970 |
| 51420 | ADD 1 TO NO-PLOTS.  | C98970 |
| 51500 | WRITE-PLOT-TITLE.   | C98970 |
| 51510 | ADD 1 TO PAGE-NO.   | C98970 |
| 51520 | MOVE PAGE-NO TO PAGE-NO-RPT.                                  | C98970 |
| 51530 | WRITE PLOT-REC FROM PLOT-TITLE.                               | C98970 |
| 51540 | WRITE PLOT-REC FROM DEP-TITLE.                                | C98970 |
| 51550 | WRITE PLOT-REC FROM DEP-AXIS.                                 | C98970 |
| 51560 | WRITE PLOT-REC FROM DEP-LINE.                                 | C98970 |
| 51570 | MOVE 4 TO LINE-CNT.   | C98970 |
| 51580 | ADD 4 TO TOTAL-LINE-CNT.                                      | C98970 |
| 51590 | MOVE ZERO TO IND-KNT.   | C98970 |
| 51600 | END-WPT.  | C98970 |
| 51610 | MOVE ZERO TO TABLE-POS.                                       | C98970 |
| 51700 | CLEAR-OUTPUT-BLOCK.   | C98970 |
| 51710 | MOVE ZERO TO CNT.   | C98970 |
| 51720 | COB.  | C98970 |
| 51730 | ADD 1 TO CNT.   | C98970 |
| 51740 | MOVE SPACE TO OUTPUT-LINE (CNT).                              | C98970 |
| 51750 | IF CNT IS LESS THAN 100 GO TO COB.                            | C98970 |
| 51760 | ADD 1 TO TABLE-POS.   | C98970 |
| 51770 | MOVE IND-VALUE (TABLE-POS) TO WEEK-RPT.                       | C98970 |
| 51780 | ADD 1 TO IND-KNT. MOVE IND (IND-KNT) TO IND-OUT.              | C98970 |
| 51790 | IF IND-KNT IS GREATER THAN 79, MOVE ZERO TO IND-KNT.          | C98970 |
| 51900 | MOVE 111 TO IND-AXIS-SYMB.                                    | C98970 |
| 51920 | MOVE DEP-VALUE (TABLE-POS) TO TEMP-LOC.                       | C98970 |
| 51930 | IF TEMP-LOC IS NOT EQUAL TO NONE, GO TO FILL-LN.              | C98970 |
| 51940 | GO TO WRITE-LINE.   | C98970 |
| 52000 | FILL-LN.  | C98970 |
| 52001 | IF TEMP-LOC IS EQUAL TO ZERO MOVE 101 TO IND-AXIS-SYMB,       | C98970 |
| 52002 | GO TO WRITE-LINE.   | C98970 |

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|-------|---|-----------------|
| 52010 | MOVE ZERO TO LINE-POS.  | C98970          |
| 52020 | MOVE MIN-DEP-VALUE TO TEMP-VALUE.                             | C98970          |
| 52100 | FIND-LINE-POS.  | C98970          |
| 52110 | ADD 1 TO LINE-POS.  | C98970          |
| 52120 | ADD DEP-INTERVAL TO TEMP-VALUE.                               | C98970          |
| 52130 | IF TEMP-LOC IS NOT GREATER THAN TEMP-VALUE GO TO FILL-SPACE.  | C98970          |
| 52140 | IF LINE-POS IS LESS THAN 100 GO TO FIND-LINE-POS.             | C98970          |
| 52150 | NOTE THRU HERE IS AN ERROR.                                   | C98970          |
| 52160 | DISPLAY : ERROR FIND-LINE-POS ; TEMP-LOC UPON CONSOLE.        | C98970          |
| 52170 | GO TO CF-ERROR.   | C98970          |
| 52200 | FILL-SPACE.   | C98970          |
| 52210 | MOVE :* TO OUTPUT-LINE (LINE-POS).                            | C98970          |
| 52300 | WRITE-LINE.   | C98970          |
| 52310 | IF LINE-CNT IS GREATER THAN NO-LINE, WRITE PLOT-REC FROM      | C98970          |
| 52320 | DEP-LINE, ADD 1 TO TOTAL-LINE-CNT, PERFORM WRITE-PLOT-TITLE.  | C98970          |
| 52330 | WRITE PLOT-REC FROM PLOT-LINE.                                | C98970          |
| 52340 | ADD 1 TO LINE-CNT, ADD 1 TO TOTAL-LINE-CNT.                   | C98970          |
| 52350 | IF TABLE-POS IS LESS THAN IND-CNT, GO TO                      | C98970          |
| 52360 | CLEAR-OUTPUT-BLOCK.   | C98970          |
| 52370 | WRITE PLOT-REC FROM DEP-LINE.                                 | C98970          |
| 52390 | END-PD. EXIT.   | C98970          |
| 52400 | HUND-SCALE.   | C98970          |
| 52410 | MOVE ZERO TO TEMP-LOC.  | C98970          |
| 52420 | HUND-MAX.   | C98970          |
| 52430 | ADD 100 TO TEMP-LOC.  | C98970          |
| 52440 | IF TEMP-LOC IS LESS THAN MAX-DEP-VALUE, GO TO HUND-MAX.       | C98970          |
| 52450 | MOVE TEMP-LOC TO MAX-DEP-VALUE.                               | C98970          |
| 52470 | HUND-MIN.   | C98970          |
| 52480 | SUBTRACT 100 FROM TEMP-LOC.                                   | C98970          |
| 52490 | IF TEMP-LOC IS GREATER THAN MIN-DEP-VALUE, GO TO HUND-MIN.    | C98970          |
| 52500 | MOVE TEMP-LOC TO MIN-DEP-VALUE.                               | C98970          |
| 52510 | GO TO COMPUTE-INTERVAL.                                       | C98970          |
| 53000 | CURRENT-DATA.   | C98970          |
| 53005 | IF ORS-IND IS GREATER THAN MAX-ALLOW-IND GO TO READ-OBS-FILE. | C98970          |
| 53010 | IF ORS-IND IS NOT GREATER THAN TEMP GO TO PHES-IND.           | C98970          |
| 53020 | IF NO-OF-OBS IS EQUAL TO ZERO GO TO ZERO-OBS.                 | C98970          |
| 53030 | COMPUTE DEP-VALUE (IND-CNT) > SOM / NO-OF-OBS.                | C98970          |
| 53040 | GO TO INC-IND.  | C98970          |
| 53100 | ZERO-OBS.   | C98970          |
| 53110 | MOVE MORE TO DEP-VALUE (IND-CNT).                             | C98970          |
| 53130 | INC-IND.  | C98970          |
| 53150 | MOVE ZERO TO SOM.   | C98970          |
| 53160 | MOVE ZERO TO NO-OF-OBS.                                       | C98970          |
| 53170 | ADD IND-INT TO TEMP.  | C98970          |
| 53175 | ADD 1 TO IND-CNT.   | C98970          |
| 53180 | MOVE TEMP TO IND-VALUE (IND-CNT).                             | C98970          |
| 53190 | GO TO CURRENT-DATA.   | C98970          |
| 53200 | PHES-IND.   | C98970          |
| 53210 | IF ORS-DENOM IS EQUAL TO ZERO GO TO READ-OBS-FILE.            | C98970          |
| 53220 | MOVE OBS-NUM TO NUMERATOR.                                    | C98970          |
| 53222 | MOVE OBS-DENOM TO DENOMINATOR.                                | C98970          |
| 53224 | COMPUTE SOM > SOM < (NUMERATOR / DENOMINATOR).                | C98970          |
| 53230 | ADD 1 TO NO-OF-OBS.   | C98970          |
| 53240 | GO TO READ-OBS-FILE.  | C98970          |
| 53300 | CF-2.   | C98970          |
| 53302 | IF NO-OF-OBS IS EQUAL TO ZERO GO TO FILL-IND-VALUE-END.       | C98970          |
| 53303 | COMPUTE DEP-VALUE (IND-CNT) > SOM / NO-OF-OBS.                | C98970          |
| 53304 | FILL-IND-VALUE-END.   | C98970          |
| 53305 | IF IND-CNT IS GREATER THAN 49 GO TO SET-PLOT-END.             | C98970          |
| 53306 | ADD 1 TO IND-CNT, ADD IND-INT TO TEMP.                        | C98970          |
| 53307 | MOVE TEMP TO IND-VALUE (IND-CNT) GO TO FILL-IND-VALUE-END.    | C98970          |
| 53308 | SET-PLOT-END.   | C98970          |
| 53310 | PERFORM PLOT-DATA THRU END-PD.                                | C98970          |
| 53320 | DISPLAY : TOTAL LINE COUNT ; TOTAL-LINE-CNT UPON CONSOLE.     | C98970          |
| 53330 | DISPLAY : NUMBER OF PLOTS ; NO-PLOTS UPON CONSOLE.            | C98970          |
| 53340 | CF-ERROR.   | C98970          |
| 53350 | CLOSE OBS-FILE.   | C98970          |
| 53360 | FREQ-FILE.  | C98970          |
| 53365 | DEP-AXIS-FILE.  | C98970          |
| 53370 | REPORT-FILE.  | C98970          |
| 53380 | DISPLAY : DOJ 9897 ; UPON CONSOLE.                            | C98970          |
| 53390 | GORACK.   | C98970          |
| 54010 | FREQ-ERROR.   | C98970          |
| 54020 | DISPLAY : ERROR READ END OF FREQ FILE ; UPON CONSOLE.         | C98970          |
| 54030 | GO TO CF-ERROR.   | C98970          |
| 62000 | SET-WEEKS.  | C98970          |
| 62010 | MOVE 1 TO IND-INT.  | C98970          |
| 62020 | MOVL :  | WEEKS           |
| 62030 | :   | 1 TO IND-BLOCK. |
| 62100 | SET-FLT-HRS.  | C98970          |
| 62110 | MOVE 5 TO IND-INT.  | C98970          |
| 62120 | MOVE 1 :  | FLIGHT HOURS    |
| 62130 | :   | : TO IND-BLOCK. |
| 62200 | SET-SORTIES.  | C98970          |
| 62210 | MOVE 3 TO IND-INT.  | C98970          |
| 62220 | MOVL :  | SORTIES         |
| 62230 | :   | : TO IND-BLOCK. |



## 6.11 PROGRAMS FOR WUC REMOVAL ANALYSES

### 6.11.1 Preprocessor - Task V

```

//19897E JOB 01:; G, WANG, 1,PRTY>02, TYPRUN>HOLD
//C9897A EXEC P4655L, TIME>04, ACCT>D35323007 5A
//CHG. TU14 DU DISP>[PASS], UNIT>[A+F3, 2, DEFER], DSN>+C.9897416, CT14 1
// VOL>SER>[+F3, A+F3, B+F3, C+F3, D+F3, E+F3, F+F3, G+F3, H+F3, CT14 2
// I+F3, J+F3, K+F3, L+F3, M+F3, N+F3, O+F3, P+F3, Q+F3, R+F3, S+F3] 714 3
//CHG. TU22 DU DISP>[PASS], UNIT>[T+F5, 1, DEFER], DSN>+E.9897431, CT22 1
// VOL>SER>[+F5, A+F5, B+F5, C+F5, D+F5, E+F5, F+F5, G+F5, H+F5, CT22 2
// I+F5, J+F5, K+F5, L+F5, M+F5, N+F5, O+F5, P+F5, Q+F5, R+F5, S+F5] 722 3
//CHG. TU24 DU DISP>[PASS], UNIT>[T+F7, 1, DEFER], DSN>+G.9897435, CT24 1
// VOL>SER>[+F7, A+F7, B+F7, C+F7, D+F7, E+F7, F+F7, G+F7, H+F7, CT24 2
// I+F7, J+F7, K+F7, L+F7, M+F7, N+F7, O+F7, P+F7, Q+F7, R+F7, S+F7] T24 3
//CHG. INPUT DU *,SPACE>[CYL, (1,1)] 1440 CDS
U0000 COMBINE COMPILL G, WANG. C98970
U1040 DATE-WRITTEN. 20 MAR 72. C98970
U1050 REMARKS. C98970
U1060 MAINTENANCE STUDY PROGRAM 5A. C98970
U1070 REMOVAL ACTION ANALYSIS. C98970
U1080 TOTAL TASK COMPRISES OF NINE PARTS. C98970
U1090 1. CALCULATION OF REMOVAL ACTION FREQUENCY AND C98970
U1100 REMOVAL INTERVAL FOR EACH WUC (PROGRAM 5A). C98970
U1110 2. SORTING OF WUC TO GROUP AIRCRAFT SUB-SETS AND C98970
U1120 WUC. C98970
U1130 3. SORTING OF FREQUENCY FOR FIRST AIRCRAFT C98970
U1140 SUB-SET. C98970
U1150 4. SORTING OF FREQUENCY FOR SECOND AIRCRAFT C98970
U1160 SUB-SET. C98970
U1170 5. PREPARATION OF WUC LISTING FOR EACH AIRCRAFT C98970
U1180 SUB-SET (PROGRAM 5B). C98970
U1190 6. PREPARATION OF FREQUENCY OF REMOVAL FOR FIRST C98970
U1200 AIRCRAFT SUB-SET (PROGRAM 5C). C98970
U1210 7. PREPARATION OF FREQUENCY OF REMOVAL FOR C98970
U1220 SECOND AIRCRAFT SUB-SET (PROGRAM 5C). C98970
U1230 8. SORTING OF REMOVAL INTERVALS TO GROUP AIRCRAFT C98970
U1240 SUB-SETS, DATA-TYPES AND WUC. C98970
U1250 9. PREPARATION OF DISTRIBUTIONS FOR REMOVAL C98970
U1260 INTERVALS (PROGRAM 5D). C98970
U2000 ENVIRONMENT DIVISION. C98970
U2010 CONFIGURATION SECTION. C98970
U2020 SOURCE-COMPUTER, IBM-360. C98970
U2030 OBJECT-COMPUTER, IBM-360. C98970
U2100 INPUT-OUTPUT SECTION. C98970
U2110 FILL-CONTROL. C98970
U2120 SELECT IN-FILE-D-B ASSIGN TO UT-5-TU14 C98970
U2130 RESERVE 1 ALTERNATE AREA. C98970
U2140 SELECT IN-FILE-ISC ASSIGN TO DA-5-DT01 C98970
U2150 RESERVE 1 ALTERNATE AREA. C98970
U2160 SELECT MSG-FILE ASSIGN TO DA-5-DT02 C98970
U2170 RESERVE 1 ALTERNATE AREA. C98970
U2180 SELECT OUT-FILE-1 ASSIGN TO U7-5-TU22 C98970
U2190 RESERVE 1 ALTERNATE AREA. C98970
U2200 SELECT OUT-FILE-2 ASSIGN TO UT-5-TU24 C98970
U2210 RESERVE 1 ALTERNATE AREA. C98970
U3000 DATA DIVISION. C98970
U3010 FILL SECTION. C98970
U3010 FD IN-FILL-D-B C98970
U3012 RECORDING MODE IS F C98970
U3013 BLOCK CONTAINS 40 RECORDS C98970
U3014 RECORD CONTAINS 70 CHARACTERS C98970
U3015 LABEL RECORDS ARE OMITTED C98970
U3016 DATA RECORDS ARE IN-REC-D-B. C98970
U3020 01 IN-REC-D-B SYNC. C98970
U3021 02 FILLER PICTURE X(70). C98970
U3022 C98970
U3030 FD IN-FILE-ISC C98970
U3032 RECORDING MODE IS F C98970
U3033 BLOCK CONTAINS 20 RECORDS C98970
U3034 RECORD CONTAINS 40 CHARACTERS C98970
U3035 LABEL RECORDS ARE STANDARD C98970
U3036 DATA RECORDS ARE IN-REC-ISC. C98970
U3040 01 IN-REC-ISC SYNC. C98970
U3041 02 FILLER PICTURE X(80). C98970
U3042 C98970
U3050 FD OUT-FILE-1 C98970

```



|       |  |        |
|-------|--|--------|
| 50000 | PROCEDURE DIVISION.                                      | C98970 |
| 50010 | OPEN-FILES.  | C98970 |
| 50020 | OPEN INPUT IN-FILE-D-B, IN-FILE-ISC.                     | C98970 |
| 50030 | OPEN OUTPUT MSG-FILE.                                    | C98970 |
| 50040 | OPEN OUTPUT OUT-FILE-1, OUT-FILE-2.                      | C98970 |
| 50050 | PERFORM FEAD-ISC-A-C THRU END-RIAC.                      | C98970 |
| 50060 | READ-INITIAL.  | C98970 |
| 50070 | READ IN-FILE-D-B INTO DATA-BANK-INPUT.                   | C98970 |
| 50080 | AT END GO TO CLOSE-FILES.                                | C98970 |
| 50100 | IF IDENT IS NOT EQUAL TO 3 GO TO READ-INITIAL.           | C98970 |
| 50104 | IF WEEK IS LESS THAN START-WEEK GO TO READ-INITIAL.      | C98970 |
| 50105 | IF UNITS IS LESS THAN 1 GO TO READ-INITIAL.              | C98970 |
| 50106 | NEW-WUC.   | C98970 |
| 50107 | MOVE WUC TO CUR-WUC.                                     | C98970 |
| 50108 | ADD 1 TO NO-WUC.   | C98970 |
| 50110 | NEW-BLOCK.   | C98970 |
| 50120 | PERFORM CHECK-ISCHRONAL THRU END-CI.                     | C98970 |
| 50130 | MOVE ISCHRONAL TO CUR-ISC.                               | C98970 |
| 50140 | MOVE SERIAL-NO TO CUR-SER-NO.                            | C98970 |
| 50160 | MOVE WEEK TO LAST-WEEK.                                  | C98970 |
| 50170 | MOVE FLT-HRS TO LAST-FLT-HRS.                            | C98970 |
| 50180 | IF ISCHRONAL IS EQUAL TO ONE ADD UNITS TO FREQ-ISC.      | C98970 |
| 50190 | ELSE ADD UNITS TO FREQ-NI.                               | C98970 |
| 50200 | READ-DATA.   | C98970 |
| 50210 | READ IN-FILE-D-B INTO DATA-BANK-INPUT.                   | C98970 |
| 50220 | AT END GO TO CLOSE-FILES.                                | C98970 |
| 50230 | IF IDENT IS NOT EQUAL TO 3 GO TO READ-DATA.              | C98970 |
| 50235 | IF UNITS IS LESS THAN 1 GO TO READ-DATA.                 | C98970 |
| 50236 | IF WEEK IS LESS THAN START-WEEK GO TO READ-DATA.         | C98970 |
| 50237 | IF WUC IS NOT EQUAL TO CUR-WUC GO TO WUC-INFO.           | C98970 |
| 50240 | IF SERIAL-NO IS NOT EQUAL TO CUR-SER-NO GO TO NEW-BLOCK. | C98970 |
| 50250 | PERFORM CHECK-ISCHRONAL THRU END-CI.                     | C98970 |
| 50260 | IF ISCHRONAL IS NOT EQUAL TO CUR-ISC, GO TO NEW-BLOCK.   | C98970 |
| 50270 | IF ISCHRONAL IS EQUAL TO ONE ADD UNITS TO FREQ-ISC.      | C98970 |
| 50275 | ELSE ADD UNITS TO FREQ-NI.                               | C98970 |
| 50280 | PERFORM WRITE-DATA.                                      | C98970 |
| 50290 | MOVE WEEK TO LAST-WEEK.                                  | C98970 |
| 50300 | MOVE FLT-HRS TO LAST-FLT-HRS.                            | C98970 |
| 50310 | GO TO READ-DATA.   | C98970 |
| 50810 | WUC-INFO.  | C98970 |
| 50820 | MOVE CUR-WUC TO CURWUC.                                  | C98970 |
| 50830 | WRITE OUT-REC-1 FROM WUC-DATA.                           | C98970 |
| 50840 | ADD 1 TO NO-REC-1.                                       | C98970 |
| 50910 | MOVE ZERO TO FREQ-ISC.                                   | C98970 |
| 50920 | MOVE ZERO TO FREQ-NI.                                    | C98970 |
| 50930 | GO TO NEW-WUC.   | C98970 |
| 51800 | CLOSE-FILES.   | C98970 |
| 51804 | MOVE CUR-WUC TO CURWUC.                                  | C98970 |
| 51805 | WRITE OUT-REC-1 FROM WUC-DATA.                           | C98970 |
| 51806 | ADD 1 TO NO-REC-1.                                       | C98970 |
| 51810 | COMPUTE KNT > NO-REC-1 - NO-REC-1 / 90 * 90.             | C98970 |
| 51820 | IF KNT IS ZERO GO TO CF-2.                               | C98970 |
| 51830 | PERFORM NINE-FILL-1 THRU N-F-1.                          | C98970 |
| 51840 | CF-2.  | C98970 |
| 51850 | COMPUTE KNT > NO-REC-2 - NO-REC-2 / 90 * 90.             | C98970 |
| 51860 | IF KNT IS ZERO GO TO CF-3.                               | C98970 |
| 51870 | PERFORM NINE-FILL-2 THRU N-F-2.                          | C98970 |
| 51900 | CF-3.  | C98970 |
| 51910 | DISPLAY : NUMBER RECORDS-1 : NO-REC-1 UPON CONSOLE.      | C98970 |
| 51920 | DISPLAY : NUMBER RECORDS-2 : NO-REC-2 UPON CONSOLE.      | C98970 |
| 51930 | DISPLAY : NUMBER WUC > : NO-WUC UPON CONSOLE.            | C98970 |
| 51940 | DISPLAY : END OF JOB C9897A: UPON CONSOLE.               | C98970 |
| 51950 | CLOSE IN-FILE-D-B, MSG-FILE, OUT-FILE-1,                 | C98970 |
| 51960 | OUT-FILE-2 WITH LOCK.                                    | C98970 |
| 51990 | GOBACK.  | C98970 |
| 52000 | WRITE-DATA.  | C98970 |
| 52040 | COMPUTE OHS > WEEK - LAST-WEEK.                          | C98970 |
| 52050 | MOVE ONE TO DATA-TYPE.                                   | C98970 |
| 52060 | WRITE OUT-REC-2 FROM OUT-DATA.                           | C98970 |
| 52070 | COMPUTE OHS > FLT-HRS - LAST-FLT-HRS.                    | C98970 |
| 52080 | MOVE TWO TO DATA-TYPE.                                   | C98970 |
| 52090 | WRITE OUT-REC-2 FROM OUT-DATA.                           | C98970 |
| 52095 | ADD 2 TO NO-REC-2.                                       | C98970 |
| 70000 | READ-ISC-A-C.  | C98970 |
| 70010 | READ IN-FILE-ISC INTO NO-ISC AT END GO TO END-RIAC.      | C98970 |
| 70020 | MOVE ZERO TO KNT.  | C98970 |
| 70030 | RIAC.  | C98970 |
| 70040 | ADD 1 TO KNT.  | C98970 |
| 70050 | READ IN-FILE-ISC INTO ISC-A-C AT END GO TO END-RIAC.     | C98970 |
| 70060 | MOVE ISC-TN TO ISC-AC-TN [KNT].                          | C98970 |
| 70070 | MOVE ISC-WK TO ISC-AC-WK [KNT].                          | C98970 |
| 70075 | IF ISC-WK IS LESS THAN MIN-ISC-WEEK MOVE ISC-WK          | C98970 |

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70076          TO MIN-ISC-WEEK.                                C98970
70080      IF KNT IS LESS THAN NO-ISC-AC GO TO RIAC.          C98970
70085      CLOSE IN-FILE-ISC WITH LOCK.                        C98970
70090      END-RIAC. EXIT.                                     C98970
70200      CHECK-ISCHRONAL.                                    C98970
70210      IF SERIAL-NO IS NOT EQUAL TO PREV-TESTED-SN GO TO CHECK-I-2. C98970
70220      IF ISC-FLAG IS EQUAL TO TWO GO TO END-CI.           C98970
70230      IF ISCHRONAL IS EQUAL TO ONE AND WEEK IS NOT LESS THAN C98970
70232          MIN-ISC-WEEK, THEN GO TO END-CI.                C98970
70240      CHECK-I-2.                                          C98970
70250      MOVE TWO TO ISCHRONAL.                              C98970
70260      IF WEEK IS LESS THAN MIN-ISC-WEEK GO TO END-CI.    C98970
70270      MOVE ZERO TO CNT.                                   C98970
70280      CHECK-I-1.                                          C98970
70290      ADD I TO CNT.                                        C98970
70300      MOVE ISC-AC-TN [CNT] TO ISC-TEMP.                  C98970
70310      IF SERIAL-NO IS LESS THAN ISC-TEMP GO TO CHECK-I-4. C98970
70320      IF SERIAL-NO IS EQUAL TO ISC-TEMP GO TO CHECK-I-1A. C98970
70330      IF CNT IS LESS THAN NO-ISC-AC GO TO CHECK-I-1.     C98970
70340      CHECK-I-4.                                          C98970
70350      MOVE TWO TO ISC-FLAG.                               C98970
70360      GO TO CHECK-I-3.                                    C98970
70370      CHECK-I-1A.                                         C98970
70380      MOVE ISC-AC-WK [CNT] TO WEEK-TEMP.                 C98970
70390      IF WEEK-TEMP IS EQUAL TO WEEK OR WEEK IS GREATER THAN C98970
70400          WEEK-TEMP MOVE ONE TO ISCHRONAL.               C98970
70410      MOVE ONE TO ISC-FLAG.                               C98970
70430      CHECK-I-3.                                          C98970
70440      MOVE SERIAL-NO TO PREV-TESTED-SN.                  C98970
70450      END-CI. EXIT.                                       C98970
70510      NINE-FILL-2.                                        C98970
70520      WRITE OUT-REC-2 FROM NINE.                          C98970
70530      ADD I TO KNT.                                       C98970
70540      IF KNT IS LESS THAN 90 GO TO NINE-FILL-2.          C98970
70550      N-F-2. EXIT.                                        C98970
70600      NINE-FILL-1.                                        C98970
70610      WRITE OUT-REC-1 FROM NINE.                          C98970
70620      ADD I TO KNT.                                       C98970
70630      IF KNT IS LESS THAN 90 GO TO NINE-FILL-1.          C98970
70640      N-F-1. EXIT.                                        C98970
/*          PLACE COBLL SOURCE BEFORE
//CHG,TFGIN  DD  *,SPACE>[CYL,(1,1)]
TFG 0101  I1  0202080

```

1440 CDS

```

34
57000236 331
57000237 331
57000243 324
57000244 331
57002545 331
58000776 324
58000901 331
59000002 331
59000003 331
59000005 331
59000006 331
59000010 331
59000012 331
59000015 331
59000018 331
59000019 331
59000026 331
59000030 331
59000054 324
59000057 324
59000058 324
59000059 324
59000104 331
59000105 331
59000108 324
59000110 324
59000119 324
59000141 324
59000143 324
59000144 324
59000145 324
59000147 324
59000151 324
59000152 324

```

```

*END
/*          PLACE TFG DATA BEFORE THIS CARD
//TPR,TU14  DD  DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3
//TPR,TU22  DD  DISP>[OLD,KEEP],VOL>SER>+F8,UNIT>T+F8
//TPR,TU24  DD  DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7
//TPR,TPR1N DD  *,SPACE>[TRK,(1,1)]
T/P  DT01  10100602080
T/P  TU14  10100702070
T/P  TU22  10100202020
T/P  TU24  10100202020
/*          PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

T14  
T22  
T20

### 6.11.2 SORT WUC FREQUENCY

```

//C9897S EXEC P962N, N>199, TIME>02, ACCT>D35323007          505
//CHG.SORTIN DD  DISP>[KEEP], UNIT>[T+F5,1,DEFER],           CT22  1
//              DSN>+E,9897431,                               CT22  2
//              VOL>SER>[+F8,A+F8,H+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8,  CT22  3
//              I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8],CT22  4
//              DCB>[LRECL>0020, BLKSIZE>1800], LABEL>[X, NSL, RETPD>099]
//CHG.SORTOUT DU  DISP>[KEEP], UNIT>[T+F1,1,DEFER], DSN>+A,9897432,  CT12  1
//              VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1,  CT12  2
//              I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12  3
//              DCB>[LRECL>0020, BLKSIZE>1800]
//CHG.SYSIN  DD  *,DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT  FIELDS>[001,005,CH,A],SIZE>E0008000
MODS  E15>[E15,000, SORTL18,N],E18>[E18,024, SORTL18,N]
/*

```

### 6.11.3 WRITE WUC FREQUENCY

```

//C9897P EXEC P9655L, TIME>02, ACCT>D35323007          58
//CHG.TU12  DU  DISP>[PASS], UNIT>[T+F1,1,DEFER], DSN>+A,9897432,  CT12  1
//              VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1,  CT12  2
//              I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1]  T12  3
//CHG.TU24  DU  DSN>+P,9897433,SPACE>[CYL,[009,001]]      024-OUT
//CHG.TU25  DU  DSN>+P,9897435,SPACE>[CYL,[009,001]]      023-OUT
//CHG.INPUT  DD  *,SPACE>[CYL,[1,1]]                      1440 CDS
00000  COMBINE  COMPILE  G. WANG.  C98970
01040  DATE-WRITTEN. 1 APR 72.  C98970
01050  REMARKS.  C98970
01060  MAINTENANCE STUDY PROGRAM 58.  C98970
01070  PREPARES LISTING OF WUC -V- REMOVAL ACTION FREQUENCY.  C98970
01080  INPUT SORT SEQUENCE  C98970
01090  WUC.  C98970
02000  ENVIRONMENT DIVISION.  C98970
02010  CONFIGURATION SECTION.  C98970
02020  SOURCE-COMPUTER. IBM-360.  C98970
02030  OBJECT-COMPUTER. IBM-360.  C98970
02100  INPUT-OUTPUT SECTION.  C98970
02110  FILE-CONTROL.  C98970
02120  SELECT IN-FILE  ASSIGN TO UT-S-TU12  C98970
02130  RESERVE 1 ALTERNATE AREA.  C98970
02140  SELECT OUT-FILE-15  ASSIGN TO UT-S-TU25  C98970
02150  RESERVE 1 ALTERNATE AREA.  C98970
02160  SELECT OUT-FILE-N1  ASSIGN TO UT-S-TU24  C98970
02170  RESERVE 1 ALTERNATE AREA.  C98970
10000  DATA DIVISION.  C98970
10010  FILE SECTION.  C98970
10100  FD  IN-FILE  C98970
10120  RECORDING MODE IS F  C98970
10130  BLOCK CONTAINS 90 RECORDS  C98970
10140  RECORD CONTAINS 20  CHARACTERS  C98970
10150  LABEL RECORDS ARE OMITTED  C98970
10160  DATA RECORDS ARE IN-REC.  C98970
10200  01  IN-REC  SYNC.  C98970
10210  02  WUC  PICTURE X(5).  C98970
10220  02  FREQ-15C  PICTURE S9(5).  C98970
10230  02  FREQ-N1  PICTURE S9(5).  C98970
10240  02  FILLER  PICTURE X(5).  C98970
11300  FU  OUT-FILL-15  C98970
11320  RECORDING MODE IS F  C98970
11330  BLOCK CONTAINS 40 RECORDS  C98970
11340  RECORD CONTAINS 70  CHARACTERS  C98970
11350  LABEL RECORDS ARE OMITTED  C98970
11360  DATA RECORDS ARE OUT-REC-15.  C98970
11400  01  OUT-DATA-15 SYNC.  C98970
11410  02  FILLER  PICTURE X(70).  C98970
11300  FD  OUT-FILL-N1  C98970
11320  RECORDING MODE IS F  C98970
11330  BLOCK CONTAINS 40 RECORDS  C98970
11340  RECORD CONTAINS 70  CHARACTERS  C98970
11350  LABEL RECORDS ARE OMITTED  C98970
11360  DATA RECORDS ARE OUT-REC-N1.  C98970
11400  01  OUT-REC-N1 SYNC.  C98970
11410  02  FILLER  PICTURE X(70).  C98970
30000  WORKING-STORAGE SECTION.  C98970
30050  77  PAGE-N1 SYNC COMPUTATIONAL  PICTURE S999 VALUE ZERO.  C98970
30060  77  PAGE-15 SYNC COMPUTATIONAL  PICTURE S999 VALUE ZERO.  C98970
30130  77  LINE-N1 SYNC COMPUTATIONAL  PICTURE S999 VALUE ZERO.  C98970
30140  77  LINE-15 SYNC COMPUTATIONAL  PICTURE S999 VALUE ZERO.  C98970

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30150 77 NO-LINE-PAGE SYNC COMPUTATIONAL PICTURE S999 VALUE <78. C98970
31500 01 OUT-DATA SYNC. C98970
31510 02 FILLER PICTURE X VALUE !?!. C98970
31515 02 FILLER PICTURE X(07) VALUE SPACE. C98970
31520 02 WUC-OUT PICTURE XXXXX. C98970
31530 02 FILLER PICTURE X VALUE SPACE. C98970
31540 02 OBS PICTURE ZZZZ9. C98970
31550 02 FILLER PICTURE X(50) VALUE SPACE. C98970
31590 02 FILLER PICTURE X VALUE !?!. C98970
32000 01 COM-TITLE-1 SYNC. C98970
32010 02 FILLER PICTURE X(32) VALUE C98970
32020 01 LISTING OF WUC - FREQ PAGE!. C98970
32030 02 PAGE-RPT PICTURE Z29. C98970
32040 02 FILLER PICTURE X(34) VALUE SPACE. C98970
32050 02 FILLER PICTURE X VALUE !?!. C98970
32100 01 COM-TITLE-2 SYNC. C98970
32110 02 FILLER PICTURE X(19) VALUE C98970
32120 01 WUC FREQ!. C98970
32130 02 FILLER PICTURE X(50) VALUE SPACE. C98970
32140 02 FILLER PICTURE X VALUE !?!. C98970
32200 01 TITLE-1-C SYNC. C98970
32210 02 FILLER PICTURE X(24) VALUE C98970
32220 01 IS FOR ISOCHRONAL A/C !. C98970
32230 02 FILLER PICTURE X(45) VALUE !. C98970
32240 02 FILLER PICTURE X VALUE !?!. C98970
32300 01 TITLE-NON-ISC SYNC. C98970
32310 02 FILLER PICTURE X(28) VALUE C98970
32320 01 IS FOR NON-ISOCHRONAL A/C !. C98970
32330 02 FILLER PICTURE X(41) VALUE SPACE. C98970
32340 02 FILLER PICTURE X VALUE !?!. C98970
50000 PROCEDURE DIVISION. C98970
50010 OPEN-FILES. C98970
50020 OPEN INPUT IN-FILE. C98970
50040 OPEN OUTPUT OUT-FILE-IS, OUT-FILE-NI. C98970
50050 PERFORM TITLE-IS. C98970
50060 PERFORM TITLE-NI. C98970
50100 READ-INPUT. C98970
50110 READ IN-FILE, AT END GO TO CLOSE-FILES. C98970
50120 IF WUC IS EQUAL TO 199999: GO TO CLOSE-FILES. C98970
50130 MOVE WUC TO WUC-OUT. C98970
50140 IF FREQ-ISC IS EQUAL TO ZERO GO TO PROC-NI. C98970
50150 MOVE FREQ-ISC TO OBS. C98970
50160 WRITE OUT-DATA-IS FROM OUT-DATA. C98970
50170 ADD 1 TO LINE-IS. C98970
50180 IF LINE-IS IS GREATER THAN NO-LINE-PAGE PERFORM TITLE-IS. C98970
50300 PROC-NI. C98970
50310 IF FREQ-NI IS EQUAL TO ZERO GO TO READ-INPUT. C98970
50320 MOVE FREQ-NI TO OBS. C98970
50330 WRITE OUT-REC-NI FROM OUT-DATA. C98970
50340 ADD 1 TO LINE-NI. C98970
50350 IF LINE-NI IS GREATER THAN NO-LINE-PAGE PERFORM TITLE-NI. C98970
50360 GO TO READ-INPUT. C98970
50400 TITLE-IS. C98970
50410 ADD 1 TO PAGE-IS. C98970
50420 MOVE PAGE-IS TO PAGE-RPT. C98970
50430 WRITE OUT-DATA-IS FROM COM-TITLE-1. C98970
50440 WRITE OUT-DATA-IS FROM TITLE-ISC. C98970
50450 WRITE OUT-DATA-IS FROM COM-TITLE-2. C98970
50460 MOVE ZERO TO LINE-IS. C98970
50500 TITLE-NI. C98970
50510 ADD 1 TO PAGE-NI. C98970
50520 MOVE PAGE-NI TO PAGE-RPT. C98970
50530 WRITE OUT-REC-NI FROM COM-TITLE-1. C98970
50540 WRITE OUT-REC-NI FROM TITLE-NON-ISC. C98970
50550 WRITE OUT-REC-NI FROM COM-TITLE-2. C98970
50560 MOVE ZERO TO LINE-NI. C98970
50600 CLOSE-FILES. C98970
50610 CLOSE IN-FILE, OUT-FILE-IS, OUT-FILE-NI WITH LOCK. C98970
50620 DISPLAY : E0J C9897P : UPON CONSOLE. C98970
50630 GOBACK. C98970
/* PLACE COEUL SOURCE BEFORE
//CHG,TF6IN DD *,SPACE>(CYL,(1,1)) 1440 CDS
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU12 DD DISP>(OLD,KEEP),VOL>SER>+FI,UNIT>T+P1 T12
//TPR,TU24 DD DISP>(OLD,PASS) 024-PASS
//TPR,TU25 DD DISP>(OLD,PASS) 023-PASS
//TPR,TPRIN DD *,SPACE>(TRK,(1,1))
T/P TU25 1998070R000
T/P TU24 1998070R000
T/P TU12 10100202020
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD
//C9897R EXEC C96J3N,TIME>01,ACCT>038323007
//CHG,TU24 DD DSN>+P.9897433,DISP>(OLD,DELETE) 024-IN
//CHG,TU25 DD DSN>+P.9897435,DISP>(OLD,DELETE) 025-IN
//CHG,TPRIN DD *,SPACE>(TRK,(1,1))
T/P TU24 1998070R000
T/P TU25 1998070R000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.11.4 SORT NON-ISOCRONAL FREQUENCY

```

//T9897J JOB 01:1 G WANG ;,PRTY>02,TYPRUN>HOLD
//C9897T EXEC P9622N,W>I99,TIME>01,ACCT>D35323007 SCS
//CHG.SORTIN DD DISP>[KEEP],UNIT>[T+F5,I,DEFER], CT22 1
// DSN>E,989743I, CT22 2
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
// DCB>[LRECL>0020,BLKSIZE>1800],LABEL>[NSL,RETPD>099]
//CHG.SORTOUT DD DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>A,9897433, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0020,BLKSIZE>1800]
//CHG.SYSIN DD *,DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[011,005,CH>D,001,005,CH>A],SIZE>E0003000
MODS E15>[E15,0C8,SORTLIB>N],E18>[E18,024,SORTLIB>N]
/*

```

### 6.11.5 WRITE NON-ISOCRONAL FREQUENCY

```

//C9897K EXEC P9635L,TIME>01,ACCT>D35323007 SC
//CHG.TU12 DD DISP>[PASS],UNIT>[T+F1,1,DEFER],DSN>A,9897433, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU25 DD DSN>P,989743I,SPACE>[CYL,[009,001]] D25-OUT
//CHG.INPUT DD *,SPACE>[CYL,[1,1]] 1440 COS
00000 COMLINE COMPILE O. WANG. C98970
01040 DATE-WRITTEN. I APR 72. C98970
01050 REMARKS. C98970
01060 MAINTENANCE STUDY PROGRAM SC. C98970
01070 PREPARES LISTING OF FREQUENCY OF REMOVAL [AIRCRAFT C98970
01080 SUB-SET 1] -V- WUC. C98970
01090 INPUT SORT SEQUENCE C98970
01100 FREQUENCY. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER, IBM-360. C98970
02030 OBJECT-COMPUTER, IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT OUT-FILE-NAME ASSIGN TO UT-S-TU25 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD IN-FILE C98970
10120 RECORDING MODE IS F C98970
10130 BLOCK CONTAINS 90 RECORDS C98970
10140 RECORD CONTAINS 20 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE IN-REC. C98970
10200 01 IN-REC SYNC. C98970
10210 02 WUC PICTURE X(5). C98970
10220 02 FILLER PICTURE X(5). C98970
10230 02 FILLER-NT PICTURE S9(5). C98970
10240 02 FILLER PICTURE X(5). C98970
13300 FD OUT-FILE-NAME C98970
13320 RECORDING MODE IS F C98970
13330 BLOCK CONTAINS 40 RECORDS C98970
13340 RECORD CONTAINS 70 CHARACTERS C98970
13350 LABEL RECORDS ARE OMITTED C98970
13360 DATA RECORDS ARE OUT-REC-NAME. C98970
13400 01 OUT-REC-NAME SYNC. C98970
13410 02 FILLER PICTURE X(70). C98970
30000 WORKING-STORAGE SECTION. C98970
30050 77 PAGE-NAME SYNC COMPUTATIONAL PICTURE S999 VALUE ZERO. C98970
30130 77 LINE-NAME SYNC COMPUTATIONAL PICTURE S999 VALUE ZERO. C98970
30150 77 NO-LINE-PAGE SYNC COMPUTATIONAL PICTURE S999 VALUE <75. C98970
31500 01 OUT-DATA SYNC. C98970
31510 02 FILLER PICTURE X VALUE 1/I. C98970
31515 02 FILLER PICTURE X(06) VALUE SPACE. C98970
31520 02 085 PICTURE ZZZZ9. C98970
31530 02 FILLER PICTURE XXX VALUE SPACE. C98970
31540 02 WUC-OUT PICTURE XXXXX. C98970
31550 02 FILLER PICTURE X(49) VALUE SPACE. C98970
31590 02 FILLER PICTURE X VALUE 1&1. C98970
32000 01 COM-TITLE-1 SYNC. C98970
32010 02 FILLER PICTURE X(32) VALUE C98970
32020 :1 LISTING OF FREQUENCY OF WUC PAGE:1. C98970

```

```

J2030      02 PAGE-RPT          PICTURE ZZ9.          C98970
J2040      02 FILLER           PICTURE XE34J VALUE SPACE. C98970
J2050      02 FILLER           PICTURE X VALUE I#I.    C98970
J2100      01 COM-TITLE-2 SYNC.          C98970
J2110      02 FILLER           PICTURE XE19J VALUE          C98970
J2120      :S          FREQ      WUCI.    C98970
J2130      02 FILLER           PICTURE XE50J VALUE SPACE.    C98970
J2140      02 FILLER           PICTURE X VALUE I#I.          C98970
J2300      01 TITLE-NON-ISC SYNC.        C98970
J2310      02 FILLER           PICTURE XE28J VALUE          C98970
J2320      :S          FOR NON-ISOCRONAL A/C ?. C98970
J2330      02 FILLER           PICTURE XE41J VALUE SPACE.    C98970
J2340      02 FILLER           PICTURE X VALUE I#I.          C98970
50000      PROCEDURE DIVISION.          C98970
50010      OPEN-FILES.                  C98970
50020      OPEN INPUT IN-FILE.          C98970
50040      OPEN OUTPUT OUT-FILE-NI.     C98970
50060      PERFORM TITLE-NI.            C98970
50100      READ-INPUT                    C98970
50110      READ IN-FILE, AT END GO TO CLOSE-FILES. C98970
50120      IF WUC IS EQUAL TO :99999: GO TO READ-INPUT. C98970
50130      MOVE WUC TO WUC-OUT.          C98970
50310      IF FREQ-NI IS EQUAL TO ZERO GO TO READ-INPUT. C98970
50320      MOVE FREQ-NI TO OBS.          C98970
50330      WRITE OUT-REC-NI FROM OUT-DATA. C98970
50340      ADD I TO LINE-NI.             C98970
50350      IF LINE-NI IS GREATER THAN NO-LINE-PAGE PERFORM TITLE-NI. C98970
50360      GO TO READ-INPUT.            C98970
50500      TITLE-NI.                    C98970
50510      ADD I TO PAGE-NI.             C98970
50520      MOVE PAGE-NI TO PAGE-RPT.    C98970
50530      WRITE OUT-REC-NI FROM COM-TITLE-1. C98970
50540      WRITE OUT-REC-NI FROM TITLE-NON-ISC. C98970
50550      WRITE OUT-REC-NI FROM COM-TITLE-2. C98970
50560      MOVE ZERO TO LINE-NI.        C98970
50600      CLOSE-FILES.                  C98970
50610      CLOSE IN-FILE,              OUT-FILE-NI WITH LOCK. C98970
50620      DISPLAY : E0J C9897 : UPON CONSOLE. C98970
50630      GOBACK.                      C98970
/*
/* PLACE CONTROL SOURCE BEFORE
//CHG,TFGIN DD *,SPACE>[CYL,[1,1]]    1440 CDS
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TUI2 DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1    T12
//TPR,TU25 DD DISP>[OLD,PASS]          028-PASS
//TPR,TPRIN DD *,SPACE>[TRK,[1,1]]
T/P TUI2 10100202020
T/P TU25 1998070R000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD
//C9897R EXEC C9603N,TIME>01,ACCT>D35323007
//CHG,TU25 DD DSN>P.989743I,DISP>[OLD,DELETE]    028-IM
//CHG,TPRIN DD *,SPACE>[TRK,[1,1]]
T/P TU25 1998070R000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.11.6 SORT ISOCRONAL FREQUENCY

```

//T9897L JOB 01: G WANG : ,PRTY>02,TPRUN>HOLD
//C98970 EXEC P9622N,W>199,TIME>01,ACCT>D35323007          SES
//CHG,SORTIN DD DISP>[KEEP],UNIT>[T+F5,1,DEFER],          CT22 1
// DSN>E.989743I,                                          CT22 2
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22 4
// DCB>[LRECL>0020,BLKSIZE>1800],LABEL>[MSL,RETPD>099]
//CHG,SORTOUT DD DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>A.989743I, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12 3
// DCB>[LRECL>0020,BLKSIZE>1800]
//CHG,SYSIN DD *,DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT FIELDS>[006,005,CH,D,001,005,CH,A],SIZE>E0003000
MODS E15>[E15,008,SORT_LB,N],E18>[E18,024,SORT_LB,N]
/*

```

## 6.11.7 WRITE ISOCHRONAL FREQUENCY

```

//C9897L EXEC P965SL,TIME>01,ACCT>035323007 SE
//CHG.TU12 DD DISP>[C,PASS],UNIT>[T+F1,1,DEFER],DSN>A.9897434, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU2S DD DSN>P.9897431,SPACE>[CYL,(009,001)] D25-OUT
//CHG.INPUT DD *SPACE>[CYL,(1,1)] 1440 CDS
00000 COMLINE COMPILE G. WANG. C98970
01040 DATE-WRITTEN. 1 APR 72. C98970
01050 REMARKS. C98970
01060 MAINTENANCE STUDY PROGRAM SE. C98970
01070 PREPARES LISTING OF FREQUENCY OF REMOVAL [AIRCRAFT C98970
01080 SUB-SET 2] -V- WUC. C98970
01090 INPUT SORT SEQUENCE C98970
01100 FREQUENCY. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-5-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT OUT-FILE-15 ASSIGN TO UT-5-TU25 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD IN-FILE C98970
10120 RECORDING MODE IS F C98970
10130 BLOCK CONTAINS 90 RECORDS C98970
10140 RECORD CONTAINS 20 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE IN-REC. C98970
10200 01 IN-REC SYNC. C98970
10210 02 WUC PICTURE X(5). C98970
10220 02 FREQ-15C PICTURE S9(5). C98970
10230 02 FILLER PICTURE X(10). C98970
11300 FD OUT-FILE-15 C98970
11320 RECORDING MODE IS F C98970
11330 BLOCK CONTAINS 40 RECORDS C98970
11340 RECORD CONTAINS 70 CHARACTERS C98970
11350 LABEL RECORDS ARE OMITTED C98970
11360 DATA RECORDS ARE OUT-REC-15. C98970
11400 01 OUT-DATA-15 SYNC. C98970
11410 02 FILLER PICTURE X(70). C98970
30000 WORKING-STORAGE SECTION. C98970
30060 77 PAGE-15 SYNC COMPUTATIONAL PICTURE S999 VALUE ZERO. C98970
30140 77 LINE-15 SYNC COMPUTATIONAL PICTURE S999 VALUE ZERO. C98970
30150 77 NO-LINE-PAGE SYNC COMPUTATIONAL PICTURE S999 VALUE <78. C98970
31500 01 OUT-DATA SYNC. C98970
31510 02 FILLER PICTURE X VALUE 1/1. C98970
31515 02 FILLER PICTURE X(07) VALUE SPACE. C98970
31520 02 OBS PICTURE ZZZZ9. C98970
31530 02 FILLER PICTURE XX VALUE SPACE. C98970
31540 02 WUC-OUT PICTURE XXXXX. C98970
31550 02 FILLER PICTURE X(49) VALUE SPACE. C98970
31590 02 FILLER PICTURE X VALUE 1#1. C98970
32000 01 COM-TITLE-1 SYNC. C98970
32010 02 FILLER PICTURE X(32) VALUE C98970
32020 :1 LISTING OF FREQ - WUC PAGE1. C98970
32030 02 PAGE-RP1 PICTURE Z29. C98970
32040 02 FILLER PICTURE X(34) VALUE SPACE. C98970
32050 02 FILLER PICTURE X VALUE 1#1. C98970
32100 01 COM-TITLE-2 SYNC. C98970
32110 02 FILLER PICTURE X(19) VALUE C98970
32120 :S FREQ WUC1. C98970
32130 02 FILLER PICTURE X(50) VALUE SPACE. C98970
32140 02 FILLER PICTURE X VALUE 1#1. C98970
32200 01 TITLE-15C SYNC. C98970
32210 02 FILLER PICTURE X(24) VALUE C98970
32220 :S FOR ISOCHRONAL A/C 1. C98970
32230 02 FILLER PICTURE X(45) VALUE SPACE. C98970
32240 02 FILLER PICTURE X VALUE 1#1. C98970
50000 PROCEDURE DIVISION. C98970
50010 OPEN-FILES. C98970
50020 OPEN INPUT IN-FILE. C98970
50040 OPEN OUTPUT OUT-FILE-15. C98970
50050 PERFORM TITLE-15. C98970

```

```

50100 READ-INPUT. C98970
50110 READ IN-FILE, AT END GO TO CLOSE-FILES. C98970
50120 IF WUC IS EQUAL TO :99999: GO TO READ-INPUT. C98970
50130 MOVE WUC TO WUC-OUT. C98970
50140 IF FREQ-ISC IS EQUAL TO ZERO GO TO READ-INPUT. C98970
50150 MOVL FREQ-ISC TO OBS. C98970
50160 WRITE OUT-DATA-IS FROM OUT-DATA. C98970
50170 ADD 1 TO LINE-IS. C98970
50180 IF LINE-IS IS GREATER THAN NO-LINE-PAGE PERFORM TITLE-IS. C98970
50360 GO TO READ-INPUT. C98970
50400 TITLE-IS. C98970
50410 ADD 1 TO PAGE-IS. C98970
50420 MOVE PAGE-IS TO PAGE-RPT. C98970
50430 WRITE OUT-DATA-IS FROM COM-TITLE-1. C98970
50440 WRITE OUT-DATA-IS FROM TITLE-ISC. C98970
50450 WRITE OUT-DATA-IS FROM COM-TITLE-2. C98970
50460 MOVE ZERO TO LINE-IS. C98970
50600 CLOSE-FILES. C98970
50610 CLOSE IN-FILE, OUT-FILE-IS WITH LOCK. C98970
50620 DISPLAY : EJJ C9897 : UPON CONSOLE. C98970
50630 GORACK. C98970
/* PLACE COUOL SOURCE BEFORE
//CHG,TF6IN DU *,SPACE>(CYL,(1,1)) 1440 CDS
/* PLACE TFG DAT. BEFORE THIS CARD
//TPR,TU12 DD DISP>(OLD,KEEP),VOL>SER>+F1,UNIT>T+F1 T12
//TPR,TU25 DD DISP>(OLD,PASS) 025-PASS
//TPR,TPRIN DD *,SPACE>(TRK,(1,1))
T/P TU12 1010020Z00
T/P TU25 1998070R00
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD
//C9897R EXEC C9603N,TIME>01,ACCT>035323007
//CHG,TU25 DD DSN>+P.9897431,DISP>(OLD,DELETE) 025-IN
//CHG,TPRIN DD *,SPACE>(TRK,(1,1))
T/P TU25 1998070R00
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.11.8 SORT REMOVAL INTERVALS

```

//T9897H JOB 01: G. WANG : ,PRTY>02,TPRUN>HOLD
//C9897G EXEC P9622N,TIME>199,TIME>05,ACCT>035323007 505
//CHG,SORTIN DD DISP>(KEEP),UNIT>(A+F5,2,DEFER), CT22/23 1
// DSN>+E.9897435, CT22 2
// VOL>SER>(A+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// 1+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5),CT22 4
// DCB>(LRECL>0020,BLKSIZE>1800),LABEL>(NSL,RETPD>099)
//CHG,SORTOUT DD DISP>(KEEP),UNIT>(A+F1,2,DEFER),DSN>+A.9897436, CT12/13 1
// VOL>SER>(A+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// 1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1),CT12 3
// DCB>(LRECL>0020,BLKSIZE>1800)
//CHG,SYSIN DU *,DCB>BLKSIZE>0080,SPACE>(TRK,(1,1))
SORT FIELDS>(017,001,CH,A,019,001,CH,A,001,005,CH,A),SIZE>00200000
MODS E15>(E15,008,SORTLIB,N),E16>(E16,024,SORTLIB,N)
/*

```

### 6.11.9 CUMULATIVE DISTRIBUTION OF REMOVAL INTERVALS

```

//C9897H EXEC P9655L,TIME>07,ACCT>035323007 50
//CHG,TU12 DD DISP>(PASS),UNIT>(T+F1,1,DEFER),DSN>+A.9897436, CT12 1
// VOL>SER>(A+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// 1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1) T12 3
//CHG,TU24 DD DISP>(PASS),UNIT>(T+F7,1,DEFER),DSN>+G.9897437, CT24 1
// VOL>SER>(A+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7, CT24 2
// 1+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7) T24 3
//CHG,INPUT DU *,SPACE>(CYL,(1,1)) 1440 CDS
00000 COMBINE COMPILE G. WANG. C98970
01040 DATE-WRITTEN. 7 APR 72. C98970
01050 REMARKS. C98970
01060 TASK 50 HIST OF WUC. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT HIST-FILE ASSIGN TO UT-S-TU24 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
09000 SELECT CUT-OFF-FILE ASSIGN TO DA-S-DT03 C98970
09010 RESERVE 1 ALTERNATE AREA. C98970

```

|       |  |                                 |        |
|-------|--|---------------------------------|--------|
| 10000 | DATA DIVISION.                                       |                                 | C98970 |
| 10010 | FILE SECTION.  |                                 | C98970 |
| 11100 | FD IN-FILE   |                                 | C98970 |
| 11120 | RECORDING MODE IS F                                  |                                 | C98970 |
| 11130 | BLOCK CONTAINS 90 RECORDS                            |                                 | C98970 |
| 11140 | RECORD CONTAINS 20                                   | CHARACTERS                      | C98970 |
| 11150 | LABEL RECORDS ARE OMITTED                            |                                 | C98970 |
| 11160 | DATA RECORDS ARE IN-REC.                             |                                 | C98970 |
| 11170 | 01 IN-REC SYNC.                                      |                                 | C98970 |
| 11180 | 02 WUC   | PICTURE X(5).                   | C98970 |
| 11182 | 02 FILLER  | PICTURE X(4).                   | C98970 |
| 11183 | 02 OBS   | PICTURE S9(6).                  | C98970 |
| 11184 | 02 OBS-1 REDEFINES OBS                               | PICTURE S99999V9.               | C98970 |
| 11185 | 02 FILLER  | PICTURE X.                      | C98970 |
| 11186 | 02 ISCHROMAL-NEW                                     | PICTURE X.                      | C98970 |
| 11187 | 02 FILLER  | PICTURE X.                      | C98970 |
| 11188 | 02 DATA-TYPE-NEW                                     | PICTURE X.                      | C98970 |
| 11189 | 02 FILLER  | PICTURE X.                      | C98970 |
| 12100 | FD HIST-FILE   |                                 | C98970 |
| 12120 | RECORDING MODE IS F                                  |                                 | C98970 |
| 12130 | BLOCK CONTAINS 15 RECORDS                            |                                 | C98970 |
| 12140 | RECORD CONTAINS 130                                  | CHARACTERS                      | C98970 |
| 12150 | LABEL RECORDS ARE OMITTED                            |                                 | C98970 |
| 12160 | DATA RECORDS ARE HIST-REC.                           |                                 | C98970 |
| 12170 | 01 HIST-REC SYNC.                                    |                                 | C98970 |
| 12180 | 02 FILLER  | PICTURE X(130).                 | C98970 |
| 29000 | FD CUT-OFF-FILE                                      |                                 | C98970 |
| 29010 | RECORDING MODE IS F                                  |                                 | C98970 |
| 29020 | BLOCK CONTAINS 20 RECORDS                            |                                 | C98970 |
| 29030 | RECORD CONTAINS 80                                   | CHARACTERS                      | C98970 |
| 29040 | LABEL RECORDS ARE STANDARD                           |                                 | C98970 |
| 29050 | DATA RECORDS ARE CUT-OFF-REC.                        |                                 | C98970 |
| 29060 | 01 CUT-OFF-REC SYNC.                                 |                                 | C98970 |
| 29070 | 05 NI-CUT-OFF  | PICTURE 9(5).                   | C98970 |
| 29080 | 05 ISO-CUT-OFF                                       | PICTURE 9(5).                   | C98970 |
| 29090 | 05 FILLER  | PICTURE X(70).                  | C98970 |
| 30000 | WORKING-STORAGE SECTION.                             |                                 | C98970 |
| 30010 | 77 KNT SYNC PICTURE S9(5).                           |                                 | C98970 |
| 30020 | 01 FILLER SYNC.                                      |                                 | C98970 |
| 30030 | 02 FILLER-HIST-VALUE OCCURS 1000 TIMES PICTURE S9(5) |                                 | C98970 |
| 30040 | COMPUTATIONAL.                                       |                                 | C98970 |
| 30050 | 01 A PICTURE S9(5) COMPUTATIONAL.                    |                                 | C98970 |
| 30060 | 01 NO-OF-HISTS SYNC                                  | PICTURE 9999 VALUE ZERO.        | C98970 |
| 30070 | 01 TWO SYNC  | PICTURE X VALUE 121.            | C98970 |
| 30080 | 01 ONE SYNC  | PICTURE X VALUE 11.             | C98970 |
| 30090 | 01 CNT SYNC  | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 30100 | 01 CUR-WUC-T SYNC.                                   |                                 | C98970 |
| 30110 | 02 FILLER  | PICTURE X(5) VALUE 1 WUC>1.     | C98970 |
| 30120 | 02 CUR-WUC   | PICTURE X(5).                   | C98970 |
| 30170 | 01 ISCHRONAL SYNC                                    | PICTURE X.                      | C98970 |
| 30180 | 01 DATA-TYPE SYNC                                    | PICTURE X.                      | C98970 |
| 30190 | 01 MINUS-ONE COMPUTATIONAL                           | PICTURE S999 VALUE -1 SYNC.     | C98970 |
| 32000 | 01 REPORT-ID SYNC.                                   |                                 | C98970 |
| 32010 | 02 FILLER  | PICTURE X(50) VALUE             | C98970 |
| 32020 | 02 FILLER  | PICTURE X(50) VALUE SPACE.      | C98970 |
| 32030 | 02 FILLER  | PICTURE X(30) VALUE             | C98970 |
| 32040 | 02 FILLER  | PICTURE X(30) VALUE             | C98970 |
| 32050 | 02 FILLER  | PICTURE X(30) VALUE             | C98970 |
| 46000 | 01 MEAN COMPUTATIONAL SYNC                           | PICTURE S9(7)V99.               | C98970 |
| 46010 | 01 VARIANCE COMPUTATIONAL SYNC                       | PICTURE S9(7)V99.               | C98970 |
| 46020 | 01 TEMP-COMP   | PICTURE S9(7)V99.               | C98970 |
| 46100 | 01 MEAN-VARIANCE-LINE SYNC.                          |                                 | C98970 |
| 46110 | 02 FILLER  | PICTURE X(50) VALUE             | C98970 |
| 46120 | 02 FILLER  | PICTURE X(19) VALUE             | C98970 |
| 46130 | 02 FILLER  | PICTURE X(19) VALUE             | C98970 |
| 46140 | 02 FILLER  | PICTURE X(19) VALUE             | C98970 |
| 46150 | 02 MEAN-RPT  | PICTURE ZZZ9.9.                 | C98970 |
| 46160 | 02 FILLER  | PICTURE X(30) VALUE             | C98970 |
| 46170 | 02 FILLER  | VARIANCE >1.                    | C98970 |
| 46180 | 02 VARIANCE-RPT                                      | PICTURE ZZZZZ9.9.               | C98970 |
| 46190 | 02 FILLER  | PICTURE X(16) VALUE             | C98970 |
| 46200 | 02 FILLER  | PICTURE X(16) VALUE             | C98970 |
| 47000 | 01 HIST-VALUE-MAX SYNC                               | PICTURE S9999V99 VALUE -9999.9. | C98970 |
| 47010 | 01 HIST-VALUE-MIN SYNC                               | PICTURE S9999V99 VALUE 9999.9.  | C98970 |
| 47020 | 01 HIST-NO-OF-OBS SYNC                               | PICTURE S9(5) VALUE ZERO.       | C98970 |
| 47030 | 01 HIST-NO-OF-INTERVALS SYNC                         | PICTURE 999V99 VALUE 50.        | C98970 |
| 47040 | 01 HIST-INPUT-VMAX-VMIN SYNC                         | PICTURE 9 VALUE ZERO.           | C98970 |
| 47050 | 01 HIST-DIST SYNC                                    | PICTURE X VALUE 111.            | C98970 |
| 47060 | 01 HIST-INDEX SYNC COMPUTATIONAL                     |                                 | C98970 |
| 47070 | 01 HIST-INDEX-2 SYNC COMPUTATIONAL                   | PICTURE S999 VALUE ZERO.        | C98970 |
| 47080 | 01 HIST-INDEX-2 SYNC COMPUTATIONAL                   | PICTURE S999 VALUE ZERO.        | C98970 |
| 47090 | 01 HIST-TEMP SYNC                                    | PICTURE S9999V99 VALUE ZERO.    | C98970 |
| 47100 | 01 HIST-INTERVAL-SIZE SYNC                           | PICTURE S9999V99 VALUE ZERO.    | C98970 |
| 47110 | 01 HIST-INTERVAL-SIZE SYNC                           | PICTURE S999V99 VALUE ZERO      | C98970 |

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| 47120 |    | COMPUTATIONAL.   |                                | C98970 |
| 47150 | 01 | HIST-FLAG SYNC   | PICTURE X VALUE 101.           | C98970 |
| 47160 | 01 | HIST-SCALE-VALUE SYNC COMPUTATIONAL                            |                                | C98970 |
| 47170 |    |  | PICTURE S999 VALUE <1.         | C98970 |
| 47180 | 01 | HIST-PERCENT SYNC  | PICTURE S999V99 COMPUTATIONAL. | C98970 |
| 47190 | 01 | HIST-CUM SYNC  | PICTURE S999V99 COMPUTATIONAL. | C98970 |
| 47200 | 01 | HIST-LINE SYNC COMPUTATIONAL                                   |                                | C98970 |
| 47210 |    |  | PICTURE S999 VALUE ZERO.       | C98970 |
| 47220 | 01 | HIST-PAGE-FLAG SYNC  | PICTURE S999 VALUE <75.        | C98970 |
| 47230 | 01 | HIST-LINE-CNT SYNC   | PICTURE S999.                  | C98970 |
| 47300 | 01 | HIST-ERR-1 SYNC  | PICTURE XC103 VALUE            | C98970 |
| 47310 |    | ERROR NO 01.   |                                | C98970 |
| 47320 | 01 | HIST-ERR-3 SYNC.   |                                | C98970 |
| 47330 | 02 | FILLER   | PICTURE XC53 VALUE 185 > 1.    | C98970 |
| 47340 | 02 | HIST-ERR-2   | PICTURE S9C53 VALUE ZERO.      | C98970 |
| 47350 | 01 | HIST-ERR-4 SYNC  | PICTURE XC103 VALUE            | C98970 |
| 47360 |    | ERROR MAXI.  |                                | C98970 |
| 47370 | 01 | HIST-ERR-5 SYNC  | PICTURE XC103 VALUE            | C98970 |
| 47380 |    | MIN BAD. ;.  |                                | C98970 |
| 47390 | 01 | HIST-OUT-RANGE-VALUE SYNC                                      | PICTURE S999 COMPUTATIONAL.    | C98970 |
| 47500 | 01 | FILLER SYNC.   |                                | C98970 |
| 47510 | 02 | FILLER OCCURS 200 TIMES.                                       |                                | C98970 |
| 47530 | 03 | HIST-TABLE   | PICTURE S9C53 COMPUTATIONAL.   | C98970 |
| 47540 | 03 | HIST-UPPER-LIMIT   | PICTURE S999V99 COMPUTATIONAL. | C98970 |
| 47550 | 03 | HIST-TABLE-SCALED  | PICTURE S999 COMPUTATIONAL.    | C98970 |
| 47560 | 01 | HIST-NEW-PAGE SYNC.  |                                | C98970 |
| 47570 | 02 | FILLER   | PICTURE X VALUE 111.           | C98970 |
| 47580 | 02 | FILLER   | PICTURE XC1223 VALUE SPACE.    | C98970 |
| 475A2 | 02 | FILLER   | PICTURE XC53 VALUE IPAGE 1.    | C98970 |
| 47584 | 02 | HIST-PAGE-NO   | PICTURE 9.                     | C98970 |
| 47590 | 02 | FILLER   | PICTURE X VALUE 1#1.           | C98970 |
| 47600 | 01 | HIST-TITLE SYNC.   |                                | C98970 |
| 47610 | 02 | FILLER   | PICTURE XC33 VALUE 15 1.       | C98970 |
| 47620 | 02 | HIST-TITLE-1.  |                                | C98970 |
| 47621 | 03 | FILLER   | PICTURE XC103 VALUE SPACE.     | C98970 |
| 47630 | 02 | HIST-TITLE-2.  |                                | C98970 |
| 47631 | 03 | FILLER   | PICTURE XC103 VALUE SPACE.     | C98970 |
| 47640 | 02 | HIST-TITLE-3   | PICTURE XC103 VALUE SPACE.     | C98970 |
| 47650 | 02 | HIST-TITLE-4   | PICTURE XC103 VALUE SPACE.     | C98970 |
| 47660 | 02 | FILLER   | PICTURE XC243 VALUE            | C98970 |
| 47670 |    | NO OF OBSERVATIONS >1.   |                                | C98970 |
| 47680 | 02 | HIST-NO-OF-ORBS-RPT  | PICTURE ZZZZ9.                 | C98970 |
| 47690 | 02 | FILLER   | PICTURE XC133 VALUE            | C98970 |
| 47700 |    | VALUE MAX > 1.   |                                | C98970 |
| 47710 | 02 | HIST-VALUE-MAX-RPT   | PICTURE ----.9.                | C98970 |
| 47720 | 02 | FILLER   | PICTURE XC133 VALUE            | C98970 |
| 47730 |    | VALUE MIN > 1.   |                                | C98970 |
| 47740 | 02 | HIST-VALUE-MIN-RPT   | PICTURE ----.9.                | C98970 |
| 47750 | 02 | FILLER   | PICTURE XC183 VALUE            | C98970 |
| 47760 |    | ;  |                                | C98970 |
| 47900 | 01 | HIST-OUT-LINE SYNC.  |                                | C98970 |
| 47910 | 02 | FILLER   | PICTURE XC503 VALUE            | C98970 |
| 47920 | 02 | FILLER   | PICTURE XC803 VALUE            | C98970 |
| 47930 |    | -----#1.   |                                | C98970 |
| 47940 |    | -----#1.   |                                | C98970 |
| 47950 | 01 | HIST-LABEL SYNC.   |                                | C98970 |
| 47960 | 02 | FILLER   | PICTURE XF503 VALUE            | C98970 |
| 47970 |    | ;/ MIDPNT PCNT CUM FREQ 1...5...10...15...20...;               |                                | C98970 |
| 47974 | 02 | FILLER   | PICTURE XC803 VALUE            | C98970 |
| 47980 |    | 125...30...35...40...45...50...55...60...65...70...75...80...; |                                | C98970 |
| 47990 |    | 185...90...95...100#1.   |                                | C98970 |
| 48000 | 01 | HIST-LINE-OUT SYNC.  |                                | C98970 |
| 48010 | 02 | FILLER   | PICTURE X VALUE 1/1.           | C98970 |
| 48020 | 02 | HIST-LINE-RPT  | PICTURE Z29.                   | C98970 |
| 48030 | 02 | FILLER   | PICTURE X VALUE SPACE.         | C98970 |
| 48040 | 02 | HIST-MID-POINT-RPT   | PICTURE ----.9.                | C98970 |
| 48060 | 02 | HIST-PERCENT-RPT   | PICTURE Z29.9.                 | C98970 |
| 48070 | 02 | FILLER   | PICTURE X VALUE SPACE.         | C98970 |
| 48080 | 02 | HIST-CUM-RPT   | PICTURE Z29.9.                 | C98970 |
| 48100 | 02 | HIST-CRLO-RPT  | PICTURE ZZZZ9.                 | C98970 |
| 48110 | 02 | FILLER   | PICTURE X VALUE SPACE.         | C98970 |
| 48120 | 02 | HIST-POINT OCCURS 100 TIMES                                    |                                | C98970 |
| 48130 |    |  | PICTURE X.                     | C98970 |
| 48140 | 02 | FILLER   | PICTURE X VALUE 1#1.           | C98970 |
| 48150 | 01 | HIST-OUT-RANGE-NEC SYNC.                                       |                                | C98970 |
| 48160 | 02 | FILLER   | PICTURE XC353 VALUE            | C98970 |
| 48170 |    | ;/ NUMBER OF OUT OF RANGE VALUES >1.                           |                                | C98970 |
| 48180 | 02 | HIST-OUT-RANGE-RPT   | PICTURE Z29.                   | C98970 |
| 48190 | 02 | FILLER   | PICTURE XC913 VALUE SPACE.     | C98970 |
| 48191 | 02 | FILLER   | PICTURE X VALUE 1#1.           | C98970 |
| 48200 | 01 | HIST-SCALE-LINE SYNC.  |                                | C98970 |
| 48210 | 02 | FILLER   | PICTURE XC273 VALUE            | C98970 |
| 48220 |    | ;/ SCALING FACTOR > 1.   |                                | C98970 |
| 48230 | 02 | HIST-SCALE-RPT   | PICTURE Z29.                   | C98970 |
| 48240 | 02 | FILLER   | PICTURE XC0993 VALUE SPACE.    | C98970 |
| 48250 | 02 | FILLER   | PICTURE X VALUE 1#1.           | C98970 |

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| 48300 | 01 FILLER SYNC.   | C98970 |
| 48310 | 02 HIST-VALUE OCCURS 1000 TIMES                               | C98970 |
| 48320 | PICTURE \$9999V9 COMPUTATIONAL.                               | C98970 |
| 50000 | PROCEDURE DIVISION.   | C98970 |
| 50001 | OPEN INPU; CUT-OFF-FILL.                                      | C98970 |
| 50002 | HEAD CUT-OFF-FILE AT END GO TO CLOSE-FILES.                   | C98970 |
| 50003 | CLOSE CUT-OFF-FILE WITH LOCK.                                 | C98970 |
| 50010 | OPEN INPU; IN-FILE.   | C98970 |
| 50020 | OPEN OUTPJT HIST-FILE.  | C98970 |
| 50030 | MOVE 1000 TO KNT.   | C98970 |
| 50040 | PERFORM RESET-TABLE THRU END-RST-TABLE.                       | C98970 |
| 50050 | HEAD IN-FILE, AT END GO TO CLOSE-FILES.                       | C98970 |
| 50060 | WRITE HIST-REC FROM REPORT-ID.                                | C98970 |
| 50100 | PARA-1.   | C98970 |
| 50110 | MOVE 1 TO HIST-NO-OF-OBS.                                     | C98970 |
| 50120 | MOVE WUC TO CUR-WUC.  | C98970 |
| 50140 | MOVE DATA-TYPE-NEW TO DATA-TYPE.                              | C98970 |
| 50150 | MOVE ISCHRONAL-NEW TO ISCHRONAL.                              | C98970 |
| 50160 | IF DATA-TYPE IS EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO      | C98970 |
| 50170 | FLT-DATA.   | C98970 |
| 50200 | READ1.  | C98970 |
| 50210 | HEAD IN-FILE, AT END GO TO CLOSE-FILES.                       | C98970 |
| 50220 | IF DATA-TYPE-NEW IS EQUAL TO 191 GO TO CLOSE-FILES.           | C98970 |
| 50230 | IF WUC IS NOT EQUAL TO CUR-WUC GO TO PARA-2.                  | C98970 |
| 50250 | ADD 1 TO HIST-NO-OF-OBS.                                      | C98970 |
| 50260 | IF DATA-TYPE IS EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO      | C98970 |
| 50270 | FLT-DATA.   | C98970 |
| 50300 | PARA-2.   | C98970 |
| 50310 | PERFORM SET-HISTOG THRU END-SH.                               | C98970 |
| 50320 | PERFORM RESET-TABLE THRU END-RST-TABLE.                       | C98970 |
| 50330 | GO TO PARA-1.   | C98970 |
| 50400 | RESET-TABLE.  | C98970 |
| 50410 | MOVE ZERO TO CNT.   | C98970 |
| 50420 | RST.  | C98970 |
| 50430 | ADD 1 TO CNT.   | C98970 |
| 50440 | MOVE MINUS-ONE TO HIST-VALUE [CNT].                           | C98970 |
| 50445 | MOVE ZERO TO FREQ-HIST-VALUE [CNT].                           | C98970 |
| 50450 | IF CNT IS LESS THAN KNT GO TO RST.                            | C98970 |
| 50455 | MOVE ZERO TO KNT.   | C98970 |
| 50460 | END-RST-TABLE. EXIT.  | C98970 |
| 50510 | SET-HISTOG.   | C98970 |
| 50512 | IF ISCHRONAL IS EQUAL TO ONE AND HIST-NO-OF-OBS IS NOT        | C98970 |
| 50514 | GREATER THAN ISO-CUT-OFF GO TO END-SH.                        | C98970 |
| 50516 | IF ISCHRONAL IS EQUAL TO TWO AND HIST-NO-OF-OBS IS NOT        | C98970 |
| 50518 | GREATER THAN NI-CUT-OFF GO TO END-SH.                         | C98970 |
| 50520 | IF ISCHRONAL IS EQUAL TO ONE MOVE 1 ISO 1 TO                  | C98970 |
| 50530 | HIST-TITLE-4, ELSE MOVE 1 NON-ISO 1 TO HIST-TITLE-4.          | C98970 |
| 50540 | IF DATA-TYPE IS EQUAL TO ONE MOVE 1 WEEKS 1 TO                | C98970 |
| 50550 | HIST-TITLE-3, ELSE MOVE 1 FLT-HOURS1 TO HIST-TITLE-3.         | C98970 |
| 50560 | MOVE CUR-WUC-T TO HIST-TITLE-1.                               | C98970 |
| 50590 | PERFORM WRITE-HISTOGRAM THRU END-HIST.                        | C98970 |
| 50600 | IF HIST-FLAG IS EQUAL TO 11 THEN GO TO CFI.                   | C98970 |
| 50610 | ADD 1 TO NO-OF-HISTS.   | C98970 |
| 50620 | END-SH. EXIT.   | C98970 |
| 51000 | WEEKS-DATA.   | C98970 |
| 51010 | MOVE ZERO TO CNT.   | C98970 |
| 51020 | WEEK-A.   | C98970 |
| 51030 | ADD 1 TO CNT.   | C98970 |
| 51040 | IF OBS IS EQUAL TO HIST-VALUE [CNT] GO TO WEEK-C.             | C98970 |
| 51050 | IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO WEEK-B.       | C98970 |
| 51060 | IF CNT IS LESS THAN 1000 GO TO WEEK-A.                        | C98970 |
| 51070 | DISPLAY 1 MORE THAN 1000 FREQUENCY OCCURENCES 1 UPON CONSOLE. | C98970 |
| 51080 | GO TO CFI.  | C98970 |
| 51090 | WEEK-B.   | C98970 |
| 51100 | MOVE OBS TO HIST-VALUE [CNT].                                 | C98970 |
| 51110 | IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT.              | C98970 |
| 51120 | WEEK-C.   | C98970 |
| 51130 | ADD 1 TO FREQ-HIST-VALUE [CNT].                               | C98970 |
| 51140 | GO TO READ1.  | C98970 |
| 52000 | FLT-DATA.   | C98970 |
| 52010 | MOVE ZERO TO CNT.   | C98970 |
| 52020 | FLT-A.  | C98970 |
| 52030 | ADD 1 TO CNT.   | C98970 |
| 52040 | IF OBS-1 IS EQUAL TO HIST-VALUE [CNT] GO TO FLT-C.            | C98970 |
| 52050 | IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO FLT-B.        | C98970 |
| 52060 | IF CNT IS LESS THAN 1000 GO TO FLT-A.                         | C98970 |
| 52070 | DISPLAY 1 MORE THAN 1000 FREQUENCY OCCURENCES 1 UPON CONSOLE. | C98970 |
| 52080 | GO TO CFI.  | C98970 |
| 52090 | FLT-B.  | C98970 |
| 52100 | MOVE OBS-1 TO HIST-VALUE [CNT].                               | C98970 |
| 52110 | IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT.              | C98970 |
| 52120 | FLT-C.  | C98970 |
| 52130 | ADD 1 TO FREQ-HIST-VALUE [CNT].                               | C98970 |
| 52140 | GO TO READ1.  | C98970 |
| 52200 | CLOSE-FILES.  | C98970 |
| 52205 | PERFORM SET-HISTOG THRU END-SH.                               | C98970 |



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| 52207 | CF1.   | C98970 |
| 52210 | CLOSE IN-FILE, HIST-FILE.  | C98970 |
| 52211 | IF HIST-FLAG IS EQUAL TO 11: DISPLAY 1 HIST ERROR 1 UPON   | C98970 |
| 52212 | CONSOLE.   | C98970 |
| 52215 | DISPLAY 1 NO OF HISTOGRAMS > 1 NO-OF-HISTS UPON CONSOLE.   | C98970 |
| 52220 | DISPLAY 1 EOL C9897 1 UPON CONSOLE.  | C98970 |
| 52230 | GORACK.  | C98970 |
| 95000 | COMPUTE-MEAN-VARIANCE.   | C98970 |
| 95010 | MOVE ZERO TO CNT.  | C98970 |
| 95020 | MOVE ZERO TO MEAN.   | C98970 |
| 95030 | CMV-1.   | C98970 |
| 95040 | ADD 1 TO CNT.  | C98970 |
| 95050 | COMPUTE TEMP-COMP > HIST-VALUE [CNT] * FREQ-HIST-VALUE [CNT].  | C98970 |
| 95060 | ADD TEMP-COMP TO MEAN.   | C98970 |
| 95070 | IF CNT IS LESS THAN KNT GO TO CMV-1.   | C98970 |
| 95080 | DIVIDE HIST-NO-OF-OBS INTO MEAN.   | C98970 |
| 95090 | MOVE ZERO TO CNT.  | C98970 |
| 95100 | MOVE ZERO TO VARIANCE.   | C98970 |
| 95105 | IF HIST-NO-OF-OBS IS LESS THAN 2 GO TO END-CMV.  | C98970 |
| 95110 | CMV-2.   | C98970 |
| 95120 | ADD 1 TO CNT.  | C98970 |
| 95130 | COMPUTE TEMP-COMP > [(HIST-VALUE [CNT] - MEAN) ** 2] *<br>FREQ-HIST-VALUE [CNT].                     | C98970 |
| 95140 |  | C98970 |
| 95150 | ADD TEMP-COMP TO VARIANCE.   | C98970 |
| 95160 | IF CNT IS LESS THAN KNT GO TO CMV-2.   | C98970 |
| 95170 | COMPUTE VARIANCE > VARIANCE / [HIST-NO-OF-OBS - 1].  | C98970 |
| 95180 | MOVE MEAN TO MEAN-RPT.   | C98970 |
| 95190 | MOVE VARIANCE TO VARIANCE-RPT.   | C98970 |
| 95200 | WRITE HIST-REC FROM MEAN-VARIANCE-LINE.  | C98970 |
| 95290 | END-CMV. EXIT.   | C98970 |
| 97000 | WRITE-HISTOGRAM.   | C98970 |
| 97080 | MOVE 10: TO HIST-FLAG.   | C98970 |
| 97090 | MOVE ZERO TO HIST-OUT-RANGE-VALUE.   | C98970 |
| 97100 | MOVE ZERO TO HIST-PAGE-NO.   | C98970 |
| 97140 | MOVE -9999.9 TO HIST-VALUE-MAX.  | C98970 |
| 97150 | MOVE 9999.9 TO HIST-VALUE-MIN.   | C98970 |
| 97200 | MOVE ZERO TO HIST-INDEX.   | C98970 |
| 97210 | HIST-FIND-VMAX-VMIN.   | C98970 |
| 97220 | ADD 1 TO HIST-INDEX.   | C98970 |
| 97230 | MOVE HIST-VALUE [HIST-INDEX] TO HIST-TEMP.   | C98970 |
| 97240 | IF HIST-TEMP IS GREATER THAN HIST-VALUE-MAX THEN MOVE<br>HIST-TEMP TO HIST-VALUE-MAX.                | C98970 |
| 97250 |  | C98970 |
| 97260 | IF HIST-TEMP IS LESS THAN HIST-VALUE-MIN THEN MOVE<br>HIST-TEMP TO HIST-VALUE-MIN.                   | C98970 |
| 97270 |  | C98970 |
| 97280 | IF HIST-INDEX IS LESS THAN KNT THEN GO TO<br>HIST-FIND-VMAX-VMIN.                                    | C98970 |
| 97290 |  | C98970 |
| 97292 | IF DATA-TYPE IS EQUAL TO ONE COMPUTE HIST-NO-OF-INTERVALS ><br>HIST-VALUE-MAX / 4.                   | C98970 |
| 97294 |  | C98970 |
| 97296 | IF DATA-TYPE IS EQUAL TO TWO COMPUTE HIST-NO-OF-INTERVALS ><br>HIST-VALUE-MAX / 8 / 4.               | C98970 |
| 97298 |  | C98970 |
| 97300 | HIST-PRINT-TITLE.  | C98970 |
| 97301 | IF HIST-NO-OF-INTERVALS IS LESS THAN 50 MOVE 50 TO<br>HIST-NO-OF-INTERVALS.                          | C98970 |
| 97302 |  | C98970 |
| 97304 | ADD 1 TO HIST-PAGE-NO.   | C98970 |
| 97306 | MOVE 5 TO HIST-LINE-CNT.   | C98970 |
| 97310 | WRITE HIST-REC FROM HIST-NEW-PAGE.   | C98970 |
| 97320 | MOVE HIST-NO-OF-OBS TO HIST-NO-OF-OBS-RPT.   | C98970 |
| 97330 | MOVE HIST-VALUE-MAX TO HIST-VALUE-MAX-RPT.   | C98970 |
| 97340 | MOVE HIST-VALUE-MIN TO HIST-VALUE-MIN-RPT.   | C98970 |
| 97350 | WRITE HIST-REC FROM HIST-TITLE.  | C98970 |
| 97355 | PERFORM COMPUTE-MEAN-VARIANCE THRU END-CMV.  | C98970 |
| 97360 | WRITE HIST-REC FROM HIST-DOT-LINE.   | C98970 |
| 97370 | WRITE HIST-REC FROM HIST-LABEL.  | C98970 |
| 97380 | WRITE HIST-REC FROM HIST-DOT-LINE.   | C98970 |
| 97390 | HIST-DUMMY.  | C98970 |
| 97410 | IF HIST-VALUE-MAX IS LESS THAN HIST-VALUE-MIN THEN GO TO<br>HIST-ERROR-2.                            | C98970 |
| 97420 |  | C98970 |
| 97430 | IF HIST-NO-OF-INTERVALS IS GREATER THAN 200 THEN MOVE 200<br>TO HIST-NO-OF-INTERVALS.                | C98970 |
| 97440 |  | C98970 |
| 97441 | MOVE ZERO TO HIST-INDEX.   | C98970 |
| 97442 |  | C98970 |
| 97443 | HIST-RST.  | C98970 |
| 97443 | ADD 1 TO HIST-INDEX.   | C98970 |
| 97444 | MOVE ZERO TO HIST-TABLE [HIST-INDEX].  | C98970 |
| 97445 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS<br>THEN GO TO HIST-RST.                              | C98970 |
| 97446 |  | C98970 |
| 97450 | IF DATA-TYPE IS EQUAL TO ONE MOVE 1.0 TO HIST-INTERVAL-SIZE.<br>ELSE MOVE 8.0 TO HIST-INTERVAL-SIZE. | C98970 |
| 97460 |  | C98970 |
| 97500 | NOTE COMPUTE UPPER LIMIT FOR EACH INTERVAL.  | C98970 |
| 97510 | MOVE ZERO TO HIST-INDEX.   | C98970 |

|       |   |                       |        |
|-------|---|-----------------------|--------|
| 97520 | MOVE ZERO   | TO HIST-TEMP.         | C98970 |
| 97530 | HIST-INC-INTERVAL.  |                       | C98970 |
| 97540 | ADD 1 TO HIST-INDEX.  |                       | C98970 |
| 97550 | ADD HIST-INTERVAL-SIZE TO HIST-TEMP.                          |                       | C98970 |
| 97560 | MOVE HIST-TEMP TO HIST-UPPER-LIMIT [HIST-INDEX].              |                       | C98970 |
| 97570 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN          |                       | C98970 |
| 97580 | GO TO HIST-INC-INTERVAL.                                      |                       | C98970 |
| 97600 | NOTE PLACE OCCURANCE INTO APPROPRIATE CHANNEL.                |                       | C98970 |
| 97610 | MOVE ZLKO TO HIST-INDEX-2.                                    |                       | C98970 |
| 97620 | HIST-OCCURANCE.   |                       | C98970 |
| 97630 | ADD I TO HIST-INDEX-2.  |                       | C98970 |
| 97640 | MOVE HIST-VALUE [HIST-INDEX-2] TO HIST-TEMP.                  |                       | C98970 |
| 97650 | MOVE ZERO TO HIST-INDEX.                                      |                       | C98970 |
| 97660 | HIST-INTERVAL.  |                       | C98970 |
| 97670 | ADD I TO HIST-INDEX.  |                       | C98970 |
| 97675 | MOVE FREQ-HIST-VALUE [HIST-INDEX-2] TO A.                     |                       | C98970 |
| 97680 | IF HIST-TEMP IS NOT GREATER THAN HIST-UPPER-LIMIT             |                       | C98970 |
| 97690 | [HIST-INDEX] THEN GO TO HIST-ADD-TABLE.                       |                       | C98970 |
| 97700 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    |                       | C98970 |
| 97710 | HIST-INTERVAL.  |                       | C98970 |
| 97720 | ADD A TO HIST-OUT-RANGE-VALUE.                                |                       | C98970 |
| 97730 | GO TO HIST-NO-AUD.  |                       | C98970 |
| 97740 | HIST-ADD-TABLE.   |                       | C98970 |
| 97750 | ADD A TO HIST-TABLE [HIST-INDEX].                             |                       | C98970 |
| 97751 | HIST-NO-AUD.  |                       | C98970 |
| 97760 | IF HIST-INDEX-2 IS LESS KNT                                   | GO TO HIST-OCCURANCE. | C98970 |
| 97800 | NOTE COMPUTE SCALE VALUE.                                     |                       | C98970 |
| 97810 | MOVL HIST-TABLE [I] TO HIST-TEMP.                             |                       | C98970 |
| 97820 | MOVL I TO HIST-INDEX.   |                       | C98970 |
| 97830 | HIST-SCALE.   |                       | C98970 |
| 97840 | ADD I TO HIST-INDEX.  |                       | C98970 |
| 97850 | IF HIST-TABLE [HIST-INDEX] IS GREATER THAN HIST-TEMP THEN     |                       | C98970 |
| 97860 | MOVE HIST-TABLE [HIST-INDEX] TO HIST-TEMP.                    |                       | C98970 |
| 97870 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    |                       | C98970 |
| 97880 | HIST-SCALE.   |                       | C98970 |
| 97890 | COMPUTE HIST-SCALE-VALUE > [HIST-TEMP < 99] / 100.            |                       | C98970 |
| 97895 | IF HIST-SCALE-VALUE IS LESS THAN 1 MOVE 1 TO                  |                       | C98970 |
| 97896 | HIST-SCALE-VALUE.   |                       | C98970 |
| 97900 | MOVE ZERO TO HIST-INDEX.                                      |                       | C98970 |
| 97910 | HIST-SCALED-VALUES.   |                       | C98970 |
| 97920 | ADD I TO HIST-INDEX.  |                       | C98970 |
| 97930 | COMPUTE HIST-TABLE-SCALED [HIST-INDEX] >                      |                       | C98970 |
| 97940 | HIST-TABLE [HIST-INDEX] / HIST-SCALE-VALUE.                   |                       | C98970 |
| 97950 | IF HIST-INDEX IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO    |                       | C98970 |
| 97960 | HIST-SCALED-VALUES.   |                       | C98970 |
| 98000 | NOTE PREPARE OUTPUT DATA.                                     |                       | C98970 |
| 98010 | DIVIDE 2 INTO HIST-INTERVAL-SIZE.                             |                       | C98970 |
| 98020 | MOVE ZERO TO HIST-CUM.  |                       | C98970 |
| 98030 | MOVE ZERO TO HIST-LINE.                                       |                       | C98970 |
| 98040 | HIST-PREPARE.   |                       | C98970 |
| 98050 | ADD 1 TO HIST-LINE.   |                       | C98970 |
| 98060 | MOVE HIST-LINE TO HIST-LINE-RPT.                              |                       | C98970 |
| 98070 | COMPUTL HIST-TEMP > HIST-UPPER-LIMIT [HIST-LINE]              |                       | C98970 |
| 98080 | - HIST-INTERVAL-SIZE.   |                       | C98970 |
| 98090 | MOVE HIST-TEMP TO HIST-MID-POINT-RPT.                         |                       | C98970 |
| 98100 | COMPUTE HIST-PERCENT > HIST-TABLE [HIST-LINE] * 100           |                       | C98970 |
| 98110 | / HIST-NO-OF-OBS.   |                       | C98970 |
| 98120 | MOVE HIST-PERCENT TO HIST-PERCENT-RPT.                        |                       | C98970 |
| 98130 | ADD HIST-PERCENT TO HIST-CUM.                                 |                       | C98970 |
| 98140 | MOVE HIST-CUM TO HIST-CUM-RPT.                                |                       | C98970 |
| 98150 | MOVE HIST-TABLE [HIST-LINE] TO HIST-FREQ-RPT.                 |                       | C98970 |
| 98160 | MOVE ZERO TO HIST-INDEX.                                      |                       | C98970 |
| 98170 | IF HIST-DIST IS NOT EQUAL TO 10: GO TO HIST-CUM-1.            |                       | C98970 |
| 98180 | COMPUTE HIST-INDEX-2 > HIST-TABLE-SCALED [HIST-LINE] < 0.5.   |                       | C98970 |
| 98190 | IF HIST-INDEX-2 IS EQUAL TO ZERO GO TO HIST-PREP-SPACE.       |                       | C98970 |
| 98200 | HIST-PREP-DIST.   |                       | C98970 |
| 98210 | ADD I TO HIST-INDEX.  |                       | C98970 |
| 98220 | MOVE :0: TO HIST-POINT [HIST-INDEX].                          |                       | C98970 |
| 98230 | IF HIST-INDEX IS LESS THAN HIST-INDEX-2 GO TO HIST-PREP-DIST. |                       | C98970 |
| 98240 | IF HIST-INDEX IS EQUAL TO 100 THEN GO TO HIST-WRITE.          |                       | C98970 |
| 98250 | HIST-PREP-SPACE.  |                       | C98970 |
| 98260 | ADD I TO HIST-INDEX.  |                       | C98970 |
| 98270 | MOVE SPACE TO HIST-POINT [HIST-INDEX].                        |                       | C98970 |
| 98280 | IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-PREP-SPACE.    |                       | C98970 |
| 98290 | GO TO HIST-WRITE.   |                       | C98970 |
| 98300 | HIST-CUM-1.   |                       | C98970 |
| 98310 | ADD I TO HIST-INDEX.  |                       | C98970 |
| 98320 | MOVE SPACE TO HIST-POINT [HIST-INDEX].                        |                       | C98970 |
| 98330 | IF HIST-INDEX IS LESS THAN 100 THEN GO TO HIST-CUM-1.         |                       | C98970 |
| 98339 | COMPUTE HIST-INDEX > HIST-CUM < 0.5.                          |                       | C98970 |
| 98333 | IF HIST-INDEX IS EQUAL TO ZERO GO TO HIST-WRITE.              |                       | C98970 |
| 98340 | MOVL :0: TO HIST-POINT [HIST-INDEX].                          |                       | C98970 |
| 98400 | HIST-WRITE.   |                       | C98970 |
| 98410 | WRITE HIST-REC FROM HIST-LINE-OUT.                            |                       | C98970 |
| 98412 | ADD I TO HIST-LINE-CNT.                                       |                       | C98970 |
| 98414 | IF HIST-PAGE-FLAG IS EQUAL TO ZERO GO TO HIST-NO-PAGING.      |                       | C98970 |
| 98415 | IF HIST-LINE-CNT IS EQUAL TO HIST-PAGE-FLAG                   |                       | C98970 |

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98416                                     THEN PERFORM HIST-PRINT-TITLE.          C98970
98417 HIST-NO-PAGING.                    C98970
98420   IF HIST-LINE IS LESS THAN HIST-NO-OF-INTERVALS THEN GO TO          C98970
98430                                     HIST-PREPARE.                          C98970
98440   WRITE HIST-REC FROM HIST-DOT-LINE.  C98970
98450   MOVE HIST-SCALE-VALUE TO HIST-SCALE-RPT. C98970
98460   WRITE HIST-REC FROM HIST-SCALE-LINE. C98970
98470   IF HIST-OUT-RANGE-VALUE IS EQUAL TO ZERO GO TO HIST-WRITE-B. C98970
98480   MOVE HIST-OUT-RANGE-VALUE TO HIST-OUT-RANGE-RPT. C98970
98490   WRITE HIST-REC FROM HIST-OUT-RANGE-REC. C98970
98500 HIST-WRITE-B.                        C98970
98510   WRITE HIST-REC FROM HIST-DOT-LINE.  C98970
98520   GO TO END-HIST.                    C98970
99000 HIST-ERKOR-1.                       C98970
99010   WRITE HIST-REC FROM HIST-TITLE.     C98970
99020   MOVE HIST-EHR-1 TO HIST-TITLE-1.   C98970
99030   MOVE HIST-NO-OF-OBS TO HIST-ERR-2. C98970
99040   WRITE HIST-REC FROM HIST-TITLE.     C98970
99050   MOVE :1: TO HIST-FLAG.             C98970
99060   GO TO END-HIST.                    C98970
99100 HIST-ERKOR-2.                       C98970
99110   MOVE HIST-EHR-4 TO HIST-TITLE-1.   C98970
99120   MOVE HIST-EHR-5 TO HIST-TITLE-2.   C98970
99130   WRITE HIST-REC FROM HIST-TITLE.     C98970
99140   MOVE :1: TO HIST-FLAG.             C98970
99150   GO TO END-HIST.                    C98970
99200 HIST-ERK-3.                         C98970
99210   MOVE :1: TO HIST-FLAG.             C98970
99990 END-HIST. EXIT.                     C98970
/* PLACE COBOL SOURCE BEFORE
//CH0,TFGIN DD *,SPACE>[CYL,(1,1)]
TFG DT03 11 0202080
5 5

```

1440 CDS

```

*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR,TU12 DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1
//TPR,TU24 DD DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7
//TPR,TPHIN DD *,SPACE>[TRK,(1,1)]
T/P TU12 10100202020
T/P TU24 1100130R000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

T12  
T24

## 6.12 AIRCRAFT INSPECTION HISTORIES

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//C9897E JOB 01:1 0 WANG 1,PRTY>02,TPRUN>HOLD
//C9897E EXEC P=66BL,TIME>03,ACCT>D38323007
//CHG.TU12 DU DISP>(,PASS),UNIT>(T+F1,1,DEFER),DSN>+A.9897418, CT12 1
// VOL>SER>(+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1) T12 3
//CHG.TU22 DU DISP>(,PASS),UNIT>(T+F5,1,DEFER),DSN>+E.9897444, CT22 1
// VOL>SER>(+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5) T22 3
//CHG.INPUT DU *SPACE>(CYL,1,1) 1440 CDS
00000 COMLINE COMPILE 6. WANG. C98970
01000 IDENTIFICATION DIVISION. C98970
01010 PROGRAM-ID. CWA97 C98970
01020 AUTHOR. A. J. BOWKEM C98970
01030 INSTALLATION. GENERAL DYNAMICS/CONVAIR. C98970
01040 DATE-WRITTEN. 5 MAY 72. C98970
01050 REMARKS. C98970
01060 PLOT FOR SIX WUC V FLT-MRS. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT JATA-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT PLOT-FILE ASSIGN TO UT-S-TU14 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT REPORT-FILE ASSIGN TO UT-S-TU22 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11100 FD DATA-FILE C98970
11110 C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 40 RECORDS C98970
11140 RECORD CONTAINS 70 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE DATA-REC. C98970
12400 01 DATA-REC SYNC. C98970
12410 02 FILLER PICTURE X(8). C98970
12420 02 SERIAL-NO PICTURE X(8). C98970
12430 02 WEEK PICTURE 999. C98970
12440 02 WUC PICTURE X(5). C98970
12450 02 FILLER REDEFINES WUC. C98970
12460 03 WUC-1 PICTURE X. C98970
12470 03 FILLER PICTURE X(4). C98970
12480 02 FILLER PICTURE X(27). C98970
12490 02 BURNT PICTURE X. C98970
12500 02 FILLER PICTURE X(4). C98970
12510 02 FLT-MRS PICTURE S99999V9. C98970
12520 02 FILLER PICTURE X(11). C98970
21100 FD PLOT-FILE C98970
21110 C98970
21120 RECORDING MODE IS F C98970
21130 BLOCK CONTAINS 20 RECORDS C98970
21140 RECORD CONTAINS 80 CHARACTERS C98970
21150 LABEL RECORDS ARE OMITTED C98970
21160 DATA RECORDS ARE PLOT-FILE-REC. C98970
21170 01 PLOT-FILE-REC SYNC. C98970
21180 02 FILLER PICTURE X(80). C98970
22100 FD REPORT-FILE C98970
22120 RECORDING MODE IS F C98970
22130 BLOCK CONTAINS 15 RECORDS C98970
22140 RECORD CONTAINS 130 CHARACTERS C98970
22150 LABEL RECORDS ARE OMITTED C98970
22160 DATA RECORDS ARE PLOT-REC. C98970
22170 01 PLOT-REC SYNC. C98970
22180 02 FILLER PICTURE X(130). C98970
30000 WORKING-STORAGE SECTION. C98970
30010 77 LINE-LNI SYNC PICTURE 9(4) VALUE ZERO. C98970
30020 77 TOTAL-LINE-LNI SYNC PICTURE 9(7) VALUE ZERO. C98970
30030 77 NO-OF-WLERS COMPUTATIONAL PICTURE S999 VALUE ZERO SYNC. C98970
30040 77 TABLE-POS COMPUTATIONAL PICTURE S999 VALUE ZERO SYNC. C98970
30050 77 NO-LINE COMPUTATIONAL PICTURE S999 VALUE ZERO SYNC. C98970
30060 77 TIME-LOC COMPUTATIONAL PICTURE S9999999 SYNC. C98970
30070 77 LINE-POS COMPUTATIONAL PICTURE S999 VALUE ZERO SYNC. C98970
30080 77 TEMP-VALUE COMPUTATIONAL PICTURE S9999999 SYNC. C98970
30090 77 DEP-INTERVAL COMPUTATIONAL PICTURE S9999 SYNC. C98970
30100 77 MIN-DEP-VALUE COMPUTATIONAL PICTURE S9999999 SYNC. C98970
30110 77 PLOT-FLAO PICTURE X VALUE SPACE SYNC. C98970

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|       |    |                             |                                |                               |        |
|-------|----|-----------------------------|--------------------------------|-------------------------------|--------|
| 30120 | 77 | MONL                        | COMPUTATIONAL                  | PICTURE S99 VALUE -1 SYNC.    | C98970 |
| 30130 | 77 | CNT                         | COMPUTATIONAL                  | PICTURE S999 VALUE ZERO SYNC. | C98970 |
| 30140 | 77 | PAGE-NO                     | COMPUTATIONAL                  | PICTURE S999 VALUE ZERO SYNC. | C98970 |
| 30150 | 77 | MAX-DEP-VALUE               | COMPUTATIONAL                  | PICTURE S9(5)V9 SYNC.         | C98970 |
| 30160 | 77 | DEP-1                       | COMPUTATIONAL                  | PICTURE S9(5)V9 SYNC.         | C98970 |
| 30170 | 77 | DEP-2                       | COMPUTATIONAL                  | PICTURE S9(5)V9 SYNC.         | C98970 |
| 30180 | 77 | DEP-3                       | COMPUTATIONAL                  | PICTURE S9(5)V9 SYNC.         | C98970 |
| 30190 | 77 | DEP-4                       | COMPUTATIONAL                  | PICTURE S9(5)V9 SYNC.         | C98970 |
| 30200 | 77 | WUC-NO                      | COMPUTATIONAL                  | PICTURE S999 SYNC.            | C98970 |
| 30210 | 77 | CNTA                        | COMPUTATIONAL                  | PICTURE S999 SYNC.            | C98970 |
| 30220 | 77 | CUR-WEEK                    | COMPUTATIONAL                  | PICTURE S999 SYNC.            | C98970 |
| 30230 | 77 | NO-OF-COLS                  | COMPUTATIONAL                  | PICTURE S999 SYNC.            | C98970 |
| 30240 | 77 | TEMP                        | COMPUTATIONAL SYNC             | PICTURE S9(5).                | C98970 |
| 30250 | 77 | IND-CNT                     | COMPUTATIONAL SYNC             | PICTURE S999 VALUE ZERO.      | C98970 |
| 31000 | 01 | DEP-TITLE SYNC.             |                                |                               | C98970 |
| 31010 | 02 | FILLER                      |                                | PICTURE X(40) VALUE SPACE.    | C98970 |
| 31020 | 02 | DEPENDENT-TITLE             |                                | PICTURE X(80).                | C98970 |
| 31030 | 02 | FILLER                      |                                | PICTURE X(10) VALUE I #1.     | C98970 |
| 31100 | 01 | INDEPENU-TITLE SYNC.        |                                |                               | C98970 |
| 31110 | 02 | IND-BLOCK                   |                                | PICTURE X(80).                | C98970 |
| 31120 | 02 | FILLER REDEFINES IND-BLOCK. |                                |                               | C98970 |
| 31130 | 03 | IND                         |                                | PICTURE X OCCURS 80 TIMES.    | C98970 |
| 31200 | 01 | WUC-LIST SYNC.              |                                |                               | C98970 |
| 31210 | 02 | NO-OF-WUC                   |                                | PICTURE 9.                    | C98970 |
| 31220 | 02 | FILLER                      |                                | PICTURE X(8).                 | C98970 |
| 31230 | 02 | WUC-LIST-1 OCCURS 6 TIMES.  |                                |                               | C98970 |
| 31240 | 03 | WUC-TAB                     |                                | PICTURE X(5).                 | C98970 |
| 31250 | 03 | FILLER                      |                                | PICTURE X(5).                 | C98970 |
| 31260 | 02 | WUC-LIST-2 OCCURS 6 TIMES.  |                                |                               | C98970 |
| 31270 | 03 | WUC-SYMBOL                  |                                | PICTURE X.                    | C98970 |
| 31280 | 02 | FILLER                      |                                | PICTURE X(5).                 | C98970 |
| 31300 | 01 | FILEN SYNC.                 |                                |                               | C98970 |
| 31310 | 02 | FILLER-1 OCCURS 200 TIMES.  |                                |                               | C98970 |
| 31320 | 03 | TAB. OCCURS 7 TIMES         | PICTURE S9(5)V9 COMPUTATIONAL. |                               | C98970 |
| 31400 | 01 | PLOT-TITLE SYNC.            |                                |                               | C98970 |
| 31410 | 02 | FILLER                      |                                | PICTURE X(22) VALUE           | C98970 |
| 31420 | 03 | AIRCRAFT NUMBER I.          |                                |                               | C98970 |
| 31430 | 02 | CUR-S-N                     |                                | PICTURE X(8) VALUE SPACE.     | C98970 |
| 31440 | 02 | FILLER                      |                                | PICTURE X(93) VALUE SPACE.    | C98970 |
| 31450 | 02 | FILLER                      |                                | PICTURE X(4) VALUE IPAGEI.    | C98970 |
| 31460 | 02 | PAGE-NO-RPT                 |                                | PICTURE 29.                   | C98970 |
| 31470 | 02 | FILLER                      |                                | PICTURE X VALUE I#1.          | C98970 |
| 31500 | 01 | WUC-DATA SYNC.              |                                |                               | C98970 |
| 31510 | 02 | FILLER                      |                                | PICTURE X(10) VALUE SPACE.    | C98970 |
| 31520 | 02 | FILLER                      |                                | PICTURE X(119) VALUE SPACE.   | C98970 |
| 31590 | 02 | FILLER                      |                                | PICTURE X VALUE I#1.          | C98970 |
| 31600 | 01 | DEP-AXIS SYNC.              |                                |                               | C98970 |
| 31610 | 02 | FILLER                      |                                | PICTURE X(15) VALUE SPACE.    | C98970 |
| 31620 | 02 | DEP-MIN-RPT                 |                                | PICTURE 22229.                | C98970 |
| 31630 | 02 | FILLER                      |                                | PICTURE X(15) VALUE SPACE.    | C98970 |
| 31640 | 02 | DEP-1-RPT                   |                                | PICTURE 22229.                | C98970 |
| 31650 | 02 | FILLER                      |                                | PICTURE X(15) VALUE SPACE.    | C98970 |
| 31660 | 02 | DEP-2-RPT                   |                                | PICTURE 22229.                | C98970 |
| 31670 | 02 | FILLER                      |                                | PICTURE X(15) VALUE SPACE.    | C98970 |
| 31680 | 02 | DEP-3-RPT                   |                                | PICTURE 22229.                | C98970 |
| 31690 | 02 | FILLER                      |                                | PICTURE X(15) VALUE SPACE.    | C98970 |
| 31700 | 02 | DEP-4-RPT                   |                                | PICTURE 22229.                | C98970 |
| 31710 | 02 | FILLER                      |                                | PICTURE X(15) VALUE SPACE.    | C98970 |
| 31720 | 02 | DEP-MAX-RPT                 |                                | PICTURE 22229.                | C98970 |
| 31730 | 02 | FILLER                      |                                | PICTURE X(10) VALUE           | C98970 |
| 31740 |    |                             |                                | I #1.                         | C98970 |
| 31800 | 01 | DEP-LINE SYNC.              |                                |                               | C98970 |
| 31810 | 02 | FILLER                      |                                | PICTURE X(50) VALUE           | C98970 |
| 31820 |    |                             |                                | I-----I-----I-----I-----I.    | C98970 |
| 31830 | 02 | FILLER                      |                                | PICTURE X(50) VALUE           | C98970 |
| 31840 |    |                             |                                | I-----I-----I-----I-----I.    | C98970 |
| 31850 | 02 | FILLER                      |                                | PICTURE X(30) VALUE           | C98970 |
| 31860 |    |                             |                                | I-----I-----I #1.             | C98970 |
| 31900 | 01 | PLOT-LINE SYNC.             |                                |                               | C98970 |
| 31910 | 02 | FILLER                      |                                | PICTURE X(8) VALUE SPACE.     | C98970 |
| 31920 | 02 | IND-OUT                     |                                | PICTURE X.                    | C98970 |
| 31930 | 02 | FILLER                      |                                | PICTURE X(5) VALUE SPACE.     | C98970 |
| 31940 | 02 | WEEK-RPT                    |                                | PICTURE 229.                  | C98970 |
| 31950 | 02 | FILLER                      |                                | PICTURE XXX VALUE I I.        | C98970 |
| 31960 | 02 | OUTPUT-LINE OCCURS 100      | TIMES                          |                               | C98970 |
| 31970 |    |                             |                                | PICTURE X.                    | C98970 |
| 31980 | 02 | FILLER                      |                                | PICTURE X(10) VALUE           | C98970 |
| 31990 |    |                             |                                | I #1.                         | C98970 |
| 32000 | 01 | WUC-TITLE-LINE SYNC.        |                                |                               | C98970 |
| 32010 | 02 | FILLER                      |                                | PICTURE X(10) VALUE SPACE.    | C98970 |
| 32020 | 02 | FILLER OCCURS 6 TIMES.      |                                |                               | C98970 |
| 32030 | 03 | SYMB                        |                                | PICTURE X.                    | C98970 |
| 32040 | 03 | EOL                         |                                | PICTURE XXX.                  | C98970 |
| 32050 | 03 | WUCT                        |                                | PICTURE X(5).                 | C98970 |
| 32060 | 03 | BLANK-SPACE                 |                                | PICTURE X.                    | C98970 |
| 32070 | 02 | FILLER                      |                                | PICTURE X(89) VALUE SPACE.    | C98970 |
| 32080 | 02 | FILLER                      |                                | PICTURE X VALUE I#1.          | C98970 |

|       |    |   |                            |        |
|-------|----|---|----------------------------|--------|
| 33000 | 01 | REPORT-ID SYNC.   |                            | C98970 |
| 33010 | 02 | FILLER  | PICTURE X(80) VALUE        | C98970 |
| 33020 |    | 189897C60 TF7919-01 142-8 1 1/2                           |                            | C98970 |
| 33030 | 02 | FILLER  | PICTURE X(50) VALUE SPACE. | C98970 |
| 33040 | 02 | FILLER  | PICTURE X(30) VALUE        | C98970 |
| 33050 |    | :   | SI.                        | C98970 |
| 50000 |    | PROCEDURE DIVISION.                                       |                            | C98970 |
| 50010 |    | OPEN INPUT DATA-FILE, PLOT-FILE,                          |                            | C98970 |
| 50020 |    | OUTPUT  | REPORT-FILE.               | C98970 |
| 50040 |    | MOVE 200 TO NO-OF-WEEKS.                                  |                            | C98970 |
| 50050 |    | PERFORM READ-PLOT-DATA THRU END-PR.                       |                            | C98970 |
| 50060 |    | ADD NO-OF-WUC, 1 GIVING NO-OF-COLS.                       |                            | C98970 |
| 50070 |    | WRITE PLOT-REC FROM REPORT-ID.                            |                            | C98970 |
| 50100 |    | READ-DATA-FILE.   |                            | C98970 |
| 50110 |    | READ DATA-FILE.   |                            | C98970 |
| 50120 |    | AT END GO TO CLOSE-FILES.                                 |                            | C98970 |
| 50130 |    | IF IDENT IS NOT EQUAL TO 13: GO TO READ-DATA-FILE.        |                            | C98970 |
| 50140 |    | IF WUC-1 IS NOT EQUAL TO 10: GO TO READ-DATA-FILE.        |                            | C98970 |
| 50200 |    | MOVE ZERO TO WUC-NO.                                      |                            | C98970 |
| 50210 |    | VALIDATE-WUC.   |                            | C98970 |
| 50220 |    | ADD 1 TO WUC-NO   |                            | C98970 |
| 50230 |    | IF WUC IS EQUAL TO WUC-TAB [WUC-NO] GO TO CHECK-S-N.      |                            | C98970 |
| 50240 |    | IF WUC-NO IS LESS THAN NO-OF-WUC, GO TO VALIDATE-WUC.     |                            | C98970 |
| 50250 |    | GO TO READ-DATA-FILE.                                     |                            | C98970 |
| 50300 |    | CHECK-S-N.  |                            | C98970 |
| 50310 |    | IF SERIAL-NO IS EQUAL TO CUR-S-N GO TO ADD-DATA.          |                            | C98970 |
| 50320 |    | IF CUR-S-N IS EQUAL TO SPACE GO TO FIRST-S-N.             |                            | C98970 |
| 50330 |    | PERFORM PLOT-DATA THRU END-PD.                            |                            | C98970 |
| 50340 |    | FIRST-S-N.  |                            | C98970 |
| 50350 |    | MOVE SERIAL-NO TO CUR-S-N.                                |                            | C98970 |
| 50360 |    | MOVE ZERO TO CNT.   |                            | C98970 |
| 50370 |    | ZERO-TABLE-1.   |                            | C98970 |
| 50380 |    | ADD 1 TO CNT.   |                            | C98970 |
| 50390 |    | MOVE ZERO TO CNTA.  |                            | C98970 |
| 50400 |    | ZERO-TABLE-2.   |                            | C98970 |
| 50410 |    | ADD 1 TO CNTA.  |                            | C98970 |
| 50420 |    | MOVE MONE TO TABL [CNT, CNTA].                            |                            | C98970 |
| 50430 |    | IF CNTA IS LESS THAN 7 GO TO ZERO-TABLE-2.                |                            | C98970 |
| 50440 |    | IF CNT IS LESS THAN NO-OF-WEEKS, GO TO ZERO-TABLE-1.      |                            | C98970 |
| 50450 |    | MOVE WEEK TO CUR-WEEK.                                    |                            | C98970 |
| 50460 |    | MOVE 1 TO TABLE-POS.                                      |                            | C98970 |
| 50465 |    | MOVE 1 TO NO-OF-WEEKS.                                    |                            | C98970 |
| 50470 |    | MOVE WEEK TO TABL [1, 7]; GO TO ADD-LINE.                 |                            | C98970 |
| 50500 |    | ADD-DATA.   |                            | C98970 |
| 50510 |    | IF WEEK IS EQUAL TO CUR-WEEK GO TO ADD-LINE.              |                            | C98970 |
| 50520 |    | ADD-DATA-1.   |                            | C98970 |
| 50530 |    | ADD 1 TO TABLE-POS.                                       |                            | C98970 |
| 50540 |    | ADD 1 TO CUR-WEEK.  |                            | C98970 |
| 50545 |    | ADD 1 TO NO-OF-WEEKS.                                     |                            | C98970 |
| 50550 |    | MOVE CUR-WEEK TO TABL [TABLE-POS, 7].                     |                            | C98970 |
| 50560 |    | GO TO ADD-DATA.   |                            | C98970 |
| 50700 |    | ADD-LINE.   |                            | C98970 |
| 50710 |    | MOVE FLI-HPS TO TABL [TABLE-POS, WUC-NO].                 |                            | C98970 |
| 50720 |    | GO TO READ-DATA-FILE.                                     |                            | C98970 |
| 50800 |    | READ-PLOT-DATA.   |                            | C98970 |
| 50810 |    | READ PLOT-FILE INTO DEPENDENT-TITLE, AT END GO TO END-PR. |                            | C98970 |
| 50820 |    | READ PLOT-FILE INTO INDEPEND-TITLE, AT END GO TO END-PR.  |                            | C98970 |
| 50830 |    | READ PLOT-FILE INTO WUC-LIST, AT END GO TO END-PR.        |                            | C98970 |
| 50880 |    | PERFORM PREP-TITLES THRU END-P7.                          |                            | C98970 |
| 50890 |    | END-PR, EXIT.   |                            | C98970 |
| 51000 |    | PLOT-DATA.  |                            | C98970 |
| 51010 |    | MOVE ZERO TO PAGE-NO.                                     |                            | C98970 |
| 51020 |    | MOVE 9999 TO MIN-DEP-VALUE.                               |                            | C98970 |
| 51030 |    | MOVE ZERO TO CNT.   |                            | C98970 |
| 51040 |    | FIND-MIN.   |                            | C98970 |
| 51050 |    | ADD 1 TO CNT.   |                            | C98970 |
| 51055 |    | IF TABL [1, CNT] IS EQUAL TO MONE GO TO F-M-A.            |                            | C98970 |
| 51060 |    | IF TABL [1, CNT] IS LESS THAN MIN-DEP-VALUE, MOVE         |                            | C98970 |
| 51070 |    | TABL [1, CNT] TO MIN-DEP-VALUE.                           |                            | C98970 |
| 51075 |    | F-M-A.  |                            | C98970 |
| 51080 |    | IF CNT IS LESS THAN NO-OF-COLS GO TO FIND-MIN.            |                            | C98970 |
| 51100 |    | MOVE ZERO TO MAX-DEP-VALUE.                               |                            | C98970 |
| 51110 |    | MOVE ZERO TO CNT.   |                            | C98970 |
| 51120 |    | FIND-MAX.   |                            | C98970 |
| 51130 |    | ADD 1 TO CNT.   |                            | C98970 |
| 51140 |    | IF TABL [NO-OF-WEEKS, CNT] IS GREATER THAN MAX-DEP-VALUE, |                            | C98970 |
| 51150 |    | MOVE TABL [NO-OF-WEEKS, CNT] TO MAX-DEP-VALUE.            |                            | C98970 |
| 51160 |    | IF CNT IS LESS THAN NO-OF-COLS GO TO FIND-MAX.            |                            | C98970 |
| 51200 |    | MOVE MIN-DEP-VALUE TO TEMP.                               |                            | C98970 |
| 51205 |    | COMPUTE TEMP > TEMP / 100 * 100.                          |                            | C98970 |
| 51206 |    | MOVE TEMP TO MIN-DEP-VALUE.                               |                            | C98970 |
| 51210 |    | MOVE MAX-DEP-VALUE TO TEMP.                               |                            | C98970 |
| 51215 |    | COMPUTE TEMP > (TEMP < 100) / 100 * 100.                  |                            | C98970 |
| 51216 |    | MOVE TEMP TO MAX-DEP-VALUE.                               |                            | C98970 |
| 51220 |    | COMPUTE DEP-INTERVAL > [MAX-DEP-VALUE - MIN-DEP-VALUE]    |                            | C98970 |

|       |   |      |        |
|-------|---|------|--------|
| 51230 |   | 100. | C98970 |
| 51240 | COMPUTE DEP-1 > MIN-DEP-VALUE < (DEP-INTERVAL * 20).        |      | C98970 |
| 51250 | COMPUTE DEP-2 > MIN-DEP-VALUE < (DEP-INTERVAL * 40).        |      | C98970 |
| 51260 | COMPUTE DEP-3 > MIN-DEP-VALUE < (DEP-INTERVAL * 60).        |      | C98970 |
| 51270 | COMPUTE DEP-4 > MIN-DEP-VALUE < (DEP-INTERVAL * 80).        |      | C98970 |
| 51300 | MOVE MIN-DEP-VALUE TO DEP-MIN-RPT.                          |      | C98970 |
| 51310 | MOVE DEP-1 TO DEP-1-RPT.                                    |      | C98970 |
| 51320 | MOVE DEP-2 TO DEP-2-RPT.                                    |      | C98970 |
| 51330 | MOVE DEP-3 TO DEP-3-RPT.                                    |      | C98970 |
| 51340 | MOVE DEP-4 TO DEP-4-RPT.                                    |      | C98970 |
| 51350 | MOVE MAX-DEP-VALUE TO DEP-MAX-RPT.                          |      | C98970 |
| 51400 | WRITE PLOT-TITLE.   |      | C98970 |
| 51410 | ADD 1 TO PAGE-NO.   |      | C98970 |
| 51420 | MOVE PAGE-NO TO PAGE-NO-RPT.                                |      | C98970 |
| 51430 | WRITE PLOT-REC FROM PLOT-TITLE.                             |      | C98970 |
| 51440 | WRITE PLOT-REC FROM WUC-TITLE-LINE.                         |      | C98970 |
| 51450 | WRITE PLOT-REC FROM DEP-TITLE.                              |      | C98970 |
| 51460 | WRITE PLOT-REC FROM DEP-AXIS.                               |      | C98970 |
| 51470 | WRITE PLOT-REC FROM DEP-LINE.                               |      | C98970 |
| 51472 | MOVE 5 TO LINE-CNT.   |      | C98970 |
| 51474 | ADD 5 TO TOTAL-LINE-CNT.                                    |      | C98970 |
| 51476 | MOVE ZERO TO IND-CNT.                                       |      | C98970 |
| 51480 | END-WPT.  |      | C98970 |
| 51490 | MOVE ZERO TO TABLE-POS.                                     |      | C98970 |
| 51500 | CLEAR-OUTPUT-BLOCK.   |      | C98970 |
| 51510 | MOVE ZERO TO CNT.   |      | C98970 |
| 51520 | COB.  |      | C98970 |
| 51530 | ADD 1 TO CNT.   |      | C98970 |
| 51540 | MOVE SPAC1 TO OUTPUT-LINE (CNT).                            |      | C98970 |
| 51550 | IF CNT IS LESS THAN 100 GO TO COB.                          |      | C98970 |
| 51600 | ADD 1 TO TABLE-POS.   |      | C98970 |
| 51610 | MOVE TAB1 (TABLE-POS, 7) TO WEEK-RPT.                       |      | C98970 |
| 51620 | ADD 1 TO IND-CNT, MOVE IND (IND-CNT) TO IND-OUT.            |      | C98970 |
| 51622 | IF IND-CNT IS GREATER THAN 79 MOVE ZERO TO IND-CNT.         |      | C98970 |
| 51630 | MOVE ZERO TO CNT.   |      | C98970 |
| 51640 | PREP-PLOT.  |      | C98970 |
| 51650 | ADD 1 TO CNT.   |      | C98970 |
| 51660 | MOVE TAB1 (TABLE-POS, CNT) TO TEMP-LOC.                     |      | C98970 |
| 51670 | IF TEMP-LOC IS NOT EQUAL TO MONE GO TO FILL-LN.             |      | C98970 |
| 51680 | IF CNT IS LESS THAN NO-OF-WUC GO TO PREP-PLOT.              |      | C98970 |
| 51690 | GO TO WRITE-LINE.   |      | C98970 |
| 51700 | FILL-LN.  |      | C98970 |
| 51740 | MOVE ZERO TO LINE-POS.                                      |      | C98970 |
| 51750 | MOVE MIN-DEP-VALUE TO TEMP-VALUE.                           |      | C98970 |
| 51800 | FIND-LINE-POS.  |      | C98970 |
| 51810 | ADD 1 TO LINE-POS.  |      | C98970 |
| 51820 | ADD DEP-INTERVAL TO TEMP-VALUE.                             |      | C98970 |
| 51830 | IF TEMP-LOC NOT GREATER THAN TEMP-VALUE GO TO FILL-SPACE.   |      | C98970 |
| 51840 | IF LINE-POS IS LESS THAN 100 GO TO FIND-LINE-POS.           |      | C98970 |
| 51850 | NOTE THRU HERE IS AN ERROR.                                 |      | C98970 |
| 51860 | DISPLAY : ERROR FIND-LINE-POS : TEMP-LOC UPON CONSOLE.      |      | C98970 |
| 51870 | GO TO CFILES.   |      | C98970 |
| 51900 | FILL-SPACE.   |      | C98970 |
| 51904 | IF OUTPUT-LINE (LINE-POS) IS NOT EQUAL TO SPACE MOVE 101 TO |      | C98970 |
| 51905 | OUTPUT-LINE (LINE-POS); GO TO WRITE-LINE.                   |      | C98970 |
| 51910 | MOVE WUC-SYMBOL (CNT) TO OUTPUT-LINE (LINE-POS).            |      | C98970 |
| 51920 | GO TO PREP-PLOT.  |      | C98970 |
| 52000 | WRITE-LINE.   |      | C98970 |
| 52010 | IF LINE-CNT IS GREATER THAN NO-LINE, WRITE PLOT-REC FROM    |      | C98970 |
| 52015 | DEP-LINE ADD 1 TO TOTAL-LINE-CNT, PERFORM WRITE-PLOT-TITLE. |      | C98970 |
| 52030 | WRITE PLOT-REC FROM PLOT-LINE.                              |      | C98970 |
| 52040 | ADD 1 TO LINE-CNT.  |      | C98970 |
| 52050 | ADD 1 TO TOTAL-LINE-CNT.                                    |      | C98970 |
| 52060 | IF TABLE-POS IS LESS THAN NO-OF-WEEKS GO TO                 |      | C98970 |
| 52070 | CLEAR-OUTPUT-BLOCK.   |      | C98970 |
| 52090 | END-PD, EXIT.   |      | C98970 |
| 60000 | CLOSE-FILES.  |      | C98970 |
| 60010 | PERFORM PLOT-DATA THRU END-PD.                              |      | C98970 |
| 60100 | CFILES.   |      | C98970 |
| 60110 | DISPLAY : TOTAL LINE COUNT > I TOTAL-LINE-CNT UPON CONSOLE. |      | C98970 |
| 60170 | CLOSE DATA-FILE, PLOT-FILE, REPORT-FILE WITH LOCK.          |      | C98970 |
| 60180 | DISPLAY : END OF JOB 9897 : UPON CONSOLE.                   |      | C98970 |
| 60190 | GOBACK.   |      | C98970 |
| 61100 | PREP-TITLES.  |      | C98970 |
| 61110 | MOVE ZERO TO CNT.   |      | C98970 |

```

61120 PTA.
61130 ADD 1 TO CNT.
61140 MOVE WUC-SYMBOL [CNT] TO SYMB [CNT].
61150 MOVE WUC-TAB [CNT] TO WUCT [CNT].
61160 MOVE SPACE TO EQU [CNT].
61170 MOVE SPACE TO BLANK-SPACE [CNT].
61180 IF CNT IS LESS THAN 6 GO TO PTA.
61200 MOVE ZERO TO CNT.
61210 PTB.
61220 ADD 1 TO CNT.
61230 MOVE : > : TO EQU [CNT].
61240 IF CNT IS LESS THAN NO-OF-WUC GO TO PTB.
61290 END-PT. EXIT.
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG,TFG1N DD *.SPACE>[CYL,[1,1]]
TFG TU14 11 020:080

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1440 CDS

|   | 03300 | 03310                                 | 03320 | 03330 | WEEKS.<br>03400 | FLIGHT HOURS.<br>12345 |
|---|-------|---------------------------------------|-------|-------|-----------------|------------------------|
| S   |       |                                       |       |       |                 |                        |
| *END  |       |                                       |       |       |                 |                        |
| /* PLACE TFG DATA BEFORE THIS CARD          |       |                                       |       |       |                 |                        |
| //TPR,TU12                                  | DD    | U1SP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 |       |       |                 | T12                    |
| //TPR,TU22                                  | DD    | U1SP>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5 |       |       |                 | T22                    |
| //TPR,TPR1N                                 | DD    | *,SPACE>[TRK,[1,1]]                   |       |       |                 |                        |
| T/P TU12                                    |       | 10100702070                           |       |       |                 |                        |
| T/P TU14                                    |       | 10100802080                           |       |       |                 |                        |
| T/P TU22                                    |       | 19981309000                           |       |       |                 |                        |
| /* PLACE T/P CONTROL CARDS BEFORE THIS CARD |       |                                       |       |       |                 |                        |



## 6.13 EFFECTIVENESS MODEL

```

//T9897X JOB 01: G. WANG, :;PRTY>02 X3408
//C9897X EXEC P9645G,PARM,ASSY<MAP,LIST,UCD> C
// PARM,CLKD>:LIST,XHEF>:;TIME>10,ACCT>U35323007
//ASSY.SYSIN DU DATA,SPACE>(CYL,1,1) 1440 CDS
C EFFECTIVENESS MODEL-- 370
C C C C C C C C C C C C C C C C C C C C C C C C 210
C THE FOLLOWING VARIABLES ARE REQUIRED INPUT 220
C HEAD RD CHARACTER DESCRIPTOR 230
C DELI(I) THE ITH VALUE OF THE BASIC INSPECTION INTERVAL LENGTH 240
C NI NUMBER OF VALUES OF DELI 250
C KI SET EQUAL TO 1,2,3,4 FOR DELI IN WEEKS,FLIGHT HOURS, 260
C SORTIES,AND LANDINGS, RESPECTIVELY 270
C NSCI THE NUMBER OF MAJOR SCHEDULED INSPECTION TYPES 280
C NFOL(I) THE NUMBER OF MAJOR SCHEDULED INSPECTION TYPES THAT 290
C CAN OCCUR AT THE END OF AN INTERVAL FOLLOWING AN 300
C INSPECTION OF TYPE I 310
C NSCH(I,J) THE NUMBER OF INTERVALS FOR WHICH INSPECTION TYPE J 320
C FOLLOWS INSPECTION TYPE I 330
C NSPT THE NUMBER OF SPECIAL INSPECTION TYPES 340
C DISP(I),SISP(I) THE MEAN AND STANDARD DEVIATION OF THE 350
C INTERVAL LENGTH FOR SPECIAL INSPECTION TYPE I 360
C KIS(I) SET EQUAL TO 1 OR 2 FOR DISP IN WEEKS OR FLIGHT HOURS 370
C RESPECTIVELY 380
C K RATIO OF NUMBER OF PREFLIGHTS TO NUMBER OF BASIC 390
C POSIFLIGHTS 400
C LMHI(I,J),SMHI(I,J) MEAN AND STANDARD DEVIATION OF MANHOURS FOR 410
C INSPECTION TYPE J WHEN IT FOLLOWS TYPE I 420
C AN(I,J),BN(I,J) MEAN NORM FOR INSPECTION TYPE J WHEN IT FOL 430
C TYPE I EQUALS AN(I,J)+BN(I,J)*DELI 440
C SNI(I,J) STD. DEV. OF NORM FOR INSPECTION TYPE J WHEN IT FOLLO 450
C TYPE I 460
C EMHS(I),SMHS(I) MEAN AND STD. DEV. OF MANHOURS FOR SPECIAL 470
C INSPECTION TYPE I 480
C ENS(I),SNS(I) MEAN AND STD. DEV. OF NORM FOR SPECIAL 490
C INSPECTION TYPE I 500
C EMHP,SMHP MEAN AND STANDARD DEVIATION OF PREFLIGHT MANHOURS 510
C EMHB,SMHB MEAN AND STD. DEV. OF BASIC POSTFLIGHT MANHOURS 520
C KSET NUMBER OF WORK UNIT CODE SETS 530
C ANU(I,K),BNU(I,K) NUMBER OF UNSCHED. ACTIONS PER UNIT TIME ON 540
C K EQUALS ANU(I,K)+BNU(I,K)*(TIME AFTER INSPECTION 550
C TYPE I) 560
C DIK(I,K) SET EQUAL TO 1, WHEN ANU,BNU,ANAR,BNAB, REFER TO 570
C LATEST INSPECTION AND 3, WHEN THEY REFER TO THE 580
C PREVIOUS INSPECTION 590
C UMAS(I,K) STEADY-STATE UNSCHED. ACTION RATE FOR SET K 600
C EMHU(K),SMHU(K) MEAN AND STD. DEV. OF MANHOURS PER 610
C UNSCHEDULED ACTION ON SET K 620
C ENU(K),SNU(K) MEAN AND STD. DEV. OF NORM PER UNSCHEDULED 630
C ACTION ON SET K 640
C ANAB(I,K),BNAB(I,K) NUMBER OF ABORT MAINTENANCE ACTIONS ON SET 650
C PER SORTIE EQUALS ANAB(I,K)+BNAB(I,K)*(TIME AFTER 660
C INSPECTION TYPE I) 670
C ENWK(K) MEAN HOURS PER WEEK FOR SET K 680
C EFHW,SFHW MEAN AND STD. DEV. OF FLIGHT HOURS PER WEEK 690
C ESOW,SSOW MEAN AND STD. DEV. OF SORTIES PER WEEK 700
C ELUW,SLDW MEAN AND STD. DEV. OF LANDINGS PER WEEK 710
C AIES NUMBER OF ACCIDENTS, INCIDENTS, EUMHS PER SORTIE 720
C C C C C C C C C C C C C C C C C C C C C C C C 730

COMMON I(NT),
INPUT DATA
10DELI(10),KI,NSCI,NFOL(3),NSCH(3,3),NSPT,DISP(60),SISP(60),KIS(60),
20EMHI(3,3),SMHI(3,3),AN(3,3),BN(3,3),SNI(3,3),EMHS(60),SMHS(60),
30ENS(60),SNS(60),EMHP,SMHP,EMHB,SMHB,N1,KSET,ANU(3,60),BNU(3,60),
40EMHU(60),SMHU(60),ENU(60),SNU(60),ANAB(3,60),BNAB(3,60),ENWK(60),
50EFHW,SFHW,ESOW,SSOW,ELUW,SLDW,AIES,DIK(3,60),UMAS(3,60),
60
DATA GENERATED BY PPF
60WKD(150),PWKD(150),EWKD,SWKD,EWKM,SWKM,EPFH,SPFH,EBPH,SRPH,NINT,
60X(61),Y(61),EFHU,VFHD,
70
DATA GENERATED BY SPIS
70EMS0,SMSS0,EMSD,SNSD,
80
DATA GENERATED BY INVL
80LMHI(3,3),SMHI(3,3),ENI(3,3),SND(3,3),EFD(3,3),SED(3,3),DDI(3),
80UMAL(3),LACH(3),SACH(3),EACN(3),SACN(3),ACNS,
90
DATA GENERATED BY MPD
90EMHY(10),SMHY(10),EFHR(10),SNHR(10),EEMP(10),SEMP(10),DMP(10)
90EMHF(10),SMHF(10)
DIMENSION HEAD(20)
HEAD 9999 FOR FIRST AND LAST CARD END OF FILE TEST
HEAD (5,99) LOF9

```

|     |   |      |
|-----|---|------|
| C   | READ INPUT DATA   | 740  |
| 1   | READ(5,100) HEAD  | 750  |
|     | IF (HEAD(1)-E0F9) 3,2,3   | 700  |
| 2   | CALL EOJMS6   | 202  |
|     | CALL EXIT   | 705  |
| 3   | READ(5,102) EFHW, SFHW, ESOW, SSOW, ELDW, SLDW, AIES                        | 780  |
|     | READ(5,102) R, EMHP, SMHP, EMHB, SMHB                                       | 790  |
|     | READ(5,101) I, K1, NSCT, NSPT, KSET   | 800  |
|     | READ(5,102) (DELI(I), I=1, NI)  | 810  |
|     | READ(5,101) (NFOL(I), I=1, NSCT)  | 820  |
|     | DO 10 I=1, NSCT   | 830  |
|     | N=NFOL(I)   | 840  |
|     | READ(5,101) (NSCH(I, J), J=1, N)  | 850  |
|     | READ(5,104) (EMHI(I, J), SMHI(I, J), AN(I, J), BN(I, J), SNI(I, J), J=1, N) | 860  |
| C   | READ WUC SET DATA DEPENDENT ON TIME   | 870  |
|     | READ(5,103) (ANU(I, K), BNU(I, K), ANAB(I, K), BNAB(I, K), K=1, KSET)       | 880  |
|     | READ(5,102) (DIK(I, K), K=1, KSET)  | 890  |
|     | READ(5,102) (UMAS(I, K), K=1, KSET)   | 900  |
| 10  | CONTINUE  | 910  |
| C   | READ WUC SET DATA INDEPENDENT OF TIME                                       | 920  |
|     | READ(5,104) (EMHU(K), SMHU(K), ENU(K), SNU(K), ENWK(K), K=1, KSET)          | 930  |
| C   | READ SPECIAL INSPECTION DATA  | 940  |
|     | READ(5,105) (EMHS(I), SMHS(I), ENS(I), SNS(I), DISP(I), SISP(I), KIS(I),    | 950  |
|     | I=1, NSPT)  | 960  |
|     | WRITE(6,300) HEAD   | 970  |
|     | WRITE(6,301) EFHW, SFHW   | 980  |
|     | WRITE(6,302) ESOW, SSOW   | 990  |
|     | WRITE(6,303) ELDW, SLDW   | 1000 |
|     | WRITE(6,304) EMHP, SMHP   | 1010 |
|     | WRITE(6,305) EMHB, SMHB   | 1020 |
|     | WRITE(6,306) R  | 1030 |
|     | WRITE(6,307) AIES   | 1040 |
|     | WRITE(6,308)  | 1050 |
|     | DO 15 I=1, NSCT   | 1060 |
|     | N=NFOL(I)   | 1070 |
|     | WRITE(6,309) (I, J, EMHI(I, J), SMHI(I, J), AN(I, J), BN(I, J), SNI(I, J),  | 1080 |
|     | INSCH(I, J), J=1, N)  | 1090 |
| 15  | CONTINUE  | 1100 |
|     | WRITE(6,310)  | 1110 |
|     | WRITE(6,311) (I, K, ANU(I, K), BNU(I, K), UMAS(I, K), ANAB(I, K),           | 1120 |
|     | BNAB(I, K), K=1, KSET), I=1, NSCT)  | 1130 |
|     | WRITE(6,312)  | 1140 |
|     | WRITE(6,313) (K, EMHU(K), SMHU(K), ENU(K), SNU(K), ENWK(K), K=1, KSET)      | 1150 |
|     | WRITE(6,314)  | 1160 |
|     | WRITE(6,315) (J, EMHS(J), SMHS(J), ENS(J), SNS(J), DISP(J), SISP(J),        | 1170 |
|     | I=1, NSPT)  | 1180 |
|     | WRITE(6,400)  | 1190 |
|     | WRITE(6,400)  | 1200 |
| C   | PERFORM CALCULATIONS  | 1210 |
|     | DO 16 (INT=1, NI)   | 1220 |
|     | CALL PFPF   | 1230 |
|     | CALL SPIS   | 1240 |
|     | CALL INVL   | 1250 |
|     | CALL RPD  | 1260 |
| C   | PRINT INTERVAL RESULTS  | 1270 |
|     | WRITE(6,401) DELI(I, INT)   | 1280 |
|     | WRITE(6,402)  | 1290 |
|     | WRITE(6,403) EWKD, SWKD   | 1300 |
|     | WRITE(6,404) EPH, SPFH  | 1310 |
|     | WRITE(6,405) EPH, SPSH  | 1320 |
|     | WRITE(6,406) EMSD, SMSD   | 1330 |
|     | WRITE(6,407) EMSD, SNSD   | 1340 |
|     | WRITE(6,408)  | 1350 |
|     | WRITE(6,409) (I, UMAC(I), I=1, NSCT)  | 1360 |
|     | WRITE(6,410)  | 1370 |
|     | WRITE(6,411) (I, LACM(I), SACM(I), I=1, NSCT)                               | 1380 |
|     | WRITE(6,412) (I, LACN(I), SACN(I), I=1, NSCT)                               | 1390 |
|     | WRITE(6,408)  | 1400 |
|     | DO 516 I=1, NSCT  | 1410 |
|     | N=NFOL(I)   | 1420 |
|     | DO 515 J=1, N   | 1430 |
|     | WRITE(6,409) I, J, EMHI(I, J), SMHI(I, J)                                   | 1440 |
| 515 | CONTINUE  | 1450 |
| 516 | CONTINUE  | 1460 |
|     | WRITE(6,410)  | 1470 |
|     | DO 518 I=1, NSCT  | 1480 |
|     | N=NFOL(I)   | 1490 |
|     | DO 517 J=1, N   | 1500 |
|     | WRITE(6,409) I, J, END(I, J), SNI(I, J)                                     | 1510 |
| 517 | CONTINUE  | 1520 |
| 518 | CONTINUE  | 1530 |
|     | WRITE(6,411)  | 1540 |
|     | DO 520 I=1, NSCT  | 1550 |
|     | N=NFOL(I)   | 1560 |
|     | DO 519 J=1, N   | 1570 |
|     | WRITE(6,412) I, J, FED(I, J), SED(I, J)                                     | 1580 |
| 519 | CONTINUE  | 1590 |
| 520 | CONTINUE  | 1600 |
|     | WRITE(6,418)  | 1610 |
|     | WRITE(6,419) (I, DO(I), I=1, NSCT)  | 1620 |
| 16  | CONTINUE  | 1630 |
|     |   | 1640 |

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|-----|--|------|
| C   | PRINT MAINTENANCE PROGRAM RESULTS                                    | 1650 |
|     | WRITE(6,200)   | 1660 |
|     | WRITE(6,201)   | 1670 |
|     | IF(K1-2) 20,30,40  | 1680 |
| 20  | WRITE(6,202)   | 1690 |
|     | GO TO 70   | 1700 |
| 30  | WRITE(6,203)   | 1710 |
|     | GO TO 70   | 1720 |
| 40  | IF(K1-4) 50,60,2   | 1730 |
| 50  | WRITE(6,204)   | 1740 |
|     | GO TO 70   | 1750 |
| 60  | WRITE(6,205)   | 1760 |
| 70  | WRITE(6,206) (DELI(I),EMHY(I),SMHY(I),EMHF(I),SMHF(I),ENHR(I),       | 1770 |
|     | 1\$ENR(I),LEMP(I),SEMP(I),DMP(I),I=1,NI)                             | 1780 |
|     | GO TO 1  | 1790 |
| 99  | FORMAT(A4)   | 1712 |
| 100 | FORMAT(2U,A4)  | 1720 |
| 101 | FORMAT(1U,15)  | 1810 |
| 102 | FORMAT(RF,10,5)  | 1740 |
| 103 | FORMAT(4F,10,5)  | 1750 |
| 104 | FORMAT(5F,10,5)  | 1760 |
| 105 | FORMAT(6F,10,5,110)  | 1770 |
| 200 | FORMAT(1H0,2/HMAINTENANCE PROGRAM RESULTS)                           | 1860 |
| 201 | FORMAT(1H0,3X,8HINTERVAL,7X,13HMANHOURS/YEAR,4X,20HMANHOURS/FLIGHT   | 1870 |
|     | 1 HOUR,4X,14HWORK HOURS/HOUR,6X,13HEFFECTIVENESS,7X,13HDEPENDABILITY | 1880 |
|     | 2)   | 1890 |
| 202 | FORMAT( 5X,8H(WEEKS) ,4(7X,14HMEAN STD DEV)/)                        | 1900 |
| 203 | FORMAT(1X,14H(FLIGHT HOURS),4X,4(14HMEAN STD DEV,7X)/)               | 1910 |
| 204 | FORMAT(4X, 9H(SORTIES),3(6X,14HMEAN STD DEV)/)                       | 1920 |
| 205 | FORMAT(3X,10H(LANDINGS),3(6X,14HMEAN STD DEV)/)                      | 1930 |
| 206 | FORMAT( 6X,F4,0,6X,F5,0,4X,F5,0,7X,F5,0,6X,F6,4,3X,                  | 1940 |
|     | 1F6,4,6X,F6,4,3X,F6,4, 8X,F6,4)                                      | 1950 |
| 300 | FORMAT(1H1,2U,A4//22X,4HMEAN, 4X,7HSTD DEV/)                         | 1870 |
| 301 | FORMAT(7X,6HHR/WK, 5X,F9,4,2X,F9,4)                                  | 1970 |
| 302 | FORMAT(7X,6HHR/WK, 4X,F9,4,2X,F9,4)                                  | 1980 |
| 303 | FORMAT(7X,6HLDG/WK, 4X,F9,4,2X,F9,4)                                 | 1990 |
| 304 | FORMAT(1H0,6X,6HMI/PF, 5X,F9,4,2X,F9,4)                              | 2000 |
| 305 | FORMAT(7X,6HHR/BPO, 4X,F9,4,2X,F9,4)                                 | 2010 |
| 306 | FORMAT(7X,1HHR,9X,F9,4,2X,F9,4)                                      | 2020 |
| 307 | FORMAT(1H0,6X,6HAIRES/SOR, 2X,F9,4,2X,F9,4)                          | 2030 |
| 308 | FORMAT(1H0,25HSCHEDULED INSPECTION DATA//24X,8HMANHOURS,21X,4HNORM   | 2040 |
|     | 1/10X,1H1,3X,1HJ,7X,4HMEAN,4X,7HSTD DELV,13X,1HA,10X,1HR,AX,7HSTD DE | 2050 |
|     | 2V, 7X,6HNO. INSP//)   | 2060 |
| 309 | FORMAT(9X,12,2X,12,2X,F9,4,2X,F9,4,5X,F9,4,2X,F9,4,6X,F9,4,12X,      | 2070 |
|     | 113)   | 2080 |
| 310 | FORMAT(1H0,20X,3HUMA,32X,6HABOKTS/10X,1H1,3X,1HK,10X,1HA,10X,1HB,    | 2090 |
|     | 1 9X,2HSS,11X,1HA,10X,1HR//)   | 2100 |
| 311 | FORMAT(9X,12,2X,12,2X,F11,5,F11,5,F11,5,F14,5,F11,5)                 | 2110 |
| 312 | FORMAT(1H0,24X,6HMH/UMA,19X,8HNORM/UMA/ 14X,1HK,7X,4HMEAN,4X,7HSTD   | 2120 |
|     | 1 DEV,10X,4HMEAN,4X,7HSTD DEV,7X,7HNORS/WK//)                        | 2130 |
| 313 | FORMAT(13X,12,2X,F9,4,2X,F9,4,5X,F9,4,2X,F9,4,5X,F9,4)               | 2140 |
| 314 | FORMAT(1H0,25HSPECIAL INSPECTION DATA//24X,8HMANHOURS,19X,4HNORM,    | 2150 |
|     | 119X, 8HINTERVAL/ 14X,1HJ,7X,4HMEAN,4X,7HSTD DEV,10X,4HMEAN,4X,7HST  | 2160 |
|     | 2D DEV,10X,4HMEAN,4X,7HSTD DEV,6X,3HKIS//)                           | 2170 |
| 315 | FORMAT(13X,12,2X,F9,4,2X,F9,4,5X,F9,4,2X,F9,4,5X,F9,4,2X,F9,4,       | 2180 |
|     | 16X,13)  | 2190 |
| 316 | FORMAT(1H0,23HWORK UN11 CODE SET DATA)                               | 2200 |
| 400 | FORMAT(1H0,16HINTERVAL RESULTS)                                      | 2210 |
| 401 | FORMAT(1H0,11HINTERVAL = ,F4,0)                                      | 2220 |
| 402 | FORMAT(1H0,41X,4HMEAN,4X,7HSTD DEV)                                  | 2230 |
| 403 | FORMAT(7X,5HWEKS,23X,2F11,2)   | 2240 |
| 404 | FORMAT(1H0,6X,18HPREFLIGHT MANHOURS,10X,2F11,2)                      | 2250 |
| 405 | FORMAT(7X,25HBASIC POSTFLIGHT MANHOURS,3X,2F11,2)                    | 2260 |
| 406 | FORMAT(1H0,6X,25HSPEC. INSPECTION MANHOURS,3X,2F11,2)                | 2270 |
| 407 | FORMAT(7X,21HSPEC. INSPECTION NORM,7X,2F11,2)                        | 2280 |
| 408 | FORMAT(1H0,6X,14HTOTAL MANHOURS/)                                    | 2290 |
| 409 | FORMAT(7X,4H1 = ,14,5X,4HJ = ,14, 7X,2F11,2)                         | 2300 |
| 410 | FORMAT(1H0,6X,9HTOTAL NOR/)  | 2310 |
| 411 | FORMAT(1H0,6X,13HEFFECTIVENESS/)                                     | 2320 |
| 412 | FORMAT(7X,4H1 = ,14,5X,4HJ = ,14, 7X,2F11,5)                         | 2330 |
| 413 | FORMAT(1H0,6X,23HNO. OF UNSCHED. ACTIONS/)                           | 2340 |
| 414 | FORMAT(7X,4H1 = ,14,20X,F11,2)                                       | 2350 |
| 415 | FORMAT(1H0,6X,17HUNSCHED. MANHOURS/)                                 | 2360 |
| 416 | FORMAT(1H0,6X,13HUNSCHED. NORM/)                                     | 2370 |
| 417 | FORMAT(7X,4H1 = ,14,20X,2F11,2)                                      | 2380 |
| 418 | FORMAT(1H0,6X,13HDEPENDABILITY/)                                     | 2390 |
| 419 | FORMAT(7X,4H1 = ,14,20X,F11,5)                                       | 2400 |
| C   | C          | 2410 |
| C   | OUTPUT INCLUDES THE FOLLOWING FOR EACH INPUT VALUE OF DELI           | 2420 |
| C   | UFL1 ITSELF  | 2430 |
| C   | EMHY(I),SMHY(I) MEAN AND STD. DEV. OF MANHOURS PER YEAR              | 2440 |
| C   | ENHR(I),SNHR(I) MEAN AND STD. DEV. OF NORM HOURS PER HOUR            | 2450 |
| C   | LEMP(I),SEMP(I) MEAN AND STD. DEV. OF EFFECTIVENESS                  | 2460 |
| C   | DMP(I) DEPENDABILITY   | 2470 |
| C   | C          | 2480 |
|     | END  | 2490 |

|     |  |      |
|-----|--|------|
|     | SUBROUTINE PFPF  | 2500 |
| C   | THIS ROUTINE CALCULATES THE TOTAL NUMBER OF PREFLIGHT AND BASIC        | 2510 |
| C   | POSTFLIGHT MAINTENANCE FOR DELI.                                       | 2520 |
| C   | THE NUMBER OF WEEKS IN THE MAINTENANCE PROGRAM IS ALSO DETERMINED      | 2530 |
|     | COMMON IINT,   | 2540 |
| C   | INPUT DATA   | 2550 |
|     | 1 DELI(10),KI(5),SCT,NFOL(3),NSCH(3,3),NSPT,DISP(60),SISP(60),KIS(60), | 2560 |
|     | 2H,EMHI(3,3),SMHT(3,3),AN(3,3),HN(3,3),SNI(3,3),EMHS(60),SMHS(60),     | 2570 |
|     | 3LTS(60),SNS(60),EMHP,SMHP,EMHB,SMHB,NI,KSET,AMU(3,60),BNU(3,60),      | 2580 |
|     | 4LMHU(60),SMHU(60),EMU(60),SNU(60),ANAR(3,60),RNAR(3,60),ENWK(60),     | 2590 |
|     | 5LFHW,SFHW,ESOW,SSOW,ELUW,SLDW,AIES,DIK(3,60),UMAS(3,60),              | 2600 |
| C   | DATA GENERATED BY PFPF   | 2610 |
|     | 6WKU(150),PWKU(150),EWKU,SWKU,EWKM,SWKM,EPFH,SPFH,EBPH,SAPH,NINT,      | 2620 |
|     | 6X(61),FX(61),EFHU,VFHO,   | 2630 |
| C   | DATA GENERATED BY SPIS   | 2640 |
|     | 7EMSU,SMSU,ELUW,SNSD,  | 2650 |
| C   | DATA GENERATED BY INVL   | 2660 |
|     | 8EMHU(3,3),SMHU(3,3),END(3,3),EED(3,3),SED(3,3),OD(3),                 | 2670 |
|     | 8UMAC(3),LACM(3),SACM(3),LACN(3),SACN(3),ACNS,                         | 2680 |
| C   | DATA GENERATED BY MPD  | 2690 |
|     | 9EMHY(10),SMHT(10),ENHR(10),SNHR(10),EEMP(10),SEMP(10),DMP(10)         | 2700 |
|     | 9,EMHF(10),SMHF(10)  | 2710 |
|     | DIMENSION, S0U(100),P50U(100),KF(2),KS(2),PP(2,2)                      | 2720 |
| C   | STONE CUMULATIVE NORMAL DISTRIBUTION                                   | 2730 |
|     | 1 X(1)=-3.0  | 2740 |
|     | DO 10 I=2,61   | 2750 |
|     | X(I)=X(I-1)+0.1  | 2760 |
|     | 10 CONTINUE  | 2770 |
|     | FX(31)=0.5   | 2780 |
|     | FX(32)=0.5390  | 2790 |
|     | FX(33)=0.5793  | 2800 |
|     | FX(34)=0.6179  | 2810 |
|     | FX(35)=0.6554  | 2820 |
|     | FX(36)=0.6915  | 2830 |
|     | FX(37)=0.7257  | 2840 |
|     | FX(38)=0.7590  | 2850 |
|     | FX(39)=0.7881  | 2860 |
|     | FX(40)=0.8139  | 2870 |
|     | FX(41)=0.8413  | 2880 |
|     | FX(42)=0.8643  | 2890 |
|     | FX(43)=0.8849  | 2900 |
|     | FX(44)=0.9032  | 2910 |
|     | FX(45)=0.9192  | 2920 |
|     | FX(46)=0.9332  | 2930 |
|     | FX(47)=0.9452  | 2940 |
|     | FX(48)=0.9554  | 2950 |
|     | FX(49)=0.9641  | 2960 |
|     | FX(50)=0.9713  | 2970 |
|     | FX(51)=0.9772  | 2980 |
|     | FX(52)=0.9821  | 2990 |
|     | FX(53)=0.9861  | 3000 |
|     | FX(54)=0.9893  | 3010 |
|     | FX(55)=0.9916  | 3020 |
|     | FX(56)=0.9936  | 3030 |
|     | FX(57)=0.9953  | 3040 |
|     | FX(58)=0.9969  | 3050 |
|     | FX(59)=0.9974  | 3060 |
|     | FX(60)=0.9981  | 3070 |
|     | FX(61)=0.9987  | 3080 |
|     | DO 20 I=1,30   | 3090 |
|     | FX(I)=1.0-FX(62-I)   | 3100 |
|     | 20 CONTINUE  | 3110 |
|     | IF(KI-2) 100,200,30  | 3120 |
|     | 30 IF(KI-4) 300,400,1000   | 3130 |
| C   | INTERVAL IS IN WEEKS   | 3140 |
| 100 | ESOU=DELI(I)NT*ESOW  | 3150 |
|     | SSOU=DELI(I)NT*SSOW  | 3160 |
|     | EWKU=(ELI(I)NT)  | 3170 |
|     | SWKU=0.0   | 3180 |
|     | DO 110 I=1,149   | 3190 |
|     | WKU(I)=I   | 3200 |
|     | PWKU(I)=0.0  | 3210 |
| 110 | CONTINUE   | 3220 |
|     | WKU(150)=F*WKU   | 3230 |
|     | PWKU(150)=1.0  | 3240 |
|     | GO TO 600  | 3250 |
| C   | INTERVAL IS IN FLIGHT HOURS  | 3260 |
| 200 | IF(SFHW) 220,220,201   | 3270 |
| 201 | KL=EFHW/(SFHW*SFHW)  | 3280 |
|     | (K=EFHW*KL   | 3290 |
| 205 | KL=K   | 3300 |
|     | KH=KL*1  | 3310 |
|     | C=DELI(I)NT)   | 3320 |
|     | DO 210 I=1,150   | 3330 |
|     | WKU(I)=I   | 3340 |
|     | UC=C/WKU(I)  | 3350 |
|     | IF(I*H) 200,200,200  | 3360 |

|     |                                  |      |
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| 206 | PP(1,1)=HL*DC*EXP(-RL*DC)/WKD(1) | 3370 |
|     | PL=PP(1,1)*(RL*DC)**(KL-1)       | 3380 |
|     | PH=PL*RL*DC                      | 3390 |
|     | KENU=KL-1                        | 3400 |
|     | DO 207 J=2,KEND                  | 3410 |
|     | PL=PL/J                          | 3420 |
|     | PH=PH/J                          | 3430 |
| 207 | CONTINUE                         | 3440 |
|     | PH=PH/KL                         | 3450 |
|     | PWKD(1)=PL*(PH-PL)*(HK-KL)       | 3460 |
|     | GO TO 210                        | 3470 |
| 208 | PWKD(1)=KL*DC*EXP(-RL*DC)/WKD(1) | 3480 |
| 210 | CONTINUE                         | 3490 |
|     | GO TO 500                        | 3500 |
| 220 | PWKD(1)=-101.                    | 3510 |
|     | EWKU=DEL(111)/EFMW               | 3520 |
|     | SWKU=0.0                         | 3530 |
|     | GO TO 475                        | 3540 |
| C   | INTERVAL IS IN SORTIES           | 3550 |
| 300 | ESOU=DEL(111)/T                  | 3560 |
|     | SSOU=0.0                         | 3570 |
|     | IF(SSOU) 320,320,301             | 3580 |
| 301 | HL=LSOW/(SSOU*SSOU)              | 3590 |
|     | HK=ESOU*HL                       | 3600 |
|     | GO TO 205                        | 3610 |
| 320 | EWKU=DEL(111)/ESOU               | 3620 |
|     | SWKU=0.0                         | 3630 |
|     | PWKD(1)=-101.                    | 3640 |
|     | GO TO 600                        | 3650 |
| C   | INTERVAL IS IN LANDINGS          | 3660 |
| 400 | IF(SLLW) 420,420,401             | 3670 |
| 401 | HL=LLOW/(SLD*SLDW)               | 3680 |
|     | HK=LLOW*HL                       | 3690 |
|     | GO TO 205                        | 3700 |
| 420 | EWKU=DEL(111)/ELDW               | 3710 |
|     | SWKU=0.0                         | 3720 |
|     | PWKD(1)=-101.                    | 3730 |
| 475 | IF(SSOW) 480,480,490             | 3740 |
| 480 | ESOU=ESOW*ELWD                   | 3750 |
|     | SSOU=0.0                         | 3760 |
|     | GO TO 600                        | 3770 |
| 490 | HL=ESOW/(SSOU*SSOU)              | 3780 |
|     | HK=ESOU*HL                       | 3790 |
|     | KL=HK                            | 3800 |
|     | KENU=KL-1                        | 3810 |
|     | FAC=(KL/LWKD)                    | 3820 |
|     | DO 491 I=1,100                   | 3830 |
|     | SOU(I)=4.*I                      | 3840 |
|     | FAC=FACT*SOU(I)                  | 3850 |
|     | IF(KLND) 496,496,491             | 3860 |
| 491 | SUM=1.0                          | 3870 |
|     | (EKM=1.0                         | 3880 |
|     | DO 492 J=1,KEND)                 | 3890 |
|     | IF(K=1)RM=AL/J                   | 3900 |
|     | SUM=SUM*(RM)                     | 3910 |
| 492 | CONTINUE                         | 3920 |
|     | PL=SUM                           | 3930 |
|     | PH=SUM*TLRM*FAC/KL               | 3940 |
|     | TP=PL*(PH-PL)*(RK-KL)            | 3950 |
|     | PSOU(1)=1.-EXP(-FAC)*TP          | 3960 |
|     | GO TO 408                        | 3970 |
| 496 | PSOU(1)=1.-EXP(-FAC)             | 3980 |
| 498 | CONTINUE                         | 3990 |
|     | GO TO 550                        | 4000 |
| 500 | IF(SSOW) 532,532,511             | 4010 |
| 511 | HLSW=ESOW/(SSOU*SSOU)            | 4020 |
|     | HKSW=ESOU*HLSW                   | 4030 |
|     | KF(1)=RK                         | 4040 |
|     | KF(2)=KF(1)+1                    | 4050 |
|     | KS(1)=RKSW                       | 4060 |
|     | KS(2)=KS(1)+1                    | 4070 |
|     | IF(KF(1)) 440,440,442            | 4080 |
| 440 | KF(1)=1                          | 4090 |
|     | KK=1.                            | 4100 |
| 442 | IF(KS(1)) 444,444,446            | 4110 |
| 444 | KS(1)=1                          | 4120 |
|     | RKSW=1.                          | 4130 |
| 446 | DO 530 I=1,100                   | 4140 |
|     | SOU(I)=1+4.*I                    | 4150 |
|     | (OP=HL*W*SOU(I)                  | 4160 |
|     | BOT=KL*DEL(111)/INT)+TOP         | 4170 |
|     | UEN=(OP/BOT)                     | 4180 |
|     | DO 524 LS=1,2                    | 4190 |
|     | KFNU=KS(LS)-1                    | 4200 |
|     | DO 522 LF=1,2                    | 4210 |
|     | KK=KF(LF)                        | 4220 |
|     | C=(DEL(111)/INT)*HL/BOT)**KK     | 4230 |
|     | SUM=C                            | 4240 |
|     | IF(KLND) 520,520,447             | 4250 |



|                                    |      |
|------------------------------------|------|
| ENSU=0.0                           | 5110 |
| SMSU=0.0                           | 5120 |
| ENSU=0.0                           | 5130 |
| SNSU=0.0                           | 5140 |
| DO 100 I=1,NJPT                    | 5150 |
| IF(NIS(I)=2) 10,20,1000            | 5160 |
| C 1TH INTERVAL IN WEEKS            | 5170 |
| 10 LIW=DISP(I)                     | 5180 |
| SIWK=DISP(I)                       | 5190 |
| GO TO 50                           | 5200 |
| C 1TH INTERVAL IN FLIGHT HOURS     | 5210 |
| 20 IF(SFHW) 400,410,21             | 5220 |
| 21 IF(SISP(I)) 42,42,25            | 5230 |
| 25 RLSP=DISP(I)/(SISP(I)*SISP(I))  | 5240 |
| KKSP=RLSP*UISP(I)                  | 5250 |
| RLF=EFHW/(SFHW*SFHW)               | 5260 |
| KKF=ELFW*RLF                       | 5270 |
| KS(1)=KKSP                         | 5280 |
| KS(2)=KS(1)+1                      | 5290 |
| KF(1)=KKF                          | 5300 |
| KF(2)=KF(1)+1                      | 5310 |
| IF(KF(1)) 26,26,27                 | 5320 |
| 26 KF(1)=1                         | 5330 |
| KKF=1.                             | 5340 |
| 27 IF(KS(1)) 28,28,29              | 5350 |
| 28 KS(1)=1                         | 5360 |
| KKSP=1.                            | 5370 |
| 29 DO 40 J=1,150                   | 5380 |
| UISW(J)=J                          | 5390 |
| DO 35 JF=1,2                       | 5400 |
| KEND=KF(JF)-1                      | 5410 |
| DO 34 JS=1,2                       | 5420 |
| KK=KS(JS)                          | 5430 |
| UEN=ELFW*PLSP*J                    | 5440 |
| C=(RLSP*J/UISW(J))*KK              | 5450 |
| UFN=RLF/PL                         | 5460 |
| SUM=C                              | 5470 |
| IF(KEND) 32,32,30                  | 5480 |
| DO 31 JI=1,KEND                    | 5490 |
| C=C+UEN*(KK+JI-1)/JI               | 5500 |
| SUM=SUM+C                          | 5510 |
| 31 CONTINUE                        | 5520 |
| 32 PP(JF,JS)=SUM                   | 5530 |
| 34 CONTINUE                        | 5540 |
| 35 CONTINUE                        | 5550 |
| UFS=KKSP-KS(1)                     | 5560 |
| PL=PP(1,1)+(PP(1,2)-PP(1,1))*DKS   | 5570 |
| PH=PP(2,1)+(PP(2,2)-PP(2,1))*DKS   | 5580 |
| PISW(J)=PL+(PH-PL)*(KKF-KF(1))     | 5590 |
| 40 CONTINUE                        | 5600 |
| GO TO 602                          | 5610 |
| 42 RLF=ELFW/(SFHW*SFHW)            | 5620 |
| KKF=ELFW*RLF                       | 5630 |
| RLF=KKF                            | 5640 |
| KKF=KKF+1                          | 5650 |
| KEND=KKF-1                         | 5660 |
| DO 44 J=1,150                      | 5670 |
| UISW(J)=J                          | 5680 |
| IF(KKF=1.) 45,43,43                | 5690 |
| 43 FAC=RLF*DISP(I)/J               | 5700 |
| SUM=1.0                            | 5710 |
| TERM=1.0                           | 5720 |
| DO 44 K=1,KEND                     | 5730 |
| TERM=TERM*FAC/K                    | 5740 |
| SUM=SUM+TERM                       | 5750 |
| 44 CONTINUE                        | 5760 |
| PL=LAP(-FAC)*SUM                   | 5770 |
| SUM=SUM+TERM*FAC/RLF               | 5780 |
| PH=LAP(-FAC)*SUM                   | 5790 |
| PISW(J)=PL+(PH-PL)*(KKF-KLFW)      | 5800 |
| DO 10 44                           | 5810 |
| 45 PISW(J)=LXP(-RLF*DISP(I)/J)     | 5820 |
| 46 CONTINUE                        | 5830 |
| GO TO 602                          | 5840 |
| 400 IF(SISP(I)) 410,410,415        | 5850 |
| 410 EIWK=DISP(I)/EFHW              | 5860 |
| SIWK=0.0                           | 5870 |
| GO TO 50                           | 5880 |
| 415 RLSP=DISP(I)/(SISP(I)*SISP(I)) | 5890 |
| KKSP=DISP(I)*RLSP                  | 5900 |
| RLSP=KKSP                          | 5910 |
| KKSP=KLSP+1                        | 5920 |
| KEND=KLSP-1                        | 5930 |
| DO 420 J=1,150                     | 5940 |
| UISW(J)=J                          | 5950 |
| IF(KKSP=1.) 414,416,416            | 5960 |

|     |  |      |
|-----|--|------|
| 416 | FAC=KLSP*EFHW/J  | 5970 |
|     | SUM=1.0  | 5980 |
|     | TERM=1.0   | 5990 |
|     | DO 410 K=1,KENDU   | 6000 |
|     | TERM=TERM*FAC/K  | 6010 |
|     | SUM=SUM+TERM   | 6020 |
| 418 | CONTINUE   | 6030 |
|     | PL=1.-EXP(-FAC)*SUM  | 6040 |
|     | SUM=SUM+(EXP(-FAC)/KLSP                                      | 6050 |
|     | PH=1.-EXP(-FAC)*SUM  | 6060 |
|     | PISW(J)=PL+(PH-PL)*(HKSP-KLSP)                               | 6070 |
|     | GO TO 420  | 6080 |
| 413 | PISW(J)=1.-EXP(-KLSP*EFHW/J)                                 | 6090 |
| 420 | CONTINUE   | 6100 |
| 002 | NA=150   | 6110 |
|     | CALL MNDV(D1SW,PISW,NA,E1WK,S1WK)                            | 6120 |
| C   | CALCULATE NUMBER OF SPECIAL INSPECTIONS PER INTERVAL         | 6130 |
| C   | PNSP(K) IS THE PROBABILITY THAT THE NUMBER OF INSPECTIONS IS | 6140 |
| C   | ,LE. (K-1)   | 6150 |
| 50  | IF(S1WK) 200,200,55  | 6160 |
| 55  | D1MN=E1WK-3.0*S1WK   | 6170 |
|     | IF(D1MN<5.E-7) 51,52,52                                      | 6180 |
| 51  | D1MN=.001+E1WK   | 6190 |
| 52  | NMX=(E1WK+3.*S1WK)/D1MN                                      | 6200 |
|     | IF(NMX) 100,100,001  | 6210 |
| 001 | IF(NMX<99) 54,54,53  | 6220 |
| 53  | NMX=99   | 6230 |
| 54  | DO 61 J=1,NMX  | 6240 |
|     | PP(1,1)=0.0  | 6250 |
|     | E=J*E1WK   | 6260 |
|     | E1=(J+1)*E1WK  | 6270 |
|     | S=SQR(FLOAT(J))*S1WK   | 6280 |
|     | S1=SQR(FLOAT(J+1))*S1WK                                      | 6290 |
|     | IF(PWKD(1)+10.) 155,56,56                                    | 6300 |
| 155 | CALL NML(FWKD,E,S,P)   | 6310 |
|     | CALL NML(FWKD,E1,S1,P1)                                      | 6320 |
|     | PP(1,1)=PP(1,1)+(P-P1)                                       | 6330 |
|     | GO TO 160  | 6340 |
| 56  | DO 60 K=1,150  | 6350 |
|     | IF(PWKD(K)-1.E-6) 60,58,58                                   | 6360 |
| 58  | C=WKD(K)   | 6370 |
|     | CALL NML(C,E,S,P)  | 6380 |
|     | CALL NML(C,E1,S1,P1)   | 6390 |
|     | PP(1,1)=PP(1,1)+(P-P1)*PWKD(K)                               | 6400 |
| 60  | CONTINUE   | 6410 |
| 160 | PNSP(J+1)=PP(1,1)  | 6420 |
| 61  | CONTINUE   | 6430 |
|     | IF(PWKD(1)+10.) 170,165,165                                  | 6440 |
| 165 | PP(1,1)=0.0  | 6450 |
|     | DO 63 K=1,150  | 6460 |
|     | IF(PWKD(K)-1.E-6) 63,63,63                                   | 6470 |
| 63  | C=WKD(K)   | 6480 |
|     | CALL NML(C,E1WK,S1WK,P)                                      | 6490 |
|     | PP(1,1)=PP(1,1)+(1.-P)*PWKD(K)                               | 6500 |
| 65  | CONTINUE   | 6510 |
|     | PNSP(1)=PP(1,1)  | 6520 |
|     | GO TO 300  | 6530 |
| 170 | CALL NML(FWKD,E1WK,S1WK,P)                                   | 6540 |
|     | PNSP(1)=1.-P   | 6550 |
|     | GO TO 300  | 6560 |
| 200 | IF(PWKD(1)+10.) 210,220,220                                  | 6570 |
| 210 | NH=E1WK/E1WK   | 6580 |
|     | PNSP(1)=-101.  | 6590 |
|     | GO TO 300  | 6600 |
| 220 | NMX=WKD(150)/E1WK  | 6610 |
|     | IF(NMX<99) 222,222,221                                       | 6620 |
| 221 | NMX=99   | 6630 |
| 222 | DO 230 J=1,NMX   | 6640 |
|     | PNSP(J+1)=0.0  | 6650 |
|     | DO 240 K=1,150   | 6660 |
|     | IF(PWKD(K)-1.E-6) 240,226,226                                | 6670 |
| 226 | C=WKD(K)   | 6680 |
|     | IF(C-(J-1)*E1WK) 240,230,230                                 | 6690 |
| 230 | IF(C-J*E1WK) 235,240,240                                     | 6700 |
| 235 | PNSP(J+1)=PNSP(J+1)+PWKD(K)                                  | 6710 |
| 240 | CONTINUE   | 6720 |
| 250 | CONTINUE   | 6730 |
|     | PNSP(1)=0.0  | 6740 |
|     | DO 260 K=1,150   | 6750 |
|     | IF(PWKD(K)-1.E-6) 260,253,253                                | 6760 |
| 253 | C=WKD(K)   | 6770 |
|     | IF(C-E1WK) 255,260,260                                       | 6780 |
| 255 | PNSP(1)=PNSP(1)+PWKD(K)                                      | 6790 |
| 260 | CONTINUE   | 6800 |
| 300 | IF(PNSP(1)+10.) 308,308,301                                  | 6810 |
| 301 | NH=NMX+2   | 6820 |
|     | NH=NMX   | 6830 |
|     | DO 304 K=1,NH  | 6840 |





|     |   |      |
|-----|---|------|
| 19  | EMH=EMHU(K)*UMA   | 7710 |
|     | SMH=SQRT((UMA*(SMHU(K)*SMHU(K)+EMHU(K)*EMHU(K)))              | 7720 |
|     | EN=ENU(K)*UMA   | 7730 |
|     | SNE=SUPT(UMA*(SNU(K)*SNU(K)+ENU(K)*ENU(K)))                   | 7740 |
|     | LACH(1)=LACM(1)+EMH   | 7750 |
|     | SACH(1)=SACM(1)+SMH   | 7760 |
|     | EACH(1)=EACH(1)+EN  | 7770 |
|     | SACH(1)=SACH(1)+SN*SN   | 7780 |
|     | UMAC(1)=UPA+UMAC(1)   | 7790 |
| 20  | CONTINUE  | 7800 |
|     | SACH(1)=SQRT(SACH(1))   | 7810 |
|     | SACH(1)=SQRT(SACH(1))   | 7820 |
|     | APN=0.0   | 7830 |
| C   | CALCULATE DEPENDABILITY PER INTERVAL                          | 7840 |
|     | DO 30 K=1,KSET  | 7850 |
|     | A=AHAB(I,K)   | 7860 |
|     | IF(A) 22,22,23  | 7870 |
| 22  | ABN=ABH*U.5*BNAR(I,K)*DELI(IINT)*D1K(I,K)                     | 7880 |
|     | GO TO 30  | 7890 |
| 23  | AB2=A+BNAR(I,K)*DELI(IINT)*D1K(I,K)                           | 7900 |
|     | (F(AB2) 24,24,26  | 7910 |
| 24  | ABN=ABH+A*U.5   | 7920 |
|     | GO TO 30  | 7930 |
| 26  | ABN=ABH+A*U.5*BNAR(I,K)*DELI(IINT)*D1K(I,K)                   | 7940 |
| 30  | CONTINUE  | 7950 |
|     | FS=AIES+ABN   | 7960 |
|     | UD(I)=EXP(-FS)  | 7970 |
| C   | CALCULATE TOTAL MANHOURS AND NOR PER INTERVAL                 | 7980 |
|     | NM=NFOL(I)  | 7990 |
|     | DO 800 J=1,IM   | 8000 |
|     | EMHU(I,J)=EMH(I,J)+EPFH+EBPH+EACH(1)+EMSD                     | 8010 |
|     | SMHU(I,J)=SQRT(SMH(I,J)+SMH(I,J)+SPFH+SPFH+SBPH+SBPH+SACH(1)+ | 8020 |
|     | SACH(1)+SMSD+SMSD)  | 8030 |
|     | ENI=EM(I,J)+EN(I,J)*DELI(IINT)                                | 8040 |
|     | IF(LN(I) 28,29,29   | 8050 |
| 28  | ENI=0.0   | 8060 |
| 29  | ENI=ENI+EACH(1)+ENSU  | 8070 |
|     | SNM=SMH(I,J)*SMH(I,J)+SACH(1)+SACH(1)+SNSD+SNSD               | 8080 |
|     | END(I,J)=ENI+ACNS*(EMHU+ENI/168.)                             | 8090 |
|     | S2=SNM*2+ACNS+ACNS*(SNKU+SNKU+SN1(I,J)*SN1(I,J)/28224.)       | 8100 |
|     | SND(I,J)=SQRT(S2)   | 8110 |
| C   | CALCULATE MEAN AND STD DEV OF TOTAL HOURS PER INTERVAL        | 8120 |
| 164 | SCT=168.*EMHU+ENI*(1.+ACNS/168.)                              | 8130 |
|     | S=SMH(I,J)  | 8140 |
|     | SCT=SQRT(28224.*SNKD+SNKU+SNKU*(1.+ACNS+ACNS/28224.))         | 8150 |
| C   | CALCULATE AVAILABILITY DISTRIBUTION                           | 8160 |
|     | DTAV=0.05263158   | 8170 |
|     | NAV=20  | 8180 |
|     | TAV(1)=0.0  | 8190 |
|     | DO 170 L=2,NAV  | 8200 |
|     | TAV(L)=TAV(L-1)+DTAV  | 8210 |
| 170 | CONTINUE  | 8220 |
|     | (F(SND(I,J)) 500,500,526                                      | 8230 |
| 500 | (F(SCT) 501,501,510   | 8240 |
| 501 | DO 506 L=1,NAV  | 8250 |
|     | IF(LCT*(1.-TAV(L))-END(I,J)) 503,504,504                      | 8260 |
| 503 | PAV(L)=1.0  | 8270 |
|     | GO TO 506   | 8280 |
| 504 | PAV(L)=0.0  | 8290 |
| 506 | CONTINUE  | 8300 |
|     | GO TO 600   | 8310 |
| 510 | KLCD=ECT/(SCT+SCT)  | 8320 |
|     | KKCD=KLCD*ES(   | 8330 |
|     | KLCD=KLCD   | 8340 |
|     | FAC=KLCD*EMH(I,J)   | 8350 |
|     | DO 520 L=1,NAV  | 8360 |
|     | FAC=FAC/(1.-TAV(L))   | 8370 |
|     | IF(KKCD-1.) 517,514,514                                       | 8380 |
| 514 | TERM=1.0  | 8390 |
|     | DO 512 L=1,KLCD   | 8400 |
|     | TERM=TERM+FAC/LI  | 8410 |
|     | SUM=SUM+TERM  | 8420 |
| 512 | CONTINUE  | 8430 |
|     | PL=1.0-EXP(-FAC)*SUM  | 8440 |
|     | SUM=SUM+TERM+FAC/KLCD   | 8450 |
|     | PH=1.0-EXP(-FAC)*SUM  | 8460 |
|     | PAV(L)=PL*(PH-PL)*(KKCD-KLCD)                                 | 8470 |
|     | GO TO 520   | 8480 |
| 517 | PAV(L)=1.-EXP(-FAC)   | 8490 |
| 520 | CONTINUE  | 8500 |
|     | GO TO 600   | 8510 |
| 526 | (F(SCT) 528,528,540   | 8520 |
| 528 | RLNU=LN(I,J)/(SND(I,J)*SND(I,J))                              | 8530 |
|     | KKNU=KLCD*EMH(I,J)  | 8540 |
|     | KLNU=KLCD   | 8550 |



|    |   |       |
|----|---|-------|
|    | 8EMHD(3,3),SMHD(3,3),END(3,3),SND(3,3),EED(3,3),SED(3,3),DD(3), | 9430  |
|    | 8UMAC(3),EACM(3),SACM(3),EACN(3),SACN(3),ACNS,                  | 9440  |
| C  | DATA GENERATED BY MPD   | 9450  |
|    | 9EMHY(10),SMHY(10),ENHR(10),SNHR(10),EEMP(10),SEMP(10),DMP(10)  | 9460  |
|    | 9,EMHF(10),SMHF(10)   | 9470  |
|    | DIMENSION T(50),P(50)   | 9480  |
|    | A=0.0   | 9490  |
|    | EMHM=0.0  | 9500  |
|    | SMHM=0.0  | 9510  |
|    | ENMP=0.0  | 9520  |
|    | SNMP=0.0  | 9530  |
|    | D =0.0  | 9540  |
|    | EE =0.0   | 9550  |
|    | SE =0.0   | 9560  |
|    | SUM1=0.0  | 9570  |
|    | SUM2=0.0  | 9580  |
|    | DO 10 I=1,NSCT  | 9590  |
|    | MM=1-OL(I)  | 9600  |
|    | DO 9 J=1,NN   | 9610  |
|    | MM=NSCH(1,J)  | 9620  |
|    | EMHM=EMHM+EMHD(1,J)*NN  | 9630  |
|    | SMHM=SMHM+SMHD(1,J)*SMHD(1,J)*NN*NN                             | 9640  |
|    | SNMP=SNMP+SHU(1,J)*SND(1,J)*NN*NN                               | 9650  |
|    | ENMP=ENMP+EHU(1,J)*NN   | 9660  |
|    | EE =EE +ELU(1,J)*NN   | 9670  |
|    | SE =SE +SEU(1,J)*SED(1,J)*NN*NN                                 | 9680  |
|    | D=D+UD(1)*NN  | 9690  |
|    | ENI=AN(1,J)+UN(1,J)*UEL1(IINT)                                  | 9700  |
|    | IF(L=1) 0+0+0   | 9710  |
|    | ENI=0.0   | 9720  |
|    | 8 SUM1=SUM1+NSCH(1,J)*ENI*(1+ACNS/168.)                         | 9730  |
|    | SUM2=SUM2+NSCH(1,J)*NSCH(1,J)*SNI(1,J)*SNI(1,J)*(1+ACNS*ACNS/   | 9740  |
|    | 128224.)  | 9750  |
|    | 9 CONTINUE  | 9760  |
| 10 | CONTINUE  | 9770  |
|    | SMHM=SQRT(SMHM)   | 9780  |
|    | SNMP=SQRT(SNMP)   | 9790  |
|    | SEMP(IINT)=SQRT(SE/(IINT*NN))                                   | 9800  |
|    | EEMP(IINT)=EE/NN  | 9810  |
|    | DMP(IINT)=D/NN  | 9820  |
| C  | CALCULATE MANHOURS PER YEAR                                     | 9830  |
|    | NA=50   | 9840  |
|    | DO 20 I=1,NA  | 9850  |
|    | T(I)=1+400.0  | 9860  |
|    | E=EMHM-T(I)*(EWM/52.+SUM1/8736.)                                | 9870  |
|    | S=SMHM*SMHM+T(I)*T(I)*(SWKM*SWKM/2704.+SUM2/76317696.)          | 9880  |
|    | S=SQRT(S)   | 9890  |
|    | IF(S) 13,13,12  | 9900  |
| 12 | CALL NML(A,E,S,PI)  | 9910  |
|    | P(I)=PI   | 9920  |
|    | GO TO 20  | 9930  |
| 13 | IF(L) 10,10,15  | 9940  |
| 15 | P(I)=0.0  | 9950  |
|    | GO TO 20  | 9960  |
| 16 | P(I)=1.0  | 9970  |
| 20 | CONTINUE  | 9980  |
|    | CALL MNDV(T,P,NA,EMH,SMH)                                       | 9990  |
|    | EMHY(IINT)=EMH  | 10000 |
|    | SMHY(IINT)=SMH  | 10010 |
| C  | CALCULATE MANHOURS PER MAINTENANCE PROGRAM                      | 10020 |
|    | EFHM=ENI+EFHD   | 10030 |
|    | VFHM=ENI+VFHD   | 10040 |
| C  | CALCULATE MANHOURS PER FLIGHT HOUR                              | 10050 |
|    | DO 40 I=1,NA  | 10060 |
|    | T(I)=2.01   | 10070 |
|    | E=EMHM-T(I)+EFHM  | 10080 |
|    | S=SMHM*SMHM+T(I)*T(I)*VFHM                                      | 10090 |
|    | S=SQRT(S)   | 10100 |
|    | IF(S) 33,33,32  | 10110 |
| 32 | CALL NML(A,E,S,PI)  | 10120 |
|    | P(I)=PI   | 10130 |
|    | GO TO 40  | 10140 |
| 33 | IF(L) 35,35,36  | 10150 |
| 35 | P(I)=1.0  | 10160 |
|    | GO TO 40  | 10170 |
| 36 | P(I)=0.0  | 10180 |
| 40 | CONTINUE  | 10190 |
|    | CALL MNDV(T,P,NA,EMH,SMH)                                       | 10200 |
|    | EMHF(IINT)=EMH  | 10210 |
|    | SMHF(IINT)=SMH  | 10220 |
| C  | CALCULATE NUP HOURS PER HOUR                                    | 10230 |
|    | NA=20   | 10240 |
|    | DO 30 I=1,NA  | 10250 |
|    | T(I)=1+0.05   | 10260 |
|    | E=EEMP-T(I)*(168.*EWM+SUM1)                                     | 10270 |
|    | S=SNMP*SNMP+T(I)*T(I)*(28224.*SWKM*SWKM+SUM2)                   | 10280 |
|    | S=SQRT(S)   | 10290 |
|    | IF(S) 23,23,22  | 10300 |

|    |   |       |
|----|---|-------|
| 22 | CALL NML(A,E,S,P1)  | 10310 |
|    | P(1)=P1   | 10320 |
|    | GO TO 30  | 10330 |
| 23 | IF(E) 26,26,25  | 10340 |
| 25 | P(1)=0.0  | 10350 |
|    | GO TO 30  | 10360 |
| 26 | P(1)=1.0  | 10370 |
| 30 | CONTINUE  | 10380 |
|    | CALL MNDD(T,P,N,EN,SN)  | 10390 |
|    | EMHR(IIN)=EL  | 10400 |
|    | SMHR(IIN)=SN  | 10410 |
|    | RETURN  | 10420 |
|    | END   | 10430 |
|    | SUBROUTINE NML(A,E,SU,P)  | 10440 |
|    | COMMON IINF,  | 10450 |
|    | INPUT DATA  | 10460 |
| C  | 1DLEI(10),KI,NSCT,NFOL(3),NSCH(3,3),NSPT,DISP(60),SISP(60),KIS(60), | 10470 |
|    | 2R,EMHI(3,3),SMHI(3,3),AN(3,3),RN(3,3),SMI(3,3),EMHS(60),SMHS(60),  | 10480 |
|    | 3JNS(60),SNS(60),EMHP,SMHP,EMHB,SMHB,NI,KSET,ANU(3,60),BNU(3,60),   | 10490 |
|    | 4EMHU(60),SMHU(60),EHU(60),SNU(60),ANAB(3,60),BNAU(3,60),ENWK(60),  | 10500 |
|    | 5LFFH,SPFH,ESU,SSOW,ELDW,SLDW,AIES,DIK(3,60),UMAS(3,60),            | 10510 |
| C  | DATA GENERATED BY PFPF  | 10520 |
|    | 6WKU(150),PWKU(150),EWKU,SWKU,EWKM,SWKM,EPFH,SPFH,EBPH,SPPH,NINT,   | 10530 |
|    | FX(61),FX(61),EFHD,VFHD,  | 10540 |
| C  | DATA GENERATED BY SP1S  | 10550 |
|    | 7LMSU,SMSU,ENSD,SNSD,   | 10560 |
| C  | DATA GENERATED BY INVL  | 10570 |
|    | 8EMHU(3,3),SMHU(3,3),END(3,3),SND(3,3),EED(3,3),SED(3,3),DD(3),     | 10580 |
|    | 9UMAC(3),EAC(3),SACH(3),EACN(3),SACN(3),ACNS,                       | 10590 |
| C  | DATA GENERATED BY MPD   | 10600 |
|    | 9LMHY(10),SMHY(10),ENHR(10),SNHR(10),EENP(10),SEMP(10),OMP(10)      | 10610 |
|    | 9EMHF(10),SMHF(10)  | 10620 |
| C  | COMPUTE NORMAL(A,E,SD)  | 10630 |
|    | T=(A-E)/SD  | 10640 |
|    | IF(T-X(1)) 30,40,50   | 10650 |
| 30 | P=0.0   | 10660 |
|    | RETURN  | 10670 |
| 40 | P=FX(1)   | 10680 |
|    | RETURN  | 10690 |
| 50 | DO 50 I=2,61  | 10700 |
|    | IF(T-X(I))52,54,56  | 10710 |
| 52 | P=FX(I-1)+(FX(I)-FX(I-1))*(T-X(I-1))/(X(I)-X(I-1))                  | 10720 |
|    | RETURN  | 10730 |
| 54 | P=FX(I)   | 10740 |
|    | RETURN  | 10750 |
| 56 | CONTINUE  | 10760 |
|    | P=1.0   | 10770 |
|    | RETURN  | 10780 |
|    | END   | 10790 |
|    | SUBROUTINE MNDD(T,P,N,BART,SDEV)                                    | 10800 |
| C  | THIS ROUTINE CALCULATES THE MEAN AND STANDARD DEVIATION OF T        | 10810 |
|    | DIMENSION T(150),P(150)   | 10820 |
|    | BART=T(1)*P(1)  | 10830 |
|    | DO 10 I=2,N   | 10840 |
|    | BART=BART+T(I)*(P(I)-P(I-1))  | 10850 |
| 10 | CONTINUE  | 10860 |
|    | SDEV=P(1)*(T(1)-BART)**2  | 10870 |
|    | DO 20 I=2,N   | 10880 |
|    | SDEV=SDEV+(P(I)-P(I-1))*(T(I)-BART)**2                              | 10890 |
| 20 | CONTINUE  | 10900 |
|    | IF(ABS(SDEV-.5E-10)) 30,30,40                                       | 10910 |
| 30 | SDEV=0.0  | 10920 |
|    | RETURN  | 10930 |
| 40 | SDEV=SQRT(SDEV)   | 10940 |
|    | RETURN  | 10950 |
|    | END   | 10960 |
|    | SUBROUTINE MNDD(T,P,N,BART,SDEV)                                    | 10970 |
| C  | THIS ROUTINE CALCULATES THE MEAN AND STANDARD DEVIATION OF T        | 10980 |
| C  | USING THE PROBABILITY DENSITY FUNCTION                              | 10990 |
|    | DIMENSION T(150),P(150)   | 11000 |
|    | BART=0.0  | 11010 |
|    | SDEV=0.0  | 11020 |
|    | DO 10 I=1,N   | 11030 |
|    | BART=BART+T(I)*P(I)   | 11040 |
|    | SDEV=SDEV+(T(I)-BART)**2  | 11050 |
| 10 | CONTINUE  | 11060 |
|    | SDEV=SQRT(SDEV)   | 11070 |
|    | IF(ABS(SDEV-.5E-10)) 30,30,40                                       | 11080 |
| 30 | SDEV=0.0  | 11090 |
|    | RETURN  | 11100 |
| 40 | SDEV=SQRT(SDEV)   | 11110 |
|    | RETURN  | 11120 |
|    | END   | 11130 |
|    | SUBROUTINE DMDD(T,P,N,BART,SDEV)                                    | 10060 |
| C  | THIS ROUTINE CALCULATES THE MEAN AND STANDARD DEVIATION OF T        | 10070 |
|    | DOUBLE PRECISION T  | 10075 |
|    | DIMENSION T(150),P(150)   | 10080 |

```

      BART=T(1)*P(1)
      DO 10 I=2,N
      BART=BART+T(I)*(P(I)-P(I-1))
10    CONTINUE
      SDEV=P(1)*(T(1)-BART)**2
      DO 20 I=2,N
      SDEV=SDEV+(P(I)-P(I-1))*(T(I)-BART)**2
20    CONTINUE
      IF(AJS(SDEV-.5E-10)) 30,30,40
30    SDEV=0.0
      RETURN
40    SDEV=SQRT(SDEV)
      RETURN
      END
10090
10100
10110
10120
10130
10140
10150
10160
10170
10180
10190
10200
10210
10220

/*      REQUIRED PLACE FURTHER BCD SOURCE BEFORE THIS CARD
//LKED,SYSPRINT DD SPACE>[CYL,[1,1]]
//LKED,SYSDIN DD DATA,SPACE>[TRK,[5,5]]
/*
//CHG,FTU5F001 DD DATA,SPACE>[CYL,[1,1]]
9999
SAMPLE RUN - INPUT DATA BASED ON RESULTS FOR 11 NON-150 AIRCRAFT SAMPLE
 4.88000  2.00000  3.02000  1.05200  3.03000  1.04600  0.00729
 0.79000  1.92000  0.00000  0.00000  2.74000  0.00000
 0 2 3 4 4
25.00000 30.00000 35.00000 40.00000 45.00000 50.00000
 1 1 2
43.20000 26.70000 0.00000 0.00000 0.00000
 0.00161 0.00002 0.00000 0.00000 0.00000
 0.00000 0.00000 0.00000 0.00000 0.00000
 0.01488 -0.00002 0.00000 0.00000 0.00000
 0.24418 -0.00336 0.00000 0.00000 0.00000
 1.00000 1.00000 1.00000 1.00000 1.00000
 .00080 .00000 .00744 .12209
 10
43.20000 26.70000 0.00000 0.00000 0.00000
 0.02032 -0.00030 0.00000 0.00000 0.00000
 0.01860 -0.00030 0.00000 0.00000 0.00000
 0.09390 -0.00159 0.00000 0.00000 0.00000
 0.10571 -0.00106 0.00000 0.00000 0.00000
 1.00000 1.00000 1.00000 1.00000 1.00000
 .01016 .00933 .04698 .05285
 2 10
433.90000 417.00000 219.70000 5.00000 261.30000
30.90000 39.40000 21.90000 0.33000 38.70000
 0.02016 -0.00030
 0.01842 -0.00030
 0.01811 -0.00159
 0.29232 -0.01105 0.00000 0.00000 0.00000
 3.00000 3.00000 3.00000 1.00000
 .01008 .00921 .00906 .14616
 1.10000 0.84000 5.00000 14.50000 0.00190
 3.50000 3.97000 13.30000 19.70000 0.27100
 8.20000 7.74000 3.30000 5.40000 0.16000
 1.70000 1.64000 2.80000 6.80000 0.09800
 7.70000 6.65000 0.00000 0.00000 50.00000 25.80000 2
 11.30000 13.52000 0.00000 0.00000 13.90000 14.10000 2
 6.80000 7.23000 0.00000 0.00000 29.80000 63.80000 2
 3.50000 9.10000 0.00000 0.00000 25.70000 25.30000 2
9999
/*

```

AD-A045 625

GENERAL DYNAMICS SAN DIEGO CALIF CONVAIR AEROSPACE DIV F/G 1/5

F-106 SCHEDULED MAINTENANCE STUDY. USER'S MANUAL, (U)

SEP 72 G WANG, R S GROTE, J R COOPER

F41608-71-D-1383

UNCLASSIFIED

GDCA-AHD72-006

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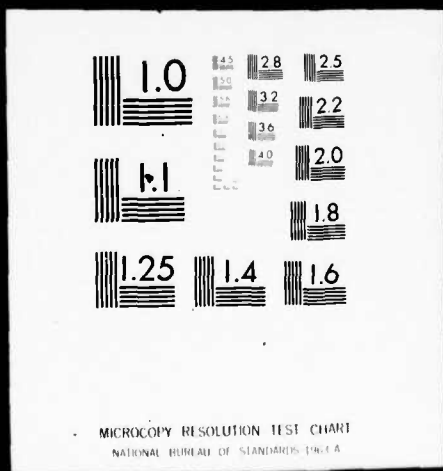
6 of 6  
ADA045625



END  
DATE  
FILMED  
11-77  
DDC

6 OF 6

ADA045625





## 6.14 NETWORK ANALYSIS MODEL

```

//T9897V JOB 01: G. WANG. : ,PKTY>02 X3400
//C9897V EXEC P90456,PARM,ASSY>(MAP,L1ST,BCD), C
// PARM,LKED>L1ST,XREF: ,TIME>02,ACCT>D35323007
//ASSY.SYSIN DD DATA,SPACE>(CYL,(1,1)) 1440 CDS
C NETWORK ANALYSIS MODEL-- 370
COMMON TNEM(20),PNEM(20),NNEM, TMHE(20),PMHE(20),NMHE,NBR,TMH(150), 20
120),PMH(150,20),NMH(150),TSP(150,20),PSP(150,20),NSP(150), 30
2FHM(150),K(149),L(149),M(149),TNOR(20),PNOR(20),NNOR,BARN,DEV,TMHI 40
3(20),PMHI(20),NMHI,FM,BARM,DEVM,BNE,DNE,BMHE,DMHE,LKFX(150) 50
DIMENSION HEAD(20) 60
C READ 9999 IN FIRST AND LAST CARD FOR END OF FILE TEST 62
READ (5,99) LOF9 64
C SET ORIGINAL VALUES 70
1 DO 40 I=1,20 80
TMHI(I)=0.0 90
PMHI(I)=0.0 100
40 CONTINUE 110
NMHI=0 120
FM=1.0 130
LFL=0.0 140
UFL=0.0 150
LML=0.0 160
UMH=0.0 170
HEAD(5,103) HEAD 180
IF(HEAD(1)-EQF9) 3,2,3 190
2 CALL EOJMS6 202
CALL EXII 205
3 READ(5,100)NBR,NNEM,NMHE 210
READ(5,101)(TNEM(I),I=1,NNEM) 220
READ(5,101)(PNEM(I),I=1,NNEM) 230
READ(5,101)(TMH(I),I=1,NMHE) 240
READ(5,101)(PMH(I),I=1,NMHE) 250
READ(5,102)(LKFX(I),I=1,NBR) 260
READ(5,101)(FHM(I),I=1,NBR) 270
READ(5,102)(NMH(I),I=1,NBR) 280
DO 10 I=1,NBR 290
NI=NMH(I) 300
READ(5,101)((MH(I,J),J=1,NI) 310
READ(5,101)(PMH(I,J),J=1,NI) 320
10 CONTINUE 330
NI=NBR-1 340
DO 20 I=1,NI 350
READ(5,102) K(I),L(I),M(I) 360
20 CONTINUE 370
WRITE(6,300) HEAD 380
WRITE(6,301) 390
IF(NNEM) 60,0,50 400
50 WRITE(6,302) 410
WRITE(6,303) (TNEM(I),I=1,NNEM) 420
WRITE(6,304) (PNEM(I),I=1,NNEM) 430
WRITE(6,305) 440
WRITE(6,303) (TMHE(I),I=1,NMHE) 450
WRITE(6,304) (PMHE(I),I=1,NMHE) 460
60 WRITE(6,307) 470
WRITE(6,308) NBR 480
WRITE(6,309) (LKFX(I),I=1,NBR) 490
WRITE(6,310) (FHM(I),I=1,NBR) 500
WRITE(6,311) 510
DO 30 I=1,NBR 520
NI=NMH(I) 530
WRITE(6,312) 1,(TMH(I,J),J=1,NI) 540
WRITE(6,313) 1,(PMH(I,J),J=1,NI) 550
30 CONTINUE 560
WRITE(6,314) 570
NI=NBR-1 580
WRITE(6,315) (1,K(I),L(I),M(I),I=1,NI) 590
CALL NAMU 600
WRITE(6,200) / 610
IF(NNLM) 64,0,4,62 620
62 WRITE(6,302) 630
WRITE(6,306) BNE,DNE 640
WRITE(6,305) 650
WRITE(6,306) BMHE,DMHE 660
64 WRITE(6,201) 670
WRITE(6,303) (TNOR(I),I=1,NNOR) 680
WRITE(6,304) (PNOR(I),I=1,NNOR) 690
WRITE(6,306) BARN,DEV 700
WRITE(6,202) 710
WRITE(6,303) (TMHI(I),I=1,NMHI) 720
WRITE(6,304) (PMHI(I),I=1,NMHI) 730
WRITE(6,306) BARM,DEVM 740
IF(NNLM) 1,1,80 750
80 WRITE(6,203) 760
WRITE(6,204) FM 770
WRITE(6,310) (FHM(I),I=1,NBR) 780

```







|     |  |      |
|-----|--|------|
|     | PH(I)=P1(I)  | 3400 |
| 10  | CONTINUE   | 3410 |
|     | DO 12 I=1,N2   | 3420 |
|     | TH(I+M1)=T2(I)   | 3430 |
|     | PH(I+M1)=P2(I)   | 3440 |
| 12  | CONTINUE   | 3450 |
| C   | MULTIPLY P3 VALUES BY PROPER P1 AND P2 VALUES                    | 3460 |
|     | DO 20 I=1,N1   | 3470 |
|     | DO 16 J=1,N2   | 3480 |
|     | UIF=I2(J)-T1(I)  | 3490 |
|     | IF(ABS(PIF)-5.E-7) 14,13,13                                      | 3500 |
| 13  | IF(UIF) 16,14,15   | 3510 |
| 14  | PH(I)=PH(I)+P2(J)  | 3520 |
|     | GO TO 20   | 3530 |
| 15  | IF(J-1) 151,151,152  | 3540 |
| 151 | PH(I)=0.0  | 3550 |
|     | GO TO 20   | 3560 |
| 152 | PH(I)=PH(I)+P2(J-1)  | 3570 |
|     | GO TO 20   | 3580 |
| 16  | CONTINUE   | 3590 |
| 20  | CONTINUE   | 3600 |
|     | DO 30 I=1,N2   | 3610 |
|     | DO 26 J=1,N1   | 3620 |
|     | UIF=T1(J)-T2(I)  | 3630 |
|     | IF(ABS(DIF)-5.E-7) 24,23,23                                      | 3640 |
| 23  | IF(UIF) 26,24,25   | 3650 |
| 24  | PH(I+M1)=PH(I+M1)+P1(J)  | 3660 |
|     | GO TO 30   | 3670 |
| 25  | IF(J-1) 251,251,252  | 3680 |
| 251 | PH(I+M1)=0.0   | 3690 |
|     | GO TO 30   | 3700 |
| 252 | PH(I+M1)=PH(I+M1)+P1(J-1)  | 3710 |
|     | GO TO 30   | 3720 |
| 26  | CONTINUE   | 3730 |
| 30  | CONTINUE   | 3740 |
| C   | ARRANGE TH,PH IN ORDER OF INCREASING TH                          | 3750 |
|     | CALL ORD(TH,PH,N3)   | 3760 |
| C   | ELIMINATE DUPLICATE TH-PH PAIRS                                  | 3770 |
| 32  | DO 40 I=2,N3   | 3780 |
|     | IF(ABS(TH(I)-TH(I-1))-5.E-7) 34,34,40                            | 3790 |
| 34  | K=I+1  | 3800 |
|     | DO 36 J=K,N3   | 3810 |
|     | TH(J-1)=TH(J)  | 3820 |
|     | PH(J-1)=PH(J)  | 3830 |
| 36  | CONTINUE   | 3840 |
|     | N3=N3-1  | 3850 |
|     | GO TO 32   | 3860 |
| 40  | CONTINUE   | 3870 |
| C   | ELIMINATE UNNECESSARY POINTS                                     | 3880 |
| 42  | DO 48 I=2,N3   | 3890 |
|     | IF(ABS(PH(I)-PH(I-1))-5.E-7) 44,44,48                            | 3900 |
| 44  | K=I+1  | 3910 |
|     | DO 46 J=K,N3   | 3920 |
|     | TH(J-1)=TH(J)  | 3930 |
|     | PH(J-1)=PH(J)  | 3940 |
| 46  | CONTINUE   | 3950 |
|     | N3=N3-1  | 3960 |
|     | GO TO 42   | 3970 |
| 48  | CONTINUE   | 3980 |
| C   | REDUCE VECTOR SIZES  | 3990 |
|     | CALL REDC(TH,PH,N3)  | 4000 |
| C   | PLACE PH VALUES IN P3, AND TH VALUES IN T3                       | 4010 |
|     | DO 50 I=1,N3   | 4020 |
|     | P3(I)=PH(I)  | 4030 |
|     | T3(I)=TH(I)  | 4040 |
| 50  | CONTINUE   | 4050 |
|     | RETURN   | 4060 |
|     | END  | 4070 |
|     | SUBROUTINE CONV(P1,P2,P3,T1,T2,T3,N1,N2,N3)                      | 4100 |
| C   | THIS ROUTINE OUTPUTS AS T3-P3 THE CONVOLUTION OF T1-P1 AND T2-P2 | 4110 |
|     | DIMENSION P1(20),P2(20),P3(20),T1(20),T2(20),T3(20),PD1(20),     | 4120 |
|     | IPD2(20),PROD(20,20),TT(20,20),TU(400),PROE(400)                 | 4130 |
|     | EQUIVALENCE (TU(1),TT(1,1))                                      | 4132 |
|     | EQUIVALENCE (PROE(1),PROD(1,1))                                  | 4135 |
| C   | CALCULATE DISCRETE PROBABILITY DENSITY FUNCTION                  | 4140 |
|     | PD1(1)=P1(1)   | 4150 |
|     | PD2(1)=P2(1)   | 4160 |
|     | DO 2 I=2,N1  | 4170 |
|     | PD1(I)=P1(I)-P1(I-1)   | 4180 |
| 2   | CONTINUE   | 4190 |
|     | DO 3 I=2,N2  | 4200 |
|     | PD2(I)=P2(I)-P2(I-1)   | 4210 |
| 3   | CONTINUE   | 4220 |
| C   | CALCULATE ELEMENTS OF MATRICES                                   | 4230 |
|     | DO 20 I=1,N1   | 4240 |
|     | DO 10 J=1,N2   | 4250 |
|     | TI(I,J)=I1(I)+T2(J)  | 4260 |
|     | PROD(I,J)=PD1(I)*PD2(J)  | 4270 |
| 10  | CONTINUE   | 4280 |
| 20  | CONTINUE   | 4290 |
|     | N3=N1+N2   | 4300 |

|   |   |      |
|---|---|------|
| C | ARRANGE ELEMENTS IN ORDER OF INCREASING TT(I)                 | 4310 |
|   | DO 24 J=1,N2  | 4320 |
|   | DO 23 I=1,N1  | 4330 |
|   | K=I+N1*(J-1)  | 4340 |
|   | TU(K)=TT(I,J)   | 4350 |
|   | PROE(K)=PROD(I,J)   | 4360 |
|   | 23 CONTINUE   | 4370 |
|   | 24 CONTINUE   | 4380 |
|   | CALL ORD(TT,PROD,N3)  | 4390 |
| C | ELIMINATE DUPLICATE VALUES IN TT                              | 4400 |
|   | 32 DO 40 I=2,N3   | 4410 |
|   | IF (ABS(TU(I)-TU(I-1))-5.E-7) 34,34,40                        | 4420 |
|   | 34 PROE(I-1)=PROE(I-1)+PROE(I)                                | 4430 |
|   | GO TO 42  | 4440 |
|   | 40 CONTINUE   | 4450 |
|   | GO TO 46  | 4460 |
|   | 42 K=I+1  | 4470 |
|   | DO 44 J=K,N3  | 4480 |
|   | TU(J-1)=(TU(J)  | 4490 |
|   | PROE(J-1)=PROE(J)   | 4500 |
|   | 44 CONTINUE   | 4510 |
|   | N3=N3-1   | 4520 |
|   | GO TO 32  | 4530 |
| C | CALCULATE CUMULATIVE PROBABILITY                              | 4540 |
|   | 46 DO 50 I=2,N3   | 4550 |
|   | PROE(I)=PROE(I)+PROE(I-1)                                     | 4560 |
|   | 50 CONTINUE   | 4570 |
| C | ELIMINATE UNNECESSARY POINTS                                  | 4580 |
|   | N2=2  | 4590 |
|   | 60 DO 62 I=N,N3   | 4600 |
|   | K=1   | 4610 |
|   | IF (ABS(PROE(I)-PROE(I-1))-5.E-7) 64,64,62                    | 4620 |
|   | 62 CONTINUE   | 4630 |
|   | GO TO 70  | 4640 |
|   | 64 N3=N3-1  | 4650 |
|   | IF (I=N3) 66,66,70  | 4660 |
|   | 66 DO 67 J=K,N3   | 4670 |
|   | PROE(J)=PROE(J+1)   | 4680 |
|   | TU(J)=TU(J+1)   | 4690 |
|   | 67 CONTINUE   | 4700 |
|   | N=K   | 4710 |
|   | GO TO 60  | 4720 |
| C | REDUCE VECTOR SIZES IF NECESSARY                              | 4730 |
|   | 70 CALL REDC(TT,PROD,N3)                                      | 4740 |
|   | 80 DO 85 I=1,N3   | 4750 |
|   | P3(I)=PROE(I)   | 4760 |
|   | T3(I)=TU(I)   | 4770 |
|   | 85 CONTINUE   | 4780 |
|   | RETURN  | 4790 |
|   | END   | 4800 |
|   | SUBROUTINE ORD(TT,PROD,N3)                                    | 4790 |
| C | THIS ROUTINE ARRANGES TT-PROD PAIRS IN INCREASING ORDER OF TT | 4800 |
|   | DIMENSION TT(40),PROD(40)                                     | 4810 |
|   | N=N3-1  | 4820 |
|   | DO 27 I=1,N   | 4830 |
|   | K=I+1   | 4840 |
|   | DO 26 J=K,N3  | 4850 |
|   | IF (TT(I)-TT(J)) 26,26,25                                     | 4860 |
|   | 25 HOLD=TT(I)   | 4870 |
|   | TT(I)=TT(J)   | 4880 |
|   | TT(J)=HOLD  | 4890 |
|   | HOLD=PROD(I)  | 4900 |
|   | PROD(I)=PROD(J)   | 4910 |
|   | PROD(J)=HOLD  | 4920 |
|   | 26 CONTINUE   | 4930 |
|   | 27 CONTINUE   | 4940 |
|   | RETURN  | 4950 |
|   | END   | 4960 |
|   | SUBROUTINE REDC(TT,PROD,N3)                                   | 4970 |
| C | THIS ROUTINE REDUCES VECTORS TT,PROD TO ACCEPTABLE SIZES      | 4980 |
|   | DIMENSION TT(40),PROD(40)                                     | 4990 |
|   | 70 IF (N3-20) 80,80,71  | 5000 |
|   | 71 SUM=T(3)-T(1)  | 5010 |
|   | INRP=2  | 5020 |
|   | DO 74 I=4,N3  | 5030 |
|   | (SUM=)T(I)-T(I-2)   | 5040 |
|   | IF (SUM-SUM) 72,74,74   | 5050 |
|   | 72 SUM=SUM  | 5060 |
|   | INRP=I-1  | 5070 |
|   | 74 CONTINUE   | 5080 |
|   | K=N3-1  | 5090 |
|   | DO 76 I=I*INRP,K  | 5100 |
|   | TT(I)=TT(I+1)   | 5110 |
|   | PROD(I)=PROD(I+1)   | 5120 |
|   | 76 CONTINUE   | 5130 |
|   | N3=K  | 5140 |
|   | GO TO 70  | 5150 |
|   | 80 RETURN   | 5160 |
|   | END   | 5170 |
|   | SUBROUTINE ADV(T,P,N,BART,SOEV)                               | 5180 |

```

C THIS ROUTINE CALCULATES THE MEAN AND STANDARD DEVIATION OF T
DIMENSION T(20),P(20)
BART=T(1)*P(1)
DO 10 I=2,N
BART=BART+T(I)*(P(I)-P(I-1))
10 CONTINUE
SDEV=P(1)*(T(1)-BART)**2
DO 20 I=2,N
SDEV=SDEV+(P(I)-P(I-1))*(T(I)-BART)**2
20 CONTINUE
SDEV=SQRT(SDEV)
RETURN
END
5190
5200
5210
5220
5230
5240
5250
5260
5270
5280
5290
5300
5310

```

```

/* REQUIRED PLACE FORTRAN BCD SOURCE BEFORE THIS CARD

```

```

//LKED.SYSPRIN DD SPACE>[CYL,(1,1)]
//LKED.SYSIN DD DATA,SPACE>[TRK,(5,5)]
/*
//CHG.FTO:F001 DD DATA,SPACE>[CYL,(1,1)]
9999

```

```

SAMPLE CASE 1

```

```

11 5 5
U.      3.      4.      4.2      6.
0.      .1      .5      .8      1.
0.      3.      4.      4.2      6.
0.      .1      .5      .8      1.
0 2 0 2 0 2 0 2 0 2 0
1.      1.      1.      1.      .5      1.      .75      1.
.33      1.      1.
2 6 2 6 2 4 2 4 2 4 2
0.      .5
0.      1.
U.      .2      .4      .6      .8      1.
U.      .2      .4      .6      .8      1.
U.      1.
0.      1.
0.      .2      .5      .9      1.4      2.0
0.      .2      .4      .6      .8      1.
0.      1.2
0.      1.
U.      .1      .2      .4
0.      .2      .4      1.
0.      .6
U.      1.
0.      .5      .7      .9
U.      .2      .6      1.
0.      1.5
U.      1.
U.      .3      .4      .5
0.      .4      .8      1.
0.      .8
U.      1.

```

```

3 4 1
7 8 1
2 7 1
2 3 0
1 2 1
5 6 1
910 1
5 9 0
1 5 1
111 1

```

```

SAMPLE CASE 2

```

```

8
1.      1.      1.      1.      1.      1.      1.
2 2 2 2 2 2 2 2
0.      1.5
U.      1.
0.      3.
0.      4.
0.      1.
0.      5.
U.      1.
U.      6.
0.      1.
0.      3.5
0.      1.
U.      2.
U.      1.
0.      7.
0.      1.

```

```

2 3 0
4 5 0
2 4 1
2 7 0
1 2 1
1 6 1
1 8 0
9999

```

```

/*

```

6.15 MANHOUR AND NORM DATA - TASK 7

6.15.1 SUM UNSCHEDULED MAINTENANCE ACTIONS

```

//C9897K JOB 01.: 6, WANG 1,PRTY>02, TYPRUN>HOLD
//C9897K EXEC P9655L,TIME>02,ACCT>D35323007
//CHG.TU12 DD DISP>X,PASS),UNIT>[A+F1,2,DEFER],DSN>A.9897416, CT12/13 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU22 DD DISP>X,PASS),UNIT>[A+F5,2,DEFER],DSN>E.9897460, CT22/23 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG.INPUT DU ..5SPACE>XCYL(1,1)) 1440 COS
00000 COMBINE COMPILE G. WANG. C98970
01040 DATE-WRITTEN. 27 JULY 72. C98970
01050 REMARKS. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE-DB ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT IN-FILE-ISC ASSIGN TO DA-S-DT01 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT OUT-DATA ASSIGN TO UT-S-TU22 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
10100 FD IN-FILE-DB C98970
10130 BLOCK CONTAINS 40 RECORDS C98970
10140 RECORD CONTAINS 70 CHARACTERS C98970
10150 LABEL RECORDS ARE OMITTED C98970
10160 DATA RECORDS ARE IN-REC-D-B. C98970
10200 01 IN-REC-D-B SYNC. C98970
10210 02 FILLER PICTURE X(70). C98970
11300 FD IN-FILE-ISC C98970
11320 RECORDING MODE IS F C98970
11330 BLOCK CONTAINS 20 RECORDS C98970
11340 RECORD CONTAINS 80 CHARACTERS C98970
11350 LABEL RECORDS ARE STANDARD C98970
11360 DATA RECORDS ARE IN-REC-ISC. C98970
11400 01 IN-REC-ISC SYNC. C98970
11410 02 FILLER PICTURE X(80). C98970
12100 FD OUT-DATA C98970
12120 RECORDING MODE IS F C98970
12130 BLOCK CONTAINS 60 RECORDS C98970
12140 RECORD CONTAINS 50 CHARACTERS C98970
12150 LABEL RECORDS ARE OMITTED C98970
12160 DATA RECORDS ARE TAPE-FILE. C98970
12180 01 TAPE-FILE SYNC PICTURE X(50). C98970
30000 WORKING-STORAGE SECTION. C98970
30010 77 ISCHRONAL SYNC PICTURE X, C98970
30020 77 WDC-TEMP SYNC PICTURE X, C98970
30040 77 WEEK-TEMP SYNC PICTURE 999, C98970
30050 77 CNT SYNC COMPUTATIONAL PICTURE S999, C98970
30060 77 CUR-SN PICTURE X(8) VALUE SPACE. C98970
30070 77 P-WLEN PICTURE S999 COMPUTATIONAL. C98970
30080 77 P-FLT-MHS PICTURE S9(6) COMPUTATIONAL. C98970
30100 77 NO-WUL SYNC PICTURE 9999 VALUE ZERO. C98970
30170 77 CNT SYNC COMPUTATIONAL PICTURE S999, C98970
30400 77 ISC-TEMP SYNC PICTURE X(8) VALUE SPACE. C98970
30410 77 PREV-TESTED-SN SYNC PICTURE X(8) VALUE SPACE. C98970
30420 77 ISC-FLAG SYNC PICTURE X VALUE SPACE. C98970
30430 77 MIN-ISC-WLFK SYNC COMPUTATIONAL PICTURE S999 VALUE <999. C98970
30440 77 TEMP-WUL SYNC PICTURE X(8). C98970
30510 77 TEMP-CU.-NO SYNC PICTURE S99 COMPUTATIONAL. C98970
30520 77 NO-WDC-COLS COMPUTATIONAL PICTURE S999 SYNC VALUE <21. C98970
30530 77 BF COMPUTATIONAL PICTURE S999 SYNC VALUE <23. C98970
30540 77 ONE SYNC PICTURE X VALUE 111. C98970
30550 77 TWO SYNC PICTURE X VALUE 121. C98970
30560 77 POS-WDC COMPUTATIONAL PICTURE S999, C98970
30570 77 ISC-TITLE-FLAG SYNC PICTURE X, C98970
30580 77 NI-TITLE-FLAG SYNC PICTURE X, C98970
30590 77 NI-LINE-FLAG SYNC PICTURE X, C98970
30600 77 ISC-LINE-FLAG SYNC PICTURE X, C98970
30610 77 PAGE-NUMBER-ISC PICTURE S99 SYNC VALUE ZERO. C98970
30615 77 PAGE-NUMBER-NI PICTURE S99 SYNC VALUE ZERO. C98970
30620 77 NO-REC-PRINT-ISC PICTURE 9(7) VALUE ZERO. C98970
30630 77 NO-REC-PRINT-NI PICTURE 9(7) VALUE ZERO. C98970

```





|       |   |        |
|-------|---|--------|
| 50010 | OPEN-FILES.   | C98970 |
| 50020 | OPEN INPUT IN-FILE-DR, IN-FILE-ISC, OUTPUT OUT-DATA.    | C98970 |
| 50040 | PERFORM READ-ISC-A-C THRU END-RIAC.                     | C98970 |
| 50045 | PERFORM READ-IN-TITLE-DATA THRU END-RIID.               | C98970 |
| 51000 | PERFORM RESET-HMC-LINE-NI THRU END-RESET-NI.            | C98970 |
| 51005 | PERFORM RESET-HMC-LINE-ISC THRU END-RESET-ISC.          | C98970 |
| 51010 | READ-NSG-WUC.   | C98970 |
| 51020 | READ IN-FILE-DB INTO INPUT-DB.                          | C98970 |
| 51030 | AT END GO TO CLOSE-TABLE.                               | C98970 |
| 51040 | IF IDENT IS NOT EQUAL TO INI GO TO READ-NSG-WUC.        | C98970 |
| 51050 | PERFORM PROC-WDC THRU END-PROC-WDC.                     | C98970 |
| 51060 | IF POS-WDC IS EQUAL TO ZERO GO TO READ-NSG-WUC.         | C98970 |
| 51100 | NEXT-WUC.   | C98970 |
| 51110 | MOVE WUC TO CUR-WUC.                                    | C98970 |
| 51150 | ADD 1 TO NO-WUC.  | C98970 |
| 51200 | NEXT-HMC.   | C98970 |
| 51210 | MOVE HIC TO CUR-HMC.                                    | C98970 |
| 51240 | PERFORM CHECK-ISCHRONAL THRU END-CI.                    | C98970 |
| 51250 | IF ISCHRONAL IS EQUAL TO ONE PERFORM ADD-ISC.           | C98970 |
| 51260 | ELSE PERFORM ADD-NI.                                    | C98970 |
| 51300 | READ-DATA.  | C98970 |
| 51310 | READ IN-FILE-DB INTO INPUT-DB.                          | C98970 |
| 51320 | AT END GO TO CLOSE-TABLE.                               | C98970 |
| 51330 | IF IDENT IS NOT EQUAL TO INI GO TO READ-DATA.           | C98970 |
| 51340 | PERFORM PROC-WDC THRU END-PROC-WDC.                     | C98970 |
| 51350 | IF POS-WDC IS EQUAL TO ZERO GO TO READ-DATA.            | C98970 |
| 51360 | PERFORM CHECK-ISCHRONAL THRU END-CI.                    | C98970 |
| 51370 | IF WUC IS NOT EQUAL TO CUR-WUC GO TO OUTPUT-TABLE-END.  | C98970 |
| 51380 | IF HMC IS NOT EQUAL TO CUR-HMC GO TO OUTPUT-LINE.       | C98970 |
| 51390 | IF ISCHRONAL IS EQUAL TO ONE PERFORM ADD-ISC.           | C98970 |
| 51400 | ELSE PERFORM ADD-NI.                                    | C98970 |
| 51490 | GO TO READ-DATA.  | C98970 |
| 51500 | RESET-HMC-LINE-NI.                                      | C98970 |
| 51510 | MOVE ZERO TO CNT.                                       | C98970 |
| 51520 | RESET-HMC-LINE-1.                                       | C98970 |
| 51530 | ADD 1 TO CNT.   | C98970 |
| 51550 | MOVE ZERO TO HMC-NI [CNT].                              | C98970 |
| 51560 | IF CNT IS LESS THAN NO-WDC-COLS GO TO RESET-HMC-LINE-1. | C98970 |
| 51590 | END-RESET-NI. EXIT.                                     | C98970 |
| 52000 | PROC-WDC.   | C98970 |
| 52010 | MOVE ZERO TO POS-WDC.                                   | C98970 |
| 52020 | MOVE ZERO TO CNT.                                       | C98970 |
| 52030 | PROC-WDC-A.   | C98970 |
| 52040 | ADD 1 TO CNT.   | C98970 |
| 52050 | MOVE WDC-LIST [CNT] TO WDC-TEMP.                        | C98970 |
| 52060 | IF WDC IS LESS THAN WDC-TEMP GO TO END-PROC-WDC.        | C98970 |
| 52070 | IF WDC IS EQUAL TO WDC-TEMP GO TO PROC-WDC-C.           | C98970 |
| 52080 | IF CNT IS LESS THAN NO-WDC-COLS GO TO PROC-WDC-A.       | C98970 |
| 52100 | PROC-WDC-C.   | C98970 |
| 52110 | MOVE CNT TO POS-WDC.                                    | C98970 |
| 52190 | END-PROC-WDC. EXIT.                                     | C98970 |
| 52200 | OUTPUT-LINE-OF-NI-DATA.                                 | C98970 |
| 52300 | MOVE ZERO TO HMC-FREQ-TOTAL-NI.                         | C98970 |
| 52310 | MOVE ZERO TO CNT.                                       | C98970 |
| 52320 | SUM-NI-COL.   | C98970 |
| 52330 | ADD 1 TO CNT.   | C98970 |
| 52340 | MOVE SUM-WDC-COL [CNT] TO TEMP-INDEX.                   | C98970 |
| 52350 | ADD HMC-NI [TEMP-INDEX] TO HMC-FREQ-TOTAL-NI.           | C98970 |
| 52360 | IF CNT IS LESS THAN SUM-INDEX GO TO SUM-NI-COL.         | C98970 |
| 52370 | MOVE TWO TO ISOCHRONAL.                                 | C98970 |
| 52380 | MOVE COL-NO [1] TO TEMP-INDEX.                          | C98970 |
| 52390 | MOVE HMC-NI [TEMP-INDEX] TO MA-HPO.                     | C98970 |
| 52400 | MOVE COL-NO [2] TO TEMP-INDEX.                          | C98970 |
| 52410 | MOVE HMC-NI [TEMP-INDEX] TO MA-PE.                      | C98970 |
| 52420 | MOVE HMC-FREQ-TOTAL-NI TO NUMA.                         | C98970 |
| 52430 | IF MA-HPO IS EQUAL TO ZERO AND                          | C98970 |
| 52440 | MA-PE IS EQUAL TO ZERO AND                              | C98970 |
| 52450 | NUMA IS EQUAL TO ZERO GO TO END-OUTPUT-LINE-NI-DATA.    | C98970 |
| 52520 | WRITE TAPE-FILE FROM REC-OUT.                           | C98970 |
| 52530 | ADD 1 TO NO-REC-TAPE.                                   | C98970 |
| 52580 | PERFORM RESET-HMC-LINE-NI THRU END-RESET-NI.            | C98970 |
| 52590 | END-OUTPUT-LINE-NI-DATA. EXIT.                          | C98970 |
| 52600 | OUTPUT-LINE-OF-ISC-DATA.                                | C98970 |
| 52700 | MOVE ZERO TO HMC-FREQ-TOTAL-ISC.                        | C98970 |
| 52710 | MOVE ZERO TO CNT.                                       | C98970 |
| 52720 | SUM-ISC-COL.  | C98970 |
| 52730 | ADD 1 TO CNT.   | C98970 |
| 52740 | MOVE SUM-WDC-COL [CNT] TO TEMP-INDEX.                   | C98970 |
| 52750 | ADD HMC-ISC [TEMP-INDEX] TO HMC-FREQ-TOTAL-ISC.         | C98970 |
| 52760 | IF CNT IS LESS THAN SUM-INDEX GO TO SUM-ISC-COL.        | C98970 |
| 52770 | MOVE ONE TO ISOCHRONAL.                                 | C98970 |
| 52780 | MOVE COL-NO [1] TO TEMP-INDEX.                          | C98970 |
| 52790 | MOVE HMC-ISC [TEMP-INDEX] TO MA-HPO.                    | C98970 |
| 52800 | MOVE COL-NO [2] TO TEMP-INDEX.                          | C98970 |
| 52810 | MOVE HMC-ISC [TEMP-INDEX] TO MA-PE.                     | C98970 |
| 52820 | MOVE HMC-FREQ-TOTAL-ISC TO NUMA.                        | C98970 |

|       |  |        |
|-------|--|--------|
| 52830 | IF MA-HPO IS EQUAL TO ZERO AND                               | C98970 |
| 52840 | MA-PE IS EQUAL TO ZERO AND                                   | C98970 |
| 52850 | NUMA IS EQUAL TO ZERO GO TO END-OUTPUT-LINE-ISC-DATA.        | C98970 |
| 52920 | WRITE TAPE-FILE FROM REC-OUT.                                | C98970 |
| 52930 | ADD 1 TO NO-REC-TAPE.  | C98970 |
| 52980 | PERFORM RESET-HMC-LINE-ISC THRU END-RESET-ISC.               | C98970 |
| 52990 | END-OUTPUT-LINE-ISC-DATA. EXIT.                              | C98970 |
| 53000 | OUTPUT-TABLE-END.  | C98970 |
| 53040 | PERFORM OUTPUT-LINE-OF-NI-DATA THRU END-OUTPUT-LINE-NI-DATA. | C98970 |
| 53300 | PERFORM OUTPUT-LINE-OF-ISC-DATA THRU                         | C98970 |
| 53310 | END-OUTPUT-LINE-ISC-DATA.                                    | C98970 |
| 53481 | CHECK-ID.  | C98970 |
| 53485 | IF IDLNI IS EQUAL TO 191 GO TO CLOSE-FILES.                  | C98970 |
| 53490 | GO TO NEXT-WUC.  | C98970 |
| 53500 | CLOSE-TABLE.   | C98970 |
| 53510 | MOVE .9: TO IDENT.   | C98970 |
| 53520 | GO TO OUTPUT-TABLE-END.                                      | C98970 |
| 53700 | OUTPUT-LINE.   | C98970 |
| 53740 | PERFORM OUTPUT-LINE-OF-NI-DATA THRU END-OUTPUT-LINE-NI-DATA. | C98970 |
| 53840 | PERFORM OUTPUT-LINE-OF-ISC-DATA THRU                         | C98970 |
| 53850 | END-OUTPUT-LINE-ISC-DATA.                                    | C98970 |
| 53890 | GO TO NEXT-HMC.  | C98970 |
| 53900 | RESET-HMC-LINE-ISC.  | C98970 |
| 53910 | MOVE ZERO TO CNT.  | C98970 |
| 53920 | RESET-HMC-LINE-2.  | C98970 |
| 53930 | ADD 1 TO CNT.  | C98970 |
| 53940 | MOVE ZERO TO HMC-ISC [CNT].                                  | C98970 |
| 53950 | IF CNT IS LESS THAN NO-WDC-COLS GO TO RESET-HMC-LINE-2.      | C98970 |
| 53990 | END-RESET-ISC. EXIT.   | C98970 |
| 54000 | ADD-NI.  | C98970 |
| 54010 | MOVE ONE TO NI-LINE-FLAG.                                    | C98970 |
| 54020 | ADD MA TO HMC-NI [POS-WDC].                                  | C98970 |
| 54100 | ADD-ISC.   | C98970 |
| 54110 | MOVE ONE TO ISC-LINE-FLAG.                                   | C98970 |
| 54120 | ADD MA TO HMC-ISC [POS-WDC].                                 | C98970 |
| 55000 | CLOSE-FILES.   | C98970 |
| 55010 | COMPUTE CNT = NO-REC-TAPE - NO-REC-TAPE / BF * BF.           | C98970 |
| 55020 | IF CNT IS EQUAL TO ZERO GO TO CF-3.                          | C98970 |
| 55030 | CF-2.  | C98970 |
| 55040 | WRITE TAPE-FILE FROM NINE.                                   | C98970 |
| 55050 | ADD 1 TO CNT.  | C98970 |
| 55060 | IF CNT IS LESS THAN BF GO TO CF-2.                           | C98970 |
| 55140 | CF-3.  | C98970 |
| 55160 | DISPLAY : NO TAPE RECS : NO-REC-TAPE UPON CONSOLE.           | C98970 |
| 55165 | DISPLAY : NO OF W.U.C. : NO-WUC UPON CONSOLE.                | C98970 |
| 55190 | DISPLAY : END OF JOB C9897 : UPON CONSOLE.                   | C98970 |
| 55200 | CLOSE IN-FILE-DB.  | C98970 |
| 55220 | OUT-DATA.  | C98970 |
| 55235 | IN-FILE-ISC WITH LOCK.                                       | C98970 |
| 55290 | GORACK.  | C98970 |
| 70000 | READ-ISC-A-C.  | C98970 |
| 70010 | READ IN-FILE-ISC INTO NO-ISC A7 END GO TO END-RIAC.          | C98970 |
| 70020 | MOVE ZERO TO KNT.  | C98970 |
| 70030 | RIAC.  | C98970 |
| 70040 | ADD 1 TO KNT.  | C98970 |
| 70050 | READ IN-FILE-ISC INTO ISC-A-C A7 END GO TO END-RIAC.         | C98970 |
| 70060 | MOVE ISC-TN TO ISC-AC-7N [KNT].                              | C98970 |
| 70070 | MOVE ISC-WK TO ISC-AC-WK [KNT].                              | C98970 |
| 70075 | IF ISC-WK IS LESS THAN MIN-ISC-WEEK MOVE ISC-WK              | C98970 |
| 70076 | TO MIN-ISC-WEEK.   | C98970 |
| 70080 | IF KNT IS LESS THAN NO-ISC-AC GO TO RIAC.                    | C98970 |
| 70090 | END-RIAC. EXIT.  | C98970 |
| 70200 | CHECK-ISC-RONAL.   | C98970 |
| 70210 | IF SERIAL-NO IS NOT EQUAL TO PREV-TESTED-SN GO TO CHECK-I-2. | C98970 |
| 70220 | IF IS-FLAG IS EQUAL TO TWO GO TO END-CI.                     | C98970 |
| 70230 | IF IS-RONAL IS EQUAL TO ONE AND WEEK IS NOT LESS THAN        | C98970 |
| 70232 | MIN-ISC-WEEK, THEN GO TO END-CI.                             | C98970 |
| 70240 | CHECK-I-2.   | C98970 |
| 70250 | MOVE TWO TO ISCHRONAL.                                       | C98970 |
| 70260 | IF WEEK IS LESS THAN MIN-ISC-WEEK GO TO END-CI.              | C98970 |
| 70270 | MOVE ZERO TO CNT.  | C98970 |
| 70280 | CHECK-I-1.   | C98970 |
| 70290 | ADD 1 TO CNT.  | C98970 |
| 70300 | MOVE ISC-AC-TN [CNT] TO ISC-TEMP.                            | C98970 |
| 70310 | IF SERIAL-NO IS LESS THAN ISC-TEMP GO TO CHECK-I-4.          | C98970 |
| 70320 | IF SERIAL-NO IS EQUAL TO ISC-TEMP GO TO CHECK-I-1A.          | C98970 |
| 70330 | IF CNT IS LESS THAN NO-ISC-AC GO TO CHECK-I-1.               | C98970 |
| 70340 | CHECK-I-4.   | C98970 |
| 70350 | MOVE TWO TO ISC-FLAG.  | C98970 |
| 70360 | GO TO CHECK-I-3.   | C98970 |
| 70370 | CHECK-I-1A.  | C98970 |
| 70380 | MOVE ISC-AC-WK [CNT] TO WEEK-TEMP.                           | C98970 |
| 70390 | IF WEEK-TEMP IS EQUAL TO WEEK OR WEEK IS GREATER THAN        | C98970 |
| 70400 | WEEK-TEMP MOVE ONE TO ISCHRONAL.                             | C98970 |
| 70410 | MOVE ONE TO ISC-FLAG.  | C98970 |

```

70430 CHECK-1-3. C98970
70440 MOVE SERIAL-NO TO PREV-TESTED-SN. C98970
70450 END-CI. EXIT. C98970
80000 READ-IN-TITLE-DATA. C98970
80010 MOVE ZERO TO CNT. C98970
80020 READ-WDC-INPUT. C98970
80030 READ IN-FILE-1SC INTO WDC-INPUT. C98970
80040 AT END GO TO END-RITD. C98970
80050 ADD 1 TO CNT. C98970
80060 MOVE WDC-IN TO WDC-LIST (CNT). C98970
80080 IF CNT IS LESS THAN 21 GO TO READ-WDC-INPUT. C98970
80100 READ-UNSCHEU-MAINT-COLS. C98970
80110 READ IN-FILE-1SC INTO NUMBER-CARD. C98970
80120 AT END GO TO END-RITD. C98970
80130 MOVE NUMBER-ITEMS TO SUM-INDEX. C98970
80140 MOVE ZERO TO CNT. C98970
80150 READ-UNSCHEU-COLS. C98970
80160 READ IN-FILE-1SC INTO NUMBER-CARD. C98970
80170 AT END GO TO END-RITD. C98970
80180 ADD 1 TO CNT. C98970
80190 MOVE NUMBER-ITEMS TO SUM-WDC-COL (CNT). C98970
80200 IF CNT IS LESS THAN SUM-INDEX GO TO READ-UNSCHEU-COLS. C98970
80290 MOVE ZERO TO CNT. C98970
80300 READ IN-FILE-1SC INTO NUMBER-CARD. C98970
80310 AT END GO TO END-RITD. C98970
80320 MOVE NUMBER-ITEMS TO NUMBER-SGWUC. C98970
80330 READ-SGWUC-DATA. C98970
80340 READ IN-FILE-1SC INTO NUMBER-CARD. C98970
80350 AT END GO TO END-RITD. C98970
80360 ADD 1 TO CNT. C98970
80370 MOVE NUMBER-ITEMS TO COL-NO (CNT). C98970
80380 MOVE INPUT-SG-CODE TO SG-WUC (CNT). C98970
80390 IF CNT IS LESS THAN NUMBER-SGWUC GO TO READ-SGWUC-DATA. C98970
80790 END-RITD. EXIT. C98970

```

```

/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG.1FG1N DJ *.SPACE>[CYL,(1,1)]
00000 G-T TFG WANG 1440 CDS
010001 019999 REPLACE C98970 'T
TFG DT01 11 0202080 'T

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34
57000236 331
57000237 331
57000243 324
57000244 331
57002545 331
58000776 324
58000901 331
59000002 331
59000003 331
59000005 331
59000006 331
59000010 331
59000012 331
59000015 331
59000018 331
59000019 331
59000026 331
59000030 331
59000054 324
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59000104 331
59000105 331
59000108 324
59000110 324
59000119 324
59000141 324
59000143 324
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59000147 324
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59000152 . 324

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2  
10 03300  
11 03400  
\*END

```
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU12 DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 T12
//TPR.TU22 DD DISP>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5 T22
//TPR.TPRIN DD *.SPACE>[TRK,[1,1]]
T/P DT01 1010080Z080
T/P TU22 1010050Z050
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD
```

6.15.2 UNSCHEDULED MANHOUR AND NORM HOUR

```
//T9897N JOB 01: G WANG :;PRTY>02;TYPRUN>HOLD
//C9897B EXEC P9655L,TIME>15,ACCT>035323007
//CHG.TU14 DU DISP>[PASS],UNIT>[T+F3,1,DEFER],DSN>+C.9897416, CT14 2
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3,
// 1+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG.TU22 DU DISP>[PASS],UNIT>[T+F5,1,DEFER],DSN>+E.9897432, CT22 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5,
// 1+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG.TU24 DU DISP>[PASS],UNIT>[T+F7,1,DEFER],DSN>+0.9897429, CT24 1
// VOL>SER>[+F7,A+F7,B+F7,C+F7,D+F7,E+F7,F+F7,G+F7,H+F7,
// 1+F7,J+F7,K+F7,L+F7,M+F7,N+F7,O+F7,P+F7,Q+F7,R+F7,S+F7] T24 3
//CHG.INPUT DD *.SPACE>[CYL:[1,1]] 1440 CDS
0000 COMBINE COMPILE G. WANG. C98970
01040 DATE-WRITTEN. 25 JULY 72. C98970
01050 REMARKS. C98970
01060 PHASE 11 PROGRAM C98970
01070 TASK 7-2A MANHOUR AND NORM DATA. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
```

|       |   |                           |        |
|-------|---|---------------------------|--------|
| 02120 | SELECT IN-FILE-D-B                      | ASSIGN TO UT-S-TU10       | C98970 |
| 02130 | RESERVE 1 ALTERNATE AREA.               |                           | C98970 |
| 02140 | SELECT IN-FILE-ISC                      | ASSIGN TO DA-S-0701       | C98970 |
| 02150 | RESERVE 1 ALTERNATE AREA.               |                           | C98970 |
| 02160 | SELECT MSG-FILE                         | ASSIGN TO DA-S-0702       | C98970 |
| 02170 | RESERVE 1 ALTERNATE AREA.               |                           | C98970 |
| 02180 | SELECT OUT-FILE-1                       | ASSIGN TO UT-S-TU20       | C98970 |
| 02190 | RESERVE 1 ALTERNATE AREA.               |                           | C98970 |
| 02200 | SELECT OUT-FILE-2                       | ASSIGN TO UT-S-TU22       | C98970 |
| 02210 | RESERVE 1 ALTERNATE AREA.               |                           | C98970 |
| 10000 | DATA DIVISION.                          |                           | C98970 |
| 10010 | FILE SECTION.                           |                           | C98970 |
| 10100 | FD IN-FILE-D-R                          |                           | C98970 |
| 10120 | RECORDING MODE IS F                     |                           | C98970 |
| 10130 | BLOCK CONTAINS 40 RECORDS               |                           | C98970 |
| 10140 | RECORD CONTAINS 70                      | CHARACTERS                | C98970 |
| 10150 | LABEL RECORDS ARE OMITTED               |                           | C98970 |
| 10160 | DATA RECORDS ARE IN-REC-D-B.            |                           | C98970 |
| 10200 | 01 IN-REC-D-H SYNC.                     |                           | C98970 |
| 10210 | 02 FILLER                               | PICTURE X(70).            | C98970 |
| 10220 |   |                           | C98970 |
| 11300 | FD IN-FILE-ISC                          |                           | C98970 |
| 11320 | RECORDING MODE IS F                     |                           | C98970 |
| 11330 | BLOCK CONTAINS 20 RECORDS               |                           | C98970 |
| 11340 | RECORD CONTAINS 80                      | CHARACTERS                | C98970 |
| 11350 | LABEL RECORDS ARE STANDARD              |                           | C98970 |
| 11360 | DATA RECORDS ARE IN-REC-ISC.            |                           | C98970 |
| 11400 | 01 IN-REC-ISC SYNC.                     |                           | C98970 |
| 11410 | 02 FILLER                               | PICTURE X(80).            | C98970 |
| 12100 | FD OUT-FILE-1                           |                           | C98970 |
| 12120 | RECORDING MODE IS F                     |                           | C98970 |
| 12130 | BLOCK CONTAINS 90 RECORDS               |                           | C98970 |
| 12140 | RECORD CONTAINS 20                      | CHARACTERS                | C98970 |
| 12150 | LABEL RECORDS ARE OMITTED               |                           | C98970 |
| 12160 | DATA RECORDS ARE OUT-REC-1.             |                           | C98970 |
| 12200 | 01 OUT-REC-1 SYNC.                      |                           | C98970 |
| 12210 | 02 FILLER                               | PICTURE X(20).            | C98970 |
| 13300 | FD MSG-FILE                             |                           | C98970 |
| 13320 | RECORDING MODE IS F                     |                           | C98970 |
| 13330 | BLOCK CONTAINS 20 RECORDS               |                           | C98970 |
| 13340 | RECORD CONTAINS 80                      | CHARACTERS                | C98970 |
| 13350 | LABEL RECORDS ARE STANDARD              |                           | C98970 |
| 13360 | DATA RECORDS ARE MSG-REC.               |                           | C98970 |
| 13400 | 01 MSG-REC SYNC.                        |                           | C98970 |
| 13410 | 02 FILLER                               | PICTURE X(80).            | C98970 |
| 14100 | FD OUT-FILE-2                           |                           | C98970 |
| 14120 | RECORDING MODE IS F                     |                           | C98970 |
| 14130 | BLOCK CONTAINS 90 RECORDS               |                           | C98970 |
| 14140 | RECORD CONTAINS 20                      | CHARACTERS                | C98970 |
| 14150 | LABEL RECORDS ARE OMITTED               |                           | C98970 |
| 14160 | DATA RECORDS ARE OUT-REC-2.             |                           | C98970 |
| 14200 | 01 OUT-REC-2 SYNC.                      |                           | C98970 |
| 14210 | 02 FILLER                               | PICTURE X(20).            | C98970 |
| 30000 | WORKING-STORAGE SECTION.                |                           | C98970 |
| 30012 | 77 WUC-FLAG SYNC PICTURE X VALUE SPACE. |                           | C98970 |
| 30015 | 77 FLT-FLAG SYNC PICTURE X VALUE SPACE. |                           | C98970 |
| 30016 | 77 CUR-65 SYNC PICTURE X VALUE SPACE.   |                           | C98970 |
| 30017 | 77 DATA-65 SYNC PICTURE X VALUE SPACE.  |                           | C98970 |
| 30020 | 77 CURWEEK SYNC                         | PICTURE 999.              | C98970 |
| 30030 | 77 CUR-SER-NO SYNC                      | PICTURE X(8).             | C98970 |
| 30040 | 77 CUR-ISC SYNC                         | PICTURE X.                | C98970 |
| 30050 | 77 KNT SYNC COMPUTATIONAL               | PICTURE S999.             | C98970 |
| 30060 | 77 WEEK-TEMP SYNC                       | PICTURE 999.              | C98970 |
| 30070 | 77 DELTA-WEEK SYNC                      | PICTURE S999.             | C98970 |
| 30080 | 77 DELTA-FLT-HRS SYNC                   | PICTURE S999999.          | C98970 |
| 30090 | 77 CUR-FLT-HRS SYNC                     | PICTURE S999999.          | C98970 |
| 30100 | 77 FLAG SYNC COMPUTATIONAL              | PICTURE S999 VALUE ZERO.  | C98970 |
| 30110 | 77 HMC-TEMP SYNC                        | PICTURE XXX.              | C98970 |
| 30120 | 77 NO-HMC SYNC COMPUTATIONAL            | PICTURE S999 VALUE <100.  | C98970 |
| 30130 | 77 NO-REC-1 SYNC                        | PICTURE S9(7) VALUE ZERO. | C98970 |
| 30140 | 77 NO-REC-2 SYNC                        | PICTURE S9(7) VALUE ZERO. | C98970 |
| 30150 | 77 MAX-NO-HMC SYNC COMPUTATIONAL        | PICTURE S999 VALUE ZERO.  | C98970 |
| 30160 |   | PICTURE S999.             | C98970 |
| 30170 | 77 CNT SYNC COMPUTATIONAL               | PICTURE X VALUE !1.       | C98970 |
| 30380 | 77 ONE SYNC                             | PICTURE X VALUE !2.       | C98970 |
| 30390 | 77 TWO SYNC                             | PICTURE X VALUE !3.       | C98970 |
| 30391 | 77 THREE SYNC                           | PICTURE X VALUE !4.       | C98970 |
| 30392 | 77 FOUR SYNC                            | PICTURE X VALUE !5.       | C98970 |
| 30400 | 77 ISC-TEMP SYNC                        | PICTURE X(8) VALUE SPACE. | C98970 |
| 30410 | 77 PREV-TESTED-SN SYNC                  | PICTURE X VALUE SPACE.    | C98970 |
| 30420 | 77 ISC-FLAG SYNC                        | PICTURE X VALUE SPACE.    | C98970 |
| 30430 | 77 MIN-ISC-WEEK SYNC COMPUTATIONAL      | PICTURE S999 VALUE <999.  | C98970 |
| 30500 | 77 CURWUC SYNC                          | PICTURE X(5).             | C98970 |
| 30506 | 77 CUR-HMC SYNC                         | PICTURE XXX.              | C98970 |
| 30510 | 77 ISCHRONAL SYNC                       | PICTURE X.                | C98970 |



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| 50200 | PROC-11-1.   | C98970 |
| 50210 | PERFORM CHECK-ISCHRONAL THRU END-CI.                         | C98970 |
| 50220 | MOVE ISCHRONAL TO CUR-ISC.                                   | C98970 |
| 50222 | MOVE IDENT TO CUR-IO.  | C98970 |
| 50230 | MOVE WUC TO CURWUC.  | C98970 |
| 50240 | MOVE WEEK TO CURWEEK.  | C98970 |
| 50250 | MOVE SERIAL-NO TO CUR-SER-NO.                                | C98970 |
| 50251 | MOVE FLT-HRS TO CUR-FLT-HRS.                                 | C98970 |
| 50252 | MOVE TMO TO CUR-65.  | C98970 |
| 50253 | IF NORM-HR LESS THAN ZERO MOVE ONE TO CUR-65.                | C98970 |
| 50260 | INIT-SET.  | C98970 |
| 50270 | MOVE ONE TO FLT-FLAG.  | C98970 |
| 50271 | IF WUC EQUAL TO CI-PREFLT MOVE TWO TO FLT-FLAG.              | C98970 |
| 50272 | IF WUC EQUAL TO CI-BPOST MOVE TWO TO FLT-FLAG.               | C98970 |
| 50273 | IF WUC EQUAL TO CI-SMPOST MOVE TWO TO FLT-FLAG.              | C98970 |
| 50274 | COMPUTE SUM-NORM > 0.  | C98970 |
| 50275 | IF FLT-FLAG EQUAL TO ONE AND NORM-HR GREATER THAN ZERO       | C98970 |
| 50276 | MOVE NORM-HR TO SUM-NORM.                                    | C98970 |
| 50280 | MOVE MAN-HR TO SUM-MAN-HR.                                   | C98970 |
| 50290 | ACC-SET.   | C98970 |
| 50300 | READ IN-FILE-D-H INTO DATA-BANK-INPUT                        | C98970 |
| 50310 | AT END GO TO CLOSE-FILES.                                    | C98970 |
| 50315 | PERFORM CHECK-ISCHRONAL THRU END-CI.                         | C98970 |
| 50320 | IF ISCHRONAL IS NOT EQUAL TO CUR-ISC GO TO SET-BREAK.        | C98970 |
| 50322 | IF IDENT NOT EQUAL TO CUR-IO GO TO SET-BREAK.                | C98970 |
| 50330 | IF WUC NOT EQUAL TO CURWUC GO TO SET-BREAK.                  | C98970 |
| 50340 | IF SERIAL-NO NOT EQUAL TO CUR-SER-NO GO TO SET-BREAK.        | C98970 |
| 50345 | MOVE TWO TO DATA-65.   | C98970 |
| 50346 | IF NORM-HR LESS THAN ZERO MOVE ONE TO DATA-65.               | C98970 |
| 50347 | GO TO CHECK-TYPE.  | C98970 |
| 50348 | NOT-SP-TYPE.   | C98970 |
| 50350 | SUBTRACT CURWEEK FROM WEEK GIVING WEEK-TEMP.                 | C98970 |
| 50360 | IF WEEK-TEMP NOT EQUAL TO 1                                  | C98970 |
| 50370 | GO TO INTERNAL-BREAK.  | C98970 |
| 50380 | ADD MAN-HR TO SUM-MAN-HR.                                    | C98970 |
| 50385 | MOVE ONE TO FLT-FLAG.  | C98970 |
| 50390 | IF WUC EQUAL TO CI-PREFLT MOVE TWO TO FLT-FLAG.              | C98970 |
| 50400 | IF WUC EQUAL TO CI-BPOST MOVE TWO TO FLT-FLAG.               | C98970 |
| 50410 | IF WUC EQUAL TO CI-SMPOST MOVE TWO TO FLT-FLAG.              | C98970 |
| 50420 | IF FLT-FLAG EQUAL TO ONE AND NORM-HR GREATER THAN ZERO       | C98970 |
| 50421 | ADD NORM-HR TO SUM-NORM.                                     | C98970 |
| 50425 | IF FLT-FLAG EQUAL TO TWO COMPUTE SUM-NORM > 0.               | C98970 |
| 50440 | MOVE WEEK TO CURWEEK.  | C98970 |
| 50442 | MOVE FLT-HRS TO CUR-FLT-HRS.                                 | C98970 |
| 50443 | IF CUR-65 EQUAL TO TWO OR DATA-65 EQUAL TO TWO               | C98970 |
| 50444 | MOVE TWO TO CUR-65.  | C98970 |
| 50446 | MOVE IDENT TO CUR-ID.  | C98970 |
| 50450 | GO TO ACC-SET.   | C98970 |
| 50460 | SET-BREAK.   | C98970 |
| 50470 | PERFORM WRITE-1 THRU END-WRITE-1.                            | C98970 |
| 50472 | COMPUTE SUM-NORM > 0.  | C98970 |
| 50474 | COMPUTE SUM-MAN-HR > 0.                                      | C98970 |
| 50480 | GO TO CHECK-DATA.  | C98970 |
| 50490 | INTERNAL-BREAK.  | C98970 |
| 50500 | PERFORM WRITE-1 THRU END-WRITE-1.                            | C98970 |
| 50510 | MOVE WEEK TO CURWEEK.  | C98970 |
| 50512 | MOVE FLT-HRS TO CUR-FLT-HRS.                                 | C98970 |
| 50515 | MOVE DATA-65 TO CUR-65.                                      | C98970 |
| 50516 | MOVE IDENT TO CUR-ID.  | C98970 |
| 50520 | GO TO INIT-SET.  | C98970 |
| 50530 | NOTE WRITE NORM-HR AND MAN-HR TOTALS ON OUTPUT FILE.         | C98970 |
| 50540 | WRITE-1.   | C98970 |
| 50660 | END-WRITE-1. EXIT.   | C98970 |
| 51000 | CHECK-TYPE.  | C98970 |
| 51010 | MOVE ONE TO WUC-FLAG.  | C98970 |
| 51020 | IF WUC EQUAL TO CI-HPF MOVE TWO TO WUC-FLAG.                 | C98970 |
| 51030 | IF WUC EQUAL TO CI-MA1-1 MOVE TWO TO WUC-FLAG.               | C98970 |
| 51040 | IF WUC EQUAL TO CI-MA1-2 MOVE TWO TO WUC-FLAG.               | C98970 |
| 51050 | IF WUC EQUAL TO CI-MA1-3 MOVE TWO TO WUC-FLAG.               | C98970 |
| 51060 | IF WUC EQUAL TO CI-PER1 MOVE TWO TO WUC-FLAG.                | C98970 |
| 51070 | IF WUC EQUAL TO CI-IRAN MOVE TWO TO WUC-FLAG.                | C98970 |
| 51080 | IF WUC-FLAG EQUAL TO ONE GO TO NOT-SP-TYPE.                  | C98970 |
| 51090 | SUBTRACT CURWEEK FROM WEEK GIVING WEEK-TEMP.                 | C98970 |
| 51100 | SP-TYPE.   | C98970 |
| 51110 | IF WUC LESS THAN CI-PER1 AND WEEK-TEMP GREATER THAN GAP-WK-1 | C98970 |
| 51111 | GO TO INTERNAL-BREAK.  | C98970 |
| 51120 | IF WUC GREATER THAN CI-MA1-3 AND WEEK-TEMP GREATER THAN      | C98970 |
| 51121 | GAP-WK-2 GO TO INTERNAL-BREAK.                               | C98970 |
| 51132 | ADD MAN-HR TO SUM-MAN-HR.                                    | C98970 |
| 51134 | IF NORM-HR GREATER THAN ZERO ADD NORM-HR TO SUM-NORM.        | C98970 |
| 51140 | MOVE WEEK TO CURWEEK.  | C98970 |
| 51150 | MOVE FLT-HRS TO CUR-FLT-HRS.                                 | C98970 |
| 51152 | IF DATA-65 EQUAL TO TWO OR CUR-65 EQUAL TO TWO               | C98970 |
| 51153 | MOVE TWO TO CUR-65.  | C98970 |
| 51154 | MOVE IDENT TO CUR-IO.  | C98970 |
| 51160 | GO TO ACC-SET.   | C98970 |



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| 55000 | PROC-11-2A.   | C98970 |
| 55010 | PERFORM CHECK-ISCHRONAL THRU END-CI.                          | C98970 |
| 55020 | MOVE ISCHRONAL TO CUR-ISC.                                    | C98970 |
| 55030 | MOVE WUC TO CURWUC.   | C98970 |
| 55050 | MOVE SERIAL-NO TO CUR-SER-NO.                                 | C98970 |
| 55060 | MOVE IDENT TO CUR-ID.   | C98970 |
| 55070 | PERFORM WRITE-2 THRU END-WRITE-2.                             | C98970 |
| 55072 | MOVE WU TO CUR-65.  | C98970 |
| 55073 | IF NO:MM-HR LESS THAN ZERO MOVE ONE TO CUR-65.                | C98970 |
| 55075 | SET-NEW.  | C98970 |
| 55080 | COMPUTE SUM-NORM > 0.   | C98970 |
| 55081 | IF NO:MM-HR GREATER THAN ZERO MOVE NORM-HR TO SUM-NORM.       | C98970 |
| 55090 | MOVE UNITS TO SUM-MA.   | C98970 |
| 55092 | IF UNITS EQUAL TO ZERO GO TO SET-FLAG.                        | C98970 |
| 55093 | MOVE CURWUC TO WUC-OUT.                                       | C98970 |
| 55094 | MOVE CUR-ISC TO ISC-OUT.                                      | C98970 |
| 55095 | PERFORM WRITE-3 THRU END-WRITE-3.                             | C98970 |
| 55096 | READ IN-FILE-D-B INTO DATA-BANK-INPUT AT END GO TO EOF-BRK.   | C98970 |
| 55097 | GO TO BREAK-1.  | C98970 |
| 55100 | SET-FLAG.   | C98970 |
| 55130 | READ IN-FILE-D-B INTO DATA-BANK-INPUT                         | C98970 |
| 55140 | AT END GO TO EOF-BRK.   | C98970 |
| 55150 | PERFORM CHECK-ISCHRONAL THRU END-CI.                          | C98970 |
| 55160 | IF IDENT EQUAL TO CUR-ID                                      | C98970 |
| 55170 | PERFORM WRITE-2 THRU END-WRITE-2.                             | C98970 |
| 55180 | IF ISCHRONAL NOT EQUAL TO CUR-ISC GO TO BREAK-1.              | C98970 |
| 55190 | IF WUC NOT EQUAL TO CURWUC GO TO BREAK-1.                     | C98970 |
| 55200 | IF SERIAL-NO NOT EQUAL TO CUR-SER-NO GO TO BREAK-1.           | C98970 |
| 55210 | IF IDENT NOT EQUAL TO CUR-ID GO TO BREAK-1.                   | C98970 |
| 55212 | MOVE TWO TO DATA-65.  | C98970 |
| 55213 | IF NO:MM-HR LESS THAN ZERO MOVE ONE TO DATA-65.               | C98970 |
| 55215 | IF CUR-65 EQUAL TO TWO OR DATA-65 EQUAL TO TWO                | C98970 |
| 55216 | MOVE TWO TO CUR-65.   | C98970 |
| 55220 | IF NORM-HR GREATER THAN ZERO ADD NORM-HR TO SUM-NORM.         | C98970 |
| 55230 | ADD UNITS TO SUM-MA.  | C98970 |
| 55231 | IF UNITS NOT EQUAL TO ZERO GO TO INT-BREAK.                   | C98970 |
| 55232 | GO TO SET-FLAG.   | C98970 |
| 55240 | INT-BREAK.  | C98970 |
| 55250 | MOVE CURWUC TO WUC-OUT.                                       | C98970 |
| 55260 | MOVE CUR-ISC TO ISC-OUT.                                      | C98970 |
| 55270 | PERFORM WRITE-3 THRU END-WRITE-3.                             | C98970 |
| 55280 | COMPUTE SUM-NORM > 0.   | C98970 |
| 55282 | COMPUTE SUM-MA > 0.   | C98970 |
| 55284 | GO TO SET-FLAG.   | C98970 |
| 55290 | BREAK-1.  | C98970 |
| 55322 | COMPUTE SUM-NORM > 0.   | C98970 |
| 55324 | COMPUTE SUM-MA > 0.   | C98970 |
| 55330 | GO TO CHECK-DATA.   | C98970 |
| 55390 | WRITE-2.  | C98970 |
| 55470 | END-WRITE-2. EXIT.  | C98970 |
| 55480 | WRITE-3.  | C98970 |
| 55482 | IF CUR-65 EQUAL TO ONE GO TO END-WRITE-3.                     | C98970 |
| 55500 | MOVE SPACE TO HMC-OUT.  | C98970 |
| 55510 | DIVIDE SUM-MA INTO SUM-NORM GIVING OBS.                       | C98970 |
| 55520 | MOVE THREE TO DATA-TYPE.                                      | C98970 |
| 55530 | WRITE OUT-REC-2 FROM OUT-DATA.                                | C98970 |
| 55540 | ADD 1 TO NO-REC-2.  | C98970 |
| 55550 | END-WRITE-3. EXIT.  | C98970 |
| 55551 | EOF-BRK.  | C98970 |
| 55552 | IF SUM-NORM EQUAL TO ZERO GO TO CLOSE-FILES.                  | C98970 |
| 55553 | MOVE CURWUC TO WUC-OUT.                                       | C98970 |
| 55554 | MOVE CUR-ISC TO ISC-OUT.                                      | C98970 |
| 55555 | PERFORM WRITE-3 THRU END-WRITE-3.                             | C98970 |
| 55556 | GO TO CLOSE-FILES.  | C98970 |
| 55560 | REMARK-2.   | C98970 |
| 55570 | NOTE COMPUTE RATIO OF MM TOTAL OVER MA TOTAL                  | C98970 |
| 55580 | DATA BANK RECORD TYPE 4.                                      | C98970 |
| 60000 | PROC-11-2B.   | C98970 |
| 60010 | PERFORM CHECK-ISCHRONAL THRU END-CI.                          | C98970 |
| 60020 | MOVE ISCHRONAL TO CUR-ISC.                                    | C98970 |
| 60030 | MOVE WUC TO CURWUC.   | C98970 |
| 60050 | MOVE SERIAL-NO TO CUR-SER-NO.                                 | C98970 |
| 60060 | MOVE IDENT TO CUR-ID.   | C98970 |
| 60070 | MOVE HMC TO CUR-HMC.  | C98970 |
| 60080 | SET-NEW-2.  | C98970 |
| 60090 | MOVE MAN-HR TO SUM-MAN-HR.                                    | C98970 |
| 60100 | MOVE UNITS TO SUM-MA.   | C98970 |
| 60102 | IF UNITS EQUAL TO ZERO GO TO SET-FLAG-2.                      | C98970 |
| 60103 | PERFORM WRITE-4 THRU END-WRITE-4.                             | C98970 |
| 60104 | READ IN-FILE-D-B INTO DATA-BANK-INPUT AT END GO TO EOF-BRK-2. | C98970 |
| 60105 | GO TO BREAK-2.  | C98970 |
| 60110 | SET-FLAG-2.   | C98970 |
| 60140 | READ IN-FILE-D-B INTO DATA-BANK-INPUT                         | C98970 |
| 60150 | AT END GO TO EOF-BRK-2.                                       | C98970 |

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| 60160 | PERFORM CHECK-ISCHRONAL THRU END-CI.                         | C98970 |
| 60170 | IF ISCHRONAL NOT EQUAL TO CUR-ISC GO TO BREAK-2.             | C98970 |
| 60180 | IF WUC NOT EQUAL TO CURWUC GO TO BREAK-2.                    | C98970 |
| 60190 | IF SERIAL-NO NOT EQUAL TO CUR-SER-NO GO TO BREAK-2.          | C98970 |
| 60200 | IF IDENT NOT EQUAL TO CUR-ID GO TO BREAK-2.                  | C98970 |
| 60210 | IF HMC NOT EQUAL TO CUR-HMC GO TO BREAK-2.                   | C98970 |
| 60220 | ADD MAN-HR TO SUM-MAN-HR.                                    | C98970 |
| 60230 | ADD UNITS TO SUM-MA.   | C98970 |
| 60231 | IF UNITS NOT EQUAL TO ZERO GO TO INT-BREAK-2.                | C98970 |
| 60232 | GO TO SET-FLAG-2.  | C98970 |
| 60240 | INT-BREAK-2.   | C98970 |
| 60250 | PERFORM WRITE-4 THRU END-WRITE-4.                            | C98970 |
| 60260 | COMPUTE SUM-MAN-HR > 0.                                      | C98970 |
| 60262 | COMPUTE SUM-MA > 0.  | C98970 |
| 60264 | GO TO SET-FLAG-2.  | C98970 |
| 60270 | BREAK-2.   | C98970 |
| 60282 | COMPUTE SUM-MAN-HR > 0.                                      | C98970 |
| 60284 | COMPUTE SUM-MA > 0.  | C98970 |
| 60290 | GO TO CHECK-DATA.  | C98970 |
| 60330 | WRITE-4.   | C98970 |
| 60340 | MOVE CURWUC TO WUC-OUT.                                      | C98970 |
| 60350 | MOVE CUR-ISC TO ISC-OUT.                                     | C98970 |
| 60360 | MOVE CUR-HMC TO HMC-OUT.                                     | C98970 |
| 60370 | IF SUM-MA EQUAL TO ZERO ADD 1 TO SUM-MA.                     | C98970 |
| 60380 | DIVIDE SUM-MA INTO SUM-MAN-HR                                | C98970 |
| 60390 | GIVING OBS.  | C98970 |
| 60400 | MOVE ONE TO DATA-TYPE.                                       | C98970 |
| 60410 | WRITE OUT-REC-1 FROM OUT-DATA.                               | C98970 |
| 60420 | ADD 1 TO NO-REC-1.   | C98970 |
| 60430 | END-WRITE-4. EXIT.   | C98970 |
| 60440 | EOF-BRK-2.   | C98970 |
| 60450 | IF SUM-MAN-HR EQUAL TO ZERO GO TO CLOSE-FILES.               | C98970 |
| 60460 | PERFORM WRITE-4 THRU END-WRITE-4.                            | C98970 |
| 60470 | GO TO CLOSE-FILES.   | C98970 |
| 70000 | READ-ISC-A-C.  | C98970 |
| 70005 | READ IN-FILE-ISC INTO SPEC-WUC AT END GO TO END-RIAC.        | C98970 |
| 70010 | READ IN-FILE-ISC INTO NO-ISC AT END GO TO END-RIAC.          | C98970 |
| 70020 | MOVE ZERO TO KNT.  | C98970 |
| 70030 | RIAC.  | C98970 |
| 70040 | ADD 1 TO KNT.  | C98970 |
| 70050 | READ IN-FILE-ISC INTO ISC-A-C AT END GO TO END-RIAC.         | C98970 |
| 70060 | MOVE ISC-TN TO ISC-AC-TN [KNT].                              | C98970 |
| 70070 | MOVE ISC-WK TO ISC-AC-WK [KNT].                              | C98970 |
| 70075 | IF ISC-WK IS LESS THAN MIN-ISC-WEEK MOVE ISC-WK              | C98970 |
| 70076 | TO MIN-ISC-WEEK.   | C98970 |
| 70080 | IF KNT IS LESS THAN NO-ISC-AC GO TO RIAC.                    | C98970 |
| 70085 | CLOSE IN-FILE-ISC WITH LOCK.                                 | C98970 |
| 70090 | END-RIAC. EXIT.  | C98970 |
| 70200 | CHECK-ISCHRONAL.   | C98970 |
| 70210 | IF SERIAL-NO IS NOT EQUAL TO PREV-TESTED-SN GO TO CHECK-I-2. | C98970 |
| 70220 | IF ISC-FLAG IS EQUAL TO TWO GO TO END-CI.                    | C98970 |
| 70230 | IF ISCHRONAL IS EQUAL TO ONE AND WEEK IS NOT LESS THAN       | C98970 |
| 70232 | MIN-ISC-WEEK, THEN GO TO END-CI.                             | C98970 |
| 70240 | CHECK-I-2.   | C98970 |
| 70250 | MOVE TWO TO ISCHRONAL.                                       | C98970 |
| 70260 | IF WEEK IS LESS THAN MIN-ISC-WEEK GO TO END-CI.              | C98970 |
| 70270 | MOVE ZERO TO CNT.  | C98970 |
| 70280 | CHECK-I-1.   | C98970 |
| 70290 | ADD 1 TO CNT.  | C98970 |
| 70300 | MOVE ISC-AC-TN [CNT] TO ISC-TEMP.                            | C98970 |
| 70310 | IF SERIAL-NO IS LESS THAN ISC-TEMP GO TO CHECK-I-4.          | C98970 |
| 70320 | IF SERIAL-NO IS EQUAL TO ISC-TEMP GO TO CHECK-I-1A.          | C98970 |
| 70330 | IF CNT IS LESS THAN NO-ISC-AC GO TO CHECK-I-1.               | C98970 |
| 70340 | CHECK-I-4.   | C98970 |
| 70350 | MOVE TWO TO ISC-FLAG.  | C98970 |
| 70360 | GO TO CHECK-I-3.   | C98970 |
| 70370 | CHECK-I-1A.  | C98970 |
| 70380 | MOVE ISC-AC-WK [CNT] TO WEEK-TEMP.                           | C98970 |
| 70390 | IF WEEK-TEMP IS EQUAL TO WEEK OR WEEK IS GREATER THAN        | C98970 |
| 70400 | WEEK-TEMP MOVE ONE TO ISCHRONAL.                             | C98970 |
| 70410 | MOVE ONE TO ISC-FLAG.  | C98970 |
| 70430 | CHECK-I-3.   | C98970 |
| 70440 | MOVE SERIAL-NO TO PREV-TESTED-SN.                            | C98970 |
| 70450 | END-CI. EXIT.  | C98970 |
| 70510 | NINE-FILL-2.   | C98970 |
| 70520 | WRITE OUT-REC-2 FROM NINE.                                   | C98970 |
| 70530 | ADD 1 TO KNT.  | C98970 |
| 70540 | IF KNT IS LESS THAN 90 GO TO NINE-FILL-2.                    | C98970 |
| 70550 | N-F-2. EXIT.   | C98970 |
| 70600 | NINE-FILL-1.   | C98970 |
| 70610 | WRITE OUT-REC-1 FROM NINE.                                   | C98970 |
| 70620 | ADD 1 TO KNT.  | C98970 |
| 70630 | IF KNT IS LESS THAN 90 GO TO NINE-FILL-1.                    | C98970 |
| 70640 | N-F-1. EXIT.   | C98970 |

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71800 CLOSE-FILES. C98970
71810 COMPUTE KNT > NO-REC-1 - NO-REC-1 / 90 * 90. C98970
71820 IF KNT IS ZERO GO TO CF-2. C98970
71830 PERFORM NINE-FILL-1 THRU N-F-1. C98970
71840 CF-2. C98970
71850 COMPUTE KNT > NO-REC-2 - NO-REC-2 / 90 * 90. C98970
71860 IF KNT IS ZERO GO TO CF-3. C98970
71870 PERFORM NINE-FILL-2 THRU N-F-2. C98970
71900 CF-3. C98970
71910 DISPLAY I NUMBER RECORDS-1 I NO-REC-1 UPON CONSOLE. C98970
71920 DISPLAY I NUMBER RECORDS-2 I NO-REC-2 UPON CONSOLE. C98970
71940 DISPLAY I END OF JOB C9897I UPON CONSOLE. C98970
71950 CLOSE IN-FILE-D-B; MSG-FILE; OUT-FILE-1; C98970
71960 OUT-FILE-2 WITH LOCK. C98970
71990 GOBACK. C98970
/* PLACE CONOL SOURCE BEFORE THIS CARD
//CHG.TFG1N DD *.SPACE>[CYL,(1,1)] WANG 1440 CDS
00000 GET TFG C98970'T
010001 019999 REPLACE 'T
TFG DT01 11 0202080

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0330005310033200333003400036000310003200032100204

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57000236 331
57000237 331
57000243 324
57000244 331
57002545 331
58000776 324
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59000012 331
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59000059 324
59000104 331
59000105 331
59000108 324
59000110 324
59000119 324
59000141 324
59000143 324
59000144 324
59000145 324
59000147 324
59000151 324
59000152 324

```

```

*END
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU14 DU DISP>[OLD,KEEP],VOL>SER>+F3,UNIT>T+F3 T14
//TPR.TU22 DD DISP>[OLD,KEEP],VOL>SER>+F5,UNIT>T+F5 T22
//TPR.TU24 DU DISP>[OLD,KEEP],VOL>SER>+F7,UNIT>T+F7 T24
//TPR.TPR1N DD *.SPACE>[TRK,(1,1)]
T/P DT01 10100002080
T/P DT02 10100002080
T/P TU14 10100702070
T/P TU22 10100202020
T/P TU24 10100202020
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.15.3 SORT UNSCHEDULED NORM HOUR

```

//T9897W JOB 01: G WANG : ,PTY>02, TYPRUN>HOLD
//C9897F EXEC P9622N, W>060, TIME>04, ACCT>D35323007
//CHG.SORT1N DD DISP>[KEEP], UNIT>[A+F5, 2, DEFER], CT22/23 1
// DS.>E.9897432, CT22 2
// VOL>SER>[+F5, A+F5, B+F5, C+F5, D+F5, E+F5, F+F5, G+F5, H+F5, CT22 3
// I+F5, J+F5, K+F5, L+F5, M+F5, N+F5, O+F5, P+F5, Q+F5, R+F5, S+F5], CT22 4
// DCB>[LRECL>0020, BLKSIZE>1800], LABEL>[NSL, RETPD>099]
//CHG.SORTOUT DU DISP>[KEEP], UNIT>[A+F1, 2, DEFER], DSN>A.9897430, CT12/13 1
// VOL>SER>[+F1, A+F1, B+F1, C+F1, D+F1, E+F1, F+F1, G+F1, H+F1, CT12 2
// I+F1, J+F1, K+F1, L+F1, M+F1, N+F1, O+F1, P+F1, Q+F1, R+F1, S+F1], CT12 3
// DCB>[LRECL>0020, BLKSIZE>1800]
//CHG.SYSIN DU +.DCB>BLKSIZE>0080, SPACE>[TRK, [1, 1]]
SORT FIELDS>[017, 001, CH, A, 019, 001, CH, A, 001, 005, CH, A], SIZE>E035000
MODS E15>[E15, 00>, SORTLIB, N], E18>[E18, 024, SORTLIB, N]

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### 6.15.4 MEAN AND VARIANCE NORM HOUR

```

//C9897C EXEC P9655L, TIME>30, ACCT>D35323007
//CHG.TU12 DU DISP>[PASS], UNIT>[T+F1, 1, DEFER], DSN>A.9897430, CT12 1
// VOL>SER>[+F1, A+F1, B+F1, C+F1, D+F1, E+F1, F+F1, G+F1, H+F1, CT12 2
// I+F1, J+F1, K+F1, L+F1, M+F1, N+F1, O+F1, P+F1, Q+F1, R+F1, S+F1] T12 3
//CHG.TU25 DU DISP>[PASS], UNIT>[T+F8, 1, DEFER], DSN>H.9897431, CT25 1
// VOL>SER>[+F8, A+F8, B+F8, C+F8, D+F8, E+F8, F+F8, G+F8, H+F8, CT25 2
// I+F8, J+F8, K+F8, L+F8, M+F8, N+F8, O+F8, P+F8, Q+F8, R+F8, S+F8] T25 3
//CHG.INPUT DU +.SPACE>[CYL, [1, 1]] 1440 CDS
00000 COMLINE COMPILE 0. WANG. C98970
01040 DATE-WRITTL+. 25 JULY 72. C98970
01050 REMARKS. C98970
01060 TASK7-28 MEAN, VARIANCE OF NORM/MA. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-5-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT HIST-FILE ASSIGN TO UT-5-TU28 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11100 FD IN-FILE C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 90 RECORDS C98970
11140 RECORD CONTAINS 20 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE IN-REC. C98970
11170 01 IN-REC SYNC. C98970
11180 02 WUC PICTURE X(5). C98970
11182 02 FILLER PICTURE X(4). C98970
11183 02 OBS PICTURE S9(6). C98970
11184 02 OBS-1 REDEFINES OBS PICTURE S99999V9. C98970
11185 02 FILLER PICTURE X. C98970
11186 02 ISCHRONAL-NEW PICTURE X. C98970
11187 02 FILLER PICTURE X. C98970
11188 02 DAT-TYPE-NEW PICTURE X. C98970
11189 02 FILLER PICTURE X. C98970
12100 FD HIST-FILE C98970
12120 RECORDING MODE IS F C98970
12130 BLOCK CONTAINS 60 RECORDS C98970
12140 RECORD CONTAINS 60 CHARACTERS C98970
12150 LABEL RECORDS ARE OMITTED C98970
12160 DATA RECORDS ARE HIST-REC. C98970
12170 01 HIST-REC SYNC. C98970
12180 02 FILLER PICTURE X(50). C98970
30000 WORKING-STORAGE SECTION. C98970
30010 77 KNT SYNC PICTURE S9(5). C98970
30012 77 OBS-150 SYNC PICTURE S9(5)V99999. C98970
30014 77 OBS-NI SYNC PICTURE S9(5)V99999. C98970
30020 01 FILLER SYNC. C98970
30030 02 FREQ-HIST-VALUE OCCURS 2000 TIMES PICTURE S9(5) C98970
30040 COMPUTATIONAL. C98970
30050 01 A PICTURE S9(5) COMPUTATIONAL. C98970
30060 01 NO-OF-HISTS SYNC PICTURE 99999 VALUE ZERO. C98970
30080 01 ONE SYNC PICTURE X VALUE 11. C98970
300A1 01 TWO SYNC PICTURE X VALUE 121. C98970
300H2 01 THREE SYNC PICTURE X VALUE 131. C98970
300A3 01 FOUR SYNC PICTURE X VALUE 141. C98970
300A4 01 FIVL SYNC PICTURE X VALUE 151. C98970
30040 01 CNT SYNC PICTURE S9(5) COMPUTATIONAL. C98970
30100 01 CUR-WUC-T SYNC. C98970
30110 02 FILLER PICTURE X(5) VALUE 1 WUC>1. C98970
30120 02 CUR-WUC PICTURE X(5). C98970

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|       |    |                                     |                                 |        |
|-------|----|-------------------------------------|---------------------------------|--------|
| 30170 | 01 | ISCHRONAL SYNC                      | PICTURE X.                      | C98970 |
| 30180 | 01 | DATA-TYPE SYNC                      | PICTURE X.                      | C98970 |
| 30190 | 01 | MINUS-ONE COMPUTATIONAL             | PICTURE S999 VALUE -1 SYNC.     | C98970 |
| 32000 | 01 | REPORT-D SYNC.                      |                                 | C98970 |
| 32010 | 02 | FILLER                              | PICTURE X(50) VALUE             | C98970 |
| 32020 |    | :9897860 TF7919-01                  | 142-8 1 1/2                     | C98970 |
| 32030 | 02 | FILLER                              | PICTURE X(50) VALUE SPACE.      | C98970 |
| 32040 | 02 | FILLER                              | PICTURE X(30) VALUE             | C98970 |
| 32050 |    | :                                   | #1.                             | C98970 |
| 46000 | 01 | MEAN COMPUTATIONAL SYNC             | PICTURE S9(7)V99.               | C98970 |
| 46010 | 01 | VARIANCL COMPUTATIONAL SYNC         | PICTURE S9(7)V99.               | C98970 |
| 46020 | 01 | TEMP-COMP-R                         | PICTURE S9(7)V99.               | C98970 |
| 46300 | 01 | MEAN-H COMPUTATIONAL SYNC           | PICTURE S9(8)V99999 VALUE ZERO. | C98970 |
| 46310 | 01 | VARIANCL-H COMPUTATIONAL SYNC       | PICTURE S9(5)V99999             | C98970 |
| 46315 |    | VALUE ZERO.                         |                                 | C98970 |
| 46320 | 01 | TEMP-COMP-R                         | SYNC PICTURE S9(5)V99999        | C98970 |
| 46325 |    | VALUE ZERO.                         |                                 | C98970 |
| 46330 | 01 | HIST-NO-OF-OBS-H                    | SYNC PICTURE S9(5)V99999        | C98970 |
| 46335 |    | VALUE ZERO.                         |                                 | C98970 |
| 46400 | 01 | MEAN-VARIANCE-LINE-B                | SYNC.                           | C98970 |
| 46410 | 02 | FILLER                              | PICTURE X(50) VALUE             | C98970 |
| 46420 |    | :                                   |                                 | C98970 |
| 46430 | 02 | FILLER                              | PICTURE X(16) VALUE             | C98970 |
| 46440 |    | :                                   | MEAN>:.                         | C98970 |
| 46450 | 02 | MEAN-RPT-B                          | PICTURE ZZ9.99999.              | C98970 |
| 46460 | 02 | FILLER                              | PICTURE X(28) VALUE             | C98970 |
| 46470 |    | :                                   | VARIANCE >:.                    | C98970 |
| 46480 | 02 | VARIANCE-RPT-B                      | PICTURE ZZZZ9.99999.            | C98970 |
| 46490 | 02 | FILLER                              | PICTURE X(16) VALUE             | C98970 |
| 46500 |    | :                                   | #1.                             | C98970 |
| 47000 | 01 | HIST-VALUE-MAX SYNC                 | PICTURE S9999V99 VALUE -9999.9. | C98970 |
| 47010 | 01 | HIST-VALUE-MIN SYNC                 | PICTURE S9999V99 VALUE <9999.9. | C98970 |
| 47015 | 01 | HIST-VALUE-MI SYNC                  | PICTURE S9999V99 VALUE <9999.9. | C98970 |
| 47020 | 01 | HIST-NO-OF-OBS SYNC                 | PICTURE S9(5) VALUE ZERO.       | C98970 |
| 47030 | 01 | HIST-NO-OF-INTERVALS SYNC           | PICTURE 999V99 VALUE 50.        | C98970 |
| 47040 | 01 | HIST-INPUT-VMAX-VMIN SYNC           | PICTURE 9 VALUE ZERO.           | C98970 |
| 47050 | 01 | HIST-DIST SYNC                      | PICTURE X VALUE ::.             | C98970 |
| 47060 | 01 | HIST-INDEX SYNC COMPUTATIONAL       |                                 | C98970 |
| 47070 |    |                                     | PICTURE S999 VALUE ZERO.        | C98970 |
| 47080 | 01 | HIST-INDEX-2 SYNC COMPUTATIONAL     |                                 | C98970 |
| 47090 |    |                                     | PICTURE S999 VALUE ZERO.        | C98970 |
| 47100 | 01 | HIST-TEMP SYNC                      | PICTURE S99999V99 VALUE ZERO.   | C98970 |
| 47110 | 01 | HIST-INTERVAL-SIZE SYNC             | PICTURE S999V99 VALUE ZERO      | C98970 |
| 47120 |    | COMPUTATIONAL.                      |                                 | C98970 |
| 47150 | 01 | HIST-FLAG SYNC                      | PICTURE X VALUE :0:.            | C98970 |
| 47160 | 01 | HIST-SCALE-VALUE SYNC COMPUTATIONAL |                                 | C98970 |
| 47170 |    |                                     | PICTURE S999 VALUE <1.          | C98970 |
| 47180 | 01 | HIST-PERCENT SYNC                   | PICTURE S999V99 COMPUTATIONAL.  | C98970 |
| 47190 | 01 | HIST-CUM SYNC                       | PICTURE S999V99 COMPUTATIONAL.  | C98970 |
| 47200 | 01 | HIST-LINE SYNC COMPUTATIONAL        |                                 | C98970 |
| 47210 |    |                                     | PICTURE S999 VALUE ZERO.        | C98970 |
| 47220 | 01 | HIST-PAGE-FLAG SYNC                 | PICTURE S999 VALUE <75.         | C98970 |
| 47230 | 01 | HIST-LINE-CNT SYNC                  | PICTURE S999.                   | C98970 |
| 47300 | 01 | HIST-ERR-1 SYNC                     | PICTURE X(10) VALUE             | C98970 |
| 47310 |    | ERROR NO 0:.                        |                                 | C98970 |
| 47320 | 01 | HIST-ERR-3 SYNC.                    |                                 | C98970 |
| 47330 | 02 | FILLER                              | PICTURE X(5) VALUE :BS > :.     | C98970 |
| 47340 | 02 | HIST-ERR-2                          | PICTURE S9(5) VALUE ZERO.       | C98970 |
| 47350 | 01 | HIST-ERR-4 SYNC                     | PICTURE X(10) VALUE             | C98970 |
| 47360 |    | ERROR MAX:.                         |                                 | C98970 |
| 47370 | 01 | HIST-ERR-5 SYNC                     | PICTURE X(10) VALUE             | C98970 |
| 47380 |    | -MIN BAD. :.                        |                                 | C98970 |
| 47390 | 01 | HIST-OUT-RANGE-VALUE SYNC           | PICTURE S999 COMPUTATIONAL.     | C98970 |
| 47500 | 01 | FILLER SYNC.                        |                                 | C98970 |
| 47510 | 02 | FILLER OCCURS 200 TIMES.            |                                 | C98970 |
| 47530 | 03 | HIST-TABLE                          | PICTURE S9(5) COMPUTATIONAL.    | C98970 |
| 47540 | 03 | HIST-UPPER-LIMIT                    | PICTURE S9999V99 COMPUTATIONAL. | C98970 |
| 47550 | 03 | HIST-TABLE-SCALED                   | PICTURE S999V99 COMPUTATIONAL.  | C98970 |
| 47560 | 01 | HIST-NEW-PAGE SYNC.                 |                                 | C98970 |
| 47570 | 02 | FILLER                              | PICTURE X VALUE ::.             | C98970 |
| 47580 | 02 | FILLER                              | PICTURE X(122) VALUE SPACE.     | C98970 |
| 47582 | 02 | FILLER                              | PICTURE X(5) VALUE :PAGE :.     | C98970 |
| 47584 | 02 | HIST-PAGE-NO                        | PICTURE 9.                      | C98970 |
| 47590 | 02 | FILLER                              | PICTURE X VALUE :#:.            | C98970 |
| 47600 | 01 | HIST-TITLE SYNC.                    |                                 | C98970 |
| 47610 | 02 | FILLER                              | PICTURE X(3) VALUE :S :.        | C98970 |
| 47620 | 02 | HIST-TITLE-1.                       |                                 | C98970 |
| 47621 | 03 | FILLER                              | PICTURE X(10) VALUE SPACE.      | C98970 |
| 47630 | 02 | HIST-TITLE-2.                       |                                 | C98970 |
| 47631 | 03 | FILLER                              | PICTURE X(10) VALUE SPACE.      | C98970 |
| 47640 | 02 | HIST-TITLE-3                        | PICTURE X(10) VALUE SPACE.      | C98970 |
| 47650 | 02 | HIST-TITLE-4                        | PICTURE X(10) VALUE SPACE.      | C98970 |
| 47660 | 02 | FILLER                              | PICTURE X(24) VALUE             | C98970 |
| 47670 |    | NO OF OBSERVATIONS >:.              |                                 | C98970 |
| 47680 | 02 | HIST-NO-OF-OBS-RPT                  | PICTURE ZZZZ9.                  | C98970 |
| 47690 | 02 | FILLER                              | PICTURE X(13) VALUE             | C98970 |
| 47700 |    | VALUE MAX > :.                      |                                 | C98970 |
| 47710 | 02 | HIST-VALUE-MAX-RPT                  | PICTURE ----.9.                 | C98970 |
| 47720 | 02 | FILLER                              | PICTURE X(13) VALUE             | C98970 |
| 47730 |    | VALUE MIN > :.                      |                                 | C98970 |
| 47740 | 02 | HIST-VALUE-MIN-RPT                  | PICTURE ----.9.                 | C98970 |
| 47750 | 02 | FILLER                              | PICTURE X(18) VALUE             | C98970 |
| 47760 |    | :                                   | #:.                             | C98970 |

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47900 01 HIST-OUT-LINE SYNC. C98970
47910 02 FILLER PICTURE X(50) VALUE C98970
47920 :/-----I, C98970
47922 02 FILLER PICTURE X(80) VALUE C98970
47930 :-----I, C98970
47940 - :-----I, C98970
47950 01 HIST-LABEL SYNC. C98970
47960 02 FILLER PICTURE X(50) VALUE C98970
47970 :/ MIDPNT PCNT CUM FREQ 1...5...10...15...20... C98970
47974 02 FILLER PICTURE X(80) VALUE C98970
47980 - :25...30...35...40...45...50...55...60...65...70...75...80... C98970
47990 - :85...90...95...100... C98970
48000 01 HIST-LINE-OUT SYNC. C98970
48010 02 FILLER PICTURE X VALUE 1/1. C98970
48020 02 HIST-LINE-RPT PICTURE Z29. C98970
48030 02 FILLER PICTURE X VALUE SPACE. C98970
48040 02 HIST-MID-POINT-RPT PICTURE -----,9. C98970
48060 02 HIST-PERCENT-RPT PICTURE Z29,9. C98970
48070 02 FILLER PICTURE X VALUE SPACE. C98970
48080 02 HIST-CUM-RPT PICTURE Z29,9. C98970
48100 02 HIST-FREQ-RPT PICTURE ZZZZ9. C98970
48110 02 FILLER PICTURE X VALUE SPACE. C98970
48120 02 HIST-POINT OCCURS 100 TIMES C98970
48130 PICTURE X. C98970
48140 02 FILLER PICTURE X VALUE 1#1. C98970
48150 01 HIST-OUT-RANGE-REC SYNC. C98970
48160 02 FILLER PICTURE X(35) VALUE C98970
48170 :/ NUMBER OF OUT OF RANGE VALUES >1. C98970
48180 02 HIST-OUT-RANGE-RPT PICTURE Z29. C98970
48190 02 FILLER PICTURE X(91) VALUE SPACE. C98970
48191 02 FILLER PICTURE X VALUE 1#1. C98970
48200 01 HIST-SCALE-LINE SYNC. C98970
48210 02 FILLER PICTURE X(27) VALUE C98970
48220 :/ SCALING FACTOR > 1. C98970
48230 02 HIST-SCALE-RPT PICTURE Z29. C98970
48240 02 FILLER PICTURE X(99) VALUE SPACE. C98970
48250 02 FILLER PICTURE X VALUE 1#1. C98970
48300 01 FILLER SYNC. C98970
48310 02 HIST-VALUE OCCURS 2000 TIMES C98970
48320 PICTURE S9999V9 COMPUTATIONAL. C98970
48400 01 TASK7-REC SYNC. C98970
48410 05 TASK7-ISO PICTURE X. C98970
48411 05 FILLER PICTURE X(9). C98970
48420 05 TASK7-ID PICTURE X(1) VALUE 131. C98970
48430 05 FILLER PICTURE X(1). C98970
48440 05 TASK7-WUC PICTURE X(5). C98970
48450 05 FILLER PICTURE X(5). C98970
48460 05 MEAN-RPT PICTURE S9(7)IV9. C98970
48470 05 FILLER PICTURE X. C98970
48480 05 VARIANCE-RPT PICTURE S9(7)IV9. C98970
48490 05 FILLER PICTURE X(10). C98970
48500 05 FILLER PICTURE X VALUE 1#1. C98970
50000 PROCEDURE DIVISION. C98970
50010 OPEN INPUT IN-FILE. C98970
50020 OPEN OUTPUT HIST-FILE. C98970
50030 MOVE 2000 TO CNT. C98970
50040 PERFORM RESET-TABLE THRU END-RST-TABLE. C98970
50050 READ IN-FILE. AT END GO TO CLOSE-FILES. C98970
50100 PARA-1. C98970
50110 MOVE 1 TO HIST-NO-OF-OBS. C98970
50120 MOVE WUC TO CUR-WUC. C98970
50140 MOVE UATA-TYPE-NEW TO DATA-TYPE. C98970
50150 MOVE ISCHRONAL-NEW TO ISCHRONAL. C98970
50160 IF DATA-TYPE IS EQUAL TO FIVE GO TO WEEKS-DATA ELSE GO TO C98970
50170 FLT-DATA. C98970
50200 READ1. C98970
50210 READ IN-FILE. AT END GO TO CLOSE-FILES. C98970
50220 IF UATA-TYPE-NEW IS EQUAL TO 191 GO TO CLOSE-FILES. C98970
50230 IF WUC IS NOT EQUAL TO CUR-WUC GO TO PARA-2. C98970
50250 ADD 1 TO HIST-NO-OF-OBS. C98970
50260 IF UATA-TYPE IS EQUAL TO FIVE GO TO WEEKS-DATA ELSE GO TO C98970
50270 FLT-DATA. C98970
50300 PARA-2. C98970
50310 PERFORM SET-HIST00 THRU END-SH. C98970
50320 PERFORM RESET-TABLE THRU END-RST-TABLE. C98970
50330 GO TO PARA-1. C98970
50400 RESET-TABLE. C98970
50410 MOVE ZERO TO CNT. C98970
50420 RST. C98970
50430 ADD 1 TO CNT. C98970
50440 MOVE MINUS-ONE TO HIST-VALUE (CNT). C98970
50445 MOVE ZERO TO FREQ-HIST-VALUE (CNT). C98970
50450 IF CNT IS LESS THAN KNT GO TO RST. C98970
50455 MOVE ZERO TO KNT. C98970
50460 END-RST-TABLE. EXIT. C98970

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50510 SET-HISTOG. C98970
50590 PERFORM WRITE-HISTOGRAM THRU END-HIST. C98970
50600 IF HIST-FLAG IS EQUAL TO 11 THEN GO TO CF1. C98970
50610 ADD 1 TO NO-OF-HISTS. C98970
50620 END-SH. EXIT. C98970
51000 WEEKS-DATA. C98970
51010 MOVE ZERO TO CNT. C98970
51020 WEEK-A. C98970
51030 ADD 1 TO CNT. C98970
51040 IF OBS IS EQUAL TO HIST-VALUE [CNT] GO TO WEEK-C. C98970
51050 IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO WEEK-B. C98970
51060 IF CNT IS LESS THAN 2000 GO TO WEEK-A. C98970
51070 DISPLAY : MORE THAN 2000 FREQUENCY OCCURENCES : UPON CONSOLE. C98970
51080 GO TO CF1. C98970
51090 WEEK-B. C98970
51100 MOVE OBS TO HIST-VALUE [CNT]. C98970
51110 IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT. C98970
51120 WEEK-C. C98970
51130 ADD 1 TO FREQ-HIST-VALUE [CNT]. C98970
51140 GO TO READ1. C98970
52000 FLT-DATA. C98970
52010 MOVE [LKI] TO CNT. C98970
52020 FLT-A. C98970
52030 ADD 1 TO CNT. C98970
52040 IF OBS-1 IS EQUAL TO HIST-VALUE [CNT] GO TO FLT-C. C98970
52050 IF FREQ-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO FLT-B. C98970
52060 IF CNT IS LESS THAN 2000 GO TO FLT-A. C98970
52070 DISPLAY : MORE THAN 2000 FREQUENCY OCCURENCES : UPON CONSOLE. C98970
52080 GO TO CF1. C98970
52090 FLT-B. C98970
52100 MOVE OBS-1 TO HIST-VALUE [CNT]. C98970
52110 IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT. C98970
52120 FLT-C. C98970
52130 ADD 1 TO FREQ-HIST-VALUE [CNT]. C98970
52140 GO TO READ1. C98970
52200 CLOSE-FILES. C98970
52205 PERFORM SET-HISTOG THRU END-SH. C98970
52207 CF1. C98970
52210 CLOSE IN-FILE. HIST-FILE. C98970
52211 IF HIST-FLAG IS EQUAL TO 11: DISPLAY : HIST ERROR : UPON C98970
52212 CONSOLE. C98970
52215 DISPLAY : NO OF HISTOGRAMS > : NO-OF-HISTS UPON CONSOLE. C98970
52220 DISPLAY : E0J C9897 : UPON CONSOLE. C98970
52230 GOBACK. C98970
95000 COMPUTE-MEAN-VARIANCE. C98970
95005 IF HIST-NO-OF-OBS EQUAL TO 1 GO TO CMV-3. C98970
95010 MOVE ZERO TO CNT. C98970
95020 MOVE ZERO TO MEAN. C98970
95030 CMV-1. C98970
95040 ADD 1 TO CNT. C98970
95050 COMPUTE TEMP-COMP > HIST-VALUE [CNT] * FREQ-HIST-VALUE [CNT]. C98970
95060 ADD TEMP-COMP TO MEAN. C98970
95070 IF CNT IS LESS THAN KNT GO TO CMV-1. C98970
95080 DIVIDE HIST-NO-OF-OBS INTO MEAN. C98970
95090 MOVE ZERO TO CNT. C98970
95100 MOVE ZERO TO VARIANCE. C98970
95110 CMV-2. C98970
95120 ADD 1 TO CNT. C98970
95130 COMPUTE TEMP-COMP > [(HIST-VALUE [CNT] - MEAN) ** 2] * C98970
95140 FREQ-HIST-VALUE [CNT]. C98970
95150 ADD TEMP-COMP TO VARIANCE. C98970
95160 IF CNT IS LESS THAN KNT GO TO CMV-2. C98970
95170 COMPUTE VARIANCE > VARIANCE / [HIST-NO-OF-OBS - 1]. C98970
95180 MOVE MEAN TO MEAN-RPT. C98970
95190 MOVE VARIANCE TO VARIANCE-RPT. C98970
95191 GO TO CMV-4. C98970
95192 CMV-3. C98970
95193 MOVE ZERO TO VARIANCE-RPT. C98970
95194 MOVE HIST-VALUE [I] TO MEAN-RPT. C98970
95195 CMV-4. C98970
95290 END-CMV. EXIT. C98970
97000 WRITE-HISTOGRAM. C98970
97351 PERFORM COMPUTE-MEAN-VARIANCE C98970
97352 THRU END-CMV. C98970
97356 MOVE CMV-MUC TO TASK7-MUC. C98970
97358 MOVE ISCHRONAL TO TASK7-ISO. C98970
97360 WRITE HIST-REC FROM TASK7-REC. C98970
99990 END-HIST. EXIT. C98970
/* PLACE COBOL SOURCE BEFORE
//CHG.TFGIN DD *,SPACE*(CYL,(1,1)) 1400 CDS
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU12 DD DISP*(OLD,KEEP),VOL*(SER)*P1,UNIT)*T*P1 T12
//TPR.TU25 DD DISP*(OLD,KEEP),VOL*(SER)*P1,UNIT)*T*P1 T25
//TPR.TPHIN DD *,SPACE*(TRK,(1,1))
T/P TU12 101002020
T/P TU25 10100502050
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

```

//T9897N JOB 01: 0 WANG 1:PRTY)02,TPRUN)HOLD

```



### 6.15.5 SORT UNSCHEDULED MANHOUR

```
//C9897F EXEC P902N,WD060,TIME>04,ACCT>D35323007
//CHG.SORTIN DU DISP>(KEEP),UNIT>(A+F5,2,DEFER), CT22/23 1
// DSN>+E,9897429, CT22 2
// VOL>SER>(C+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 3
// I+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5),CT22 4
// DCB>(LRECL>0020,BLKSIZE>1800),LABEL>(NSL,RETPD>099)
//CHG.SORTOUT DU DISP>(KEEP),UNIT>(A+F1,2,DEFER),DSN>+A,9897430, CT12/13 1
// VOL>SER>(C+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1),CT12 3
// DCB>(LRECL>0020,BLKSIZE>1800)
//CHG.SYSIN DU *;DCB>BLKSIZE>0080,SPACE>(TRK,(1,1))
SORT FIELDS>(017,001,CH,A,019,001,CH,A,001,005,CH,A,006,003,CH,A), C
SIZE>E0250000
MODS E15>(E15,008,SORTLIB,N),E18>(E18,024,SORTLIB,N)
```

### 6.15.6 MEAN AND VARIANCE OF UNSCHEDULED MANHOUR

```
//C9897H EXEC P965L,TIME>16,ACCT>D35323007
//CHG.TU12 DU DISP>(PASS),UNIT>(T+F1,1,DEFER),DSN>+A,9897430, CT12 1
// VOL>SER>(C+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1) T12
//CHG.TU25 DU DISP>(PASS),UNIT>(T+F8,1,DEFER),DSN>+H,9897431, CT25 1
// VOL>SER>(C+F8,A+F8,B+F8,C+F8,D+F8,E+F8,F+F8,G+F8,H+F8, CT25 2
// I+F8,J+F8,K+F8,L+F8,M+F8,N+F8,O+F8,P+F8,Q+F8,R+F8,S+F8) T25 3
//CHG.INPUT DU *;SPACE>(CYL,(1,1)) 1440 CDS
00000 COMBINE COMPILE 0. WAN0. C98970
01040 DATE-WRITTEN. 26 JULY 72. C98970
01050 REMARKS. C98970
01060 TASK 7-2C MEAN VARIANCE OF MANHOURS/MA. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT HIST-FILE ASSIGN TO UT-S-TU25 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11100 FD IN-FILE C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 90 RECORDS C98970
11140 RECORD CONTAINS 20 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE IN-REC. C98970
11170 01 IN-REC SYNC. C98970
11180 02 WUC PICTURE X(5). C98970
11181 02 MMC PICTURE X(3). C98970
11182 02 FILLER PICTURE X. C98970
11183 02 OBS PICTURE S9(6). C98970
11184 02 OBS-1 REDEFINES OBS PICTURE S99999V9. C98970
11185 02 FILLER PICTURE X. C98970
11186 02 ISCHRONAL-NEW PICTURE X. C98970
11187 02 FILLER PICTURE X. C98970
11188 02 DATA-TYPE-NEW PICTURE X. C98970
11189 02 FILLER PICTURE X. C98970
12100 FD HIST-FILE C98970
12120 RECORDING MODE IS F C98970
12130 BLOCK CONTAINS 60 RECORDS C98970
12140 RECORD CONTAINS 50 CHARACTERS C98970
12150 LABEL RECORDS ARE OMITTED C98970
12160 DATA RECORDS ARE HIST-REC. C98970
12170 01 HIST-REC SYNC. C98970
12180 02 FILLER PICTURE X(50). C98970
30000 WORKING-STORAGE SECTION. C98970
30010 77 KNT SYNC PICTURE S9(5). C98970
30020 01 FILLER SYNC. C98970
30030 02 FRE=-HIST-VALUE OCCURS 1000 TIMES PICTURE S9(5) C98970
30040 COMPUTATIONAL. C98970
30050 01 A PICTURE S9(5) COMPUTATIONAL. C98970
30060 01 NO-OF-HISTS SYNC PICTURE 9999 VALUE ZERO. C98970
30080 01 ONE SYNC PICTURE X VALUE 111. C98970
30082 01 TWO SYNC PICTURE X VALUE 121. C98970
30090 01 CNT SYNC PICTURE S9(5) COMPUTATIONAL. C98970
30100 01 CUR-WUC-T SYNC. C98970
30110 02 FILLER PICTURE X(5) VALUE 1 WUC>1. C98970
30120 02 CUR-WUC PICTURE X(5). C98970
```



|       |    |                                     |                                  |        |
|-------|----|-------------------------------------|----------------------------------|--------|
| 30130 | 01 | CUR-HMC-T SYNC.                     |                                  | C98970 |
| 30140 | 02 | FILLER                              | PICTURE X(5) VALUE 1 HMC>1.      | C98970 |
| 30150 | 02 | CUR-HMC                             | PICTURE X(3).                    | C98970 |
| 30160 | 02 | FILLER                              | PICTURE XX VALUE SPACE.          | C98970 |
| 30170 | 01 | ISCHRONAL SYNC                      | PICTURE X.                       | C98970 |
| 30180 | 01 | DATA-TYPE SYNC                      | PICTURE X.                       | C98970 |
| 30190 | 01 | MINUS-ONE COMPUTATIONAL             | PICTURE S999 VALUE -1 SYNC.      | C98970 |
| 32000 | 01 | REPORT-ID SYNC.                     |                                  | C98970 |
| 32010 | 02 | FILLER                              | PICTURE X(50) VALUE              | C98970 |
| 32020 | :  | !\$9097860 TF7919-01 142-B I 1/2    | !                                | C98970 |
| 32030 | 02 | FILLER                              | PICTURE X(50) VALUE SPACE.       | C98970 |
| 32040 | 02 | FILLER                              | PICTURE X(30) VALUE              | C98970 |
| 32050 | :  | :                                   | :                                | C98970 |
| 46000 | 01 | MEAN COMPUTATIONAL SYNC             | PICTURE S9(7)V99.                | C98970 |
| 46010 | 01 | VARIANCE COMPUTATIONAL SYNC         | PICTURE S9(7)V99.                | C98970 |
| 46020 | 01 | TEMP-COMP                           | PICTURE S9(7)V99.                | C98970 |
| 47000 | 01 | HIST-VALUE-MAX SYNC                 | PICTURE S9999V99 VALUE -9999.9.  | C98970 |
| 47010 | 01 | HIST-VALUE-MIN SYNC                 | PICTURE S9999V99 VALUE <9999.9.  | C98970 |
| 47015 | 01 | HIST-VALUE-MI SYNC                  | PICTURE S9999V99 VALUE <9999.9.  | C98970 |
| 47020 | 01 | HIST-NO-OF-OBS SYNC                 | PICTURE S9(5) VALUE ZERO.        | C98970 |
| 47030 | 01 | HIST-NO-OF-INTERVALS SYNC           | PICTURE 999V99 VALUE 50.         | C98970 |
| 47040 | 01 | HIST-INPUT-VMAX-VMIN SYNC           | PICTURE 9 VALUE ZERO.            | C98970 |
| 47050 | 01 | HIST-DIST SYNC                      | PICTURE X VALUE !:.              | C98970 |
| 47060 | 01 | HIST-INDEX SYNC COMPUTATIONAL       |                                  | C98970 |
| 47070 |    |                                     | PICTURE S999 VALUE ZERO.         | C98970 |
| 47080 | 01 | HIST-INDEX-2 SYNC COMPUTATIONAL     |                                  | C98970 |
| 47090 |    |                                     | PICTURE S999 VALUE ZERO.         | C98970 |
| 47100 | 01 | HIST-TEMP SYNC                      | PICTURE S99999V99 VALUE ZERO.    | C98970 |
| 47110 | 01 | HIST-INTERVAL-SIZE SYNC             | PICTURE S999V99 VALUE ZERO       | C98970 |
| 47120 |    | COMPUTATIONAL.                      |                                  | C98970 |
| 47150 | 01 | HIST-FLAG SYNC                      | PICTURE X VALUE 101.             | C98970 |
| 47160 | 01 | HIST-SCALE-VALUE SYNC COMPUTATIONAL |                                  | C98970 |
| 47170 |    |                                     | PICTURE S999 VALUE <1.           | C98970 |
| 47180 | 01 | HIST-PERCENT SYNC                   | PICTURE S999V99 COMPUTATIONAL.   | C98970 |
| 47190 | 01 | HIST-CUM SYNC                       | PICTURE S999V99 COMPUTATIONAL.   | C98970 |
| 47200 | 01 | HIST-LINE SYNC COMPUTATIONAL        |                                  | C98970 |
| 47210 |    |                                     | PICTURE S999 VALUE ZERO.         | C98970 |
| 47220 | 01 | HIST-PAGE-FLAG SYNC                 | PICTURE S999 VALUE <70.          | C98970 |
| 47230 | 01 | HIST-LINE-CNT SYNC                  | PICTURE S999.                    | C98970 |
| 47300 | 01 | HIST-ERR=1 SYNC                     | PICTURE X(10) VALUE              | C98970 |
| 47310 |    | !ERROR NO 0:.                       |                                  | C98970 |
| 47320 | 01 | HIST-ERR=3 SYNC.                    |                                  | C98970 |
| 47330 | 02 | FILLER                              | PICTURE X(5) VALUE 1BS > 1.      | C98970 |
| 47340 | 02 | HIST-ERR=2                          | PICTURE S9(5) VALUE ZERO.        | C98970 |
| 47350 | 01 | HIST-ERR=4 SYNC                     | PICTURE X(10) VALUE              | C98970 |
| 47360 |    | !ERROR MAX1.                        |                                  | C98970 |
| 47370 | 01 | HIST-ERR=5 SYNC                     | PICTURE X(10) VALUE              | C98970 |
| 47380 |    | !-MIN BAD. !.                       |                                  | C98970 |
| 47390 | 01 | HIST-OUI-RANGE-VALUE SYNC           | PICTURE S999 COMPUTATIONAL.      | C98970 |
| 47500 | 01 | FILLER SYNC.                        |                                  | C98970 |
| 47510 | 02 | FILLER OCCURS 200 TIMES.            |                                  | C98970 |
| 47530 | 03 | HIST-TABLE                          | PICTURE S9(5) COMPUTATIONAL.     | C98970 |
| 47540 | 03 | HIST-UPPER-LIMIT                    | PICTURE S99999V99 COMPUTATIONAL. | C98970 |
| 47550 | 03 | HIST-TABLE-SCALED                   | PICTURE S999V99 COMPUTATIONAL.   | C98970 |
| 47560 | 01 | HIST-NEW-PAGE SYNC.                 |                                  | C98970 |
| 47570 | 02 | FILLER                              | PICTURE X VALUE !:.              | C98970 |
| 47580 | 02 | FILLER                              | PICTURE X(122) VALUE SPACE.      | C98970 |
| 47582 | 02 | FILLER                              | PICTURE X(5) VALUE !PAGE !.      | C98970 |
| 47584 | 02 | HIST-PAGE-NO                        | PICTURE 9.                       | C98970 |
| 47590 | 02 | FILLER                              | PICTURE X VALUE !:!              | C98970 |
| 47600 | 01 | HIST-TITLE SYNC.                    |                                  | C98970 |
| 47610 | 02 | FILLER                              | PICTURE X(3) VALUE !S 1.         | C98970 |
| 47620 | 02 | HIST-TITLE-1.                       |                                  | C98970 |
| 47621 | 03 | FILLER                              | PICTURE X(10) VALUE SPACE.       | C98970 |
| 47630 | 02 | HIST-TITLE-2.                       |                                  | C98970 |
| 47631 | 03 | FILLER                              | PICTURE X(10) VALUE SPACE.       | C98970 |
| 47640 | 02 | HIST-TITLE-3                        | PICTURE X(10) VALUE SPACE.       | C98970 |
| 47650 | 02 | HIST-TITLE-4                        | PICTURE X(10) VALUE SPACE.       | C98970 |
| 47660 | 02 | FILLER                              | PICTURE X(24) VALUE              | C98970 |
| 47670 | :  | ! NO OF OBSERVATIONS > !.           |                                  | C98970 |
| 47680 | 02 | HIST-NO-OF-OBS-RPT                  | PICTURE ZZZZ9.                   | C98970 |
| 47690 | 02 | FILLER                              | PICTURE X(13) VALUE              | C98970 |
| 47700 |    | ! VALUE MAX > !.                    |                                  | C98970 |
| 47710 | 02 | HIST-VALUE-MAX-RPT                  | PICTURE ----.9.                  | C98970 |
| 47720 | 02 | FILLER                              | PICTURE X(13) VALUE              | C98970 |
| 47730 |    | ! VALUE MIN > !.                    |                                  | C98970 |
| 47740 | 02 | HIST-VALUE-MIN-RPT                  | PICTURE ----.9.                  | C98970 |
| 47750 | 02 | FILLER                              | PICTURE X(18) VALUE              | C98970 |
| 47760 | :  | !.                                  | !.                               | C98970 |
| 47900 | 01 | HIST-UVI-LINE SYNC.                 |                                  | C98970 |
| 47910 | 02 | FILLER                              | PICTURE X(80) VALUE              | C98970 |
| 47920 | :  | !-----!.                            |                                  | C98970 |
| 47922 | 02 | FILLER                              | PICTURE X(80) VALUE              | C98970 |
| 47930 | :  | !-----!.                            |                                  | C98970 |
| 47940 | -  | !-----!.                            |                                  | C98970 |

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47950 01 HIST-LABEL SYNC. C98970
47960 02 FILLER PICTURE X(50) VALUE C98970
47970 1/ MIOPNT PCNT CUM FREQ 1...5...10...15...20.1. C98970
47974 02 FILLER PICTURE X(80) VALUE 1.. C98970
47980 - 125...30...35...40...45...50...55...60...65...70...75...80... C98970
47990 - :85...90...95...100:1. C98970
48000 01 HIST-LINE-OUT SYNC. C98970
48010 02 FILLER PICTURE X VALUE 1/1. C98970
48020 02 HIST-LINE-RPT PICTURE ZZ9. C98970
48030 02 FILLER PICTURE X VALUE SPACE. C98970
48040 02 HIST-MID-POINT-RPT PICTURE ----.9. C98970
48060 02 HIST-PERCENT-RPT PICTURE ZZ9.9. C98970
48070 02 FILLER PICTURE X VALUE SPACE. C98970
48080 02 HIST-CUM-RPT PICTURE ZZ9.9. C98970
48100 02 HIST-FREQ-RPT PICTURE ZZZ9. C98970
48110 02 FILLER PICTURE X VALUE SPACE. C98970
48120 02 HIST-POINT OCCURS 100 TIMES C98970
48130 PICTURE X. C98970
48140 02 FILLER PICTURE X VALUE 1:1. C98970
48150 01 HIST-OUT-RANGE-REC SYNC. C98970
48160 02 FILLER PICTURE X(35) VALUE C98970
48170 1/ NUMBER OF OUT OF RANGE VALUES >1. C98970
48180 02 HIST-OUT-RANGE-RPT PICTURE ZZ9. C98970
48190 02 FILLER PICTURE X(91) VALUE SPACE. C98970
48191 02 FILLER PICTURE X VALUE 1:1. C98970
48200 01 HIST-SCALE-LINE SYNC. C98970
48210 02 FILLER PICTURE X(27) VALUE C98970
48220 1/ SCALING FACTOR > 1. C98970
48230 02 HIST-SCALE-RPT PICTURE ZZ9. C98970
48240 02 FILLER PICTURE X(99) VALUE SPACE. C98970
48250 02 FILLER PICTURE X VALUE 1:1. C98970
48300 01 FILLER SYNC. C98970
48310 02 HIST-VALUE OCCURS 1000 TIMES C98970
48320 PICTURE S9999V9 COMPUTATIONAL. C98970
48400 01 TASK7-REC SYNC. C98970
48410 05 TASK7-ISO PICTURE X. C98970
48411 05 FILLER PICTURE X(9). C98970
48420 05 TASK7-ID PICTURE X(1) VALUE 1:1. C98970
48430 05 FILLER PICTURE X(1). C98970
48440 05 TASK7-WUC PICTURE X(5). C98970
48450 05 FILLER PICTURE X. C98970
48451 05 TASK7-HMC PICTURE X(3). C98970
48452 05 FILLER PICTURE X. C98970
48460 05 MEAN-RPT PICTURE S9(7)V9. C98970
48470 05 FILLER PICTURE X. C98970
48480 05 VARIANCE-RPT PICTURE S9(7)V9. C98970
48490 05 FILLER PICTURE X(10). C98970
48500 05 FILLER PICTURE X VALUE 1:1. C98970
50000 PROCEDURE DIVISION. C98970
50010 OPEN INPUT IN-FILE. C98970
50020 OPEN OUTPUT HIST-FILE. C98970
50030 MOVE 1010 TO KNT. C98970
50040 PERFORM RESET-TABLE THRU END-RST-TABLE. C98970
50050 READ IN-FILE, AT END GO TO CLOSE-FILES. C98970
50100 PARA-1. C98970
50110 MOVE 1 TO HIST-NO-OF-OBS. C98970
50120 MOVE WUC TO CUR-WUC. C98970
50130 MOVE HMC TO CUR-HMC. C98970
50140 MOVE UATA-TYPE-NEW TO DATA-TYPE. C98970
50150 MOVE ISCHRONAL-NEW TO ISCHRONAL. C98970
50160 IF UATA-TYPE NOT EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO C98970
50170 FLT-DATA. C98970
50200 READ1. C98970
50210 READ IN-FILE, AT END GO TO CLOSE-FILES. C98970
50220 IF DATA-TYPE-NEW IS EQUAL TO 191 GO TO CLOSE-FILES. C98970
50230 IF WUC IS NOT EQUAL TO CUR-WUC GO TO PARA-2. C98970
50240 IF HMC IS NOT EQUAL TO CUR-HMC GO TO PARA-2. C98970
50250 ADD 1 TO HIST-NO-OF-OBS. C98970
50260 IF UATA-TYPE NOT EQUAL TO ONE GO TO WEEKS-DATA ELSE GO TO C98970
50270 FLT-DATA. C98970
50300 PARA-2. C98970
50310 PERFORM SET-HISTO0 THRU END-SH. C98970
50320 PERFORM RESET-TABLE THRU END-RST-TABLE. C98970
50330 GO TO PARA-1. C98970
50400 RESET-TABLE. C98970
50410 MOVE ZERO TO CNT. C98970
50420 RST. C98970
50430 ADD 1 TO CNT. C98970
50440 MOVE MINUS-ONE TO HIST-VALUE [CNT]. C98970
50445 MOVE ZERO TO FREQ-HIST-VALUE [CNT]. C98970
50450 IF CNT IS LESS THAN KNT GO TO RST. C98970
50455 MOVE ZERO TO KNT. C98970
50460 END-RST-TABLE. EXIT. C98970

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50510 SET-HISTOG. C98970
50590 PERFORM WRITE-HISTOGRAM THRU END-HIST. C98970
50600 IF HIST-FLAG IS EQUAL TO 11 THEN GO TO CF1. C98970
50610 ADD 1 TO NO-OF-HISTS. C98970
50620 END-SH. EXIT. C98970
51000 WEEKS-DATA. C98970
51010 MOVE ZERO TO CNT. C98970
51020 WEEK-A. C98970
51030 ADD 1 TO CNT. C98970
51040 IF OBS IS EQUAL TO HIST-VALUE [CNT] GO TO WEEK-C. C98970
51050 IF FRE.-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO WEEK-B. C98970
51060 IF CNT IS LESS THAN 1000 GO TO WEEK-A. C98970
51070 DISPLAY : MORE THAN 1000 FREQUENCY OCCURENCES : UPON CONSOLE. C98970
51080 GO TO CF1. C98970
51090 WEEK-B. C98970
51100 MOVE OBS TO HIST-VALUE [CNT]. C98970
51110 IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT. C98970
51120 WEEK-C. C98970
51130 ADD 1 TO FREQ-HIST-VALUE [CNT]. C98970
51140 GO TO HEAD1. C98970
52000 FLT-DATA. C98970
52010 MOVE ZERO TO CNT. C98970
52020 FLT-A. C98970
52030 ADD 1 TO CNT. C98970
52040 IF OBS-1 IS EQUAL TO HIST-VALUE [CNT] GO TO FLT-C. C98970
52050 IF FRE.-HIST-VALUE [CNT] IS EQUAL TO ZERO GO TO FLT-B. C98970
52060 IF CNT IS LESS THAN 1000 GO TO FLT-A. C98970
52070 DISPLAY : MORE THAN 1000 FREQUENCY OCCURENCES : UPON CONSOLE. C98970
52080 GO TO CF1. C98970
52090 FLT-D. C98970
52100 MOVE OBS-1 TO HIST-VALUE [CNT]. C98970
52110 IF CNT IS GREATER THAN KNT THEN MOVE CNT TO KNT. C98970
52120 FLT-C. C98970
52130 ADD 1 TO FREQ-HIST-VALUE [CNT]. C98970
52140 GO TO HEAD1. C98970
52200 CLOSE-FILES. C98970
52205 PERFORM SET-HISTOG THRU END-SH. C98970
52207 CF1. C98970
52210 CLOSE IN-FILE, HIST-FILE. C98970
52211 IF HIST-FLAG IS EQUAL TO 11 DISPLAY : HIST ERROR : UPON C98970
52212 CONSOLE. C98970
52215 DISPLAY : NO OF HISTOGRAMS > : NO-OF-HISTS UPON CONSOLE. C98970
52220 DISPLAY : E0J C9897P : UPON CONSOLE. C98970
52230 GOBACK. C98970
95000 COMPUTE-MEAN-VARIANCE. C98970
95005 IF HIST-NO-OF-OBS EQUAL TO 1 GO TO CMV-3. C98970
95010 MOVE ZERO TO CNT. C98970
95020 MOVE ZERO TO MEAN. C98970
95030 CMV-1. C98970
95040 ADD 1 TO CNT. C98970
95050 COMPUTE TEMP-COMP > HIST-VALUE [CNT] * FREQ-HIST-VALUE [CNT]. C98970
95060 ADD TEMP-COMP TO MEAN. C98970
95070 IF CNT IS LESS THAN KNT GO TO CMV-1. C98970
95080 DIVIDE HIST-NO-OF-OBS INTO MEAN. C98970
95090 MOVE ZERO TO CNT. C98970
95100 MOVE ZERO TO VARIANCE. C98970
95110 CMV-2. C98970
95120 ADD 1 TO CNT. C98970
95130 COMPUTE TEMP-COMP > [(HIST-VALUE [CNT] - MEAN) ** 2] * C98970
95140 FREQ-HIST-VALUE [CNT]. C98970
95150 ADD TEMP-COMP TO VARIANCE. C98970
95160 IF CNT IS LESS THAN KNT GO TO CMV-2. C98970
95170 COMPUTE VARIANCE > VARIANCE / [HIST-NO-OF-OBS - 1]. C98970
95180 MOVE MEAN TO MEAN-RPT. C98970
95190 MOVE VARIANCE TO VARIANCE-RPT. C98970
95191 GO TO CMV-4. C98970
95192 CMV-3. C98970
95193 MOVE ZERO TO VARIANCE-RPT. C98970
95194 MOVE HIST-VALUE [1] TO MEAN-RPT. C98970
95195 CMV-4. C98970
95290 END-CMV. C98970
97000 WRITE-HISTOGRAM. C98970
97355 PERFORM COMPUTE-MEAN-VARIANCE THRU END-CMV. C98970
97356 MOVE CUR-WUC TO TASK7-WUC. C98970
97357 MOVE CUR-HMC TO TASK7-HMC. C98970
97358 MOVE ISCHRONAL TO TASK7-ISO. C98970
97360 WRITE HIST-REC FROM TASK7-REC. C98970
99990 END-HIST. EXIT. C98970
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG.TF6IN DD *,SPACE>[CYL,1,1]] 1440 CDS
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU12 DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 T12
//TPR.TU25 DD DISP>[OLD,KEEP],VOL>SER>+F8,UNIT>T+F8 T25
//TPR.TPRIN DD *,SPACE>[TRK,1,1]]
T/P TU12 10100202020
T/P TU25 10100502050
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

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6.15.7 MERGE AND ADD WUC GROUP IDENTIFICATION

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//T9897A JOB 01: WANG :;PTY>02;TYPRUN>HOLD
//C9897A EXEC P96;5L;TIME>03;ACCT>D35323007
//CHG,TU13 DU DISP>[+F2,A+F2,B+F2,C+F2,D+F2,E+F2,F+F2,G+F2,H+F2, CT13 1
// VOL>SER>[+F2,A+F2,B+F2,C+F2,D+F2,E+F2,F+F2,G+F2,H+F2, CT13 2
// 1+F2,J+F2,K+F2,L+F2,M+F2,N+F2,O+F2,P+F2,Q+F2,R+F2,S+F2] T13 3
//CHG,TU14 DD DISP>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 1
// VOL>SER>[+F3,A+F3,B+F3,C+F3,D+F3,E+F3,F+F3,G+F3,H+F3, CT14 2
// 1+F3,J+F3,K+F3,L+F3,M+F3,N+F3,O+F3,P+F3,Q+F3,R+F3,S+F3] T14 3
//CHG,TU15 DD DISP>[+F4,A+F4,B+F4,C+F4,D+F4,E+F4,F+F4,G+F4,H+F4, CT15 1
// VOL>SER>[+F4,A+F4,B+F4,C+F4,D+F4,E+F4,F+F4,G+F4,H+F4, CT15 2
// 1+F4,J+F4,K+F4,L+F4,M+F4,N+F4,O+F4,P+F4,Q+F4,R+F4,S+F4] T15 3
//CHG,TU22 DD DISP>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 1
// VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5, CT22 2
// 1+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5] T22 3
//CHG,INPUT DD +,SPACE>[CYL,[1,1]] 1440 CDS
00000 CUMLINE COMPILE 0. WANG. C98970
01000 IDENTIFICATION DIVISION. C98970
01010 PROGRAM-ID. C9897 C98970
01020 AUTHOR. A. J. ROWKER C98970
01030 INSTALLATION. GENERAL DYNAMICS/CONVAIR. C98970
01040 DATE-WRITTEN. 25 JULY 72. C98970
01050 REMARKS. PROGRAM V11 C98970
01060 ADD GROUP IDENTIFICATION C98970
01070 AND MERGE DATA. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IBM-360. C98970
02030 OBJECT-COMPUTER. IBM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE-1 ASSIGN TO UT-S-TU13 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT IN-FILE-2 ASSIGN TO UT-S-TU14 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT IN-FILE-3 ASSIGN TO UT-S-TU15 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
02180 SELECT CARD-FILE ASSIGN TO DA-S-DT01 C98970
02190 RESERVE 1 ALTERNATE AREA. C98970
02200 SELECT OUTFILE ASSIGN TO UT-S-TU22 C98970
02210 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11100 FD IN-FILE-1 C98970
11120 RECORDING MODE IS F C98970
11130 BLOCK CONTAINS 60 RECORDS C98970
11140 RECORD CONTAINS 50 CHARACTERS C98970
11150 LABEL RECORDS ARE OMITTED C98970
11160 DATA RECORDS ARE IN-REC-1. C98970
11170 01 IN-REC-1 PICTURE X(50). C98970
12100 FD IN-FILE-2 C98970
12120 RECORDING MODE IS F C98970
12130 BLOCK CONTAINS 60 RECORDS C98970
12140 RECORD CONTAINS 50 CHARACTERS C98970
12150 LABEL RECORDS ARE OMITTED C98970
12160 DATA RECORDS ARE IN-REC-2. C98970
12170 01 IN-REC-2 PICTURE X(50). C98970
13100 FD IN-FILE-3 C98970
13120 RECORDING MODE IS F C98970
13130 BLOCK CONTAINS 60 RECORDS C98970
13140 RECORD CONTAINS 50 CHARACTERS C98970
13150 LABEL RECORDS ARE OMITTED C98970
13160 DATA RECORDS ARE IN-REC-3. C98970
13170 01 IN-REC-3 PICTURE X(50). C98970
14100 FD CARD-FILE C98970
14120 RECORDING MODE IS F C98970
14130 BLOCK CONTAINS 20 RECORDS C98970
14140 RECORD CONTAINS 80 CHARACTERS C98970
14150 LABEL RECORDS ARE STANDARD C98970
14160 DATA RECORDS ARE CARD-REC. C98970
14170 01 CARD-REC PICTURE X(80). C98970
15100 FD OUTFILE C98970
15120 RECORDING MODE IS F C98970
15130 BLOCK CONTAINS 60 RECORDS C98970
15140 RECORD CONTAINS 50 CHARACTERS C98970
15150 LABEL RECORDS ARE OMITTED C98970
15160 DATA RECORDS ARE OUT-REC. C98970

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|       |   |        |
|-------|---|--------|
| 51000 | READ-FILE-1.  | C98970 |
| 51010 | READ IN-FILE-1 INTO DATA-IN-REC. AT END GO TO READ-FILE-2.    | C98970 |
| 51015 | ADD 1 TO NUM-REC-1.   | C98970 |
| 51020 | PERFORM PROCESS-WUC THRU END-P-W.                             | C98970 |
| 51030 | GO TO READ-FILE-1.  | C98970 |
| 51100 | READ-FILE-2.  | C98970 |
| 51110 | READ IN-FILL-2 INTO DATA-IN-REC. AT END GO TO READ-FILE-3.    | C98970 |
| 51115 | ADD 1 TO NUM-REC-2.   | C98970 |
| 51120 | PERFORM PROCESS-WUC THRU END-P-W.                             | C98970 |
| 51130 | GO TO READ-FILE-2.  | C98970 |
| 51200 | READ-FILE-3.  | C98970 |
| 51210 | READ IN-FILL-3 INTO DATA-IN-REC. AT END GO TO CLOSE-FILES.    | C98970 |
| 51215 | ADD 1 TO NUM-REC-3.   | C98970 |
| 51220 | PERFORM PROCESS-WUC THRU END-P-W.                             | C98970 |
| 51230 | GO TO READ-FILE-3.  | C98970 |
| 52000 | PROCESS-WUC.  | C98970 |
| 52010 | IF WUC-IN IS EQUAL TO LAST-WUC-IN GO TO WRITE-OUTREC.         | C98970 |
| 52015 | MOVE SPEC-WUC-TABLE (1) TO WUC-TEMP.                          | C98970 |
| 52020 | IF WUC-IN-2 IS EQUAL TO WUC-TEMP-2.                           | C98970 |
| 52030 | GO TO PROCESS-SPECIAL-WUC.                                    | C98970 |
| 52040 | MOVE ZERO TO INDEX-1.   | C98970 |
| 52050 | TEST-WUC.   | C98970 |
| 52060 | ADD 1 TO INDEX-1.   | C98970 |
| 52065 | MOVE WUC-TABLE-5 (INDEX-1) TO WUC-TEMP.                       | C98970 |
| 52070 | IF WUC-IN-2 IS EQUAL TO WUC-TEMP-2.                           | C98970 |
| 52080 | GO TO SAME-WUC-2.   | C98970 |
| 52090 | IF INDEX-1 IS LESS THAN MAX-NUM-WUC GO TO TEST-WUC.           | C98970 |
| 52100 | MOVE SPACE TO LAST-WUC-IN.                                    | C98970 |
| 52110 | GO TO END-P-W.  | C98970 |
| 52200 | SAME-WUC-2.   | C98970 |
| 52205 | MOVE WUC-TABLE-5 (INDEX-1) TO WUC-TEMP.                       | C98970 |
| 52210 | IF WUC-TEMP-3DIG IS EQUAL TO SPACE                            | C98970 |
| 52220 | GO TO WRITE-OUTREC-1.   | C98970 |
| 52230 | IF WUC-IN-3 IS EQUAL TO WUC-TEMP-3                            | C98970 |
| 52240 | WRITE-OUTREC-1.   | C98970 |
| 52250 | ADD 1 TO INDEX-1.   | C98970 |
| 52260 | IF INDEX-1 IS GREATER THAN MAX-NUM-WUC                        | C98970 |
| 52270 | DISPLAY : PROBLEM IN SAME-WUC-2 I UPON CONSOLE                | C98970 |
| 52280 | GO TO CLOSE-FILES.  | C98970 |
| 52290 | GO TO SAME-WUC-2.   | C98970 |
| 52400 | WRITE-OUTREC.   | C98970 |
| 52410 | MOVE CUR-GRP-ID TO GROUP-ID.                                  | C98970 |
| 52420 | MOVE CUR-WUC TO GROUP-WUC.                                    | C98970 |
| 52430 | WRITE OUT-REC FROM DATA-IN-REC.                               | C98970 |
| 52440 | ADD 1 TO NUM-OUT-REC.   | C98970 |
| 52450 | MOVE WUC-IN TO LAST-WUC-IN.                                   | C98970 |
| 52460 | GO TO END-P-W.  | C98970 |
| 52500 | PROCESS-SPECIAL-WUC.  | C98970 |
| 52510 | MOVE 1 TO INDEX-2.  | C98970 |
| 52520 | IF WUC-IN IS EQUAL SPEC-WUC-TABLE (INDEX-2) GO TO SPEC-WUC-1. | C98970 |
| 52600 | PROCESS-SPEC-WUC-3.   | C98970 |
| 52610 | ADD 1 TO INDEX-2.   | C98970 |
| 52615 | MOVE SPEC-WUC-TABLE (INDEX-2) TO WUC-TEMP.                    | C98970 |
| 52620 | IF WUC-IN-3 IS EQUAL TO WUC-TEMP-3                            | C98970 |
| 52630 | GO TO SPEC-WUC-1.   | C98970 |
| 52640 | IF INDEX-2 IS LESS THAN MAX-SPEC-WUC GO TO                    | C98970 |
| 52650 | PROCESS-SPEC-WUC-3.   | C98970 |
| 52660 | MOVE SPACE TO LAST-WUC-IN.                                    | C98970 |
| 52670 | GO TO END-P-W.  | C98970 |
| 52700 | SPEC-WUC-1.   | C98970 |
| 52710 | COMPUTE CUR-GRP-ID > INDEX-2 < MAX-NUM-WUC.                   | C98970 |
| 52720 | MOVE SPEC-WUC-TABLE (INDEX-2) TO CUR-WUC.                     | C98970 |
| 52730 | GO TO WRITE-OUTREC.   | C98970 |
| 52800 | WRITE-OUTREC-1.   | C98970 |
| 52810 | MOVE INDEX-1 TO CUR-GRP-ID.                                   | C98970 |
| 52820 | MOVE WUC-TABLE-5 (INDEX-1) TO CUR-WUC.                        | C98970 |
| 52830 | GO TO WRITE-OUTREC.   | C98970 |
| 52990 | END-P-W, EXIT.  | C98970 |
| 55000 | CLOSE-FILES.  | C98970 |
| 55010 | MOVE NUM-REC-1 TO TEMP-NUM.                                   | C98970 |
| 55020 | DISPLAY : NO. RECS FILE 1 I TEMP-NUM UPON CONSOLE.            | C98970 |
| 55030 | MOVE NUM-REC-2 TO TEMP-NUM.                                   | C98970 |
| 55040 | DISPLAY : NO. RECS FILE 2 I TEMP-NUM UPON CONSOLE.            | C98970 |
| 55050 | MOVE NUM-REC-3 TO TEMP-NUM.                                   | C98970 |
| 55060 | DISPLAY : NO. RECS FILE 3 I TEMP-NUM UPON CONSOLE.            | C98970 |
| 55070 | MOVE NUM-OUT-REC TO TEMP-NUM.                                 | C98970 |
| 55080 | DISPLAY : NO. OUTRECS I TEMP-NUM UPON CONSOLE.                | C98970 |
| 55100 | COMPUTE INDEX-1 > NUM-OUT-REC - NUM-OUT-REC / 60 * 60.        | C98970 |
| 55110 | IF INDEX-1 IS EQUAL TO ZERO GO TO CF-1.                       | C98970 |

```

55120 CF-2.
55130 WRITE OUT-REC FROM NINE.
55140 ADD 1 TO INDEX-1.
55150 IF INDEX-1 IS LESS THAN 60 GO TO CF-2.
55200 CF-1.
55210 CLOSE IN-FILE-1.
55220 IN-FILE-2.
55230 IN-FILE-3.
55240 CARD-FILE.
55250 OUTFILE WITH LOCK.
55260 DISPLAY : E0J C9897 : UPON CONSOLE.
55270 GOBACK.
/* PLACE COBOL SOURCE BEFORE THIS CARD
//CHG.TF6IN DD *.SPACEX(CYL,(1,1))
00000 GET TFG
010001 019999 REPLACE
TFG D101 11 0202000

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1000 CDS
C98970'T
'Y

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WANG

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43
11J
11K
11
12H
12
13C
13J
13
14
14
23K
23M
23N
23U
23S
23
41F
41
42E
42F
42G
42
44
45E
45J
45
46A
46C
46G
46M
46J
46
47
49A
49
51
52
55
63
65
71
75
93
97
11
74000
74A
74B
74C
74D
74F
74M
74K
74L
74P
74Q
*END

```

```

/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU13 DU DISP*(OLD,KEEP),VOL>SER>+P2,UNIT>T+P2
//TPR.TU14 DD DISP*(OLD,KEEP),VOL>SER>+P3,UNIT>T+P3
//TPR.TU15 DU DISP*(OLD,KEEP),VOL>SER>+P4,UNIT>T+P4
//TPR.TU22 DD DISP*(OLD,KEEP),VOL>SER>+P5,UNIT>T+P5
//TPR.TPRIN DD *.SPACEX(TRN,(1,1))
T/P TU13 10100502050
T/P TU14 101005J2050
T/P TU15 10100502050
T/P TU22 10100502050
T/P DT01 10100002000
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

```

T13
T14
T15
T22

```

### 6.15.8 SORT MANHOOR AND NORM DATA

```

//C98975 EXEC P96,2N,W>199,TIME>02,ACCT>D35323007
//CHG,SORTIN  DD  DISP>[KEEP],UNIT>[T+F5,1,DEFER],          CT22  1
//              DSN>+E.9897463,                               CT22  2
//              VOL>SER>[+F5,A+F5,B+F5,C+F5,D+F5,E+F5,F+F5,G+F5,H+F5,   CT22  3
//              1+F5,J+F5,K+F5,L+F5,M+F5,N+F5,O+F5,P+F5,Q+F5,R+F5,S+F5],CT22  4
//              DCB>[LRECL>0050,BLKSIZE>3000],LABEL>[NSL,RETPD>099]
//CHG,SORTOUT DD  DISP>[KEEP],UNIT>[T+F1,1,DEFER],DSN>+A.9897464,   CT12  1
//              VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1,   CT12  2
//              1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1],CT12  3
//              DCB>[LRECL>0050,BLKSIZE>3000]
//CHG,SYSIN  DD  *,DCB>BLKSIZE>0080,SPACE>[TRK,[1,1]]
SORT  FIELDS>[001,001,CH,A,002,002,CH,A,013,005,CH,A,019,003,CH,D,   C
       011,001,CH,A,3,SIZE>E0050000
MODS  E15>[E15,008,SORTLIB,N],E18>[E18,024,SORTLIB,N]

```

### 6.15.9 MEANS OF WUC SET

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//T9897H JOB 01: WANG          ,PRTY>02,TPRUN>HOLD
//C9897H EXEC P96,5L,TIME>05,ACCT>D35323007
//CHG,TU12  DD  DISP>[PASS],UNIT>[T+F1,1,DEFER],DSN>+A.9897464,   CT12  1
//              VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1,   CT12  2
//              1+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12  3
//CHG,TU23  DD  DSN>+P.9897465,SPACE>[CYL,[009,001]]             D23-OUT
//CHG,TU24  DD  DSN>+P.9897466,SPACE>[CYL,[009,001]]             D24-OUT
//CHG,INPUT DD  *,SPACE>[CYL,[1,1]]                               1440 CDS
00000      COMPILE                               6. WANG          C98970
01000      IDENTIFICATION DIVISION.                C98970
01010      PROGRAM-ID. C9897                        C98970
01020      AUTHOR. A. J. BOWKER.                   C98970
01030      INSTALLATION. GENERAL DYNAMICS/CONVAIR. C98970
01040      DATE-WRITTEN. 27 JUL 72.                 C98970
01050      REMARKS.                                  C98970
01060          TASK VII-5                            C98970
01070          COMPUTE PASS NO 1.                    C98970
02000      ENVIRONMENT DIVISION.                   C98970
02010      CONFIGURATION SECTION.                  C98970
02020      SOURCE-COMPUTER. IBM-360.                C98970
02030      OBJECT-COMPUTER. IBM-360.                C98970
02100      INPUT-OUTPUT SECTION.                   C98970
02110      FILE-CONTROL.                            C98970
02120          SELECT IN-FILE-1                     ASSIGN TO UT-5-TU12 C98970
02130          RESERVE 1 ALTERNATE AREA.             C98970
02140          SELECT FILE-2                         ASSIGN TO UT-5-TU23 C98970
02150          RESERVE 1 ALTERNATE AREA.             C98970
02160          SELECT FILE-3                         ASSIGN TO UT-5-TU24 C98970
02170          RESERVE 1 ALTERNATE AREA.             C98970
10000      DATA DIVISION.                          C98970
10010      FILE SECTION.                            C98970
11100      FD  IN-FILE-1                            C98970
11110      RECORING MODE 15 F                        C98970
11130      BLOCK CONTAINS 60 RECORDS                 C98970
11140      RECORD CONTAINS 50                        CHARACTERS C98970
11150      LABEL RECORDS ARE OMITTED                 C98970
11160      DATA RECORDS ARE 1N-REC-1.               C98970
11170      01 1N-REC-1 SYNC.                         C98970
11180          05 IS0                                PICTURE X.         C98970
11184          05 GRP-ID                             PICTURE XX.        C98970
11186          05 FILLER                             PICTURE X(7).      C98970
11190          05 JU                                  PICTURE X.         C98970
11200          05 FILLER                             PICTURE X.         C98970
11210          05 WUC                                 PICTURE X(B).      C98970
11220          05 FILLER                             PICTURE X.         C98970
11230          05 DATA-IN.                          C98970
11240              10 FILLER                         PICTURE X(4).      C98970
11250              10 NORM-MA                        PICTURE 9(7)99.    C98970
11260              10 FILLER                         PICTURE X.         C98970
11270              10 VAR-NORM-MA                    PICTURE 9(7)99.    C98970
11280              10 FILLER                         PICTURE X(9).      C98970
11290          05 FILLER                             PICTURE XX.        C98970
12100      FD  FILE-2                                C98970
12110      RECORING MODE 15 F                        C98970
12130      BLOCK CONTAINS 60 RECORDS                 C98970
12140      RECORD CONTAINS 50                        CHARACTERS C98970

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|       |  |        |
|-------|--|--------|
| 50200 | TEST-GRP-ID.   | C98970 |
| 50210 | IF GRP-ID IS EQUAL TO CURID GO TO TEST-WUC.                | C98970 |
| 50220 | IF CURID IS EQUAL TO SPACE                                 | C98970 |
| 50230 | MOVE GRP-ID TO CURID                                       | C98970 |
| 50240 | GO TO TEST-WUC.  | C98970 |
| 50250 | GO TO NEW-GROUP.   | C98970 |
| 50300 | TEST-WUC.  | C98970 |
| 50310 | IF WUC IS EQUAL TO CURWUC GO TO TEST-ID.                   | C98970 |
| 50320 | IF CURWUC IS EQUAL TO SPACE                                | C98970 |
| 50330 | MOVE WUC TO CURWUC   | C98970 |
| 50340 | GO TO TEST-ID.   | C98970 |
| 50350 | GO TO NEW-WUC.   | C98970 |
| 50400 | TEST-ID.   | C98970 |
| 50410 | IF JD IS EQUAL TO ONE MOVE DATA-IN TO DATA-1               | C98970 |
| 50420 | GO TO READ-DATA-IN.  | C98970 |
| 50430 | IF JD IS EQUAL TO TWO MOVE DATA-IN TO DATA-2               | C98970 |
| 50440 | GO TO TEST-HMC.  | C98970 |
| 50450 | IF JD IS EQUAL TO THREE                                    | C98970 |
| 50460 | COMPUTE NORM-UMA-NUM > NORM-UMA-NUM < N2 * NORM-MA         | C98970 |
| 50470 | GO TO HEAD-DATA-IN.  | C98970 |
| 50480 | DISPLAY , BAD ID 1 JD UPON CONSOLE                         | C98970 |
| 50490 | GO TO CLOSE-FILES.   | C98970 |
| 50500 | TEST-HMC.  | C98970 |
| 50510 | IF HMC-1 IS NOT EQUAL TO HMC-2 GO TO READ-DATA-IN.         | C98970 |
| 50520 | COMPUTE MH-MA-NUMA > MH-MA-NUMA < MH-MA * NUMA.            | C98970 |
| 50530 | ADD NUMA TO N1.  | C98970 |
| 50540 | ADD NUMA TO N2.  | C98970 |
| 50550 | COMPUTE C > C < MH-MA * NUMA.                              | C98970 |
| 50560 | COMPUTE MH-REP-PE-N > MH-REP-PE-N < MH-MA * NREP-PE.       | C98970 |
| 50570 | COMPUTE MH-REP-HP-N > MH-REP-HP-N < MH-MA * NREP-HP.       | C98970 |
| 50580 | ADD NREP-PE TO NREP-PE-D.                                  | C98970 |
| 50590 | ADD NREP-HP TO NREP-HP-D.                                  | C98970 |
| 50600 |  | C98970 |
| 50610 | GO TO HEAD-DATA-IN.  | C98970 |
| 51000 | NEW-WUC.   | C98970 |
| 51010 | MOVE CURISO TO ISO-2.                                      | C98970 |
| 51020 | MOVE CURID TO GRP-ID-2.                                    | C98970 |
| 51025 | MOVE CURWUC TO WUC-REC-2.                                  | C98970 |
| 51030 | WRITE REC-2 FROM WS-REC-2.                                 | C98970 |
| 51040 | ADD 1 TO NUM-REC-2.  | C98970 |
| 51050 | PERFORM RESET-1.   | C98970 |
| 51060 | MOVE WUC TO CURWUC.  | C98970 |
| 51090 | GO TO TEST-ID.   | C98970 |
| 51100 | NEW-GROUP.   | C98970 |
| 51110 | IF N1 IS EQUAL TO ZERO DISPLAY 1 N1 IS ZERO ; CURWUC CURID | C98970 |
| 51120 | UPON CONSOLE GO TO CLOSE-FILES.                            | C98970 |
| 51130 | COMPUTE MH-UMA > MH-MA-NUMA / N1.                          | C98970 |
| 51140 | COMPUTE NORM-UMA > NORM-UMA-NUM / N1.                      | C98970 |
| 51150 | IF NREP-PE-D IS EQUAL TO ZERO MOVE ZERO TO MH-REP-PE       | C98970 |
| 51160 | GO TO NG-1.  | C98970 |
| 51170 | COMPUTE MH-REP-PE > MH-REP-PE-N / NREP-PE-D.               | C98970 |
| 51175 | NG-1.  | C98970 |
| 51180 | IF NREP-HP-D IS EQUAL TO ZERO MOVE ZERO TO MH-REP-HP       | C98970 |
| 51190 | GO TO NG-2.  | C98970 |
| 51200 | COMPUTE MH-REP-HP > MH-REP-HP-N / NREP-HP-D.               | C98970 |
| 51215 | NG-2.  | C98970 |
| 51210 | MOVE CURISO TO ISO-3.                                      | C98970 |
| 51220 | MOVE CURID TO GRP-ID-3.                                    | C98970 |
| 51230 | WRITE REC-3 FROM WS-REC-3.                                 | C98970 |
| 51240 | ADD 1 TO NUM-REC-3.  | C98970 |
| 51250 | PERFORM RESET-2.   | C98970 |
| 51260 | MOVE CURISO TO ISO-2.                                      | C98970 |
| 51270 | MOVE CURID TO GRP-ID-2.                                    | C98970 |
| 51275 | MOVE CURWUC TO WUC-REC-2.                                  | C98970 |
| 51280 | WRITE REC-2 FROM WS-REC-2.                                 | C98970 |
| 51285 | PERFORM RESET-1.   | C98970 |
| 51290 | ADD 1 TO NUM-REC-2.  | C98970 |
| 51360 | NEW-GROUP-END. EXIT.                                       | C98970 |
| 51365 | NEW-GROUP-CONTINUE.  | C98970 |
| 51370 | MOVE WUC TO CURWUC. MOVE GRP-ID TO CURID.                  | C98970 |
| 51380 | MOVE ISO TO CURISO.  | C98970 |
| 51390 | GO TO TEST-ID.   | C98970 |
| 52000 | CLOSE-DATA.  | C98970 |
| 52010 | PERFORM NEW-GROUP THRU NEW-GROUP-END.                      | C98970 |
| 52100 | MOVE NUM-REC-1 TO TEMP-NUM.                                | C98970 |
| 52110 | DISPLAY : NO. RECS FILE 1 TEMP-NUM UPON CONSOLE.           | C98970 |
| 52120 | MOVE NUM-REC-2 TO TEMP-NUM.                                | C98970 |
| 52130 | DISPLAY : NO. RECS FILE 2 ; TEMP-NUM UPON CONSOLE.         | C98970 |
| 52140 | MOVE NUM-REC-3 TO TEMP-NUM.                                | C98970 |
| 52150 | DISPLAY : NO. RECS FILE 3 ; TEMP-NUM UPON CONSOLE.         | C98970 |
| 52200 | CLOSE-FILES.   | C98970 |
| 52210 | PERFORM NINE-FILL THRU END-NF.                             | C98970 |
| 52220 | CLOSE IN-FILE-1.   | C98970 |
| 52230 | FILE-2.  | C98970 |
| 52240 | FILE-3 WITH LOCK.  | C98970 |
| 52250 | DISPLAY 1 E0J 9897 1 UPON CONSOLE.                         | C98970 |
| 52290 | GOBACK.  | C98970 |

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53000 RESET-1. C98970
53010 MOVE ZERO TO N2. C98970
53020 MOVE ZERO TO C. C98970
53100 RESET-2. C98970
53110 MOVE ZERO TO N1. C98970
53120 MOVE ZERO TO NORM-UMA-NUM. C98970
53130 MOVE ZERO TO MH-MA-NUMA. C98970
53140 MOVE ZERO TO MH-REP-PE-N. C98970
53150 MOVE ZERO TO MH-REP-HP-N. C98970
53160 MOVE ZERO TO NREP-PE-D. C98970
53170 MOVE ZERO TO NREP-HP-D. C98970
53200 NINE-FILL. C98970
53300 NF-2. C98970
53310 COMPUTE CNT > NUM-REC-2 - NUM-REC-2 / BF * BF. C98970
53320 IF CNT IS EQUAL TO ZERO GO TO NF-3. C98970
53330 NF-4. C98970
53340 WRITE REC-2 FROM NINE. C98970
53350 ADD 1 TO CNT. C98970
53360 IF CNT IS LESS THAN BF GO TO NF-4. C98970
53400 NF-3. C98970
53410 COMPUTE LNT > NUM-REC-3 - NUM-REC-3 / BF * BF. C98970
53420 IF CNT IS EQUAL TO ZERO GO TO END-NF. C98970
53430 NF-5. C98970
53440 WRITE REC-3 FROM NINE. C98970
53450 ADD 1 TO CNT. C98970
53460 IF CNT IS LESS THAN BF GO TO NF-5. C98970
53490 END-NF. EXII. C98970
/* PLACE CONOL SOURCE BEFORE THIS CARD
//CHG.TF6IN DU *,SPACE>[CYL,[1,1]] 1440 CDS
/* PLACE TFG DATA BEFORE THIS CARD
//TPR.TU12 DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1 T12
//TPR.TU23 DD DISP>[OLD,PASS]
//TPR.TU24 DD DISP>[OLD,PASS]
//TPR.TPRIN DD *,SPACE>[TRK,[1,1]]
T/P TU12 10100502050
T/P TU23 10100502050
T/P TU24 10100502050
/* PLACE T/P CONTROL CARDS BEFORE THIS CARD

```

### 6.15.10 VARIANCE OF WUC SET

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//C98976 EXEC P9655L,TIME>05,ACCT>D35323007
//CHG.TU12 DU DISP>[PASS],UNIT>[T+F1,1,DEFER],DSN>+A.9897464, CT12 1
// VOL>SER>[+F1,A+F1,B+F1,C+F1,D+F1,E+F1,F+F1,G+F1,H+F1, CT12 2
// I+F1,J+F1,K+F1,L+F1,M+F1,N+F1,O+F1,P+F1,Q+F1,R+F1,S+F1] T12 3
//CHG.TU23 DU USN>+P.9897465,DISP>[OLD,PASS] D23-IN
//CHG.TU24 DD DSN>+P.9897466,DISP>[OLD,PASS] D24-IN
//CHG.TU25 DD DSN>+P.9897467,SPACE>[CYL,[009,001]] D25-OUT
//CHG.INPUT DU *,SPACE>[CYL,[1,1]] 1440 CDS
00000 COMBINE COMPILE 0. WANG C98970
01000 IDENTIFICATION DIVISION. C98970
01010 PROGRAM-ID. C9897 C98970
01020 AUTHOR. A. J. BOWKER. C98970
01030 INSTALLATION. GENERAL DYNAMICS/CONVAIR. C98970
01040 DATE-WRITTEN. 27 JULY 72. C98970
01050 REMARKS. C98970
01060 TASK VII-6 C98970
01070 COMPUTE PASS NO 2. C98970
02000 ENVIRONMENT DIVISION. C98970
02010 CONFIGURATION SECTION. C98970
02020 SOURCE-COMPUTER. IHM-360. C98970
02030 OBJECT-COMPUTER. IHM-360. C98970
02100 INPUT-OUTPUT SECTION. C98970
02110 FILE-CONTROL. C98970
02120 SELECT IN-FILE-1 ASSIGN TO UT-S-TU12 C98970
02130 RESERVE 1 ALTERNATE AREA. C98970
02140 SELECT FILE-2 ASSIGN TO UT-S-TU23 C98970
02150 RESERVE 1 ALTERNATE AREA. C98970
02160 SELECT FILE-3 ASSIGN TO UT-S-TU24 C98970
02170 RESERVE 1 ALTERNATE AREA. C98970
02180 SELECT OUT-DATA-FILE ASSIGN TO UT-S-TU25 C98970
02190 RESERVE 1 ALTERNATE AREA. C98970
10000 DATA DIVISION. C98970
10010 FILE SECTION. C98970
11100 FD IN-FILE-1 C98970

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|       |                                |                           |  |        |
|-------|--------------------------------|---------------------------|--|--------|
| 11110 |                                |                           |  | C98970 |
| 11120 | RECORDING MODE IS F            |                           |  | C98970 |
| 11130 | BLOCK CONTAINS 60 RECORDS      |                           |  | C98970 |
| 11140 | RECORD CONTAINS 50             | CHARACTERS                |  | C98970 |
| 11150 | LABEL RECORDS ARE OMITTED      |                           |  | C98970 |
| 11160 | DATA RECORDS ARE IN-REC-1.     |                           |  | C98970 |
| 11170 | 01 IN-REC-1 SYNC.              |                           |  | C98970 |
| 11180 | 05 IS0                         | PICTURE X.                |  | C98970 |
| 11184 | 05 GRP-ID                      | PICTURE XX.               |  | C98970 |
| 11185 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 11186 | 05 WUC-IN                      | PICTURE X(5).             |  | C98970 |
| 11187 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 11190 | 05 JU                          | PICTURE X.                |  | C98970 |
| 11200 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 11210 | 05 WUC                         | PICTURE X(5).             |  | C98970 |
| 11220 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 11230 | 05 DATA-IN.                    |                           |  | C98970 |
| 11240 | 10 FILLER                      | PICTURE X(4).             |  | C98970 |
| 11250 | 10 NORM-MA                     | PICTURE 9(7)V9.           |  | C98970 |
| 11260 | 10 FILLER                      | PICTURE X.                |  | C98970 |
| 11270 | 10 VAR-NORM-MA                 | PICTURE 9(7)V9.           |  | C98970 |
| 11280 | 10 FILLER                      | PICTURE X(9).             |  | C98970 |
| 11290 | 05 FILLER                      | PICTURE XX.               |  | C98970 |
| 12100 | FD FILL-2                      |                           |  | C98970 |
| 12110 |                                |                           |  | C98970 |
| 12120 | RECORDING MODE IS F            |                           |  | C98970 |
| 12130 | BLOCK CONTAINS 60 RECORDS      |                           |  | C98970 |
| 12140 | RECORD CONTAINS 50             | CHARACTERS                |  | C98970 |
| 12150 | LABEL RECORDS ARE OMITTED      |                           |  | C98970 |
| 12160 | DATA RECORDS ARE REC-2.        |                           |  | C98970 |
| 12170 | 01 REC-2 SYNC                  | PICTURE X(50).            |  | C98970 |
| 13100 | FD FILL-3                      |                           |  | C98970 |
| 13110 |                                |                           |  | C98970 |
| 13120 | RECORDING MODE IS F            |                           |  | C98970 |
| 13130 | BLOCK CONTAINS 60 RECORDS      |                           |  | C98970 |
| 13140 | RECORD CONTAINS 50             | CHARACTERS                |  | C98970 |
| 13150 | LABEL RECORDS ARE OMITTED      |                           |  | C98970 |
| 13160 | DATA RECORDS ARE REC-3.        |                           |  | C98970 |
| 13170 | 01 REC-3 SYNC                  | PICTURE X(50).            |  | C98970 |
| 14000 | FD OUT-DATA-FILE               |                           |  | C98970 |
| 14010 | RECORDING MODE IS F            |                           |  | C98970 |
| 14020 | BLOCK CONTAINS 20 RECORDS      |                           |  | C98970 |
| 14030 | RECORD CONTAINS 100            | CHARACTERS                |  | C98970 |
| 14040 | LABEL RECORDS ARE OMITTED      |                           |  | C98970 |
| 14050 | DATA RECORDS ARE OUT-DATA-REC. |                           |  | C98970 |
| 14060 | 01 OUT-DATA-REC SYNC           | PICTURE X(100).           |  | C98970 |
| 30000 | WORKING-STORAGE SECTION.       |                           |  | C98970 |
| 30010 | 77 NORM-UMA-NUM COMPUTATIONAL  | PICTURE S9(8)V9.          |  | C98970 |
| 30020 | 77 MH-REP-PE-N COMPUTATIONAL   | PICTURE S9(8)V9.          |  | C98970 |
| 30030 | 77 MH-REP-FO-N COMPUTATIONAL   | PICTURE S9(8)V9.          |  | C98970 |
| 30040 | 77 NREP-PE-D COMPUTATIONAL     | PICTURE S9(8)V9.          |  | C98970 |
| 30050 | 77 NREP-HP-D COMPUTATIONAL     | PICTURE S9(8)V9.          |  | C98970 |
| 30060 | 77 NUM-REC-1 COMPUTATIONAL     | PICTURE S9(8) VALUE ZERO. |  | C98970 |
| 30070 | 77 NUM-REC-2 COMPUTATIONAL     | PICTURE S9(8) VALUE ZERO. |  | C98970 |
| 30080 | 77 NUM-REC-3 COMPUTATIONAL     | PICTURE S9(8) VALUE ZERO. |  | C98970 |
| 30090 | 77 CNT COMPUTATIONAL           | PICTURE S9(8).            |  | C98970 |
| 30100 | 77 MH-MA-NUMA COMPUTATIONAL    | PICTURE S9(8)V9.          |  | C98970 |
| 30110 | 77 CF COMPUTATIONAL            | PICTURE S999 VALUE <60.   |  | C98970 |
| 30120 | 77 CURISO                      | PICTURE X VALUE SPACE.    |  | C98970 |
| 30130 | 77 CURID                       | PICTURE XX VALUE SPACE.   |  | C98970 |
| 30140 | 77 CURWUC                      | PICTURE X(5) VALUE SPACE. |  | C98970 |
| 30150 | 77 ONE                         | PICTURE X VALUE 11.       |  | C98970 |
| 30160 | 77 TWO                         | PICTURE X VALUE 12.       |  | C98970 |
| 30170 | 77 THREE                       | PICTURE X VALUE 13.       |  | C98970 |
| 30180 | 77 TEMP-NUM                    | PICTURE 9(8).             |  | C98970 |
| 30200 | 01 DATA-1 SYNC.                |                           |  | C98970 |
| 30210 | 05 HMC-1                       | PICTURE XXX.              |  | C98970 |
| 30220 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 30230 | 05 NUMA                        | PICTURE 9(7)V9.           |  | C98970 |
| 30240 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 30250 | 05 MMLP-HP                     | PICTURE 9(7)V9.           |  | C98970 |
| 30260 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 30270 | 05 MMLP-PE                     | PICTURE 9(7)V9.           |  | C98970 |
| 30300 | 01 DATA-2 SYNC.                |                           |  | C98970 |
| 30310 | 05 HMC-2                       | PICTURE XXX.              |  | C98970 |
| 30320 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 30330 | 05 MH-MA                       | PICTURE 9(7)V9.           |  | C98970 |
| 30340 | 05 FILLER                      | PICTURE X.                |  | C98970 |
| 30350 | 05 VAR-MH-MA                   | PICTURE 9(7)V9.           |  | C98970 |
| 30360 | 05 FILLER                      | PICTURE X(9).             |  | C98970 |
| 32170 | 01 WS-REC-1                    |                           |  | C98970 |
| 32180 | 05 FILLER                      | PICTURE X.                |  | C98970 |

|       |    |  |                              |        |
|-------|----|--|------------------------------|--------|
| 32190 | 05 | GRP-ID=2                                     | PICTURE XX.                  | C98970 |
| 32200 | 05 | FILLER                                       | PICTURE X(9) VALUE SPACE.    | C98970 |
| 32210 | 05 | WUC-REC=2                                    | PICTURE X(5).                | C98970 |
| 32220 | 05 | FILLER                                       | PICTURE X(5) VALUE SPACE.    | C98970 |
| 32230 | 05 | N2   | PICTURE 9(7)J9.              | C98970 |
| 32240 | 05 | FILLER                                       | PICTURE X VALUE SPACE.       | C98970 |
| 32250 | 05 | C  | PICTURE 9(7)J9.              | C98970 |
| 32260 | 05 | FILLER                                       | PICTURE X(11) VALUE          | C98970 |
| 32270 |    |  |                              | C98970 |
| 33170 | 01 | WS-REC=3                                     |                              | C98970 |
| 33180 | 05 | ISO=3  | PICTURE X.                   | C98970 |
| 33190 | 05 | GRP-ID=3                                     | PICTURE XX.                  | C98970 |
| 33200 | 05 | FILLER                                       | PICTURE X VALUE SPACE.       | C98970 |
| 33210 | 05 | MH-UMA                                       | PICTURE 9(7)J9.              | C98970 |
| 33220 | 05 | FILLER                                       | PICTURE X VALUE SPACE.       | C98970 |
| 33230 | 05 | NI   | PICTURE 9(7)J9.              | C98970 |
| 33240 | 05 | FILLER                                       | PICTURE X VALUE SPACE.       | C98970 |
| 33250 | 05 | NORM-UMA                                     | PICTURE 9(7)J9.              | C98970 |
| 33260 | 05 | FILLER                                       | PICTURE X VALUE SPACE.       | C98970 |
| 33270 | 05 | MH-KCP-PE                                    | PICTURE 9(7)J9.              | C98970 |
| 33280 | 05 | FILLER                                       | PICTURE X VALUE SPACE.       | C98970 |
| 33290 | 05 | MH-REP-HP                                    | PICTURE 9(7)J9.              | C98970 |
| 33300 | 05 | FILLER                                       | PICTURE XX VALUE I #1.       | C98970 |
| 33400 | 01 | PAGE-NUM COMPUTATIONAL                       | PICTURE 599 VALUE ZERO.      | C98970 |
| 33410 | 01 | LINE-S-PRINT COMPUTATIONAL                   | PICTURE 59(4) VALUE ZERO.    | C98970 |
| 33420 | 01 | X1 COMPUTATIONAL                             | PICTURE 59(8)J9.             | C98970 |
| 33430 | 01 | VAR-MH-UMA-D COMPUTATIONAL                   | PICTURE 59(8)J9.             | C98970 |
| 33440 | 01 | VAR-MH-UMA COMPUTATIONAL                     | PICTURE 59(8)J9.             | C98970 |
| 33450 | 01 | PAGE-CNI COMPUTATIONAL                       | PICTURE 5999 VALUE <100.     | C98970 |
| 33460 | 01 | A COMPUTATIONAL                              | PICTURE 59(8)J9.             | C98970 |
| 33470 | 01 | B COMPUTATIONAL                              | PICTURE 59(8)J9.             | C98970 |
| 33480 | 01 | VAR-NORM-UMA-D COMPUTATIONAL                 | PICTURE 59(8)J9.             | C98970 |
| 33500 | 01 | VAR-NORM-UMA COMPUTATIONAL                   | PICTURE 59(8)J9.             | C98970 |
| 40000 | 01 | NEW-PAGE-REC SYNC.                           |                              | C98970 |
| 40010 | 05 | FILLER                                       | PICTURE X(50) VALUE          | C98970 |
| 40020 |    | :1   | RESULTS OF PROCESSING MAIN1. | C98970 |
| 40030 | 05 | FILLER                                       | PICTURE X(40) VALUE          | C98970 |
| 40040 |    | :TENANCE MANHOUR AND NORM DATA               | PAGE 1.                      | C98970 |
| 40050 | 05 | PAGE-NO-RPT                                  | PICTURE Z9.                  | C98970 |
| 40060 | 05 | FILLER                                       | PICTURE X(8) VALUE           | C98970 |
| 40070 |    | I  | #1.                          | C98970 |
| 40100 | 01 | TITLE=1 SYNC.                                |                              | C98970 |
| 40110 | 05 | FILLER                                       | PICTURE X(50) VALUE          | C98970 |
| 40120 |    | :0 WUC AIRCRAFT                              | MEAN VARIANCE                | 1.     |
| 40130 | 05 | FILLER                                       | PICTURE X(50) VALUE          | C98970 |
| 40140 |    | :MEAN VARIANCE                               | MEAN MEAN                    | #1.    |
| 40200 | 01 | TITLE=2 SYNC.                                |                              | C98970 |
| 40210 | 05 | FILLER                                       | PICTURE X(50) VALUE          | C98970 |
| 40220 |    | : GROUP SUBSET                               | MH/UMA MH/UMA                | NI.    |
| 40230 | 05 | FILLER                                       | PICTURE X(50) VALUE          | C98970 |
| 40240 |    | :ORM/UMA NORM/UMA                            | (MH/REP)PE (MH/REP)MPO       | #1.    |
| 40300 | 01 | DATA-OUT SYNC.                               |                              | C98970 |
| 40310 | 05 | FILLER                                       | PICTURE XX VALUE SPACE.      | C98970 |
| 40320 | 05 | WUC-OUT                                      | PICTURE X(5).                | C98970 |
| 40330 | 05 | FILLER                                       | PICTURE XXX VALUE SPACE.     | C98970 |
| 40340 | 05 | A-C-SUB-SET                                  | PICTURE X(7).                | C98970 |
| 40350 | 05 | FILLER                                       | PICTURE X(3) VALUE SPACE.    | C98970 |
| 40360 | 05 | MH-UMA-RPT                                   | PICTURE Z(8).9.              | C98970 |
| 40370 | 05 | FILLER                                       | PICTURE X(3) VALUE SPACE.    | C98970 |
| 40380 | 05 | VAR-MH-UMA-RPT                               | PICTURE Z(8).9.              | C98970 |
| 40390 | 05 | FILLER                                       | PICTURE X(3) VALUE SPACE.    | C98970 |
| 40400 | 05 | NORM-UMA-RPT                                 | PICTURE Z(8).9.              | C98970 |
| 40410 | 05 | FILLER                                       | PICTURE X(3) VALUE SPACE.    | C98970 |
| 40420 | 05 | VAR-NORM-UMA-RPT                             | PICTURE Z(8).9.              | C98970 |
| 40430 | 05 | FILLER                                       | PICTURE X(3) VALUE SPACE.    | C98970 |
| 40440 | 05 | MH-REP-PE-RPT                                | PICTURE Z(8).9.              | C98970 |
| 40450 | 05 | FILLER                                       | PICTURE X(3) VALUE SPACE.    | C98970 |
| 40460 | 05 | MH-REP-HP-RPT                                | PICTURE Z(8).9.              | C98970 |
| 40470 | 05 | FILLER                                       | PICTURE X(3) VALUE           | C98970 |
| 40480 |    | I  | #1.                          | C98970 |
| 50000 |    | PROCEDURE DIVISION.                          |                              | C98970 |
| 50010 |    | OPEN INPUT IN-FILE-1,                        |                              | C98970 |
| 50020 |    | FILE-2,                                      |                              | C98970 |
| 50030 |    | FILE-3, OUTPUT OUT-DATA-FILE.                |                              | C98970 |
| 50050 |    | PERFORM RESET-1.                             |                              | C98970 |
| 50060 |    | PERFORM RESET-2.                             |                              | C98970 |
| 50100 |    | READ-DATA-IN.                                |                              | C98970 |
| 50110 |    | READ IN-FILE-1, AT END GO TO CLOSE-DATA.     |                              | C98970 |
| 50111 |    | IF ISO IS EQUAL TO 191 GO TO CLOSE-DATA.     |                              | C98970 |
| 50116 |    | ADD 1 TO NUM-REC-1.                          |                              | C98970 |
| 50120 |    | IF ISO IS EQUAL TO CURISO GO TO TEST-GRP-ID. |                              | C98970 |
| 50130 |    | IF LUMISO IS EQUAL TO SPACE                  |                              | C98970 |
| 50140 |    | MOVE ISO TO CURISO                           |                              | C98970 |
| 50150 |    | GO TO TEST-GRP-ID.                           |                              | C98970 |

|       |  |        |
|-------|--|--------|
| 50160 | GO TO NEW-GROUP.   | C98970 |
| 50200 | TEST-GRP-ID.   | C98970 |
| 50210 | IF GRP-ID IS EQUAL TO CURID GO TO TEST-WUC.              | C98970 |
| 50220 | IF CURID IS EQUAL TO SPACE                               | C98970 |
| 50230 | MOVE GRP-ID TO CURID                                     | C98970 |
| 50240 | GO TO TEST-WUC.  | C98970 |
| 50250 | GO TO NEW-GROUP.   | C98970 |
| 50300 | TEST-WUC.  | C98970 |
| 50310 | IF WUC IS EQUAL TO CURWUC GO TO TEST-ID.                 | C98970 |
| 50320 | IF CURWUC IS EQUAL TO SPACE                              | C98970 |
| 50330 | MOVE WUC TO CURWUC                                       | C98970 |
| 50340 | GO TO TEST-ID.   | C98970 |
| 50350 | GO TO NEW-WUC.   | C98970 |
| 50400 | TEST-ID.   | C98970 |
| 50405 | MOVE WUC-IN TO WUC-OUT.                                  | C98970 |
| 50410 | IF JD IS EQUAL TO ONE MOVE DATA-IN TO DATA-1             | C98970 |
| 50420 | GO TO READ-DATA-IN.                                      | C98970 |
| 50430 | IF JD IS EQUAL TO TWO MOVE DATA-IN TO DATA-2             | C98970 |
| 50440 | GO TO TEST-HMC.  | C98970 |
| 50450 | IF N2 IS EQUAL TO ZERO GO TO READ-DATA-IN.               | C98970 |
| 50455 | COMPUTE : > C / N2 - MH-UMA.                             | C98970 |
| 50460 | COMPUTE VAR-MH-UMA-D > VAR-MH-UMA-D < [N2 * A * A < X1]. | C98970 |
| 50465 | COMPUTE VAR-NORM-UMA-D > VAR-NORM-UMA-D <                | C98970 |
| 50466 | N2 * [VAR-NORM-MA < [NORM-MA - NORM-UMA] *               | C98970 |
| 50467 | [NORM-MA - NORM-UMA]].                                   | C98970 |
| 50470 | GO TO READ-DATA-IN.                                      | C98970 |
| 50500 | TEST-HMC.  | C98970 |
| 50510 | IF HMC-1 IS NOT EQUAL TO HMC-2 GO TO READ-DATA-IN.       | C98970 |
| 50515 | IF N2 IS EQUAL TO ZERO GO TO READ-DATA-IN.               | C98970 |
| 50520 | COMPUTE R > MH-MA - C / N2.                              | C98970 |
| 50530 | COMPUTE X1 > X1 < NUMA * [VAR-MH-MA < B * B].            | C98970 |
| 50690 | GO TO READ-DATA-IN.                                      | C98970 |
| 51000 | NEW-WUC.   | C98970 |
| 51050 | PERFORM RESET-1.   | C98970 |
| 51060 | MOVE WUC TO CURWUC.                                      | C98970 |
| 51090 | GO TO TEST-ID.   | C98970 |
| 51100 | NEW-GROUP.   | C98970 |
| 51110 | COMPUTE VAR-MH-UMA > VAR-MH-UMA-D / N1.                  | C98970 |
| 51120 | COMPUTE VAR-NORM-UMA > VAR-NORM-UMA-D / N1.              | C98970 |
| 51140 | IF CURISO IS EQUAL TO ONE MOVE I ISO I TO A-C-SUB-SET    | C98970 |
| 51150 | ELSE MOVE :NON-ISO: TO A-C-SUB-SET.                      | C98970 |
| 51160 | MOVE MH-UMA TO MH-UMA-RPT.                               | C98970 |
| 51170 | MOVE VAR-MH-UMA TO VAR-MH-UMA-RPT.                       | C98970 |
| 51180 | MOVE NORM-UMA TO NORM-UMA-RPT.                           | C98970 |
| 51190 | MOVE VAR-NORM-UMA TO VAR-NORM-UMA-RPT.                   | C98970 |
| 51200 | MOVE MH-REP-PE TO MH-REP-PE-RPT.                         | C98970 |
| 51210 | MOVE MH-REP-HP TO MH-REP-HP-RPT.                         | C98970 |
| 51220 | IF PAGE-CNT IS GREATER THAN 60 PERFORM NEW-PAGE.         | C98970 |
| 51230 | WRITE OUT-DATA-REC FROM DATA-OUT.                        | C98970 |
| 51240 | ADD I TO PAGE-CNT.                                       | C98970 |
| 51250 | ADD I TO LINES-PRINT.                                    | C98970 |
| 51255 | NEW-GROUP-END.   | C98970 |
| 51260 | PERFORM RESET-1.   | C98970 |
| 51270 | PERFORM RESET-2.   | C98970 |
| 51370 | MOVE WUC TO CURWUC. MOVE GRP-ID TO CURID.                | C98970 |
| 51380 | MOVE ISO TO CURISO.                                      | C98970 |
| 51390 | GO TO TEST-ID.   | C98970 |
| 52000 | CLOSE-DATA.  | C98970 |
| 52010 | PERFORM NEW-GROUP.                                       | C98970 |
| 52100 | MOVE NUM-REC-1 TO TEMP-NUM.                              | C98970 |
| 52110 | DISPLAY : NO. RECS FILE 1 TEMP-NUM UPON CONSOLE.         | C98970 |
| 52120 | MOVE NUM-REC-2 TO TEMP-NUM.                              | C98970 |
| 52130 | DISPLAY : NO. RECS FILE 2 I TEMP-NUM UPON CONSOLE.       | C98970 |
| 52140 | MOVE NUM-REC-3 TO TEMP-NUM.                              | C98970 |
| 52150 | DISPLAY : NO. RECS FILE 3 I TEMP-NUM UPON CONSOLE.       | C98970 |
| 52160 | MOVE LINES-PRINT TO TEMP-NUM.                            | C98970 |
| 52170 | DISPLAY : TOTAL LINES PRINTED > I TEMP-NUM UPON CONSOLE. | C98970 |
| 52180 | MOVE PAGE-NUM TO TEMP-NUM.                               | C98970 |
| 52190 | DISPLAY : TOTAL PAGES PRINTED > I TEMP-NUM UPON CONSOLE. | C98970 |
| 52200 | CLOSE-FILES.   | C98970 |
| 52220 | CLOSE IN-FILE-1.   | C98970 |
| 52230 | FILE-2.  | C98970 |
| 52235 | OUT-DATA-FILE.   | C98970 |
| 52240 | FILE-3 WITH LOCK.  | C98970 |
| 52250 | DISPLAY : EOJ 9897 I UPON CONSOLE.                       | C98970 |
| 52290 | GOBACK.  | C98970 |
| 53000 | RESET-1.   | C98970 |
| 53010 | MOVE ZERO TO X1.   | C98970 |
| 53020 | READ FILE-2 INTO WS-REC-2. AT END GO TO CLOSE-DATA.      | C98970 |
| 53040 | IF ISO-2 IS EQUAL TO I9: GO TO CLOSE-DATA.               | C98970 |
| 53050 | ADD I TO NUM-REC-2.                                      | C98970 |

|               |   |          |
|---------------|---|----------|
| 53100         | RESET-2.  |          |
| 53110         | MOVE ZER0 TO VAR-MH-UMA-D.                          | C98970   |
| 53120         | MOVE ZER0 TO VAR-NORM-UMA-D.                        | C98970   |
| 53130         | READ FILE-3 INTO WS-REC-3, AT END GO TO CLOSE-DATA. | C98970   |
| 53150         | IF IS0-3 IS EQUAL TO I91 GO TO CLOSE-DATA.          | C98970   |
| 53160         | ADD 1 TO NUM-REC-3.                                 | C98970   |
| 55000         | NEW-PAGE.   | C98970   |
| 55010         | ADD 1 TO PAGE-NUM.                                  | C98970   |
| 55020         | MOVE ZER0 TO PAGE-CNT.                              | C98970   |
| 55030         | MOVE PAGE-NUM TO PAGE-NO-RPT.                       | C98970   |
| 55040         | ADD 3 TO LINES-PRINT.                               | C98970   |
| 55050         | WRITE OUT-DATA-REC FROM NEW-PAGE-REC.               | C98970   |
| 55060         | WRITE OUT-DATA-REC FROM TITLE-1.                    | C98970   |
| 55070         | WRITE OUT-DATA-REC FROM TITLE-2.                    | C98970   |
| /*            | PLACE COUOL SOURCE BEFORE THIS CARD                 |          |
| //CHG.TFGIN   | DD *.SPACE>[CYL,[1,1]]                              | 1440 CDS |
| /*            | PLACE TFG DATA BEFORE THIS CARD                     |          |
| //TPR.TU12    | DD DISP>[OLD,KEEP],VOL>SER>+F1,UNIT>T+F1            | T12      |
| //TPR.TU25    | DD DISP>[OLD,PASS]                                  | 025-PASS |
| //TPR.TPRIN   | DD *.SPACE>[TRK,[1,1]]                              |          |
| T/P TU25      | 1998100R000   |          |
| /*            | PLACE T/P CONTROL CARDS BEFORE THIS CARD            |          |
| //C9897P EXEC | C96U3N,TIME>02,ACCT>035323007                       |          |
| //CHG.TU25    | DD DSN>+P.9897467,DISP>[OLD,DELETE]                 | 025-IN   |
| //CHG.TPRIN   | DD *.SPACE>[TRK,[1,1]]                              |          |
| T/P TU25      | 1998100R000   |          |
| /*            | PLACE T/P CONTROL CARDS BEFORE THIS CARD            |          |

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