AEDC-TR-71-109

COMPUTER-AIDED DESIGN AND DOCUMENTATION OF INSTRUMENTATION SYSTEMS

J. L. Dorris
ARO, Inc.

July 1971

Approved for public release; distribution unlimited.

ENGINE TEST FACILITY
ARNOLD ENGINEERING DEVELOPMENT CENTER
AIR FORCE SYSTEMS COMMAND
ARNOLD AIR FORCE STATION, TENNESSEE

NOTICES

When U. S. Government drawings specifications, or other data are used for any purpose other than a definitely related Government procurement operation, the Government thereby incurs no responsibility nor any obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise, or in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

Qualified users may obtain copies of this report from the Defense Documentation Center.

References to named commercial products in this report are not to be considered in any sense as an endorsement of the product by the United States Air Force or the Government.

COMPUTER-AIDED DESIGN AND DOCUMENTATION OF INSTRUMENTATION SYSTEMS

J. L. Dorris
ARO, Inc.

Approved for public release; distribution unlimited.

FOREWORD

The research reported herein was sponsored by Headquarters, Arnold Engineering Development Center (AEDC), Air Force Systems Command (AFSC).

The results of the research which are presented in this report were obtained by ARO, Inc., (a subsidiary of Sverdrup & Parcel and Associates, Inc.), contract operator of AEDC, AFSC, Arnold Air Force Station, Tennessee, under Contract F40600-72-C-0003. The ARO Project Number was RT8002, and the manuscript was submitted for publication on April 27, 1971.

This technical report has been reviewed and is approved.

Walter C. Knapp Lt Colonel, USAF AF Representative, ETF Directorate of Test	Joseph R. Henry Colonel, USAF Director of Test

ABSTRACT

A system of digital computer programs developed to aid in the design and documentation of instrumentation systems is described. Included are brief descriptions of system concepts and capabilities, required system inputs, explanations of system outputs and information contained therein, and system utilization. This system is currently in use by the ETF J-Instrument Branch of the Arnold Engineering Development Center.

CONTENTS

Page

ABSTRACT iii
I. INTRODUCTION 1
II. APPROACH 2
III. INFORMATION UTILIZED BY COMPUTER PROGRAM . . 6
IV. COMPUTER OUTPUTS 8
V. ADDITIONAL COMPUTER PROGRAM CAPABILITIES . . 10
VI. PLANNED ADDITIONAL PROGRAM CAPABILITIES . . . 10

APPENDIXES

I. ILLUSTRATIONS

Figure

1. Typical Hookup 13
2. Standard Cable Fabrication 14
3. Portion of Typical Hookup Reference File 15
4. Portion of Equipment Reference File 16
5. Portion of Transducer Reference File 17
6. Input and Data Reduction Cards 18
7. Hookup Information 19

II. COMPUTER SYSTEM PROGRAM 20

SECTION I
INTRODUCTION

Testing of rocket and jet engines under simulated altitude conditions at Arnold Engineering Development Center usually requires the acquisition of several hundred channels of data per test. A major portion of these data consists of pressures and temperatures which are used to determine engine performance and test cell environment. The nature of such tests dictates that like measurements be made at several different locations on the engine and in the test cell. The specific measurements which are made are dependent on the type of information desired for the test program.

Test programs may require from one week to as high as two years of test time, and turnaround time between test programs must be held to a minimum. Therefore, it is not feasible to permanently install complete instrumentation systems. However, since all test programs require large quantities of certain types of measurements, it is feasible to permanently install, and document by engineering drawings, basic instrumentation system components and then utilize these components as required by the test programs. All permanently installed components are connected to interconnection devices which allow for complete versatility of equipment usage and almost limitless configurations of the equipment to meet different test program instrumentation requirements.

The permanently installed instrumentation equipment associated with a test cell is grouped into three major portions: (1) wiring, or hard-wired signal conditioners, used to route signals from permanent instrumentation connection points in the test cell or area to an interconnection device, (2) signal conditioning devices having both inputs and outputs wired to the interconnection device, and (3) recording or readout devices having inputs wired to the interconnection device.

Complete measurement systems are built up by connecting transducers to the permanently installed components using specially fabricated cabling and then interconnecting (patching) the permanent components to establish the desired signal conditioning and recording and/or readout configuration.

Engineering releases (called an Instrument Book) document the measurement systems necessary for a test program and are used to accomplish the installation, wiring, interconnecting, and setting up of the required instrumentation systems. The Instrument Book contains information such as measurement nomenclature, transducer assignments, cabling to be fabricated for connection of the transducer to a permanent instrumentation connection point, the specific permanent instrumentation components required, the exact required interconnection of components, setup of signal conditioners and recording and/or readout devices, data reduction constants and methods, transducer calibration data, and sketches or drawings which show the physical location of each transducer or pickup. A new Instrument Book is prepared and released for each test program and is revised when the applicable test program requirements change.

The task of compiling an Instrument Book consists largely of preparing listings of the specific hardware used for each measurement, specifying the interconnections which must be made to connect the different components of the measurement channel, and maintaining a running inventory of the equipment that has been used and that which remains available. This task necessarily entails a large amount of manual bookkeeping and the transferring of information from one form to another. To eliminate as many of these manual manipulations as possible, a system of computer programs was developed to aid in the design and documentation of instrumentation systems. The concept of operation, information utilized, information obtained, and additional (and planned additional) capabilities of this computer program system are described in this report.

SECTION II
APPROACH

To use computers in the design and documentation of instrumentation systems, sufficient information must be supplied concerning the desired configuration and the available equipment. To accomplish this, "model" instrumentation systems and reference files were established. These systems and files are discussed in the following paragraphs.

2.1 MODEL INSTRUMENTATION SYSTEMS

The first step taken was to establish model instrumentation systems, called Typical Hookups (Fig. 1, Appendix I). Each Typical Hookup consists of a specific type of transducer, signal conditioning equipment, readouts and/or recording devices, and the necessary interconnecting wiring. It should be noted that a Typical Hookup requires only certain types of equipment rather than specific pieces of hardware. The equipment specified on a Typical Hookup, with the exception of the transducer and fabricated cable, consists of permanently installed instrumentation equipment and wiring.

The connection of the transducer to the permanent equipment is accomplished by the use of nonpermanent (fabricated) cabling. This cabling is fabricated for each measurement and each new test program in accordance with released drawings called Standard Cable Fabrications (Fig. 2). Each Standard Cable Fabrication provides the detailed information to permit fabrication of cabling which will interconnect certain types of transducers with a specific type of connection point which is a part of the permanent instrumentation system. Because of standardization of connection points, the same Standard Cable Fabrication may be used with many different Typical Hookups. Each Typical Hookup specifies a Standard Cable Fabrication to be used.

By translating the Typical Hookups into a form compatible with computer methods, these Typical Hookups were used to guide the computer in the design of actual measurement systems.

Drawings of each Typical Hookup and Standard Cable Fabrication were released for use during setup, checkout, and trouble shooting of measurement systems.

2.2 REFERENCE FILES FOR COMPUTER

Since Typical Hookups were to be utilized as guides for selection of measurement system hardware, reference files of Typical Hookups and files of all instrumentation hardware available for use were established. The instrumentation hardware was grouped into two categories: (1) transducers and (2) permanently installed equipment and/or wiring.

To establish the transducer file, all transducers were assigned a type code. The type code was representative of the type (Bridge, LVDT, etc.) of transducer and the connector and connector pin functions required for mating with the transducer. All electrically interchangeable transducers thus have identical type codes.

For the Equipment File, all permanently installed instrumentation hardware was categorized as to its specific function, and each individual unit or channel was assigned a type code so that all functionally interchangeable equipment has identical type codes. Additionally, each unit or channel of equipment was assigned a unique identification code that corresponds to the actual number by which the equipment is identified and which is shown on the permanent equipment installation drawings.

By using these codes, reference files of measurement systems (Typical Hookups), the permanent equipment available for use (equipment inventory), and the available transducers were established for use by the computer. These files are discussed in the following paragraphs.

2.2.1 Reference File of Model Instrumentation Systems

The reference file of Typical Hookups contains the information required to guide the computer in the selection of transducers, signal conditioning equipment, readouts and/or recording devices, and equipment interconnections. This information consists of: (1) Typical Hookup identification number, (2) type code of required transducer, (3) identification number of the Standard Cable Fabrication to be utilized, (4) type code of cable or hardwired signal conditioner used to route signal from permanent test cell or area connection point to interconnection device, (5) type code or codes of desired interconnectable signal conditioners, (6) type code of readout or recording devices, (7) optional English description of signal routing, and (8) system points where interconnections are required.

The reference file of Typical Hookups is applicable to any test complex and need be prepared only once. Revision of the file is required only as Typical Hookups are added, deleted, or changed. Figure 3 is an example of a portion of the reference file of Typical Hookups. The information on each line is contained on a single 80-character punched card.

2.2.2 Reference File of Instrumentation Equipment

To supply information concerning equipment available for use, a reference file of all permanently installed instrumentation wiring and equipment was established. The information in this file consists of: (1) card number for identification and sorting of file punched cards, (2) identification code of the equipment, (3) English description of the equipment, (4) applicable equipment type code, (5) interconnection device and point to which the equipment input is connected, (6) interconnection device and point to which the equipment output is connected, and (7) a designation letter which identifies the test complex with which the equipment is associated. In addition, space is provided for the computer to enter the designation of the measurement systems to which the equipment is assigned.

The instrumentation equipment reference file is applicable to a given individual test complex and need be prepared only once for each complex. Revision of the file is required when equipment availability, installation, or assignment changes occur. Figure 4 is an example of a portion of the equipment reference file. The information is contained on a single 80-character punched card.

2.2.3 Reference File of Transducers

A reference file of transducers was established to provide information as to the available transducers, the range and function of each transducer, and the transducer calibration data. The information contained in this file for each transducer consists of: (1) type code assigned to the transducer, (2) transducer range in engineering units, (3) range units, (4) transducer manufacturer's name, (5) identification or serial number assigned to the transducer, (6) type of calibration/signal conditioning circuit used with transducer during calibration, (7) engineering units value of each of five standard calibration steps (if applicable), (8) units associated with calibration values, (9) the date on which the transducer will next be due for its next periodic calibration, and (10) code letter (if applicable) to identify individual bridges or outputs of a multiple-output transducer. It should be noted that each individual output of a multiple-output transducer is entered in the file as a separate transducer. The information for each transducer is contained in a total of five punched cards with each card corresponding to one of five standard calibration steps.

The reference file of transducers is applicable to all test complexes utilizing the transducer "pool" and is prepared only once. Revision of this file is required as transducer assignment changes are made or when transducers are recalibrated. Figure 5 is an example of a portion of the transducer reference file.

2.3 SYSTEM REQUIREMENTS

The quantity, types, and other pertinent information necessary to permit computer design of instrument systems were communicated to the computer by the use of punched cards referred to as input cards. These cards are used to provide the following information: (1) type of system (by Typical Hookup number) and range required for each measurement system, (2) the parameter designation, (3) measurement system nomenclature and transducer location sketch identification number, and (4) any preselected equipment. These cards must be prepared for each Instrument Book to be processed by the computer.

In addition, punched cards referred to as data reduction cards are used to provide such information as the methods for data reduction (type of calibrations, etc.) and to indicate the data reference. These cards must also be prepared (if data reduction information is desired) for each Instrument Book to be processed by the computer. Figure 6 is an example of both input and data reduction cards.

2.4 COMPUTER PROGRAM

The computer program system was prepared so that the previously discussed reference file of Typical Hookups would guide the computer in building up measurement systems. To build up a measurement system, the computer program selects required hardware from the transducer and equipment reference files in accordance with the input card and selected Typical Hookup requirements. The program allows for the preselection of all or any portion of the hardware to be used for a particular measurement parameter. If specific hardware is not preselected and specified by identification number on the input card, the computer program will select the transducer and hardware in accordance with the type codes specified on the Typical Hookup. When hardware is selected for use with a parameter, the computer program assigns it to that parameter so that it cannot be selected for use with any other parameter. Also, the interconnections which are required to connect the selected hardware in proper configuration are selected and tabulated by item number.

The result of a computer run with the program system is a series of listings which describes the instrumentation systems that are to be used for a test program. These listings are discussed in Section IV.

Details of the computer programs are not discussed in this report. However, listings of actual programs and program flow charts are contained in Appendix II for analysis if desired.

SECTION III
INFORMATION UTILIZED BY COMPUTER PROGRAM

3.1 REFERENCE FILES

As discussed in Section II, the computer program utilizes the Typical Hookup, equipment, and transducer reference files. These files are prepared and maintained on punched cards, permitting easy revision of the files. Prior to use, the files are transferred to magnetic tapes which are used to input the file information to the computer program.

3.2 NECESSARY INPUT INFORMATION

In addition to the reference files, the computer program must have additional information before it can design and document a measurement system. This information is supplied by the previously described input cards and consists of (1) parameter designation assigned to the measurement system, (2) the number of the Typical Hookup to be utilized as a guide for design of the system, (3) the range or the identification number of the transducer to be used for the measurement, (4) Instrument Book item number assigned to the measurement, and (5) the card count number which identifies input cards associated with the measurement and which specifies the processing sequence of that group of cards. It should be noted that, generally, the number of input cards required for a measurement corresponds to the number of independent readouts and/or recording devices desired for that measurement.

3.3 OPTIONAL INPUT INFORMATION

Information not required by the computer program, but in some cases desirable, may also be supplied on the input cards for each measurement system. This information consists of: (1) parameter nomenclature which is descriptive of the measurement, (2) identification number of specific signal routing if such is desired, (3) identification number of specific signal conditioning hardware if preselected, (4) identification number of specific readout and/or recording hardware if preselected, (5) the sketch number which shows the physical location and installation of the transducer in the test cell or area, and (7) a priority code if it is desirable to process the input cards for this measurement prior to those for lower priority measurements. Inclusion of all or any portion of the above information on the input cards is optional.

3.4 DATA REDUCTION INFORMATION

Data reduction cards contain the parameter designation, the identification code for the particular step of the calibration sequence which applies to the assigned readout and/or recorder, and the data reference code. The above codes instruct the computer as to which calibration steps are to be used to reduce the data for a parameter and to the particular reference point for the calibration. The specified calibration information (obtained from the transducer file or from tables of standard millivolt substitution calibration values built into the computer program) will be printed on the data reduction information listing. This listing is discussed in Section IV.

SECTION IV
COMPUTER OUTPUTS

As previously stated, the result of a computer run is a series of listings which describes the instrumentation systems that are to be used. Most of these listings are incorporated in the Instrument Book, and the remaining ones are maintained as equipment inventory and utilization lists. These listings are discussed in the following paragraphs.

4.1 HOOKUP INFORMATION

The hookup information listing is incorporated in the Instrument Book so that instrumentation components can be properly connected to form complete measurement systems. For each measurement, hookup information consists of (1) parameter designation and nomenclature, (2) identification numbers of transducer and all equipment utilized with the measurement and the order in which it is connected, (3) identification number of the Standard Cable Fabrication to be used to connect the transducer to the specified permanent connection point, (4) identification number of the Typical Hookup by which the system was designed, (5) assigned number of the Instrument Book sketch which shows the physical location of the transducer, and (6) the Instrument Book item number assigned to the parameter. Figure 7 is a sample page of a hookup information listing.

4.2 INTERCONNECTION INFORMATION

To connect the permanently installed equipment specified in the hookup listing, specific points on the interconnection devices must be connected. The interconnection information listing specifies the exact interconnections required and the item number of the measurement system with which they are associated. This listing is included in the Instrument Book for use during hookup, checkout, and trouble shooting of the measurement systems.

4.3 CABLE FABRICATION AND INSTALLATION INFORMATION

To facilitate the fabrication and installation of cables used to connect transducers to permanent connection points, a listing of required cable fabrications is produced and included in the Instrument Book. This listing specifies identification number of the Standard Cable Fabrication to be used for each measurement system, the points to which each end of the cable is to be connected, and the first signal conditioner used with the parameter.

4.4 DIGITAL SYSTEM CHANNEL ASSIGNMENTS

To facilitate the setup and checkout of multiple-channel digital recording systems, a channel number ordered listing of the parameters associated with the system is included in the Instrument Book. The designation of the parameter to which a channel is assigned is printed beside the channel number, thus allowing rapid determination of the channels used and all channel assignments.

4.5 DATA REDUCTION INFORMATION

Data reduction information listings are included in the Instrument Book. This information consists of listings for each recorder and the parameter assigned to the recorder or recorder channel. In addition, the calibration step number code and engineering units equivalent value of the calibration step along with the data reference for each parameter are included.

4.6 UPDATED REFERENCE FILES

Listings of the reference files which were used by the computer program are maintained as equipment inventory and utilization lists. The listing of the Typical Hookup file is used for reference as to the information supplied to the computer for the given computer run.

When a transducer or other equipment is selected for use with a measurement during a computer run, the appropriate reference file is updated to show that the selected hardware is assigned to the measuring system. Upon completion of the run, listings of the updated transducer and equipment files are produced. These listings show all the transducer and equipment reference information used and the hardware utilized for each measurement. Listings of the updated files provide an excellent transducer and equipment inventory.

SECTION V
ADDITIONAL COMPUTER PROGRAM CAPABILITIES

In addition to its normal use for design and documentation of electrical instrumentation systems, the computer program is frequently used to design and document pneumatic systems. Special reference files of pneumatic system components and Typical Hookups are supplied to the computer as reference files. The computer processes input cards for pneumatic systems and outputs pneumatic hookup, interconnection, and assignment information in the same manner as for electrical systems.

Another feature of the computer program provides that, on completion of a computer run of an Instrument Book, all information that the computer contains at that time is transferred to a special reel of magnetic tape. By utilizing this tape reel and the special revision capabilities of the program, the Instrument Book can be revised by the computer. In such cases, all information and assignments which are not altered by the specific use of the revision capability will remain exactly as they were at the completion of the previous run.

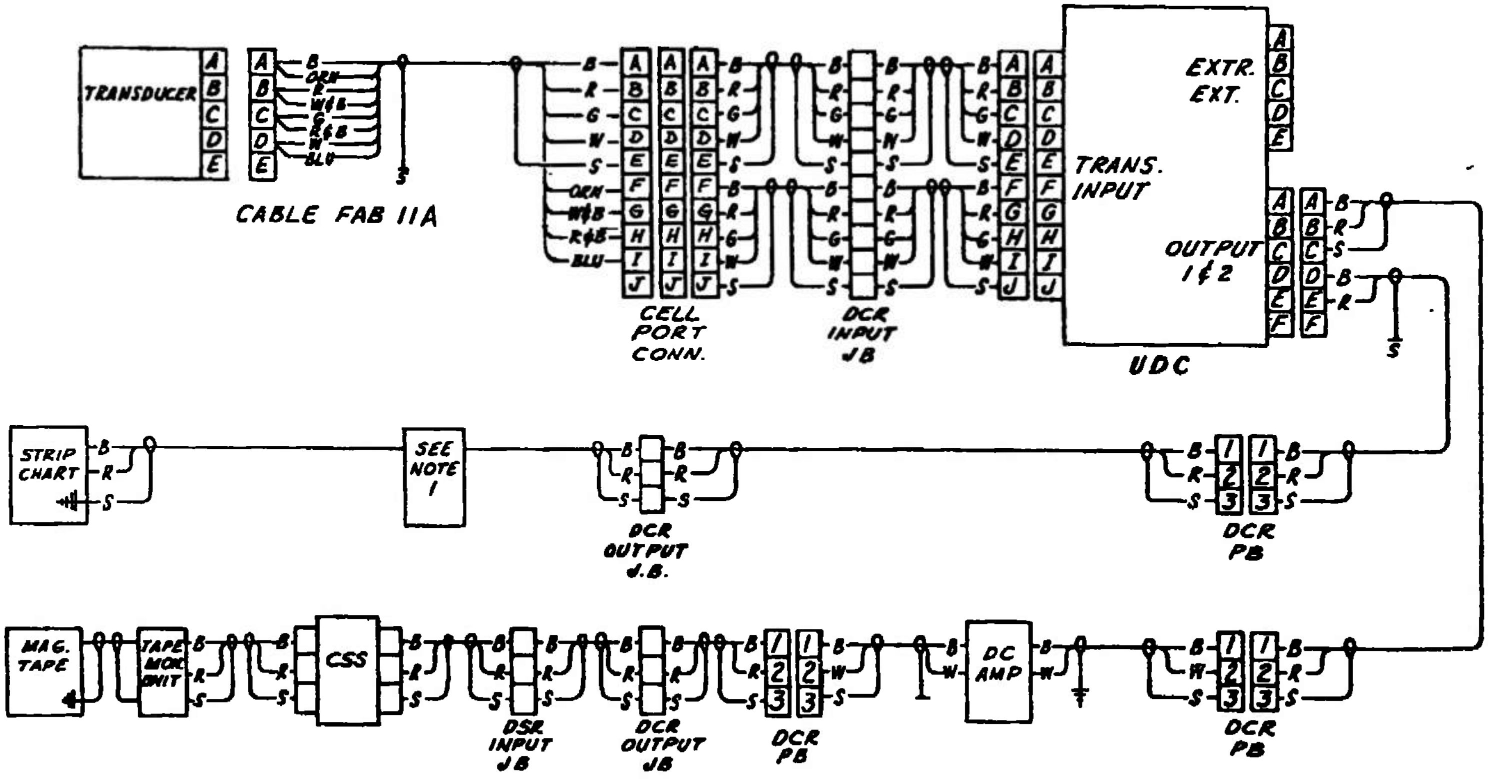
SECTION VI
PLANNED ADDITIONAL PROGRAM CAPABILITIES

The further development of the program system to allow the computer to specify the setup of multiple or adjustable range equipment utilized with measurement systems is planned in the near future. This capability will include such things as specifying gain settings for variable gain devices and specifying range for selectable range readouts and/or recorders.

In short, although a rather substantial start has been made toward automating much of the routine aspect of Instrumentation Systems Design, continued efforts to expand and improve the system are envisioned.

APPENDIXES

I. ILLUSTRATIONS
II. COMPUTER SYSTEM PROGRAM


TRANSDUCER
A
B
C
D
E
CABLE FAB 11A
B
ORN
R
W&B
G
R&B
W
BLU
S
CELL PORT CONN.
DCR INPUT JB
TRANS. INPUT
EXTR.
EXT.
OUTPUT 1 & 2
UDC
STRIP CHART
SEE NOTE 1
DCR OUTPUT J.B.
DCR PB
MAG. TAPE
TAPE MON UNIT
CSS
DSR INPUT JB
DCR OUTPUT JB
DCR PB
DC AMP
DCR PB

STRIP CHART SIGNAL INPUT TERMINATIONS

INPUT LEADS	BRISTOL	L & N TYPE G	HONEYWELL
BLACK	+	EMF +	CUST INPUT +
RED	-	EMF -	CUST INPUT -
SHIELD	CASE	CASE	CUST INPUT GRD

REMARKS

INSTRUMENT BOOK REFERENCE
UDC OUTPUTS AS FOLLOWS
OUTPUT #1 – A
OUTPUT #2 – B

ARNOLD ENGINEERING DEVELOPMENT CENTER

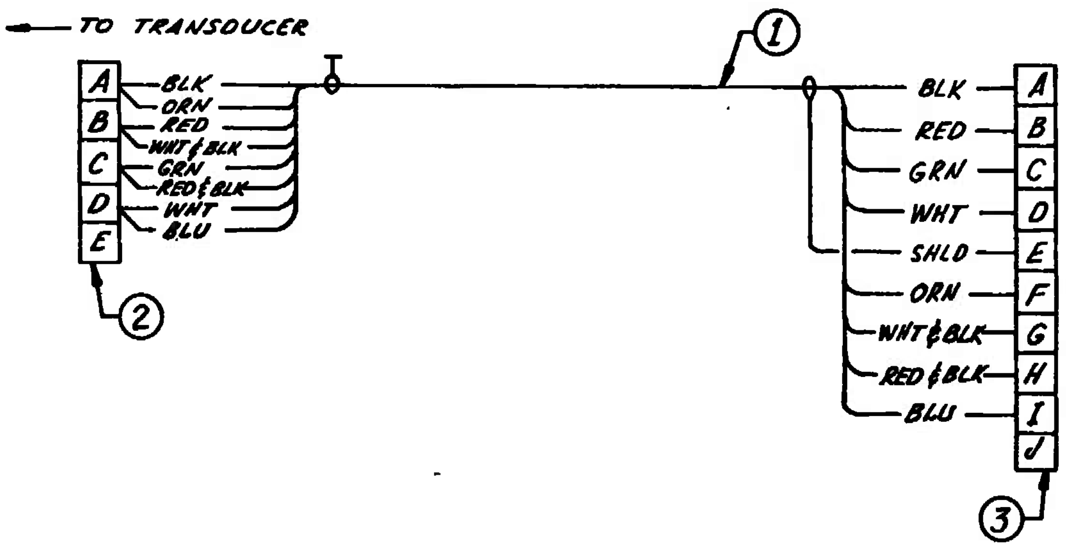
STANDARD TYPICAL HOOKUP

ARO, INC., ARNOLD AIR FORCE STATION, TENN.

	NAME	DATE	APP'VD	NAME	DATE
DRAWN					
CHECKED					

SIZE	NUMBER	REV	SHEET
	59		OF

Fig. 1 Typical Hookup


TO TRANSDUCER
A
B
C
D
E
BLK
ORN
RED
WHT & BLK
GRN
RED & BLK
WHT
BLU
②
①
BLK
RED
GRN
WHT
SHLD
ORN
WHT & BLK
RED & BLK
BLU
A
B
C
D
E
F
G
H
I
J
③

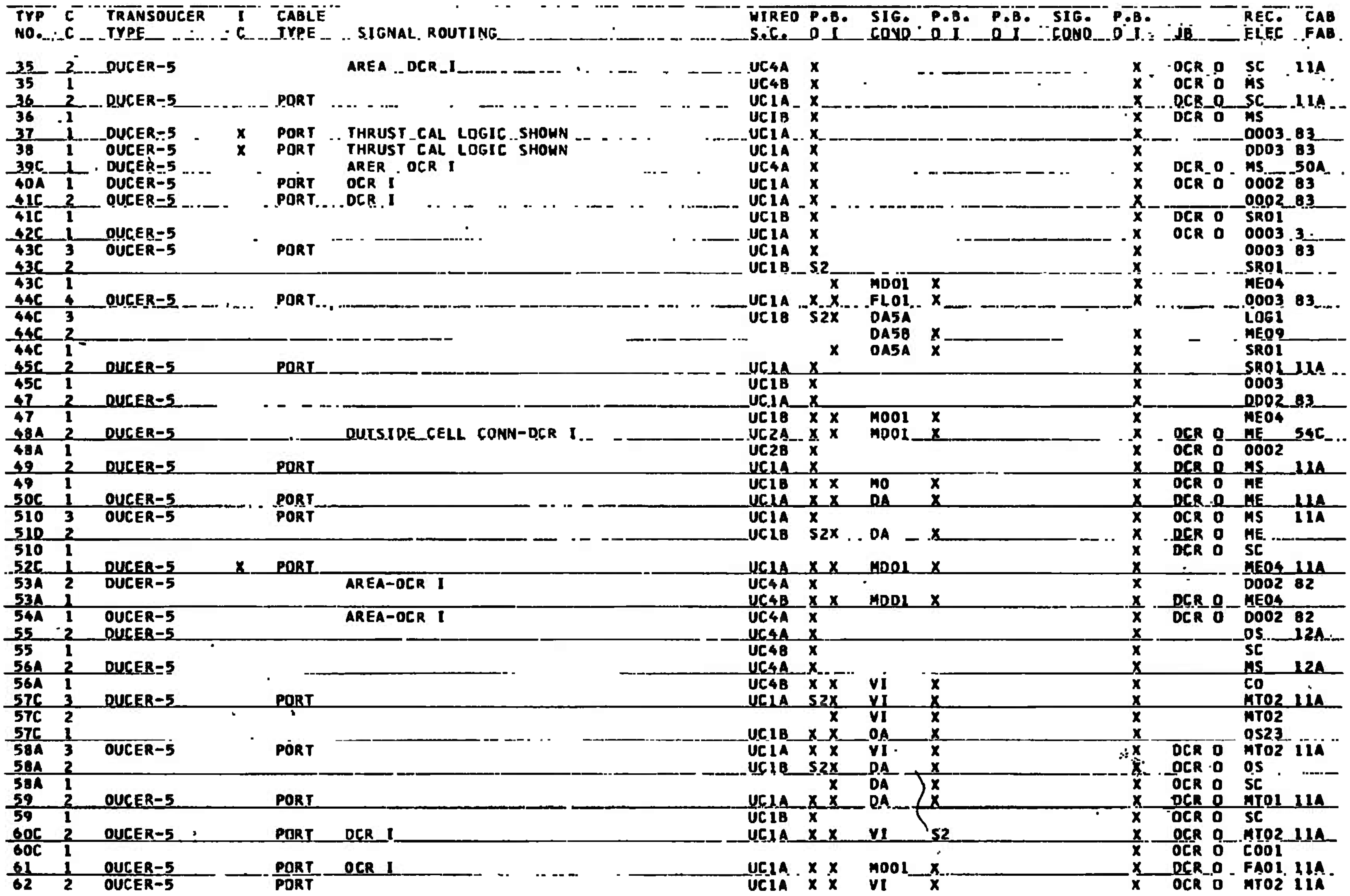
Quantity/ Cable	Material Description	Part No.	Stock No.	Item
1	CONNECTOR, CA06RX-18S-1P		5935-NL999507-5	3
1	CONNECTOR, CA06RX-14S-5S		5935-NL999507-2	2
AS REQ'D.	CABLE, 8 COND. W/SHLD. TEFLON		6145-NL559400-278	1

ARNOLD ENGINEERING DEVELOPMENT CENTER
STANDARD CABLE FAB
ARO, INC., ARNOLD AIR FORCE STATION, TENN

	NAME	DATE	APP'VD	NAME	DATE
DRAWN					
CHECKED					

SIZE NUMBER 11 REV A SHEET 1 OF 1

Fig. 2 Standard Cable Fabrication



TYP NO.	C C	TRANSOUCER TYPE	I C	CABLE TYPE	SIGNAL ROUTING	WIRED S.C.	P.B. O	P.B. I	SIG. COND	P.B. O	P.B. I	P.B. O	P.B. I	SIG. COND	P.B. O	P.B. I	JB	REC. ELEC	CAB FAB
35	2	DUCER-5			AREA DCR I	UC4A	X									X	OCR O	SC	11A
35	1					UC4B	X									X	OCR O	MS	
36	2	DUCER-5		PORT		UC1A	X									X	DCR O	SC	11A
36	1					UCIB	X									X	DCR O	MS	
37	1	DUCER-5	X	PORT	THRUST CAL LOGIC SHOWN	UC1A	X									X		0003	83
38	1	OUCER-5	X	PORT	THRUST CAL LOGIC SHOWN	UC1A	X									X		DD03	B3
39C	1	DUCER-5			ARER OCR I	UC4A	X									X	DCR O	MS	50A
40A	1	DUCER-5		PORT	OCR I	UC1A	X									X	OCR O	0002	83
41C	2	OUCER-5		PORT	DCR I	UC1A	X									X		0002	83
41C	1					UC1B	X									X	DCR O	SR01	
42C	1	OUCER-5				UC1A	X									X	OCR O	0003	3
43C	3	OUCER-5		PORT		UC1A	X									X		0003	83
43C	2					UC1B	S2									X		SR01	
43C	1							X	MD01	X						X		ME04	
44C	4	OUCER-5		PORT		UC1A	X	X	FL01	X						X		0003	83
44C	3					UC18	S2X		DA5A									LOG1	
44C	2								DA5B	X						X		ME09	
44C	1							X	OA5A	X						X		SR01	
45C	2	DUCER-5		PORT		UC1A	X									X		SR01	11A
45C	1					UC1B	X									X		0003	
47	2	DUCER-5				UC1A	X									X		DD02	83
47	1					UC18	X	X	M001	X						X		ME04	
48A	2	DUCER-5			OUTSIDE CELL CONN-DCR I	UC2A	X	X	MD01	X						X	OCR O	ME	54C
48A	1					UC2B	X									X	OCR O	0002	
49	2	DUCER-5		PORT		UC1A	X									X	DCR O	MS	11A
49	1					UC1B	X	X	MO	X						X	OCR O	ME	
50C	1	OUCER-5		PORT		UC1A	X	X	DA	X						X	DCR O	ME	11A
510	3	OUCER-5		PORT		UC1A	X									X	OCR O	MS	11A
51D	2					UC1B	S2X		DA	X						X	DCR O	ME	
510	1															X	DCR O	SC	
52C	1	DUCER-5	X	PORT		UC1A	X	X	MD01	X						X		ME04	11A
53A	2	DUCER-5			AREA-OCR I	UC4A	X									X		D002	82
53A	1					UC4B	X	X	MDD1	X						X	DCR O	ME04	
54A	1	OUCER-5			AREA-OCR I	UC4A	X									X	DCR O	D002	82
55	2	DUCER-5				UC4A	X									X		OS	12A
55	1					UC48	X									X		SC	
56A	2	DUCER-5				UC4A	X									X		MS	12A
56A	1					UC4B	X	X	VI	X						X		CO	
57C	3	DUCER-5		PORT		UC1A	S2X		VI	X						X		MT02	11A
57C	2							X	VI	X						X		MT02	
57C	1					UC1B	X	X	OA	X						X		OS23	
58A	3	OUCER-5		PORT		UC1A	X	X	VI	X						X	DCR O	MT02	11A
58A	2					UC1B	S2X		DA	X						X	OCR O	OS	
58A	1							X	DA	X						X	OCR O	SC	
59	2	OUCER-5		PORT		UC1A	X	X	DA	X						X	DCR O	MT01	11A
59	1					UC1B	X									X	OCR O	SC	
60C	2	OUCER-5		PORT	DCR I	UC1A	X	X	VI	S2						X	OCR O	MT02	11A
60C	1															X	OCR O	C001	
61	1	OUCER-5		PORT	OCR I	UC1A	X	X	M001	X						X	DCR O	FA01	11A
62	2	OUCER-5		PORT		UC1A	X	X	VI	X						X	OCR O	MT02	11A

Fig. 3 Portion of Typical Hookup Reference File

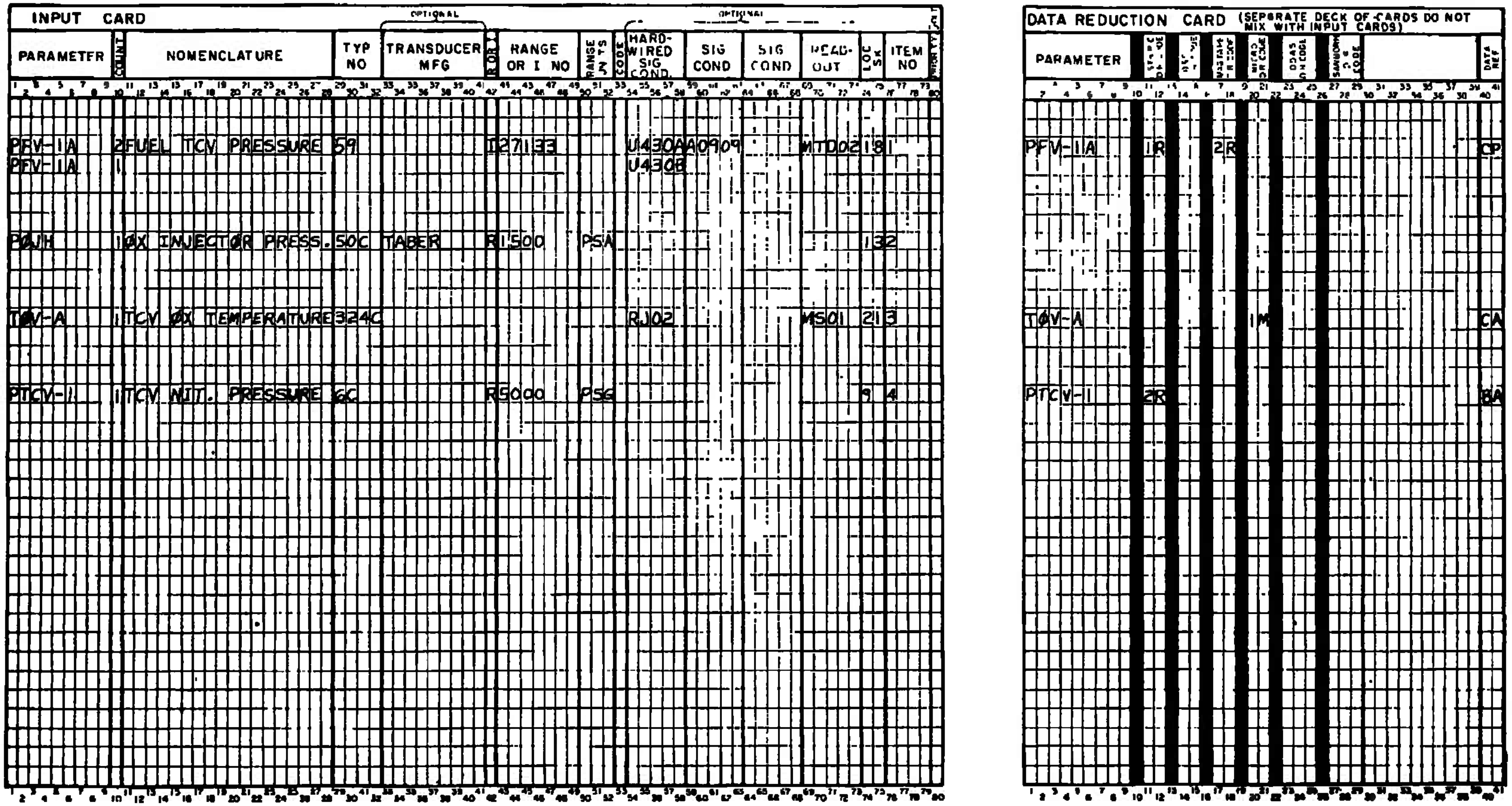
```
                                                       B-FILE

       C                                    TYPE               FROM                              TO               USED FOR     TEST
CARD   C  IDEN.   DESCRIPTION               CODE    DEVICE            DEVICE PT    DEVICE        DEVICE PT        PARAMETER    CELL

  21   2  U021A   UDC OUTPUT A              UC5A    JB 23             21           PB1           R69              PTCV-1        M
  21   1  U021B   UDC OUTPUT B              UC5B    JB 23             21           PB2           R91              PTCV-1        M
  22   2  U022A   UDC OUTPUT A              UC5A    JB 23             22           PB1           R70                            M
  22   1  U022B   UDC OUTPUT B              UC5B    JB 23             22           PB2           R92                            M
 120   2  U430A   UDC OUTPUT A              UC1A    PORT 4            430          PB1           L78              PFV-1A        M
 120   1  U430B   UDC OUTPUT B              UC1B    PORT 4            430          PB2           L34              PFV-1A        M
 121   2  U431A   UDC OUTPUT A              UC1A    PORT 4            431          PB1           M69              PDJH          M
 121   1  U431B   UDC OUTPUT B              UC1B    PORT 4            431          PB2           M25              PDJH          M
 186   1  RJ316   T/C PORT - RJ3 CHAN 16    RJ02    JB 1229           116          PB1           B56              TOV-A         M
 187   1  RJ317   T/C PORT - RJ3 CHAN 17    RJ02    JB 1229           117          PB1           B57                            M
1082   1  A0908   DC AMPLIFIER              DA01    PB1               J32          PB1           J86                            M
1083   1  A0909   DC AMPLIFIER              DA01    PB1               J33          PB1           J87              PFV-1A        M
1084   1  A0910   DC AMPLIFIER              DA01    PB1               J34          PB1           J88              PDJH          M
1433   1  MTD01   MAG TAPE D CHAN 1 - FM    MT01    PB2               M72          CABLE3175     MT-D-01                        M
1434   1  MTD02   MAG TAPE D CHAN 2 - FM    MT01    PB2               M73          CABLE3176     MT-D-02          PFV-1A        M
1730   1  MC030   MICROSADIC AMP 30 - 5MV   MS01    PB2               B83          CABLE3557     MC-030           TOV-A         M
1731   1  MC031   MICROSADIC AMP 31 - 5MV   MS01    PB2               B84          CABLE3558     MC-031                         M
2231   1  M0102   METER 102                 ME01    PB1               GB0          CABLE3264     MTR-102          PDJH          M
2364   1  SC117   STRIP CHART 117           SC01    PB2               F56          CABLE3342     SC-117           PFV-1A        M
2365   1  SC118   STRIP CHART 118           SC01    PB2               F57          CABLE3343     SC-118                         M
2366   1  SC119   STRIP CHART 119           SC01    PB2               F58          CABLE3344     SC-119           PTCV-1        M
3000   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J15          PB2           E69              PFV-1A        M
3001   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J16          PB2           E70              TOV-A         M
3002   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J17          PB2           E71              PTCV-1        M
3003   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J18          PB2           E72                            M
3004   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J19          PB2           E73                            M
3005   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J20          PB2           E74                            M
3006   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J21          PB2           S70                            M
3007   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J22          PB2           S71                            M
3008   1          PB INTERCONNECT PB1-PB2   INTR    PB1               J23          PB2           S72                            M
```

Fig. 4 Portion of Equipment Reference File

C-FILE

T-DUCER TYPE	RANGE	UNITS	B C	USED FOR PARAMETER	TRAN MFG.	I-NO	B C	UDC CARD	R N	POS. RN EQUIV.	NEG. RN EQUIV.	UNITS	RE-CAL DATE
DUCER-5	1500	PSA		PDJH	TABER	26928			0			PSA	
						26928			1			PSA	
						26928			2			PSA	
						26928			3			PSA	
						26928			4			PSA	
DUCER-5	500	PSA		PFV-1A	TABER	27133		DS	0	N/A		PSA	011170
						27133			1	0120.102		PSA	
						27133			2	0239.530		PSA	
						27133			3	0358.474		PSA	
						27133			4	0477.182		PSA	
DUCER-5	5000	PSG		PTCV-1	TABER	28349		DS	0	N/A		PSG	032370
						28349			1	1354.884		PSG	
						28349			2	2712.516		PSG	
						28349			3	4069.841		PSG	
						28349			4	N/A		PSG	

Fig. 6 Portion of Transducer Reference File.



INPUT CARD

PARAMETER	COUNT	NOMENCLATURE	TYP NO	TRANSDUCER MFG	R OR I	RANGE OR I NO	RANGE UNITS	CODE	HARD-WIRED SIG COND.	SIG COND	SIG COND	READ-OUT	LOC SK	ITEM NO	PRIORITY
PFV-1A	2	FUEL TCV PRESSURE	59		I	27133			U430A	A0909		MTD02	1	8	1
PFV-1A	1								U430B						
POJH	1	OX INJECTOR PRESS.	50C	TABER	R	1500	PSA						1	32	
TOV-A	1	TCV OX TEMPERATURE	324C						RJ02			MS01	21	3	
PTCV-1	1	TCV NIT. PRESSURE	6C		R	5000	PSG						9	4	

DATA REDUCTION CARD (SEPARATE DECK OF CARDS DO NOT MIX WITH INPUT CARDS)

PARAMETER								DATA REF
PFV-1A	1R		2R					CP
TOV-A				1M				CA
PTCV-1	2R							BA

Notes:
1. For parameter PFV-1A, all equipment has been preselected and specified by identification number on the input cards.
2. For parameter POJH, only the required information plus the name of a particular transducer manufacturer is included on the input card.
3. For parameter TOV-A, the required information and the type codes of the desired hardwired signal conditioner and readout are specified on the input card.
4. For parameter PTCV-1, only the required information is on the input card.

Fig. 6 Input and Data Reduction Cards

HOOKUP INFORMATION

PARAMETER	C C	NOMENCLATURE	TRAN I-NO.	CONNECTING DEVICE	 POINT	WIRED S.C.	UDC CARD	SIG. COND.	SIG. COND.	READOUT	TYP NO.	CAB FAB	LOC SK.	ITEM NO	C C
PFV-1A	2	FUEL TCV PRESS.	27133	PORT 4	430	U430A	DS	A0909		MTD02	59	11A	18	1	2
PFV-1A	1			PORT 4	430	U430B				SC117				1	1
POJH	1	OX INJECTOR PRESS.	26928	PORT 4	431	U431A		AD910		M0102	50C	11A	13	2	1
TOV-A	1	TCV OX TEMP.	TC/CA	JB 1229	116	RJ316				MC030	324C	29A	21	3	1
PTCV-1	1	TCV NIT. PRESS.	28349	JB 23	21	U021A	DS			SC119	6C	12A	9	4	1

Fig. 7 Hookup Information

APPENDIX II
COMPUTER SYSTEM PROGRAM

For those desiring detailed information about the program system, the computer system program flow charts and program listings are presented. Figure II-1 is the program flow chart for the programs which produce the various Instrument Book listings, and Fig. II-2 is the program flow chart for the programs which revise a previous computer run. The remainder of this Appendix consists of listings of the actual programs. These programs are written in "COBOL F" language and are used with an IBM-360-Model 50 computer.

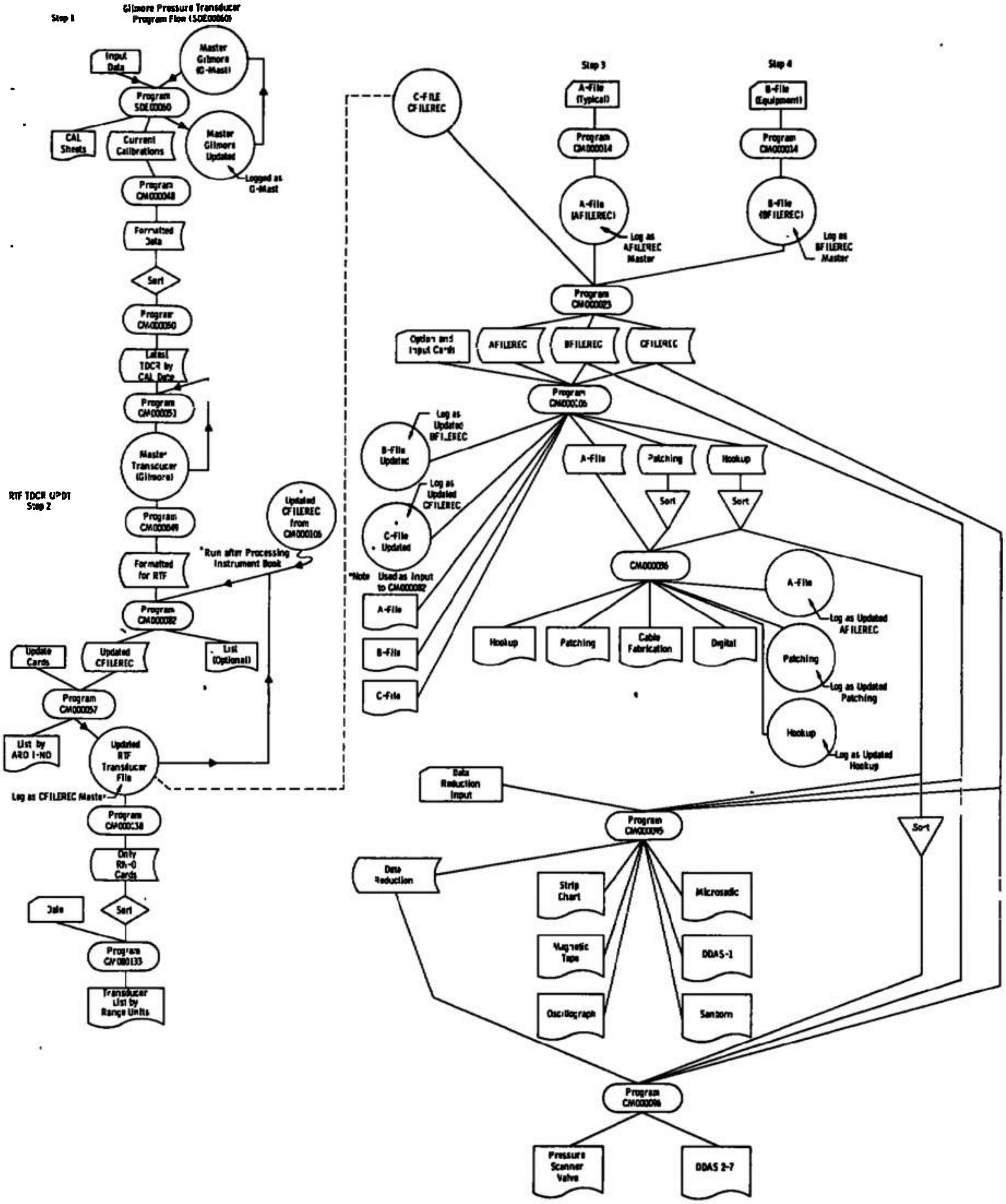

Step 1
Gilmore Pressure Transducer
Program Flow (SDE00060)
Input Data
Master Gilmore (G-Mast)
Program SDE00060
CAL Sheets
Current Calibrations
Master Gilmore Updated
Logged as G-Mast
Program CM000048
Formatted Data
Sort
Program CM000050
Latest TDCR by CAL Date
Program CM000051
Master Transducer (Gilmore)
RTF TDCR UPDT
Step 2
Program CM000049
Formatted for RTF
Updated CFILEREC from CM000106
*Run after Processing Instrument Book
Program CM000082
Update Cards
Updated CFILEREC
List (Optional)
Program CM000057
List by ARO I-NO
Updated RTF Transducer File
Log as CFILEREC Master
Program CM000138
Only Rh-0 Cards
Date
Sort
Program CM000133
Transducer List by Range Units
C-FILE CFILEREC
Step 3
A-File (Typical)
Program CM000014
A-File (AFILEREC)
Log as AFILEREC Master
Step 4
B-File (Equipment)
Program CM000034
B-File (BFILEREC)
Log as BFILEREC Master
Program CM000023
Option and Input Cards
AFILEREC
BFILEREC
CFILEREC
Program CM000106
Log as Updated BFILEREC
B-File Updated
Log as Updated CFILEREC
C-File Updated
*Note Used as Input to CM000082
A-File
B-File
C-File
A-File
Patching
Hookup
Sort
Sort
CM000036
A-File
Log as Updated AFILEREC
Hookup
Patching
Cable Fabrication
Digital
Patching
Log as Updated Patching
Hookup
Log as Updated Hookup
Data Reduction Input
Program CM000095
Sort
Data Reduction
Strip Chart
Magnetic Tape
Oscillograph
Microsadic
DDAS-1
Sanborn
Program CM000096
Pressure Scanner Valve
DDAS 2-7

Fig. II-1 ETF Instrument Book

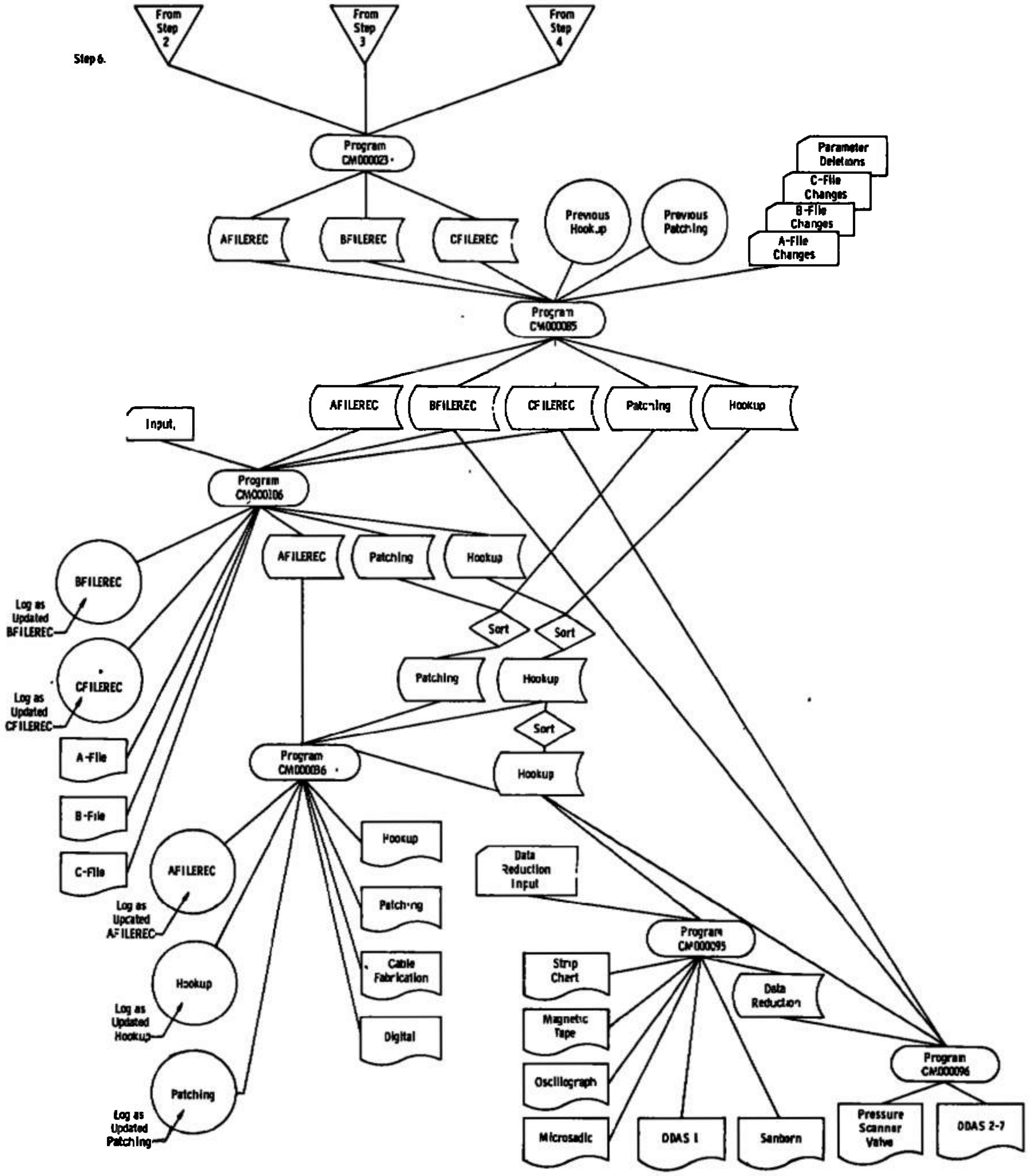
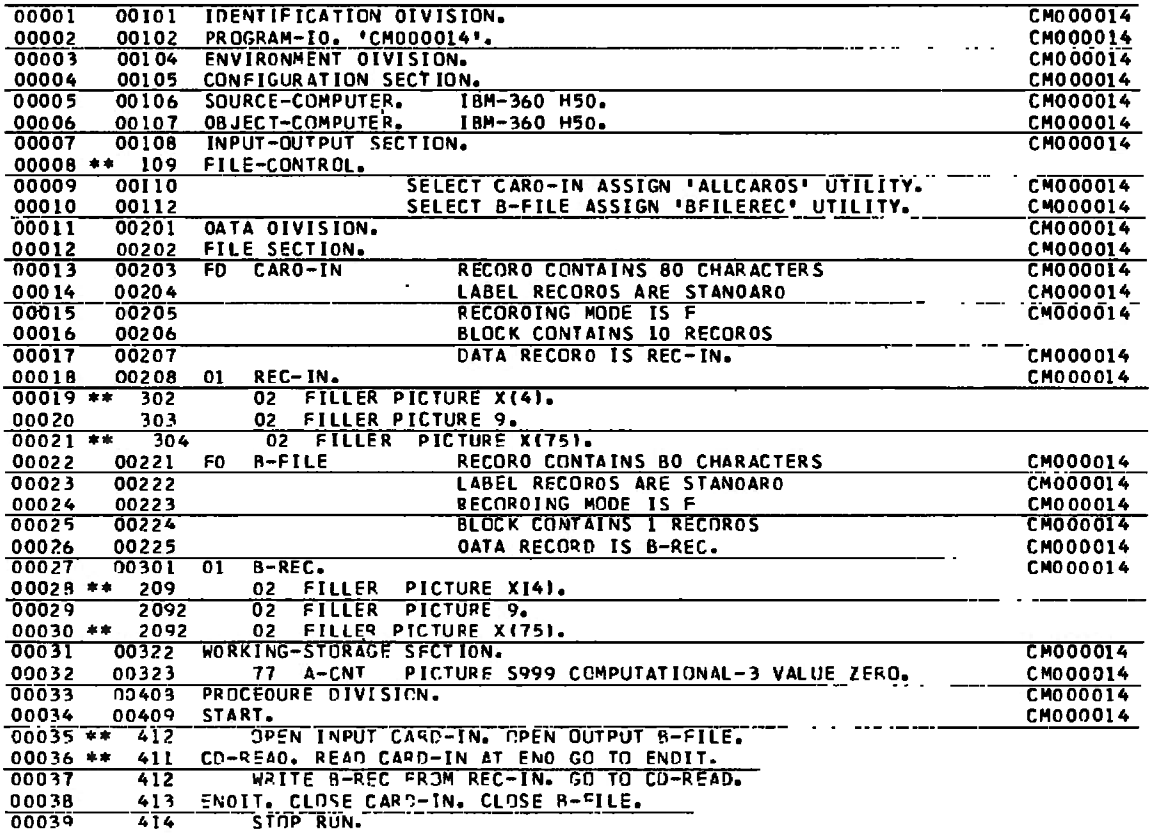

Step 6.
From Step 2
From Step 3
From Step 4
Program CM000023
AFILEREC
BFILEREC
CFILEREC
Previous Hookup
Previous Patching
Parameter Deletions
C-File Changes
B-File Changes
A-File Changes
Program CM000085
AFILEREC
BFILEREC
CFILEREC
Patching
Hookup
Input,
Program CM000106
BFILEREC
Log as Updated BFILEREC
CFILEREC
Log as Updated CFILEREC
A-File
B-File
C-File
AFILEREC
Patching
Hookup
Sort
Sort
Patching
Hookup
Sort
Hookup
Program CM000086
AFILEREC
Log as Updated AFILEREC
Hookup
Log as Updated Hookup
Patching
Log as Updated Patching
Hookup
Patching
Cable Fabrication
Digital
Data Reduction Input
Program CM000095
Strip Chart
Magnetic Tape
Oscillograph
Microsadic
DDAS I
Sanborn
Data Reduction
Program CM000096
Pressure Scanner Valve
DDAS 2-7

Fig. II-2 ETF Instrument Book Revision Option

1



```
00001    00101  IDENTIFICATION DIVISION.                                                   CM000014
00002    00102  PROGRAM-ID. 'CM000014'.                                                    CM000014
00003    00104  ENVIRONMENT DIVISION.                                                      CM000014
00004    00105  CONFIGURATION SECTION.                                                     CM000014
00005    00106  SOURCE-COMPUTER.    IBM-360 H50.                                           CM000014
00006    00107  OBJECT-COMPUTER.    IBM-360 H50.                                           CM000014
00007    00108  INPUT-OUTPUT SECTION.                                                      CM000014
00008 **  109   FILE-CONTROL.
00009    00110                  SELECT CARD-IN ASSIGN 'ALLCARDS' UTILITY.                  CM000014
00010    00112                  SELECT B-FILE ASSIGN 'BFILEREC' UTILITY.                   CM000014
00011    00201  DATA DIVISION.                                                             CM000014
00012    00202  FILE SECTION.                                                              CM000014
00013    00203  FD  CARD-IN         RECORD CONTAINS 80 CHARACTERS                          CM000014
00014    00204                      LABEL RECORDS ARE STANDARD                             CM000014
00015    00205                      RECORDING MODE IS F                                    CM000014
00016    00206                      BLOCK CONTAINS 10 RECORDS
00017    00207                      DATA RECORD IS REC-IN.                                 CM000014
00018    00208  01  REC-IN.                                                                CM000014
00019 **  302       02  FILLER PICTURE X(4).
00020     303       02  FILLER PICTURE 9.
00021 **   304       02  FILLER  PICTURE X(75).
00022    00221  FD  B-FILE          RECORD CONTAINS 80 CHARACTERS                          CM000014
00023    00222                      LABEL RECORDS ARE STANDARD                             CM000014
00024    00223                      RECORDING MODE IS F                                    CM000014
00025    00224                      BLOCK CONTAINS 1 RECORDS                               CM000014
00026    00225                      DATA RECORD IS B-REC.                                  CM000014
00027    00301  01  B-REC.                                                                 CM000014
00028 **  209       02  FILLER  PICTURE X(4).
00029     2092      02  FILLER  PICTURE 9.
00030 **  2092      02  FILLER PICTURE X(75).
00031    00322  WORKING-STORAGE SECTION.                                                   CM000014
00032    00323      77  A-CNT   PICTURE S999 COMPUTATIONAL-3 VALUE ZERO.                   CM000014
00033    00403  PROCEDURE DIVISION.                                                        CM000014
00034    00409  START.                                                                     CM000014
00035 **  412       OPEN INPUT CARD-IN. OPEN OUTPUT B-FILE.
00036 **  411   CD-READ. READ CARD-IN AT END GO TO ENDIT.
00037     412       WRITE B-REC FROM REC-IN. GO TO CD-READ.
00038     413   ENDIT. CLOSE CARD-IN. CLOSE B-FILE.
00039     414       STOP RUN.
```

```
 1

00001   001010 IOENTIFICATION DIVISION.                                          CM000095
00002   001020 PROGRAM-IO. 'CM000145'.
00003   001030 AUTHOR. ROSE.                                                     CM000095
00004   001040 ENVIRONMENT DIVISION.                                             CM000095
00005   001050 CONFIGURATION SECTION.                                            CM000095
00006   001060 SOURCE-COMPUTER. IBM-360 H50.                                     CM000095
00007   001070 OBJECT-COMPUTER. IBM-360 H50.                                     CM000095
00008   001080 INPUT-OUTPUT SECTION.                                             CM000095
00009   001090 FILE-CONTROL.                                                     CM000095
00010   001110     SELECT  HOOK  ASSIGN 'HOOK'  UTILITY.                         CM000095
00011   001140     SELECT  LIST  ASSIGN 'LIST'  UTILITY.                         CM000095
00012   001170 OATA OIVISION.                                                    CM000095
00013   001180 FILE SECTION.                                                     CM000095
00014   002150 FD  LIST       RECORDING F   BLOCK 12 RECORDS  RECORD 132
00015   002160                LABEL RECOROS OMITTED   OATA RECORO LIT.           CM000095
00016   002170 01  LIT        PICTURE  X(132).                                   CM000095
00017   004010 FD  HOOK       RECORDING F  BLOCK 1 RECOROS   RECORO 133          CM000095
00018   004020                LABEL RECORDS STANOARO  DATA RECORD HOK.           CM000095
00019   004030 01  HOK.                                                          CM000095
00020   004040     02  FILLER  PICTURE  X.                                       CM000095
00021   004050     02  HPAR    PICTURE  X(9).                                    CM000095
00022   004060     02  FILLER  PICTURE  X(58).                                   CM000095
00023   004070     02  HUOC    PICTURE  X(5).                                    CM000095
00024   004080     02  FILLER  PICTURE  X(25).                                   CM000095
00025   004090     02  HROOUT  PICTURE  X(5).                                    CM000095
00026   004100     02  RHRDOUT REOEFINES HRDOUT.                                 CM000095
00027   004110         03  HR1      PICTURE  X.                                  CM000095
00028   004120         03  HR2      PICTURE  X.                                  CM000095
00029   004130         03  HR3      PICTURE  X.                                  CM000095
00030   004131         03  HHR3 REOEFINES  HR3  PICTURE 9.
00031   004140         03  HR45     PICTURE  XX.                                 CM000095
00032   004141         03  RHR45   REOEFINES HR45  PICTURE 99.                   CM000095
00033   004150     02  RRHROOUT REOEFINES RHROOUT.                               CM000095
00034   004160         03  HR12     PICTURE  XX.                                 CM000095
00035   004170         03  HR345    PICTURE  XXX.                                CM000095
00036   004180         03  R345 REOEFINES HR345  PICTURE 999.                    CM000095
00037   004181     02  HROT REOEFINES HRDOUT.                                    CM000095
00038   004182         03  HRDT1    PICTURE X.                                   CM000095
00039   004183         03  HR023    PICTURE 99.                                  CM000095
00040   004184         03  HRD45    PICTURE XX.                                  CM000095
00041   004210     02  FILLER  PICTURE  X(20).                                   CM000095
00042   004220     02  HITEM   PICTURE  XXXX.                                    CM000095
00043   004230     02  FILLER  PICTURE  X(6).                                    CM000095
00044   023010 WORKING-STORAGE SECTION.                                          CM000095
00045   023020 77  J        PICTURE   999.                                       CM000095
00046   023030 77  K        PICTURE   999.                                       CM000095
00047   023100 77  JECT     PICTURE   99    VALUE 50.                            CM000095
00048 **011010 01  SVTABLE.                                                      CM000095
00049   011020     02  SVTABL  OCCURS 60.                                        CM000095
00050   011050         03  SV3      PICTURE  X(9)   OCCURS  12.                  CM000095
00051          01  SVTOP3
00052              02  FILLER  PICTURE X  VALUE SPACE.
00053              02  FILLER  PICTURE X(25) VALUE 'NO RANGE PORT 01   PORT O'.
00054              02  FILLER  PICTURE X(25) VALUE '2   PORT 03   PORT 04   P'.
```

```
  2

00055                  02  FILLER  PICTURE X(25) VALUE 'ORT 05   PORT 06   PORT 0'.
00056                  02  FILLER  PICTURE X(25) VALUE '7   PORT 08   PORT 09   P'.
00057                  02  FILLER  PICTURE X(26) VALUE 'ORT 10   PORT 11   PORT 12'.
00058                  02  FILLER  PICTURE X(5)  VALUE SPACE.
00059              01  SVTOP1.
00060                  02  FILLER  PICTURE X(36) VALUE SPACE.
00061                  02  FILLER  PICTURE X(25) VALUE 'SCANNER VALVE ASSIGNMENTS'.
00062                  02  FILLER  PICTURE X(33) VALUE SPACE.
00063                  02  FILLER  PICTURE X(11) VALUE 'SHEET    OF'.
00064                  02  FILLER  PICTURE X(27) VALUE SPACE.
00065              01  SVTOP2.
00066                  02  FILLER  PICTURE X  VALUE SPACE.
00067                  02  FILLER  PICTURE X(12) VALUE 'SV DUCER    '.
00068                  02  FILLER  PICTURE X(119)  VALUE SPACE.
00069              01  SVLINE.
00070                  02  FILLER  PICTURE X  VALUE SPACE.
00071                  02  SVNO    PICTURE  99.
00072                  02  FILLER  PICTURE X(17) VALUE '        VAC REF   '.
00073                  02  PORT2   PICTURE X(10).
00074                  02  PORT3   PICTURE X(10).
00075                  02  PORT4   PICTURE X(10).
00076                  02  PORT5   PICTURE X(10).
00077                  02  PORT6   PICTURE X(10).
00078                  02  PORT7   PICTURE X(10).
00079                  02  PORT8   PICTURE X(10).
00080                  02  PORT9   PICTURE X(10).
00081                  02  PORT10  PICTURE X(10).
00082                  02  PORT11  PICTURE X(10).
00083                  02  PORT12  PICTURE X(10).
00084                  02  FILLER  PICTURE  XX  VALUE SPACE.
00085   030010 PROCEDURE DIVISION.                                                     CM000095
00086   030021     OPEN OUTPUT LIST.
00087   030100     OPEN INPUT HOOK.                                                    CM000095
00088   030130     PERFORM SPACE-T8.                                                   CM000095
00089   031010 RD-HK.                                                                  CM000095
00090   031020     READ HOOK AT ENO GO TO HK-END.                                      CM000095
00091   031070     IF HR1 = 'S' ANO HR2 = '0' OR '1' OR '2' OR '3' OR '4' OR           CM000095
00092   031080     '5' OR '6' OR '7' OR '8' OR '9' GO TO SV-ROUTE.                     CM000095
00093   031110     GO TO RD-HK.                                                        CM000095
00094   049010 SV-ROUTE.                                                               CM000095
00095   049020     IF HR023 > 60 DISPLAY '4902' HRDOUT  GO TO RO-HK.                   CM000095
00096   049030     MOVE HRD23 TO J.                                                    CM000095
00097   049040     IF RHR45 > 12 OISPLAY '4904' HROOUT  GO TO RD-HK.                   CM000095
00098              MOVE RHR45 TO K.
00099   049050     MOVE HPAR TO SV3 (J, K)                                             CM000095
00100   049060     GO TO RD-HK.                                                        CM000095
00101   062010 HK-END.                                                                 CM000095
00102   062020     CLOSE HOOK.                                                         CM000095
00103   069070     GO TO WR-SR.                                                        CM000095
00104   073010 SPACE-T8.                                                               CM000095
00105   073090     PERFORM SPC-SV VARYING K FROM 1 8Y 1 UNTIL K > 12 AFTER             CM000095
00106   073100             J FROM 1 BY 1 UNTIL J > 60.                                 CM000095
00107   074180 SPC-SV.                                                                 CM000095
00108   074190     MOVE SPACE TO SV3 (J, K).                                           CM000095
00109 **071010 WR-SR.                                                                  CM000095
00110 **067240     MOVE 24 TO JECT.                                                    CM000095
00111   068010 WR-SV.                                                                  CM000095
```

3

```
             PERFORM WRSV1 VARYING J FROM 1 BY 1 UNTIL J > 60.
**066240     GO TO WR-ALL.                                                CM000095
  068060 WRSV1.                                                           CM000095
             IF J = 1 PERFORM SVTOP.
             IF J = 21 PERFORM SVTOP.
             IF J = 41 PERFORM SVTOP.
             MOVE J TO SVNO.
             MOVE SV3 (J, 2) TO PORT2.
             MOVE SV3 (J, 3) TO PORT3.
             MOVE SV3 (J, 4) TO PORT4.
             MOVE SV3 (J, 5) TO PORT5.
             MOVE SV3 (J, 6) TO PORT6.
             MOVE SV3 (J, 7) TO PORT7.
             MOVE SV3 (J, 8) TO PORT8.
             MOVE SV3 (J, 9) TO PORT9.
             MOVE SV3 (J, 10) TO PORT10.
             MOVE SV3 (J, 11) TO PORT11.
             MOVE SV3 (J, 12) TO PORT12.
             WRITE LIT FROM SVLINE AFTER 2.
         SVTOP.
             WRITE LIT FROM SVTOP1 AFTER 0.
             WRITE LIT FROM SVTOP2 AFTER 3.
             WRITE LIT FROM SVTOP3 AFTER 1.
**067230 WR-ALL.                                                          CM000095
  072040     CLOSE LIST.                                                  CM000095
  072060     STOP RUN.                                                    CM000095
```

```
1
00001   001010 IDENTIFICATION DIVISION.                                                 CM000095
00002   001020 PROGRAM-ID. 'CM000095'.                                                  CM000095
00003   001030 AUTHOR. ROSE.                                                            CM000095
00004   001040 ENVIRONMENT DIVISION.                                                    CM000095
00005   001050 CONFIGURATION SECTION.                                                   CM000095
00006   001060 SOURCE-COMPUTER. IBM-360 H50.                                            CM000095
00007   001070 OBJECT-COMPUTER. IBM-360 H50.                                            CM000095
00008   001080 INPUT-OUTPUT SECTION.                                                    CM000095
00009   001090 FILE-CONTROL.                                                            CM000095
00010   001100     SELECT  BFILE ASSIGN 'BFILE' UTILITY.                                CM000095
00011   001110     SELECT  HOOK  ASSIGN 'HOOK'  UTILITY.                                CM000095
00012   001120     SELECT  CFILE ASSIGN 'CFILE' UTILITY.                                CM000095
00013   001130     SELECT  CARD  ASSIGN 'CARD'  UTILITY.                                CM000095
00014   001140     SELECT  LIST  ASSIGN 'LIST'  UTILITY.                                CM000095
00015   001150     SELECT  DCARD ASSIGN 'DCARD' UTILITY.                                CM000095
00016   001170 DATA DIVISION.                                                           CM000095
00017   001180 FILE SECTION.                                                            CM000095
00018   002010 FD  BFILE       RECORD CONTAINS 80 CHARACTERS                            CM000095
00019   002020                 LABEL RECORDS ARE STANDARD                               CM000095
00020   002030                 RECORDING MODE IS F                                      CM000095
00021   002040                 BLOCK CONTAINS 45 RECORDS                                CM000095
00022   002050                 DATA RECORD IS BFIL.                                     CM000095
00023   002060 01  BFIL.                                                                CM000095
00024   002070     02  B1          PICTURE  X(5).                                       CM000095
00025   002080     02  B3.                                                              CM000095
00026   002090         03  B3A PICTURE  XX.                                             CM000095
00027   002100         03  B3B PICTURE  XXX.                                            CM000095
00028   002110     02  B4          PICTURE  X(24).                                      CM000095
00029   002130     02  B5          PICTURE  X(4).                                       CM000095
00030   002140     02  FILLER  PICTURE  X(42).                                          CM000095
00031   002150 FD  LIST        RECORDING F    BLOCK 12 RECORDS   RECORD 132
00032   002160                 LABEL RECORDS OMITTED    DATA RECORD LIT.                CM000095
00033   002170 01  LIT         PICTURE  X(132).                                         CM000095
00034   003010 FD  CFILE       RECORD CONTAINS 80 CHARACTERS                            CM000095
00035   003020                 LABEL RECORDS ARE STANDARD                               CM000095
00036   003030                 RECORDING MODE IS F                                      CM000095
00037   003040                 BLOCK CONTAINS 45 RECORDS                                CM000095
00038   003050                 DATA RECORD IS CFIL.                                     CM000095
00039   003060 01  CFIL.                                                                CM000095
00040   003070     02  C1          PICTURE  X(4).                                       CM000095
00041   003080     02  C2          PICTURE  9.                                          CM000095
00042   003090     02  C3          PICTURE  X(7).                                       CM000095
00043   003100     02  C4          PICTURE  X(11).                                      CM000095
00044   003110     02  C5          PICTURE  X(9).                                       CM000095
00045   003120     02  C6          PICTURE  X(9).                                       CM000095
00046   003130     02  C7          PICTURE  X(7).                                       CM000095
00047   003140     02  C8          PICTURE  X(4).                                       CM000095
00048   003150     02  C9          PICTURE  X.                                          CM000095
00049   003160     02  C10         PICTURE  X(9).                                       CM000095
00050   003170     02  C11         PICTURE  X(9).
00051   003180     02  C11B        PICTURE  XXX.                                        CM000095
00052   003190     02  C12         PICTURE  X(6).                                       CM000095
00053   004010 FD  HOOK        RECORDING F  BLOCK 1 RECORDS   RECORD 133                CM000095
00054   004020                 LABEL RECORDS STANDARD  DATA RECORD HDK.                 CM000095
```

2

```
00055   004030 01  HOK.                                                      CM000095
00056   004040     02  FILLER  PICTURE  X.                                   CM000095
00057   004050     02  HPAR    PICTURE  X(9).                                CM000095
00058   004060     02  FILLER  PICTURE  X(58).                               CM000095
00059   004070     02  HUDC    PICTURE  X(5).                                CM000095
00060   004080     02  FILLER  PICTURE  X(25).                               CM000095
00061   004090     02  HROOUT  PICTURE  X(5).                                CM000095
00062   004100     02  RHRDOUT REDEFINES HROOUT.                             CM000095
00063   004110         03  HR1      PICTURE  X.                              CM000095
00064   004120         03  HR2      PICTURE  X.                              CM000095
00065   004130         03  HR3      PICTURE  X.                              CM000095
00066   004131         03  HHR3 REDEFINES  HR3  PICTURE 9.
00067   004140         03  HR45     PICTURE  XX.                             CM000095
00068   004141         03  RHR45   REDEFINES HR45  PICTURE 99.               CM000095
00069   004150     02  RRHRDOUT REDEFINES RHRDOUT.                           CM000095
00070   004160         03  HR12     PICTURE  XX.                             CM000095
00071   004170         03  HR345    PICTURE  XXX.                            CM000095
00072   004180         03  R345 REDEFINES HR345  PICTURE 999.                CM000095
00073   004181     02  HRDT REDEFINES HROOUT.                                CM000095
00074   004182         03  HROT1    PICTURE X.                               CM000095
00075   004183         03  HRD23    PICTURE 99.                              CM000095
00076   004184         03  HRO45    PICTURE XX.                              CM000095
00077   004210     02  FILLER  PICTURE  X(20).                               CM000095
00078   004220     02  HITEM   PICTURE  XXXX.                                CM000095
00079   004230     02  FILLER  PICTURE  X(6).                                CM000095
00080   005010 FD  CARD     RECORDING F   BLOCK 10 RECORDS   RECORD 80        CM00009
00081   005020              LABEL RECORDS OMITTED   DATA RECORD CAR.         CM000095
00082   005030 01  CAR.                                                      CM000095
00083   005040     02  FILLER  PICTURE  X(80).                               CM000095
00084   005060 FD  OCARD    RECORDING F   BLOCK 1 RECORDS   RECORD 41        CM000095
00085   005070              LABEL RECORDS STANDARD  DATA RECORD DCAR.        CM000095
00086   005080 01  DCAR.                                                     CM000095
00087   005090     02  OR1     PICTURE  X(9).                                CM000095
00088   005100     02  FILLER  PICTURE  X.                                   CM000095
00089   005110     02  DR2     PICTURE  XX.                                  CM000095
00090   005111     02  ROR   REDEFINES OR2.                                  CM000095
00091   005112         03  ROR1     PICTURE  X.                              CM000095
00092   005113         03  RDR2     PICTURE  X.                              CM000095
00093   005120     02  FILLER  PICTURE  X.                                   CM000095
00094   005130     02  OR3     PICTURE  XX.                                  CM000095
00095   005131     02  ROR3 REDEFINES OR3.                                   CM000095
00096   005132         03  DR3A     PICTURE X.                               CM000095
00097   005133         03  DR3B     PICTURE X.                               CM000095
00098   005140     02  FILLER  PICTURE  X.                                   CM000095
00099   005150     02  DR4     PICTURE  XX.                                  CM000095
00100   005151     02  ROR4 REDEFINES OR4.                                   CM000095
00101   005152         03  OR4A     PICTURE X.                               CM000095
00102   005153         03  DR4B     PICTURE X.                               CM000095
00103   005160     02  FILLER  PICTURE  X.                                   CM000095
00104   005170     02  OR5     PICTURE  XX.                                  CM000095
00105   005171     02  RDR5 REDEFINES DR5.                                   CM000095
00106   005172         03  DR5A     PICTURE X.                               CM000095
00107   005173         03  DR5B     PICTURE X.                               CM000095
00108   005180     02  FILLER  PICTURE  X.                                   CM000095
00109   005190     02  DR7     PICTURE  XXX.                                 CM000095
00110   005191     02  RDR7  REDEFINES  DR7.                                 CM000095
00111   005192         03  RDR7A   PICTURE X.                                CM000095
```

```
    3

00112   005193         03  RDR7B   PICTURE 99.                                 CM000095
00113   005194     02  RRDR7 REDEFINES  DR7.                                   CM000095
00114   005195         03  RR7A    PICTURE X.                                  CM000095
00115   005196         03  RR7B    PICTURE X.                                  CM000095
00116   005197         03  RR7C    PICTURE X.                                  CM000095
00117   005200     02  FILLER  PICTURE  X.                                     CM000095
00118   005210     02  DR8     PICTURE  XXX.                                   CM000095
00119   005211     02  RDR8  REDEFINES  DR8.                                   CM000095
00120   005212         03  RDR8A   PICTURE X.                                  CM000095
00121   005213         03  RDR8B   PICTURE XX.                                 CM000095
00122   005220     02  FILLER  PICTURE  X(10).                                 CM000095
00123   005230     02  DR6     PICTURE  XX.                                    CM000095
00124   023010 WORKING-STORAGE SECTION.                                        CM000095
00125   023020 77  J           PICTURE   999.                                  CM000095
00126   023030 77  K           PICTURE   999.                                  CM000095
00127   023040 77  SW1         PICTURE   9      VALUE 0.                       CM000095
00128   023050 77  MSW1        PICTURE   9      VALUE 0.                       CM000095
00129   023060 77  MSW2        PICTURE   9      VALUE 0.                       CM000095
00130   023070 77  MSW3        PICTURE   9      VALUE 0.                       CM000095
00131   023080 77  NEG-SW      PICTURE   9      VALUE 0.                       CM000095
00132   023090 77  JJ          PICTURE   999    VALUE 0.                       CM000095
00133   023100 77  JECT        PICTURE   99     VALUE 50.                      CM000095
00134   023110 77  KK          PICTURE   999    VALUE 0.                       CM000095
00135          77  JKT   PICTURE  X  VALUE SPACE.
00136          77  N  PICTURE 999 VALUE 1.
00137 **007010 01  SCTABL.                                                     CM000095
00138   007020     02  SCAT    OCCURS  50.                                     CM000095
00139   007030         03  SC1     PICTURE  XXX.                               CM000095
00140   007040         03  SC2     PICTURE  X(9).                              CM000095
00141   007050         03  SC3     PICTURE XXX.                                CM000095
00142   007060         03  SC4     PICTURE  X(9).                              CM000095
00143   007070         03  SC5     PICTURE  X(9).                              CM000095
00144   007080         03  SC6     PICTURE  X(9).                              CM000095
00145   007090         03  SC7     PICTURE  X(9).                              CM000095
00146   007100         03  SC8     PICTURE X(9).                               CM000095
00147   007110         03  SC9     PICTURE  X(10).                             CM000095
00148   007120         03  SC10    PICTURE  X(14).                             CM000095
00149   008010 01  MTTABLE.                                                    CM000095
00150   008020     02  MTAB  OCCURS 6.                                         CM000095
00151   008030         03  MT1     PICTURE  X       OCCURS 14.                 CM000095
00152   008040         03  MT2     PICTURE  XX      OCCURS 14.                 CM000095
00153   008050         03  MT3     PICTURE  X(9)    OCCURS 14.                 CM000095
00154   008060         03  MT4     PICTURE  XXX     OCCURS 14.                 CM000095
00155   008070         03  MT5     PICTURE  X(9)    OCCURS 14.                 CM000095
00156   008080         03  MT6     PICTURE  X(9)    OCCURS 14.                 CM000095
00157   008090         03  MT7     PICTURE  X(9)    OCCURS 14.                 CM000095
00158   008100         03  MT8     PICTURE  X(9).   OCCURS 14.                 CM000095
00159   008110         03  MT9     PICTURE  X(9)    OCCURS 14.                 CM000095
00160   008120         03  MT10    PICTURE  X(10)   OCCURS 14.                 CM000095
00161   008130         03  MT11    PICTURE  X(14)   OCCURS 14.                 CM000095
00162   009010 01  OSTABLE.                                                    CM000095
00163   009020     02  DSTBL   OCCURS  6.                                      CM000095
00164   009030         03  OS1     PICTURE  X       OCCURS  36.                CM000095
00165   009040         03  OS2     PICTURE  XX      OCCURS  36.                CM000095
00166   009050         03  OS3     PICTURE  X(9)    OCCURS  36.                CM000095
00167   009060         03  OS4     PICTURE  XXX     OCCURS  36.                CM000095
00168   009070         03  OS5     PICTURE  X(9)    OCCURS  36.                CM000095
```

4

```
00169   009080          03  OS6     PICTURE  X(9)    OCCURS  36.                  CM000095
00170   009090          03  OS7     PICTURE  X(9)    OCCURS  36.                  CM000095
00171   009100          03  OS8     PICTURE  X(9)    OCCURS  36.                  CM000095
00172   009110          03  OS9     PICTURE  X(9)    OCCURS  36.                  CM000095
00173   009120          03  OS10    PICTURE  X(10)   OCCURS  36.                  CM000095
00174   009130          03  OS11    PICTURE  X(14)   OCCURS  36.                  CM000095
00175   010010 01   MCTABLE.                                                      CM000095
00176   010020      02  MCTBL   OCCURS 3.                                         CM000095
00177   010030          03  MC1     PICTURE  XXX     OCCURS  100.                 CM000095
00178   010040          03  MC2     PICTURE  X(9)    OCCURS  100.                 CM000095
00179   010050          03  MC3     PICTURE  XXX     OCCURS  100.                 CM000095
00180   010060          03  MC4     PICTURE  XX      OCCURS  100.                 CM000095
00181   010070          03  MC5     PICTURE  X(9)    OCCURS  100.                 CM000095
00182   010080          03  MC6     PICTURE  XX      OCCURS  100.                 CM000095
00183   010090          03  MC7     PICTURE  X(9)    OCCURS  100.                 CM000095
00184   010100          03  MC8     PICTURE  XX      OCCURS  100.                 CM000095
00185   010110          03  MC9     PICTURE  X(9)    OCCURS  100.                 CM000095
00186   010120          03  MC10    PICTURE  XX      OCCURS  100.                 CM000095
00187   010130          03  MC11    PICTURE  X(9)    OCCURS  100.                 CM000095
00188   010140          03  MC12    PICTURE  XX      OCCURS  100.                 CM000095
00189   010150          03  MC13    PICTURE  X(9)    OCCURS  100.                 CM000095
00190   010160          03  MC14    PICTURE  X(10)   OCCURS  100.                 CM000095
00191   010170          03  MC15    PICTURE  X(14)   OCCURS  100.                 CM000095
00192   010180          03  MC16    PICTURE  XXX     OCCURS  100.                 CM000095
00193   011080 01   ODTABLE.
00194   011090      02  DIOOLE  OCCURS 1.
00195   011100          03  DD1     PICTURE  X       OCCURS  100.
00196   011110          03  DD2     PICTURE  XX      OCCURS  100.
00197   011120          03  DD3     PICTURE  X(9)    OCCURS  100.
00198   011130          03  DD4     PICTURE  XXX     OCCURS  100.
00199   011140          03  005     PICTURE  XX      OCCURS  100.
00200   011150          03  0D6     PICTURE  X(9)    OCCURS  100.
00201   011160          03  DD7     PICTURE  XX      OCCURS  100.
00202   011170          03  008     PICTURE  X(9)    OCCURS  100.
00203   011180          03  009     PICTURE  XX      OCCURS  100.
00204   011190          03  0010    PICTURE  X(9)    OCCURS  100.
00205   011201 01   DOTAB2.
00206   011202      02  OAOOLE  OCCURS 1.
00207 **011200          03  D011    PICTURE  XX      OCCURS  100.
00208   011210          03  0D12    PICTURE  X(9)    OCCURS  100.
00209   011220          03  0013    PICTURE  XX      OCCURS  100.
00210   011230          03  D014    PICTURE  X(9)    OCCURS  100.
00211   011240          03  0D15    PICTURE  X(10)   OCCURS  100.
00212   011250          03  0D16    PICTURE  X(14)   OCCURS  100.
00213   011260          03  00SN    PICTURE  X       OCCURS  100.
00214   012010 01   SRTABLE.                                                      CM000095
00215   012020      02  SRTAB   OCCURS 4.                                         CM000095
00216   012030          03  SR1     PICTURE  X       OCCURS 8.                    CM000095
00217   012040          03  SR2     PICTURE  XX      OCCURS 8.                    CM000095
00218   012050          03  SR3     PICTURE  X(9)    OCCURS 8.                    CM000095
00219   012060          03  SR4     PICTURE  XXX     OCCURS 8.                    CM000095
00220   012070          03  SR5     PICTURE  X(9)    OCCURS 8.                    CM000095
00221   012080          03  SR6     PICTURE  X(9)    OCCURS 8.                    CM000095
00222   012090          03  SR7     PICTURE  X(9)    OCCURS 8.                    CM000095
00223   012100          03  SR8     PICTURE  X(9)    OCCURS 8.                    CM000095
00224   012110          03  SR9     PICTURE  X(9)    OCCURS 8.                    CM000095
00225   012120          03  SR10    PICTURE  X(10)   OCCURS 8.                    CM000095
```

5

```
00226  012130       03  SR11    PICTURE  X(14)  OCCURS 8.                           CM000095
00227  012140       03  SRSN    PICTURE  X      OCCURS 8.                           CM000095
00228  013010 01   SCLIST.                                                         CM000095
00229  013020      02  FILLER  PICTURE   X(5)   VALUE SPACE.                       CM000095
00230  013030      02  LSC1    PICTURE   XXX.                                      CM000095
00231  013040      02  FILLER  PICTURE   XXXXXX VALUE SPACE.
00232  013050      02  LSC2    PICTURE   X(9).                                     CM000095
00233  013060      02  FILLER  PICTURE   XXXX   VALUE SPACE.
00234  013070      02  LSC3    PICTURE   XXX.                                      CM000095
00235  013080      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00236  013090      02  LSC4    PICTURE   X(9).                                     CM000095
00237  013100      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00238  013110      02  LSC5    PICTURE   X(9).                                     CM000095
00239  013120      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00240  013130      02  LSC6    PICTURE   X(9).                                     CM000095
00241  013140      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00242  013150      02  LSC7    PICTURE   X(9).                                     CM000095
00243  013160      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00244  013170      02  LSC8    PICTURE   X(9).                                     CM000095
00245  013180      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00246  013190      02  LSC9    PICTURE   X(10).                                    CM000095
00247  013200      02  FILLER  PICTURE   XXXX   VALUE SPACE.
00248  013210      02  LSC10   PICTURE   X(14).                                    CM000095
00249  013220      02  FILLER  PICTURE   X(5)   VALUE SPACE.
00250  014010 01   MTLIST.                                                         CM000095
00251  014020      02  FILLER  PICTURE   X(5)   VALUE SPACE.                       CM000095
00252  014030      02  LMT1    PICTURE   X.                                        CM000095
00253  014040      02  FILLER  PICTURE   XX     VALUE SPACE.                       CM000095
00254  014050      02  LMT2    PICTURE   99.
00255  014060      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00256  014070      02  LMT3    PICTURE   X(9).                                     CM000095
00257  014080      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00258  014090      02  LMT4    PICTURE   XXX.                                      CM000095
00259  014100      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00260  014110      02  LMT5    PICTURE   X(9).                                     CM000095
00261  014120      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00262  014130      02  LMT6    PICTURE   X(9).                                     CM000095
00263  014140      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00264  014150      02  LMT7    PICTURE   X(9).                                     CM000095
00265  014160      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00266  014170      02  LMT8    PICTURE   X(9).                                     CM000095
00267  014180      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00268  014190      02  LMT9    PICTURE   X(9).                                     CM000095
00269  014200      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00270  014210      02  LMT10   PICTURE   X(10).                                    CM000095
00271  014220      02  FILLER  PICTURE   XXXX   VALUE SPACE.                       CM000095
00272  014230      02  LMT11   PICTURE   X(14).                                    CM000095
00273  014240      02  FILLER  PICTURE   X(5)  VALUE SPACE.
00274  015010 01   OSLIST.                                                         CM000095
00275  015020     02  FILLER  PICTURE   X(5)  VALUE SPACE.                         CM000095
00276  015030     02  LOS1    PICTURE   X.                                         CM000095
00277  015040     02  FILLER  PICTURE   XX    VALUE SPACE.                         CM000095
00278  015050     02  LOS2    PICTURE   99.                                        CM000095
00279  015060     02  FILLER  PICTURE   XXXX  VALUE SPACE.                         CM000095
00280  015070     02  LOS3    PICTURE   X(9).                                      CM000095
00281  015080     02  FILLER  PICTURE   XXXX  VALUE SPACE.                         CM000095
00282  015090     02  LOS4    PICTURE   XXX.                                       CM000095
```

6

```
00283  015100     02  FILLER   PICTURE   XXXX  VALUE SPACE.                    CM000095
00284  015110     02  LOS5     PICTURE   X(9).
00285  015120     02  FILLER   PICTURE   XXXX  VALUE SPACE.                    CM000095
00286  015130     02  LOS6     PICTURE   X(9).                                 CM000095
00287  015140     02  FILLER   PICTURE   XXXX  VALUE SPACE.                    CM000095
00288  015150     02  LOS7     PICTURE   X(9).                                 CM000095
00289  015160     02  FILLER   PICTURE   XXXX  VALUE SPACE.                    CM000095
00290  015170     02  LOS8     PICTURE   X(9).                                 CM000095
00291  015180     02  FILLER   PICTURE   XXXX  VALUE SPACE.                    CM000095
00292  015190     02  LOS9     PICTURE   X(9).                                 CM000095
00293  015200     02  FILLER   PICTURE   XXXX  VALUE SPACE.                    CM000095
00294  015210     02  LOS10    PICTURE   X(10).                                CM000095
00295  015220     02  FILLER   PICTURE   XXXX  VALUE SPACE.                    CM000095
00296  015230     02  LOS11    PICTURE   X(14).                                CM000095
00297  015240     02  FILLER   PICTURE   X(5)  VALUE SPACE.
00298  016010 01  MCLIST.                                                       CM000095
00299  016020     02  FILLER   PICTURE   X(5)   VALUE SPACE.                   CM000095
00300  016030     02  LMC1     PICTURE   999.                                  CM000095
00301  016040     02  FILLER   PICTURE   XXXX   VALUE SPACE.                   CM000095
00302  016050     02  LMC2     PICTURE   X(9).                                 CM000095
00303  016060     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00304  016070     02  LMC3     PICTURE   XXX.                                  CM000095
00305  016080     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00306  016090     02  LMC4     PICTURE   XX.                                   CM000095
00307  016100     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00308  016110     02  LMC5     PICTURE   X(9).                                 CM000095
00309  016120     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00310  016130     02  LMC6     PICTURE   XX.                                   CM000095
00311  016140     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00312  016150     02  LMC7     PICTURE   X(9).                                 CM000095
00313  016160     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00314  016170     02  LMC8     PICTURE   XX.                                   CM000095
00315  016180     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00316  016190     02  LMC9     PICTURE   X(9).                                 CM000095
00317  016200     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00318  016210     02  LMC10    PICTURE   XX.                                   CM000095
00319  016220     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00320  016230     02  LMC11    PICTURE   X(9).                                 CM000095
00321  016240     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00322  016250     02  LMC12    PICTURE   XX.                                   CM000095
00323  017010     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00324  017020     02  LMC13    PICTURE   X(9).                                 CM000095
00325  017030     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00326  017040     02  LMC14    PICTURE   X(10).                                CM000095
00327  017050     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00328  017060     02  LMC15    PICTURE   X(14).                                CM000095
00329  017070     02  FILLER   PICTURE   XX     VALUE SPACE.                   CM000095
00330  017080     02  LMC16    PICTURE   X      VALUE SPACE.                   CM000095
00331  019010 01  DDLIST.                                                       CM000095
00332  019020     02  FILLER   PICTURE  X(4)   VALUE SPACE.                    CM000095
00333  019030     02  LDD1     PICTURE  Z.
00334  019040     02  FILLER   PICTURE   XX    VALUE SPACE.
00335  019050     02  LDD2     PICTURF Z99.
00336  019060     02  FILLER   PICTURE  XX     VALUE SPACE.                    CM000095
00337  019070     02  LDD3     PICTURE  X(9).                                  CM000095
00338  019080     02  FILLER   PICTURE  XX     VALUE SPACE.                    CM000095
00339  019090     02  LDD4     PICTURE  XXX.                                   CM000095
```

```
 7

00340   019100      02  FILLER  PICTURE  XX      VALUE SPACE.                          CM000095
00341   019110      02  LOD5    PICTURE  XX.                                           CM000095
00342   019111      02  FILLER  PICTURE  X    VALUE SPACE.
00343   019120      02  FILLER1 PICTURE  XX      VALUE SPACE.                          CM000095
00344   019130      02  LDD6    PICTURE  X(9).                                         CM000095
00345   019140      02  FILLER  PICTURE  X  VALUE SPACE.
00346   019150      02  LOD7    PICTURE  XX.                                           CM000095
00347   019151      02  FILLER  PICTURE  X  VALUE SPACE.
00348   019160      02  FILLER2 PICTURE  XX      VALUE SPACE.                          CM000095
00349   019170      02  LOD8    PICTURE  X(9).                                         CM000095
00350   019180      02  FILLER  PICTURE  X  VALUE SPACE.
00351   019190      02  LDD9    PICTURE  XX.                                           CM000095
00352   019191      02  FILLER  PICTURE  X  VALUE SPACE.
00353   019200      02  FILLER3 PICTURE  XX      VALUE SPACE.                          CM000095
00354   019210      02  LDD10   PICTURE  X(9).                                         CM000095
00355   019220      02  FILLER  PICTURE  X  VALUE SPACE.
00356   019230      02  LDD11   PICTURE  XX.                                           CM000095
00357   019231      02  FILLER  PICTURE  X  VALUE SPACE.
00358   019240      02  FILLER4 PICTURE  XX      VALUE SPACE.                          CM000095
00359   019250      02  LDD12   PICTURE  X(9).                                         CM000095
00360   020010      02  FILLER  PICTURE  X  VALUE SPACE.
00361   020020      02  LOD13   PICTURE  XX.                                           CM000095
00362   020021      02  FILLER  PICTURE  X  VALUE SPACE.
00363   020030      02  FILLER5 PICTURE  XX      VALUE SPACE.                          CM000095
00364   020040      02  LDD14   PICTURE  X(9).                                         CM000095
00365   020050      02  FILLER  PICTURE  X  VALUE SPACE.
00366   020060      02  LOD15   PICTURE  X(10).                                        CM000095
00367   020070      02  FILLER  PICTURE  XX      VALUE SPACE.                          CM000095
00368   020080      02  LDD16   PICTURE  X(14).                                        CM000095
00369   020090      02  FILLER  PICTURE  XXX     VALUE SPACE.                          CM000095
00370   022080 01   HEADMCDD.                                                          CM000095
00371   022090      02  MCDO    PICTURE  X(12)   VALUE '    SCAN     '.                CM000095
00372   022100      02  FILLER  PICTURE  X(113) VALUE 'PARAMETER UNIT CODE     LOADCM000095
00373   022110-     '    CODE    LOAD     CODE    LOAO     CODE    LOAO     CODE    LOADCM000095
00374   022120-     '     REFERENCE        REMARKS'.                                   CM000095
00375   022130      02  FILLER  PICTURE  X(7)    VALUE SPACE.                          CM000095
00376   023010 01   DDAS-HD.
00377   023020      02  FILLER  PICTURE  X(48)   VALUE SPACE.
00378   023030      02  FILLER  PICTURE X(31)    VALUE 'DIGITAL DATA ACQUISITION S
00379   023040-     'YSTEM'.
00380   023050      02  FILLER  PICTURE  X(32)  VALUE SPACE.
00381   023060      02  FILLER  PICTURE  X(14)    VALUE 'SHEET     OF  R'.
00382   023070      02  FILLER  PICTURE  X(7)     VALUE SPACE.
00383 **021010 01   SRLIST.                                                            CM000095
00384   021020      02  FILLER  PICTURE  X(5)    VALUE SPACE.                          CM000095
00385   021030      02 LSR1     PICTURE X   VALUE SPACE.
00386   021040      02  FILLER  PICTURE  XX      VALUE SPACE.                          CM000095
00387   021050      02  LSR2    PICTURE  99.                                           CM000095
00388   021060      02  FILLER  PICTURE  XXXX    VALUE SPACE.
00389   021070      02  LSR3    PICTURE  X(9).                                         CM000095
00390   021080      02  FILLER  PICTURE  XXXX    VALUE SPACE.
00391   021090      02  LSR4    PICTURE  XXX.                                          CM000095
00392   021100      02  FILLERA PICTURE  XXXX    VALUE SPACE.                          CM000095
00393   021110      02  LSR5    PICTURE  X(9).                                         CM000095
00394   021120      02  FILLERB PICTURE  XXXX    VALUE SPACE.                          CM000095
00395   021130      02  LSR6    PICTURE  X(9).                                         CM000095
00396   021140      02  FILLERC PICTURE  XXXX    VALUE SPACE.
```

```
  8

00397    021150        02  LSR7     PICTURE  X(9).                                                   CM000095
00398    021160        02  FILLERO  PICTURE  XXXX    VALUE SPACE.                                    CM000095
00399    021170        02  LSR8     PICTURE  X(9).                                                   CM000095
00400    021180        02  FILLERE  PICTURE  XXXX    VALUE SPACE.                                    CM000095
00401    021190        02  LSR9     PICTURE  X(9).                                                   CM000095
00402    021200        02  FILLER   PICTURE  XXXX    VALUE SPACE.                                    CM000095
00403    021210        02  LSR10    PICTURE  X(10).                                                  CM000095
00404    021220        02  FILLER   PICTURE  XXXX    VALUE SPACE.                                    CM000095
00405    021230        02  LSR11    PICTURE  X(14).                                                  CM000095
00406    021240        02  FILLER   PICTURE  X(5)    VALUE SPACE.
00407    022010 01     HEADSMOS.                                                                     CM000095
00408    022020        02  SCMTD    PICTURE  X(12)   VALUE '   ST CH     '.                          CM000095
00409    022030        02  FILLER   PICTURE  X(120)  VALUE ' PARAMETER   UNITS   RNO
00410    022040-       ' EQUIV     RN1 EQUIV     RN2 EQUIV     RN3 EQUIV     RN4 EQUIV
00411    022050-       ' REFERENCE        REMARKS           '.
00412    023010 01     SC-HD.
00413    023020        02  FILLER   PICTURE  X(43)   VALUE SPACE.
00414    023030        C2  FILLIE   PICTURE  X(36)   VALUE 'STRIP CHART DATA REOUCTION
00415    023040-       '               '.
00416    023C50        02  FILLER   PICTURE  X(29)   VALUE SPACE.
00417    023060        02  FILLER   PICTURE  X(14)   VALUE 'SHEET     OF   R'.
00418    023070        02  FILLER   PICTURE  X(10)   VALUE SPACE.
00419    023090 01     MT-HO.
00420    023100        02  FILLER   PICTURE  X(43)   VALUE SPACE.
00421    023110        02  FLLX     PICTURE  X(15)   VALUE 'MAGNETIC TAPE -'.
00422    023120        02  FLP      PICTURE  X.
00423    023130        02  FILLER   PICTURE  X(16)   VALUE '- OATA REDUCTION'.
00424    023140        02  FILLER   PICTURE   X(33)  VALUE SPACE.
00425    023150        02  FILLER   PICTURE   X(14)  VALUE 'SHEET     OF   R'.
00426    023160        02  FILLER   PICTURE   X(10)  VALUE SPACE.
00427    023180 01     MC-HO.
00428    023190        02  FILLER   PICTURE  X(53)   VALUE SPACE.
00429    023200        02  FIXR     PICTURE  X(32)   VALUE 'MICROSADIC DATA REDUCTION
00430    023210-       '       '.
00431    023220        02  FILLER   PICTURE  X(26)   VALUE SPACE.
00432    023230        02  FILLER   PICTURE  X(14)   VALUE 'SHEET     OF   R'.
00433    023240        02  FILLER   PICTURE  X(7)    VALUE SPACE.
00434    024010 01     DUM-HEAO.
00435    024020        02  SCF      PICTURE  X(32)   VALUE 'SCANNER VALVE OATA REDUCTI
00436    024030-       'DN      '.
00437    024040        02  OSF      PICTURE  X(15)   VALUE ' OSCILLOGRAPH -'.
00438    024050        02  SRF      PICTURE  X(32)   VALUE 'SANBORN RECORDER OATA REOU
00439    024060-       'CTION '.
00440    030010 PROCEOURE DIVISION.                                                                  CM000095
00441    030020        OPEN INPUT CARD  OUTPUT DCARD.                                                CM000095
00442    030021        OPEN OUTPUT LIST.
00443    030030 P1.                                                                                  CM000095
00444    030040        READ CARD AT END GO TO P2.                                                    CM000095
00445    030050        WRITE DCAR FROM CAR.                                                          CM000095
00446    030060        GO TO P1.                                                                     CM000095
00447    030070 P2.                                                                                  CM000095
00448    030080        CLOSE CARD.
00449    030100        OPEN INPUT HOOK.                                                              CM000095
00450    030130        PERFORM SPACE-T8.                                                             CM000095
00451  **030110        PERFORM OP-BF THRU BEND.                                                      CM000095
00452    030120        PERFORM DO-U THRU ALL-OO.                                                     CM000095
00453    031010 RD-HK.                                                                               CM000095
```

9

```
00454   031131.      CLOSE DCARD.
00455 **031012 RD-HK1.
00456   031020       READ HOOK AT END GO TO HK-END.                              CM000095
00457                IF HR3 = 'A' MOVE 1 TO N.
00458                IF HR3 = 'B' MOVE 2 TO N.
00459                IF HR3 = 'C' MOVE 3 TO N.
00460                IF HR3 = 'D' MOVE 4 TO N.
00461                IF HR3 = 'E' MOVE 5 TO N.
00462                IF HR3 = 'F' MOVE 6 TO N.
00463   031030       IF HR12 = 'SC' GO TO MN1.                                   CM000095
00464   031040       IF HR12 = 'MT' GO TO MN2.                                   CM000095
00465   031050       IF HR12 = 'OS' GO TO MN3.                                   CM000095
00466   031060       IF HR12 = 'MC' GO TO MN4.                                   CM000095
00467   031090       IF HR12 = 'DD' GO TO MN6.                                   CM000095
00468   031100       IF HR12 = 'SR' GO TO MN7.                                   CM000095
00469   031110       GO TO RD-HK1.
00470   031130 MN1.                                                              CM000095
00471                  MOVE HPAR TO SC2 (R345).
00472   031140       OPEN INPUT DCARD.                                           CM000095
00473   031150 MN1A.                                                             CM000095
00474   031160       READ DCARD AT END GO TO MN1Z.                               CM000095
00475   031170       IF DR1 NOT = HPAR GO TO MN1A.                               CM000095
00476   031180       IF DR2 = '  ' GO TO MN1Z.                                   CM000095
00477   031200       GO TO SC-ROUTE.                                             CM000095
00478   031210 MN2.                                                              CM000095
00479                MOVE HPAR TO MT3 (N,RHR45).
00480   031220       OPEN INPUT DCARD.                                           CM000095
00481   031230 MN2A.                                                             CM000095
00482   031240       READ DCARD AT END GO TO MN1Z.                               CM000095
00483   031250       IF DR1 NOT = HPAR GO TO MN2A.                               CM000095
00484   032010       IF DR4 = '  ' GO TO MN1Z.                                   CM000095
00485   032030       GO TO MT-ROUTE.                                             CM000095
00486   032040 MN3.                                                              CM000095
00487                MOVE HPAR TO OS3 (N,RHR45).
00488   032050       OPEN INPUT DCARD.                                           CM000095
00489   032060 MN3A.                                                             CM000095
00490   032070       READ DCARD AT END GO TO MN1Z.                               CM000095
00491   032080       IF DR1 NOT = HPAR GO TO MN3A.                               CM000095
00492   032090       IF DR3 = '  ' GO TO MN1Z.
00493   032110       GO TO OS-ROUT.
00494   032120 MN4.                                                              CM000095
00495                IF R345 < 100 MOVE 1 TO J MOVE R345 TO K GO TO BLUE.
00496                IF R345 < 200 SUBTRACT 100 FROM R345 GIVING K MOVE 3 TO J
00497                    GO TO BLUE.
00498                SUBTRACT 400 FROM R345 GIVING K.
00499                MOVE 2 TO J.
00500          BLUE.
00501                  MOVE HPAR TO MC2 (J,K).
00502   032130       OPEN INPUT DCARD.                                           CM000095
00503   032140 MN4A.                                                             CM000095
00504   032150       READ DCARD AT END GO TO MN1Z.                               CM000095
00505   032160       IF DR1 NOT = HPAR GO TO MN4A.                               CM000095
00506   032170       IF DR5 = '  ' GO TO MN1Z.                                   CM000095
00507   032190       GO TO MC-ROUTE.                                             CM000095
00508   032200 MN6.                                                              CM000095
00509                MOVE RHR45 TO K.
00510                IF HHR3 = 0 AND RHR45 = 0 MOVE 100 TO K.
```

10

```
00511                    IF HHR3 = 0
00512                   MOVE HPAR TO 003 (1,K).
00513   032210          OPEN INPUT DCARD.                                          CM000095
00514   032220 MN6A.                                                               CM000095
00515   032230          READ DCARD AT END GO TO MN1Z.                              CM000095
00516   032240          IF DR1 NOT = HPAR GO TO MN6A.                              CM000095
00517   032250          IF DR7 = '   ' GO TO MN1Z.                                 CM000095
00518   033020          GO TO OO-ROUTE.                                            CM000095
00519   033030 MN7.                                                                CM000095
00520                   MOVE HPAR TO SR3 (HHR3,RHR45)..
00521   033040          OPEN INPUT DCARD.                                          CM000095
00522   033050 MN7A.                                                               CM000095
00523   033060          READ DCARD AT ENO GO TO MN1Z.                              CM000095
00524   033070          IF OR1 NOT = HPAR GO TO MN7A.                              CM000095
00525   033080          IF DR8 = '   ' GO TO MN1Z.                                 CM000095
00526   033100          GO TO SR-ROUTE.
00527   033110 MN1Z.                                                               CM000095
00528   033120          OISPLAY 'OATA REO. N/A ' OR1.                              CM000095
00529   033140          GO TO RD-HK.                                               CM000095
00530   034010 SC-ROUTE.                                                           CM000095
00531   034011          MOVE JJ TO J.
00532   034020          PERFORM MTH-RO VARYING K FROM 1 BY 1 UNTIL K > J OR SW1 = 1. CM000095
00533   034070          MOVE 0 TO SW1.                                             CM000095
00534 **034030          IF K > J OISPLAY 'SC1 NOT = REAO' GO TO RO-HK. GO TO SCR1.  CM000095
00535   034040 MTH-RO.                                                             CM000095
00536   034050          IF HR345 = SC1 (K) MOVE 1 TO SW1.                          CM000095
00537   034060 SCR1.                                                               CM000095
00538   034071          COMPUTE K = K - 1.
00539   034080          IF ROR2 = 'M' MOVE 'MV CALS' TO SC10 (K) GO TO SCR10.      CM000095
00540   034090          IF ROR2 = 'I' MOVE 'IN PLACE CALS' TO SC10 (K) GO TO SCR10. CM000095
00541   034100          IF ROR2 = 'S' MOVE 'SPECIAL CALS' TO SC10 (K) GO TO SCR10. CM000095
00542   034110          IF ROR2 NOT = 'R' OISPLAY '3411' DR2  GO TO RO-HK.         CM000095
00543   034120          OPEN INPUT CFILE.                                          CM000095
00544   034130 SCR2.                                                               CM000095
00545   034140          READ CFILE AT ENO GO TO CEND.                              CM000095
00546   034150          IF C9 NOT = '0' GO TO SCR2.
00547   034160          IF HPAR NOT = C5 GO TO SCR2.                               CM000095
00548   034170          IF C10 = SPACE GO TO SCR3.                                 CM000095
00549   034180          MOVE C10 TO SC4 (K).                                       CM000095
00550   034200          REAO CFILE AT ENO GO TO CENO.                              CM000095
00551   034220          MOVE C10 TO SC5 (K).                                       CM000095
00552   034240          REAO CFILE AT ENO GO TO CENO.                              CM000095
00553   035010          MOVE C10 TO SC6 (K).                                       CM000095
00554   035030          READ CFILE AT ENO GO TO CENO.                              CM000095
00555   035050          MOVE C10 TO SC7 (K).                                       CM000095
00556   035070          REAO CFILE AT ENO GO TO CENO.                              CM000095
00557   035090          MOVE C10 TO SC8 (K).                                       CM000095
00558   035110          GO TO SCR9.                                                CM000095
00559   035120 SCR3.                                                               CM000095
00560   035130          IF C11 = SPACE OISPLAY 'C10 C11 = SPACE 3513' GO TO CENO.  CM000095
00561   035140          MOVE C11 TO SC4 (K).                                       CM000095
00562   035160          REAO CFILE AT ENO GO TO CENO.                              CM000095
00563   035180          MOVE C11 TO SC5 (K).                                       CM000095
00564   035200          READ CFILE AT ENO GO TO CENO.                              CM000095
00565   035220          MOVE C11 TO SC6 (K).                                       CM000095
00566   035240          READ CFILE AT ENO GO TO CENO.                              CM000095
00567   036010          MOVE C11 TO SC7 (K).                                       CM000095
```

```
11

00568   036030     READ CFILE AT END GO TO CEND.                                CM000095
00569   036050     MDVE C11 TD SC8 (K).                                         CM000095
00570   036070 SCR9.                                                            CM000095
00571   036080     MOVE C118 TD SC3 (K).                                        CM000095
00572   036200     CLOSE CFILE.                                                 CM000095
00573 **036090 SCR10.                                                           CM000095
00574   036100     IF DR6 = 'CP' MOVE 'CELL PRESS' TO SC9 (K) GO TO SCR11.      CM000095
00575   036110     IF OR6 = 'BA' MDVE 'BAROMETER ' TQ SC9 (K) GO TD SCRI1.      CM000095
00576   036120     IF DR6 = 'VR' MOVE 'VAC. REF. ' TO SC9 (K) GO TQ SCR11.      CM000095
00577   036130     IF OR6 = 'RT' MOVE 'RTT       ' TO SC9 (K) GO TO SCRI1.      CM000095
00578   036140     IF DR6 = 'CA' MOVE 'CA-150 D-F' TO SC9 (K) GO TO SCRIL.      CM000095
00579   036150     IF DR6 = 'CC' MOVE 'CC-150 O-F' TO SC9 (K) GD TO SCRI1.      CM000095
00580   036160     IF DR6 = 'IC' MOVE 'IC-150 D-F' TO SC9 (K) GO TO SCRIL.      CM000095
00581   036170     IF OR6 = 'EV' MOVE 'EVENT     ' TO SC9 (K).                  CM000095
00582   036180 SCR11.                                                           CM000095
00583   036190     MDVE HPAR TO SC2 (K).                                        CM000095
00584   036210     GO TO RD-HK.                                                 CM000095
00585   036220 CEND.                                                            CM000095
00586   036230     DISPLAY '3623'                                               CM000095
00587   036240     CLDSE CFILE.                                                 CM000095
00588   036250     GO TO RD-HK.                                                 CM000095
00589   037010 MT-RDUTE.                                                        CM000095
00590   037020     IF HR3 = 'A' MOVE 1 TO J.                                    CM000095
00591   037030     IF HR3 = 'B' MOVE 2 TO J.                                    CM000095
00592   037040     IF HR3 = 'C' MOVE 3 TO J.                                    CM000095
00593   037050     IF HR3 = 'O' MDVE 4 TD J.                                    CM000095
00594   037060     IF HR3 = 'E' MOVE 5 TO J.                                    CM000095
00595   037070     IF HR3 = 'F' MDVE 6 TO J.                                    CM000095
00596   037080     MOVE RHR45 TO K.                                             CM000095
00597   037090     IF DR4B = 'M' MOVE 'MV CALS' TD MT11 (J, K) GD TO MTR10.     CM000095
00598   037100     IF OR4B = 'I' MOVE 'IN PLACE CALS' TO MT11 (J, K)            CM000095
00599   037110         GD TO MTR10.                                             CM000095
00600   037120     IF DR4B = 'S' MOVE 'SPECIAL CAL' TO MT11 (J, K) GO TO MTR10. CM000095
00601   037130     IF DR4B NOT = 'R' OISPLAY '3713' GD TO RO-HK.                CM000095
00602   037140     OPEN INPUT CFILE.                                            CM000095
00603   037150 MTR1.                                                            CM000095
00604   037160     READ CFILE AT END GO TO MCEND.                               CM000095
00605   037170     IF C9 NDT = '0' GO TO MTR1.
00606   037180     IF HPAR NOT = C5 GO TO MTR1.                                 CM000095
00607   037190     IF C10 = SPACE GD TO MTR2.                                   CM000095
00608   037200     MOVE C10 TO MT5 (J, K).                                      CM000095
00609   037210     READ CFILE AT END GO TO MCEND.                               CM000095
00610   037220     MOVE C10 TO MT6 (J, K).                                      CM000095
00611   037230     REAO CFILE AT END GD TO MCEND.                               CM000095
00612   037240     MOVE C10 TO MT7 (J, K).                                      CM000095
00613   037250     READ CFILE AT ENO GO TD MCENO.                               CM000095
00614   038010     MOVE C10 TO MT8 (J, K).                                      CM000095
00615   038020     READ CFILE AT END GO TO MCEND.                               CM000095
00616   038030     MOVE C10 TO MT9 (J, K).                                      CM000095
00617   038040     GO TO MTR9.                                                  CM000095
00618   038050 MTR2.                                                            CM000095
00619   038060     IF C11 = SPACE DISPLAY 'C10 C11 = SPACE' C7  GO TD MCENO.    CM000095
00620   038070     MOVE C11 TO MT5 (J, K).                                      CM000095
00621   038080     READ CFILE AT END GD TO MCEND.                               CM000095
00622   038090     MOVE C11 TO MT6 (J, K).                                      CM000095
00623   038100     REAO CFILE AT END GO TO MCENO.                               CM000095
00624   038110     MOVE C11 TO MT7 (J, K).                                      CM000095
```

```
 12

00625     038120      READ CFILE AT END GO TO MCENO.                                CM000095
00626     038130      MOVE C11 TO MT8 (J, K).                                       CM000095
00627     038140      READ CFILE AT END GO TO MCEND.                                CM000095
00628     038150      MOVE C11 TO MT9 (J, K).                                       CM000095
00629     038160 MTR9.                                                              CM000095
00630     038170      MOVE C118 TO MT4 (J, K).                                      CM000095
00631     039120      CLOSE CFILE.                                                  CM000095
00632   **039010 MTR10.                                                             CM000095
00633     039020      IF OR6 = 'CP' MOVE 'CELL PRESS'  TO MT10 (J, K) GO TO MTR11. CM000095
00634     039030      IF OR6 = 'BA' MOVE 'BAROMETER '  TO MT10 (J, K) GO TO MTR11. CM000095
00635     039040      IF OR6 = 'VR' MOVE 'VAC. REF. '  TO MT10 (J, K) GO TO MTR11. CM000095
00636     039050      IF DR6 = 'RT' MOVE 'RTT       '  TO MT10 (J, K) GO TO MTR11. CM000095
00637     039060      IF OR6 = 'CA' MOVE 'CA-150 D-F'  TO MT10 (J, K) GO TO MTR11. CM000095
00638     039070      IF OR6 = 'CC' MOVE 'CC-150 O-F'  TO MT10 (J, K) GO TO MTR11. CM000095
00639     039080      IF DR6 = 'IC' MOVE 'IC-150 D-F'  TO MT10 (J, K) GO TO MTR11. CM000095
00640     039090      IF OR6 = 'EV' MOVE 'EVENT     '  TO MT10 (J, K).                CM000095
00641     039100 MTR11.                                                             CM000095
00642     039110      MOVE HPAR TO MT3 (J, K).                                      CM000095
00643     039130      GO TO RD-HK.                                                  CM000095
00644     039140 MCENO.                                                             CM000095
00645     039150      OISPLAY '3915'.                                               CM000095
00646     039160      CLOSE CFILE.                                                  CM000095
00647     039170      GO TO RD-HK.                                                  CM000095
00648     040010 OS-ROUT.                                                           CM000095
00649     040020      IF HR3 = 'A' MOVE 1 TO J GO TO OSR1.                          CM000095
00650     040030      IF HR3 = 'B' MOVE 2 TO J GO TO OSR1.                          CM000095
00651     040040      IF HR3 = 'C' MOVE 3 TO J GO TO OSR1.                          CM000095
00652     040050      IF HR3 = 'D' MOVE 4 TO J GO TO OSR1.                          CM000095
00653     040060      IF HR3 = 'E' MOVE 5 TO J GO TO OSR1.                          CM000095
00654     040070      IF HR3 = 'F' MOVE 6 TO J.                                     CM000095
00655     040071 OSR1.                                                              CM000095
00656     040080      IF RHR45 > 34 OISPLAY 'OS-ROOT > 34' HROOUT GO TO RO-HK.      CM000095
00657     040090      MOVE RHR45 TO K.                                              CM000095
00658     040100      IF OR3B = 'M' MOVE 'MV CALS' TO OS11 (J, K) GO TO OSR10.      CM000095
00659     040110      IF OR3B = 'I' MOVE 'IN PLACE CALS' TO OS11 (J, K) GO TO       CM000095
00660     040120       OSR10.                                                       CM000095
00661     040130      IF OR3B = 'S' MOVE 'SPECIAL CAL' TO OS11 (J, K) GO TO OSR10. CM000095
00662     040140      IF DR3B NOT = 'R' OISPLAY '4014' OR3  GO TO RD-HK.            CM000095
00663     040150      OPEN INPUT CFILE.                                             CM000095
00664     040160 OSR2.                                                              CM000095
00665     040170      READ CFILE AT ENO GO TO OSCENO.                               CM000095
00666     040180      IF C9 NOT = '0' GO TO OSR2.
00667     040190      IF HPAR NOT = C5 GO TO OSR2.                                  CM000095
00668     040200      IF C10 = SPACE GO TO OSR3.                                    CM000095
00669     040210      MOVE C10 TO OS5 (J, K)                                        CM000095
00670     040220      READ CFILE AT ENO GO TO OSCENO.                               CM000095
00671     040230      MOVE C10 TO OS6 (J, K)                                        CM000095
00672     040240      REAO CFILE AT ENO GO TO OSCEND.                               CM000095
00673     040250      MOVE C10 TO OS7 (J, K).                                       CM000095
00674     041010      READ CFILE AT ENO GO TO OSCENO.                               CM000095
00675     041020      MOVE C10 TO OS8 (J, K).                                       CM000095
00676     041030      REAO CFILE AT ENO GO TO OSCENO.                               CM000095
00677     041040      MOVE C10 TO OS9 (J, K).                                       CM000095
00678     041050      GO TO OSR9.                                                   CM000095
00679     041060 OSR3.                                                              CM000095
00680     041070      IF C11 = SPACE DISPLAY '4107' C7 GO TO OSCENO.                CM000095
00681     041080      MOVE C11 TO OS5 (J, K).                                       CM000095
```

13

```
00682   041090     READ CFILE AT END GO TO OSCEND.                                   CM000095
00683   041100     MOVE C11 TO OS6 (J, K).                                           CM000095
00684   041110     READ CFILE AT END GO TO OSCEND.                                   CM000095
00685   041120     MOVE C11 TO OS7 (J, K).                                           CM000095
00686   041130     READ CFILE AT END GO TO OSCEND.                                   CM000095
00687   041140     MOVE C11 TO OS8 (J, K).                                           CM000095
00688   041150     READ CFILE AT END GO TO OSCEND.                                   CM000095
00689   041160     MOVE C11 TO OS9 (J, K).                                           CM000095
00690   041170 OSR9.                                                                 CM000095
00691   041180     MOVE C118 TO OS4 (J, K).                                          CM000095
00692   042120     CLOSE CFILE.                                                      CM000095
00693 **042010 OSR10.                                                                CM000095
00694   042020     IF DR6 = 'CP' MOVE 'CELL PRESS ' TO OS10 (J, K) GO TO OOPS.       CM000095
00695   042030     IF DR6 = 'BA' MOVE 'BAROMETER  ' TO OS10 (J, K) GO TO OOPS.       CM000095
00696   042040     IF DR6 = 'VR' MOVE 'VAC. REF.  ' TO OS10 (J, K) GO TO OOPS.       CM000095
00697   042050     IF DR6 = 'RT' MOVE 'RTT        ' TO OS10 (J, K) GO TO OOPS.       CM000095
00698   042060     IF DR6 = 'CA' MOVE 'CA-1500-F  ' TO OS10 (J, K) GO TO OOPS.       CM000095
00699   042070     IF DR6 = 'CC' MOVE 'CC-1500-F  ' TO OS10 (J, K) GO TO OOPS.       CM000095
00700   042080     IF DR6 = 'IC' MOVE 'IC-1500-F  ' TO OS10 (J, K) GO TO OOPS.       CM000095
00701   042090     IF DR6 = 'EV' MOVE 'EVENT      ' TO OS10 (J, K).                  CM000095
00702   042100 OOPS.                                                                 CM000095
00703   042110     MOVE HPAR TO OS3 (J, K)                                           CM000095
00704   042130     GO TO RD-HK.                                                      CM000095
00705   042140 OSCEND.                                                               CM000095
00706   042150     DISPLAY '4215'                                                    CM000095
00707   042160     CLOSE CFILE.                                                      CM000095
00708   042170     GO TO RD-HK.                                                      CM000095
00709   043010 MC-ROUTE.                                                             CM000095
00710   043020     IF R345 < 100 MOVE 1 TO MSW1 J MOVE R345 TO K GO TO MCR1.         CM000095
00711   043030     IF R345 < 200 MOVE 1 TO MSW3 SUBTRACT 100 FROM R345 GIVING K CM000095
00712   043040         MOVE 3 TO J GO TO MCR1.                                       CM000095
00713   043050     IF R345 < 400 DISPLAY '4305' HRDOUT GO TO RD-HK.                  CM000095
00714   043060     IF R345 > 499 DISPLAY '4306' HRDOUT GO TO RD-HK.                  CM000095
00715   043070     MOVE 1 TO MSW2  SUBTRACT 400 FROM R345 GIVING K                   CM000095
00716   043080     MOVE 2 TO J.                                                      CM000095
00717   043090 MCR1.                                                                 CM000095
00718   043091     COMPUTE K = K + 1
00719   043100     IF DR5B = 'M' GO TO MCR2.                                         CM000095
00720   043110     IF DR5B = 'I' MOVE 'IN PLACE CALS' TO MC15 (J, K)                 CM000095
00721   043120         GO TO MCR10.                                                  CM000095
00722   043130     IF DR5B = 'S' MOVE 'SPECIAL CAL' TO MC15 (J, K) GO TO MCR10. CM000095
00723   043140     IF DR5B NOT = 'R' DISPLAY '4314' DR5 GO TO RD-HK.                 CM000095
00724   043150     OPEN INPUT CFILE.                                                 CM000095
00725   043160 MCR3.                                                                 CM000095
00726   043170     READ CFILE AT END GO TO MCCEND.                                   CM000095
00727   043180     IF C9 NOT = '0' GO TO MCR3.
00728   043190     IF HPAR NOT = C5 GO TO MCR3.                                      CM000095
00729   043200     IF DR5A = '1'                                                     CM000095
00730   043210         MOVE '05' TO MC4 (J, K)                                       CM000095
00731   043220         MOVE '06' TO MC6 (J, K)                                       CM000095
00732   043230         MOVE '07' TO MC8 (J, K)                                       CM000095
00733   043240         MOVE '08' TO MC10 (J, K)                                      CM000095
00734   043250         MOVE '09' TO MC12 (J, K)                                      CM000095
00735   044010         GO TO MCR4.                                                   CM000095
00736   044020     IF DR5A = '2' OR '3'                                              CM000095
00737   044030         MOVE '25' TO MC4 (J, K)                                       CM000095
00738   044040         MOVE '26' TO MC6 (J, K)                                       CM000095
```

14

```
00739   044050           MOVE '27' TO MC8 (J, K)                                          CM000095
00740   044060           MOVE '28' TO MC10 (J, K)                                         CM000095
00741   044070           MOVE '29' TO MC12 (J, K)                                         CM000095
00742   044080           GO TO MCR4.                                                      CM000095
00743   044090       IF OR5A = '4'                                                        CM000095
00744   044100           MOVE '45' TO MC4 (J, K)                                          CM000095
00745   044110           MOVE '46' TO MC6 (J, K)                                          CM000095
00746   044120           MOVE '47' TO MC8 (J, K)                                          CM000095
00747   044130           MOVE '48' TO MC10 (J, K)                                         CM000095
00748   044140           MOVE '49' TO MC12 (J, K)                                         CM000095
00749   044150           GO TO MCR4.                                                      CM000095
00750   044160       IF OR5A = '5'                                                        CM000095
00751   044170           MOVE '65' TO MC4 (J, K)                                          CM000095
00752   044180           MOVE '66' TO MC6 (J, K)                                          CM000095
00753   044190           MOVE '67' TO MC8 (J, K)                                          CM000095
00754   044200           MOVE '68' TO MC10 (J, K)                                         CM000095
00755   044210           MOVE '69' TO MC12 (J, K)                                         CM000095
00756   044220           GO TO MCR4.     CLOSE CFILE.                                     CM000095
00757   044230       DISPLAY '4423' OR5 GO TO RD-HK.                                      CM000095
00758   045010 MCR4.                                                                      CM000095
00759   045020       IF C10 = SPACE GO TO MCR5.                                           CM000095
00760   045030       MOVE C10 TO MC5 (J, K)                                               CM000095
00761   045040       READ CFILE AT END GO TO MCCEND.                                      CM000095
00762   045050       MOVE C10 TO MC7 (J, K).                                              CM000095
00763   045060       READ CFILE AT END GO TO MCCEND.                                      CM000095
00764   045070       MOVE C10 TO MC9 (J, K).                                              CM000095
00765   045080       READ CFILE AT END GO TO MCCEND.                                      CM000095
00766   045090       MOVE C10 TO MC11 (J, K).                                             CM000095
00767   045100       READ CFILE AT END GO TO MCCEND.                                      CM000095
00768   045110       MOVE C10 TO MC13 (J, K).                                             CM000095
00769   045120       GO TO MCR9.                                                          CM000095
00770   045130 MCR5.                                                                      CM000095
00771   045140       IF C11 = SPACE DISPLAY '4514' C7 GO TO MCCEND.                       CM000095
00772   045150       MOVE C11 TO MC5 (J, K)                                               CM000095
00773   045160       READ CFILE AT END GO TO MCCEND.                                      CM000095
00774   045170       MOVE C11 TO MC7 (J, K)                                               CM000095
00775   045180       READ CFILE AT END GO TO MCCEND.                                      CM000095
00776   045190       MOVE C11 TO MC9 (J, K)                                               CM000095
00777   045200       READ CFILE AT END GO TO MCCEND.                                      CM000095
00778   045210       MOVE C11 TO MC11 (J, K).                                             CM000095
00779   045220       READ CFILE AT END GO TO MCCEND.                                      CM000095
00780   045230       MOVE C11 TO MC13 (J, K).                                             CM000095
00781   045240 MCR9.                                                                      CM000095
00782   045250       MOVE C11B TO MC3 (J, K).                                             CM000095
00783   046120       CLOSE CFILE.                                                         CM000095
00784 **046010 MCR10.                                                                     CM000095
00785   046020       IF DR6 = 'CP' MOVE 'CELL PRESS' TO MC14 (J, K) GO TO MUMP.           CM000095
00786   046030       IF DR6 = 'BA' MOVE 'BAROMETER ' TO MC14 (J, K) GO TO MUMP.           CM000095
00787   046040       IF DR6 = 'VR' MOVE 'VAC. REF. ' TO MC14 (J, K) GO TO MUMP.           CM000095
00788   046050       IF DR6 = 'RT' MOVE 'RTT       ' TO MC14 (J, K) GO TO MUMP.           CM000095
00789   046060       IF DR6 = 'CA' MOVE 'CA-150D-F ' TO MC14 (J, K) GO TO MUMP.           CM000095
00790   046070       IF DR6 = 'CC' MOVE 'CC-150D-F ' TO MC14 (J, K) GO TO MUMP.           CM000095
00791   046080       IF DR6 = 'IC' MOVE 'IC-150D-F ' TO MC14 (J, K) GO TO MUMP.           CM000095
00792   046090       IF DR6 = 'EV' MOVE 'EVENT     ' TO MC14 (J, K).                      CM000095
00793   046100 MUMP.                                                                      CM000095
00794   046110       MOVE HPAR TO MC2 (J, K).                                             CM000095
00795   046130       GO TO RD-HK.                                                         CM000095
```

```
15

00796   046140 MCCEND.                                                  CM000095
00797   046150     DISPLAY '4615'                                       CM000095
00798   046160     CLOSE CFILE                                          CM000095
00799   046170     GO TO RD-HK.                                         CM000095
00800   046180 MCR2.                                                    CM000095
00801   046190     IF DR5A = '1'                                        CM000095
00802   046200         MOVE '01' TO MC4 (J, K)                          CM000095
00803   046210         MOVE '02' TO MC6 (J, K)                          CM000095
00804   046220         MOVE '03' TO MC8 (J, K)                          CM000095
00805   046230         MOVE '04' TO MC10 (J, K)                         CM000095
00806   046240         GO TO MCR2A.                                     CM000095
00807   047010     IF DR5A =  '2' OR  '3'
00808   047020         MOVE '21' TO MC4 (J, K)                          CM000095
00809   047030         MOVE '22' TO MC6 (J, K)                          CM000095
00810   047040         MOVE '23' TO MC8 (J, K)                          CM000095
00811   047050         MOVE '24' TO MC10 (J, K)                         CM000095
00812   047060         GO TO MCR2A.                                     CM000095
00813   047070     IF DR5A =  '4'
00814   047080         MOVE '41' TO MC4 (J, K)                          CM000095
00815   047090         MOVE '42' TO MC6 (J, K)                          CM000095
00816   047100         MOVE '43' TO MC8 (J, K)                          CM000095
00817   047110         MOVE '44' TO MC10 (J, K)                         CM000095
00818   047120         GO TO MCR2A.                                     CM000095
00819   047130     IF DR5A =  '5'
00820   047140         MOVE '61' TO MC4 (J, K)                          CM000095
00821   047150         MOVE '62' TO MC6 (J, K)                          CM000095
00822   047160         MOVE '63' TO MC8 (J, K)                          CM000095
00823   047170         MOVE '64' TO MC10 (J, K)                         CM000095
00824   047180         GO TO MCR2A.                                     CM000095
00825   047190     DISPLAY '4719' DR5  GO TO RD-HK.
00826   047200 MCR2A.                                                   CM000095
00827   047210     OPEN INPUT BFILE.                                    CM000095
00828   047220 MCR2B.                                                   CM000095
00829   047230     READ BFILE AT END GO TO MBEND.                       CM000095
00830   047240     IF HRDOUT NOT = B3 GO TO MCR2B.                      CM000095
00831   047250     IF B5 = 'MS01'                                       CM000095
00832   048010         MOVE '0 MV' TO MC5 (J, K)                        CM000095
00833   048020         MOVE '4 MV' TO MC7 (J, K)                        CM000095
00834   048030         GO TO MCR2C.                                     CM000095
00835   048040     IF B5 = 'MS02' OR 'MS03' OR 'MS04'                   CM000095
00836   048050         MOVE '0 MV' TO MC5 (J, K)                        CM000095
00837   048060         MOVE '4 MV' TO MC7 (J, K)
00838   048070         MOVE '8 MV' TO MC9 (J, K)                        CM000095
00839   048080         GO TO MCR2C.                                     CM000095
00840   048090     IF B5 = 'MS05' OR 'MS06' OR 'MS07' OR 'MS08' OR 'MS09'  CM000095
00841   048100       OR 'MS10'                                          CM000095
00842   048110         MOVE '0 MV' TO MC5 (J, K)                        CM000095
00843   048120         MOVE '4 MV' TO MC7 (J, K)                        CM000095
00844   048130         MOVE '8 MV' TO MC9 (J, K)                        CM000095
00845   048140         MOVE '25 MV' TO MC11 (J, K)                      CM000095
00846   048150         GO TO MCR2C.                                     CM000095
00847   048160     DISPLAY '4816' B5  GO TO MBEND.                      CM000095
00848   048170 MCR2C.                                                   CM000095
00849   048180     MOVE 'MV CALS' TO MC15 (J, K).                       CM000095
00850   048190     GO TO MCR10.                                         CM000095
00851   048200 MBEND.                                                   CM000095
00852   048210     DISPLAY '4821' HRDOUT                                CM000095
```

```
 16

00853   048220         GO TO RD-HK.                                              CM000095
00854   050010  DD-ROUTE.                                                        CM000095
00855   050020         IF HHR3 NOT = 0 GO TO RD-HK.
00856   050030         MOVE 1 TO J.
00857   050040         MOVE RHR45 TO K.
00858   050050         IF RHR45 = 0 MOVE 100 TO K.
00859   050070         IF  RR7B = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'  CM000095
00860   050080              OR '7' OR '8' OR '9' GO TO ODR1.                     CM000095
00861   050090         GO TO DDR3.                                               CM000095
00862   050100  OOR1.                                                            CM000095
00863   050110         IF  RR7C = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'  CM000095
00864   050120              OR '7' OR '8' OR '9' GO TO DDR2.                     CM000095
00865   050130  DDR3.                                                            CM000095
00866   050140         IF DR7 = 'IPC' MOVE 'IN PLACE CALS' TO OD16 (J, K)        CM000095
00867   050150              GO TO DDR9.                                          CM000095
00868   050160         IF OR7 = 'SPC' MOVE 'SPECIAL CALS' TO DD16 (J, K)         CM000095
00869   050170              GO TO DDR9.                                          CM000095
00870   050180         IF RR7B = 'R' AND RR7C = 'N' GO TO DDR4.                  CM000095
00871   050190         DISPLAY '5019' DR7  GO TO RO-HK.                          CM000095
00872   050200  DOR4.                                                            CM000095
00873   050210         OPEN INPUT CFILE.                                         CM000095
00874   050220  DDR5.                                                            CM000095
00875   050230         READ CFILE AT END GD TO DDCEND.                           CM000095
00876   050240         IF C9 NOT = '0' GO TO DDR5.
00877   050250         IF HPAR NOT = C5 GO TO ODR5.                              CM000095
00878   051010         IF  RR7A = '+'                                            CM000095
00879   051020              MOVE '26' TO D05 (J, K)                              CM000095
00880   051030              MOVE '27' TO D07 (J, K)                              CM000095
00881   051040              MOVE '28' TO DD9 (J, K)                              CM000095
00882   051050              MOVE '29' TO 0011 (J, K)                             CM000095
00883   051060              MOVE '30' TO DD13 (J, K)                             CM000095
00884   051070              GD TO DOR6.                                          CM000095
00885   051080         IF  RR7A = '-'                                            CM000095
00886   051090              MOVE '26' TO D05 (J, K)                              CM000095
00887   051100              MOVE '25' TO DD7 (J, K)                              CM000095
00888   051110              MOVE '24' TO OD9 (J, K)                              CM000095
00889   051120              MOVE '23' TO DD11 (J, K)                             CM000095
00890   051130              MOVE '22' TO D013 (J, K)                             CM000095
00891   051140              MOVE 1 TO NEG-SW                                     CM000095
00892   051150              GO TO DOR6.                                          CM000095
00893   051160         DISPLAY '5116' DR7  GO TO DDCEND.                         CM000095
00894   051170  DDR6.                                                            CM000095
00895   051180         IF C10 = SPACE GO TO DDR7.                                CM000095
00896   051190         MOVE C10 TD DD6 (J, K)                                    CM000095
00897   051200         READ CFILE AT END GO TO DDCEND.                           CM000095
00898   051210         MOVE C10 TO DD8 (J, K)                                    CM000095
00899   051220         REAO CFILE AT END GO TO ODCENO.                           CM000095
00900   051230         MOVE C10 TO DD10 (J, K)                                   CM000095
00901   051240         READ CFILE AT ENO GO TO DOCEND.                           CM000095
00902   051250         MOVE C10 TO OD12 (J, K)                                   CM000095
00903   052010         READ CFILE AT END GO TO DDCEND.                           CM000095
00904   052020         MOVE C10 TO 0014 (J, K)                                   CM000095
00905   052030         GO TO DOR8.                                               CM000095
00906   052040  DDR7.                                                            CM000095
00907   052050         IF C11 = SPACE DISPLAY '5205' C7 GO TO DDCEND.            CM000095
00908   052060         MOVE C11 TO D06 (J, K).                                   CM000095
00909   052070         READ CFILE AT END GO TO DDCEND.                           CM000095
```

17

```
052080        MOVE C11 TO D08 (J, K).                                        CM000095
052090        READ CFILE AT ENO GO TO OOCEND.                                CM000095
052100        MOVE C11 TO DD10 (J, K).                                       CM000095
052110        READ CFILE AT ENO GO TO OOCEND.                                CM000095
052120        MOVE C11 TO DD12 (J, K).                                       CM000095
052130        READ CFILE AT ENO GO TO DDCEND.                                CM000095
052140        MOVE C11 TO DD14 (J, K).                                       CM000095
052150 DDR8.                                                                 CM000095
052160        MOVE C11B TO DD4 (J, K).                                       CM000095
053110        CLOSE.CFILE.                                                   CM000095
**052170 DDR9.                                                               CM000095
052180      , IF NEG-SW = 1  MOVE 0 TO NEG-SW                                CM000095
052190            MOVE '-' TO ODSN (J, K).                                   CM000095
053010        IF DR6 = 'CP' MOVE 'CELL PRESS' TO DD15 (J, K) GO TO DDRX.     CM000095
053020        IF DR6 = 'BA' MOVE 'BAROMETER ' TO DD15 (J, K) GO TO DDRX.     CM000095
053030        IF OR6 = 'VR' MOVE 'VAC. REF. ' TO 0015 (J, K) GO TO DDRX.     CM000095
053040        IF DR6 = 'RT' MOVE 'RTT        ' TO DD15 (J, K) GO TO DDRX.    CM000095
053050        IF OR6 = 'CA' MOVE 'CA-1500-F ' TO D015 (J, K) GO TO OORX.     CM000095
053060        IF DR6 = 'CC' MOVE 'CC-1500-F ' TO D015 (J, K) GO TO DDRX.     CM000095
053070        IF DR6 = 'IC' MOVE 'IC-1500-F ' TO D015 (J, K) GO TO DDRX.     CM000095
053080        IF DR6 = 'EV' MOVE 'EVENT     ' TO D015 (J, K).                CM000095
053090 DDRX.                                                                 CM000095
053100        MOVE HPAR TO DD3 (J, K)                                        CM000095
053120        GO TO,RD-HK.                                                   CM000095
053130 DDCEND.                                                               CM000095
053140        DISPLAY '5314'                                                 CM000095
053150        CLOSE CFILE                                                    CM000095
053160        GO TO RD-HK.                                                   CM000095
054010 DDR2.                                                                 CM000095
054020        IF RDR7B = 08 GO TO DOR2A.                                     CM000095
054030        IF RDR7B = 16 GO TO DDR2B.                                     CM000095
054040        IF RDR7B = 24 GO TO DDR2C.                                     CM000095
054050        IF RDR7B = 32 GO TO DOR2D.                                     CM000095
054060        IF RDR7B = 40 GO TO ODR2E.                                     CM000095
054070        IF RDR7B = 80 GO TO DDR2F.                                     CM000095
054080 DDR2Z.                                                                CM000095
054090        DISPLAY '5409' DR7  GO TO RD-HK.                               CM000095
054100 DDR2A.                                                                CM000095
054110        IF RR7A = '+'                                                  CM000095
054120            MOVE ' 2' TO DD5 (J, K)                                    CM000095
054130            MOVE '0 MV' TO D06 (J, K)                                  CM000095
054140            MOVE ' 3' TO DD7 (J, K)                                    CM000095
054150            MOVE '8 MV' TO 008 (J, K)                                  CM000095
054160            GO TO DDR20.                                               CM000095
054170        IF RR7A = '-'                                                  CM000095
054180            MOVE ' 2' TO DD5 (J, K)                                    CM000095
054190            MOVE '0 MV' TO DD6 (J, K)                                  CM000095
054200            MOVE ' 1' TO DD7 (J, K)                                    CM000095
054210            MOVE '-8 MV' TO DD8 (J, K)                                 CM000095
054220            GO TO ODR20.                                               CM000095
054230        GO TO ODR2Z.                                                   CM000095
055010 DDR2B.                                                                CM000095
055020        IF RR7A = '+'                                                  CM000095
055030            MOVE ' 5' TO DD5 (J, K)                                    CM000095
055040            MOVE '0 MV' TO DD6 (J, K)                                  CM000095
055050            MOVE ' 6' TO DD7 (J, K)                                    CM000095
055060            MOVE ' 16 MV' TO DD8 (J, K)                                CM000095
```

18

```
00967   055070           GO TO DDR20.                                       CM000095
00968   055080        IF RR7A = '-'                                         CM000095
00969   055090           MOVE ' 5' TO DD5 (J, K)                            CM000095
00970   055100           MOVE '0 MV' TO DD6 (J, K)                          CM000095
00971   055110           MOVE ' 4' TO DD7 (J, K)                            CM000095
00972   055120           MOVE '-16 MV' TO DD8 (J, K)                        CM000095
00973   055130           GO TO DDR20.                                       CM000095
00974   055140        GO TO DDR2Z.                                          CM000095
00975   055150 DDR2C.                                                       CM000095
00976   055160        IF RR7A = '+'                                         CM000095
00977   055170           MOVE ' 8' TO DD5 (J, K)                            CM000095
00978   055180           MOVE '0 MV' TO DD6 (J, K)                          CM000095
00979   055190           MOVE ' 9' TO DD7 (J, K)                            CM000095
00980   055200           MOVE '24 MV' TO DD8 (J, K)                         CM000095
00981   055210           GO TO DDR20.                                       CM000095
00982   055220        IF RR7A = '-'                                         CM000095
00983   055230           MOVE ' 8' TO DD5 (J, K)                            CM000095
00984   055240           MOVE '0 MV' TO DD6 (J, K)                          CM000095
00985   055250           MOVE ' 7' TO DD7 (J, K)                            CM000095
00986   056010           MOVE '-24 MV' TO DD8 (J, K)                        CM000095
00987   056020           GO TO DDR20.                                       CM000095
00988   056030        GO TO DDR2Z.                                          CM000095
00989   056040 DDR2D.                                                       CM000095
00990   056050        IF RR7A = '+'                                         CM000095
00991   056060           MOVE '11' TO DD5 (J, K)                            CM000095
00992   056070           MOVE '0 MV'    TO DD6 (J, K)
00993   056080           MOVE '12' TO DD7 (J, K)                            CM000095
00994   056090           MOVE '32 MV' TO DD8 (J, K)                         CM000095
00995   056100           GO TO DDR20.                                       CM000095
00996   056110        IF RR7A = '-'                                         CM000095
00997   056120           MOVE '11' TO DD5 (J, K)                            CM000095
00998   056130           MOVE '0 MV' TO DD6 (J, K)                          CM000095
00999   056140           MOVE '10' TO DD7 (J, K)                            CM000095
01000   056150           MOVE '-32 MV' TO DD8 (J, K)                        CM000095
01001   056160           GO TO DDR20.                                       CM000095
01002   056170        GO TO DDR2Z.                                          CM000095
01003   056180 DDR2E.                                                       CM000095
01004   056190        IF RR7A = '+'                                         CM000095
01005   056200           MOVE '14' TO DD5 (J, K)                            CM000095
01006   056210           MOVE '0 MV' TO DD6 (J, K)                          CM000095
01007   056220           MOVE '15' TO DD7 (J, K)                            CM000095
01008   056230           MOVE '40 MV' TO DD8 (J, K)                         CM000095
01009   056240           GO TO DDR20.                                       CM000095
01010   057010        IF RR7A = '-'                                         CM000095
01011   057020           MOVE '14'  TO DD5 (J, K)
01012   057030           MOVE '0 MV' TO DD6 (J, K)                          CM000095
01013   057040           MOVE '13' TO DD5 (J, K)                            CM000095
01014   057050           MOVE '-40 MV' TO DD8 (J, K)                        CM000095
01015   057060           GO TO DDR20.                                       CM000095
01016   057070        GO TO DDR2Z.                                          CM000095
01017   057080 DDR2F.                                                       CM000095
01018   057090        IF RR7A = '+'                                         CM000095
01019   057100           MOVE '17' TO DD5 (J, K)                            CM000095
01020   057110           MOVE '0 MV' TO DD6 (J, K)                          CM000095
01021   057120           MOVE '18' TO DD7 (J, K)                            CM000095
01022   057130           MOVE '80 MV' TO DD8 (J, K)                         CM000095
01023   057140           GO TO DDR20.                                       CM000095
```

```
19

01024   057150     IF RR7A = '-'                                                        CM000095
01025   057160          MOVE 'I7' TO 005 (J, K)                                         CM000095
01026   057170          MOVE '0 MV' TO 006 (J, K)                                       CM000095
01027   057180          MOVE '16' TO DD7 (J, K)                                         CM000095
01028   057190          MOVE '-80 MV' TO 008 (J, K)                                     CM000095
01029   057200          GD TO DDR20.                                                    CM000095
01030   057210     GO TD DDR22.                                                         CM000095
01031   057220 DDR20.                                                                   CM000095
01032   057230     MDVE 'MV CALS' TD DD16 (J, K).                                       CM000095
01033   057240     GO TD DDR9.                                                          CM000095
01034   058010 SR-ROUTE.                                                                CM000095
01035   058020     IF HHR3 > 4 DISPLAY '5802' HROOUT GD TD RD-HK.                       CM000095
01036   058030     IF RHR45 > 8 OISPLAY '5803' HRDOUT GO TO RD-HK.                      CM000095
01037   058040     MOVE HHR3 TD J.                                                      CM000095
01038   058050     MOVE RHR45 TO K.                                                     CM000095
01039   058060     IF DR8 = 'MVC' MOVE 'MV CALS' TO SR11 (J, K) GD TD SRR10.            CM000095
01040   058070     IF DR8 = 'IPC' MOVE 'IN PLACE CALS' TO SR11 (J, K)                   CM000095
01041   058080          GD TO SRR10.                                                    CM000095
01042   058090     IF DR8 = 'SPC' MOVE 'SPECIAL CALS' TO SR11 (J, K)                    CM000095
01043   058100          GO TD SRR10.                                                    CM000095
01044   058110     IF RDR88 NOT = 'RN' OISPLAY '5811' HROUT  GO TO RD-HK.               CM000095
01045   058120     OPEN INPUT CFILE.                                                    CM000095
01046   058130 SRR1.                                                                    CM000095
01047   058140     READ CFILE AT END GD TD SRREND.                                      CM000095
01048   058150     IF C9 NDT = '0' GD TD SRR1.
01049   058160     IF HPAR NDT = C5 GO TO SRR1.                                         CM000095
01050   058170     IF C10 = SPACE GD TO SRR2.                                           CM000095
01051   058180     MUVE C10 TO SR5 (J, K)                                               CM000095
01052   058190     READ CFILE AT END GO TO SRREND.                                      CM000095
01053   058200     MOVF C10 TO SR6 (J, K)                                               CM000095
01054   058210     READ CFILE AT ENO GO TO SRREND.                                      CM000095
01055   058220     MOVE C10 TO SR7 (J, K)                                               CM000095
01056   058230     READ CFILE AT END GO TO SRREND.                                      CM000095
01057   058240     MDVE C10 TO SR8 (J, K)                                               CM000095
01058   058250     READ CFILE AT END GO TO SRRENO.                                      CM000095
01059   059010     MOVE C10 TO SR9 (J, K)                                               CM000095
01060   059020     GD TO SRR9.                                                          CM000095
01061   059030 SRR2.                                                                    CM000095
01062   059040     IF C11 = SPACE DISPLAY '5904' C7  GO TO RD-HK.                       CM000095
01063   059050     MOVE C11 TO SR5 (J, K).                                              CM000095
01064   059060     READ CFILE AT ENO GO TO SRREND.                                      CM000095
01065   059070     MOVE C11 TD SR6 (J, K).                                              CM000095
01066   059080     READ CFILE AT END GD TO SRREND.                                      CM000095
01067   059090     MUVE C11 TO SR7 (J, K)                                               CM000095
01068   059100     READ CFILE AT END GO TO SRREND.                                      CM000095
01069   059110     MOVE C11 TO SR8 (J, K).                                              CM000095
01070   059120     READ CFILE AT ENO GO TO SRREND.                                      CM000095
01071   059130     MOVE C11 TD SR9 (J, K).                                              CM000095
01072   059140 SRR9.                                                                    CM000095
01073   059150     MOVE C11B TD SR4 (J, K)
01074   060030     CLOSE CFILE.                                                         CM000095
01075 **059160     IF RDR8A = '-' MOVE '-' TD SRSN (J, K).                              CM000095
01076   059170 SRR10.                                                                   CM000095
01077   059180     IF DR6 = 'CP' MOVE 'CELL PRESS' TO SR10 (J, K) GO TO SRRSS.          CM000095
01078   059190     IF DR6 = '8A' MOVE 'BAROMETER ' TO SR10 (J, K) GO TO SRRSS.          CM000095
01079   059200     IF OR6 = 'VR' MOVE 'VAC. REF. ' TO SR10 (J, K) GO TO SRRSS.          CM000095
01080   059210     IF DR6 = 'RT' MOVE 'RTT       ' TO SR10 (J, K) GO TO SRRSS.          CM000095
```

```
 20

01081   059220      IF OR6 = 'CA' MOVE 'CA-1500-F ' TO SR10 (J, K) GO TO SRRSS.   CM000095
01082   059230      IF OR6 = 'CC' MOVE 'CC-1500-F ' TO SR10 (J, K) GO TO SRRSS.   CM000095
01083   059240      IF DR6 = 'IC' MOVE 'IC-1500-F ' TO SR10 (J, K) GO TO SRRSS,   CM000095
01084   059250      IF OR6 = 'EV' MOVE 'EVENT     ' TO SR10 (J, K).               CM000095
01085   060010 SRRSS.                                                             CM000095
01086   060020      MOVE HPAR TO SR3 (J, K).                                      CM000095
01087   060040      GO TO RD-HK.                                                  CM000095
01088   060050 SRREND.                                                            CM000095
01089   060060      DISPLAY '6006'                                                CM000095
01090   060070      CLOSE CFILE.                                                  CM000095
01091   060080      GO TO RD-HK.                                                  CM000095
01092   062010 HK-ENO.                                                            CM000095
01093   062020      CLOSE HOOK.                                                   CM000095
01094   062030      PERFORM WR-SC VARYING J FROM 1 BY 1 UNTIL J > JJ.             CM000095
01095   062040      MOVE 28 TO JECT.   GO TO WR-MT.
01096   062050 WR-SC.                                                             CM000095
01097   062060      IF JECT = 50                                                  CM000095
01098   062061          WRITE LIT FROM SC-HD AFTER 0
01099   062070          WRITE LIT FROM HEADSMOS AFTER 2
01100   062080          MOVE 0 TO JECT.                                           CM000095
01101   062100      MOVE SC1 (J) TO LSC1.                                         CM000095
01102   062110      MOVE SC2 (J) TO LSC2.                                         CM000095
01103   062120      MOVE SC3 (J) TO LSC3.                                         CM000095
01104   062130      MOVE SC4 (J) TO LSC4.                                         CM000095
01105   062140      MOVE SC5 (J) TO LSC5.                                         CM000095
01106   062150      MOVE SC6 (J) TO LSC6.                                         CM000095
01107   062160      MOVE SC7 (J) TO LSC7.                                         CM000095
01108   062170      MOVE SC8 (J) TO LSC8.                                         CM000095
01109   062180      MOVE SC9 (J) TO LSC9.                                         CM000095
01110   062190      MOVE SC10 (J) TO LSC10.                                       CM000095
01111   062200      WRITE LIT FROM SCLIST AFTER 2.                                CM000095
01112   062210      ADD 2 TO JECT.                                                CM000095
01113   063010 WR-MT.  MOVE '    TNO CHAN ' TO SCMTO.                             CM000095
01114   063020      PERFORM WR-MT1 VARYING K FROM 1 BY 1 UNTIL K > 6
01115   063030          AFTER J FROM 1 BY 1 UNTIL J > 14.
01116   063040      GO TO WR-OS.                                                  CM000095
01117   063050 WR-MT1.                                                            CM000095
01118   063060      IF JECT = 28
01119   063061          PERFORM DO-HO
01120   063062          WRITE LIT FROM MT-HO AFTER 0
01121   063070          WRITE LIT FROM HEAOSMOS AFTER 2
01122   063080          MOVE 0 TO JECT.                                           CM000095
01123   063120      MOVE MT3 (K, J) TO LMT3.                                      CM000095
01124   063130      MOVE MT4 (K, J) TO LMT4.                                      CM000095
01125   063140      MOVE MT5 (K, J) TO LMT5.                                      CM000095
01126   063150      MOVE MT6 (K, J) TO LMT6.                                      CM000095
01127   063160      MOVE MT7 (K, J) TO LMT7.                                      CM000095
01128   063170      MOVE MT8 (K, J) TO LMT8.                                      CM000095
01129   063180      MOVE MT9 (K, J) TO LMT9.                                      CM000095
01130   063190      MOVE MT10 (K, J) TO LMT10.                                    CM000095
01131   063200      MOVE MT11 (K, J) TO LMT11.                                    CM000095
01132   063210      IF K = 1 MOVE 'A' TO LMT1.                                    CM000095
01133   063220      IF K = 2 MOVE 'B' TO LMT1.                                    CM000095
01134   063230      IF K = 3 MOVE 'C' TO LMT1.                                    CM000095
01135   063240      IF K = 4 MOVE 'D' TO LMT1.                                    CM000095
01136   063250      IF K = 5 MOVE 'E' TO LMT1.                                    CM000095
01137   064010      IF K = 6 MOVE 'F' TO LMT1.                                    CM000095
```

21

```
064020     MOVE J TO LMT2                                                 CM000095
064030     IF J = 12 MOVE 'GATED T.' TO LMT3.                             CM000095
064040     IF J = 13 MOVE 'CONT. T.' TO LMT3.                             CM000095
064050     IF J = 14 MOVE 'VOICE' TO LMT3.                                CM000095
064060     ADD 2 TO JECT.                                                 CM000095
064070     WRITE LIT FROM MTLIST AFTER 2.                                 CM000095
065010 WR-OS.                                                             CM000095
065011     MOVE OSF TO FLLX.
065020     MOVE 36 TO JECT  MOVE '  OSNO CHAN'  TO SCMTO.
065030     PERFORM WR-OS1 VARYING K FROM 1 BY 1 UNTIL K > 6
065040         AFTER J FROM 1 BY 1 UNTIL J > 36.
065050     GO TO WR-MC.                                                   CM000095
065060 WR-OS1.                                                            CM000095
065070     IF JECT = 36
065071         PERFORM DO-HD
065072         WRITE LIT FROM MT-HD AFTER 0
065080         WRITE LIT FROM HEADSMOS AFTER 2
065081     MOVE '0' TO JKT
065090         MOVE 0 TO JECT.                                            CM000095
065100     IF K = 1 MOVE 'A' TO LOS1.                                     CM000095
065110     IF K = 2 MOVE 'B' TO LOS1.                                     CM000095
065120     IF K = 3 MOVE 'C' TO LOS1.                                     CM000095
065130     IF K = 4 MOVE 'D' TO LOS1.                                     CM000095
065140     IF K = 5 MOVE 'E' TO LOS1.                                     CM000095
065150     IF K = 6 MOVE 'F' TO LOS1.                                     CM000095
065160     MOVE J TO LOS2.                                                CM000095
065170     MOVE OS3 (K, J) TO LOS3.                                       CM000095
065180     IF J = 35 MOVE '1 HZ ' TO LOS3.
065190     IF J = 36 MOVE '100 HZ ' TO LOS3.
065200     MOVE OS4 (K, J) TO LOS4.                                       CM000095
065210     MOVE OS5 (K, J) TO LOS5.                                       CM000095
065220     MOVE OS6 (K, J) TO LOS6.                                       CM000095
065230     MOVE OS7 (K, J) TO LOS7.                                       CM000095
065240     MOVE OS8 (K, J) TO LOS8.                                       CM000095
065250     MOVE OS9 (K, J) TO LOS9.                                       CM000095
066010     MOVE OS10 (K, J) TO LOS10.                                     CM000095
066020     MOVE OS11 (K, J) TO LOS11.                                     CM000095
066030     ADD 1 TO JECT.
066040     WRITE LIT FROM OSLIST AFTER JKT  MOVE ' ' TO JKT.
066060 WR-MC.                                                             CM000095
066070     MOVE 50 TO JECT.                                               CM000095
066080     MOVE 0 TO JJ.                                                  CM000095
066081     IF MSW1 = 1
066090               MOVE 1 TO J   PERFORM WRMC1 VARYING K FROM 1 BY 1    CM000095
066100         UNTIL K > 100   GO TO WR-MC2.                              CM000095
066110     IF MSW3 = 1 GO TO WR-MC3.                                      CM000095
066120     GO TO WR-MC4.                                                  CM000095
066130 WR-MC2.                                                            CM000095
066140     IF MSW3 = 0 GO TO WR-MC4.                                      CM000095
066150     IF MSW2 = 0 GO TO WR-MC4.                                      CM000095
066160     MOVE 2 TO J.                                                   CM000095
066170     PERFORM WRMC1 VARYING K FROM 1 BY 1 UNTIL K > 100.             CM000095
066180 WR-MC3.                                                            CM000095
066190     MOVE 3 TO J.                                                   CM000095
066200     PERFORM WRMC1 VARYING K FROM 1 BY 1 UNTIL K > 100.             CM000095
066210 WR-MC4.                                                            CM000095
066220     IF MSW2 = 1  MOVE 2 TO J                                       CM000095
```

22

```
01195   066230            PERFORM WRMC1 VARYING K FROM 1 BY 1 UNTIL K > 100.         CM000095
01196   066240        MOVE 24 TO JECT..
01197   068050        GO TO WR-SR.
01198 **067010 WRMC1.                                                                CM000095
01199   067020        ADD 1 TO JJ.                                                   CM000095
01200   067030        MOVE JJ TO LMC1.                                               CM000095
01201   067040        MOVE MC2 (J, K) TO LMC2.                                       CM000095
01202   067050        MOVE MC3 (J, K) TO LMC3.                                       CM000095
01203   067060        MOVE MC4 (J, K) TO LMC4.                                       CM000095
01204   067070        MOVE MC5 (J, K) TO LMC5.                                       CM000095
01205   067080        MOVE MC6 (J, K) TO LMC6.                                       CM000095
01206   067090        MOVE MC7 (J, K) TO LMC7.                                       CM000095
01207   067100        MOVE MC8 (J, K) TO LMC8.                                       CM000095
01208   067110        MOVE MC9 (J, K) TO LMC9.                                       CM000095
01209   067120        MOVE MC10 (J, K) TO LMC10.                                     CM000095
01210   067130        MOVE MC11 (J, K) TO LMC11.                                     CM000095
01211   067140        MOVE MC12 (J, K) TO LMC12.                                     CM000095
01212   067150        MOVE MC13 (J, K) TO LMC13.                                     CM000095
01213   067160        MOVE MC14 (J, K) TO LMC14.                                     CM000095
01214   067170        MOVE MC15 (J, K) TO LMC15.                                     CM000095
01215   067180        IF JECT = 50                                                   CM000095
01216   067181            WRITE LIT FROM MC-HD AFTER 0
01217   067190            WRITE LIT FROM HEADMCDD AFTER 2
01218   067200            MOVE 0 TO JECT.                                            CM000095
01219   067210        ADD 2 TO JECT.                                                 CM000095
01220   067220        WRITE LIT FROM MCLIST AFTER 2.                                 CM000095
01221   071010 WR-SR.                                                                CM000095
01222   071011        MOVE SRF TO FIXR.
01223   071020        MOVE '   REC CHAN' TO SCMTO.
01224   071040        PERFORM WRSR1 VARYING K FROM 1 BY 1 UNTIL K > 4
01225   071050            AFTER J FROM 1 BY 1 UNTIL J > 8.
01226   071060        GO TO ASCEND.                                                  CM000095
01227   071080 WRSR1.                                                                CM000095
01228   071090        IF K = 1 MOVE 'A' TO LSR1.
01229   071092        IF K = 2 MOVE 'B' TO LSR1.
01230   071093        IF K = 3 MOVE 'C' TO LSR1.
01231   071094        IF K = 4 MOVE 'D' TO LSR1.
01232   071100        MOVE J TO LSR2.                                                CM000095
01233   071110        MOVE SR3 (K, J) TO LSR3.                                       CM000095
01234   071120        MOVE SR4 (K, J) TO LSR4.                                       CM000095
01235   071130        MOVE SR5 (K, J) TO LSR5.                                       CM000095
01236   071140        MOVE SR6 (K, J) TO LSR6.                                       CM000095
01237   071150        MOVE SR7 (K, J) TO LSR7.                                       CM000095
01238   071160        MOVE SR8 (K, J) TO LSR8.                                       CM000095
01239   071170        MOVE SR9 (K, J) TO LSR9.                                       CM000095
01240   071180        MOVE SR10 (K, J) TO LSR10.                                     CM000095
01241   071190        MOVE SR11 (K, J) TO LSR11.                                     CM000095
01242   071200        IF SRSN (K, J) = '-' MOVE ' -' TO FILLERA FILLERB FILLERC      CM000095
01243   071210            FILLERO FILLERE   ELSE   MOVE SPACE TO FILLERA FILLERB     CM000095
01244   071220            FILLERC FILLERO FILLERE.                                   CM000095
01245   071230        IF JECT = 24                                                   CM000095
01246   071231            WRITE LIT FROM MC-HD AFTER 0
01247   071240            WRITE LIT FROM HEADSMDS AFTER 2
01248   071250            MOVE 0 TO JECT.                                            CM000095
01249   072010        A00 1 TO JECT.                                                 CM000095
01250   072020        WRITE LIT FROM SRLIST AFTER 2.                                 CM000095
01251   072030 ASCENO.                                                               CM000095
```

```
  23

01252 **069020       MOVE 1 TO J.  MOVE '       CHAN  ' TO MCOD. MOVE 25 TO JECT.   CM000095
01253   069030       PERFORM WROD1 VARYING K FROM 1 BY 1 UNTIL K > 100.                 CM000095
01254   069070       GO TO QUIT.
01255   069100 WROD1.                                                                   CM000095
01256   069110       MOVE K TO L002.
01257   096120       MOVE 0 TO LD01.
01258 **069150       MOVE OD3 (J, K) TO LDD3.                                           CM000095
01259   069160       MOVE OD4 (J, K) TO LD04.                                           CM000095
01260   069170       MOVE OD5 (J, K) TO L005.                                           CM000095
01261   069180       MOVE 006 (J, K) TO LD06.                                           CM000095
01262   069190       MOVE DD7 (J, K) TO LDD7.                                           CM000095
01263   069200       MOVE 008 (J, K) TO LDD8.                                           CM000095
01264   069210       MOVE OD9 (J, K) TO L009.                                           CM000095
01265   069220       MOVE 0010 (J, K) TO L0010                                          CM000095
01266   069230       MOVE DD11 (J, K) TO LDD11                                          CM000095
01267   069240       MOVE DD12 (J, K) TO LDD12                                          CM000095
01268   069250       MOVE DD13 (J, K) TO LDD13                                          CM000095
01269   070010       MOVE D014 (J, K) TO L0014.                                         CM000095
01270   070020       MOVE DD15 (J, K) TO LDD15.                                         CM000095
01271   070030       MOVE OD16 (J, K) TO LOD16.                                         CM000095
01272   070040       IF DDSN (J, K) = '-'  MOVE '-' TO FILLER1 FILLER2 FILLER3          CM000095
01273   070050           FILLER4 FILLER5  ELSE  MOVE SPACE TO FILLER1 FILLER2           CM000095
01274   070060           FILLER3 FILLER4 FILLER5.                                       CM000095
01275   070070       IF JECT = 25                                                       CM000095
01276   070071           WRITE LIT FROM DDAS-HD AFTER 0
01277   070080           WRITE LIT FROM HEAOMC00 AFTER 2
01278   070090           MOVE 0 TO JECT.                                                CM000095
01279   070100       A00 1 TO JECT.                                                     CM000095
01280   070110       WRITE LIT FROM DDLIST AFTER 2.                                     CM000095
01281   070111 QUIT.
01282   072040       CLOSE LIST.                                                        CM000095
01283   072060       STOP RUN.                                                          CM000095
01284   073010 SPACE-TB.                                                                CM000095
01285   073110       MOVE 1 TO J.
01286   073120       PERFORM SPC-00 VARYING K FROM 1 BY 1 UNTIL K > 100.
01287 **073020       PERFORM SPC-SC VARYING J FROM 1 BY 1 UNTIL J = 51.                 CM000095
01288   073030       PERFORM SPC-MT VARYING K FROM 1 BY 1 UNTIL K > 14 AFTER            CM000095
01289   073040           J FROM 1 BY 1 UNTIL J > 6.                                     CM000095
01290   073050       PERFORM SPC-OS VARYING K FROM 1 BY 1 UNTIL K > 36 AFTER            CM000095
01291   073060           J FROM 1 BY 1 UNTIL J > 6.                                     CM000095
01292   073070       PERFORM SPC-MC VARYING K FROM 1 BY 1 UNTIL K > 100 AFTER           CM000095
01293   073080           J FROM 1 BY 1 UNTIL J > 3.                                     CM000095
01294   073150       PERFORM SPC-SR VARYING K FROM 1 BY 1 UNTIL K > 8                   CM000095
01295   073160           AFTER J FROM 1 BY 1 UNTIL J = 5.                               CM000095
01296   074010 SPC-SC.                                                                  CM000095
01297   074020       MOVE SPACE TO SC1 (J), SC2 (J), SC3 (J), SC4 (J), SC5 (J),         CM000095
01298   074030           SC6 (J), SC7 (J) SC8 (J) SC9 (J) SC10 (J).                     CM000095
01299   074040 SPC-MT.                                                                  CM000095
01300   074050       MOVE SPACE TO                           MT3 (J, K), MT4 (J, K),CM000095
01301   074060           MT5 (J, K), MT6 (J, K), MT7 (J, K), MT8 (J, K),                CM000095
01302   074070           MT9 (J, K), MT10 (J, K), MT11 (J, K).                          CM000095
01303   074080 SPC-OS.                                                                  CM000095
01304   074090       MOVE SPACE TO OS1 (J, K), OS2 (J, K), OS3 (J, K), OS4 (J, K),CM000095
01305   074100           DS5 (J, K), DS6 (J, K), OS7 (J, K), OS8 (J, K),                CM000095
01306   074110           OS9 (J, K), OS10 (J, K), OS11 (J, K).                          CM000095
01307   074120 SPC-MC.                                                                  CM000095
01308   074130       MOVE SPACE TO  MC1 (J, K), MC2 (J, K), MC3 (J, K),                 CM000095
```

```
  24

01309   074140          MC4 (J, K), MC5 (J, K), MC6 (J, K), MC7 (J, K)           CM000095
01310   074150          MC8 (J, K), MC9 (J, K), MC10 (J, K), MC11 (J, K),        CM000095
01311   074160          MC12 (J, K), MC13 (J, K), MC14 (J, K), MC15 (J, K),      CM000095
01312   074170          MC16 (J, K).                                             CM000095
01313   074200 SPC-00.                                                           CM000095
01314   074210      MOVE SPACE TO OD1 (J, K), OD2 (J, K), DD3 (J, K) OD4 (J, K)  CM000095
01315   074220          OD5 (J, K)  DD6 (J, K)  DD7 (J, K)  DD8 (J, K)           CM000095
01316   074230          DD9 (J, K)  OD10 (J, K) OD11 (J, K) OD12 (J, K)          CM000095
01317   074240          DO13 (J, K) OD14 (J, K) DD15 (J, K) DD16 (J, K)          CM000095
01318   074250          OOSN (J, K).                                             CM000095
01319   075030 SPC-SR.                                                           CM000095
01320   075040      MOVE SPACE TO SR1 (J, K), SR2 (J, K), SR3 (J, K), SR4 (J, K),CM000095
01321   075050          SR5 (J, K), SR6 (J, K), SR7 (J, K), SR8 (J, K)           CM000095
01322   075060          SR9 (J, K), SR10 (J, K) SR11 (J, K), SRSN (J, K).        CM000095
01323   076010 OP-BF.
01324   076020      OPEN INPUT  BFILE.  MOVE 0 TO J.                             CM000095
01325   076030 RD-BF.                                                            CM000095
01326   076040      READ  BFILE AT END GO TO BEND.                               CM000095
01327   076050      IF B3A NOT = 'SC' GO TO RD-BF.                               CM000095
01328   076060      ADD 1 TO J.                                                  CM000095
01329   076070      IF J > 50   DISPLAY 'SC-TABLE TOO SMALL'  B3A B3B GO TO BEND.CM000095
01330   076080      MOVE B3B TO SC1 (J).                                         CM000095
01331   076090      GO TO RD-BF.                                                 CM000095
01332   076100 BEND.                                                             CM000095
01333   076110      MOVE J TO JJ.                                                CM000095
01334   076120      CLOSE BFILE.                                                 CM000095
01335   077010 DO-U.                                                             CM000095
01336   077020      MOVE 0 TO J.                                                 CM000095
01337   077030      MOVE 1 TO K.
01338   077040 DO-J.                                                             CM000095
01339   077050      MOVE J TO MC16 (1, K)                                        CM000095
01340   077060      ADD 1 TO J   ADD 1 TO K.                                     CM000095
01341   077070      IF J = 100 GO TO U-TO.
01342   077080      GO TO DO-J.                                                  CM000095
01343   077090 U-TO.                                                             CM000095
01344   077100      MOVE 400 TO J                                                CM000095
01345   077110      MOVE 1 TO K.                                                 CM000095
01346   077120 TO-TWO.                                                           CM000095
01347   077130      MOVE J TO MC16 (2, K).                                       CM000095
01348   077140      ADD 1 TO J                                                   CM000095
01349   077150      ADD 1 TO K                                                   CM000095
01350   077160      IF J = 500 GO TO DO-MOR.
01351   077170      GO TO TO-TWO.                                                CM000095
01352   077180 DO-MOR.                                                           CM000095
01353   077190      MOVE 100 TO J.                                               CM000095
01354   077200      MOVE 1 TO K.                                                 CM000095
01355   077210 B4-U.                                                             CM000095
01356   077220      MOVE J TO MC16 (3, K)                                        CM000095
01357   077230      ADD 1 TO J.                                                  CM000095
01358   077240      ADD 1 TO K.                                                  CM000095
01359   077250      IF J = 200 GO TO ALL-DO.
01360   078010      GO TO B4-U.                                                  CM000095
01361   078020 ALL-DO.                                                           CM000095
01362   078030       EXIT.                                                       CM000095
01363   079010 DO-HO.
01364   079020          IF K = 1 MOVE 'A' TO FLP.
01365   079030          IF K = 2 MOVE 'B' TO FLP.
```

25

```
01366   079040          IF K = 3 MOVE 'C' TO FLP.
01367   079050          IF K = 4 MOVE 'D' TO FLP.
01368   079060          IF K = 5 MOVE 'E' TO FLP.
01369   079070          IF K = 6 MOVE 'F' TO FLP.
```

1

```
001010 IDENTIFICATION DIVISION.                                         CM000048
001020 PROGRAM-ID. 'CM000048'.                                          CM000048
001030 AUTHOR.  JACK ROSE.                                              CM000048
001040 INSTALLATION.   ARO INC  TULLAHOMA TENN.                         CM000048
001050 DATE-WRITTEN.   SEPTEMBER  1967.                                 CM000048
001060 DATE-COMPILED. DEC 14,1968                                       CM000048
001070 SECURITY.                                                        CM000048
001080 REMARKS.    THIS PROGRAM CREATES A GILMORE TRANSDUCER            CM000048
001090             FILE TO BE USED BY RTF AND LRF INSTRUMENT BOOKS.     CM000048
001110 ENVIRONMENT DIVISION.                                            CM000048
001120 CONFIGURATION SECTION.                                           CM000048
001130 SOURCE-COMPUTER. IBM-360 H50.                                    CM000048
001140 OBJECT-COMPUTER. IBM-360 H50.                                    CM000048
001150 INPUT-OUTPUT SECTION.                                            CM000048
001160 FILE-CONTROL.                                                    CM000048
001170     SELECT  GIL-IN  ASSIGN  'G001' UTILITY.                      CM000048
001180     SELECT  GIL-OT  ASSIGN  'G002' UTILITY.                      CM000048
001190 DATA DIVISION.                                                   CM000048
001200 FILE SECTION.                                                    CM000048
001210 FD  GIL-IN   RECORDING F  BLOCK 10 RECORDS  RECORD 133           CM000048
001220              LABEL RECORDS STANDARD  DATA RECORD GIN.            CM000048
001230 01  GIN.                                                         CM000048
001240     02  GINN    PICTURE X   OCCURS  133.                         CM000048
002010 FD  GIL-OT      RECORDING F  BLOCK 1 RECORDS  RECORD 747         CM000048
002020            LABEL RECORDS STANDARD DATA RECORDS ARE GOT NEWG.     CM000048
002030 01  GOT.                                                         CM000048
002040     02  GPURSPEC    PICTURE  X(10).                              CM000048
002050     02  GINS-NO     PICTURE  X(16).                              CM000048
002060     02  GDAT-REC    PICTURE  9(6).                               CM000048
002070     02  GMAN        PICTURE  X(12).                              CM000048
002080     02  GMATE       PICTURE  X(20).                              CM000048
002090     02  GRANGE      PICTURE  X(5).                               CM000048
002100     02  GRANGE-U    PICTURE  X(12).                              CM000048
002110     02  GPOS-ICON   PICTURE  XX.                                 CM000048
002120     02  GMODEL      PICTURE  X(12).                              CM000048
002130     02  GNEG-ICON   PICTURE  XX.                                 CM000048
002140     02  GSERIAL     PICTURE  X(10).                              CM000048
002150     02  GPOS-OCON   PICTURE  XX.                                 CM000048
002160     02  GFACILITY   PICTURE  XXXX.                               CM000048
002170     02  GNEG-OCON   PICTURE  XX.                                 CM000048
002180     02  GPURCHASED  PICTURE  X(10).                              CM000048
002190     02  GSHIELD     PICTURE  XX.                                 CM000048
002200     02  GCAL-RUN    PICTURE  XXX.                                CM000048
002210     02  GDAT-CAL    PICTURE  9(6).                               CM000048
002220     02  GEXCITATION PICTURE S99V99.                              CM000048
002230     02  GTEMP       PICTURE S9(6).                               CM000048
002240     02  GBAROMETRIC PICTURE S99V99.                              CM000048
002250     02  GINPUTRES   PICTURE S9(5)V9.                             CM000048
003010     02  GOUTPUTRES  PICTURE  S9(5)V9.                            CM000048
003020     02  GINSUL-RES  PICTURE  S9(5)V9.                            CM000048
003030     02  GTERM-LINEARITY.                                         CM000048
003040         03  MV0A    PICTURE S9(7)V999.                           CM000048
003050         03  MV0B    PICTURE S9(8)V99.                            CM000048
003060         03  MV25A   PICTURE S9(7)V999.                           CM000048
```

```
  2

00055   003070           03  MV25B    PICTURE S9(8)V99.                          CM000048
00056   003080           03  MV50A    PICTURE S9(7)V999.                         CM000048
00057   003090           03  MV50B    PICTURE S9(8)V99.                          CM000048
00058   003100           03  MV75A    PICTURE S9(7)V999.                         CM000048
00059   003110           03  MV75B    PICTURE S9(8)V99.                          CM000048
00060   003120           03  MV100A   PICTURE S9(7)V999.                         CM000048
00061   003130           03  MV100B   PICTURE S9(8)V99.                          CM000048
00062   003140           03  MV75AA   PICTURE S9(7)V999.                         CM000048
00063   003150           03  MV75BB   PICTURE S9(8)V99.                          CM000048
00064   003160           03  MV50AA   PICTURE S9(7)V999.                         CM000048
00065   003170           03  MV50BB   PICTURE S9(8)V99.                          CM000048
00066   003180           03  MV25AA   PICTURE S9(7)V999.                         CM000048
00067   003190           03  MV25BB   PICTURE S9(8)V99.                          CM000048
00068   003200           03  MV0AA    PICTURE S9(7)V999.                         CM000048
00069   003210           03  MV0BB    PICTURE S9(8)V99.                          CM000048
00070   004010       02  GREPEATABILITY.                                         CM000048
00071   004020           03  PSI1     PICTURE  S9(4)V99.                         CM000048
00072   004030           03  PSI1U    PICTURE  X.                                CM000048
00073   004040           03  PSIMV1   PICTURE  S999V999.                         CM000048
00074   004050           03  PSI2     PICTURE  S9(4)V99.                         CM000048
00075   004060           03  PSI2U    PICTURE  X.                                CM000048
00076   004070           03  PSIMV2   PICTURE  S999V999.                         CM000048
00077   004080           03  PSI3     PICTURE  S9(4)V99.                         CM000048
00078   004090           03  PSI3U    PICTURE  X.                                CM000048
00079   004100           03  PSIMV3   PICTURE  S999V999.                         CM000048
00080   004110           03  PSI4     PICTURE  S9999V99.                         CM000048
00081   004120           03  PSI4U    PICTURE  X.                                CM000048
00082   004130           03  PSIMV4   PICTURE  S999V999.                         CM000048
00083   004140           03  PSI5     PICTURE  S9999V99.                         CM000048
00084   004150           03  PSI5U    PICTURE  X.                                CM000048
00085   004160           03  PSIMV5   PICTURE  S999V999.                         CM000048
00086   004170           03  PSI6     PICTURE  S9999V99.                         CM000048
00087   004180           03  PSI6U    PICTURE  X.                                CM000048
00088   004190           03  PSIMV6   PICTURE  S999V999.                         CM000048
00089   004200           03  PSI7     PICTURE  S9999V99.                         CM000048
00090   004210           03  PSI7U    PICTURE  X.                                CM000048
00091   004220           03  PSIMV7   PICTURE  S999V999.                         CM000048
00092   005010       02  GRCAL-TYP    PICTURE  XXX.                              CM000048
00093   005020       02  GRCAL-SN     PICTURE  XXX.                              CM000048
00094   005030       02  GOUT-AT      PICTURE S999V99.                           CM000048
00095   005040       02  GOUTPSIA     PICTURE S999V999.                          CM000048
00096   005050       02  GR-CALAC.                                               CM000048
00097   005060           03  CALACR1      PICTURE  XX.                           CM000048
00098   005070           03  CALACR2      PICTURE  XX.                           CM000048
00099   005080       02  GUNBALANCE   PICTURE S999V999.                          CM000048
00100   005090       02  GUNBMVO      PICTURE X.                                 CM000048
00101   005100       02  GRCAL-TKN    PICTURE S9999V99.                          CM000048
00102   005110       02  GTKN-PSIA    PICTURE X.                                 CM000048
00103   005120       02  GFS-SEN      PICTURE S999V999.                          CM000048
00104   005130       02  GMAX-N-LIN   PICTURE S999V99.                           CM000048
00105   005140       02  GMAX-HYST    PICTURE S9999V99.                          CM000048
00106   005150       02  GMAX-N-REPT  PICTURE S99V99.                            CM000048
00107   005151       02  GCORR-P      PICTURE X.                                 CM000048
00108   005160       02  G-RNO.                                                  CM000048
00109   005170           03  G-RN01   PICTURE S99999V9.                          CM000048
00110   005180           03  G-RN02   PICTURE S9999999V999.                      CM000048
00111   005190           03  G-RN03   PICTURE S99999V99.                         CM000048
```

3

```
005200     02  G-RN1.                                                   CM000048
005210         03  G-RN11  PICTURE S9(5)V999.                           CM000048
005220         03  G-RN12  PICTURE S9(5)V999.                           CM000048
005230         03  G-RN13  PICTURE S9(5)V99.                            CM000048
005240         03  G-RN14  PICTURE S9(6)V999.                           CM000048
006010     02  G-RN2.                                                   CM000048
006020         03  G-RN21  PICTURE  S9(5)V999.                          CM000048
006030         03  G-RN22  PICTURE  S9(5)V999.                          CM000048
006040         03  G-RN23  PICTURE  S9(5)V99.                           CM000048
006050         03  G-RN24  PICTURE  S9(6)V999.                          CM000048
006060     02  G-RN3.                                                   CM000048
006070         03  G-RN31  PICTURE  S9(5)V999.                          CM000048
006080         03  G-RN32  PICTURE  S9(5)V999.                          CM000048
006090         03  G-RN33  PICTURE  S9(5)V99.                           CM000048
006100         03  G-RN34  PICTURE  S9(6)V999.                          CM000048
006110     02  G-RN4.                                                   CM000048
006120         03  G-RN41  PICTURE  S9(5)V999.                          CM000048
006130         03  G-RN42  PICTURE  S9(5)V999.                          CM000048
006140         03  G-RN43  PICTURE  S9(5)V99.                           CM000048
006150         03  G-RN44  PICTURE  S9(6)V999.                          CM000048
006160     02  G-RNOL.                                                  CM000048
006170         03  G-RNL1  PICTURE  S9(5)V9.                            CM000048
006180         03  G-RNL2  PICTURE  S9(7)V999.                          CM000048
006190         03  G-RNL3  PICTURE  S9(5)V99.                           CM000048
006200     02  GPS-DATE    PICTURE  9(6).                               CM000048
006210     02  GOP-AT      PICTURE  S999V99.                            CM000048
006220     02  GOP-PSIA    PICTURE  S999V999.                           CM000048
006230     02  GOP-UNB     PICTURE  S999V999.                           CM000048
006240     02  GOP-FSS     PICTURE  S999V999.                           CM000048
006250     02  BMAX-N-LIN  PICTURE   S999V99.
007010     02  BMAX-HYST       PICTURE  S9999V99.                       CM000048
007020     02  BMAX-N-REPT     PICTURE  S99V99.                         CM000048
007030     02  BCLEANFOR       PICTURE  X(20).                          CM000048
007040     02  BCALIBAT1       PICTURE  9(6).                           CM000048
007050     02  BCALIBAT2       PICTURE  9(6).                           CM000048
007051     02  FILLERL  PICTURE  X.                                     CM000048
007060 01  NEWG.                                                        CM000048
007070     02  GIL     PICTURE  X  OCCURS  747.                         CM000048
007090 WORKING-STORAGE SECTION.                                         CM000048
007100 77  A   PICTURE   9999  VALUE 0.                                 CM000048
007110 77  B   PICTURE   9999  VALUE 0.                                 CM000048
007120 77  C   PICTURE   9999  VALUE 0.                                 CM000048
007130 77  D   PICTURE   9999  VALUE 0.                                 CM000048
007140 77  H-SW    PICTURE  9  VALUE 0.                                 CM000048
007150 77  N-SW    PICTURE  9  VALUE 0.                                 CM000048
008010 01  HOLD-GIL.                                                    CM000048
008020     02  GIL-REC OCCURS 58.                                       CM000048
008030         03  G       OCCURS 133  PICTURE  X.                      CM000048
009010 PROCEDURE DIVISION.                                              CM000048
009020     OPEN INPUT GIL-IN  OUTPUT GIL-OT.                            CM000048
009021     MOVE SPACE TO FILLERL.                                       CM000048
009030 FIRS.                                                            CM000048
009040     MOVE 0 TO A                                                  CM000048
009050     PERFORM READ-GILMORE 58 TIMES.                               CM000048
009060     MOVE 6 TO A.  MOVE 70 TO B. MOVE 1 TO C.                     CM000048
009070     PERFORM MOVE-DATA 10 TIMES.                                  CM000048
009080     ADD 1 TO A   MOVE 28 TO B.                                   CM000048
```

4

```
00169   009090       PERFORM MOVE-DATA 16 TIMES.                                     CM000048
00170   009100       MJVE 61 TO B.                                                   CM000048
00171   009110       PERFORM MAKE-NUMERIC THRU MOVE-OATA 2 TIMES                     CMOC0048
00172   009120       MOVE 64 TJ B.                                                   CM000048
00173   009130       PERFORM MAKE-NUMERIC THRU MOVE-DATA 2 TIMES                     CM0C0048
00174 , 009140       MOVE 67 TO B.                                                   CM000048
00175   009150       PERFORM MAKE-NUMERIC THRU MOVE-OATA 2 TIMES                     CM000048
00176   009160       ADO 1 TO A.                                                     CM000048
00177   009170       MOVE 23 TO 8.                                                   CM000048
00178   009180       PERFORM MOVE-DATA 12 TIMES.                                     CM000048
00179   009190       MOVE 64 TO B.                                                   CM000048
00180   009200       PERFORM MOVE-DATA 20 TIMES.                                     CM000048
00181   009210       ADO 1 TO A.   MOVE 16 TO 8.                                     CM000048
00182   009220       PERFORM MOVE-DATA 5 TIMES.                                      CM0C0048
00183   009230       MOVE 26 TO 8.                                                   CM0C0048
00184   009240       PERFORM MOVE-DATA 12 TIMES.                                     CM000048
00185   010010 Z.    MOVE 77  TO B.                                                  CM000048
00186   010020       PERFORM MOVE-DATA. ADD 5 TO B. PERFORM MOVE-DATA.               CM000048
00187   010030 Y.    AOO 1 TO A.  MOVE 23 TO B.                                      CM000048
00188   010040       PERFORM MJVE-DATA 12 TIMES.                                     CM000048
00189   010060       PERFORM Z.                                                      CM000048
00190   010090       ADD 1 TO A                                                      CM000048
00191   010100       SUBTRACT 60 FROM B.                                             CM000048
00192   010110       PERFORM MOVE-DATA 10 TIMES.                                     CM000048
00193   010120       PERFORM Z.                                                      CM000048
00194   010130       ADD 1 TO A.  MOVE 34 TO B.                                      CM000048
00195   010140       PERFORM  MOVE-OATA 4 TIMES.                                     CM000048
00196   010150       PERFORM Z.                                                      CM000048
00197   010160       ADD 1 TO A.  MOVE 32 TO 8.                                      CM000048
00198   010170       PERFORM MOVE-DATA 10 TIMES.                                     CM000048
00199   010180       PERFORM Z.                                                      CM000048
00200   010190       ADD 2 TO A.  MOVE 50 TO B.                                      CM000048
00201   010200       PERFORM MOVE-OATA 3 TIMES.                                      CM0C0048
00202   010210       ADD 1 TO A.  MOVE 42 TO B.                                      CM0C0048
00203   010220 NN.   PERFORM MAKE-NUMERIC THRU MOVE-OATA 2 TIMES  AOD 1 TO B.        CM000048
00204   010230       PERFJRM MAKE-NUMERIC THRU MOVE-DATA 2 TIMES  ADD 1 TO B.        CM000048
00205   010240       PERFORM MAKE-NUMERIC THRU MOVE-DATA 2 TIMES.                    CM000048
00206   011010 OO.   MOVE 17 TJ A. MOVE 21 TO B.                                     CM000048
00207   011020       PERFORM MAKE-NEG THRU MOVE-OATA 2 TIMES.                        CM000048
00208   011030      .MOVE 24 TO B.                                                   CM000048
00209   011040       PERFORM MAKE-NUMERIC THRU MOVE-OATA 2 TIMES.                    CM000048
00210   011050       IF M-SW = 1 SUBTRACT GEXCITATION FROM 0 GIVING GEXCITATION      CM000048
00211   011060       MOVE 0 TO M-SW. MOVE 45 TO B.                                   CM000048
00212   011070       PERFORM MAKE-NEG THRU MOVE-DATA 6 TIMES.                        CM000048
00213   011080       IF M-SW = 1 SUBTRACT GTEMP FROM 0 GIVING GTEMP                  CM000048
00214   011090       MOVE 0 TO M-SW. MOVE 74 TO B.                                   CM000048
00215   011100       PERFJRM MAKE-NEG THRU MOVE-OATA 2 TIMES.                        CM000048
00216   011110       ADD 1 TO B.                                                     CM0C0048
00217   011120       PERFORM MAKE-NUMERIC THRU MOVE-OATA 2 TIMES.                    CM000048
00218   011130       IF M-SW = 1   MOVE 0 TO M-SW                                    CM000048
00219   011140       SUBTRACT GBAROMETRIC FROM 0 GIVING GBAROMETRIC.                 CM0C0048
00220   011150       MOVE 21 TO A.   MOVE 25 TO 8.                                   CM000048
00221   011160 W.    PERFORM MAKE-NEG THRU MOVE-OATA 5 TIMES.                        CM000048
00222 . 011170       ADD 1 TO B                                                      CM0C0048
00223   011180       PERFORM MAKE-NUMERIC THRU MOVE-OATA.                            CM0C0048
00224   011190 U.    IF M-SW = 1  MOVE 0 TO M=SW                                     CM0C0048
00225   011200       SJBTRACT GINPUTRES FROM 0 GIVING GINPUTRES.                     CM000048
```

5

```
00226   011210      MOVE 22 TO A     MOVE 26 TO B.                                   CM000048
00227   011220      PERFORM W.                                                       CM000048
00228   011230      IF M-SW = 1   MOVE 0 TO M-SW                                     CM000048
00229   011240      SUBTRACT GOUTPUTRES FROM 0 GIVING GOUTPUTRES.                    CM000048
00230   012010      ADD 1 TO A   MOVE 30 TO B.                                       CM000048
00231   012020      PERFORM W.                                                       CM000048
00232   012030      IF M-SW = 1   SUBTRACT 1 FROM M-SW GIVING M-SW                   CM000048
00233   012040      MULTIPLY GINSUL-RES  BY -1 GIVING GINSUL-RES.                    CM000048
00234   012050      MOVE 25 TO A.  MOVE 59 TO B.                                     CM000048
00235   012060 V.   PERFORM MAKE-NEG THRU MOVE-DATA 7 TIMES.                         CM000048
00236   012070      ADD 1 TO B.                                                      CM000048
00237   012080      PERFORM MAKE-NUMERIC THRU MOVE-DATA 3 TIMES.                     CM000048
00238   012090 S.   IF M-SW = 1  MOVE 0 TO M-SW                                      CM000048
00239   012100      SUBTRACT MV0A FROM 0 GIVING MV0A.                                CM000048
00240   012110 T.   PERFORM MAKE-NEG THRU MOVE-DATA 8 TIMES.                         CM000048
00241   012120      ADD 1 TO B.                                                      CM000048
00242   012130      PERFORM MAKE-NUMERIC THRU MOVE-DATA 2 TIMES.                     CM000048
00243   012140 R.   IF M-SW = 1   MOVE 0 TO M-SW                                     CM000048
00244   012150      MULTIPLY MV0B BY -1 GIVING MV0B.                                 CM000048
00245   012160      MOVE 26 TO A.  MOVE 59 TO B.                                     CM000048
00246   012170      PERFORM V.                                                       CM000048
00247   012180      IF M-SW = 1  MOVE 0 TO M-SW                                      CM000048
00248   012190      MULTIPLY MV25A BY -1 GIVING MV25A.                               CM000048
00249   012200      PERFORM T.                                                       CM000048
00250   012210      IF M-SW = 1     MOVE 0 TO M-SW                                   CM000048
00251   012220      SUBTRACT MV25B FROM 0 GIVING MV25B.                              CM000048
00252   012230      MOVE 27 TO A.                                                    CM000048
00253   012240      MOVE 9 TO B.                                                     CM000048
00254   013010      ADD C, 140 GIVING D.                                             CM000048
00255   013020 Q.   PERFORM DMAKE-NEG THRU DMOVE-DATA 4 TIMES                        CM000048
00256   013030      ADD 1 TO B.                                                      CM000048
00257   013040      PERFORM DMAKE-NUMERIC THRU DMOVE-DATA 2 TIMES.                   CM000048
00258   013050 P.   IF       N-SW = 1  MOVE 0 TO N-SW                                CM000048
00259   013060      SUBTRACT PSI1 FROM 0 GIVING PSI1.                                CM000048
00260   013070 O.   MOVE 20 TO B.                                                    CM000048
00261   013080      PERFORM DMOVE-DATA.                                              CM000048
00262   013090      PERFORM DMAKE-NEG  THRU DMOVE-DATA 3 TIMES.                      CM000048
00263   013100      ADD 1 TO B.                                                      CM000048
00264   013110      PERFORM DMAKE-NUMERIC THRU DMOVE-DATA 3 TIMES.                   CM000048
00265   013120 N.   IF      N-SW  = 1   MOVE 0 TO N-SW                               CM000048
00266   013130      SUBTRACT PSIMV1 FROM 0 GIVING PSIMV1.                            CM000048
00267   013140      MOVE 59 TO B.                                                    CM000048
00268   013150      PERFORM V.                                                       CM000048
00269   013160      IF M-SW = 1   MOVE 0 TO M-SW                                     CM000048
00270   013170      MULTIPLY MV50A BY -1 GIVING MV50A.                               CM000048
00271   013180      PERFORM T.                                                       CM000048
00272   013190      IF M-SW = 1  MOVE 0 TO M-SW                                      CM000048
00273   013200      MULTIPLY MV50B BY -1 GIVING MV50B.                               CM000048
00274   013210      ADD 1 TO A.  MOVE 9 TO B.                                        CM000048
00275   013220      PERFORM Q.                                                       CM000048
00276   013230      IF      N-SW  = 1   MOVE 0 TO N-SW                               CM000048
00277   013240      SUBTRACT PSI2 FROM 0 GIVING PSI2.                                CM000048
00278   013250      PERFORM O.                                                       CM000048
00279   014010      IF        N-SW = 1 MOVE 0 TO N-SW                                CM000048
00280   014020      SUBTRACT PSIMV2  FROM 0 GIVING PSIMV2.                           CM000048
00281   014030      MOVE 59 TO B.                                                    CM000048
00282   014040      PERFORM V.                                                       CM000048
```

6

```
00283   014050     IF M-SW = 1    MOVE 0 TO M-SW                              CM000048
00284   014060     MULTIPLY MV75A  BY -1 GIVING MV75A.                        CM000048
00285   014070     PERFORM T.                                                 CM000048
00286   014080     IF M-SW = 1  MOVE 0 TO M-SW                                CM000048
00287   014090     SUBTRACT MV75B FROM 0 GIVING MV75B.                        CM000048
00288   014100     MOVE 29 TO A    MOVE 9 TO B.                               CM000048
00289   014110     PERFORM Q.                                                 CM000048
00290   014120     IF         N-SW = 1 MOVE 0 TO N-SW                         CM000048
00291   014130     MULTIPLY PSI3 BY -1 GIVING PSI3.                           CM000048
00292   014140     PERFORM O.                                                 CM000048
00293   014150     IF         N-SW = 1  MOVE 0 TO N-SW                        CM000048
00294   014160     MULTIPLY PSIMV3 BY -1 GIVING PSIMV3.                       CM000048
00295   014170     MOVE 59 TO B.                                              CM000048
00296   014180     PERFORM V.                                                 CM000048
00297   014190     IF M-SW = 1  MOVE 0 TO M-SW                                CM000048
00298   014200     COMPUTE MV100A = MV100A * -1.                              CM000048
00299   014210     PERFORM T.                                                 CM000048
00300   014220     IF M-SW = 1  MOVE 0 TO M-SW                                CM000048
00301   014230     COMPUTE MV100B =  (0 - MV100B).                            CM000048
00302   014240     MOVE 30 TO A.   MOVE 9 TO B.                               CM000048
00303   014250     PERFORM Q.                                                 CM000048
00304   015010     IF         N-SW = 1 MOVE 0 TO N-SW                         CM000048
00305   015020     COMPUTE  PSI4 = (PSI4 * -1).                               CM000048
00306   015030     PERFORM O.                                                 CM000048
00307   015040     IF         N-SW = 1 MOVE 0 TO N-SW                         CM000048
00308   015050     COMPUTE PSIMV4  = (PSIMV4 * -1).                           CM000048
00309   015060     MOVE 59 TO B.                                              CM000048
00310   015070     PERFORM V.                                                 CM000048
00311   015080     IF M-SW = 1  MOVE 0 TO M-SW                                CM000048
00312   015090     COMPUTE MV75AA = (0 - MV75AA).                             CM000048
00313   015100     PERFORM T.                                                 CM000048
00314   015110     IF M-SW = 1  MOVE 0 TO M-SW                                CM000048
00315   015120     COMPUTE MV75BB = (0 - MV75BB).                             CM000048
00316   015130     MOVE 31 TO A  MOVE 9 TO B.                                 CM000048
00317   015140     PERFORM Q.                                                 CM000048
00318   015150     IF         N-SW = 1 MOVE 0 TO N-SW                         CM000048
00319   015160     COMPUTE PSI5 = (PSI5 / -1).                                CM000048
00320   015170     PERFORM O.                                                 CM000048
00321   015180     IF         N-SW = 1 MOVE 0 TO N-SW                         CM000048
00322   015190     COMPUTE PSIMV5 = (PSIMV5 * -1).                            CM000048
00323   015200     MOVE 59 TO B.                                              CM000048
00324   015210     PERFORM V.                                                 CM000048
00325   015220     IF M-SW = 1 MOVE 0 TO M-SW                                 CM000048
00326   015230     COMPUTE MV50AA = (MV50AA / -1).                            CM000048
00327   015240     PERFORM T.                                                 CM000048
00328   015250     IF M-SW = 1 MOVE 0 TO M-SW                                 CM000048
00329   016010     COMPUTE MV50BB = MV50BB * -1.                              CM000048
00330   016020     MOVE 32 TO A.   MOVE 9 TO B.                               CM000048
00331   016030     PERFORM Q.                                                 CM000048
00332   016040     IF         N-SW = 1 MOVE 0 TO N-SW                         CM000048
00333   016050     COMPUTE PSI6 = (0 - PSI6).                                 CM000048
00334   016060     PERFORM O.                                                 CM000048
00335   016070     IF         N-SW = 1 MOVE 0 TO N-SW                         CM000048
00336   016080     COMPUTE PSIMV6 = (PSIMV6 * -1).                            CM000048
00337   016090     MOVE 59 TO B.                                              CM000048
00338   016100     PERFORM V.                                                 CM000048
00339   016110     IF M-SW = 1 MOVE 0 TO M-SW                                 CM000048
```

7

```
00340    016120       COMPUTE MV25AA = (MV25AA * -1).                                CM000048
00341    016130       PERFORM T.                                                      CM000048
00342    016140       IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00343    016150       CJMPUTE MV25BB = (MV25BB * -1).                                 CM000048
00344    016160       MOVE 33 TO A.   MOVE 9 TO 8.                                    CM000048
00345    016170       PERFORM Q.                                                      CM000048
00346    016180       IF        N-SW = 1 MOVE 0 TO N-SW                               CM000048
00347    016190       COMPUTE PSI7 = (0 - PSI7).                                      CM000048
00348    016200       PERFORM O.                                                      CM000048
00349    016210       IF        N-SW = 1 MOVE 0 TO N-SW                               CM000048
00350    016220       SUBTRACT PSIMV7 FROM 0 GIVING PSIMV7.                           CM000048
00351    016230       MOVE 59 TO B.                                                   CM000048
00352    016240       PERFORM V.                                                      CM000048
00353    016250       IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00354    017010       COMPUTE MVOAA = (MVOAA * -1).                                   CM000048
00355    017020       PERFORM T.                                                      CM000048
00356    017030       IF M-SW = 1  MOVE 0 TO M-SW                                     CM000048
00357    017040       CJMPUTE MVOBB = (MVOBB * -1).                                   CM000048
00358    017050       MOVE 37 TO A.  MOVE 65 TO B.    MOVE 0 TO C.                    CM000048
00359    017060       PERFORM MOVE-DATA 3 TIMES.                                      CM000048
00360    017070       ADD 3 TO 8.                                                     CM000048
00361    017080       PERFORM MOVE-DATA 3 TIMES.                                      CM000048
00362    017090       MJVE 38 TO A.   MOVE 18 TO 8.                                   CM000048
00363    017100 K.    PERFORM MAKE-NEG THRU MOVE-DATA 3 TIMES.                        CM000048
00364    017110       ADD 1 TO 8.                                                     CM000048
00365    017120       PERFORM MAKE-NUMERIC THRU MOVE-DATA 2 TIMES.                    CM000048
00366    017130 H.    IF M-SW = 1  MOVE 0 TO M-SW                                     CM000048
00367    017140       CJMPUTE GOUT-AT = (GOUT-AT * -1).                               CM000048
00368    017150       MJVE 29 TJ B.                                                   CM000048
00369    017160       PERFORM MAKE-NEG THRU MOVE-DATA 3 TIMES.                        CM000048
00370    017170       ADD 1 TO 8.                                                     CM000048
00371    017180       PERFORM MAKE-NUMERIC THRU MOVE-DATA 3 TIMES.                    CM000048
00372    017190       IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00373    017200       COMPUTE GOUTPSIA = (GOUTPSIA * -1).                             CM000048
00374    017210       MOVE 71 TJ 8.                                                   CM000048
00375    017220       PERFORM MOVE-DATA 2 TIMES.                                      CM000048
00376    017230       MOVE 78 TO 8.                                                   CM000048
00377    017240       PERFORM MOVE-DATA 2 TIMES.                                      CM000048
00378    017250       MJVE 39 TO A.   MOVE 18 TO B.                                   CM000048
00379    018010 L.    PERFORM MAKE-NEG THRU MOVE-DATA 3 TIMES.                        CM000048
00380    018020       ADD 1 TO B.                                                     CM000048
00381    018030       PERFORM MAKE-NUMERIC THRU MOVE-DATA 3 TIMES.                    CM000048
00382    018040 J.    IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00383    018050       COMPUTE GUNBALANCE = (GUNBALANCE * -1).                         CM000048
00384    018060       MOVE 42 TO 8.                                                   CM000048
00385    018070       PERFORM MOVE-DATA.                                              CM000048
00386    018080       MJVE 69 TJ 8.                                                   CM000048
00387    018090 F.    PERFORM MAKE-NEG THRU MOVE-DATA 4 TIMES.                        CM000048
00388    018100       ADD 1 TO 8.                                                     CM000048
00389    018110       PERFORM MAKE-NUMERIC THRU MOVE-DATA 2 TIMES.                    CM000048
00390    018120 GA.   IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00391    018130       COMPUTE GRCAL-TKN = (GRCAL-TKN * -1).                           CM000048
00392    018140       MOVE 80 TO 8.                                                   CM000048
00393    018150       PERFORM MOVE-DATA.                                              CM000048
00394    018160       MOVE 40 TO A.   MOVE 19 TO 8.                                   CM000048
00395    018170       PERFORM L.                                                      CM000048
00396    018180       IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
```

```
00397    018190      COMPUTE GFS-SEN = (GFS-SEN * -1).                               CM000048
00398    018200      MOVE 41 TO A.   MOVE 20 TO B.                                   CM000048
00399    018210      PERFORM K.                                                      CM000048
00400    018220      IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00401    018230      COMPUTE GMAX-N-LIN = (GMAX-N-LIN * -1).                         CM000048
00402    018240      MOVE 42 TO A.   MOVE 19 TO B.                                   CM000048
00403    018250      PERFORM F.                                                      CM000048
00404    019010      IF M-SW = 1   MOVE 0 TO M-SW                                    CM000048
00405    019020      COMPUTE GMAX-HYST = (GMAX-HYST * -1).                           CM000048
00406    019030      MOVE 43 TO A.   MOVE 21 TO B.                                   CM000048
00407    019040      PERFORM MAKE-NEG THRU MOVE-DATA 2 TIMES.                        CM000048
00408    019050      ADD 1 TO B                                                      CM000048
00409    019060      PERFORM MAKE-NEG THRU MOVE-DATA 2 TIMES.
00410    019061      IF N-SW = 1 MOVE 0 TO N-SW MOVE 99.99 TO GMAX-N-REPT.
00411    019070      IF M-SW = 0   MOVE 0 TO M-SW                                    CM000048
00412    019080      COMPUTE GMAX-N-REPT = (GMAX-N-REPT * -1).                       CM000048
00413    019090      MOVE 81 TO B.                                                   CM000048
00414    019100      PERFORM MOVE-DATA.                                              CM000048
00415    019110      MOVE 46 TO A. MOVE 49 TO B.                                     CM000048
00416    019120 II.  PERFORM MAKE-NEG THRU MOVE-DATA 5 TIMES.                        CM000048
00417    019130      ADD 1 TO B.                                                     CM000048
00418    019140      PERFORM MAKE-NUMERIC THRU MOVE-DATA.                            CM000048
00419    019150.JJ.  IF M-SW = 1  MOVE 0 TO M-SW                                     CM000048
00420    019160      COMPUTE G-RN01 = (G-RN01 * -1).                                 CM000048
00421    019170 KK.  PERFORM MAKE-NEG THRU MOVE-DATA 7 TIMES.                        CM000048
00422    019180      ADD 1 TO B.                                                     CM000048
00423    019190      PERFORM MAKE-NUMERIC THRU MOVE-DATA 3 TIMES.                    CM000048
00424    019200 LL.  IF M-SW = 1 MULTIPLY G-RN02 BY -1 GIVING G-RN02                 CM000048
00425    019210      MOVE 0 TO M-SW.                                                 CM000048
00426    019220      PERFORM CC.                                                     CM000048
00427    019230      IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00428    019240      COMPUTE G-RN03 = (G-RN03 * -1).                                 CM000048
00429    019241      IF N-SW = 1 MOVE 99999.99 TO G-RN03  MOVE 0 TO N-SW.
00430    019250      ADD C, 151 GIVING D.                                            CM000048
00431    020010      MOVE 47 TO A    MOVE 24 TO B.                                   CM000048
00432    020020      PERFORM DMAKE-NUMERIC THRU DMOVE-DATA 2 TIMES.                  CM000048
00433    020030      ADD 1 TO B                                                      CM000048
00434    020040      PERFORM  DMAKE-NUMERIC THRU DMOVE-DATA 2 TIMES.                 CM000048
00435    020050      ADD 1 TO B.                                                     CM000048
00436    020060      PERFORM  DMAKE-NUMERIC THRU DMOVE-DATA 2 TIMES.                 CM000048
00437    020070      MOVE 49 TO B.                                                   CM000048
00438    020080 AA.  PERFORM MAKE-NEG THRU MOVE-DATA 5 TIMES.                        CM000048
00439    020090      ADD 1 TO B.                                                     CM000048
00440    020100      PERFORM MAKE-NUMERIC THRU MOVE-DATA 3 TIMES.                    CM000048
00441    020110 BB.  IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00442    020120      COMPUTE G-RN11 = (G-RN11 * -1).                                 CM000048
00443    020130      PERFORM AA.                                                     CM000048
00444    020140      IF M-SW = 1 MOVE 0 TO M-SW                                      CM000048
00445    020150      COMPUTE G-RN12 = (G-RN12 * -1).                                 CM000048
00446    020160 CC.  PERFORM MAKE-NEG THRU MOVE-DATA 5 TIMES.                        CM000048
00447    020170      ADD 1 TO B.                                                     CM000048
00448    020180      PERFORM MAKE-NUMERIC THRU MOVE-DATA 2 TIMES.                    CM000048
00449    020190 DD.  IF M-SW = 1  MOVE 0 TO M-SW                                     CM000048
00450    020200      COMPUTE G-RN13 = (G-RN13 * -1).                                 CM000048
00451    020210 EE.  PERFORM MAKE-NEG THRU MOVE-DATA 6 TIMES.                        CM000048
00452    020220      ADD 1 TO B.                                                     CM000048
00453    020230      PERFORM MAKE-NUMERIC THRU MOVE-DATA 3 TIMES.                    CM000048
```

9

```
00454    020240 FF.  IF M-SW = 1  MOVE 0 TO M-SW                               CM000048
00455    020250      COMPUTE G-RN14 = (G-RN14 * -1).                           CM000048
00456    021010      IF N-SW = 1 MOVE 999999.999  TO G-RN14 MOVE 0 TO N-SW.    CM000048
00457    021020      MOVE 48 TO A. MOVE 49 TO B.                               CM000048
00458    021030      PERFORM AA.                                               CM000048
00459    021040      IF M-SW = 1  MOVE 0 TO M-SW                               CM000048
00460    021050      COMPUTE G-RN21 = (G-RN21 * -1).                           CM000048
00461    021060      PERFORM AA.                                               CM000048
00462    021070      IF M-SW = 1  MOVE 0 TO M-SW                               CM000048
00463    021080      COMPUTE G-RN22 = (G-RN22 * -1).                           CM000048
00464    021090      PERFORM CC.                                               CM000048
00465    021100      IF M-SW = 1 MOVE 0 TO M-SW                                CM000048
00466    021110      COMPUTE G-RN23 = (G-RN23 * -1).                           CM000048
00467    021120      PERFORM EE.                                               CM000048
00468    021130      IF M-SW = 1 MOVE 0 TO M-SW                                CM000048
00469    021140      COMPUTE G-RN24 = (0 - G-RN24).                            CM000048
00470    021150      IF N-SW = 1 MOVE 999999.999 TO G-RN24 MOVE 0 TO N-SW.     CM000048
00471    021160      MOVE 49 TO A.   MOVE 18 TO B.                             CM000048
00472    021170      PERFORM DMAKE-NEG THRU DMOVE-DATA 3 TIMES                 CM000048
00473    021180      ADD 1 TO B.                                               CM000048
00474    021190      PERFORM DMAKE-NUMERIC THRU DMOVE-DATA 2 TIMES.            CM000048
00475    021200      IF N-SW = 1  MOVE 0 TO N-SW                               CM000048
00476    021210      MOVE 999.99 TO GOP-AT.                                    CM000048
00477    021220      IF M-SW = 1 MOVE 0 TO M-SW                                CM000048
00478    021230      COMPUTE GOP-AT =  (GOP-AT * -1).                          CM000048
00479    021240      MOVE 29 TO B.
00480    021250 GG.  PERFORM DMAKE-NEG      THRU DMOVE-DATA 3 TIMES.           CM000048
00481    022010      ADD 1 TO B.                                               CM000048
00482    022020      PERFORM DMAKE-NUMERIC THRU DMOVE-DATA 3 TIMES.            CM000048
00483    022030 HH.  IF N-SW = 1 MOVE 0 TO N-SW                                CM000048
00484    022040      MOVE 999.999 TO GOP-PSIA.                                 CM000048
00485    022050      IF M-SW = 1 MOVE 0 TO M-SW                                CM000048
00486    022060      COMPUTE GOP-PSIA = (GOP-PSIA * -1).                       CM000048
00487    022070      MOVE 49 TO B.                                             CM000048
00488    022080      PERFORM AA.                                               CM000048
00489    022090      IF M-SW = 1  MOVE 0 TO M-SW                               CM000048
00490    022100      COMPUTE G-RN31 = (G-RN31 * -1).                           CM000048
00491    022110      PERFORM AA.                                               CM000048
00492    022120      IF M-SW = 1  MOVE 0 TO M-SW                               CM000048
00493    022130      COMPUTE G-RN32 = (G-RN32 * -1).                           CM000048
00494    022140     \PERFORM CC.                                               CM000048
00495    022150      IF M-SW = 1  MOVE 0 TO M-SW                               CM000048
00496    022160      COMPUTE G-RN33 = (G-RN33 * -1).                           CM000048
00497    022170      PERFORM EE.                                               CM000048
00498    022180      IF M-SW = 1  MOVE 0 TO M-SW                               CM000048
00499    022190      COMPUTE G-RN34 = (0 - G-RN34).                            CM000048
00500    022200      IF N-SW = 1  MOVE 0 TO N-SW                               CM000048
00501    022210      MOVE 999999.999 TO G-RN34.                                CM000048
00502    022220      MOVE 59 TO A. MOVE 18 TO B.                               CM000048
00503    022230      PERFORM GG.                                               CM000048
00504    022240      IF M-SW = 1 MOVE 0 TO M-SW                                CM000048
00505    022250      COMPUTE GOP-UNB = GOP-UNB * -1.                           CM000048
00506    023010      IF N-SW = 1 MOVE 0 TO N-SW                                CM000048
00507    023020      MOVE 999.999 TO GOP-UNB.                                  CM000048
00508    023030      MOVE 49 TO B.                                             CM000048
00509    023040      PERFORM AA.                                               CM000048
00510    023050      IF M-SW = 1  MOVE 0 TO M-SW                               CM000048
```

```
00511   023060       COMPUTE G-RN41 = G-RN41 * -1.                                  CM000048
00512   023070       PERFORM AA.                                                    CM000048
00513   023080       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00514   023090       COMPUTE G-RN42 = (0 - G-RN42).                                 CM000048
00515   023100       PERFORM CC.                                                    CM000048
00516   023110       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00517   023120       COMPUTE G-RN43 = (G-RN43 * -1).                                CM000048
00518   023130       PERFORM EE.                                                    CM000048
00519   023140       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00520   023150       COMPUTE G-RN44 = G-RN44 * -1.                                  CM000048
00521   023160       IF N-SW = 1 MOVE 0 TO N-SW                                     CM000048
00522   023170       MOVE 999999.999 TO G-RN44.                                     CM000048
00523   023180       MOVE 51 TO A.   MOVE 19 TO B.                                  CM000048
00524   023190       PERFORM GG.                                                    CM000048
00525   023200       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00526   023210       COMPUTE GOP-FSS = GOP-FSS * -1.                                CM000048
00527   023220       IF N-SW = 1 MOVE 0 TO N-SW                                     CM000048
00528   023230       MOVE 999.999 TO GOP-FSS.                                       CM000048
00529   023240       MOVE 49 TO B.                                                  CM000048
00530   023250       PERFORM II.                                                    CM000048
00531   024010       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00532   024020       COMPUTE G-RNL1 = G-RNL1 * -1.                                  CM000048
00533   024030       PERFORM KK.                                                    CM000048
00534   024040       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00535   024050       COMPUTE G-RNL2 = G-RNL2 * -1.                                  CM000048
00536   024060       PERFORM CC.                                                    CM000048
00537   024070       IF M-SW = 1  MOVE 0 TO M-SW                                    CM000048
00538   024080       COMPUTE G-RNL3 = G-RNL3 * -1.                                  CM000048
00539   024090       MOVE D TO C.                                                   CM000048
00540   024100       MOVE 52 TO A. MOVE 20 TO B.                                    CM000048
00541   024110       PERFORM K.
00542   024120       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00543   024130       COMPUTE BMAX-N-LIN = (BMAX-N-LIN * -1).                        CM000048
00544   024140       IF N-SW = 1 MOVE 9999.99 TO BMAX-N-LIN MOVE 0 TO N-SW.         CM000048
00545   024150       MOVE 53 TO A. MOVE 19 TO B.                                    CM000048
00546   024160       PERFORM F.                                                     CM000048
00547   024170       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00548   024180       COMPUTE BMAX-HYST = (BMAX-HYST * -1).                          CM000048
00549   024190       IF N-SW = 1 MOVE 9999.99 TO BMAX-HYST MOVE 0 TO N-SW.          CM000048
00550   024200       MOVE 54 TO A.  MOVE 21 TO B.                                   CM000048
00551   024210       PERFORM MAKE-NEG THRU MOVE-DATA 2 TIMES.                        CM000048
00552   024220       ADD 1 TO B.                                                    CM000048
00553   024230       PERFORM MAKE-NUMERIC THRU MOVE-DATA 2 TIMES.                    CM000048
00554   024240       IF M-SW = 1 MOVE 0 TO M-SW                                     CM000048
00555   024250       COMPUTE BMAX-N-REPT = BMAX-N-REPT * -1.                        CM000048
00556   025010       IF N-SW = 1 MOVE 0 TO N-SW                                     CM000048
00557   025020       MOVE 99.99 TO BMAX-N-REPT.                                     CM000048
00558   025030       MOVE 65 TO B.                                                  CM000048
00559   025040       PERFORM MOVE-DATA 20 TIMES.                                    CM000048
00560   025050       MOVE 57 TO A.   MOVE 64 TO B.                                  CM000048
00561   025060       PERFORM NN. MOVE 77 TO B.                                      CM000048
00562   025070       PERFORM NN.                                                    CM000048
00563   025080       WRITE GOT.                                                     CM000048
00564   025100       GO TO FIRS.                                                    CM000048
00565   025110 G-EOF.                                                               CM000048
00566   025120       CLOSE GIL-IN GIL-OT.                                           CM000048
00567   025130       STOP RUN.                                                      CM000048
```

II

```
00568    026010 READ-GILMORE.                                                     CM000048
00569    026020     READ GIL-IN AT ENO GO TO G-EOF.                               CM000048
00570    026030     ADD 1 TO A                                                    CM000048
00571    026040     MOVE GIN TO GIL-REC (A).                                      CM000048
00572    026050 MAKE-NEG.                                                         CM000048
00573    026060     IF G (A, B) = '-' MOVE 1 TO M-SW                              CM000048
00574    026070     MOVE SPACE TO G (A, B).                                       CM000048
00575                IF G (A, B) = '*' MOVE 1 TO N-SW.
00576    026080 MAKE-NUMERIC.                                                     CM000048
00577    026090     IF G (A, B) = SPACE  MOVE 'O' TO G (A, B).                    CM000048
00578    026100     IF G (A, B) = 'N' OR G (A, B) = 'A' MOVE 1 TO N-SW.           CM000048
00579    026110 MOVE-DATA.                                                        CM000048
00580    026120     MOVE G (A, B) TO GIL (C).                                     CM000048
00581    026130     ADD 1 TO B.  AOO 1 TO C.                                      CM000048
00582    026140 DMAKE-NEG.                                                        CM000048
00583    026150     IF G (A, B) = '-' MOVE 1 TO M-SW                              CM000048
00584    026160     MOVE SPACE TO G (A, B).                                       CM000048
00585                IF G (A, B) = '*' MOVE 1 TO N-SW.
00586    026170 OMAKE-NUMERIC.                                                    CM000048
00587    026180     IF G (A, B) = SPACE MOVE 'O' TO G (A, B).                     CM000048
00588    026190     IF G (A, B) = 'N' OR G (A, B) = 'A' MOVE 1 TO N-SW.           CM000048
00589    026200 DMOVE-DATA.                                                       CM000048
00590    026210     MOVE G (A, B) TO GIL (O).                                     CM000048
00591    026220     ADD 1 TO B.  ADD 1 TO D.                                      CM000048
```

```
1
00001       01 IDENTIFICATION DIVISION.                                         CM000020
00002   001010 PROGRAM-ID. 'CM000023'.                                          CM000023
00003 **    04 ENVIRONMENT DIVISION.                                            CM000020
00004       05 CONFIGURATION SECTION.                                           CM000020
00005       06 SOURCE-COMPUTER.    IBM-360 H50.                                 CM000020
00006       07 OBJECT-COMPUTER.    IBM-360 H50.                                 CM000020
00007       08 INPUT-OUTPUT SECTION.                                            CM000020
00008       09 FILE-CONTROL.                                                    CM000020
00009       10                     SELECT A-FILE ASSIGN 'AFILEREC' UTILITY.     CM000020
00010       11                     SELECT B-FILE ASSIGN 'BFILEREC' UTILITY.     CM000020
00011       12                     SELECT C-FILE ASSIGN 'CFILEREC' UTILITY.     CM000020
00012     1030                 SELECT AOUT ASSIGN 'AOUTREC' UTILITY.
00013     1040                 SELECT BOUT ASSIGN 'BOUTREC' UTILITY.
00014     1050                 SELECT COUT ASSIGN 'COUTREC' UTILITY.
00015 **    01 DATA DIVISION.                                                   CM000020
00016       02 FILE SECTION.                                                    CM000020
00017       03 FD  A-FILE      RECORD CONTAINS 80 CHARACTERS                    CM000020
00018       04                 LABEL RECORDS ARE STANDARD                       CM000020
00019       05                 RECORDING MODE IS F                              CM000020
00020       06                 BLOCK CONTAINS 1 RECORDS                         CM000020
00021       07                 DATA RECORD IS A-REC.                            CM000020
00022       08 01  A-REC.                                                       CM000020
00023       09     02  FILLER  PICTURE X(3).
00024       10     02  FILLER  PICTURE 9.
00025       11     02  FILLER  PICTURE X(76).
00026       14 FD  B-FILE      RECORD CONTAINS 80 CHARACTERS                    CM000020
00027       15                 LABEL RECORDS ARE STANDARD                       CM000020
00028       16                 RECORDING MODE IS F                              CM000020
00029       17                 BLOCK CONTAINS 1 RECORDS                         CM000020
00030       18                 DATA RECORD IS B-REC.                            CM000020
00031       19 01  B-REC.                                                       CM000020
00032 **    19     02  FILLER  PICTURE X(4).
00033       20     02  FILLER  PICTURE 9.
00034       21     02  FILLER  PICTURE X(75).
00035 **    01 FD  C-FILE      RECORD CONTAINS 80 CHARACTERS                    CM000020
00036       02                 LABEL RECORDS ARE STANDARD                       CM000020
00037       03                 RECORDING MODE IS F                              CM000020
00038       04     BLOCK CONTAINS 1 RECORDS                                     CM000020
00039       05                 DATA RECORD IS C-REC.                            CM000020
00040       06 01  C-REC.                                                       CM000020
00041       45     02  FILLER  PICTURE X(4).
00042      451     02  FILLER  PICTURE 9.
00043      452     02  FILLER  PICTURE X(75).
00044   001060 FD  AOUT        RECORD CONTAINS 80 CHARACTERS                    CM000023
00045   001070                 LABEL RECORDS ARE STANDARD                       CM000023
00046   001080                 RECORDING MODE IS F                              CM000023
00047   001090                 BLOCK CONTAINS 45 RECORDS                        CM000023
00048   001100                 DATA RECORD IS ACARD.                            CM000023
00049   001110 01  ACARD.                                                       CM000023
00050 **  1120     02  FILLER  PICTURE X(3).
00051     1121     02  FILLER  PICTURE 9.
00052     1122     02  FILLER  PICTURE X(76).
00053   001130 FD  BOUT        RECORD CONTAINS 80 CHARACTERS                    CM000023
00054   001140                 LABEL RECORDS ARE STANDARD                       CM000023
```

2

```
00055    001150                    RECORDING MODE IS F                                  CM000023
00056    001160                    BLOCK CONTAINS 45 RECORDS                            CM000023
00057    001170                    DATA RECORD IS BCARD.                                CM000023
00058    001180 01   BCARD.                                                             CM000023
00059 ** 1180        02   FILLER   PICTURE X(4).
00060    1181        02   FILLER   PICTURE 9.
00061    1182        02   FILLER   PICTURE X(75).
00062    001200 FD   COUT          RECORD CONTAINS 80 CHARACTERS                        CM000023
00063    001210                    LABEL RECORDS ARE STANDARD                           CM000023
00064    001220                    RECORDING MODE IS F                                  CM000023
00065    001230                    BLOCK CONTAINS 45 RECORDS                            CM000023
00066    001240                    DATA RECORD IS CCARD.                                CM000023
00067 ** 2010   01   C-CARD.
00068    2020        02   FILLER   PICTURE X(4).
00069    2021        02   FILLER   PICTURE 9.
00070    2022        02   FILLER   PICTURE X(75).
00071 **   19   WORKING-STORAGE SECTION.                                                CM000020
00072      20        77   LN-CT    PICTURE S99 COMPUTATIONAL-3 VALUE ZERO.              CM000020
00073    002030 PROCEDURE DIVISION.                                                     CM000023
00074    002040 START. OPEN INPUT A-FILE. OPEN INPUT B-FILE. OPEN INPUT C-FILE.         CM000023
00075    002050      OPEN OUTPUT AOUT. OPEN OUTPUT BOUT. OPEN OUTPUT COUT.              CM000023
00076    002060 A-READ. READ A-FILE AT END GO TO B-ENTRY..                              CM000023
00077    002070      WRITE ACARD FROM A-REC. GO TO A-READ.                              CM000023
00078    002080 B-ENTRY. READ B-FILE AT END GO TO C-ENTRY.                              CM000023
00079    002090      WRITE BCARD FROM B-REC. GO TO B-ENTRY.                             CM000023
00080    002100 C-ENTRY. READ C-FILE AT END GO TO ENDIT.                                CM000023
00081    002110      WRITE C-CARD FROM C-REC. GO TO C-ENTRY.                            CM000023
00082    002120 ENDIT. CLOSE A-FILE. CLOSE B-FILE. CLOSE C-FILE. CLOSE AOUT.            CM000023
00083    002130      CLOSE BOUT. CLOSE COUT.                                            CM000023
00084    002140      STOP RUN.                                                          CM000023
```

```
00001    00101  IDENTIFICATION DIVISION.                                             CM000050
00002    00102  PROGRAM-ID. 'CMC00050'.                                              CM000050
00003    00103  AUTHOR. JACK ROSE.                                                   CM000050
00004    00104  INSTALLATION.  ARO INC  TULLAHOMA  TENN.                             CM000050
00005    00105  DATE-WRITTEN. OCT 16, 1967.                                          CM000050
00006    00106  DATE-COMPILED. DEC 14,1968                                           CM000050
00007    00107  SECURITY.                                                            CM000050
00008    00108  REMARKS.    PROGRAM SELECTS MOST RECENT TRANSDUCER FROM GILMORE. CM000050
00009    00109  ENVIRONMENT DIVISION.                                                CM000050
00010    00110  CONFIGURATION SECTION.                                               CM000050
00011    00111  SOURCE-COMPUTER. IBM-360 H50.                                        CM000050
00012    00112  OBJECT-COMPUTER. IBM-360 H50.                                        CM000050
00013    00113  INPUT-OUTPUT SECTION.                                                CM000050
00014    00114  FILE-CONTROL.                                                        CM000050
00015    00115      SELECT  GIL-IN  ASSIGN  'I001'  UTILITY.                         CM000050
00016    00116      SELECT  GIL-OUT ASSIGN  '0001'  UTILITY.                         CM000050
00017    00117  DATA DIVISION.                                                       CM000050
00018    00118  FILE SECTION.                                                        CM000050
00019    00219  FD  GIL-IN  RECORDING F   BLOCK 1 RECORDS   RECORD 747               CM000050
00020    00220                    LABEL RECORDS STANDARD   DATA RECORD IGIL.         CM000050
00021    00221  01  IGIL.                                                            CM000050
00022    00222      02  FILLER   PICTURE   X(10).                                    CM000050
00023    00223      02  INSTR-NO PICTURE   X(16).                                    CM000050
00024    00224      02  FILLER   PICTURE   X(104).                                   CM000050
00025    00225      02  CAL-DATE.                                                    CM000050
00026 **00201           03  CMO      PICTURE 99.                                     CM000050
00027    00202           03  CDY      PICTURE 99.                                     CM000050
00028    00203           03  CYR      PICTURE 99.                                     CM000050
00029    00204      02  FILLER       PICTURE X(611).                                 CM000050
00030    00206  FD  GIL-OUT      RECORDING F  BLOCK 1 RECORDS  RECORD 747            CM000050
00031    00207                   LABEL RECORDS STANDARD  DATA RECORD OGIL.           CM000050
00032    00208  01  OGIL.                                                            CM000050
00033    00209      02  FILLER  PICTURE X(747).                                      CM000050
00034    00210  WORKING-STORAGE SECTION.                                             CM000050
00035    00211  77  INS-SW       PICTURE  X(16)  VALUE SPACE.                        CM000050
00036    003010 PROCEDURE DIVISION.                                                  CM000050
00037    00302      OPEN INPUT GIL-IN  OUTPUT GIL-OUT.                               CM000050
00038    00303      READ GIL-IN AT END GO TO EOF.                                    CM000050
00039    003031 SET-SW.                                                              CM000050
00040    00304      MOVE IGIL TO OGIL.                                               CM000050
00041    00305      MOVE INSTR-NO TO INS-SW.                                         CM000050
00042    00306  READG.                                                               CM000050
00043    00307      READ GIL-IN AT END GO TO EOF.                                    CM000050
00044    00309      IF INSTR-NO = INS-SW MOVE IGIL TO OGIL  GO TO READG.             CM000050
00045    00310      WRITE OGIL.                                                      CM000050
00046    00311      GO TO SET-SW.                                                    CM000050
00047    00312  EOF.                                                                 CM000050
00048    00313      WRITE OGIL.                                                      CM000050
00049    00314      CLOSE GIL-IN GIL-OUT.                                            CM000050
00050    00315      STOP RUN.                                                        CM000050
```

1

```
00001    001010 IDENTIFICATION DIVISION.                                        CM000051
00002    001020 PROGRAM-ID. 'CM000051'.                                         CM000051
00003    001030 AUTHOR. JACK ROSE.                                              CM000051
00004    001040 INSTALLATION. ARO INC  TULLAHOMA  TENN.                         CM000051
00005    001050 DATE-WRITTEN. OCT 26, 1967.                                     CM000051
00006    001060 DATE-COMPILED. DEC 14,1968                                      CM000051
00007    001070 SECURITY.                                                       CM000051
00008    001080 REMARKS.     PROGRAM UPDATES PRESSURE TRANSDUCER ON MASTER.     CM000051
00009    001090 ENVIRONMENT DIVISION.                                           CM000051
00010    001100 CONFIGURATION SECTION.                                          CM000051
00011    001110 SOURCE-COMPUTER. IBM-360 H50.                                   CM000051
00012    001120 OBJECT-COMPUTER. IBM-360 H50.                                   CM000051
00013    001130 INPUT-OUTPUT SECTION.                                           CM000051
00014    001140 FILE-CONTROL.                                                   CM000051
00015    001150     SELECT  GIL-IN  ASSIGN  'I001'  UTILITY.                    CM000051
00016    001160     SELECT  GIL-OUT ASSIGN  'D001'  UTILITY.                    CM000051
00017  **001160     SELECT  MAS-IN  ASSIGN  'M001'  UTILITY.                    CM000051
00018    001170 DATA DIVISION.                                                  CM000051
00019    001180 FILE SECTION.                                                   CM000051
00020    002190 FD  GIL-IN   RECORDING F   BLOCK 1 RECORDS   RECORD 747         CM000051
00021    002200              LABEL RECORDS STANDARD   DATA RECORD IGIL.         CM000051
00022    002210 01  IGIL.                                                       CM000051
00023    002220     02  FILLER   PICTURE    X(10).                              CM000051
00024    002230     02  INSTR-NO PICTURE    X(16).                              CM000051
00025    002240     02  FILLER   PICTURE    X(104).                             CM000051
00026    002250     02  CAL-DATE.                                               CM000051
00027  **002010         03  CMO      PICTURE 99.                                CM000051
00028    002020         03  CDY      PICTURE 99.                                CM000051
00029    002030         03  CYR      PICTURE 99.                                CM000051
00030    002040     02  FILLER       PICTURE X(611).                            CM000051
00031    002060 FD  GIL-OUT      RECORDING F  BLOCK 1 RECORDS  RECORD 747       CM000051
00032    002070                  LABEL RECORDS STANDARD  DATA RECORD OGIL.      CM000051
00033    002080 01  OGIL.                                                       CM000051
00034    002090     02  FILLER  PICTURE X(10).                                  CM000051
00035    002100     02  OINS-NO PICTURE X(16).                                  CM000051
00036    002110     02  FILLER  PICTURE X(721).                                 CM000051
00037    002120 FD  MAS-IN       RECORDING F  BLOCK 1 RECORDS RECORD 747        CM000051
00038    002130                  LABEL RECORDS STANDARD  DATA RECORD MAS.       CM000051
00039    002140 01  MAS.                                                        CM000051
00040    002150     02  FILLER  PICTURE X(10).                                  CM000051
00041    002160     02  MINSN   PICTURE X(16).                                  CM000051
00042    002170     02  FILLER  PICTURE X(721).                                 CM000051
00043    002190 WORKING-STORAGE SECTION.                                        CM000051
00044    003010 PROCEDURE DIVISION.                                             CM000051
00045    003020     OPEN INPUT MAS-IN GIL-IN OUTPUT GIL-OUT.                    CM000051
00046    003030     READ MAS-IN AT END GO TO MEOF.                              CM000051
00047    003040 READ-GIL.                                                       CM000051
00048    003050     READ GIL-IN AT END GO TO GEOF.                              CM000051
00049    003060 CK-INS.                                                         CM000051
00050    003070     IF MINSN < INSTR-NO GO TO LO-MAS.                           CM000051
00051    003080     IF MINSN = INSTR-NO GO TO REPLACE-1.                        CM000051
00052    003090     MOVE IGIL TO OGIL.                                          CM000051
00053    003110     WRITE OGIL.                                                 CM000051
00054    003120     READ GIL-IN AT END GO TO GEOF1.
```

2

```
003121     GO TO CK-INS.
003130 LO-MAS.                                                      CM000051
003140     MOVE MAS TO OGIL                                         CM000051
003160     WRITE OGIL.                                              CM000051
003170 READ-MAS.                                                    CM000051
003180     READ MAS-IN AT END GO TO MEOF.                           CM000051
003190     GO TO CK-INS.                                            CM000051
003200 REPLACE-1.                                                   CM000051
003210     MOVE IGIL TO OGIL.                                       CM000051
003230     WRITE OGIL.                                              CM000051
003240     READ GIL-IN AT END GO TO GEOF.                           CM000051
003250     GO TO READ-MAS.                                          CM000051
003260 GEOF1.
003270     WRITE OGIL FROM MAS.
004010 GEOF.                                                        CM000051
004020     READ MAS-IN AT END GO TO ASEND.                          CM000051
004030     WRITE OGIL FROM MAS.                                     CM000051
004040     GO TO GEOF.                                              CM000051
004050 MEOF.                                                        CM000051
004060     WRITE OGIL FROM IGIL.                                    CM000051
004070     READ GIL-IN AT END GO TO ASEND.                          CM000051
004080     GO TO MEOF.                                              CM000051
004090 ASEND.                                                       CM000051
004100     CLOSE MAS-IN GIL-IN GIL-OUT.                             CM000051
004110     STOP RUN.                                                CM000051
```

```
1

001010 IDENTIFICATION DIVISION.                                                 CM000095
001020 PROGRAM-ID. 'CM000096'.                                                  CM000095
001030 AUTHOR. ROSE.                                                            CM000095
001040 ENVIRONMENT DIVISION.                                                    CM000095
001050 CONFIGURATION SECTION.                                                   CM000095
001060 SOURCE-COMPUTER. IBM-360 H50.                                            CM000095
001070 OBJECT-COMPUTER. IBM-360 H50.                                            CM000095
001080 INPUT-OUTPUT SECTION.                                                    CM000095
001090 FILE-CONTROL.                                                            CM000095
001110     SELECT  HOOK  ASSIGN 'HOOK'  UTILITY.                                CM000095
001120     SELECT  CFILE ASSIGN 'CFILE' UTILITY.                                CM000095
001140     SELECT  LIST  ASSIGN 'LIST'  UTILITY.                                CM000095
001150     SELECT  OCARD ASSIGN 'DCARD' UTILITY.                                CM000095
001170 DATA DIVISION.                                                           CM000095
001180 FILE SECTION.                                                            CM000095
002150 FD  LIST     RECORDING F   BLOCK 12 RECORDS  RECORD 132
002160              LABEL RECORDS OMITTED   DATA RECORD LIT.                    CM000095
002170 01  LIT      PICTURE  X(132).                                            CM000095
003010 FD  CFILE    RECORD CONTAINS 80 CHARACTERS                               CM000095
003020              LABEL RECORDS ARE STANDARD                                  CM000095
003030              RECORDING MODE IS F                                         CM000095
003040              BLOCK CONTAINS 45 RECORDS                                   CM000095
003050              DATA RECORD IS CFIL.                                        CM000095
003060 01  CFIL.                                                                CM000095
003070     02  C1       PICTURE  X(4).                                          CM000095
003080     02  C2       PICTURE  9.                                             CM000095
003090     02  C3       PICTURE  X(7).                                          CM000095
003100     02  C4       PICTURE  X(11).                                         CM000095
003110     02  C5       PICTURE  X(9).                                          CM000095
003120     02  C6       PICTURE  X(9).                                          CM000095
003130     02  C7       PICTURE  X(7).                                          CM000095
003140     02  C8       PICTURE  X(4).                                          CM000095
003150     02  C9       PICTURE  X.                                             CM000095
003160     02  C10      PICTURE  X(9).                                          CM000095
003170     02  C11      PICTURE  X(9).
003180     02  C11B     PICTURE  XXX.                                           CM000095
003190     02  C12      PICTURE  X(6).                                          CM000095
004010 FD  HOOK     RECORDING F  BLOCK 1 RECORDS  RECORD 133                    CM000095
004020              LABEL RECORDS STANDARD  DATA RECORD HOK.                    CM000095
004030 01  HOK.                                                                 CM000095
004040     02  FILLER  PICTURE  X.                                              CM000095
004050     02  HPAR    PICTURE  X(9).                                           CM000095
004060     02  FILLER  PICTURE  X(58).                                          CM000095
004070     02  HUDC    PICTURE  X(5).                                           CM000095
004080     02  FILLER  PICTURE  X(25).                                          CM000095
004090     02  HRDOUT  PICTURE  X(5).                                           CM000095
004100     02  RHRDOUT REDEFINES HRDOUT.                                        CM000095
004110         03  HR1      PICTURE  X.                                         CM000095
004120         03  HR2      PICTURE  X.                                         CM000095
004130         03  HR3      PICTURE  X.                                         CM000095
004131         03  HHR3 REDEFINES  HR3  PICTURE 9.
004140         03  HR45     PICTURE  XX.                                        CM000095
004141         03  RHR45    REDEFINES HR45  PICTURE 99.                         CM000095
004150     02  RRHRDOUT REDEFINES RHRDOUT.                                      CM000095
```

```
2

00055   004160          03  HR12     PICTURE  XX.                                          CM000095
00056   004170          03  HR345    PICTURE  XXX.                                         CM000095
00057   004180          03  R345 REDEFINES HR345  PICTURE 999.                             CM000095
00058   004181      02  HROT REDEFINES HRDOUT.                                             CM000095
00059   004182          03  HRDT1    PICTURE X.                                            CM000095
00060   004183          03  HRD23    PICTURE 99.                                           CM000095
00061   004184          03  HR045    PICTURE XX.                                           CM000095
00062   004210      02  FILLER  PICTURE  X(20).                                            CM000095
00063   004220      02  HITEM   PICTURE  XXXX.                                             CM000095
00064   004230      02  FILLER  PICTURE  X(6).                                             CM000095
00065   005060 FD   DCARD   RECORDING F   BLOCK 1  RECORDS   RECORD 41
00066   005070              LABEL RECORDS STANDARD  DATA RECORD DCAR.                      CM000095
00067   005080 01   DCAR.                                                                  CM000095
00068   005090      02  DR1      PICTURE  X(9).                                            CM000095
00069   005100      02  FILLER  PICTURE  X.                                                CM000095
00070   005110      02  DR2      PICTURE  XX.                                              CM000095
00071   005111      02  RDR   REDEFINES DR2.                                               CM000095
00072   005112          03  RDR1     PICTURE  X.                                           CM000095
00073   005113          03  RDR2     PICTURE  X.                                           CM000095
00074   005120      02  FILLER  PICTURE  X.                                                CM000095
00075   005130      02  DR3      PICTURE  XX.                                              CM000095
00076   005131      02  RDR3 REDEFINES DR3.                                                CM000095
00077   005132          03  DR3A     PICTURE X.                                            CM000095
00078   005133          03  DR3B     PICTURE X.                                            CM000095
00079   005140      02  FILLER  PICTURE  X.                                                CM000095
00080   005150      02  DR4      PICTURE  XX.                                              CM000095
00081   005151      02  RDR4 REDEFINES DR4.                                                CM000095
00082   005152          03  DR4A     PICTURE X.                                            CM000095
00083   005153          03  DR4B     PICTURE X.                                            CM000095
00084   005160      02  FILLER  PICTURE  X.                                                CM000095
00085   005170      02  DR5      PICTURE  XX.                                              CM000095
00086   005171      02  RDR5 REDEFINES DR5.                                                CM000095
00087   005172          03  DR5A     PICTURE X.                                            CM000095
00088   005173          03  DR5B     PICTURE X.                                            CM000095
00089   005180      02  FILLER  PICTURE  X.                                                CM000095
00090   005190      02  DR7      PICTURE  XXX.                                             CM000095
00091   005191      02  RDR7  REDEFINES  DR7.                                              CM000095
00092   005192          03  RDR7A    PICTURE X.                                            CM000095
00093   005193          03  RDR7B    PICTURE 99.                                           CM000095
00094   005194      02  RRDR7 REDEFINES  DR7.                                              CM000095
00095   005195          03  RR7A     PICTURE X.                                            CM000095
00096   005196          03  RR7B     PICTURE X.                                            CM000095
00097   005197          03  RR7C     PICTURE X.                                            CM000095
00098   005200      02  FILLER  PICTURE  X.                                                CM000095
00099   005210      02  DR8      PICTURE  XXX.                                             CM000095
00100   005211      02  RDR8  REDEFINES  DR8.                                              CM000095
00101   005212          03  RDR8A    PICTURE X.                                            CM000095
00102   005213          03  RDR8B    PICTURE XX.                                           CM000095
00103   005220      02  FILLER  PICTURE  X(10).                                            CM000095
00104   005230      02  DR6      PICTURE  XX.                                              CM000095
00105   023010 WORKING-STORAGE SECTION.                                                    CM000095
00106   023020 77   J        PICTURE   999.                                                CM000095
00107   023030 77   K        PICTURE   999.                                                CM000095
00108   023040 77   SW1      PICTURE   9      VALUE 0.                                     CM000095
00109   023050 77   MSW1     PICTURE   9      VALUE 0.                                     CM000095
00110   023060 77   MSW2     PICTURE   9      VALUE 0.                                     CM000095
00111   023070 77   MSW3     PICTURE   9      VALUE 0.                                     CM000095
```

3

```
00112   023080 77  NEG-SW  PICTURE   9     VALUE 0.                                   CM000095
00113   023090 77  JJ      PICTURE   999   VALUE 0.                                   CM000095
00114   023100 77  JECT    PICTURE   99    VALUE 50.                                  CM000095
00115   023110 77  KK      PICTURE   999   VALUE 0.                                   CM000095
00116 **011010 01  SVTABLE.                                                           CM000095
00117   011020        02  SVTABL  OCCURS 60.                                          CM000095
00118   011050            03  SV3     PICTURE  X(9)    OCCURS  12.                    CM000095
00119   011080 01  DOTABLE.                                                           CM000095
00120   011090        02  OIDDLE  OCCURS 7.
00121   011100            03  D01      PICTURE  X       OCCURS  64.
00122   011110            03  DD2      PICTURE  XX      OCCURS  64.                   CM000095
00123   011120            03  003      PICTURE  X(9)    OCCURS  64.                   CM000095
00124   011130            03  OD4      PICTURE  XXX     OCCURS  64.                   CM000095
00125   011140            03  OD5      PICTURE  XX      OCCURS  64.                   CM000095
00126   011150            03  006      PICTURE  X(9)    OCCURS  64.                   CM000095
00127   011160            03  D07      PICTURE  XX      OCCURS  64.                   CM000095
00128   011170            03  008      PICTURE  X(9)    OCCURS  64.                   CM000095
00129   011180            03  OD9      PICTURE  XX      OCCURS  64.                   CM000095
00130   011190            03  OD10     PICTURE  X(9)    OCCURS  64.                   CM000095
00131   011200            03  OD11     PICTURE  XX      OCCURS  64.                   CM000095
00132   011201 01  DOTAB2.
00133   011202        02  OAOOLE  OCCURS 7.
00134   011210            03  OD12     PICTURE  X(9)    OCCURS  64.                   CM000095
00135   011220            03  OD13     PICTURE  XX      OCCURS  64.                   CM000095
00136   011230            03  DD14     PICTURE  X(9)    OCCURS  64.                   CM000095
00137   011240            03  DD15     PICTURE  X(10)   OCCURS  64.                   CM000095
00138   011250            03  DD16     PICTURE  X(14)   OCCURS  64.                   CM000095
00139   011260            03  OOSN     PICTURE  X       OCCURS  64.                   CM000095
00140   019010 01  OOLIST.                                                            CM000095
00141   019020        02  FILLER  PICTURE  X(4)    VALUE SPACE.                       CM000095
00142   019030        02  LDD1    PICTURE  9.                                         CM000095
00143   019040        02  FILLER  PICTURE  XXX     VALUE SPACE.                       CM000095
00144   019050        02  LDD2    PICTURE  99.                                        CM000095
00145   019060        02  FILLER  PICTURE  XX      VALUE SPACE.                       CM000095
00146   019070        02  LOD3    PICTURE  X(9).                                      CM000095
00147   019080        02  FILLER  PICTURE  XX      VALUE SPACE.                       CM000095
00148   019090        02  LDD4    PICTURE  XXX.                                       CM000095
00149   019100        02  FILLER  PICTURE  XX      VALUE SPACE.                       CM000095
00150   019110        02  LDD5    PICTURE  XX.                                        CM000095
00151   019120        02  FILLER1 PICTURE  XX      VALUE SPACE.                       CM000095
00152   019130        02  LDD6    PICTURE  X(9).                                      CM000095
00153   019140        02  FILLER  PICTURE  XX      VALUE SPACE.                       CM000095
00154   019150        02  LDD7    PICTURE  XX.                                        CM000095
00155   019160        02  FILLER2 PICTURE  XX      VALUE SPACE.                       CM000095
00156   019170        02  LDD8    PICTURE  X(9).                                      CM000095
00157   019180        02  FILLER  PICTURE  XX      VALUE SPACE.                       CM000095
00158   019190        02  LDD9    PICTURE  XX.                                        CM000095
00159   019200        02  FILLER3 PICTURE  XX      VALUE SPACE.                       CM000095
00160   019210        02  LDD10   PICTURE  X(9).                                      CM000095
00161   019220        02  FILLER  PICTURE  XX      VALUE SPACE.                       CM000095
00162   019230        02  LDD11   PICTURE  XX.                                        CM000095
00163   019240        02  FILLER4 PICTURE  XX      VALUE SPACE.                       CM000095
00164   019250        02  LDD12   PICTURE  X(9).                                      CM000095
00165   020010        02  FILLER  PICTURE  XX      VALUE SPACE.                       CM000095
00166   020020        02  LDD13   PICTURE  XX.                                        CM000095
00167   020030        02  FILLER5 PICTURE  XX      VALUE SPACE.                       CM000095
00168   020040        02  LDD14   PICTURE  X(9).                                      CM000095
```

4

```
020050      02  FILLER   PICTURE  XX      VALUE SPACE.                       CM000095
020060      02  LOD15    PICTURE  X(10).                                     CM000095
020070      02  FILLER   PICTURE  XX      VALUE SPACE.                       CM000095
020080      02  LOD16    PICTURE  X(14).                                     CM000095
020090      02  FILLER   PICTURE  XXX     VALUE SPACE.                       CM000095
         01 SVTOP3
            02  FILLER   PICTURE X  VALUE SPACE.
            02  FILLER   PICTURE X(25) VALUE 'NO RANGE PORT 01   PORT 0'.
            02  FILLER   PICTURE X(25) VALUE '2    PORT 03    PORT 04    P'.
            02  FILLER   PICTURE X(25) VALUE 'ORT 05    PORT 06    PORT 0'.
            02  FILLER   PICTURE X(25) VALUE '7    PORT 08    PORT 09    P'.
            02  FILLER   PICTURE X(26) VALUE 'ORT 10    PORT 11    PORT 12'.
            02  FILLER   PICTURE X(5)  VALUE SPACE.
         01 SVTOP1.
            02  FILLER   PICTURE X(36) VALUE SPACE.
            02  FILLER   PICTURE X(25) VALUE 'SCANNER VALVE ASSIGNMENTS'.
            02  FILLER   PICTURE X(33) VALUE SPACE.
            02  FILLER   PICTURE X(11) VALUE 'SHEET    OF'.
            02  FILLER   PICTURE X(27) VALUE SPACE.
         01 SVTOP2.
            02  FILLER   PICTURE X  VALUE SPACE.
            02  FILLER   PICTURE X(12) VALUE 'SV DUCER    '.
            02  FILLER   PICTURE X(119)  VALUE SPACE.
         01 SVLINE.
            02  FILLER   PICTURE X  VALUE SPACE.
            02  SVNO     PICTURE  99.
            02  FILLER   PICTURE X(17) VALUE '        VAC REF  '.
            02  PORT2    PICTURE X(10).
            02  PORT3    PICTURE X(10).
            02  PORT4    PICTURE X(10).
            02  PORT5    PICTURE X(10).
            02  PORT6    PICTURE X(10).
            02  PORT7    PICTURE X(10).
            02  PORT8    PICTURE X(10).
            02  PORT9    PICTURE X(10).
            02  PORT10   PICTURE X(10).
            02  PORT11   PICTURE X(10).
            02  PORT12   PICTURE X(10).
            02  FILLER   PICTURE  XX  VALUE SPACE.
022080 01  HEADMCDD.                                                         CM000095
022090      02  MCDD     PICTURE  X(12)  VALUE '    SCAN    '.                CM000095
022100      02  FILLER   PICTURE  X(113) VALUE 'PARAMETER UNIT CODE   LOADCM000095
022110-     '   CODE   LOAD    CODE   LOAD    CODE   LOAD    CODE   LOADCM000095
022120-     '    REFERENCE         REMARKS'.                                  CM000095
022130      02  FILLER   PICTURE  X(7)   VALUE SPACE.                         CM000095
023010 01  DDAS-HD.
023020      02  FILLER   PICTURE  X(48)  VALUE SPACE.
023030      02  FILLER   PICTURE X(31)   VALUE 'DIGITAL DATA ACQUISITION S
023040-    'YSTEM'.
023050      02  FILLER   PICTURE  X(32)  VALUE SPACE.
023060      02  FILLER   PICTURE  X(14)   VALUE 'SHEET    OF  R'.
023070      02  FILLER   PICTURE  X(7)    VALUE SPACE.
023180 01  MC-HD.
023190      02  FILLER   PICTURE  X(53)  VALUE SPACE.
023200      02  FIXR     PICTURE  X(32)  VALUE 'MICROSADIC DATA REDUCTION
023210-     '      '.
023220      02  FILLER   PICTURE  X(26)  VALUE SPACE.
```

5

```
023230      02  FILLER   PICTURE   X(14)  VALUE 'SHEET     OF   R'.
023240      02  FILLER   PICTURE   X(7)   VALUE SPACE.
024010 01   DUM-HEAD.
024020      02  SCF      PICTURE   X(32)  VALUE 'SCANNER VALVE DATA REDUCTI
024030-     'ON      '.
030010 PROCEOURE OIVISION.                                              CM000095
030021      OPEN OUTPUT LIST.
030100      OPEN INPUT HOOK.                                            CM000095
030110      OPEN INPUT OCARO.
030130      PERFORM SPACE-TB.                                           CM000095
031010 RO-HK.                                                           CM000095
031020      READ HOOK AT ENO GO TO HK-ENO.                              CM000095
031070      IF HR1 = 'S' AND HR2 = '0' OR '1' OR '2' OR '3' OR '4' OR   CM000095
031080      '5' OR '6' OR '7' OR '8' OR '9' GO TO SV-ROUTE.             CM000095
031090      IF HR12 = '00' GO TO MN6.                                   CM000095
031110      GO TO RO-HK.                                                CM000095
032200 MN6.                                                             CM000095
            ADD 1 RHR45 GIVING K.
            IF HHR3 NOT = 0
            MOVE HPAR TO 003 (HHR3,K).
032201      CLOSE OCARD.
032210      OPEN INPUT DCARD.                                           CM000095
032220 MN6A.                                                            CM000095
032230      READ OCARO AT END GO TO MN1Z.                               CM000095
032240      IF DR1 NOT = HPAR GO TO MN6A.                               CM000095
032250      IF OR7 = '   ' GO TO MN1Z.                                  CM000095
033020      GO TO OD-ROUTE.                                             CM000095
033110 MN1Z.                                                            CM000095
033120      DISPLAY 'DATA REO. N/A '.
033140      GO TO RO-HK.                                                CM000095
049010 SV-ROUTE.                                                        CM000095
049020      IF HRD23 > 60 DISPLAY '4902' HROOUT  GO TO RO-HK.           CM000095
049030      MOVE HR023 TO J.                                            CM000095
049040      IF RHR45 > 12 DISPLAY '4904' HROOUT  GO TO RO-HK.           CM000095
            MOVE RHR45 TO K.
049050      MOVE HPAR TO SV3 (J, K)                                     CM000095
049060      GO TO RO-HK.                                                CM000095
050010 DD-ROUTE.                                                        CM000095
050011      IF HHR3 = 0 GO TO RO-HK.
050020      IF HHR3 < 8 MOVE HHR3 TO J
                ELSE OISPLAY '5003' HROOUT  GO TO RD-HK.                CM000095
050040      IF RHR45 > 63 OISPLAY '5004' HROOUT GO TO RD-HK.
050050      ADO 1 RHR45 GIVING K.
050070      IF  RR7B = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'    CM000095
                OR '7' OR '8' OR '9' GO TO DDR1.                        CM000095
050090      GO TO DDR3.                                                 CM000095
050100 DDR1.                                                            CM000095
050110      IF  RR7C = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'    CM000095
                OR '7' OR '8' OR '9' GO TO DDR2.                        CM000095
050130 DDR3.                                                            CM000095
050140      IF OR7 = 'IPC' MOVE 'IN PLACE CALS' TO 0016 (J, K)          CM000095
                GO TO DDR9.                                             CM000095
050160      IF DR7 = 'SPC' MOVE 'SPECIAL CALS' TO DD16 (J, K)           CM000095
                GU TO DDR9.                                             CM000095
050180      IF RR7B = 'R' AND RR7C = 'N' GO TO DDR4.                    CM000095
050190      DISPLAY '5019' DR7  GO TO RO-HK.                            CM000095
050200 DDR4.                                                            CM000095
```

6

```
00283   050210     OPEN INPUT CFILE.                                        CM000095
00284   050220 DDR5.                                                        CM000095
00285   050230     READ CFILE AT END GO TO DDCEND.                          CM000095
00286   050240     IF C9 NOT = '0' GO TO DDR5.                              CM000095
00287   050250     IF HPAR NOT = C5 GO TO DDR5.                             CM000095
00288   051010     IF  RR7A = '+'                                           CM000095
00289   051020         MOVE '26' TO DD5 (J, K)                              CM000095
00290   051030         MOVE '27' TO DD7 (J, K)                              CM000095
00291   051040         MOVE '28' TO DD9 (J, K)                              CM000095
00292   051050         MOVE '29' TO DD11 (J, K)                             CM000095
00293   051060         MOVE '30' TO DD13 (J, K)                             CM000095
00294   051070         GO TO DDR6.                                          CM000095
00295   051080     IF  RR7A = '-'                                           CM000095
00296   051090         MOVE '26' TO DD5 (J, K)                              CM000095
00297   051100         MOVE '25' TO DD7 (J, K)                              CM000095
00298   051110         MOVE '24' TO DD9 (J, K)                              CM000095
00299   051120         MOVE '23' TO DD11 (J, K)                             CM000095
00300   051130         MOVE '22' TO DD13 (J, K)                             CM000095
00301   051140         MOVE 1 TO NEG-SW                                     CM000095
00302   051150         GO TO DDR6.                                          CM000095
00303   051160     DISPLAY '5116' DR7  GO TO DDCEND.                        CM000095
00304   051170 DDR6.                                                        CM000095
00305   051180     IF C10 = SPACE GO TO DDR7.                               CM000095
00306   051190     MOVE C10 TO DD6 (J, K)                                   CM000095
00307   051200     READ CFILE AT END GO TO DDCEND.                          CM000095
00308   051210     MOVE C10 TO DD8 (J, K)                                   CM000095
00309   051220     READ CFILE AT END GO TO DDCEND.                          CM000095
00310   051230     MOVE C10 TO DD10 (J, K)                                  CM000095
00311   051240     READ CFILE AT END GO TO DDCEND.                          CM000095
00312   051250     MOVE C10 TO DD12 (J, K)                                  CM000095
00313   052010     READ CFILE AT END GO TO DDCEND.                          CM000095
00314   052020     MOVE C10 TO DD14 (J, K)                                  CM000095
00315   052030     GO TO DDR8.                                              CM000095
00316   052040 DDR7.                                                        CM000095
00317   052050     IF C11 = SPACE DISPLAY '5205' C7 GO TO DDCEND.           CM000095
00318   052060     MOVE C11 TO DD6 (J, K).                                  CM000095
00319   052070     READ CFILE AT END GO TO DDCEND.                          CM000095
00320   052080     MOVE C11 TO DD8 (J, K).                                  CM000095
00321   052090     READ CFILE AT END GO TO DDCEND.                          CM000095
00322   052100     MOVE C11 TO DD10 (J, K).                                 CM000095
00323   052110     READ CFILE AT END GO TO DDCEND.                          CM000095
00324   052120     MOVE C11 TO DD12 (J, K).                                 CM000095
00325   052130     READ CFILE AT END GO TO DDCEND.                          CM000095
00326   052140     MOVE C11 TO DD14 (J, K).                                 CM000095
00327   052150 DDR8.                                                        CM000095
00328   052160     MOVE C11B TO DD4 (J, K).                                 CM000095
00329   053110     CLOSE CFILE.                                             CM000095
00330 **052170 DDR9.                                                        CM000095
00331   052180     IF NEG-SW = 1  MOVE 0 TO NEG-SW                          CM000095
00332   052190          MOVE '-' TO DDSN (J, K).                            CM000095
00333   053010     IF DR6 = 'CP' MOVE 'CELL PRESS' TO DD15 (J, K) GO TO DDRX.  CM000095
00334   053020     IF DR6 = 'BA' MOVE 'BAROMETER ' TO DD15 (J, K) GO TO DDRX.  CM000095
00335   053030     IF DR6 = 'VR' MOVE 'VAC. REF. ' TO DD15 (J, K) GO TO DDRX.  CM000095
00336   053040     IF DR6 = 'RT' MOVE 'RTT       ' TO DD15 (J, K) GO TO DDRX.  CM000095
00337   053050     IF DR6 = 'CA' MOVE 'CA-1500-F ' TO DD15 (J, K) GO TO DDRX.  CM000095
00338   053060     IF DR6 = 'CC' MOVE 'CC-1500-F ' TO DD15 (J, K) GO TO DDRX.  CM000095
00339   053070     IF DR6 = 'LC' MOVE 'LC-1500-F ' TO DD15 (J, K) GO TO DDRX.  CM000095
```

7

```
053080      IF OR6 = 'EV' MOVE 'EVENT    ' TO DD15 (J, K).                 CM000095
053090 DDRX.                                                               CM000095
053100      MOVE HPAR TO DD3 (J, K)                                        CM000095
053120      GO TO RO-HK.                                                   CM000095
053130 OOCENO.                                                             CM000095
053140      DISPLAY '5314'                                                 CM000095
053150      CLOSE CFILE                                                    CM000095
053160      GO TO RD-HK,                                                   CM000095
054010 DOR2.                                                               CM000095
054020      IF ROR7B = 08 GO TO ODR2A.                                     CM000095
054030      IF RDR7B = 16 GO TO ODR2B.                                     CM000095
054040      IF ROR7B = 24 GO TO DDR2C.                                     CM000095
054050      IF RDR7B = 32 GO TO OOR20.                                     CM000095
054060      IF RDR7B = 40 GO TO ODR2E.                                     CM000095
054070      IF RDR7B = 80 GO TO DOR2F.                                     CM000095
054080 OOR2Z.                                                              CM000095
054090      DISPLAY '5409' DR7  GO TO RO-HK.                               CM000095
054100 DOR2A.                                                              CM000095
054110      IF RR7A = '+'                                                  CM000095
054120              MOVE ' 2' TO 005 (J, K)                                CM000095
054130              MOVE '0 MV' TO 006 (J, K)                              CM000095
054140              MOVE ' 3' TO DD7 (J, K)                                CM000095
054150              MOVE '8 MV' TO 008 (J, K)                              CM000095
054160              GO TO DOR20.                                           CM000095
054170      IF RR7A = '-'                                                  CM000095
054180              MOVE ' 2' TO 005 (J, K)                                CM000095
054190              MOVE '0 MV' TO DD6 (J, K)                              CM000095
054200              MOVE ' 1' TO DD7 (J, K)                                CM000095
054210              MOVE '-8 MV' TO DD8 (J, K)                             CM000095
054220              GO TO OOR20.                                           CM000095
054230      GO TO DOR2Z.                                                   CM000095
055010 DOR2B.                                                              CM000095
055020      IF RR7A = '+'                                                  CM000095
055030              MOVE ' 5' TD DD5 (J, K)                                CM000095
055040              MOVE '0 MV' TD 0D6 (J, K)                              CM000095
055050              MOVE ' 6' TO DO7 (J, K)                                CM000095
055060              MOVE ' 16 MV' TO DO8 (J, K)                            CM000095
055070              GO TO ODR20.                                           CM000095
055080      IF RR7A = '-'                                                  CM000095
055090              MOVE ' 5' TO DD5 (J, K)                                CM000095
055100              MOVE '0 MV' TD 006 (J, K)                              CM000095
055110              MOVE ' 4' TO 007 (J, K)                                CM000095
055120              MDVE '-16 MV' TO DD8 (J, K)                            CM000095
055130              GO TD DOR20.                                           CM000095
055140      GO TO ODR2Z.                                                   CM000095
055150 DDR2C.                                                              CM000095
055160      IF RR7A = '+'                                                  CM000095
055170              MOVE ' 8' TO 005 (J, K)                                CM000095
055180              MDVE '0 MV' TO D06 (J, K)                              CM000095
055190              MOVE ' 9' TO 007 (J, K)                                CM000095
055200              MOVE '24 MV' TO 008 (J, K)                             CM000095
055210              GO TO OOR20.                                           CM000095
055220      IF RR7A = '-'                                                  CM000095
055230              MOVE ' 8' TO 0D5 (J, K)                                CM000095
055240              MOVE '0 MV' TO DD6 (J, K)                              CM000095
055250              MOVE ' 7' TO 007 (J, K)                                CM000095
056010              MOVE '-24 MV' TO DD8 (J, K)                            CM000095
```

8

```
00397   056020          GO TO OOR20.                                                    CM000095
00398   056030      GO TO OOR2Z.                                                        CM000095
00399   056040  OOR2D.                                                                  CM000095
00400   056050      IF RR7A = '+'                                                       CM000095
00401   056060          MOVE '11' TO 005 (J, K)                                         CM000095
00402   056070          MOVE '0 MV'    TO 006 (J, K)
00403   056080          MOVE '12' TO 007 (J, K)                                         CM000095
00404   056090          MOVE '32 MV' TO 008 (J, K)                                      CM000095
00405   056100          GO TO OOR20.                                                    CM000095
00406   056110      IF RR7A = '-'                                                       CM000095
00407   056120          MOVE '11' TO 005 (J, K)                                         CM000095
00408   056130          MOVE '0 MV' TO 006 (J, K)                                       CM000095
00409   056140          MOVE '10' TO 007 (J, K)                                         CM000095
00410   056150          MOVE '-32 MV' TO 008 (J, K)                                     CM000095
00411   056160          GO TO OOR20.                                                    CM000095
00412   056170      GO TO OOR2Z.                                                        CM000095
00413   056180  OOR2E.                                                                  CM000095
00414   056190      IF RR7A = '+'                                                       CM000095
00415   056200          MOVE '14' TO 005 (J, K)                                         CM000095
00416   056210          MOVE '0 MV' TO 006 (J, K)                                       CM000095
00417   056220          MOVE '15' TO 007 (J, K)                                         CM000095
00418   056230          MOVE '40 MV' TO 008 (J, K)                                      CM000095
00419   056240          GO TO OOR20.                                                    CM000095
00420   057010      IF RR7A = '-'                                                       CM000095
00421   057020          MOVE '14'  TO 005 (J, K)
00422   057030          MOVE '0 MV' TO 006 (J, K)                                       CM000095
00423   057040          MOVE '13' TO 005 (J, K)                                         CM000095
00424   057050          MOVE '-40 MV' TO 008 (J, K)                                     CM000095
00425   057060          GO TO OOR20.                                                    CM000095
00426   057070      GO TO OOR2Z.                                                        CM000095
00427   057080  OOR2F.                                                                  CM000095
00428   057090      IF RR7A = '+'                                                       CM000095
00429   057100          MOVE '17' TO 005 (J, K)                                         CM000095
00430   057110          MOVE '0 MV' TO 006 (J, K)                                       CM000095
00431   057120          MOVE '18' TO 007 (J, K)                                         CM000095
00432   057130          MOVE '80 MV' TO 008 (J, K)                                      CM000095
00433   057140          GO TO OOR20.                                                    CM000095
00434   057150      IF RR7A = '-'                                                       CM000095
00435   057160          MOVE '17' TO 005 (J, K)                                         CM000095
00436   057170          MOVE '0 MV' TO 006 (J, K)                                       CM000095
00437   057180          MOVE '16' TO 007 (J, K)                                         CM000095
00438   057190          MOVE '-80 MV' TO 008 (J, K)                                     CM000095
00439   057200          GO TO OOR20.                                                    CM000095
00440   057210      GO TO OOR2Z.                                                        CM000095
00441   057220  OOR20.                                                                  CM000095
00442   057230      MOVE 'MV CALS' TO 0016 (J, K).                                      CM000095
00443   057240      GO TO OOR9.                                                         CM000095
00444   062010  HK-END.                                                                 CM000095
00445   062020      CLOSE HOOK.                                                         CM000095
00446   069010  WR-DO.                                                                  CM000095
00447   069020      MOVE 1 TO J.  MOVE '  MUX CHAN  ' TO MCOO. MOVE 25 TO JECT.         CM000095
00448   069040      PERFORM WRD01 VARYING J FROM 1 BY 1 UNTIL J = 8 AFTER K FROM
00449   069050        1 BY 1 UNTIL K > 64.
00450   069060      MOVE 24 TO JECT.                                                    CM000095
00451   069070      GO TO WR-SR.                                                        CM000095
00452   069100  WRD01.                                                                  CM000095
00453   069110      SUBTRACT 1 FROM K GIVING L002.
```

9

```
00454   069120      MOVE J TO L001.
00455   069150      MOVE DD3 (J, K) TO LDD3.                              CM000095
00456   069160      MOVE DD4 (J, K) TO LDD4.                              CM000095
00457   069170      MOVE DD5 (J, K) TO LDD5.                              CM000095
00458   069180      MOVE DD6 (J, K) TO LDD6.                              CM000095
00459   069190      MOVE DD7 (J, K) TO LDD7.                              CM000095
00460   069200      MOVE DD8 (J, K) TO LDD8.                              CM000095
00461   069210      MOVE DD9 (J, K) TO LDD9.                              CM000095
00462   069220      MOVE DD10 (J, K) TO LDD10                             CM000095
00463   069230      MOVE DD11 (J, K) TO LDD11                             CM000095
00464   069240      MOVE DD12 (J, K) TO LDD12                             CM000095
00465   069250      MOVE DD13 (J, K) TO LDD13                             CM000095
00466   070010      MOVE DD14 (J, K) TO LDD14.                            CM000095
00467   070020      MOVE DD15 (J, K) TO LDD15.                            CM000095
00468   070030      MOVE DD16 (J, K) TO LDD16.                            CM000095
00469   070040      IF DDSN (J, K) = '-'  MOVE '-' TO FILLER1 FILLER2 FILLER3   CM000095
00470   070050          FILLER4 FILLER5  ELSE  MOVE SPACE TO FILLER1 FILLER2    CM000095
00471   070060          FILLER3 FILLER4 FILLER5.                          CM000095
00472   070070      IF K = 1 OR JECT = 25
00473   070071          WRITE LIT FROM DDAS-HD AFTER 0
00474   070080          WRITE LIT FROM HEADMCDD AFTER 2
00475   070090          MOVE 0 TO JECT.                                   CM000095
00476   070100      ADD 1 TO JECT.                                        CM000095
00477   070110      WRITE LIT FROM DDLIST AFTER 2.                        CM000095
00478   073010 SPACE-TB.                                                  CM000095
00479   073110      PERFORM SPC-DD VARYING K FROM 1 BY 1 UNTIL K > 64 AFTER    CM000095
00480   073120          J FROM 1 BY 1 UNTIL J > 7.
00481 **073090      PERFORM SPC-SV VARYING K FROM 1 BY 1 UNTIL K > 12 AFTER    CM000095
00482   073100          J FROM 1 BY 1 UNTIL J > 60.                       CM000095
00483   074180 SPC-SV.                                                    CM000095
00484   074190      MOVE SPACE TO SV3 (J, K).                             CM000095
00485   074200 SPC-DD.                                                    CM000095
00486   074210      MOVE SPACE TO DD1 (J, K), DD2 (J, K), DD3 (J, K) DD4 (J, K)  CM000095
00487   074220          DD5 (J, K)  DD6 (J, K)  DD7 (J, K)  DD8 (J, K)    CM000095
00488   074230          DD9 (J, K)  DD10 (J, K) DD11 (J, K) DD12 (J, K)   CM000095
00489   074240          DD13 (J, K) DD14 (J, K) DD15 (J, K) DD16 (J, K)   CM000095
00490   074250          DDSN (J, K).                                      CM000095
00491 **071010 WR-SR.                                                     CM000095
00492 **067240      MOVE 24 TO JECT.                                      CM000095
00493   067250      MOVE SCF TO FIXR.
00494   069010 WR-SV.                                                     CM000095
00495               PERFORM WRSV1 VARYING J FROM 1 BY 1 UNTIL J > 60.
00496 **066240      GO TO WR-ALL.                                         CM000095
00497   069060 WRSV1.                                                     CM000095
00498               IF J = 1 PERFORM SVTOP.
00499               IF J = 21 PERFORM SVTOP.
00500               IF J = 41 PERFORM SVTOP.
00501               MOVE J TO SVNO.
00502               MOVE SV3 (J, 2) TO PORT2.
00503               MOVE SV3 (J, 3) TO PORT3.
00504               MOVE SV3 (J, 4) TO PORT4.
00505               MOVE SV3 (J, 5) TO PORT5.
00506               MOVE SV3 (J, 6) TO PORT6.
00507               MOVE SV3 (J, 7) TO PORT7.
00508               MOVE SV3 (J, 8) TO PORT8.
00509               MOVE SV3 (J, 9) TO PORT9.
00510               MOVE SV3 (J, 10) TO PORT10.
```

10

```
00511                 MOVE SV3 (J, 11) TO PORT11.
00512                 MOVE SV3 (J, 12) TO PORT12.
00513                 WRITE LIT FROM SVLINE AFTER 2.
00514             SVTOP.
00515                 WRITE LIT FROM SVTOP1 AFTER 0.
00516                 WRITE LIT FROM SVTOP2 AFTER 3.
00517                 WRITE LIT FROM SVTOP3 AFTER 1.
00518 **067230 WR-ALL.                                                      CM000095
00519   072040        CLOSE LIST.                                           CM000095
00520   072050        CLOSE DCARD.
00521   072060        STOP RUN.                                             CM000095
```

```
001010 IDENTIFICATION DIVISION.                                          CM000049
001020 PROGRAM-ID. 'CM000049'.                                           CM000049
001030 AUTHOR.  JACK ROSE.                                               CM000049
001040 INSTALLATION.   ARO INC  TULLAHOMA TENN.                          CM000049
001050 DATE-WRITTEN. SEPT  1967.                                         CM000049
001060 DATE-COMPILED. DEC  3,1969                                        CM000049
001070 SECURITY.                                                         CM000049
001080 REMARKS.     THIS PROGRAM PRODUCES   A   TRANSDUCER FILE          CM000049
001090              TO BE USED BY RTF INSTRUMENT PROGRAM.                CM000049
001100 ENVIRONMENT DIVISION.                                             CM000049
001110 CONFIGURATION SECTION.                                            CM000049
001120 SOURCE-COMPUTER. IBM-360 H50.                                     CM000049
001130 OBJECT-COMPUTER. IBM-360 H50.                                     CM000049
001140 INPUT-OUTPUT SECTION.                                             CM000049
001150 FILE-CONTROL.                                                     CM000049
001160     SELECT GILMORE  ASSIGN 'G001' UTILITY.                        CM000049
001170     SELECT  C-FILE  ASSIGN  'C001' UTILITY.                       CM000049
001180 DATA DIVISION.                                                    CM000049
001190 FILE SECTION.                                                     CM000049
001200 FD  GILMORE  RECORDING F    BLOCK 1 RECORDS     RECORD 747        CM000049
001210                 LABEL RECORDS STANDARD     DATA RECORD  GILM.     CM000049
002010 01  GILM.                                                         CM000049
002020     02  FILLER         PICTURE  X(10).                            CM000049
002030     02  INS-NO         PICTURE  X(16).                            CM000049
002031     02  RINS-NO  REDEFINES INS-NO.
002032         03  FILLER     PICTURE   X.
002033         03  INS-NN     PICTURE  X(15).
002040     02  FILLER         PICTURE  X(6).                             CM000049
002050     02  MFGR           PICTURE  X(12).                            CM000049
002060     02  MATE           PICTURE  X(20).                            CM000049
002070     02  RANGE.
002071         03  RG1        PICTURE  X.
002072         03  RG2        PICTURE  X.
002073         03  RG3        PICTURE  X.
002074         03  RG4        PICTURE  X.
002075         03  RG5        PICTURE  X.
002080     02  RANGE-UNIT     PICTURE  X(12).                            CM000049
002090     02  PIC            PICTURE  X.                                CM000049
002100     02  FILLER         PICTURE  X(13).                            CM000049
002110     02  NIC            PICTURE  X.                                CM000049
002120     02  FILLER         PICTURE  X(11).                            CM000049
002130     02  POC            PICTURE  X.                                CM000049
002140     02  FILLER         PICTURE  X.                                CM000049
002150     02  FACILITY       PICTURE  XXXX.                             CM000049
002160     02  NOC            PICTURE  X.                                CM000049
002170     02  FILLER         PICTURE  X(16).                            CM000049
002180     02  DATE-CAL.                                                 CM000049
002181         03  DCMO       PICTURE  99.                               CM000049
002182         03  DCDY       PICTURE  99.                               CM000049
002183         03  DCYR       PICTURE  99.                               CM000049
002184     02  RDATE REDEFINES DATE-CAL PICTURE X(6).                    CM000049
002190     02  EXCITATION     PICTURE  S99V99.                           CM000049
002200     02  FILLER         PICTURE  X(299).                           CM000049
002210     02  R-CAL-TYPE     PICTURE  XXX.                              CM000049
```

```
  2

 00055   002220     02  FILLER          PICTURE  X(53).                                    CM000049
 00056   002230     02  CORR-P-UN       PICTURE  X.                                        CM000049
 00057   003010     02  RNO.                                                               CM000049
 00058   003020         03  RNO-MVV         PICTURE   S9(5)V9.                             CM000049
 00059   003030         03  RNO-FS          PICTURE   S9(7)V999.                           CM000049
 00060   003040         03  RNO-PSI         PICTURE   S9(5)V99.                            CM000049
 00061   003050     02  RN1.                                                               CM000049
 00062   003060         03  RN1-RES         PICTURE   S9(5)V999.                           CM000049
 00063   003070         03  RN1-MVV         PICTURE   S9(5)V999.                           CM000049
 00064   003080         03  RN1-FS          PICTURE   S9(5)V99.                            CM000049
 00065   003090         03  RN1-PSI         PICTURE   S9(6)V999.
 00066   003100     02  RN2.                                                               CM000049
 00067   003110         03  RN2-RES         PICTURE   S9(5)V999.                           CM000C49
 00068   003120         03  RN2-MVV         PICTURE   S9(5)V999.                           CM000049
 00069   003130         03  RN2-FS          PICTURE   S9(5)V99.                            CM000049
 00070   003140         03  RN2-PSI         PICTURE   S9(6)V999.                           CM000049
 00071   003150     02  RN3.                                                               CM000049
 00072   003160         03  RN3-RES         PICTURE   S9(5)V999.                           CM000049
 00073   003170         03  RN3-MVV         PICTURE   S9(5)V999.                           CM000049
 00074   003180         03  RN3-FS          PICTURE   S9(5)V99.                            CM000049
 00075   003190         03  RN3-PSI         PICTURE   S9(6)V999.                           CM000049
 00076   003200     02  RN4.                                                               CM000049
 00077   003210         03  RN4-RES         PICTURE   S9(5)V999.                           CM000049
 00078   003220         03  RN4-MVV         PICTURE   S9(5)V999.                           CM000049
 00079   003230         03  RN4-FS          PICTURE   S9(5)V99.                            CM000049
 00080   003240         03  RN4-PSI         PICTURE   S9(6)V999.                           CM000049
 00081   004010     02  RNOO-MV             PICTURE   S9(5)V9.                             CM000049
 00082   004020     02  RNOO-FS             PICTURE   S9(7)V999.                           CM000049
 00083   004030     02  RNOO-PSI            PICTURE   S9(5)V99.                            CM000049
 00084   004040     02  FILLER              PICTURE   X(77).
 00085   004050 FD  C-FILE       RECORDING F    BLOCK 1  RECORDS    RECORD 80              CM000049
 00086   004060                  LABEL RECORDS STANDARD      DATA RECORD CFLL.             CM000049
 00087              01  CFLL    PICTURE   X(80).
 00088   005001 WORKING-STORAGE SECTION.
 00089   005010 77  CNOT    PICTURE   9999   VALUE 0.                                      CM000049
 00090   005019 01  CHANGE-RANGE.
 00091   005020     02  CAT-RNG.
 00092   005030         03  CRG1    PICTURE  X.
 00093   005040         03  CRG2    PICTURE  X.
 00094   005050         03  CRG3    PICTURE  X.
 00095   005060         03  CRG4    PICTURE  X.
 00096   005070         03  CRG5    PICTURE  X.
 00097 **004070 01  CFIL.                                                                  CM000049
 00098   004080     02  CNO             PICTURE   ZZZZ.                                    CM000049
 00099   004090     02  CCNT            PICTURE   9.                                       CM000C049
 00100   004100     02  CTYPCO          PICTURE   X(7).                                    CM000C49
 00101   004110     02  CRANGE          PICTURE   X(7).                                    CM000C49
 00102   004120     02  CRNUNIT         PICTURE   XXX.                                     CM000049
 00103   004130     02  CRNGCODE        PICTURE   X.                                       CM00C049
 00104   004140     02  CPARM           PICTURE   X(9).                                    CM000049
 00105   004150     02  CMFG            PICTURE   X(9).                                    CM000C49
 00106   004160     02  CARONO          PICTURE   X(6).                                    CM000049
 00107   004170     02  CAROCD          PICTURE   X.                                       CM000049
 00108   004180     02  CUDC            PICTURE   X(4).                                    CM000049
 00109   004190     02  CRN             PICTURE   X.                                       CM000049
 00110   004200     02  CPOSRN          PICTURE   X(9).
 00111   004201     02  RCPOSRN     REDEFINES CPOSRN    PICTURE  -9999.999.
```

3

```
00112   004220      02  CNEGRN       PICTURE   X(9).                           CM000049
00113 **004210      02  CPEQ         PICTURE   XXX.                            CM000049
00114   004240      02  RECAL        PICTURE   X(6).                           CM000049
00115   006010 PROCEOURE OIVISION.                                             CM000049
00116   006020      OPEN INPUT GILMORE  OUTPUT C-FILE.                         CM000049
00117   006030      PERFORM P9.                                                CM000049
00118   006040      MOVE SPACE TO CARONO.
00119   006050 READ-GIL.                                                       CM000049
00120   006060      READ GILMORE AT ENO GO TO G-EOF.                           CM000049
00121   006061      IF FACILITY = 'RN00' OR FACILITY = 'RN10' NEXT SENTENCE
00122   006062      ELSE GO TO READ-GIL.
00123   006069      MOVE SPACE TO CAT-RNG.
00124   006070      IF RG1 = SPACE
00125   006071      IF RG2 = SPACE
00126   006072      IF RG3 = SPACE
00127   006073      IF RG4 = SPACE
00128   006074      IF RG5 = SPACE
00129   006075      MOVE RANGE TO CAT-RNG
00130   006076      ELSE MOVE RG5 TO CAT-RNG
00131   006077      ELSE MOVE RG4 TO CRG1 MOVE RG5 TO CRG2
00132   006078      ELSE MOVE RG3 TO CRG1 MOVE RG4 TO CRG2  MOVE RG5 TO CRG3
00133   006079      ELSE MOVE RG2 TO CRG1 MOVE RG3 TO CRG2 MOVE RG4 TO CRG3
00134   006080      MOVE RG5 TO CRG4
00135   006081      ELSE MOVE RANGE TO CAT-RNG.
00136   006082      MOVE CAT-RNG TO CRANGE.
00137   006090      MOVE MFGR  TO CMFG.                                        CM000049
00138   006100      MOVE INS-NN TO CARONO.
00139   006110      IF EXCITATION = 10.00 ANO R-CAL-TYPE = 'O  '               CM000049
00140   006120      MOVE 'OS  ' TO CUOC   GO TO P8.                            CM000049
00141   006130      IF EXCITATION =  5.00 AND R-CAL-TYPE = 'O  '               CM000049
00142   006140      MOVE 'OS2 ' TO CUOC GO TO P8.  MOVE '    ' TO CUOC.        CM000049
00143   006141 P8. IF ROATE = SPACE GO TO P2.                                  CM000049
00144   006150      IF OCMO < 7   AOO 6     OCMO GIVING OCMO
00145   006160      GO TO P2.                                                  CM000049
00146   006170      SUBTRACT 6 FROM DCMO GIVING OCMO                           CM000049
00147   006180      AOO 1    OCYR GIVING DCYR.
00148   006190 P2.                                                             CM000049
00149   006200      MOVE ROATE    TO RECAL.
00150   007010      IF MATE = 'CA3106E-14S-5S-F43  '                           CM000049
00151   007020      AND PIC = 'A'  ANO NIC = 'D'  ANO POC = 'B' ANO NOC = 'C'  CM000049
00152   007030      MOVE 'OUCER-5' TO CTYPCO    GO TO P3.                      CM000049
00153   007040      IF MATE = 'CA3106E-14S-5S-F43  '                           CM000049
00154   007050      AND PIC = 'A'  AND NIC = 'D'  ANO POC = 'C'  ANO NOC = 'B' CM000049
00155   007060      MOVE 'OUCR-5A' TO CTYPCO    GO TO P3.                      CM000049
00156   007070      IF MATE = 'CA3106E-14S-5S-F43  '                           CM000049
00157   007080      ANO PIC = 'O'  ANO NIC = 'C'  ANO POC = 'A' ANO NOC = 'B'  CM000049
00158   007090      MOVE 'OUCR-5B' TO CTYPCO    GO TO P3.                      CM000049
00159   007100      IF MATE = 'PT06A-10-6S(SR)      '                          CM000049
00160   007110      AND PIC = 'A'  ANO NIC = 'O' ANO POC = 'B'  ANO NOC = 'C'  CM000049
00161   007120      MOVE 'DUCER-6' TO CTYPCO    GO TO P3.                      CM000049
00162   007130      IF MATE = 'PT06A-10-6S(SR)      '                          CM000049
00163   007140      ANO PIC = 'A'  ANO NIC = 'O' ANO POC = 'C' ANO NOC = 'B'   CM000049
00164   007150      MOVE 'DUCR-6A' TO CTYPCO    GO TO P3.                      CM000049
00165   007160      IF MATE = 'PT06A-10-6S(SR)      '                          CM000049
00166   007170      ANO PIC = 'O' ANO NIC = 'C' AND POC = 'A' AND NOC = 'B'    CM000049
00167   007180      MOVE 'DUCR-6B' TO CTYPCO    GO TO P3.                      CM000049
00168   007190      IF MATE = 'MS3106B-14S-2S       '                          CM000049
```

4

```
00169   007200      ANO PIC = 'A' AND NIC = 'O' ANO POC = 'B' AND NOC = 'C'      CM000049
00170   007210      MOVE 'OUCER-4' TO CTYPCO    GO TO P3.                        CM000049
00171   007220      IF MATE = 'MS3106B-14S-2S        '                           CM000049
00172   007230      ANO PIC = 'A' ANO NIC = 'O' ANO POC = 'C' ANO NOC = 'B'      CM000049
00173   007240      MOVE 'OUCR-4A' TO CTYPCO    GO TO P3.                        CM000049
00174   008010      IF MATE = 'MS3106B-14S-2S        '                           CM000049
00175   008020      ANO PIC = 'O' ANO NIC = 'C' AND POC = 'A' ANO NOC = 'B'      CM000049
00176   008030      MOVE 'OUCR-4B' TO CTYPCD    GO TO P3.                        CM000049
00177   008040      IF MATE = 'PT06A-8-4S(SR)        '                           CM000049
00178   008050      ANO PIC = 'A' ANO NIC = 'O' ANO POC = 'B' ANO NOC = 'C'      CM000049
00179   008060      MOVE 'OUCER40' TO CTYPCO    GO TO P3.                        CM000049
00180   008070      IF MATE = 'PT06A-8-4S(SR)        '                           CM000049
00181   008080      ANO PIC = 'A' ANO NIC = 'O' AND POC = 'C' ANO NOC = 'B'      CM000049
00182   008090      MOVE 'OUCR40A' TO CTYPCO    GO TO P3.                        CM000049
00183   008100      IF MATE = 'PT06A-8-4S(SR)        '                           CM000049
00184   008110      ANO PIC = 'O' AND NIC = 'C' AND POC = 'A' ANO NOC = '8'      CM000049
00185 **008110      MOVE 'OUCR40B' TO CTYPCO    GO TO P3.                        CM000049
00186   008120      IF MATE = 'CA3106E-14S-6S-F43    '                           CM000049
00187   008130      ANO PIC = 'A' ANO NIC = 'O' ANO POC = 'B' ANO NOC = 'C'      CM000049
00188   008140      MOVE 'OUCER60' TO CTYPCO    GO TO P3.                        CM000049
00189   008150      IF MATE = 'CA3106E-14S-6S-F43    '                           CM000049
00190   008160      ANO PIC = 'A' ANO NIC = 'O' AND POC = 'C' ANO NOC = 'B'      CM000049
00191   008170      MOVE 'OUCR60A' TO CTYPCO    GO TO P3.                        CM000049
00192   008180      IF MATE = 'CA3106E-14S-6S-F43    '                           CM000049
00193   008190      ANO PIC = 'O' ANO NIC = 'C' ANO POC = 'A' ANO NOC = 'B'      CM000049
00194   008200      MOVE 'OUCR60B' TO CTYPCO    GO TO P3.                        CM000049
00195   008220      IF MATE = 'PT06E-12-10S(SR)      '                           CM000049
00196   008230      ANO PIC = 'A' ANO NIC = 'O' ANO POC = 'B' ANO NOC = 'C'      CM000049
00197   008240      MOVE 'OUCER10' TO CTYPCO    GO TO P3.                        CM000049
00198   009010      IF MATE = 'PT06E-12-10S(SR)      '                           CM000049
00199   009020      ANO PIC = 'A' AND NIC = 'O' ANO POC = 'C' AND NOC = 'B'      CM000049
00200   009030      MOVE 'OUCR10A' TO CTYPCO    GO TO P3.                        CM000049
00201   009040      IF MATE = 'PT06E-12-10S(SR)      '                           CM000049
00202   009050      ANO PIC = 'D' ANO NIC = 'C' ANO POC = 'A' ANO NOC = 'B'      CM000049
00203   009060      MOVE 'OUCR10B' TO CTYPCO    GO TO P3.                        CM000049
00204               IF MATE = 'PC06-12-10S           '
00205               ANO PIC = 'A' ANO NIC = 'O' ANO POC = '8' AND NOC = 'C'
00206               MOVE 'DUCR10C' TO CTYPCO GO TO P3.
00207               IF MATE = 'PC06-12-10S           '
00208               ANO PIC = 'E' ANO NIC = 'B' ANO POC = 'D' AND NOC = 'A'
00209               MOVE 'DUCR100' TO CTYPCO GO TO P3.
00210   009070      IF MATE = 'PC06W-8-4S            '                           CM000049
00211   009080      ANO PIC = 'A' ANO NIC = 'O' ANO POC = 'B' ANO NOC = 'C'      CM000049
00212   009090      MOVE 'DUCER41' TO CTYPCO    GO TO P3.                        CM000049
00213   009100      IF MATE = 'PC06W-8-4S            '                           CM000049
00214   009110      ANO PIC = 'A' ANO NIC = 'O' ANO POC = 'C' ANO NOC = 'B'      CM000049
00215   009120      MOVE 'OUCR41A' TO CTYPCD    GO TO P3.                        CM000049
00216   009130      IF MATE = 'PC06W-8-4S            '                           CM000049
00217   009140      ANO PIC = 'O' ANO NIC = 'C' AND POC = 'A' ANO NOC = 'B'      CM000049
00218   009150      MOVE 'OUCR41B' TO CTYPCD    GO TO P3.                        CM000049
00219   009160      MOVE 'NON-STO' TO CTYPCO.                                    CM000049
00220   009170 P3.  IF CORR-P-UN = 'A'  MOVE 'PSA' TO CPEQ.                      CM000049
00221   009180      IF CORR-P-UN = 'G'  MOVE 'PSG' TO CPEQ.                      CM000049
00222   009190      IF CORR-P-UN = 'O'  MOVE 'PSO' TO CPEQ.                      CM000049
00223   009200      IF RANGE-UNIT = ' ABSOLUTE    '  MOVE 'PSA' TO CRNUNIT       CM000049
00224   009201      GO TO P4.                                                    CM000049
00225   009210      IF RANGE-UNIT = ' GAGE        '  MOVE 'PSG' TO CRNUNIT       CM000049
```

5

```
00226   009211       GO TO P4.                                                      CM000049
00227   009220       IF RANGE-UNIT = ' UNIOIR DIFF'  MOVE 'PSO' TO CRNUNIT          CM000049
00228   009221       GO TO P4.                                                      CM000049
00229   009230       IF RANGE-UNIT = ' BIOIR DIFF.'  MOVE 'PSO' TO CRNUNIT          CM000049
00230   009231       GO TO P4.                                                      CM000049
00231   009240       MOVE 'N/A' TO CRNUNIT.                                         CM000049
00232   009250 P4.                                                                  CM000049
00233   010030       MOVE 5 TO CCNT.                                                CM000049
00234   010040       MOVE '0' TO CRN.                                               CM000049
00235   010050       MOVE 'N/A' TO CPOSRN.
00236                WRITE CFLL FROM CFIL.
00237                DISPLAY CFIL.
00238   010080 P9.                                                                  CM000049
00239   010090       MOVE SPACE TO CTYPCO CRANGE CRNUNIT CRNGCODE CPARM CMFG        CM000049
00240   010100       CAROCO  CUDC  CNEGRN  RECAL.
00241   010101       MOVE 0 TO CNO.
00242   010110 P10.                                                                 CM000049
00243   010120       MOVE 4 TO CCNT.                                                CM000049
00244   010130       MOVE '1' TO CRN.                                               CM000049
00245   010160       IF RN1-PSI = 999999.999 MOVE 'N/A      ' TO  CPOSRN            CM000049
00246   010170       ELSE MOVE RN1-PSI TO RCPOSRN.                                  CM000049
00247                WRITE CFLL FROM CFIL.
00248                DISPLAY CFIL.
00249   010190       IF RN2-PSI = 999999.999 MOVE 'N/A      ' TO  CPOSRN            CM000049
00250   010200       ELSE MOVE RN2-PSI TO RCPOSRN.                                  CM000049
00251   010210       MOVE 3 TO CCNT.                                                CM000049
00252   010220       MOVE '2' TO CRN.                                               CM000049
00253                WRITE CFLL FROM CFIL.
00254                DISPLAY CFIL.
00255   010240       IF RN3-PSI = 999999.999 MOVE 'N/A      ' TO  CPOSRN            CM000049
00256   010250        ELSE MOVE RN3-PSI TO RCPOSRN.                                 CM000049
00257   011010       MOVE 2 TO CCNT.                                                CM000049
00258   011020       MOVE '3' TO CRN.                                               CM000049
00259                WRITE CFLL FROM CFIL.
00260                DISPLAY CFIL.
00261   011040       IF RN4-PSI = 999999.999 MOVE 'N/A     ' TO CPOSRN              CM000049
00262   011050       ELSE MOVE RN4-PSI TO RCPOSRN.                                  CM000049
00263   011060       MOVE 1 TO CCNT.                                                CM000049
00264   011070       MOVE '4' TO CRN.                                               CM000049
00265                WRITE CFLL FROM CFIL.
00266                DISPLAY CFIL.
00267   011090       PERFORM P9.                                                    CM000049
00268   011100       GO TO READ-GIL.                                                CM000049
00269   011150 G-EOF.                                                               CM000049
00270   011160       CLOSE GILMORE C-FILE.  STOP RUN.                               CM000049
```

```
1

00001   001010 IDENTIFICATION DIVISION.                                        CM000057
00002   001020 PROGRAM-ID. 'CM000138'.
00003   001030 AUTHOR.  JACK ROSE.                                             CM000057
00004   001040 INSTALLATION.  ARO  INC.                                        CM000057
00005          DATE-WRITTEN.  JULY 1969.
00006   001060 DATE-COMPILED. SEP 16,1969
00007   001070 SECURITY.                                                       CM000057
00008   001090 ENVIRONMENT DIVISION.                                           CM000057
00009   001100 CONFIGURATION SECTION.                                          CM000057
00010   001110    SOURCE-COMPUTER.   IBM-360 H50.                              CM000057
00011   001120    OBJECT-COMPUTER.   IBM-360 H50.                              CM000057
00012   001130 INPUT-OUTPUT SECTION.                                           CM000057
00013   001140    FILE-CONTROL.                                                CM000057
00014   001150     SELECT C-FILE ASSIGN 'CF001' UTILITY.                       CM000057
00015              SELECT OUTFILE ASSIGN 'CFOUT' UTILITY.
00016   001220 DATA DIVISION.                                                  CM000057
00017   001230 FILE SECTION.
00018   002010 FD  C-FILE  RECORDING F   BLOCK 1 RECORDS   RECORD 80           CM000057
00019   002020             LABEL RECORDS OMITTED    DATA RECORD C-FIL.         CM000057
00020   002030 01  C-FIL.                                                      CM000057
00021   002031     02  CF-TC      PICTURE  X.                                  CM000057
00022   002040     02  CF-NO      PICTURE  XXX.                                CM000057
00023   002050     02  CF-CNT     PICTURE  9.                                  CM000057
00024   002060     02  CF-TYPCO   PICTURE  X(7).                               CM000057
00025   002070     02  CF-RNG     PICTURE  X(7).                               CM000057
00026   002080     02  CF-RNGU    PICTURE  XXX.                                CM000057
00027   002090     02  CF-RNGCD   PICTURE  X.                                  CM000057
00028   002100     02  CF-PARM    PICTURE  X(9).                               CM000057
00029   002110     02  CF-MFG     PICTURE  X(9).                               CM000057
00030   002120     02  CF-INO     PICTURE  X(6).                               CM000057
00031   002130     02  CF-INOCO   PICTURE  X.                                  CM000057
00032   002140     02  CF-UOC     PICTURE  X(4).                               CM000057
00033   002150     02  CF-RN      PICTURE  X.                                  CM000057
00034   002160     02  CF-POS     PICTURE  X(9).                               CM000057
00035   002170     02  CF-NEG     PICTURE  X(9).                               CM000057
00036   002180     02  CF-EQU     PICTURE  XXX.                                CM000057
00037   002190     02  CF-RCAL    PICTURE  X(6).                               CM000057
00038          FD  OUTFILE
00039                  RECORDING F
00040                  BLOCK 1 RECORDS
00041                  RECORD 87
00042                  LABEL RECORDS STANDARD
00043                  DATA RECORD CFNEW.
00044          01  CFNEW.
00045              02  TC      PICTURE X.
00046              02  NR      PICTURE XXX.
00047              02  CNT     PICTURE 9.
00048              02  TYPCO   PICTURE X(7).
00049              02  RNG     PICTURE X(7).
00050              02  RNGU    PICTURE XXX.
00051              02  RNGCO   PICTURE X.
00052              02  PARM    PICTURE X(9).
00053              02  MFG     PICTURE X(9).
00054              02  INO     PICTURE X(6).
```

```
              02  INOCD     PICTURE X.
              02  UDC       PICTURE X(4).
              02  RN        PICTURE X.
              02  POS       PICTURE X(9).
              02  NEG       PICTURE X(9).
              02  EQU       PICTURE XXX.
              02  RCAL      PICTURE X(6).
              02  RSORT     PICTURE X(7).
       007010 WORKING-STORAGE SECTION.                                    CM000057
          77  HOLD-RNG  PICTURE X(7).
          77  HOLD-INO  PICTURE X(6).
       012010 PROCEDURE DIVISION.                                         CM000057
                  OPEN INPUT C-FILE.
                  OPEN OUTPUT OUTFILE.
          1.  READ C-FILE AT END GO TO 99.
              MOVE CF-RNG TO HOLD-RNG.
              MOVE CF-INO TO HOLD-INO.
              PERFORM MOVE-DATA.
          2.  READ C-FILE AT END GO TO 99.
              IF CF-RN NOT = '0' GO TO 2.
              IF CF-INO = HOLD-INO  PERFORM MOVE-DATA  GO TO 2.
              MOVE CF-INO TO HOLD-INO.
              MOVE CF-RNG TO HOLD-RNG.
              PERFORM MOVE-DATA.
              GO TO 2.
          MOVE-DATA.
              MOVE CF-TC TO TC.
              MOVE CF-NO TO NR.
              MOVE CF-CNT TO CNT.
              MOVE CF-TYPCO TO TYPCD.
              MOVE CF-RNG TO RNG.
              MOVE CF-RNGU TO RNGU.
              MOVE CF-RNGCD TO RNGCD.
              MOVE CF-PARM TO PARM
              MOVE CF-MFG TO MFG.
              MOVE HOLD-INO TO INO.
              MOVE CF-INOCD TO INOCD.
              MOVE CF-UDC TO UDC.
              MOVE CF-RN  TO RN.
              MOVE CF-POS TO POS.
              MOVE CF-NEG TO NEG.
              MOVE CF-EQU TO EQU.
              MOVE CF-RCAL TO RCAL.
              MOVE HOLD-RNG TO RSORT.
              WRITE CFNEW.
          99.
              CLOSE C-FILE.
              CLOSE OUTFILE
              STOP RUN.
```

```
1

001010 IDENTIFICATION DIVISION.                                         CM000057
001020 PROGRAM-ID. 'CM000133'.
001030 AUTHOR.  JACK ROSE.                                              CM000057
001040 INSTALLATION.  ARO  INC.                                         CM000057
       DATE-WRITTEN.  JULY 1969.
001060 DATE-COMPILED. SEP 17,1969
001070 SECURITY.                                                        CM000057
       REMARKS.  THIS PROGRAM LISTS A SORTED RTF TOCR FILE.
001090 ENVIRONMENT DIVISION.                                            CM000057
001100 CONFIGURATION SECTION.                                           CM000057
001110    SOURCE-COMPUTER.   IBM-360 H50.                               CM000057
001120    OBJECT-COMPUTER.   IBM-360 H50.                               CM000057
001130 INPUT-OUTPUT SECTION.                                            CM000057
001140    FILE-CONTROL.                                                 CM000057
001150     SELECT C-FILE ASSIGN 'CF001' UTILITY.                        CM000057
001200     SELECT LISTING ASSIGN 'LT001' UTILITY.                       CM000057
001220 DATA DIVISION.                                                   CM000057
001230 FILE SECTION.
002010 FD  C-FILE   RECORDING F   BLOCK 1 RECORDS   RECORD 87           CM000057
002020              LABEL RECORDS OMITTED    DATA RECORD C-FIL.         CM000057
002030 01  C-FIL.                                                       CM000057
002031     02  CF-TC       PICTURE  X.                                  CM000057
002040     02  CF-NO       PICTURE  XXX.                                CM000057
002050     02  CF-CNT      PICTURE  9.                                  CM000057
002060     02  CF-TYPCD    PICTURE  X(7).                               CM000057
002070     02  CF-RNG      PICTURE  X(7).                               CM000057
002080     02  CF-RNGU     PICTURE  XXX.                                CM000057
002090     02  CF-RNGCD    PICTURE  X.                                  CM000057
002100     02  CF-PARM     PICTURE  X(9).                               CM000057
002110     02  CF-MFG      PICTURE  X(9).                               CM000057
002120     02  CF-INO      PICTURE  X(6).                               CM000057
002130     02  CF-INOCD    PICTURE  X.                                  CM000057
002140     02  CF-UDC      PICTURE  X(4).                               CM000057
002150     02  CF-RN       PICTURE  X.                                  CM000057
002160     02  CF-POS      PICTURE  X(9).                               CM000057
002170     02  CF-NEG      PICTURE  X(9).                               CM000057
002180     02  CF-EQU      PICTURE  XXX.                                CM000057
002190     02  CF-RCAL     PICTURE  X(6).                               CM000057
           02 CF-JUNK    PICTURE X(7).
006060 FD  LISTING    RECORDING F  BLOCK 12 RECORDS  RECORD 132
006070                LABEL RECORDS OMITTED   DATA RECORD LISTT.        CM000057
006080 01  LIST     PICTURE  X(132).                                    CM000057
007010 WORKING-STORAGE SECTION.                                         CM000057
007070 77  SKP      PICTURE X    VALUE '0'.
007080 77  EJCT     PICTURE 99   VALUE 59.                              CM000057
007090 77  DSKP    PICTURE  X   VALUE '0'.
008081 01  DATALN.                                                      CM000057
008082     02  FILLER   PICTURE   X(4) VALUE SPACE.                     CM000057
008090     02  LTC     PICTURE X.                                       CM000057
008100     02  FILLER  PICTURE X(4) VALUE SPACE.                        CM000057
008110     02  LTYPCD  PICTURE X(7).                                    CM000057
008120     02  FILLER  PICTURE X(4) VALUE SPACE.                        CM000057
008130     02  LRNG    PICTURE X(7).                                    CM000057
008140     02  FILLER  PICTURE X(3) VALUE SPACE.                        CM000057
```

2

```
00055   008150      02  LRNGU    PICTURE XXX.                                    CM000057
00056   008160      02  FILLER   PICTURE XXX  VALUE SPACE.                       CM000057
00057   008170      02  LRNGCO   PICTURE X.                                      CM000057
00058   008180      02  FILLER   PICTURE XXX  VALUE SPACE.                       CM000057
00059   008190      02  LPARM    PICTURE X(9).                                   CM000057
00060   008200      02  FILLER   PICTURE XXX  VALUE SPACE.                       CM000057
00061   008210      02  LMFG     PICTURE X(9).                                   CM000057
00062   008220      02  FILLER   PICTURE XXX  VALUE SPACE.                       CM000057
00063   008230      02  LINO     PICTURE X(6).                                   CM000057
00064   008240      02  FILLER   PICTURE XXX  VALUE SPACE.                       CM000057
00065   008250      02  LINOCO   PICTURE X.                                      CM000057
00066   009010      02  FILLER     PICTURE  XXX  VALUE SPACE.                    CM000057
00067   009020      02  LUDC       PICTURE  XXXX.                                CM000057
00068   009030      02  FILLER     PICTURE  XXXX VALUE SPACE.                    CM000057
00069   009040      02  LRN        PICTURE  X.                                   CM000057
00070   009050      02  FILLER     PICTURE  XXXX VALUE SPACE.                    CM000057
00071   009060      02  LPOS       PICTURE  X(9).                                CM000057
00072   009070      02  FILLER     PICTURE  XXX  VALUE SPACE.                    CM000057
00073   009080      02  LNEG       PICTURE  X(9).                                CM000057
00074   009090      02  FILLER     PICTURE  XXX  VALUE SPACE.                    CM000057
00075   009100      02  LEQU       PICTURE  XXX.                                 CM000057
00076   009110      02  FILLER     PICTURE  XXX  VALUE SPACE.                    CM000057
00077   009120      02  LRCAL      PICTURE  X(6).                                CM000057
00078   009130      02  FILLER     PICTURE  X(6) VALUE SPACE.                    CM000057
00079   009180 01   F-PAGE.                                                      CM000057
00080   009190      02  FILLER  PICTURE X(60)   VALUE SPACE.                     CM000057
00081   009200      02  FILLER  PICTURE X(6)    VALUE 'C-FILE'.                  CM000057
00082   009210      02  FILLER  PICTURE X(66)   VALUE SPACE.                     CM000057
00083   010010 01   HEADER.                                                      CM000057
00084   010020      02  FILLER  PICTURE X(99)   VALUE '    CELL  TYPE CD    RANGE CM000057
00085   010030-     '   UNIT  CODE PARAMETER     MFGR     ARO I-NO CODE UOC    RNCM000057
00086   010040-     '    POS RN   '.                                             CM000057
00087   010050      02  FILLER  PICTURE X(33) VALUE '   NEG RN      UNITS  R DATE CM000057
00088   010060-     '       '.                                                   CM000057
00089   012010 PROCEOURE DIVISION.                                               CM000057
00090          1.
00091               OPEN INPUT C-FILE.
00092               OPEN OUTPUT LISTING.
00093               WRITE LIST FROM F-PAGE AFTER 0.
00094          2.
00095               REAO C-FILE AT END GO TO 99.
00096               IF CF-RN NOT = '0' GO TO  2.
00097   018200          IF EJCT > 52  MOVE 0 TO EJCT                             CM000057
00098   018210          WRITE LIST FROM HEADER AFTER SKP                         CM000057
00099   018211          MOVE '0' TO DSKP
00100   018220          MOVE '1' TO SKP.
00101 **017150          MOVE CF-TC TO LTC.                                       CM000057
00102   017160          MOVE CF-TYPCO TO LTYPCD.                                 CM000057
00103   017170          MOVE CF-RNG TO LRNG.                                     CM000057
00104   017180          MOVE CF-RNGU TO LRNGU.
00105   017190          MOVE CF-RNGCO TO LRNGCO.                                 CM000057
00106   017200          MOVE CF-PARM TO LPARM                                    CM000057
00107   017210          MOVE CF-MFG TO LMFG.                                     CM000057
00108   017220          MOVE CF-INO TO LINO.                                     CM000057
00109   017230          MOVE CF-INOCO TO LINOCO.                                 CM000057
00110   017240          MOVE CF-UDC TO LUDC.                                     CM000057
00111   017250          MOVE CF-RN TO LRN.                                       CM000057
```

```
  3

018010         MOVE CF-POS TO LPOS.                                      CM000057
018020         MOVE CF-NEG TO LNEG.                                      CM000057
018030         MOVE CF-EQU TO LEQU.                                      CM000057
018040         MOVE CF-RCAL TO LRCAL.                                    CM000057
018050         WRITE LIST FROM DATALN AFTER DSKP.
              ADD 2 TO EJCT.
             GO TO 2.
         99.
             CLOSE C-FILE LISTING.
             STOP RUN.
```

```
1

00101  IDENTIFICATION DIVISION.                                                  CM000082
00102  PROGRAM-ID. 'CM000082'.                                                   CM000082
00103  AUTHOR.  ROSE.                                                            CM000082
00104  INSTALLATION.  ARO INC  TULLAHOMA TENN.                                   CM000082
00105  DATE-WRITTEN.                                                             CM000082
00106  DATE-COMPILED. JAN  6,1970                                                CM000082
00107  SECURITY.                                                                 CM000082
00108  REMARKS.    PROGRAM  UPDATES RTF C-FILE.                                  CM000082
00109  ENVIRONMENT DIVISION.                                                     CM000082
00110  CONFIGURATION SECTION.                                                    CM000082
00111  SOURCE-COMPUTER. IBM-360.                                                 CM000082
00112  OBJECT-COMPUTER. IBM-360.                                                 CM000082
00113  INPUT-OUTPUT SECTION.                                                     CM000082
00114  FILE-CONTROL.                                                             CM000082
           SELECT  GILMORE  ASSIGN 'GILIN'  UTILITY.                             CM000082
00115
00116      SELECT  C-FILE   ASSIGN 'CFILE'  UTILITY.                             CM000082
00117      SELECT  NEW-ONE  ASSIGN 'NUREC'  UTILITY.                             CM000082
001171     SELECT LISTING  ASSIGN 'OOLIST'  UTILITY.                             CM000082
001172     SELECT DPCARD  ASSIGN  'DP001'  UTILITY.                              CM000082
00119  DATA DIVISION.                                                            CM000082
00120  FILE SECTION.                                                             CM000082
00201  FD  GILMORE      RECORDING F  BLOCK 1  RECORDS   RECORD 80                CM000082
00202                 LABEL RECORDS STANDARD   DATA RECORD  GILM.                CM000082
00203  01  GILM.                                                                 CM000082
00204          02  G-CNO    PICTURE X(4).                                        CM000082
               02  GCELL REDEFINES G-CNO.
                   03  GA       PICTURE X.
                   03  G2       PICTURE XXX.
00205          02  G-CNT    PICTURE 9.                                           CM000082
00206          02  G-TYPCO PICTURE X(7).                                         CM000082
00207          02  G-RANGE PICTURE X(7).                                         CM000082
00208          02  G-RUNIT PICTURE XXX.                                          CM000082
00209          02  G-RCODE PICTURE X.                                            CM000082
00210          02  G-PARM   PICTURE X(9).                                        CM000082
00211          02  G-MFG    PICTURE X(9).                                        CM000082
00212          02  G-ARONO PICTURE X(6).                                         CM000082
00213          02  G-AROCD PICTURE X.                                            CM000082
00214          02  G-UDC    PICTURE XXXX.                                        CM000082
00215          02  G-RN     PICTURE X.                                           CM000082
00216          02  G-POS    PICTURE X(9).                                        CM000082
00217          02  G-NEG    PICTURE X(9).                                        CM000082
00218          02  G-PEQ    PICTURE XXX.                                         CM000082
00219          02  G-RCAL   PICTURE X(6).                                        CM000082
00301  FD  C-FILE       RECORDING F  BLOCK 1  RECORDS   RECORD 80                CM000082
00302                   LABEL RECORDS STANDARD  DATA RECORD CFIL.                CM000082
00303  01  CFIL.                                                                 CM000082
00304          02  C-NO        PICTURE    X(4).                                  CM000082
               02  CCELL REDEFINES C-NO.
                   03  C1       PICTURE X.
                   03  C2       PICTURE XXX.
00305          02  C-CNT       PICTURE    9.                                     CM000082
00306          02  C-TYPCO     PICTURE    X(7).                                  CM000082
00307          02  C-RANGE     PICTURE    X(7).                                  CM000082
00308          02  C-RUNIT     PICTURE    XXX.                                   CM000082
```

```
 2

00055   00309      02  C-RCODE    PICTURE   X.                                   CM000082
00056   00310      02  C-PARM     PICTURE   X(9).                                CM000082
00057   00311      02  C-MFG      PICTURE   X(9).                                CM000082
00058   00312      02  C-ARDNO    PICTURE   X(6).                                CM000082
00059   00313      02  C-ARDCD    PICTURE   X.                                   CM000082
00060   00314      02  C-UDC      PICTURE   XXXX.                                CM000082
00061   00315      02  C-RN       PICTURE   X.                                   CM000082
00062   00316      02  C-POS      PICTURE   X(9).                                CM000082
00063   00317      02  C-NEG      PICTURE   X(9).                                CM000082
00064   00318      02  C-PEQ      PICTURE   XXX.                                 CM000082
00065   00319      02  C-RCAL     PICTURE   X(6).                                CM000082
00066   00401  FD  NEW-ONE      RECORDING F  BLOCK 1  RECORDS   RECORD 80        CM000082
00067   00402                   LABEL RECORDS STANDARD   DATA RECORD NU1.        CM000082
00068   00403  01  NU1.                                                          CM000082
00069   00404      02  FILLER     PICTURE   X(80).                               CM000082
00070   004041 FD  LISTING    RECORDING F  BLOCK 12 RECORDS  RECORD 132          C
00071   004042         LABEL RECORDS OMITTED   DATA RECORD LIST.                 CM000082
00072   004043 01  LIST.                                                         CM000082
00073   004044     02  FILLER   PICTURE X(132).                                  CM000082
00074   004050 FD  OPCARD       RECORDING F BLOCK 1 RECORDS  RECORD 80           CM000082
00075   004051                  LABEL RECORDS STANDARD  DATA RECORD OCARD.       CM000082
00076   004052 01  OCARD.                                                        CM000082
00077   004053     02  OPT      PICTURE  X.                                      CM000082
00078   004054     02  FILLER   PICTURE  XX.                                     CM000082
00079   004055     02  DATE.                                                     CM000082
00080   004056         03  MO   PICTURE 99.                                      CM000082
00081   004057         03  DY   PICTURE 99.                                      CM000082
00082   004058         03  YR   PICTURE 99.                                      CM000082
00083   004059     02  FILLER   PICTURE X(70).                                   CM000082
00084   004060     02  COMM     PICTURE X.                                       CM000082
00085   004061         88  COM      VALUE 'C'.                                   CM000082
00086 **00406  WORKING-STORAGE SECTION.                                         CM000082
00087   004061 77  JECT     PICTURE  99  VALUE 60.
00088          77  JCAR     PICTURE X(6).
00089   004070 01  LLINE.                                                        CM000082
00090   004071     02  SK         PICTURE  X       VALUE '1'.                    CM000082
00091   004073     02  FILLER     PICTURE  XXXX    VALUE SPACE.                  CM000082
00092              02  L-CELL  PICTURE X.
00093   004075     02  FILLER     PICTURE  XXXX    VALUE SPACE.                  CM000082
00094   004076     02  L-TYPCO    PICTURE  X(7).                                 CM000082
00095   004077     02  FILLER     PICTURE  XXXX    VALUE SPACE.                  CM000082
00096   004078     02  L-RANGE    PICTURE  X(7).                                 CM000082
00097   004079     02  FILLER     PICTURE  XXX     VALUE SPACE.                  CM000082
00098   004080     02  L-UNIT     PICTURE  XXX.                                  CM000082
00099   004081     02  FILLER     PICTURE  XXX     VALUE SPACE.                  CM000082
00100   004082     02  L-CODE     PICTURE  X.                                    CM000082
00101   004083     02  FILLER     PICTURE  XXX     VALUE SPACE.                  CM000082
00102   004084     02  L-PARM     PICTURE  X(9).                                 CM000082
00103   004085     02  FILLER     PICTURE  XXX     VALUE SPACE.                  CM000082
00104   004086     02  L-MFG      PICTURE  X(9).                                 CM000082
00105   004087     02  FILLER     PICTURE  XXX     VALUE SPACE.                  CM000082
00106   004088     02  L-ARDNO    PICTURE  X(6).                                 CM000082
00107   004089     02  FILLER     PICTURE  XXX     VALUE SPACE.                  CM000082
00108   004090     02  L-ARDCD    PICTURE  X.                                    CM000082
00109   004091     02  FILLER     PICTURE  XXX     VALUE SPACE.                  CM000082
00110   004092     02  L-UDC      PICTURE  XXXX.                                 CM000082
00111   004093     02  FILLER     PICTURE  XXXX    VALUE SPACE.                  CM000082
```

3

```
00112   004094      02  L-RN      PICTURE  X.                                          CM000082
00113   004095      02  FILLER    PICTURE  XXXX     VALUE SPACE.                       CM000082
00114   004096      02  L-POS     PICTURE  X(9).                                       CM000082
00115   004097      02  FILLER    PICTURE  XXX      VALUE SPACE.                       CM000082
00116   004098      02  L-NEG     PICTURE  X(9).                                       CM000082
00117   004099      02  FILLER    PICTURE  XXX      VALUE SPACE.                       CM000082
00118   004100      02  L-PEQ     PICTURE  XXX.                                        CM000082
00119   004101      02  FILLER    PICTURE  XXX      VALUE SPACE.                       CM000082
00120   004102      02  L-RCAL    PICTURE  X(6).                                       CM000082
00121   004103      02  FILLER    PICTURE  X(6)     VALUE SPACE.                       CM000082
00122   004200 01   F-PAGE.                                                            CM000082
00123   00421       02  FILLER PICTURE X(50) VALUE SPACE.                              CM000082
00124   00422       02  FILLER PICTURE X(19) VALUE 'RTF TRANSDUCER FILE'.              CM000082
00125   00423       02  FILLER  PICTURE  X(63)  VALUE SPACE.                           CM000082
00126   00425  01   HEAO.                                                              CM000082
00127   00426       02  FILLER  PICTURE X(20)   VALUE  '   CELL  TYPE CD     '.        CM000082
00128   00427       02  FILLER  PICTURE X(20)   VALUE  'RANGE    UNIT  CODE '.         CM000082
00129   00428       02  FILLER  PICTURE X(20)   VALUE  'PARAMETER      MFGR '.         CM000082
00130   00429       02  FILLER  PICTURE X(20)   VALUE  '   ARO I-NO CODE UDC'.         CM000082
00131   00430       02  FILLER  PICTURE X(20)   VALUE  '    RN     POS RN   '.         CM000082
00132   00431       02  FILLER  PICTURE X(20)   VALUE  '  NEG RN      UNITS '.         CM000082
00133   00432       02  FILLER  PICTURE X(12)   VALUE  'R DATE      '.
00134   00501  PROCEDURE DIVISION.                                                     CM000082
00135   005011 NOTE1.                                                                  CM000082
00136   005012          NOTE  IF A LISTING OF UPOATED FILE IS DESIRED, PUNCH           CM000082
00137   005013                AN 'O' IN COLUMN 1 OF OPTION CARO, ELSE LEAVE            CM000082
00138   005014                COLUMN 1 BLANK.                                          CM000082
00139   005015 8GIN.
00140   00502       OPEN INPUT GILMORE  C-FILE.                                        CM000082
00141   00503       OPEN OUTPUT NEW-ONE.                                               CM000082
00142   005031      OPEN OUTPUT LISTING.                                               CM000082
00143   005032      OPEN INPUT OPCARO.                                                 CM000082
00144   005033      REAO OPCARO AT ENO GO TO CARD-ERR.
00145   005034      IF COM NEXT SENTENCE ELSE GO TO CARD-ERR.                          CM000082
00146   00504  READGIL.                                                                CM000082
00147   00505       REAO GILMORE AT END GO TO G-ENO.                                   CM000082
00148   00506  READ-C.                                                                 CM000082
00149   00507       READ C-FILE AT END GO TO C-ENO.                                    CM000082
00150               MOVE C-AR3NO TO JCAR.
00151   00508  COMPR.                                                                  CM000082
00152   00509       IF C-ARONO < G-ARONO                                               CM000082
00153   00510           WRITE NU1 FROM CFIL                                            CM000082
00154   005101      IF OPT = 'O' PERFORM MOV-CF GO TO READ-C ELSE
00155   00511           GO TO READ-C.                                                  CM000082
00156               IF C-ARONO = G-ARONO
00157               IF C-AROCO < G-AROCD
00158                 WRITE NU1 FROM CFIL
00159                 IF OPT = 'O' PERFORM MOV-CF GO TO READ-C
00160                  ELSE GO TO READ-C.
00161   00512       IF C-ARONO = G-ARONO                                               CM000082
00162                 IF C-AROCD = G-AROCD
00163   00513           WRITE NU1 FROM GILM                                            CM000082
00164   005131      IF OPT = 'O' PERFORM  MOV-GIL GO TO READGIL ELSE
00165   00514           GO TO READGIL.                                                 CM000082
00166   00515       WRITE NU1 FROM GILM.                                               CM000082
00167   005151      IF OPT = 'O' PERFORM MOV-GIL.                                      CM000082
00168   00516       READ GILMORE AT END GO TO G-END.                                   CM000082
```

4

```
00169   00517         GO TO COMPR.                                              CM000082
00170   00518   C-END.                                                          CM000082
00171   00519         WRITE NU1 FROM GILM.                                      CM000082
00172   005191        IF OPT = 'O' PERFORM MOV-GIL.                             CM000082
00173   00520         READ GILMORE AT END GO TO ALLL.                           CM000082
00174   00521         GO TO C-END.                                              CM000082
00175   00522   G-END.                                                          CM000082
00176                 IF JCAR = G-AROND GO TO GEE.
00177   00524   G1.   WRITE NU1 FROM CFIL.                                      CM000082
00178   005240  GEE.
00179   005241        IF OPT = 'O' PERFORM MOV-CF.                              CM000082
00180   00525         READ C-FILE AT END GO TO ALLL.                            CM000082
00181   00601         GO TO G1.                                                 CM000082
00182   006011  CARD-ERR.                                                       CM000082
00183 **006011        DISPLAY 'OPTION CARD IOIOT-ED'.                           CM000082
00184   00602   ALLL.                                                           CM000082
00185   00603         CLOSE C-FILE GILMORE NEW-ONE.                             CM000082
00186   006031        CLOSE LISTING OPCARD.                                     CM000082
00187   00604         STOP RUN.                                                 CM000082
00188   007000  MOV-GIL.                                                        CM000082
00189                 MOVE G-TYPCO TO L-TYPCO.
00190                 MOVE GA TO L-CELL.
00191   00704         MOVE G-RANGE TO L-RANGE                                   CM000082
00192   00705         MOVE G-RUNIT TO L-UNIT                                    CM000082
00193   00706         MOVE G-RCODE TO L-CODE                                    CM000082
00194   00707         MOVE G-PARM  TO L-PARM                                    CM000082
00195   00708         MOVE G-MFG   TO L-MFG                                     CM000082
00196   00709         MOVE G-AROND TO L-AROND                                   CM000082
00197   00710         MOVE G-AROCD TO L-AROCD                                   CM000082
00198   00711         MOVE G-UDC   TO L-UDC                                     CM000082
00199   00712         MOVE G-RN    TO L-RN                                      CM000082
00200   00713         MOVE G-POS   TO L-POS                                     CM000082
00201   00714         MOVE G-NEG   TO L-NEG                                     CM000082
00202   00715         MOVE G-PEQ   TO L-PEQ                                     CM000082
00203   00716         MOVE G-RCAL  TO L-RCAL                                    CM000082
00204   00717         ADD 1 TO JECT.                                            CM000082
00205   00718         PERFORM CJECT                                             CM000082
00206   00719         WRITE LIST FROM LLINE AFTER SK.  MOVE ' ' TO SK.          CM000082
00207   00720   CJECT.                                                          CM000082
00208   00721         IF JECT > 52                                              CM000082
00209                 MOVE 'O' TO SK
00210   00723          WRITE LIST FROM HEAD AFTER O                             CM000082
00211   00724          MOVE C TO JECT.                                          CM000082
00212   008000  MOV-CF.                                                         CM000082
00213                 MOVE C1 TO L-CELL.
00214   00803         MOVE C-TYPCD TO L-TYPCD.                                  CM000082
00215   00804         MOVE C-RANGE TO L-RANGE.                                  CM000082
00216   00805         MOVE C-RUNIT TO L-UNIT                                    CM000082
00217   00806         MOVE C-RCODE TO L-CODE                                    CM000082
00218   00807         MOVE C-PARM TO L-PARM                                     CM000082
00219   00808         MOVE C-MFG  TO L-MFG.                                     CM000082
00220   00809         MOVE C-AROND TO L-AROND                                   CM000082
00221   00810         MOVE C-AROCD TO L-AROCD                                   CM000082
00222   00811         MOVE C-UDC TO L-UDC                                       CM000082
00223   00812         MOVE C-RN TO L-RN                                         CM000082
00224   00813         MOVE C-POS TO L-POS                                       CM000082
00225   00814         MOVE C-NEG TO L-NEG                                       CM000082
```

5

```
00226    00815       MOVE C-PEQ TO L-PEQ                                     CM000082
00227    00816       MOVE C-RCAL TO L-RCAL                                   CM000082
00228    00817       ADD 1 TO JECT.                                          CM000082
00229    00818       PERFORM CJECT.                                          CM000082
00230    00819       WRITE LIST FROM LLINE AFTER SK.                         CM000082
00231    00820       MOVE ' ' TO SK.                                         CM000082
```

1

```
00001    001010 IDENTIFICATION DIVISION.                                         CM000057
00002    001020 PROGRAM-ID. 'CM000057'.                                          CM000057
00003    001030 AUTHOR.  JACK ROSE.                                              CM000057
00004    001040 INSTALLATION.  ARO  INC.                                         CM000057
00005    001050 DATE-WRITTEN.  DEC  1967.                                        CM000057
00006    001060 DATE-COMPILED. JAN  6,1970                                       CM000057
00007    001070 SECURITY.                                                        CM000057
00008    001080 REMARKS.    PROGRAM UPDATES RTF TRANSDUCER FILE.                 CM000057
00009    001090 ENVIRONMENT DIVISION.                                            CM000057
00010    001100 CONFIGURATION SECTION.                                           CM000057
00011    001110    SOURCE-COMPUTER.  IBM-360 H50.                                CM000057
00012    001120    OBJECT-COMPUTER.  IBM-360 H50.                                CM000057
00013    001130 INPUT-OUTPUT SECTION.                                            CM000057
00014    001140    FILE-CONTROL.                                                 CM000057
00015    001150     SELECT C-FILE ASSIGN 'CF001' UTILITY.                        CM000057
00016    001160     SELECT C-IN   ASSIGN 'CN001' UTILITY.                        CM000057
00017    001170     SELECT KARDS  ASSIGN  'C0001' UTILITY.                       CM000057
00018    001180     SELECT NU-FILE ASSIGN 'NF001' UTILITY.                       CM000057
00019    001190     SELECT OUTFILE ASSIGN 'OT001' UTILITY.                       CM000057
00020    001200     SELECT LISTING ASSIGN 'LT001' UTILITY.                       CM000057
00021    001220 DATA DIVISION.                                                   CM000057
00022    001230 FILE SECTION.
00023    002010 FD  C-FILE  RECORDING F   BLOCK 1 RECORDS   RECORD 80            CM000057
00024    002020             LABEL RECORDS OMITTED    DATA RECORD C-FIL.          CM000057
00025    002030 01  C-FIL.                                                       CM000057
00026    002031     02  CF-TC       PICTURE  X.                                  CM000057
00027    002040     02  CF-NO       PICTURE  XXX.                                CM000057
00028    002050     02  CF-CNT      PICTURE  9.                                  CM000057
00029    002060     02  CF-TYPCD    PICTURE  X(7).                               CM000057
00030    002070     02  CF-RNG      PICTURE  X(7).                               CM000057
00031    002080     02  CF-RNGU     PICTURE  XXX.                                CM000057
00032    002090     02  CF-RNGCD    PICTURE  X.                                  CM000057
00033    002100     02  CF-PARM     PICTURE  X(9).                               CM000057
00034    002110     02  CF-MFG      PICTURE  X(9).                               CM000057
00035 **     09  02 CF-INCD.
00036        10     03  CF-IND  PICTURE X(6).
00037        11     03  CF-INDCD  PICTURE X.
00038    002140     02  CF-UOC      PICTURE  X(4).                               CM000057
00039    002150     02  CF-RN       PICTURE  X.                                  CM000057
00040    002160     02  CF-POS      PICTURE  X(9).                               CM000057
00041    002170     02  CF-NEG      PICTURE  X(9).                               CM000057
00042    002180     02  CF-EQU      PICTURE  XXX.                                CM000057
00043 **     20     02  CF-RCAL.
00044        21         03  CFRMO    PICTURE XX.
00045        22         03  CFROY    PICTURE XX.
00046        23         03  CFRYR    PICTURE XX.
00047    003010 FD  KARDS      RECORDING F   BLOCK 10 RECORDS   RECORD 80        CMO
00048    003020         LABEL RECORDS STANDARD DATA RECORDS N-CD C-CD O-CD.      CM000057
00049    003030 01  N-CD.                                                        CM000057
00050    003040     02  N-TC        PICTURE  X.                                  CM000057
00051    003041     02  N-NO        PICTURE  XXX.                                CM000057
00052    003050     02  N-CNT       PICTURE  9.                                  CM000057
00053    003060     02  N-TYPCO     PICTURE  X(7).                               CM000057
00054    003070     02  N-RNG       PICTURE  X(7).                               CM000057
```

2

```
00055   003080      02  N-RNGU    PICTURE  XXX.                                    CM000057
00056   003090      02  N-RNGCO   PICTURE  X.                                      CM000057
00057   003100      02  N-PARM    PICTURE  X(9).                                   CM000057
00058   003110      02  N-MFG     PICTURE  X(9).                                   CM000057
00059   003120      02  N-INO     PICTURE  X(6).                                   CM000057
00060   003130      02  N-INOCO   PICTURE  X.                                      CM000057
00061   003140      02  N-UDC     PICTURE  XXXX.                                   CM000057
00062   003150      02  N-RN      PICTURE  X.                                      CM000057
00063   003160      02  N-POS     PICTURE  X(9).                                   CM000057
00064   003170      02  N-NEG     PICTURE  X(9).                                   CM000057
00065   003180      02  N-EQU     PICTURE  XXX.                                    CM000057
00066   003190      02  N-RCAL    PICTURE  X(6).                                   CM000057
00067   004010 01  C-CO.                                                           CM000057
00068   004020      02  C-PARM       PICTURE X(9).                                 CM000057
00069   004030      02  RC-PARM  REOEFINES C-PARM.                                 CM000057
00070   004040          03  RC-P1    PICTURE X(6).                                 CM000057
00071   004050          03  FILLER   PICTURE X.                                    CM000057
00072   004060          03  RC-P2    PICTURE X.                                    CM000057
00073   004070          03  FILLER   PICTURE X.                                    CM000057
00074   004080      02  C-INO        PICTURE X(6).                                 CM000057
00075   004090      02  C-INOCO      PICTURE X.                                    CM000057
00076   004100      02  C-UOC        PICTURE XXXX.                                 CM000057
00077   004110      02  C-RN         PICTURE X.                                    CM000057
00078   004120      02  C-POS        PICTURE X(9).                                 CM000057
00079   004130      02  C-NEG        PICTURE X(9).                                 CM000057
00080   004140      02  C-RCAL       PICTURE X(6).                                 CM000057
00081   004150      02  C-TC         PICTURE X.                                    CM000057
00082   004160      02  FILLFR       PICTURE X(34).                                CM000057
00083   005010 01  O-CD.                                                           CM000057
00084   005020      02  O-OPT     PICTURE  X.                                      CM000057
00085   005030              88  OB-OPT  VALUE 'O'.
00086   005040      02  O-PP      PICTURE  XX.                                     CM000057
00087   005050      02  O-OATE.                                                    CM000057
00088   005060          03  O-MO      PICTURE  99.                                 CM000057
00089   005070          03  O-OY      PICTURE  99.                                 CM000057
00090   005080          03  O-YR      PICTURE  99.                                 CM000057
00091   005090      02  FILLER    PICTURE  X(70).                                  CM000057
00092   005100      02  O-C       PICTURE  X.                                      CM000057
00093   005110          88  OB-C     VALUE  'C'.                                   CM000057
00094   005130 FO  OUTFILE  RECOROING F  BLOCK 1  RECORDS  RECORO 80               CM000057
00095   005140                LABEL RECOROS STANOARD  OATA RECORO OUTFIL.          CM000057
00096   005150 01  OUTFIL.                                                         CM000057
00097   005160      02  FILLER  PICTURE  X(80).                                    CM000057
00098   006010 FO  C-IN     RECOROING F  BLOCK 1  RECORDS  RECORO 80
00099   006020              LABEL RECOROS STANDARO   OATA RECORO CTIN.             CM000057
00100   006030 01  CTIN.                                                           CM000057
00101               02 CTIN52  PICTURE X(52).
00102               02  CTINRN  PICTURE X.
00103               02  CTIN80  PICTURE X(27).
00104   006060 FO  LISTING   RECOROING F  BLOCK 12 RECOROS  RECORO 132
00105   006070                LABEL RECORDS OMITTEO   DATA RECORO LISTT.           CM000057
00106   006080 01  LIST     PICTURE  X(132).                                       CM000057
00107   006090 FO  NU-FILE    RECOROING F BLOCK 25 RECOROS  RECORO 80
00108   006100                  LABEL RECORDS STANDARD  OATA RECORO NU-FIL.
00109   006110 01  NU-FIL.
00110   006120      02  FILLER  PICTURE  X(80).
00111   007010 WORKING-STORAGE SECTION.                                            CM000057
```

3

```
00112   007020 77  SW        PICTURE  9    VALUE 0.                           CM000057
00113   007030 77  KBXS      PICTURE  9    VALUE 0.                           CM000057
00114   007040 77  CSW       PICTURE  9    VALUE 0.                           CM000057
00115   007050 77  SUB       PICTURE 99    VALUE 0.                           CM000057
00116   007060 77  SUB1      PICTURE 99    VALUE 0.                           CM000057
00117   007070 77  SKP       PICTURE X     VALUE '0'.
00118   007080 77  EJCT      PICTURE 99    VALUE 59.                          CM000057
00119   007090 77  DSKP    PICTURE   X   VALUE '0'.
00120   007100 77  SW2   PICTURE   9    VALUE 0.
00121   .      77  CQSW    PICTURE  9  VALUE 0.
00122   007110 77  J     PICTURE  99  VALUE 0.
00123   007120 77  CBS     PICTURE X VALUE SPACE.
00124 **007020 77  CDC       PICTURE  X(6)   VALUE SPACE.
00125 **    01  01  CT-HOL01.
00126       02      02  CTH1     PICTURE X(41).
00127       03      02  CTHNO    PICTURE X(7).
00128       04      02  CTH18    PICTURE X(26).
00129       05      02  CTHMO    PICTURE XX.
00130       06      02  CTHOY    PICTURE XX.
00131       07      02  CTHYR    PICTURE XX.
00132       12  01  CT-HOL02.
00133       13      02  CTH2     PICTURE X(80).
00134       14  01  CT-HOL03.
00135       15      02  CTH3     PICTURE X(80).
00136       16  01  CT-HOL04.
00137       17      02  CTH4     PICTURE X(80).
00138       18  01  CT-HOL05.
00139       19      02  CTH5     PICTURE X(80).
00140   007130 01  HOLO-TESTCELL.                                             CM000057
00141   007140     02  HRC-PC  PICTURE X   OCCURS 10.                         CM000057
00142   008081 01  DATALN.                                                    CM000057
00143   008082     02  FILLER   PICTURE   X(4) VALUE SPACE.                   CM000057
00144   008090     02  LTC      PICTURE X.                                    CM000057
00145   008100     02  FILLER   PICTURE X(4) VALUE SPACE.                     CM000057
00146   008110     02  LTYPCD   PICTURE X(7).                                 CM000057
00147   008120     02  FILLER   PICTURE X(4) VALUE SPACE.                     CM000057
00148   008130     02  LRNG     PICTURE X(7).                                 CM000057
00149   008140     02  FILLER   PICTURE X(3) VALUE SPACE.                     CM000057
00150   008150     02  LRNGU    PICTURE XXX.                                  CM000057
00151   008160     02  FILLER   PICTURE XXX  VALUE SPACE.                     CM000057
00152   008170     02  LRNGCO   PICTURE X.                                    CM000057
00153   008180     02  FILLER   PICTURE XXX  VALUE SPACE.                     CM000057
00154   008190     02  LPARM    PICTURE X(9).                                 CM000057
00155   008200     02  FILLER   PICTURE XXX  VALUE SPACE.                     CM000057
00156   008210     02  LMFG     PICTURE X(9).                                 CM000057
00157   008220     02  FILLER   PICTURE XXX  VALUE SPACE.                     CM000057
00158   008230     02  LINO     PICTURE X(6).                                 CM000057
00159   008240     02  FILLER   PICTURE XXX  VALUE SPACE.                     CM000057
00160   008250     02  LINOCD   PICTURE X.                                    CM000057
00161   009010     02  FILLER     PICTURE  XXX  VALUE SPACE.                  CM000057
00162   009020     02  LUOC       PICTURE  XXXX.                              CM000057
00163   009030     02  FILLER     PICTURE  XXXX VALUE SPACE.                  CM000057
00164   009040     02  LRN        PICTURE  X.                                 CM000057
00165   009050     02  FILLER     PICTURE  XXXX VALUE SPACE.                  CM000057
00166   009060     02  LPOS       PICTURE  X(9).                              CM000057
00167   009070     02  FILLER     PICTURE  XXX  VALUE SPACE.                  CM000057
00168   009080     02  LNEG       PICTURE  X(9).                              CM000057
```

```
009090      02  FILLER     PICTURE  XXX  VALUE SPACE.                          CM000057
009100      02  LEQU       PICTURE  XXX.                                       CM000057
009110      02  FILLER     PICTURE  XXX  VALUE SPACE.                          CM000057
009120      02  LRCAL      PICTURE  X(6).                                      CM000057
009130      02  FILLER     PICTURE  X(6) VALUE SPACE.                          CM000057
009180 01   F-PAGE.                                                            CM000057
            02  FILLER   PICTURE X(10)    VALUE SPACE.
            02  FILLER   PICTURE X(108)   VALUE 'RTF, J-INSTRUMENT BRANCH,
       -    'MASTER TRANSDUCER INVENTORY AND ASSIGNMENT LISTING (C-FILE)
       -    '                    RUN DATE '.
            02  PRMO     PICTURE 99.
            02  FILLER   PICTURE X     VALUE '-'.
            02  PROY     PICTURE 99.
            02  FILLER   PICTURE X     VALUE '-'.
            02  PRYR     PICTURE 99.
            02  FILLER   PICTURE X(6) VALUE SPACE.
       01   F-PAGES.
            02  FILLER   PICTURE X(10) VALUE SPACE.
            02  FILLER   PICTURE X(32) VALUE 'TRANSDUCERS BY INSTRUMENT NU
       -    'MBER'.
            02  FILLER   PICTURE X(90) VALUE SPACE.
010010 01   HEADER.                                                            CM000057
010020      02  FILLER   PICTURE X(99)    VALUE '   CELL   TYPE CO     RANGE CM000057
010030-     '   UNIT  CODE PARAMETER      MFGR      ARD I-NO CODE UDC      RNCM000057
010040-     '    PDS RN    '.                                                  CM000057
010050      02  FILLER   PICTURE X(33) VALUE '   NEG RN      UNITS   R DATE CM000057
010060-     '       '.                                                         CM000057
012010 PROCEDURE DIVISION.                                                     CM000057
020000 NOTE1.                                                                  CM000057
            NOTE CARDS USED TO ADD OR REPLACE AN ENTIRELY NEW RECORD          CM000057
            MUST BE PRECEEDED WITH A HEADER CARD WHICH HAS 'HEAD-N'           CM000057
            PUNCHED IN COLUMNS 75 - 80    THESE CARDS MUST BE SORTED          CM000057
            TO ARD-I-NO  COLUMNS 42 - 47  ASCENDING SEQUENCE  ALSO            CM000057
            THESE MUST BE FIRST UPDATE CARDS SUPPLIED.                         CM000057
020060 NOTE2.                                                                  CM000057
            NOTE  THE NEXT TYPE OF UPDATE CARD IS USED TO MODIFY               CM000057
             OR DELETE AN EXISTING RECORD    THESE CARDS MUST BE               CM000057
             PRECEEDED BY A HEADER CARD WHICH HAS 'HEAD-C' PUNCHED             CM000057
             IN COLUMNS 75 -80   CARDS MUST BE SORTED TO ARD-NO
             COLUMNS 10 - 15  ASCENDING SEQUENCE.                              CM000057
**012024 FIRSTT.
**012020    OPEN INPUT C-IN.                                                   CM000057
  012030    OPEN OUTPUT C-FILE.                                                CM000057
**    01  A0. READ C-IN AT END GO TO A1.
      02  A2. MOVE CTIN TO CT-HOLD1.
              MOVE CTIN TO C-FIL.
      03      READ C-IN AT END GO TO A1.
      04      MOVE CTIN TO CT-HOLD2.
      05      READ C-IN AT END GO TO A1.
      06      MOVE CTIN TO CT-HOLD3.
      07      READ C-IN AT END GO TO A1.
      08      MOVE CTIN TO CT-HOLD4.
      09      READ C-IN AT END GO TO A1.
              IF CTINRN NOT = '4' GO TO A0-ERR.
      11      MOVE CTIN TO CT-HOLD5.
      13  A3.
      14      READ C-IN AT END GO TO A1.
```

```
 5

00226                   MOVE CTIN TO C-FIL.
00227         15        IF CF-RN NOT = '0' GO TO AO-ERR.
00228         16        IF CF-INCD = CTHNO GO TO ACT1.
00229         18        WRITE C-FIL FROM CT-HOLD1.
00230         19        WRITE C-FIL FROM CT-HOLD2.
00231         20        WRITE C-FIL FROM CT-HOLD3.
00232         21        WRITE C-FIL FROM CT-HOLD4.
00233         22        WRITE C-FIL FROM CT-HOLD5.
00234         23        GO TO A2.
00235 **      01    ACT1.
00236         02        IF CFRYR > CTHYR GO TO A2.
00237         03        IF CFRYR < CTHYR GO TO ACT2.
00238         04        IF CFRMO > CTHMO GO TO A2.
00239         05        IF CFRMO < CTHMO GO TO ACT2.
00240         06        IF CFRDY > CTHDY GO TO A2.
00241         07        IF CFRDY < CTHDY GO TO ACT2.
00242         08        GO TO A2.
00243         09    ACT2.
00244         10        READ C-IN AT END GO TO A1.
00245         11        READ C-IN AT END GO TO A1.
00246         12        READ C-IN AT END GO TO A1.
00247         13        READ C-IN AT END GO TO A1.
00248         14        GO TO A3.
00249         15    AO-ERR.    DISPLAY 'BAD FILE' CF-INCO.
00250         16        READ C-IN AT END GO TO A1.
00251                   MOVE CTIN TO C-FIL.
00252         17        IF CF-RN NOT = '0' GO TO AO-ERR.
00253         18        GO TO A2.
00254    012080 A1.                                                               CM000057
00255 **      20        WRITE C-FIL FROM CT-HOLD1.
00256         21        WRITE C-FIL FROM CT-HOLD2.
00257         22        WRITE C-FIL FROM CT-HOLD3.
00258         23        WRITE C-FIL FROM CT-HOLD4.
00259         24        WRITE C-FIL FROM CT-HOLD5.
00260    012090         CLOSE C-IN C-FILE.                                        CM000057
00261    012100         OPEN INPUT KARDS.                                         CM000057
00262    012110         READ KARDS AT END GO TO NO-DP.                            CM000057
00263    012120         IF O-DPT NOT = 'D' GO TO NO-DP.                           CM000057
00264                   MOVE O-MO TO PRMO.
00265                   MOVE O-DY TO PRDY.
00266                   MOVE O-YR TO PRYR.
00267    012130         READ KARDS AT END GO TO END-JOB.
00268    012140         IF N-RCAL = 'HEAD-N' GO TO PAR-B.                         CM000057
00269    012150         IF N-RCAL = 'HEAD-C' GO TO PAR-A.                         CM000057
00270    012160         DISPLAY 'NO HEADER CARD ' STOP RUN.                       CM000057
00271    012170 NO-DP.                                                            CM000057
00272    012180         DISPLAY 'NO OPTION CARD ' STOP RUN.                       CM000057
00273    012190 PAR-B.                                                            CM000057
00274    012200         READ KARDS AT END GO TO PAR-ZZ.                           CM000057
00275                   IF N-RCAL = 'HEAD-C' GO TO PAR-A.
00276    012210         OPEN I-O C-FILE.    OPEN OUTPUT NU-FILE.                  CM000057
00277    012220 PAR-B1.                                                           CM000057
00278    012230             READ C-FILE AT END GO TO CBX.                         CM000057
00279    013010 PAR-B2.
00280    013020         IF CF-INO < N-INO  WRITE NU-FIL FROM C-FIL
00281    013030             GO TO PAR-B1.
00282    013040         IF CF-INO > N-INO  GO TO B2XXX.
```

6

```
00283   013050       IF CF-INOCD > N-INOCD GO TO B2XXX.
00284   013060       IF CF-INOCD < N-INOCO
00285   013070           MOVE CF-INO TO COC
00286   013080           PERFORM WRN THRU WRNX 5 TIMES
00287   013090           GO TO PAR-B2.
00288   013100 1.
00289   013110       IF CF-RN < N-RN GO TO 2.
00290   013120       IF CF-RN > N-RN DISPLAY '1312' CF-IND GO TO PAR-B1.
00291   013130       MOVE CF-INO TO CDC.
00292                MOVE CF-INOCO TO CBS.
00293   013140       WRITE NU-FIL FROM N-CO. READ KAROS AT END GO TO PAR-ZZ.
00294   013141       IF N-RCAL NOT = 'HEAD-C' GO TO 6.
00295   013142 8.    IF CF-RN = '4' MOVE 1 TO KBXS GO TO KBX.
00296   013143       READ C-FILE AT END GO TO CBX2.
00297   013144       WRITE NU-FIL FROM C-FIL.
00298   013145       GO TO 8.
00299          6.    IF COC = N-INO IF CBS = N-INOCO GO TO 3.
00300   013160 5.    IF CF-RN = '4' GO TO PAR-B1.
00301   013170       READ C-FILE AT END GO TO CBX.
00302   013180       WRITE NU-FIL FROM C-FIL.
00303   013190       GO TO 5.
00304   013200 2.
00305   013210       MOVE CF-IND TO COC
00306   013220       WRITE NU-FIL FROM C-FIL.
00307   013230 3.
00308   013240       READ C-FILE AT END GO TO CBX.
00309   013250       IF CF-INO = CDC GO TO PAR-B2.
00310   014010       DISPLAY '1401' GO TO PAR-B1.
00311   014020 WRN.
00312   014030       IF CDC NOT = CF-INO GO TO WRNX.
00313   014040       WRITE NU-FIL FROM C-FIL.
00314   014050       READ C-FILE AT END GO TO CBX.
00315   014060 WRNX.
00316   014070       EXIT.
00317   014080 B2XXX.
00318                MOVE N-INOCO TO CBS.
00319   014090       MOVE N-INO TO COC.
00320   014100       MOVE 0 TO J.
00321   014110 WNU.
00322   014120       WRITE NU-FIL FROM N-CD.
00323   014130       ADD 1 J GIVING J.
00324   014140       IF CDC NOT = N-IND DISPLAY '1414' GO TO PAR-B2.
00325   014150 7.
00326   014160       READ KAROS AT END GO TO PAR-ZZ.
00327                IF N-RCAL = 'HEAD-C' GO TO 89.
00328   014180       IF J NOT = 5 GO TO WNU.
00329   014190       IF COC = N-IND IF CBS = N-INOCO DISPLAY '1419 ' COC CBS
00330   014191            GO TO 7.
00331   014200       GO TO PAR-B2.
00332          89.   WRITE NU-FIL FROM G-FIL.  GO TO B.
00333 **013130 CBX.                                                              CM000057
00334   013160          WRITE NU-FIL FROM N-CO.                                   CM000057
00335 **013140          READ KAROS AT END GO TO CBX1.                             CM000057
00336   013150          IF N-RCAL = 'HEAD-C' GO TO CBX2.                          CM000057
00337   013170          GO TO CBX.                                                CM000057
00338   013180 CBX2.                                                              CM000057
00339   013190          CLOSE C-FILE  NU-FILE.                                    CM000057
```

7

```
00340   013200             OPEN INPUT NU-FILE.                                 CM000057
00341   013210             OPEN OUTPUT C-FILE.                                 CM000057
00342   013220 CBX3.                                                           CM000057
00343   013230             READ NU-FILE AT END GO TO CBX22.                    CM000057
00344   013240             WRITE C-FIL FROM NU-FIL.                            CM000057
00345   013250             GO TO CBX3.                                         CM000057
00346   014010 CBX22.                                                          CM000057
00347   014020             CLOSE C-FILE NU-FILE.                               CM000057
00348   014030             GO TO PAR-A.                                        CM000057
00349   014040 CBX1.                                                           CM000057
00350   014050             GO TO END-JOB.                                      CM000057
00351   014070 KBX.                                                            CM000057
00352   014080             READ C-FILE AT END GO TO KBX1.                      CM000057
00353   014090             WRITE NU-FIL  FROM C-FIL.
00354   014100             GO TO KBX.                                          CM000057
00355   014110 KBX1.                                                           CM000057
00356   014120             IF KBXS = 1 GO TO CBX2.                             CM000057
00357   014130             GO TO CBX1.                                         CM000057
00358   014140 PAR-A.                                                          CM000057
00359   014150             OPEN I-O C-FILE. OPEN OUTPUT NU-FILE.               CM000057
00360   014160 PAR-C.                                                          CM000057
00361   014170             READ KARDS AT END GO TO END-JOB.                    CM000057
00362   014180 PAXY.       IF C-PARM = 'ZERO CALS' GO TO E1.                   CM000057
00363   014190             IF RC-P1 = 'DELETE'  GO TO  E2.                     CM000057
00364   014200             IF C-PARM = 'UNASSIGN ' GO TO E3.
00365   014210 PAR-D.
00366   014211             IF SW2 = 1 MOVE 0 TO SW2 GO TO PAR-D1.
00367   014212             READ C-FILE AT END DISPLAY '014212' GO TO END-JOB1.
00368   014213 PAR-D1.
00369                  IF C-INO > CF-INO GO TO SHEWL.
00370                  IF C-INOCD > CF-INOCD GO TO SHEWL.
00371                  IF C-INO < CF-INO GO TO BADAS.
00372                  IF C-INOCD < CF-INOCD GO TO BADAS.
00373   014230             IF C-RN NOT = CF-RN GO TO SHEWL.                    CM000057
00374   014240             IF C-INOCD NOT = SPACE  MOVE C-INOCD TO CF-INOCD    CM000057
00375   014250              MOVE 1 TO CSW.                                     CM000057
00376   015010             IF C-UDC NOT = SPACE  MOVE 1 TO CSW                 CM000057
00377   015020              MOVE C-UDC TO CF-UDC.                              CM000057
00378   015030             IF C-RN NOT = SPACE MOVE 1 TO CSW                   CM000057
00379   015040              MOVE C-RN TO CF-RN.                                CM000057
00380   015050             IF C-PDS NOT = SPACE  MOVE 1 TO CSW                 CM000057
00381   015060              MOVE C-PDS TO CF-PDS.                              CM000057
00382   015070             IF C-NEG NOT = SPACE  MOVE 1 TO CSW                 CM000057
00383   015080              MOVE C-NEG TO CF-NEG.                              CM000057
00384   015090             IF C-RCAL NOT = SPACE  MOVE 1 TO CSW                CM000057
00385   015100              MOVE C-RCAL TO CF-RCAL.                            CM000057
00386   015110             IF C-TC NOT = SPACE   MOVE 1 TO CSW                 CM000057
00387   015120              MOVE C-TC TO CF-TC.                                CM000057
00388   015130             IF CSW  = 0  MOVE SPACE TO CF-PARM  CF-TC           CM000057
00389   015140              MOVE 0 TO CSW.
00390   015141         MOVE C-PARM TO CF-PARM.
00391   015150 PAR-DD.                                                         CM000057
00392   015160             WRITE NU-FIL FROM C-FIL.                            CM000057
00393   015170             GO TO PAR-C.                                        CM000057
00394          BADAS.
00395                  DISPLAY ' BAD INPUT CARD  ' C-CD.
00396                  MOVE 1 TO SW2.
```

```
8

00397                   GO TO PAR-C.
00398    015180 SHEWL.
00399    015190             WRITE NU-FIL FROM  C-FIL.  GO TO PAR-O.                    CM000057
00400    015200 EI.                                                                    CM000057
00401    015201             IF SW2 = 1 MOVE 0 TO SW2 GO TO E1B.
00402    015210             READ C-FILE AT END DISPLAY '015210' GO TO END-JOB1.
00403    015211 E1B.
00404    015212         IF C-INO = CF-INO
00405    015213         IF C-INOCD = CF-INOCD
00406    015214         IF C-RN = SPACE
00407    015215         GO TO ZRO-ALL.
00408    015220             IF C-INO = CF-INO
00409    015230             IF CF-INOCD = C-INOCD
00410    015231         IF CF-RN = C-RN
00411    015240              MOVE SPACE TO          CF-UDC CF-PARM CF-POS CF-NEG     CM000057
00412    015250              CF-RCAL CF-TC                                         CM000057
00413    016010              WRITE NU-FIL FROM C-FIL                               CM000057
00414    016020              GO TO PAR-C.                                          CM000057
00415    016030             WRITE NU-FIL FROM C-FIL.                               CM000057
00416    016040             GO TO E1.                                              CM000057
00417    016041 ZRO-ALL.
00418    016042         MOVE SPACE TO CF-UDC CF-PARM CF-POS CF-NEG CF-RCAL CF-TC.
00419    016043         WRITE NU-FIL FROM C-FIL.
00420    016044         GO TO E1.
00421    016050 E2.                                                                    CM000057
00422    016060             IF RC-P2 = SPACE    IF SW2 = 1    MOVE 0 TO SW2
00423    016061              GO TO E2A1   ELSE GO TO E2A.
00424    016080 E2R.                                                                   CM000057
00425    016090             ADD 1 TO SUB.                                          CM000057
00426    016100             MOVE RC-P2 TO HRC-PC (SUB)                             CM000057
00427    016110             IF SUB > 10  DISPLAY 'AREA EXCEEDED' GO TO END-JOB.    CM000057
00428    016120             GO TO PAR-C.                                           CM000057
00429    016150 E2A.                                                                   CM000057
00430    016151             IF SW2 = 1 MOVE 0 TO SW2 GO TO E2A1.
00431    016160             READ C-FILE AT END DISPLAY '016160' GO TO END-JOB1.
00432    016161 E2A1.
00433    016170             IF C-INO = CF-INO
00434    016171             IF CF-INOCD = C-INOCD
00435    016172             MOVE 'XXX' TO CF-NO
00436    016180              MOVE 1 TO SW
00437    016190              WRITE NU-FIL FROM C-FIL                               CM000057
00438    016200              GO TO E2A.                                            CM000057
00439    016210             IF SW = 1 MOVE 0 TO SW  MOVE 1 TO SW2  GO TO PAR-C.
00440    016220             WRITE NU-FIL FROM C-FIL.                               CM000057
00441    016230             GO TO E2A.                                             CM000057
00442    017030 E3.                                                                    CM000057
00443    017031             IF SW2 = 1 MOVE 0 TO SW2 GO TO E3A.
00444    017040             READ C-FILE AT END DISPLAY '017040' GO TO END-JOB1.
00445    017041 E3A.
00446    017050             IF C-INO NOT = CF-INO WRITE NU-FIL FROM C-FIL GO TO E3.  CM000057
00447  **017050             IF CF-INOCD NOT = C-INOCD WRITE NU-FIL FROM C-FIL
00448    017052             GO TO E3.
00449    017060             MOVE SPACE TO CF-TC  CF-PARM.                          CM000057
00450    017070             WRITE NU-FIL FROM C-FIL.                               CM000057
00451    017080             GO TO PAR-C.                                           CM000057
00452    017090 END-JOB.
00453    017092             IF SW2 = 1 GO TO EJ31.
```

```
017093 EJB0.
017094         READ C-FILE AT END GO TO EJB2.
017095 EJB1.
017096         WRITE NU-FIL FROM C-FIL.
017097         GO TO EJB0.
017098 EJB2.
017099         CLOSE NU-FILE.
017100         OPEN I-O NU-FILE.                                      CM000057
017110         OPEN OUTPUT OUTFILE                                    CM000057
017120         OPEN OUTPUT LISTING.                                   CM000057
017121     WRITE LIST FROM F-PAGE AFTER 0.                            CM000057
           WRITE LIST FROM F-PAGEB AFTER 2.
017122     GO TO CK-JCT.
017130 EJR0.   READ NU-FILE INTO C-FIL AT END GO TO ALLJ.             CM000057
017140         IF CF-NO = 'XXX' GO TO EJR0.     PERFORM CK-TC THRU CX. CM000057
017150         MOVE CF-TC TO LTC.                                     CM000057
017160         MOVE CF-TYPCO TO LTYPCO.                               CM000057
017170         MOVE CF-RNG TO LRNG.                                   CM000057
017180         MOVE CF-RNGU TO LRNGU.
017190         MOVE CF-RNGCO TO LRNGCO.                               CM000057
017200         MOVE CF-PARM TO LPARM                                  CM000057
017210         MOVE CF-MFG TO LMFG.                                   CM000057
017220         MOVE CF-INO TO LINO.                                   CM000057
017230         MOVE CF-INOCO TO LINOCO.                               CM000057
017240         MOVE CF-UDC TO LUDC.                                   CM000057
017250         MOVE CF-RN TO LRN.                                     CM000057
018010         MOVE CF-POS TO LPOS.                                   CM000057
018020         MOVE CF-NEG TO LNEG.                                   CM000057
018030         MOVE CF-EQU TO LEQU.                                   CM000057
018040         MOVE CF-RCAL TO LRCAL.                                 CM000057
018050         WRITE LIST FROM DATALN AFTER DSKP.
018051         MOVE ' ' TO DSKP
018060         WRITE OUTFIL FROM C-FIL.                               CM000057
018061     ADD 1 TO EJCT.
018070         GO TO CK-JCT.                                          CM000057
018080 CK-TC.
018090         MOVE 1 TO SUB1.                                        CM000057
018100 CK1.                                                           CM000057
018110         IF SUB1 > SUB GO TO CX.                                CM000057
018120         IF CF-TC = HRC-PC (SUB1)                               CM000057
018130         MOVE SPACE TO CF-TC CF-PARM.                           CM000057
018140         ADD 1 TO SUB1.  GO TO CK1.                             CM000057
018150 CX.    EXIT.                                                   CM000057
018160 ALLJ.                                                          CM000057
018170         CLOSE C-FILE KARDS NU-FILE OUTFILE LISTING.            CM000057
018180         STOP RUN.                                              CM000057
018190 CK-JCT.                                                        CM000057
018200         IF EJCT > 52  MOVE 0 TO EJCT                           CM000057
018210         WRITE LIST FROM HEADER AFTER SKP                       CM000057
018211         MOVE '0' TO DSKP
018220         MOVE '1' TO SKP.
018230         GO TO EJR0.                                            CM000057
019010 PAR-ZZ.                                                        CM000057
019020         DISPLAY 'NO DATA CARDS FOR HEAD-N'                     CM000057
019030         CLOSE KARDS.                                           CM000057
019040         STOP RUN.
019050 END-JOB1.                                                      CM000057
```

```
   10
-- ---
00511   019060          DISPLAY 'ARO-INO WRONG ' C-INO   STOP RUN.
```

1

```
00001   00101  IDENTIFICATION DIVISION.                                         CM000019
00002   00102  PROGRAM-ID. 'CM000019'.                                          CM000019
00003   00104  ENVIRONMENT DIVISION.                                            CM000019
00004   00105  CONFIGURATION SECTION.                                           CM000019
00005   00106  SOURCE-COMPUTER.   IBM-360 H50.                                  CM000019
00006 **  107  OBJECT-COMPUTER.    IBM-360 H50.
00007   00108  INPUT-OUTPUT SECTION.                                            CM000019
00008   00109  FILE-CONTROL.                                                    CM000019
00009 **  110                  SELECT A-FILE ASSIGN 'AFILEREC' UTILITY.
00010     111                  SELECT B-FILE ASSIGN 'BFILEREC' UTILITY.
00011     112                  SELECT C-FILE ASSIGN 'CFILEREC' UTILITY.
00012     113                  SELECT I-FILE ASSIGN 'IFILEREC' UTILITY.
00013     114                  SELECT PRT-A ASSIGN 'APRTOUT' UTILITY.
00014     115                  SELECT PRT-B ASSIGN  'BPRTOUT' UTILITY.
00015     116                  SELECT D-CARD ASSIGN 'CPRTOUT' UTILITY.
00016     117                  SELECT NPATCHI  ASSIGN 'PATIN' UTILITY.
00017     118                  SELECT NHOOKI   ASSIGN 'HOKIN' UTILITY.
00018                          SELECT B-UPTAPE  ASSIGN 'BTAPE' UTILITY.
00019                          SELECT C-UPTAPE  ASSIGN 'CTAPE' UTILITY.
00020   00201  DATA DIVISION.                                                   CM000019
00021   00202  FILE SECTION.                                                    CM000019
00022   00203  FD  A-FILE          RECORD CONTAINS 80 CHARACTERS                CM000019
00023   00204                      LABEL RECORDS ARE STANDARD                   CM000019
00024   00205                      RECORDING MODE IS F                          CM000019
00025 **  206                      BLOCK CONTAINS 45 RECORDS
00026   00207                      DATA RECORD IS A-CARD.                       CM000019
00027   00208  01  A-CARD.                                                      CM000019
00028 **  209      02  FILLER  PICTURE X(4).
00029     210      02  A1B-IN  PICTURE S9.                                      CM000019
00030     211      02  FILLER  PICTURE X(75).
00031   00701  FD  B-FILE          RECORD CONTAINS 80 CHARACTERS                CM000019
00032   00702                      LABEL RECORDS ARE STANDARD                   CM000019
00033   00703                      RECORDING MODE IS F                          CM000019
00034 **  704                      BLOCK CONTAINS 45 RECORDS
00035   00705                      DATA RECORD IS B-CARD.                       CM000019
00036   00706  01  B-CARD.                                                      CM000019
00037 **  707      02      B1          PICTURE X(4).                            CM000019
00038   00708      02          B2          PICTURE 9.                           CM000019
00039   00709      02          B3.                                              CM000019
00040   00710          03      B3A         PICTURE X.                           CM000019
00041   00711          03      B3B         PICTURE X(3).                        CM000019
00042   00712          03      B3C         PICTURE X.                           CM000019
00043   00713      02          B3R         REDEFINES B3.                        CM000019
00044   00714          03      B3RA        PICTURE XX.                          CM000019
00045   00715          03      B3RB        PICTURE XX.                          CM000019
00046   00716          03      B3RC        PICTURE X.                           CM000019
00047 **  7161     02  B3RR  REDEFINES B3R.                                     CM000019
00048     7162         03  B3RRA   PICTURE XXXX.                                CM000019
00049     7163         03  B3RRB   PICTURE X.                                   CM000019
00050     7164     02  BRR-R  REDEFINES B3.
00051     7165         03  N-B1  PICTURE X.
00052     7166         03  N-B2  PICTURE X.
00053     7167         03  N-B3  PICTURE X.
00054     7168         03  N-B4  PICTURE X.
```

2

```
00055     7169         03  N-B5  PICTURE X.
00056   00717     02           B4          PICTURE X(24).                 CM000019
00057   00718     02           B5.                                        CM000019
00058   00719          03      B5A         PICTURE XX.                    CM000019
00059   00720          03      B5B         PICTURE XX.                    CM000019
00060 **  7201    02   B5R     REDEFINES B5.
00061     7202    03   B5AR    PICTURE X.
00062     7203    03   B5BR    PICTURE X(3).
00063     7204    02       B5RR REDEFINES B5R.
00064     7205         03  B5ARR   PICTURE XX.
00065     7206         03  B5BRR   PICTURE X.
00066     7207         03  B5CRR   PICTURE X.
00067   00721     02           B6.                                        CM000019
00068   00723          03      B6B         PICTURE X(3).                  CM000019
00069 **00722          03      B6A         PICTURE X(6).                  CM000019
00070   00801     02           B7.                                        CM000019
00071   00802          03      B7A         PICTURE XX.                    CM000019
00072   00803          03      B7A1        PICTURE X.                     CM000019
00073   00804          03      B7B         PICTURE X(3).                  CM000019
00074   00805          03      B7C         PICTURE X.                     CM000019
00075   00806     02           B7R         REDEFINES B7.                  CM000019
00076   00807          03      B7RA        PICTURE X(3).                  CM000019
00077   00808          03      B7RB        PICTURE X.                     CM000019
00078   00809          03      B7RC        PICTURE X(3).                  CM000019
00079   00810     02           B8.                                        CM000019
00080   00812          03      B8B         PICTURE X(3).                  CM000019
00081 **00811          03      B8A         PICTURE X(6).                  CM000019
00082   00813     02           B9.                                        CM000019
00083   00815          03      B9B         PICTURE X(3).                  CM000019
00084 **00814          03      B9A         PICTURE X(4).                  CM000019
00085   00816     02           B10         PICTURE X(9).                  CM000019
00086   00817     02           B11         PICTURE X.                     CM000019
00087   00901  FD C-FILE           RECORD CONTAINS 80 CHARACTERS          CM000019
00088   00902                      LABEL RECORDS ARE STANDARD             CM000019
00089   00903                      RECORDING MODE IS F                    CM000019
00090 **  904                  BLOCK CONTAINS 45 RECORDS
00091   00905                      DATA RECORD IS C-CARD.                 CM000019
00092   00906  01 C-CARD.                                                 CM000019
00093             02  C1      PICTURE X.
00094             02  C1AAA     PICTURE XXX.
00095   00908     02           C2          PICTURE 9.                     CM000019
00096 **  909     02       C3          PICTURE X(7).                      CM000019
00097   00910     02           C4.                                        CM000019
00098   00911          03      C4A         PICTURE X(7).                  CM000019
00099   00912          03      C4B         PICTURE X(3).                  CM000019
00100   00913          03      C4C         PICTURE X.                     CM000019
00101   00914     02           C5          PICTURE X(9).                  CM000019
00102 **  915     02       C6  PICTURE X(9).
00103   00916     02           C7.                                        CM000019
00104 **  917          03      C7A     PICTURE X(6).
00105   00918          03      C7B         PICTURE X.                     CM000019
00106   00919     02           C8          PICTURE X(4).                  CM000019
00107 **  920     02       C9  PICTURE X.
00108   00921     02           C10.                                       CM000019
00109   00922          03      C10A        PICTURE X(9).
00110   00924     02           C11.                                       CM000019
00111   00925          03      C11A        PICTURE X(9).                  CM000019
```

3

```
00112    01001          03      C11B          PICTURE X(3).                          CM000019
00113 ** 1002        02  C12.
00114     10021         03  C12A     PICTURE  XX.
00115     10022         03  C12B     PICTURE  XX.
00116     10023         03  C12C     PICTURE  XX.
00117    01101  FD  I-FILE           RECORD CONTAINS 80 CHARACTERS                      CM000019
00118    01102                       LABEL RECORDS ARE STANDARD                         CM000019
00119    01103                       RECORDING MODE IS F                                CM000019
00120    01104                       BLOCK CONTAINS 10 RECORDS
00121 ** 1105               DATA RECORDS ARE I-CARD OPT-CARD.
00122     11051 01  OPT-CARD.
00123     11052     02  OPT-CALDATE   PICTURE 9(6).
00124               02 OPT-LISTC   PICTURE X.
00125               02 FILLER      PICTURE X(72).
00126 **  11054     02  CK-OPTT          PICTURE  X.
00127     11054         88  CKPTT        VALUE '0'.
00128    01106  01  I-CARD.                                                             CM000019
00129    01107      02          I1            PICTURE X(9).                             CM000019
00130    01108      02          I2            PICTURE 9.                                CM000019
00131    01109      02  I3     PICTURE X(18).
00132 ** 1110       02          I4.
00133     11101         03      I4A      PICTURE XX.
00134     11102         03      I4B      PICTURE X.
00135 ** 11102         03  I4C   PICTURE  X.
00136     11103     02          I4R      REDEFINES I4.
00137     11104         03      I4AR     PICTURE X.
00138     11105         03      I4BR     PICTURE XX.
00139     11106         03  I4CR  PICTURE  X.
00140     1111      02      I5      PICTURE X(9).                                       CM000019
00141    01112      02          I6.                                                     CM000019
00142    01113          03      I6A           PICTURE X.                                CM000019
00143 ** 1114           03      I6B      PICTURE X(6).
00144    01115          03      I6C           PICTURE X.                                CM000019
00145    01116          03      I6D           PICTURE X(3).                             CM000019
00146    01117          03      I6E           PICTURE X.                                CM000019
00147    01118      02          I6R           REDEFINES I6.                             CM000019
00148    01119          03      I6RA          PICTURE X.                                CM000019
00149    01120          03      I6RB          PICTURE X(7).                             CM000019
00150    01121          03      I6RC          PICTURE X(3).                             CM000019
00151    01122          03      I6RD          PICTURE X.                                CM000019
00152    01123      02          I7.                                                     CM000019
00153 ** 1124           03  I7A     PICTURE X.                                          CM000019
00154     1125          03  I7B     PICTURE X.                                          CM000019
00155     1126          03  I7C     PICTURE X.                                          CM000019
00156     1127          03  I7D     PICTURE X.                                          CM000019
00157     1128          03  I7E     PICTURE X.                                          CM000019
00158     1129      02      I7R     REDEFINES I7.                                       CM000019
00159     1130          03  I7AR    PICTURE XX.                                         CM000019
00160     1131          03  I7BR    PICTURE XX.                                         CM000019
00161     1132          03  I7CR    PICTURE X.                                          CM000019
00162     1133      02      I7RR    REDEFINES I7R.                                      CM000019
00163     1134          03  I7ARR   PICTURE X.                                          CM000019
00164     1135          03  I7BRR   PICTURE XXX.                                        CM000019
00165     1136          03  I7CRR   PICTURE X.                                          CM000019
00166    01206      02          I8.                                                     CM000019
00167 ** 1207           03  I8A     PICTURE X.                                          CM000019
00168     1208          03  I8B     PICTURE X.                                          CM000019
```

4

```
00169    1209             03  I8C     PICTURE X.                      CM000019
00170    1210             03  I8D     PICTURE X.                      CM000019
00171    1213             03  I8E     PICTURE X.                      CM000019
00172    1214         02      I8R     REDEFINES I8.                   CM000019
00173    1215             03  I8AR    PICTURE XX.                     CM000019
00174    1216             03  I8BR    PICTURE XX.                     CM000019
00175    1217             03  I8CR    PICTURE X.                      CM000019
00176    1218         02      I8RR    REDEFINES I8R.                  CM000019
00177    1219             03  I8ARR   PICTURE X.                      CM000019
00178    1220             03  I8BRR   PICTURE XXX.                    CM000019
00179    1221             03  I8CRR   PICTURE X.                      CM000019
00180    1222         02      I9.                                     CM000019
00181    1223             03  I9A     PICTURE X.                      CM000019
00182    1224             03  I9B     PICTURE X.                      CM000019
00183    1225             03  I9C     PICTURE X.                      CM000019
00184    1226             03  I9D     PICTURE X.                      CM000019
00185    1227             03  I9E     PICTURE X.                      CM000019
00186    1228         02      I9R     REDEFINES I9.                   CM000019
00187    1229             03  I9AR    PICTURE XX.                     CM000019
00188    1230             03  I9BR    PICTURE XX.                     CM000019
00189    1231             03  I9CR    PICTURE X.                      CM000019
00190    1232         02      I9RR    REDEFINES I9R.                  CM000019
00191    1233             03  I9ARR   PICTURE X.                      CM000019
00192    1234             03  I9BRR   PICTURE XXX.                    CM000019
00193    1235             03  I9CRR   PICTURE X.                      CM000019
00194    1236         02      I10.                                    CM000019
00195    1237             03  I10A    PICTURE X.                      CM000019
00196    1238             03  I10B    PICTURE X.                      CM000019
00197    1239             03  I10C    PICTURE X.                      CM000019
00198    1240             03  I10D    PICTURE X.                      CM000019
00199    1241             03  I10E    PICTURE X.                      CM000019
00200    1242         02      I10R    REDEFINES I10.                  CM000019
00201    1243             03  I10AR   PICTURE XX.                     CM000019
00202    1244             03  I10BR   PICTURE XX.                     CM000019
00203    1245             03  I10CR   PICTURE X.                      CM000019
00204    1246         02      I10RR   REDEFINES I10R.                 CM000019
00205    1247             03  I10ARR  PICTURE X.                      CM000019
00206    1248             03  I10BRR  PICTURE XXX.                    CM000019
00207    1249             03  I10CRR  PICTURE X.                      CM000019
00208    1250         02      I11     PICTURE XX.                     CM000019
00209    1251         02      I12     PICTURE X(4).                   CM000019
00210    1252         02      I13     PICTURE X.                      CM000019
00211    01301    FD  PRT-A           RECORD CONTAINS 133 CHARACTERS  CM000019
00212    01302                        LABEL RECORDS ARE STANDARD      CM000019
00213    01303                        RECORDING MODE IS F             CM000019
00214    01304                        BLOCK CONTAINS 1  RECORDS
00215    01305                        DATA RECORD IS PAT-PRT.         CM000019
00216    01306    01  PAT-PRT.                                        CM000019
00217    01307        02  FILLER      PICTURE X(133).                 CM000019
00218    01308    FD  PRT-B           RECORD CONTAINS 133 CHARACTERS  CM000019
00219    01309                        LABEL RECORDS ARE STANDARD      CM000019
00220    01310                        RECORDING MODE IS F             CM000019
00221    01311                        BLOCK CONTAINS 1  RECORDS
00222    01312                        DATA RECORD IS HK-PRT.          CM000019
00223    01313    01  HK-PRT.                                         CM000019
00224    01314        02  FILLER      PICTURE X(133).                 CM000019
00225 ** 1315     FD  O-CARD          RECORD CONTAINS 133 CHARACTERS
```

5

```
00226   01316                      LABEL RECORDS ARE STANDARD                   CM000019
00227   01317                      RECORDING MODE IS F                          CM000019
00228   01318                      BLOCK CONTAINS 12 RECORDS
00229   01319                      DATA RECORD IS PRT-REC.
00230 **  1320  01  PRT-REC     PICTURE  X(133).
00231 **    46  FD  NPATCHI   RECORDING F  RECORD 133  BLOCK 1 RECORDS
00232       47                LABEL RECORDS STANDARD   DATA RECORD NPATI.
00233       48  01  NPATI     PICTURE  X(133).
00234       49  FD  NHOOKI     RECORDING F  BLOCK 1 RECORDS RECORD 133
00235       50                LABEL RECORDS STANDARD  DATA RECORD NOOKI.
00236       51  01  NOOKI     PICTURE  X(133).
00237           FD  B-UPTAPE       RECORDING F  BLOCK 1  RECORDS  RECORD  80
00238                              LABEL RECORDS STANDARD  DATA RECORD B-UPTAPER.
00239           01  B-UPTAPER   PICTURE  X(80).
00240           FD  C-UPTAPE       RECORDING F  BLOCK 1  RECORDS  RECORD  80
00241                              LABEL RECORDS STANDARD  DATA RECORD C-UPTAPER.
00242           01  C-UPTAPER   PICTURE  X(80).
00243   01401   WORKING-STORAGE SECTION.                                        CM000019
00244   01402       77  P-CNT       PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00245   014030 77   C-SUB   PICTURE S9999   COMPUTATIONAL-3  VALUE 0.
00246 **  14031     77  OC-SUB  PICTURE S999 COMPUTATIONAL-3 VALUE ZERO.        CM000019
00247     14032     77  OB-SUB  PICTURE 9999 COMPUTATIONAL-3 VALUE ZERO.
00248     1404  77  B-SUB   PICTURE S9999   COMPUTATIONAL-3  VALUE 0.
00249   01405       77  CSW-1       PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00250   01406       77  CSW-2       PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00251   01407       77  C-SW        PICTURE X VALUE SPACE.                      CM000019
00252   01408       77  FLIP-SW     PICTURE S99 COMPUTATIONAL-3 VALUE ZERO.     CM000019
00253 **  1409      77  S-ST1   PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.
00254     1410      77  S-ST2   PICTURE XXX VALUE SPACE.
00255     1411      77  S-ST3   PICTURE XXX VALUE SPACE.
00256     1412      77  STA-SW      PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.
00257     1413      77  ST-1        PICTURE XX VALUE SPACE.
00258     1414      77  ST-2        PICTURE X(4) VALUE SPACE.
00259 **  1414      77  ST-3        PICTURE XX     VALUE SPACE.
00260     1416      77  ST-4        PICTURE XXX VALUE SPACE.
00261     1417      77  ST-5        PICTURE X     VALUE SPACE.
00262     1418      77  ST-6        PICTURE X   VALUE SPACE.
00263     1419      77  ST-7        PICTURE X(5) VALUE SPACE.
00264     1420      77  APT-SUB PICTURE S99 COMPUTATIONAL-3 VALUE ZERO.
00265     1421      77  SCA-SW  PICTURE S9  COMPUTATIONAL-3 VALUE ZERO.
00266   01422       77  PB-SW2      PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00267   01423       77  B-ST        PICTURE XXX VALUE SPACE.                    CM000019
00268   01424       77  D-SW1       PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00269   01425       77  D-SW2       PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00270   01501       77  D-SW4       PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00271   01502       77  R-ST        PICTURE XXX VALUE SPACE.                    CM000019
00272           77  IFCLIST   PICTURE X.
00273   01503       77  PL-CK       PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00274   01513       77  THRU-SW     PICTURE S9  COMPUTATIONAL-3 VALUE  ZERO.    CM000019
00275   01516       77  LN-CTR      PICTURE S99 COMPUTATIONAL-3 VALUE ZERO.     CM000019
00276   01519       77  CPRT1       PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00277   01524       77  HK-SUB      PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.      CM000019
00278 **  1526      77  AL-SUB      PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.
00279     1527      77  BSW-1   PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.          CM000019
00280     1528      77  BSW-2   PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.          CM000019
00281 **  1528      77  PAT-SUB PICTURE S99 COMPUTATIONAL-3 VALUE ZERO.         CM000019
00282     1531      77  N-SUB   PICTURE S99 COMPUTATIONAL-3 VALUE ZERO.         CM000019
```

6

```
00283     1534        77  SQ-SUD  PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.           CM000019
00284     1536        77  O-SW3   PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.
00285 ** 1536         77  SQUID-COUNT PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.
00286    015390 77  R-TOT    PICTURE  S9999  COMPUTATIONAL-3  VALUE 0.
00287 ** 1540        77  ITEM-NO      PICTURE X(4).
00288     1541        77  Z-TOT   PICTURE S999 COMPUTATIONAL-3 VALUE ZERO.          CM000019
00289     1542        77  PB-SW1  PICTURE S9 COMPUTATIONAL-3 VALUE ZERO.
00290    015430 77  HK-CTR     PICTURE 99  COMPUTATIONAL-3  VALUE 0.
00291 ** 1544   77  17-SWT   PICTURE  9  COMPUTATIONAL-3 VALUE 0.
00292    015450 77  M-SW1    PICTURE  9  COMPUTATIONAL-3  VALUE 0.
00293    015470 77  M-SW2    PICTURE  9  COMPUTATIONAL-3  VALUE 0.
00294    015500 77  M-SW3    PICTURE  9  COMPUTATIONAL-3  VALUE 0.
00295 ** 15510  77  SUB36    PICTURE 99     VALUE 0.
00296 **     20 77  A-CT     PICTURE  99   COMPUTATIONAL-3  VALUE 0.           CM000020
00297        21 77  B-CT     PICTURE  99   COMPUTATIONAL-3  VALUE 0.           CM000020
00298           77  TSTCELL      PICTURE X.
00299        22 77  C-CT     PICTURE  99   COMPUTATIONAL-3  VALUE 0.           CM000020
00300           77  CF-SW    PICTURE  9  VALUE 0.
00301           01  CNG-PZ7.
00302               02  PZM.
00303                   03  PZ1      PICTURE  X.
00304                   03  PZ2      PICTURE  X.
00305                   03  PZ3      PICTURE  X.
00306                   03  PZ4      PICTURE  X.
00307     2134      02  PZMP.
00308                   03  PZMP1     PICTURE  X.
00309                   03  PZMP2     PICTURE  X.
00310                   03  PZMP3     PICTURE  X.
00311                   03  PZMP4     PICTURE  X.
00312           01  M-STORES.
00313               02  M-1ST.
00314                   03  M-ST1   PICTURE  XXXX.
00315                   03  M-ST1B  PICTURE  X.
00316               02  M-2ST.
00317                   03  M-ST2   PICTURE  XXXX.
00318                   03  M-ST2B  PICTURE  X.
00319               02  M-3ST.
00320                   03  M-ST3   PICTURE  XXXX.
00321                   03  M-ST3B  PICTURE  X.
00322               02  M-4ST.
00323                   03  M-ST4   PICTURE  XXXX.
00324                   03  M-ST4B  PICTURE  X.
00325               02  M-5ST.
00326                   03  M-ST5   PICTURE  XXXX.
00327                   03  M-ST5B  PICTURE  X.
00328               02  M-6ST.
00329                   03  M-ST6   PICTURE  XXXX.
00330                   03  M-ST6B  PICTURE  X.
00331 ** 1608   01  D-CALDATE.
00332     1609      02  D-CMO   PICTURE  XX.
00333     1610      02  D-CDY   PICTURE  XX.
00334     1611      02  D-CYR   PICTURE  XX.
00335    01613  01  AERR.                                                        CM000019
00336 ** 1614       02  AEF      PICTURE X VALUE '0'.                             CM000019
00337    01614      02  FILLER   PICTURE X(7) VALUE 'I-CARD '.                    CM000019
00338    01615      02  AEA      PICTURE X(9) VALUE SPACE.                        CM000019
00339    01616      02  FILLER   PICTURE X(19) VALUE ' INSTR ASSIGNED TO '.       CM000019
```

```
  7

00340    01617        02  AFB      PICTURE X(9) VALUE SPACE.                          CM000019
00341 ** 1618         02  FILLER   PICTURE X(88).                                     CM000019
00342    01619   01   BERR.                                                           CM000019
00343    01620        02  BFE      PICTURE X VALUE '0'.                               CM000019
00344    01621        02  FILLER   PICTURE X(9) VALUE 'ERROR AT '.                    CM000019
00345 ** 1622         02  BEA    PICTURE 9(3).
00346    01623        02  FILLER   PICTURE X(9)  VALUE 'ON INPUT '.                   CM000019
00347    01624        02  BEB      PICTURE X(9) VALUE SPACE.                          CM000019
00348 ** 1625         02  FILLER   PICTURE X(102).                                    CM000019
00349    01701   01   CERR.                                                           CM000019
00350    01702        02  CEF      PICTURE X VALUE '0'.                               CM000019
00351    01703        02  FILLER   PICTURE X(12) VALUE 'INST. N/A IN'.                CM000019
00352    01704        02  CEA      PICTURE X(9).                                      CM000019
00353    01705        02  FILLER   PICTURE X(4) VALUE ' AT '.                         CM000019
00354    01706        02  CEB      PICTURE 9(3).                                      CM000019
00355 ** 1707         02  FILLER   PICTURE X(104).                                    CM000019
00356      1708  01   PATTAB.
00357      1709       02  APT1     PICTURE X(4) OCCURS 96 TIMES.                      CM000019
00358      1710       02  APT1A    PICTURE 9 OCCURS 96 TIMES.
00359      1711       02  APT2     PICTURE X(9) OCCURS 96 TIMES.
00360      1712       02  APT3     PICTURE X(7) OCCURS 96 TIMES.
00361      1713       02  APT4     PICTURE X(9) OCCURS 96 TIMES.                      CM000019
00362 **    1714       02  APT5     PICTURE 9 OCCURS 96 TIMES.
00363    01801   01   B-TEMP.                                                         CM000019
00364 ** 1802         02  BT1      PICTURE X(4).                                      CM000019
00365    01803        02           BT2          PICTURE 9.                            CM000019
00366    01804        02           BT3.                                               CM000019
00367    01805            03       BT3A         PICTURE X.                            CM000019
00368    01806            03       BT3B         PICTURE X(3).                         CM000019
00369    01807            03       BT3C         PICTURE X.                            CM000019
00370    01808        02           B3TR         REDEFINES BT3.                        CM000019
00371    01809            03       B3TRA        PICTURE XX.                           CM000019
00372    01810            03       B3TRB        PICTURE XX.                           CM000019
00373    01811            03       B3TRC        PICTURE X.                            CM000019
00374    018111       02  B3TRR REDEFINES B3TR.                                       CM000019
00375    018112           03  B3TRRA  PICTURE XXXX.                                   CM000019
00376    018113           03  B3TRRB  PICTURE X.                                      CM000019
00377    01812        02           BT4          PICTURE X(24).                        CM000019
00378    01813        02           BT5.                                               CM000019
00379    01814            03       B5TA         PICTURE XX.                           CM000019
00380    01815            03       B5TB         PICTURE XX.                           CM000019
00381    01816        02           BT6.                                               CM000019
00382    01818            03       BT6B         PICTURE X(3).                         CM000019
00383 **01817             03       BT6A         PICTURE X(6).                         CM000019
00384    01819        02           BT7.                                               CM000019
00385    01820            03       BT7A         PICTURE XX.                           CM000019
00386    01821            03       BT7A1        PICTURE X.                            CM000019
00387    01822            03       BT7B         PICTURE X(3).                         CM000019
00388    01823            03       BT7C         PICTURE X.                            CM000019
00389    01824        02           BT7R         REDEFINES BT7.                        CM000019
00390    01825            03       BT7RA        PICTURE X(3).                         CM000019
00391    01901            03       BT7RB        PICTURE X.                            CM000019
00392    01902            03       BT7RC        PICTURE X(3).                         CM000019
00393    01903        02           BT8.                                               CM000019
00394    01905            03       BT8B         PICTURE X(3).                         CM000019
00395 **01904             03       BT8A         PICTURE X(6).                         CM000019
00396    01906        02           BT9.                                               CM000019
```

```
 8

00397   01908            03     BT9B          PICTURE X(3).                      CM000019
00398 **01907            03     BT9A          PICTURE X(4).                      CM000019
00399   01909       02          BT10          PICTURE X(9).                      CM000019
00400   01910       02          BT11          PICTURE X.                         CM000019
00401   02001  01  SQCK-LN.                                                      CM000019
00402 ** 2002       02  FILLER   PICTURE X(4).
00403    20021      02  A1B5     PICTURE 9.
00404 ** 20021      02  A1B6     REDEFINES A1B5.
00405 ** 20021          03  A1A6     PICTURE X.
00406    20022      02  FILLER   PICTURE X(40).
00407   02003       02  A135A    PICTURE X.                                      CM000019
00408 ** 20031      02  A135B    PICTURE X.                                      CM000019
00409    20032      02  A13RB    REDEFINES A135B PICTURE 9.                      CM000019
00410    2004       02  FILLER   PICTURE X(6).                                   CM000019
00411    2005       02  A155A    PICTURE X.
00412    20051      02  A155B    PICTURE X.                                      CM000019
00413    20052      02  A15RB    REDEFINES A155B PICTURE 9.                      CM000019
00414    2008       02  FILLER   PICTURE X(6).                                   CM000019
00415    2009       02  A185A    PICTURE X.
00416    20091      02  A185B    PICTURE X.                                      CM000019
00417    20092      02  A18RB    REDEFINES A185B PICTURE 9.                      CM000019
00418    2010       02  FILLER   PICTURE X(17).
00419    2019  01  ALN-TAB.
00420    2020       02  ALN      PICTURE X(80) OCCURS 6 TIMES.                   CM000019
00421   02101  01  SQTAB.                                                        CM000019
00422 ** 2102       02  QPRTA    PICTURE X(4) OCCURS 6 TIMES.                    CM000019
00423    2103       02  QPRTB    PICTURE 9 OCCURS 6 TIMES.                       CM000019
00424    2104       02  QPRTC    PICTURE X(5) OCCURS 6 TIMES.                    CM000019
00425    21041      02  QPRTD    PICTURE S9 COMPUTATIONAL-3 OCCURS 6 TIMES.      CM000019
00426    21042      02  QPRTE    PICTURE X(9) OCCURS 6 TIMES.                    CM000019
00427    21043      02  QPRTF    PICTURE X(9) OCCURS 6 TIMES.
00428   02105  01  AOUT-PRT.                                                     CM000019
00429   021051      02  CCA      PICTURE X VALUE '0'.                            CM000019
00430 ** 2106       02  FILLER   PICTURE X(6) VALUE SPACE.                       CM000019
00431    2107       02  FILLER   PICTURE X VALUE 'C'.                            CM000019
00432    2108       02  FILLER   PICTURE X(15) VALUE SPACE.                      CM000019
00433    2109       02  FILLER   PICTURE X(12) VALUE 'FROM      TO'.             CM000019
00434    2110       02  FILLER   PICTURE X(48)  VALUE SPACE.
00435    21101      02  FILLER PICTURE X(50) VALUE 'C                    FROM       TO
00436    21102-     '                       '.
00437    2111  01  AAOUT-PRT.                                                    CM000019
00438    21111      02  CCAA     PICTURE X VALUE ' '.                            CM000019
00439    21112      02  FILLER   PICTURE X(26) VALUE 'ITEM  C   DEVICE      POIN'.CM000019
00440    21113      02  FILLER   PICTURE X(11) VALUE 'T     POINT'.
00441    21114      02  FILLER   PICTURE X(39)  VALUE SPACE.
00442    21115      02  FILLER PICTURE  X(56) VALUE 'ITEM  C   DEVICE      POINT
00443    21116-     '   POINT                '.
00444   02112  01  BOUT-PRT.                                                     CM000019
00445   02113       02  CCB      PICTURE X VALUE '0'.                            CM000019
00446 ** 2114       02  PAT1     PICTURE X(4).                                   CM000019
00447    2115       02  FILLER   PICTURE XX VALUE SPACE.                         CM000019
00448    2116       02  PAT1A    PICTURE  Z.
00449    2117       02  FILLER   PICTURE XXX VALUE SPACE.                        CM000019
00450    2118       02  PAT2     PICTURE X(9).                                   CM000019
00451    2119       02  FILLER   PICTURE XXX VALUE SPACE.                        CM000019
00452    2120       02  PAT3     PICTURE X(7).                                   CM000019
00453    2121       02  FILLER   PICTURE XXX VALUE SPACE.                        CM000019
```

```
   9

00454      2122        02  PAT4      PICTURE X(9).                                               CM000019
00455      2123        02  FILLER    PICTURE X(35)   VALUE SPACE.
00456      21231       02  TAP1     PICTURE XXXX   VALUE SPACE.
00457      2124        02  FILLER    PICTURE XX   VALUE SPACE.
00458      2125        02  TAP1A    PICTURE Z.
00459      2126        02  FILLER   PICTURE   XXX   VALUE SPACE.
00460      2127        02  TAP2      PICTURE   X(9).
00461      2128        02  FILLER    PICTURE   XXX   VALUE SPACE.
00462      2129        02  TAP3     PICTURE X(7).
00463      2130        02  FILLER    PICTURE XXX    VALUE SPACE.
00464      2131        02  TAP4     PICTURE   X(9).
00465 ** 2123        02  FILLER   PICTURE   X(9)    VALUE SPACE.
00466      2133        02  PAT36    PICTURE 99.
00467      2134        02  PZPAT     PICTURE   XXXX.
00468    02201   01  COUT-PRT.                                                                   CM000019
00469    02202         02  CCC        PICTURE X VALUE '0'.                                        CM000019
00470 ** 2203          02  FILLER    PICTURE X(26) VALUE '              C              '.CM000019
00471      2204        02  FILLER    PICTURE X(26) VALUE '             TRAN   TRAN       '.CM000019
00472      2205        02  FILLER    PICTURE X(26) VALUE 'CONNECTING       WIRED   UDC '.CM000019
00473      2206        02  FILLER    PICTURE X(26) VALUE '    SIG.      SIG.              '.CM000019
00474      2207        02  FILLER    PICTURE X(26) VALUE '    TYP   CAB   LOC   ITEM   C '.CM000019
00475      2208        02  FILLER    PICTURE X(26) VALUE '  '.                                CM000019
00476    02209   01  DOUT-PRT.                                                                   CM000019
00477    02210         02  CCD        PICTURE X VALUE ' '.                                        CM000019
00478 ** 2211          02  FILLER    PICTURE X(26) VALUE 'PARAMETER C NOMENCLATURE   '.CM000019
00479      2212        02  FILLER    PICTURE X(26) VALUE '           CARD   I-NO.    DEVI'.CM000019
00480      2213        02  FILLER    PICTURE X(26) VALUE 'CE      POINT      S.C.    CARD'.CM000019
00481      2214        02  FILLER    PICTURE X(26) VALUE '    COND.    COND.    READOUT'.CM000019
00482      2215        02  FILLER    PICTURE X(26) VALUE '    NO.  FAB   SK.    NO    C '.CM000019
00483      22151       02  FILLER    PICTURE X(26) VALUE '  '.
00484    02216   01  EOUT-PRT.
00485    02217         02  CCE        PICTURE X VALUE '0'.
00486    02219         02  PBT1       PICTURE X(9).
00487 ** 2220          02  FILLER    PICTURE X VALUE SPACE.
00488      22201       02  PBT1A     PICTURE 9.
00489      22202       02  FILLER    PICTURE X VALUE SPACE.
00490    02221         02  PBT2       PICTURE X(18).
00491    02222         02  FILLER    PICTURE XXX   VALUE SPACE.
00492    02223         02  PBT3       PICTURE X(4).
00493 ** 2224          02  FILLER    PICTURE XX VALUE SPACE.
00494    022250        02  PBT4       PICTURE X(6).
00495 ** 2301          02  FILLER    PICTURE X(3) VALUE SPACE.
00496      2302        02  PBT5A     PICTURE X(9).
00497      23021       02  FILLER    PICTURE X VALUE SPACE.
00498      23023       02  PBT5B     PICTURE X(7).
00499      23024       02  FILLER    PICTURE XX        VALUE SPACE.
00500      2304        02  PBT6       PICTURE X(5).
00501 ** 2303          02  FILLER    PICTURE X VALUE SPACE.
00502      2305        02  FILLER    PICTURE X VALUE SPACE.
00503    023060        02  PBT7       PICTURE X(4).
00504 ** 2307          02  FILLER    PICTURE XXX VALUE SPACE.                                CM000019
00505    02308         02  PBT8       PICTURE X(5).                                               CM000019
00506 ** 2309          02  FILLER    PICTURE XXX VALUE SPACE.                                CM000019
00507      2310        02  PBT9       PICTURE X(5).
00508      2311        02  FILLER    PICTURE XXX VALUE SPACE.                                CM000019
00509    02312         02  PBT10     PICTURE X(5).                                               CM000019
00510    023130        02  FILLER    PICTURE   X(4)    VALUE SPACE.
```

10

```
00511   02314      02  PBT11    PICTURE X(4).
00512   02315      02  FILLER   PICTURE XX VALUE SPACE.
00513   02316      02  PBT12    PICTURE X(4).
00514   02317      02  FILLER   PICTURE XX  VALUE SPACE.
00515   02318      02  PBT13    PICTURE XX.                                CM000019
00516   023190     02  FILLER   PICTURE  XX.    VALUE SPACE.
00517 ** 2320      02  PBT14    PICTURE X(4).                              CM000019
00518     2321     02  FILLER   PICTURE XX VALUE SPACE.                    CM000019
00519     2322     02  PBT15    PICTURE 9.                                 CM000019
00520     2323     02  FILLER   PICTURE XXX VALUE SPACE.                   CM000019
00521   02401  01  HK-TAB.                                                 CM000019
00522 ** 2402      02  P1  PICTURE X(9) OCCURS 6 TIMES.
00523     24021    02  P1A      PICTURE 9 OCCURS 6 TIMES.
00524     2403     02  P2  PICTURE X(19) OCCURS 6 TIMES.
00525     2404     02  P3  PICTURE X(4) OCCURS 6 TIMES.
00526     2405     02  P4  PICTURE X(9) OCCURS 6 TIMES.
00527     2406     02  P5A PICTURE X(9) OCCURS 6 TIMES.
00528     24061    02  P5B PICTURE X(7) OCCURS 6 TIMES.
00529     2407     02  P6  PICTURE X(5) OCCURS 6 TIMES.                    CM000019
00530     2408     02  P7  PICTURE X(6) OCCURS 6 TIMES.
00531     2409     02  P8  PICTURE X(5) OCCURS 6 TIMES.
00532     2410     02  P9       PICTURE X(5) OCCURS 6 TIMES.               CM000019
00533     2411     02  P10 PICTURE X(5) OCCURS 6 TIMES.
00534     2412     02  P11   PICTURE   X(4)   OCCURS 24.
00535     2413     02  P12   PICTURE   X(4)   OCCURS 24.
00536     2414     02  P13 PICTURE XX    OCCURS 6 TIMES.
00537     2415     02  P14      PICTURE X(4) OCCURS 6 TIMES.               CM000019
00538     2416     02  P15      PICTURE S9 COMPUTATIONAL-3 OCCURS 6 TIMES.
00539     2417     02  P16      PICTURE S9 COMPUTATIONAL-3 OCCURS 6 TIMES. CM000019
00540   02501  01  FOUT-PRT.                                               CM000019
00541   02502      02  CCF      PICTURE X VALUE  '1'.                      CM000019
00542   02503      02  FILLER   PICTURE X(53) VALUE SPACE.                 CM000019
00543   02504      02  FILLER   PICTURE X(26) VALUE 'HOOKUP INFORMATION DATA   '.CM000019
00544   02505      02  FILLER   PICTURE X(53) VALUE SPACE.                 CM000019
00545   02506  01  GOUT-PRT.                                               CM000019
00546   02507      02  CCG      PICTURE X VALUE '1'.                       CM000019
00547 ** 2508      02  FILLER   PICTURE X(33) VALUE '          PATCHING - PB1
00548   025081-    '    '.
00549   025082     02  FILLER   PICTURE X(45)  VALUE SPACE.
00550   025083     02  FILLER   PICTURE X(31) VALUE '         PATCHING - PB2
00551 ** 25084-    '  '.
00552     25090    02  FILLER   PICTURE X(22)  VALUE SPACE.
00553     2510  01  O-TEMP.                                                CM000019
00554     25101    02  O-1      PICTURE X(4).
00555     2512A    02  O-1A     PICTURE X.
00556 ** 25102     02  O-2      PICTURE X(9).                              CM000019
00557     25103    02  FILLER   PICTURE X VALUE 'O'.                       CM000019
00558     25104    02  FILLER   PICTURE X(65) VALUE SPACE.
00559     25105 01  BO-TEMP.                                               CM000019
00560     25106    02  BO-1     PICTURE X(4).
00561 ** 2510A     02  BO-1A    PICTURE X.
00562     25107    02  BO-2     PICTURE X(9).                              CM000019
00563     25108    02  FILLER   PICTURE X VALUE 'B'.                       CM000019
00564     25109    02  FILLER   PICTURE X(65) VALUE SPACE.                 CM000019
00565     2517  01  A-TEMP.                                                CM000019
00566 **  209      02  A1     PICTURE  X(4).
00567   00210      02           A1B          PICTURE 9.                    CM000019
```

```
11

00568 ** 2101       02  A1R      REDEFINES A1B.
00569    2102       03  A1BR     PICTURE X.
00570   00211       02           A2           PICTURE X(7).           CM000019
00571   00212       02           A3           PICTURE X.              CM000019
00572   00213       02           A4.                                  CM000019
00573 **  214           03  A4A      PICTURE XX.                      CM000019
00574     215           03  A4B      PICTURE XX.                      CM000019
00575  002151           03  A4C      PICTURE  X.
00576 **  216       02      A4R      REDEFINES A4.                    CM000019
00577     217           03  A4AR     PICTURE X.                       CM000019
00578     218           03  A4BR     PICTURE XXX.                     CM000019
00579  002181           03  A4CR     PICTURE  X.
00580 **  219       02      A4RR     REDEFINES A4R.                   CM000019
00581     220           03  A4ARR    PICTURE XX.                      CM000019
00582     2201          03  A4BRR    PICTURE X.                       CM000019
00583     2202          03  A4CRR    PICTURE X.                       CM000019
00584   002203          03  A4DRR    PICTURE  X.
00585   00221       02           A5.                                  CM000019
00586   00222           03       A5A          PICTURE X.              CM000019
00587   00223           03       A5B          PICTURE X(3).           CM000019
00588   00224           03       A5C          PICTURE X.              CM000019
00589   00225       02           A5R          REDEFINES A5.           CM000019
00590 **  301           03       A5AR     PICTURE XX.                 CM000019
00591     302           03       A5BR     PICTURE XX.                 CM000019
00592     303           03       A5CR     PICTURE X.                  CM000019
00593   00304       02           A6           PICTURE X.              CM000019
00594   00305       02           A7.                                  CM000019
00595   00306           03       A7A          PICTURE X.              CM000019
00596   00307           03       A7B          PICTURE X(3).           CM000019
00597   00308           03       A7C          PICTURE X.              CM000019
00598   00309       02           A7R          REDEFINES A7.           CM000019
00599 **  310           03       A7AR     PICTURE XX.                 CM000019
00600     311           03       A7BR     PICTURE XX.                 CM000019
00601     312           03       A7CR     PICTURE X.                  CM000019
00602   00313       02           A8.                                  CM000019
00603   00314           03       A8A          PICTURE X.              CM000019
00604   00315           03       A8B          PICTURE X(3).           CM000019
00605   00316           03       A8C          PICTURE X.              CM000019
00606   00317       02           A8R          REDEFINES A8.           CM000019
00607 **  317           03       A8AR     PICTURE XX.                 CM000019
00608     318           03       A8BR     PICTURE XX.                 CM000019
00609     319           03       A8CR     PICTURE X.                  CM000019
00610   00321       02           A9           PICTURE X.              CM000019
00611   00322       02           A10.                                 CM000019
00612   00323           03       A10A         PICTURE X.              CM000019
00613   00324           03       A10B         PICTURE X(3).           CM000019
00614   00325           03       A10C         PICTURE X.              CM000019
00615   00401       02           A10R         REDEFINES A10.          CM000019
00616 ** 4011           03       A10AR    PICTURE XX.                 CM000019
00617    4012           03       A10BR    PICTURE XX.                 CM000019
00618    4013           03       A10CR    PICTURE X.                  CM000019
00619   00402       02           A11          PICTURE X.              CM000019
00620   00403       02           A12.                                 CM000019
00621 **  404           03  A12A     PICTURE XX.                      CM000019
00622 **   05           03  A12B     PICTURE XX.                      CM000019
00623      06       02      A12R     REDEFINES A12.                   CM000019
00624      07           03  A12AR    PICTURE X.                       CM000019
```

12

```
00625       08          03    A12BR    PICTURE XXX.                        CM000019
00626      409    02          A12RR    REDEFINES A12R.                     CM000019
00627     4091          03    A12ARR   PICTURE XX.                         CM000019
00628     4092          03    A12BRR   PICTURE X.                          CM000019
00629     4093          03    A12CRR   PICTURE X.                          CM000019
00630    00410    02               A13.                                    CM000019
00631    00411          03         A13A.                                   CM000019
00632    00412                04   A13C          PICTURE X.                CM000019
00633    00413                04   A13D          PICTURE X.                CM000019
00634    00414          03         A13B.                                   CM000019
00635    00415                04   A13E          PICTURE X.                CM000019
00636    00416                04   A13F          PICTURE X.                CM000019
00637 **   417    02          A14.
00638      418          03    A14A     PICTURE XX.
00639      419          03    A14B     PICTURE XX.
00640     4191    02          A14R     REDEFINES A14.                      CM000019
00641     4192          03    A14AR    PICTURE X.                          CM000019
00642     4193          03    A14BR    PICTURE XXX.                        CM000019
00643     4194    02          A14RR    REDEFINES A14R.                     CM000019
00644     4195          03    A14ARR   PICTURE XX.                         CM000019
00645     4196          03    A14BRR   PICTURE X.                          CM000019
00646     4197          03    A14CRR   PICTURE X.                          CM000019
00647    00420    02               A15.                                    CM000019
00648    00421          03         A15A.                                   CM000019
00649    00422                04   A15C          PICTURE X.                CM000019
00650    00423                04   A15D          PICTURE X.                CM000019
00651    00502    02               A16.                                    CM000019
00652    00506          03         A16B.                                   CM000019
00653    00507                04   A16E          PICTURE X.                CM000019
00654    00508                04   A16F          PICTURE X.                CM000019
00655    00509    02               A17.                                    CM000019
00656    00510          03         A17A          PICTURE XX.               CM000019
00657    00511          03         A17B          PICTURE XX.               CM000019
00658 **  5111    02          A17R     REDEFINES A17.
00659     5112          03    A17AR    PICTURE X.
00660     5113          03    A17BR    PICTURE XXX.
00661     5114    02          A17RR    REDEFINES A17R.
00662     5115          03    A17ARR   PICTURE XX.
00663     5116          03    A17BRR   PICTURE X.
00664     5117          03    A17CRR   PICTURE X.
00665    00512    02               A18.                                    CM000019
00666    00513          03         A18A.                                   CM000019
00667    00514                04   A18C          PICTURE X.                CM000019
00668    00515                04   A18D          PICTURE X.                CM000019
00669    00516          03         A18B.                                   CM000019
00670    00517                04   A18E          PICTURE X.                CM000019
00671    00518                04   A18F          PICTURE X.                CM000019
00672    00519    02               A19.                                    CM000019
00673 **   520          03         A19A     PICTURE X.                     CM000019
00674      521          03         A19B     PICTURE X(3).                  CM000019
00675      522          03         A19C     PICTURE X.                     CM000019
00676      523    02               A19R     REDEFINES A19.                 CM000019
00677      524          03        A19AR    PICTURE XX.                     CM000019
00678      525          03         A19BR    PICTURE XX.                    CM000019
00679     5251          03         A19CR    PICTURE X.                     CM000019
00680      601    02          A20.
00681      602          03    A20A     PICTURE XX.                         CM000019
```

```
13

00682        6021           03  A20B    PICTURE XX.                                 CM000019
00683        6022        02         A20R    REDEFINES A20.                              CM000019
00684        6023           03  A20AR   PICTURE X.                                  CM000019
00685        6024           03  A20BR   PICTURE XXX.                                CM000019
00686        6025        02         A20RR   REDEFINES A20R.                             CM000019
00687        6026           03  A20ARR  PICTURE XX.                                 CM000019
00688        6027           03  A20BRR  PICTURE X.                                  CM000019
00689        603            03  A20CRR  PICTURE X.                                  CM000019
00690        608         02  A21    PICTURE  X(4).
00691        609         02  A22    PICTURE  XX.
00692 **     01   01   AB-HD.                                                          CM000020
00693        202         02  ABB       PICTURE  X  VALUE '0'.                          CM000020
00694        203         02  FILLER    PICTURE X(26) VALUE '        C                  '.CM000020
00695        204         02  FILLER    PICTURE X(26) VALUE '                   TYPE    '.CM000020
00696        205         02  FILLER    PICTURE X(26) VALUE '        FROM               '.CM000020
00697        206         02  FILLER    PICTURE X(26) VALUE '        TO              US'.CM000020
00698        207         02  FILLER    PICTURE X(26) VALUE 'ED FOR      TEST          '.CM000020
00699        208         02  FILLER    PICTURE XX VALUE SPACE.                         CM000020
00700        2081 01   ABB-HD.                                                         CM000020
00701        2082        02  ABBB      PICTURE X VALUE ' '.                            CM000020
00702        2083        02  FILLER    PICTURE X(26) VALUE 'CARD  C  IDEN.  DESCRIPTI'.CM000020
00703        2084        02  FILLER    PICTURE X(25) VALUE 'ON               CODE   D'.CM000020
00704        2085        02  FILLER    PICTURE X(26) VALUE 'EVICE       DEVICE PT   DE'.CM000020
00705        2086        02  FILLER    PICTURE X(26) VALUE 'VICE        DEVICE PT   PA'.CM000020
00706        2087        02  FILLER    PICTURE X(26) VALUE 'RAMETER   CELL            '.CM000020
00707        2088        02  FILLER    PICTURE XX VALUE SPACE.                         CM000020
00708 **     208A 01   ABBB-HD.                                                        CM000020
00709        208B        02  FILLER    PICTURE X VALUE 'I'.                            CM000020
00710        208C        02  FILLER    PICTURE X(63) VALUE SPACE.                      CM000020
00711        208D        02  FILLER    PICTURE X(6) VALUE 'B-FILE'.                    CM000020
00712        208F        02  FILLER    PICTURE X(63) VALUE SPACE.                      CM000020
00713 **      09   01   BB-HD.                                                          CM000020
00714         10         02  BBB       PICTURE X VALUE '0'.                            CM000020
00715         12         02  B1H       PICTURE X(4).                                   CM000020
00716        213         02  FILLER    PICTURE XX VALUE SPACE.                         CM000020
00717 **      14         02  B2H       PICTURE X.
00718        215         02  FILLER    PICTURE XX VALUE SPACE.                         CM000020
00719 **      16         02  B3H       PICTURE X(5).                                   CM000020
00720         17         02  FILLER    PICTURE X(3) VALUE SPACE.                       CM000020
00721         18         02  B4H       PICTURE X(24).                                  CM000020
00722 **      15         02  FILLER    PICTURE X(3) VALUE SPACE.                       CM000020
00723         20         02  B5H       PICTURE X(4).                                   CM000020
00724 **      13         02  FILLER    PICTURE X(3) VALUE SPACE.                       CM000020
00725         22         02  B6H       PICTURE X(9).                                   CM000020
00726        219         02  FILLER    PICTURE X(3) VALUE SPACE.                       CM000020
00727 **      24         02  B7H       PICTURE X(7).                                   CM000020
00728 **      21         02  FILLER    PICTURE X(6) VALUE SPACE.                       CM000020
00729 **      01         02  B8H       PICTURE X(9).                                   CM000020
00730 ,       25         02  FILLER    PICTURE X(4) VALUE SPACE.                       CM000020
00731 **      03         02  B9H       PICTURE X(7).                                   CM000020
00732        325         02  FILLER    PICTURE X(6) VALUE SPACE.                       CM000020
00733 **      05         02  B10H      PICTURE X(9).                                   CM000020
00734 **      04         02  FILLER    PICTURE X(4) VALUE SPACE.                       CM000020
00735         07         02  B11H      PICTURE X.                                      CM000020
00736        408         02  FILLER    PICTURE X(16) VALUE SPACE.                      CM000020
00737 **      17   01   AA-HD.                                                          CM000020
00738        118         02  AAA       PICTURE X VALUE '0'.                            CM000020
```

14

```
00739      119       02  FILLER   PICTURE X(26) VALUE 'TYP  C   TRANSDUCER   I   '.CM000020
00740      120       02  FILLER   PICTURE X(5) VALUE  'CABLE'.
00741      121       02  FILLER   PICTURE X(38) VALUE SPACE.                        CM000020
00742      122       02  FILLER   PICTURE X(26) VALUE '    WIRED P.B.  SIG.  P.B.'.CM000020
00743      123       02  FILLER   PICTURE X(26) VALUE '  P.B.  SIG.  P.B.        '.CM000020
00744      124       02  FILLER   PICTURE X(11) VALUE ' REC.  CAB '.                CM000020
00745      132  01  AAA-HD.                                                        CM000020
00746 **   125       02  AAAA     PICTURE X VALUE ' '.                             CM000020
00747      126       02  FILLER   PICTURE X(26) VALUE 'NO.  C   TYPE          C   '.CM000020
00748      127       02  FILLER   PICTURE X(26) VALUE 'TYPE    SIGNAL ROUTING    '.
00749      128       02  FILLER   PICTURE X(26) VALUE '                     S.C. '.
00750      129       02  FILLER   PICTURE X(26) VALUE ' 0 1  COND  0 I   0 I   C'.CM000020
00751      130       02  FILLER   PICTURE X(26) VALUE 'OND  0 I   JB      ELEC  FA'.CM000020
00752      131       02  FILLER   PICTURE XX    VALUE  'B '.                       CM000020
00753      133  01  AAAA-HD.                                                       CM000020
00754      134       02  AAAA-H   PICTURE  X    VALUE '1'.
00755      135       02  FILLER   PICTURE X(63) VALUE SPACE.                       CM000020
00756      136       02  FILLER   PICTURE X(6) VALUE 'A-FILE'.                     CM000020
00757      137       02  FILLER   PICTURE X(63) VALUE SPACE.                       CM000020
00758 **    01  01  BA-HD.                                                         CM000020
00759      011       02  BAA      PICTURE X VALUE '0'.                             CM000020
00760                02  A1H      PICTURE  X(4).
00761                02  FILLER   PICTURE  X  VALUE SPACE.
00762       05       02  A1BH     PICTURE X.
00763                02  FILLER    PICTURE  XXX    VALUE SPACE.
00764       07       02  A2H      PICTURE X(7).                                    CM000020
00765                02  FILLER    PICTURE  X(6)   VALUE SPACE.
00766       09       02  A3H      PICTURE X.                                       CM000020
00767                02  FILLER    PICTURE  XXX    VALUE SPACE.
00768       11       02  A4H      PICTURE X(5).                                    CM000020
00769                02  FILLER    PICTURE  XX     VALUE SPACE.
00770       13       02  A5H      PICTURE X(5).                                    CM000020
00771       15       02  A6H      PICTURE X.                                       CM000020
00772       17       02  A7H      PICTURE X(5).                                    CM000020
00773       19       02  A8H      PICTURE X(5).                                    CM000020
00774       21       02  A9H      PICTURE X.                                       CM000020
00775       23       02  A10H     PICTURE X(5).                                    CM000020
00776       25       02  A11H     PICTURE X.                                       CM000020
00777 **   241       02  FILLER   PICTURE  X(14) VALUE SPACE.
00778                02  FILLER    PICTURE  XXX    VALUE SPACE.
00779                02  A12H     PICTURE X(4).
00780                02  FILLER    PICTURE  XX     VALUE SPACE.
00781                02  A13H     PICTURE X(4).
00782                02  FILLER    PICTURE  XX     VALUE SPACE.
00783                02  A14H     PICTURE X(4).
00784                02  FILLER    PICTURE  XX     VALUE SPACE.
00785                02  A15H     PICTURE X(4).
00786                02  FILLER    PICTURE  XX     VALUE SPACE.
00787                02  A16H     PICTURE X(4).
00788                02  FILLER    PICTURE  XX     VALUE SPACE.
00789                02  A17H     PICTURE X(4).
00790                02  FILLER    PICTURE  XX     VALUE SPACE.
00791                02  A18H     PICTURE X(4).
00792                02  FILLER    PICTURE  XX     VALUE SPACE.
00793                02  A19H     PICTURE X(5).
00794                02  FILLER    PICTURE  XX     VALUE SPACE.
00795                02  A20H     PICTURE X(4).
```

15

```
00796             02  FILLER   PICTURE  X  VALUE SPACE.
00797             02  A21H     PICTURE  X(4).
00798 **   01  01 AC-HD.                                                   CM000020
00799     502     02  ACC      PICTURE X VALUE '0'.                        CM000020
00800     503     02  FILLER   PICTURE X(26) VALUE '  TEST    T-DUCER      '.CM000020
00801     504     02  FILLER   PICTURE X(26) VALUE '         B   USED FOR  '.CM000020
00802     505     02  FILLER   PICTURE X(26) VALUE '               B   UDC '.CM000020
00803     506     02  FILLER   PICTURE X(26) VALUE '  R  POS. RN      NEG. R'.CM000020
00804     507     02  FILLER   PICTURE X(26) VALUE 'N          RE-CAL      '.CM000020
00805     508     02  FILLER   PICTURE XX VALUE SPACE.                     CM000020
00806     509  01 ACC-HD.                                                  CM000020
00807     510     02  ACCC     PICTURE X VALUE ' '.                        CM000020
00808     511     02  FILLER   PICTURE X(26) VALUE '  CELL     TYPE    RANGE '.CM000020
00809     512     02  FILLER   PICTURE X(26) VALUE '  UNITS C   PARAMETER  TR'.CM000020
00810     513     02  FILLER   PICTURE X(26) VALUE 'AN MFG.   I-NO.  C   CARD '.CM000020
00811     514     02  FILLER   PICTURE X(26) VALUE '  N  EQUIV.        EQUIV.'.CM000020
00812     515     02  FILLER   PICTURE X(26) VALUE '  UNITS    DATE         '.CM000020
00813     516     02  FILLER   PICTURE XX VALUE SPACE.                     CM000020
00814     517  01 ACCC-HD.                                                 CM000020
00815     518     02  CCCC     PICTURE X VALUE '1'.                        CM000020
00816     519     02  FILLER   PICTURE X(63) VALUE SPACE.                  CM000020
00817     520     02  FILLER   PICTURE X(6) VALUE 'C-FILE'.                CM000020
00818     521     02  FILLER   PICTURE X(63) VALUE SPACE.                  CM000020
00819 **   09  01 BC-HD.                                                   CM000020
00820      10     02  BCC      PICTURE X VALUE '0'.                        CM000020
00821             02  FILLER       PICTURE XXXX  VALUE SPACE.
00822             02  C1H           PICTURE X.
00823             02  FILLER       PICTURE XX  VALUE SPACE.
00824      15     02  FILLER   PICTURE X(3) VALUE SPACE.                   CM000020
00825      16     02  C3H      PICTURE X(7).                               CM000020
00826             02  FILLER   PICTURE XXX   VALUE SPACE.
00827     718     02  C4AH     PICTURE X(7).                               CM000020
00828     7181    02  FILLER   PICTURE X VALUE SPACE.                      CM000020
00829     7182    02  C48H     PICTURE X(3).                               CM000020
00830     7183    02  FILLER   PICTURE XXX VALUE SPACE.                    CM000020
00831     7184    02  C4CH     PICTURE X.                                  CM000020
00832     719     02  FILLER   PICTURE X(3) VALUE SPACE.                   CM000020
00833 **   20     02  C5H      PICTURE X(9).                               CM000020
00834      21     02  FILLER   PICTURE X(3) VALUE SPACE.                   CM000020
00835     722     02  C6H      PICTURE X(9).                               CM000020
00836     723     02  FILLER   PICTURE XXX VALUE SPACE.                    CM000020
00837     7231    02  C7AH     PICTURE X(6).                               CM000020
00838     7232    02  FILLER   PICTURE X VALUE SPACE.                      CM000020
00839     7233    02  C7BH     PICTURE X.                                  CM000020
00840 **   25     02  FILLER   PICTURE X(3) VALUE SPACE.                   CM000020
00841 **   01     02  C8H      PICTURE X(4).                               CM000020
00842      02     02  FILLER   PICTURE X(3) VALUE SPACE.                   CM000020
00843     703     02  C98H     PICTURE X.                                  CM000020
00844 **   04     02  FILLER   PICTURE XX VALUE SPACE.                     CM000020
00845     705     02  C10AH    PICTURE X(9).
00846     7051    02  FILLER   PICTURE X VALUE SPACE.                      CM000020
00847     706     02  FILLER   PICTURE X(4) VALUE SPACE.                   CM000020
00848     707     02  C11AH    PICTURE X(9).
00849     7071    02  FILLER   PICTURE X VALUE SPACE.                      CM000020
00850     7072    02  C11BH    PICTURE X(3).                               CM000020
00851     708     02  FILLER   PICTURE X(5) VALUE SPACE.                   CM000020
00852     709     02  C12H     PICTURE X(6).                               CM000020
```

16

```
00853     710       02  FILLER  PICTURE  XX  VALUE SPACE.                   CM000020
00854               02  FILLER   PICTURE X(8)  VALUE SPACE.
00855    02501  PROCEDURE DIVISION.
00856               OPEN I-O B-FILE.
00857               READ B-FILE AT END GO TO I7-END.
00858                MOVE B11 TO TSTCELL.
00859               CLOSE B-FILE.
00860    02502      OPEN INPUT I-FILE.
00861    025030     OPEN OUTPUT PRT-A PRT-B.
00862    025040     READ I-FILE AT END GO TO I-ENO.
00863               MOVE OPT-LISTC TO IFCLIST.
00864    025050     IF CK-OPTT = '0' GO TO OPT-RERUN.
00865    025060     GO TO NO-OPTN.
00866    025070 OPT-RERUN.
00867    025080     OPEN INPUT NPATCHI NHOOKI.
00868    025090 ORNL.
00869    025100     READ NPATCHI AT END GO TO ORAU.
00870    025110     WRITE PAT-PRT FROM NPATI.
00871    025120     GO TO ORNL.
00872    025130 ORAU.
00873    025140     READ NHOOKI AT ENO GO TO ALLNHO.
00874    025150     WRITE HK-PRT FROM NOOKI.
00875    025160     GO TO ORAU.
00876    025170 ALLNHO.
00877    025180     CLOSE NPATCHI NHOOKI.
00878    025190 NO-OPTN.
00879               MOVE OPT-CALDATE TO D-CALOATE.
00880               MOVE '9999' TO M-ST1 M-ST2 M-ST3 M-ST4 M-ST5 M-ST6.
00881    02603  A-OPEN.                                                     CM000019
00882    02604      OPEN INPUT A-FILE.                                      CM000019
00883    02605  I-READ.                                                     CM000019
00884 ** 2606       READ I-FILE AT ENO GO TO I-ENO.
00885    026060 IREODN.
00886 ** 26061      MOVE I12 TO ITEM-NO.
00887    02607  A-READ.                                                     CM000019
00888 ** 2608       READ A-FILE AT ENO GO TO A-ENO.
00889    26081  A-ON. MOVE A-CARD TO A-TEMP.
00890    2609       IF A1 NOT = I4 GO TO A-READ.
00891    26091      IF A1BR NOT = SPACE GO TO CONT-ON.
00892    26092      IF THRU-SW = 0 MOVE 1 TO A1B.
00893    26093 CONT-ON. MOVE A1B TO THRU-SW.
00894    26094      MOVE A-CARD TO ALN (THRU-SW).
00895    2610       MOVE A1B TO P-CNT. SUBTRACT 1 FROM P-CNT.
00896    2611       PERFORM LINE-UP THRU LEX UNTIL P-CNT < 1.
00897    26111      GO TO C-SET-UP.                                         CM000019
00898    2612   LINE-UP.
00899    26121      PERFORM A-READ. MOVE A-CARD TO ALN (P-CNT).
00900    26122      SUBTRACT 1 FROM P-CNT.
00901    2614   LEX. EXIT.
00902    2615   C-SET-UP. MOVE A1B TO AL-SUB.
00903    26151      CLOSE A-FILE.                                           CM000019
00904 ** 26151      MOVE ZERO TO Z-TOT.
00905    2616       PERFORM CLEAHK THRU HKAEXIT UNTIL Z-TOT > 5. GO TO CLEAPAT.
00906    2617   CLEAHK. ADD 1 TO Z-TOT. MOVE ZERO TO P15 (Z-TOT).
00907    26171      MOVE SPACE TO P1 (Z-TOT) P2 (Z-TOT) P3 (Z-TOT) P4 (Z-TOT)
00908    26172      P5A (Z-TOT) P5B (Z-TOT) P6 (Z-TOT) P7 (Z-TOT)
00909 ** 26172      P8 (Z-TOT) P9 (Z-TOT)
```

17

```
00910     26173      P10 (Z-TOT) P11 (Z-TOT) P12 (Z-TOT) P13 (Z-TOT) P14 (Z-TOT)
00911     26174      MOVE ZERO TO P1A (Z-TOT).
00912     2618   HKAEXIT. EXIT.
00913     2619   CLEAPAT. MOVE ZERO TO Z-TOT.
00914     2620       PERFORM BLEAPAT THRU PTREXA UNTIL Z-TOT > 5. GO TO XXA.
00915     2621   BLEAPAT. ADD 1 TO Z-TOT. MOVE ZERO TO QPRTO (Z-TOT).
00916     26211      MOVE ZERO TO QPRTB (Z-TOT).
00917     2622   PTREXA. EXIT.
00918     2623   XXA. MOVE ZERO TO Z-TOT.
00919     2624       PERFORM XXB THRU XXC UNTIL Z-TOT > 95. GO TO C-OPEN.
00920     2625   XXB. ADD 1 TO Z-TOT. MOVE ZERO TO APT5 (Z-TOT).
00921     26252      MOVE SPACE TO APT1 (Z-TOT) APT2 (Z-TOT) APT3 (Z-TOT)
00922     26253      APT4 (Z-TOT).
00923 ** 26251       MOVE ZERO TO APT1A (Z-TOT).
00924     2626   XXC. EXIT.
00925     2701   C-OPEN.   OPEN I-O C-FILE.
00926    027021      IF A2 = 'TC/CA   '
00927    027022      OR A2 = 'TC/CC   '
00928    027023      OR A2 = 'TC/IC   '
00929 **027023       OR A2 = 'EVENT-1'
00930 **027023       OR A2 = 'BRK     '
00931 **027023       OR A2 = 'WIRE    '
00932 **027023       OR A2 = 'CONTCLO'
00933                OR A2 = 'USER    '
00934                OR A2 = 'TC/CHCN'
00935 **027023       OR A2 = 'C-SHUNT'
00936                OR A2 = 'TUBE    '
00937    027024      OR A2 = 'V-LEADS'
00938 ** 27025       OR A2 = 'SV-LEAD' ADD 1 TO HK-SUB
00939     27026      MOVE I1 TO P1 (HK-SUB)
00940     27027      MOVE I3 TO P2 (HK-SUB)
00941    027027      PERFORM TC-CHK
00942    027028      CLOSE C-FILE  MOVE 1 TO CF-SW  GO TO ASQ-LK.
00943 **027011       IF I5 = SPACE AND I6 = SPACE NEXT SENTENCE
00944    027022      ELSE GO TO C-READ.
00945    027029      MOVE 0 TO CF-SW.
00946 ** 2702   C-READ. READ C-FILE AT END GO TO C-END.
00947                IF C9 NOT = '0' GO TO C-READ.
00948     27030      IF A2 NOT = C3 GO TO C-READ.
00949     27031      IF C5 NOT = SPACE GO TO C-READ.
00950    027031      IF C12 = SPACE GO TO C-READ1.
00951    027032      IF C12C < O-CYR GO TO C-READ.
00952 ** 27033       IF C12C > O-CYR GO TO C-READ1.
00953     27034      IF C12A < O-CMO GO TO C-READ.
00954     27035      IF C12A > O-CMO GO TO C-READ1.
00955     27036      IF C12B < O-CDY GO TO C-READ.
00956     27037 C-READ1.
00957     27038      IF I6A = 'R' GO TO CBSGN.
00958     2704       IF I6A = 'I' GO TO CCSGN. IF I6A NOT = SPACE MOVE 111 TO BEA CM000019
00959                MOVE 1 TO CF-SW
00960     2705       MOVE I1 TO BEB PERFORM B-WRIT CLOSE C-FILE GO TO R-EXT.      CM000019
00951     2706   CDSGN. IF I5 = SPACE GO TO C-TABLE. IF I5 NOT = C6 GO TO C-READ.
00962     2707       GO TO C-TABLE.
00963     2708   CBSGN. IF C5 NOT = SPACE GO TO C-READ. IF I5 = SPACE GO TO CBRGN.CM000019
00954     2709       IF I6RB NOT = C4A OR I6RC NOT = C4B OR I6RD NOT = C4C GO TO  CM000019
00965     2710 -     C-READ. IF I5 NOT = C6 GO TO C-READ. GO TO C-TABLE.          CM000019
00966     2711   CBRGN. IF I6RB NOT = C4A OR I6RC NOT = C4B OR I6RD NOT = C4C GO  CM000019
```

```
18

00967     2712 -    TO C-READ. GO TO C-TABLE.                                         CM000019
00968     2713  CCSGN.  IF I6B NOT = C7A GO TO C-READ. IF C5 NOT = SPACE MOVE
00969     2714      I1 TO AEA MOVE C5 TO AEB PERFORM A-WRIT GO TO R-EXT.
00970     27141     IF 16E NOT = C7B GO TO C-READ.
00971     2715      GO TO C-TABLE.
00972    027151 TC-CHK.
00973    027152     IF A2 = 'TC/CC   ' MOVE A2 TO P4 (HK-SUB).
00974    027153     IF A2 = 'TC/IC   ' MOVE A2 TO P4 (HK-SUB).
00975    027154     IF A2 = 'TC/CA   ' MOVE A2 TO P4 (HK-SUB).
00976 **027154      IF A2 = 'BRK     ' MOVE A2 TO P4 (HK-SUB).
00977 **027154      IF A2 = 'WIRE    ' MOVE A2 TO P4 (HK-SUB).
00978 **027154      IF A2 = 'CONTCLO' MOVE A2 TO P4 (HK-SUB).
00979 **027154      IF A2 = 'C-SHUNT' MOVE A2 TO P4 (HK-SUB).
00980               IF A2 = 'USER    ' MOVE A2 TO P4 (HK-SUB).
00981               IF A2 = 'TC/CHCN' MOVE A2 TO P4 (HK-SUB).
00982    027155     IF A2 = 'EVENT-1' MOVE 'EVENT' TO P4 (HK-SUB).
00983 ** 2716   A-WRIT.  DISPLAY 'I-CARD ' AEA.
00984     27161          DISPLAY 'INSTR ASSIGNED TO ' AEB.
00985     2717  B-WRIT.  DISPLAY 'ERROR AT ' BEA.
00986     27171          DISPLAY 'ON INPUT ' BEB.
00987     2720  C-WRIT.  DISPLAY 'INST. N/A IN ' CEA.
00988     2721          DISPLAY ' AT ' CEB.
00989     27211 EJECT-A. WRITE HK-PRT FROM COUT-PRT AFTER CCC.
00990     27212     WRITE HK-PRT FROM DOUT-PRT AFTER CCD. MOVE 3 TO LN-CTR.
00991     27213 A-END. MOVE 600 TO BEA. MOVE I1 TO BEB. PERFORM B-WRIT.       CM000019
00992     27214     CLOSE A-FILE. GO TO R-EXT.
00993    02801  C-TABLE.                                                          CM000019
00994 ** 2810   CNOT-U. ADD 1 TO HK-SUB.
00995     28102     MOVE A21 TO P12 (HK-SUB).
00996     28104     MOVE 1 TO P15 (HK-SUB).
00997     28105     MOVE THRU-SW TO P1A (HK-SUB)                                  CM000019
00998     28106     MOVE THRU-SW TO P16 (HK-SUB)                                  CM000019
00999     2811      MOVE I4 TO P11 (HK-SUB). MOVE I11 TO P13 (HK-SUB).
01000     28111     MOVE ITEM-NO TO P14 (HK-SUB).
01001     2812      MOVE I1 TO P1 (HK-SUB). MOVE I3 TO P2 (HK-SUB).
01002     2813      MOVE C7A TO P4 (HK-SUB). MOVE C1 TO P3 (HK-SUB).              CM000019
01003     2814      MOVE C8 TO P7 (HK-SUB). MOVE '1' TO C-SW.
01004               MOVE TSTCELL TO C1.
01005 ** 28011      MOVE I1 TO C5.  REWRITE C-CARD.
01006               CLOSE C-FILE.
01007               MOVE 1 TO CF-SW
01008     28141     GO TO ASQ-LK.
01009     2815  C-END.
01010     28152     DISPLAY 'A-FILE ' A-TEMP.
01011 ** 28151      DISPLAY 'C-FILE' C-CARD.
01012     28153     DISPLAY 'I-FILE ' I-CARD.
01013     28154     CLOSE C-FILE.
01014               MOVE 1 TO CF-SW
01015     2816      MOVE 201 TO CEB.
01016    02817      MOVE I1 TO CFA. PERFORM C-WRIT. GO TO I-7.                    CM000019
01017 ** 2901   ASQ-LK. MOVE ALN (THRU-SW ) TO SQCK-LN.
01018                   IF SQUID-COUNT NOT = 0 GO TO I-7.
01019    02910  SQ-CK.                                                            CM000019
01020 ** 2911      IF A135A = 'S' AND A135B NOT = SPACE MOVE A13RB TO            CM000019
01021     29111     SQUID-COUNT MOVE THRU-SW TO S-ST1 MOVE 1 TO O-SW1 GO TO I7ZZ.
01022     2912      IF A155A = 'S' AND A155B NOT = SPACE MOVE A15RB TO            CM000019
01023     29121     SQUID-COUNT MOVE THRU-SW TO S-ST1 MOVE 1 TO O-SW2 GO TO I7ZZ.
```

```
01024    2914      IF A185A = 'S' AND A185B NOT = SPACE MOVE A18RB TO               CM000019
01025    29141     SQUID-COUNT MOVE THRU-SW TO S-ST1 MOVE 1 TO O-SW4 GO TO I7ZZ.
01026    29142      GO TO I-7.
01027    29143 I7ZZ. SUBTRACT 1 FROM SQUID-COUNT.
01028   030010 I-7.                                                                 CM000019
01029   030020     MOVE 0 TO PB-SW1, PB-SW2, STA-SW.                                CM000019
01030              MOVE A21 TO P12 (HK-SUB).
01031              MOVE I4 TO P11 (HK-SUB).
01032               MOVE I11 TO P13 (HK-SUB).
01033              MOVE ITEM-NO TO P14 (HK-SUB).
01034              MOVE 1 TO P15 (HK-SUB)
01035   030021     MOVE THRU-SW TO P16 (HK-SUB)  P1A (HK-SUB)
01036   030022     MOVE I1 TO P1 (HK-SUB).
01037   030030     IF I7 = SPACE                                                    CM000019
01038   030040     IF A12 = SPACE                                                   CM000019
01039   030050     IF A4A NOT = 'CB' GO TO CHOSW
01040   030070     ELSE GO TO I7JA                                                  CM000019
01041   030080     ELSE GO TO I7KA.                                                 CM000019
01042   030090     IF I7C = SPACE                                                   CM000019
01043   030100     IF A12B = SPACE                                                  CM000019
01044   030110     IF A4B = SPACE                                                   CM000019
01045   030120     MOVE I7A TO ST-1                                                 CM000019
01046   030130     GO TO B7-OPEN                                                    CM000019
01047   030140     ELSE MOVE I7AR TO ST-1                                           CM000019
01048   030150          MOVE A48 TO ST-3                                            CM000019
01049   030160          ALTER I7AA TO PROCEED TO I7CA                               CM000019
01050 ** 3017      MOVE 2 TO FLIP-SW
01051   030180          GO TO B7-OPEN                                               CM000019
01052   030190     ELSE MOVE I7AR TO ST-1                                           CM000019
01053   030200          MOVE A12B TO ST-3                                           CM000019
01054   030210          ALTER I7AA TO PROCEED TO I7CA                               CM000019
01055   030220          MOVE 3 TO FLIP-SW                                           CM000019
01056   030230          GO TO B7-OPEN.                                              CM000019
01057   030240     IF I7D = SPACE                                                   CM000019
01058 ** 30250     IF A12BR = SPACE
01059    3101      IF A48R = SPACE
01060   031020         MOVE I7AR TO ST-1                                            CM000019
01061   031030         MOVE I7C  TO ST-5                                            CM000019
01062 ** 31031     MOVE 2 TO FLIP-SW
01063   031040         ALTER I7AA TO PROCEED TO I7FA                                CM000019
01064   031050         GO TO B7-OPEN                                                CM000019
01065   031060     ELSE MOVE I7AR TO ST-1                                           CM000019
01066   031070         MOVE I7C  TO ST-5                                            CM000019
01067 ** 3108      MOVE A48R TO ST-6
01068   031090          ALTER I7AA TO PROCEED TO I7EA                               CM000019
01069   031100          MOVE 2 TO FLIP-SW                                           CM000019
01070   031110          GO TO B7-OPEN                                               CM000019
01071   031120     ELSE MOVE I7AR TO ST-1                                           CM000019
01072   031130          MOVE I7C  TO ST-5                                           CM000019
01073 ** 3114      MOVE A12BR TO ST-6
01074   031150          MOVE 2 TO FLIP-SW                                           CM000019
01075   031160          ALTER I7AA TO PROCEED TO I7EA                               CM000019
01076   031170          GO TO B7-OPEN.                                              CM000019
01077   031180     IF I7E = SPACE                                                   CM000019
01078   031190         MOVE I7AR TO ST-1                                            CM000019
01079   031200         MOVE I7BR TO ST-3                                            CM000019
01080   031210         ALTER I7AA TO PROCEED TO I7CA                                CM000019
```

20

```
01081  031220           MOVE 3 TO FLIP-SW                                       CM000019
01082  031230           GO TO B7-OPEN.                                          CM000019
01083  031240          MOVE I7 TO ST-7                                          CM000019
01084  031250          ALTER 17AA TO PROCEED TO 17GA                            CM000019
01085  032010          MOVE 2 TO FLIP-SW                                        CM000019
01086  032020          GO TO B7-OPEN.                                           CM000019
01087  032021 CHOSW.
01088  032022       IF O-SW1 = 1 OR O-SW2 = 1 OR O-SW4 = 1
01089  032023       IF SQUID-COUNT = 0 MOVE 1 TO I7-SWT
01090  032024       ELSE GO TO I-B
01091 **032023      ELSE MOVE 1 TO I7-SWT GO TO I-8.
01092 ** 32024      GO TO I-8.
01093  032030 I7JA.                                                             CM000019
01094  032040       IF A4B = SPACE                                              CM000019
01095  032050       MOVE A4A TO ST-1     MOVE 2 TO FLIP-SW                      CM000019
01096  032060       GO TO B7-OPEN.                                              CM000019
01097  032070       MOVE A4 TO ST-2      MOVE 2 TO FLIP-SW                      CM000019
01098  032080       ALTER I7AA TO PROCEED TO 17BA                               CM000019
01099  032090       GO TO B7-OPEN.                                              CM000019
01100  032100 17KA.                                                             CM000019
01101  032110       IF A12B = SPACE                                             CM000019
01102  032120       MOVE A12A TO ST-1                                           CM000019
01103  032130       MOVE 2 TO FLIP-SW                                           CM000019
01104  032140       GO TO B7-OPEN.                                              CM000019
01105  032150       MOVE A12 TO ST-2                                            CM000019
01106  032160       ALTER I7AA TO PROCEED TO I7BA                               CM000019
01107  032170       MOVE 1 TO FLIP-SW                                           CM000019
01108  032180       GO TO B7-OPEN.                                              CM000019
01109  032190 17GA.                                                             CM000019
01110  032200       IF ST-7 = B3                                                CM000019
01111  032220       GO TO BTAB-LK.                                              CM000019
01112  032230       GO TO B7-RD.                                                CM000019
01113  032240 I7FA.                                                             CM000019
01114  032250       IF ST-1 = B5A                                               CM000019
01115  033010       IF ST-5 = B5BRR                                             CM000019
01116  033030       GO TO BTAB-LK.                                              CM000019
01117  033040       GO TO B7-RD.                                                CM000019
01118  033050 I7EA.                                                             CM000019
01119  033060       IF ST-1 = B5A                                               CM000019
01120  033070       IF ST-5 = B5BRR                                             CM000019
01121  033080       IF ST-6 = B5CRR                                             CM000019
01122  033100       GO TO BTAB-LK.                                              CM000019
01123  033110       GO TO B7-RD.                                                CM000019
01124  033120 17DA.                                                             CM000019
01125  033130       IF ST-1 = B3RA                                              CM000019
01126  033140       IF ST-3 = B3RB                                              CM000019
01127  033160       GO TO BTAB-LK.                                              CM000019
01128  033170       GO TO B7-RD.                                                CM000019
01129  033180 I7CA.                                                             CM000019
01130  033190       IF ST-1 = B5A                                               CM000019
01131  033200       IF ST-3 = B5B                                               CM000019
01132  033220       GO TO BTAB-LK.                                              CM000019
01133  033230       GO TO B7-RD.                                                CM000019
01134  033240 I7BA.                                                             CM000019
01135  033250       IF ST-2 = B5                                                CM000019
01136  034020       GO TO BTAB-LK.                                              CM000019
01137  034030       GO TO B7-RD.                                                CM000019.
```

```
21

01138    034040 B7-OPEN.                                                    CM000019
01139 ** 3405          OPEN I-O B-FILE.
01140    034060 B7-RO.                                                      CM000019
01141    034070        READ B-FILE AT END GO TO 17-END.                     CM000019
01142 ** 34071         IF B10 NOT = SPACE GO TO B7-RO.
01143    034080 17AA.                                                       CM000019
01144    034090        GO TO 17HA.                                          CM000019
01145    034100 17HA.                                                       CM000019
01146    034110        IF ST-1 = B5A                                        CM000019
01147    034130        GO TO BTAB-LK.                                       CM000019
01148    034140        GO TO B7-RO.                                         CM000019
01149    034150 BTAB-LK.                                                    CM000019
01150    034160        PERFORM B-TABLE.                                     CM000019
01151    034170 CHK-1789.                                                   CM000019
01152    034180        IF STA-SW = 1 GO TO PB-SET.                          CM000019
01153    034190        IF STA-SW = 2 GO TO EPB-SET.                         CM000019
01154    034200        IF STA-SW = 3 GO TO KPB-SET.                         CM000019
01155    034210        IF B6B = 'PB1'  OR B6B = 'PB2'                       CM000019
01156    034220        MOVE B6B TO B-ST                                     CM000019
01157    034230        MOVE 1 TO PB-SW1.                                    CM000019
01158    034240        IF B8B = 'PB1' OR B8B = 'PB2'                        CM000019
01159    034250        MOVE B8B TO B-ST                                     CM000019
01160    035010        MOVE 1 TO PB-SW2.
01161    035020        IF PB-SW1 = 1                                        CM000019
01162    035040        MOVE 71 TO CEB MOVE 11 TO CEA PERFORM C-WRIT GO TO B7-RO.    CM000019
01163    035080        IF PB-SW2 NOT = 1 GO TO HK-1789.
01164    035090        ADD 1 TO APT-SUB                                     CM000019
01165    035100        MOVE B-ST TO APT2 (APT-SUB)                          CM000019
01166    035110        MOVE B9  TO  APT3 (APT-SUB)                          CM000019
01167    035120        PERFORM PAT-M.                                       CM000019
01168 **035013         IF THRU-SW NOT = S-ST1 GO TO HK-1789.
01169 ** 35014         IF 0-SW1 = 1
01170    035015        MOVE B-ST TO S-ST2  MOVE 2 TO APT5 (APT-SUB).
01171    035016 HK-1789.
01172    035017        IF B3RRB = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'
01173    035018        OR '7' OR '8' OR '9' GO TO PAHK-1789.
01174    035019        IF M-SW1 = 0 MOVE 1 TO M-SW1 MOVE B3 TO M-1ST.
01175    035020 PAHK-1789.
01176 ** 3513          IF B5A NOT = 'CB' MOVE B3 TO P6 (HK-SUB).            CM000019
01177    035140        MOVE B6 TO P5A (HK-SUB)                              CM000019
01178    035150        MOVE B7 TO P5B (HK-SUB)                              CM000019
01179 **035060         IF BSW-1 = 1 PERFORM B-UPDATE                        CM000019
01180    03507         ELSE GO TO B7-RO.
01181    035160        CLOSE B-FILE                                         CM000019
01182    035170        GO TO I-8.                                           CM000019
01183    035180 SQUID-ROUTINE.                                              CM000019
01184    035190        ADD 1 TO SQ-SUB.                                     CM000019
01185    035200        MOVE 'SQUID' TO QPRTC (SQ-SUB).                      CM000019
01186    035210        MOVE THRU-SW TO QPRTB (SQ-SUB).                      CM000019
01187    035220        MOVE 1 TO QPRTD (SQ-SUB).                            CM000019
01188    035221        MOVE ITEM-NO TO QPRTA (SQ-SUB).
01189    035230 PAT-M.                                                      CM000019
01190    035240        MOVE ITEM-NO TO APT1 (APT-SUB)                       CM000019
01191    035250        MOVE THRU-SW TO APT1A (APT-SUB)                      CM000019
01192    35A010        MOVE 1 TO APT5 (APT-SUB).                            CM000019
01193    35A020 B-UPDATE.                                                   CM000019
01194                  IF B1 = SPACE MOVE 'XXXX' TO B1.
```

22

```
01195    35A030      MOVE I1 TO B10.  REWRITE B-CARD.
01196    35A080 BT-UPDATE.                                                 CM000019
01197                IF BT1 = SPACE MOVE 'XXXX' TO BT1.
01198    35A090      CLOSE B-FILE.  OPEN I-O B-FILE.
01199    35A091      PERFORM BT-UPDATT THRU BT-UPDATTT.
01200    35A092 BT-UPDATT.
01201    35A093      READ B-FILE AT END GO TO BT-UPDATTT.
01202    35A094      IF BT1 = B1  IF BT2 = B2  MOVE I1 TO B10   REWRITE B-CARD
01203                GO TO BT-UPDATTT.
01204    35A095      GO TO BT-UPDATT.
01205    35A096 BT-UPDATTT.   EXIT.
01206 ** 3601   I7-END. CLOSE B-FILE.
01207     3602       IF FLIP-SW = 1 GO TO I-8.
01208     36021      IF FLIP-SW = 2 DISPLAY 'A-FILE ' A-TEMP
01209     36022      DISPLAY 'I-FILE ' I-CARD
01210     36023      DISPLAY 'I-7 NOT = B3'  GO  TO I-8.
01211     3604       IF FLIP-SW = 3 ALTER I7AA TO PROCEED TO I70A MOVE 2 TO
01212     3605       FLIP-SW GO TO B7-OPEN.
01213     3606       IF FLIP-SW = 10 GO TO I-8B.
01214     3607       IF FLIP-SW = 12 GO TO I-8C.
01215     3608       IF FLIP-SW = 13 GO TO I-9.
01216     3609       IF FLIP-SW = 14 GO TO I-10.
01217     3610       IF FLIP-SW = 15 GO TO I10BB.
01218     3611       IF FLIP-SW = 16 GO TO STA-CK.
01219     3612       IF FLIP-SW = 17 GO TO I10BA.
01220     3613       IF FLIP-SW = 18 GO TO STA-CK.
01221     3614       IF FLIP-SW = 19 GO TO I9AC.
01222     3615       IF FLIP-SW = 20 GO TO I9FC.
01223     3616       IF FLIP-SW = 28 ALTER I7AA TO PROCEED TO I70A MOVE 27 TO
01224     3617       FLIP-SW GO TO B7-OPEN.
01225                IF FLIP-SW = 27
01226                   DISPLAY 'A-FILE ' A-TEMP
01227                   DISPLAY 'I-FILE ' I-CARD
01228                   DISPLAY 'I-10 NOT EQUAL A-20'
01229                GO TO STA-CK.
01230                IF FLIP-SW = 37
01231                   DISPLAY 'A-FILE ' A-TEMP
01232                   DISPLAY 'I-FILE ' I-CARD
01233                   DISPLAY 'I-8 NOT = A14'
01234                GO TO I-9.
01235     3620       IF FLIP-SW = 38 ALTER I7AA TO PROCEED TO I70A MOVE 37 TO
01236     3621       FLIP-SW GO TO B7-OPEN.
01237                IF FLIP-SW = 47
01238                   DISPLAY 'A-FILE ' A-TEMP
01239                   DISPLAY 'I-FILE ' I-CARD
01240                   DISPLAY 'I-9 NOT = A17'
01241                GO TO I-10.
01242     3623       IF FLIP-SW = 48 ALTER I7AA TO PROCEED TO I70A MOVE 47 TO
01243     3624       FLIP-SW GO TO B7-OPEN.
01244    036250      IF FLIP-SW = 77 DISPLAY '36250  ' I-CARD GO TO CHK-I789.
01245    038010 I-8.                                                       CM000019
01246                MOVE A21 TO P12 (HK-SUB).
01247                MOVE I4 TO P11 (HK-SUB).
01248                 MOVE I11 TO P13 (HK-SUB).
01249                MOVE ITEM-NO TO P14 (HK-SUB).
01250    038020      MOVE 1 TO STA-SW. ALTER I7AA TO PROCEED TO I7HA.      CM000019
01251    038030      IF I8 = SPACE GO TO A-14. IF I8C = SPACE GO TO I8KA.  CM000019
```

```
23

01252    038040      IF I8D = SPACE GO TO I8KB. IF I8E = SPACE GO TO I8KC.          CM000019
01253 ** 38041       MOVE 37 TO FLIP-SW.
01254    038050      MOVE I8 TO ST-7. ALTER I7AA TO PROCEED TO I7GA.                CM000019
01255    038060      GO TO B7-OPEN.                                                 CM000019
01256    038070 A-14. IF A14 = SPACE GO TO I-9.                                     CM000019
01257    038080      IF A14B = SPACE GO TO I8KO. MOVE A14 TO ST-2.                  CM000019
01258    038090      ALTER I7AA TO PROCEED TO I7BA. MOVE 37 TO FLIP-SW.             CM000019
01259    038100      GO TO B7-OPEN.                                                 CM000019
01260    038110 I8KO. MOVE A14A TO ST-1. MOVE 37 TO FLIP-SW. GO TO B7-OPEN.         CM000019
01261    038120 I8KA. IF A14B = SPACE GO TO I8KE.                                   CM000019
01262    038130      MOVE I8AR TO ST-1. MOVE A14B TO ST-3. ALTER I7AA TO            CM000019
01263    038140      PROCEED TO I7CA. MOVE 37 TO FLIP-SW. GO TO B7-OPEN.            CM000019
01264    038150 I8KE. MOVE I8A TO ST-1. MOVE 37 TO FLIP-SW. GO TO B7-OPEN.          CM000019
01265 ** 3816   I8K8. IF A148R = SPACE GO TO I8KF.
01266     3817       MOVE I8AR TO ST-1. MOVE I8C TO ST-5.
01267     38171      MOVE A14BR TO ST-6.
01268     3818       MOVE 37 TO FLIP-SW. ALTER I7AA TO PROCEED TO I7EA.
01269     38181      GO TO B7-OPEN.
01270    038190 I8KF. MOVE I8AR TO ST-1. MOVE I8C TO ST-5. ALTER I7AA TO PROCEED CM000019
01271 ** 3820        TO I7FA MOVE 37 TO FLIP-SW GO TO B7-OPEN.
01272    038210 I8KC. MOVE I8AR TO ST-1. MOVE I8BR TO ST-3. ALTER I7AA TO           CM000019
01273    038220      PROCEED TO I7CA. MOVE 38 TO FLIP-SW.                           CM000019
01274    038230      GO TO B7-OPEN.
01275    039010 PB-SET. IF BSW-1 NOT = 1 GO TO B7-RO.                               CM000019
01276    039020      IF PB-SW2 = 1 GO TO APB-SET.                                   CM000019
01277    039030      IF O-SW1 = 1 GO TO S-SET.                                      CM000019
01278 ** 3904   S2-SET. IF B8B = 'PB1' GO TO I8ZV.                                  CM000019
01279     39041      IF B8B NOT = 'PB2' GO TO I-8E.                                 CM000019
01280     39042 I8ZV.                                                               CM000019
01281    039050      MOVE 1 TO PB-SW2. MOVE B8B TO B-ST. ADD 1 TO APT-SUB.          CM000019
01282    039060      PERFORM PAT-M. MOVE B9 TO APT3 (APT-SUB).                      CM000019
01283    039070      MOVE B8 TO APT2 (APT-SUB). MOVE B3 TO P8 (HK-SUB).             CM000019
01284    039080      GO TO I-8E.                                                    CM000019
01285    039090 APB-SET. GO TO BPB-SET.                                             CM000019
01286    039100 BPB-SET. IF B6B NOT = B-ST MOVE 12 TO FLIP-SW GO TO B7-RO.          CM000019
01287    039110 S1-SET. IF O-SW1 = 1 GO TO I8TA. MOVE B7 TO APT4 (APT-SUB).         CM000019
01288    039120      GO TO I8TB.                                                    CM000019
01289    039130 I8TA. IF THRU-SW = S-ST1 MOVE B-ST TO S-ST2 MOVE 2 TO               CM000019
01290    039140      APT5 (APT-SUB).                                                CM000019
01291 ** 3915        IF A13A NOT = SPACE OR A13B = SPACE MOVE B7 TO
01292     39151      APT4 (APT-SUB)
01293     39152      MOVE B6 TO APT2 (APT-SUB)
01294    039160      GO TO I8TB.                                                    CM000019
01295    039170      PERFORM SQUID-ROUTINE. MOVE B7 TO QPRTE (SQ-SUB).              CM000019
01296    039180      MOVE 1 TO SCA-SW. MOVE B6 TO QPRTF (SQ-SUB).                   CM000019
01297    039190 I8TB. IF B8B = 'PB1' OR B8B = 'PB2' ADD 1 TO APT-SUB                CM000019
01298 ** 39191       MOVE 1 TO P15 (HK-SUB)                                         CM000019
01299    039200      PERFORM PAT-M MOVE B8 TO APT2 (APT-SUB) MOVE B9 TO             CM000019
01300    039210      APT3 (APT-SUB) MOVE 1 TO PB-SW2 MOVE B8B TO B-ST.              CM000019
01301 ** 3922   I-8E. MOVE B3 TO P8 (HK-SUB) MOVE 1 TO P15 (HK-SUB).                CM000019
01302     3923       IF B3RRB = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'
01303     39231      OR '7' OR '8' OR '9' GO TO MI-8E.
01304     3924       IF M-SW2 = 0                                                   CM000019
01305     3925       MOVE 1 TO M-SW2                                                CM000019
01306     3926       MOVE B3 TO M-2ST
01307     3927       GO TO MI-8E.                                                   CM000019
01308     3928       IF B3RRA = M-ST2 GO TO MI-8E.                                  CM000019
```

24

```
01309    3929        MOVE B3 TO M-3ST.
01310    3930   MI-BE.                                                     CM000019
01311    4001        PERFORM B-UPDATE CLOSE B-FILE GO TO I-9.              CM000019
01312   040020 I-8C. IF B-ST = 'PB1' MOVE 'PB2' TO  R-ST GO TO I8TC.       CM000019
01313   040030       IF B-ST = 'PB2' MOVE 'PB1' TO R-ST.                   CM000019
01314   040040 I8TC. ALTER APB-SET TO PROCEED TO OP8-SET.                  CM000019
01315   040050       MOVE 13 TO FLIP-SW. GO TO B7-OPEN.                    CM000019
01316   040060 OP8-SET.                                                    CM000019
01317   040070       IF B6B NOT = R-ST GO TO B7-RO. MOVE B-CARD TO B-TEMP. CM000019
01318 ** 40080       CLOSE B-FILE. OPEN I-O B-FILE.  MOVE 13 TO FLIP-SW.
01319   040090 BJ-READ. READ B-FILE AT END GO TO I8-END.                   CM000019
01320   040100       IF B5 NOT = 'INTR' GO TO BJ-READ.                     CM000019
01321   040110       IF B10 NOT = SPACE GO TO BJ-READ.                     CM000019
01322   040120       PERFORM B-TABLE. IF BSW-1 = 1 GO TO I8-J. GO TO BJ-READ.  CM000019
01323   040130 I8-END. CLOSE B-FILE. MOVE 801 TO CEB MOVE I1 TO CEA        CM000019
01324   040140       PERFORM C-WRIT GO TO I-9.                             CM000019
01325 ** 4015  S-SET. IF THRU-SW > S-ST1 GO TO S2-SET.
01326   040160       IF SQUID-COUNT = 0 GO TO S2-SET.
01327 ** 4017  GJMP. GO TO IJMP.
01328    4018  IJMP. IF B6B = S-ST2 GO TO S1-SET. MOVE 10 TO FLIP-SW.
01329   040190       GO TO B7-RO.                                          CM000019
01330 ** 4020  I-8B. ALTER GJMP TO PROCEED TO HJMP MOVE 13 TO FLIP-SW.
01331   040210       GO TO B7-OPEN.                                        CM000019
01332   40A010 I8-J. IF B68 NOT = B-ST GO TO I8TO.
01333   40A020 S3-SET. IF O-SW1 NOT = 1 GO TO I8TE.                        CM000019
01334   40A030       IF THRU-SW = S-ST1 MOVE B-ST TO S-ST2 MOVE 2 TO       CM000019
01335   40A040       APT5 (APT-SUB).                                       CM000019
01336   40A050       IF A13A NOT = SPACE GO TO I8TE.                       CM000019
01337   40A060       IF A13B = SPACE GO TO I8TE. PERFORM SQUID-ROUTINE.    CM000019
01338   40A061       MOVE B6 TO QPRTF (SQ-SUB)
01339   40A070       MOVE B7 TO QPRTE (SQ-SUB) MOVE 1 TO SCA-SW GO TO I8TF.    CM000019
01340   40A080 I8TE. MOVE B7 TO APT4 (APT-SUB).                            CM000019
01341   40A090 I8TF. ADD 1 TO APT-SUB. PERFORM PAT-M. MOVE B8 TO APT2 (APT-SUB) CM000019
01342   40A100       MOVE B9 TO APT3 (APT-SUB). MOVE B88 TO B-ST.          CM000019
01343   40A110 I8TG. PERFORM B-UPDATE.                                     CM000019
01344   40A120       IF BT6B NOT = B-ST MOVE 802 TO CEB MOVE I1 TO CEA PERFORM CM000019
01345 ** 40A13       C-WRIT GO TO I8TH.
01346   40A140       MOVE BT7 TO APT4 (APT-SUB).                           CM000019
01347   40A150       IF BT88 = 'PB1' OR BT88 = 'PB2' ADD 1 TO APT-SUB MOVE BT8 CM000019
01348   40A160       TO APT2 (APT-SUB) PERFORM PAT-M MOVE BT9 TO APT3 (APT-SUB) CM000019
01349   40A170       MOVE 1 TO PB-SW2 MOVE BT88 TO B-ST.                   CM000019
01350   40A171 I8TH.                                                       CM000019
01351   40A172       IF B3TRRB = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'
01352 **40A172       OR '7' OR '8' OR '9' GO TO MI8TH.
01353   40A173       IF M-SW2 = 0 MOVE 1 TO M-SW2
01354   40A174       MOVE BT3 TO M-2ST
01355   40A175       GO TO MI8TH.                                          CM000019
01356   40A176       IF B3TRRA = M-ST2  GO TO MI8TH.                       CM000019
01357   40A177       MOVE BT3 TO M-3ST.
01358   40A178 MI8TH.                                                      CM000019
01359   40A179       PERFORM BT-UPDATE MOVE BT3 TO P8 (HK-SUB)  CLOSE B-FILE.  CM000019
01360   40A181       GO TO I-9.
01361   40A190 I8TO. IF B8B NOT = B-ST GO TO BJ-READ.                      CM000019
01362   40A191 S4-SET.
01363   40A200       IF O-SW1 NOT = 1 GO TO I8TI.                          CM000019
01364   40A210       IF THRU-SW = S-ST1 MOVE B-ST TO S-ST2 MOVE 2 TO       CM000019
01365   40A220       APT5 (APT-SUB).                                       CM000019
```

```
25

01366   40A230     1F A13A NOT = SPACE OR A13B = SPACE GO TO 18T1.              CM000019
01367   40A240     PERFORM SQUIO-ROUTINE. MOVE B9 TO QPRTE (SQ-SUB) MOVE 1 TO   CM000019
01368   40A250     SCA-SW MOVE B8 TO QPRTF (SQ-SUB).
01369   40A251     GO TO 18TJ.
01370   40B010 18TI. MOVE B9 TO APT4 (APT-SUB).                                 CM000019
01371   40B020 IBTJ. AOO 1 TO APT-SUB. PERFORM PAT-M. MOVE B6 TO APT2 (APT-SUB) CM000019
01372   40B030     MOVE B7 TO APT3 (APT-SUB). MOVE B6B TO B-ST. GO TO 1BTG.     CM000019
01373   40B040 HJMP. IF B6B NOT = S-ST3 GO TO B7-RO.                            CM000019
01374   40B050     MOVE B-CARD TO B-TEMP. CLOSE B-FILE.                         CM000019
01375 **40B050     OPEN I-O B-FILE.
01376   40B060     MOVE 12 TO FLIP-SW.                                          CM000019
01377   40B070 BH-READ. READ B-FILE AT END GO TO IB-ENO.                        CM000019
01378   40B080     1F B5 NOT = '1NTR' GO TO BH-REAO.                            CM000019
01379   40B090     IF B10 NOT = SPACE GO TO BH-REAO.                            CM000019
01380   40B100     1F B6B NOT = S-ST2 GO TO 18TK.                               CM000019
01381   40B110     PERFORM B-TABLE. 1F BSW-1 NOT = 1 GO TO BH-REAO. GO TO       CM000019
01382   40B120     S3-SET.                                                      CM000019
01383   40B130 IBTK. IF BBB NOT = S-ST2 GO TO BH-REAO. PERFORM B-TABLE.         CM000019
01384   40B140     IF BSW-1 NOT = 1 GO TO BH-REAO. GO TO S4-SET.                CM000019
01385 **041010 I-9.                                                             CM000019
01386              MOVE A21 TO P12 (HK-SUB).
01387              MOVE 14 TO P11 (HK-SUB).
01388               MOVE I11 TO P13 (HK-SUB).
01389              MOVE 1TEM-NO TO P14 (HK-SUB).
01390   041020     MOVE 2 TO STA-SW ALTER I7AA TO PROCEED TO 17HA.              CM000019
01391   041030     1F I9 = SPACE GO TO A-17. IF I9C = SPACE GO TO 19KA.         CM000019
01392   041040     IF I90 = SPACE GO TO I9KB. IF I9E = SPACE GO TO I9KC.        CM000019
01393   041050     MOVE 19 TO ST-7. ALTER I7AA TO PROCEEO TO I7GA.              CM000019
01394 ** 41051     MOVE 47 TO FLIP-SW.
01395   041060     GO TO B7-OPEN.                                               CM000019
01396   041070 A-17. 1F A17 = SPACE GO TO I-10.                                 CM000019
01397   041080     1F A17B = SPACE GO TO I9KO. MOVE A17 TO ST-2.                CM000019
01398   041090     ALTER 17AA TO PROCEED TO 17BA. MOVE 47 TO FLIP-SW.           CM000019
01399   041100     GO TO B7-OPEN.                                               CM000019
01400   041110 I9KO. MOVE A17A TO ST-1. MOVE 47 TO FLIP-SW. GO TO B7-OPEN.      CM000019
01401   041120 I9KA. 1F A17B = SPACE GO TO I9KE.                                CM000019
01402   041130     MOVE I9AR TO ST-1. MOVE A17B TO ST-3. ALTER I7AA TO          CM000019
01403   041140     PROCEEO TO I7CA. MOVE 47 TO FLIP-SW. GO TO B7-OPEN.          CM000019
01404   041150 19KE. MOVE I9A TO ST-1. MOVE 47 TO FLIP-SW. GO TO B7-OPEN.       CM000019
01405 ** 4116  I9KB. 1F A17BR = SPACE GO TO I9KF.
01406    4117      MOVE I9AR TO ST-1. MOVE 19C TO ST-5. MOVE A17BR TO ST-6.
01407   041180     MOVE 47 TO FLIP-SW. ALTER I7AA TO PROCEEO TO 17EA.           CM000019
01408   041190     GO TO B7-OPEN.                                               CM000019
01409 ** 4120  I9KF. MOVE I9AR TO ST-1. MOVE I9C TO ST-5. ALTER 17AA TO
01410    4121      PROCEEO TO I7FA MOVE 47 TO FLIP-SW GO TO B7-OPEN.
01411    4122  I9KC. MOVE 19AR TO ST-1. MOVE I9BR TO ST-3. ALTER I7AA TO
01412   041230     PROCEEO TO I7CA. MOVE 48 TO FLIP-SW.                         CM000019
01413   041240     GO TO B7-OPEN.
01414   042010 EPB-SET. IF BSW-2 = 1 GO TO B7-RO.                               CM000019
01415   042020     1F PB-SW2 NOT = 1 GO TO I9TA.                                CM000019
01416   042030 19BO. GO TO 19BE.                                                CM000019
01417 ** 4204  I9BE. IF B6B NOT = B-ST MOVE 19 TO FLIP-SW GO TO B7-RD.
01418   042050 S19-SET. IF O-SW1 = 1 GO TO I9TB. IF O-SW2 NOT = 1 GO TO I9TC.   CM000019
01419   042060     1F THRU-SW NOT = S-ST1 GO TO I9TB.                           CM000019
01420   042070     MOVE B-ST TO S-ST2. MOVE 2 TO APT5 (APT-SUB).                CM000019
01421   042080 I9TB. 1F A13A NOT = SPACE OR A15A NOT = SPACE OR A16B = SPACE    CM000019
01422   042090     GO TO I9TC. PERFORM SQUIO-ROUTINE. MOVE B7 TO QPRTE (SQ-SUB) CM000019
```

```
26

01423    042091        MOVE B6 TO QPRTF (SQ-SUB)
01424    042100        MOVE 1 TO SCA-SW. GO TO I9TO                                  CM000019
01425    042110 I9TC. MOVE B7 TO APT4 (APT-SUB).                                    CM000019
01426    042120 I9TO. IF BBB = 'PB1' OR BBB = 'PB2' ADD 1 TO APT-SUB MOVE B8 TO     CM000019
01427    042130        APT2 (APT-SUB) MOVE B9 TO APT3 (APT-SUB) PERFORM PAT-M        CM000019
01428    042140        MOVE 1 TO PB-SW2 MOVE BBB TO B-ST.                            CM000019
01429    042141 I9TE.                                                               CM000019
01430 ** 42142         MOVE 1 TO P15 (HK-SUB)                                        CM000019
01431     42143        IF B3RRB = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'
01432 ** 42143         OR '7' OR 'B' OR '9' GO TO MI9TE.
01433     42144        IF M-SW3 = 0                                                  CM000019
01434     42145        MOVE 1 TO M-SW3                                               CM000019
01435     42146        MOVE B3 TO M-4ST
01436     42147        GO TO MI9TE.                                                  CM000019
01437     42148        IF B3RRA = M-ST4 GO TO MI9TE.                                 CM000019
01438     42149        MOVE B3 TO M-5ST.
01439 ** 42149 MI9TE.                                                               CM000019
01440    042150        MOVE B3 TO P9 (HK-SUB) PERFORM B-UPDATE CLOSE B-FILE          CM000019
01441    042160        GO TO I-10.                                                   CM000019
01442    042170 I9-END. CLOSE B-FILE MOVE 101 TO CEB MOVE I1 TO CEA PERFORM         CM000019
01443    042180        C-WRIT GO TO I-10.                                            CM000019
01444    042190 I9TA. IF O-SW1 = 1 OR O-SW2 = 1 GO TO SI9-SET.                      CM000019
01445 ** 42191  S29-SET.
01446     4220         IF BBB = 'PB1' GO TO I9ZR.                                    CM000019
01447     42201        IF BBB NOT = 'PB2' GO TO I9TE.                                CM000019
01448     4221  I9ZR.                                                               CM000019
01449     42211        MOVE 1 TO PB-SW2.                                             CM000019
01450    042220        MOVE BBB TO B-ST. ADD 1 TO APT-SUB PERFORM PAT-M              CM000019
01451    042230        MOVE BB TO APT2 (APT-SUB) MOVE B9 TO APT3 (APT-SUB)           CM000019
01452    042240        GO TO I9TE.                                                   CM000019
01453    043010 SI9-SET. IF THRU-SW > S-ST1 GO TO S29-SET.
01454    043020        IF SQUID-COUNT = 0 GO TO S29-SET..
01455    043030 I9GC. GO TO I9HC.                                                   CM000019
01456 ** 4304   I9HC. IF B6B = S-ST2 GO TO S19-SET.
01457     4305         MOVE 20 TO FLIP-SW GO TO B7-RD.
01458    043060 I9FC. IF S-ST2 = 'PB1' MOVE 'PB2' TO S-ST3 GO TO I9TF.              CM000019
01459    043070        IF S-ST2 = 'PB2' MOVE 'PB1' TO S-ST3.                         CM000019
01460    043080 I9TF. MOVE 14 TO FLIP-SW ALTER I9GC TO PROCEED TO I9JC GO TO        CM000019
01461    043090        B7-OPEN.                                                      CM000019
01462    043100 I9JC. IF B6B NOT = S-ST3 GO TO B7-RD. MOVE B-CARD TO B-TEMP.        CM000019
01463    043110        CLOSE B-FILE.  OPEN I-O B-FILE.  MOVE 1 TO FLIP-SW.
01464    043120 BV-READ. READ B-FILE AT END GO TO I9-END.                           CM000019
01465    043130        IF B5 NOT = 'INTR' GO TO BV-READ.                             CM000019
01466    043140        IF B10 NOT = SPACE GO TO BV-READ. PERFORM B-TABLE.            CM000019
01467 ** 4316   I9VC. IF B6B = S-ST2 GO TO S39-SET.
01468    043170        IF BBB = S-ST2 GO TO S49-SET. GO TO BV-READ.                  CM000019
01469    043180 I9AC. IF B-ST = 'PB1' MOVE 'PB2' TO R-ST GO TO I9TG.                CM000019
01470    043190        IF B-ST = 'PB2' MOVE 'PB1' TO R-ST.                           CM000019
01471    043200 I9TG.  MOVE 14 TO FLIP-SW. ALTER I9BD TO PROCEED TO I9DC.           CM000019
01472    043210        GO TO B7-OPEN.                                                CM000019
01473    043220 I9DC. IF B6B NOT = R-ST GO TO B7-RD. MOVE B-CARD TO B-TEMP.         CM000019
01474    043230        CLOSE B-FILE.  OPEN I-O B-FILE.
01475    43A010        MOVE 2 TO FLIP-SW.                                            CM000019
01476    43A020 BT-READ. READ B-FILE AT END GO TO I9-END.                           CM000019
01477    43A030        IF B5 NOT = 'INTR' GO TO BT-READ.                             CM000019
01478    43A040        IF B10 NOT = SPACE GO TO BT-READ. PERFORM B-TABLE.            CM000019
01479    43A060 I9EC. IF B6B = B-ST GO TO S39-SET.                                  CM000019
```

```
 27

014B0    43A070     IF B8B NOT = B-ST GO TO BT-READ.                              CM000019
01481    43A080 S49-SET. IF O-SW1 = 1 GO TO I9TH. IF O-SW2 NOT = 1 GO TO I9TH.   CM000019
014B2    43A090     IF THRU-SW = S-ST1 MOVE B-ST TO S-ST2 MOVE 2 TO               CM000019
014B3    43A100     APT5 (APT-SUB).                                               CM000019
01484    43A110 I9TH. IF A13A NOT = SPACE OR A15A NOT = SPACE GO TO I9TI.        CM000019
01485    43A12O     IF A16B = SPACE GO TO I9T1. PERFORM SQUID-ROUTINE.            CM000019
01486    43A130     MOVE B8 TO QPRTF (SQ-SUB).
01487  **43A130     MOVE B9 TO QPRTE (SQ-SUB) MOVE 1 TO SCA-SW.                   CM000019
01488    43A140 I9TI. MOVE B9 TO APT4 (APT-SUB).                                  CM000019
014B9  **43A050 19TJ.   ADD 1 TO APT-SUB.   PERFORM PAT-M.
01490    43A160     MOVE B6 TO APT2 (APT-SUB) MOVE B7 TO APT3 (APT-SUB)           CM000019
01491    43A170     MOVE B6B TO B-ST.                                             CM000019
01492    434171     PERFORM B-UPDATE.
01493  **43A1B0 (9TK. IF BT6B NOT = B-ST MOVE 902 TO CEB MOVE 11 TO CEA PERFORM  CM000019
01494    43A19      C-WRIT CLOSE B-FILE GO TO I-10. MOVE BT7 TO APT4 (APT-SUB).
01495    43A200     (F BT8B = 'PB1' OR BT8B = 'PB2' ADD 1 TO APT-SUB MOVE BTB     CM000019
01496    43A210     TO APT2 (APT-SUB) MOVE BT9 TO APT3 (APT-SUB) PERFORM PAT-M    CM000019
01497    43A220     MOVE 1 TO PB-SW2                                              CM000019
01498    43A221     MOVE BT8B TO B-ST.                                            CM000019
01499    43A222     IF B3TRRB = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'
01500  **43A222     OR '7' OR '8' OR '9' GO TO MI9TK.
01501    43A223     IF M-SW3 = 0
01502    43A224     MOVE 1 TO M-SW3                                               CM000019
01503    43A225     MOVE BT3 TO M-4ST
01504    43A226     GO TO M19TK.                                                  CM000019
01505    43A227     (F B3TRRA = M-ST4 GO TO MI9TK.                                CM000019
01506    43A22B     MOVE BT3 TO M-5ST.
01507    43A229 M(9TK.                                                            CM000019
0150B    43A231     MOVE BT3 TO P9 (HK-SUB)
01509    43A240     PERFORM BT-UPDATE CLOSE B-FILE GO TO I-10.                    CM000019
01510    43B010 S39-SET. 1F O-SW1 = 1 GO TO I9TL. IF O-SW2 NOT = 1 GO TO I9TM.   CM000019
01511    43B020     1F THRU-SW NOT = S-ST1 GO TO I9TL. MOVE B-ST TO S-ST2.        CM000019
01512    43B030     MOVE 2 TO APT5 (APT-SUB).                                     CM000019
01513    43B040 19TL. IF A13A NOT = SPACE OR A15A NOT = SPACE OR A16B = SPACE     CM000019
01514    43B05      GO TO (9TM. PERFORM SQUID-ROUTINE MOVE B7 TO
01515    43B051     QPRTE (SQ-SUB)
01516    43B052     MOVE B6 TO QPRTF (SQ-SUB)
01517    43B060     MOVE 1 TO SCA-SW.
01518    43B070 I9TM. MOVE B7 TO APT4 (APT-SUB).
01519    43B0B0 I9TN.   ADD 1 TO APT-SUB.   PERFORM PAT-M.   MOVE BB
01520    43B090     TO APT2 (APT-SUB) MOVE B9 TO APT3 (APT-SUB) MOVE BBB TO B-ST.CM000019
01521    43B091     MOVE B3 TO P9 (HK-SUB) MOVE 1 TO P15 (HK-SUB)                 CM000019
01522    43B092     PERFORM B-UPDATE.
01523    43B100     GO TO (9TK.                                                   CM000019
01524  **045010 (-10.                                                             CM000019
01525    045020     MOVE 3 TO STA-SW. ALTER I7AA TO PROCEED TO I7HA.              CM000019
01526               MOVE A21 TO P12 (HK-SUB).
01527               MOVE I4 TO P11 (HK-SUB).
0152B                MOVE (11 TO P13 (HK-SUB).
01529               MOVE (TEM-NO TO P14 (HK-SUB).
01530    045030     1F 11O = SPACE GO TO A-20.                                    CM000019
01531    045031     1F (10B = '-' OR I10C = '-' GO TO 1.
01532    045040     1F 110C = SPACE GO TO 110KA.                                  CM000019
01533    045050     IF I10D = SPACE GO TO 11OKB.                                  CM000019
01534    045060     1F 110E = SPACE GO TO I10KC.                                  CM000019
01535    045070     MOVE 110 TO ST-7. ALTER 17AA TO PROCEED TO I7GA.              CM000019
01536 ** 45071      MOVE 27 TO FLIP-SW.
```

28

```
01537   045080       GO TO B7-OPEN.                                                   CM000019
01538   045090 A-20.                                                                  CM000019
01539   045100       IF A20 = SPACE GO TO STA-CK.                                     CM000019
01540   045110       IF A20B = SPACE GO TO I10KO.                                     CM000019
01541   045120       MOVE A20 TO ST-2. ALTER I7AA TO PROCEED TO I7BA.                 CM000019
01542   045130       MOVE 27 TO FLIP-SW. GO TO B7-OPEN.                               CM000019
01543   045140 I10KA.                                                                 CM000019
01544   045150       IF A20B = SPACE GO TO I10KE.                                     CM000019
01545   045160       MOVE I10AR TO ST-1. MOVE A20B TO ST-3.                           CM000019
01546   045170       ALTER I7AA TO PROCEED TO I7CA.                                   CM000019
01547   045180       MOVE 27 TO FLIP-SW. GO TO B7-OPEN.                               CM000019
01548   045190 I10KB.                                                                 CM000019
01549 ** 4520        IF A20BR = SPACE GO TO I10KF.
01550   045210       MOVE I10AR TO ST-1. MOVE I10C TO ST-5.                           CM000019
01551 ** 4522        MOVE A20BR TO ST-6. ALTER I7AA TO PROCEED TO I7EA.
01552   045230       MOVE 27 TO FLIP-SW.                                              CM000019
01553   045240       GO TO B7-OPEN.
01554 **044010 I10KC.                                                                 CM000019
01555   044020       MOVE I10AR TO ST-1. MOVE I10BR TO ST-3.                          CM000019
01556   044030       ALTER I7AA TO PROCEED TO I7CA.                                   CM000019
01557   044040       MOVE 28 TO FLIP-SW. GO TO B7-OPEN.                               CM000019
01558   044050 I10KD.                                                                 CM000019
01559   044060       MOVE A20A TO ST-1. MOVE 27 TO FLIP-SW.                           CM000019
01560   044070       GO TO B7-OPEN.                                                   CM000019
01561   044080 I10KE.                                                                 CM000019
01562   044090       MOVE I10A TO ST-1. MOVE 27 TO FLIP-SW.                           CM000019
01563   044100       GO TO B7-OPEN.                                                   CM000019
01564   044110 I10KF.                                                                 CM000019
01565   044120       MOVE I10AR TO ST-1. MOVE I10C TO ST-5.                           CM000019
01566 ** 4413        MOVE 27 TO FLIP-SW.
01567   044130       ALTER I7AA TO PROCEED TO I7FA. GO TO B7-OPEN.                    CM000019
01568   044140 KPB-SET.                                                               CM000019
01569   044160       IF PB-SW2 NOT = 1 GO TO I10TA.                                   CM000019
01570   044170 I10C8. GO TO I10DB.                                                    CM000019
01571   044180 I10DB. IF B6B NOT = B-ST MOVE 15 TO FLIP-SW GO TO B7-RD.               CM000019
01572   044190 S110-SET.                                                              CM000019
01573   044200       IF O-SW1 = 1 GO TO I10TB.
01574   044201       IF O-SW2 = 1    IF I9 = SPACE   IF A17 = SPACE
01575   044202       GO TO S110-SETZ ELSE GO TO I10TB  ELSE GO TO I10TB.
01576   044210       IF O-SW4 NOT = 1 GO TO I10TC.                                    CM000019
01577   044211 S110-SETZ.
01578   044220       IF THRU-SW NOT = S-ST1 GO TO I10TB.                              CM000019
01579   044230       MOVE B-ST TO S-ST2.                                              CM000019
01580   044240       MOVE 2 TO APT5 (APT-SUB).                                        CM000019
01581   046010 I10TB.                                                                 CM000019
01582   046020       IF A13A NOT = SPACE OR A15A NOT = SPACE OR A18A NOT = SPACE      CM000019
01583   046030       OR A18B = SPACE GO TO I10TC.                                     CM000019
01584   046040       PERFORM SQUID-ROUTINE. MOVE B6 TO QPRTF (SQ-SUB).                CM000019
01585   046050       MOVE B7 TO QPRTE (SQ-SUB). MOVE 1 TO SCA-SW.                     CM000019
01586   046060       GO TO I10AA.                                                     CM000019
01587   046070 I10TC. MOVE B7 TO APT4 (APT-SUB).                                      CM000019
01588 ** 46071 I10AA.   IF I7-SWT = 1    MOVE 0 TO I7-SWT
01589     46072             IF B6B = 'PB1' OR B6B = 'PB2'
01590     46073             GO TO AA01I
01591     46074             ELSE MOVE B6 TO P5A (HK-SUB)
01592     46075             MOVE B7 TO P5B (HK-SUB).
01593     46076             MOVE 0 TO I7-SWT.
```

29

```
01594     46080 AA01I.  MOVE B3 TO P10 (HK-SUB) MOVE 1 TO P15 (HK-SUB)
01595 ** 46080 MA10I.                                                       CM000019
01596    046080      IF B3RRB = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'
01597 **046080       OR '7' OR '8' OR '9' GO TO MA10IAL.
01598 ** 46080       IF M-SW3 = 0                                           CM000019
01599 ** 46080       MOVE 1 TO M-SW3                                        CM000019
01600 ** 46080       MOVE B3 TO M-6ST.
01601    046080 MA10IAL.
01602 ** 46081       PERFORM B-UPDATE CLOSE B-FILE GO TO STA-CK.            CM000019
01603    046090 I10TA.                                                      CM000019
01604    046100      IF O-SW1 = 1 GO TO I10TD.                              CM000019
01605    046110      IF O-SW2 = 1 GO TO I10TD.                              CM000019
01606    046120      IF O-SW4 = 1 GO TO I10TD. GO TO I10AA                  CM000019
01607    046130 I10TD. IF THRU-SW > S-ST1 GO TO I10AA.
01608    046140      IF SQUID-COUNT = 0 GO TO I10AA.
01609    046150 I10CA. GO TO I10DA.                                         CM000019
01610    046160 I10DA. IF B6B = S-ST2 GO TO S110-SET.                       CM000019
01611    046170      MOVE 17 TO FLIP-SW GO TO B7-RD.                        CM000019
01612    046180 I10BA.                                                      CM000019
01613    046190      IF S-ST2 = 'PB1' MOVE 'PB2' TO S-ST3 GO TO I10TE.      CM000019
01614    046200      IF S-ST2 = 'PB2' MOVE 'PB1' TO S-ST3.                  CM000019
01615    046210 I10TE. ALTER I10CA TO PROCEED TO I10EA.                     CM000019
01616    046220      MOVE 18 TO FLIP-SW GO TO B7-OPEN.                      CM000019
01617    047010 I10EA. IF B6B NOT = S-ST3 GO TO B7-RD.                      CM000019
01618    047020      MOVE B-CARD TO B-TEMP. CLOSE B-FILE.                   CM000019
01619 ** 47030       OPEN I-O B-FILE.  MOVE 2 TO FLIP-SW.
01620    047040 BJ-RD.                                                      CM000019
01621    047050      READ B-FILE AT END GO TO I10-END.                      CM000019
01622    047060      IF B5 NOT = 'INTR' GO TO BJ-RD.                        CM000019
01623    047070      IF B10 NOT = SPACE GO TO BJ-RD.                        CM000019
01624    047080      PERFORM B-TABLE.                                       CM000019
01625    047090      IF BSW-1 = 1 GO TO I10FA. GO TO BJ-RD.                 CM000019
01626    047100 I10FA. IF B6B = S-ST2 GO TO S310-SET.                       CM000019
01627 ** 4711        IF BBB = S-ST2 GO TO S410-SET. GO TO BJ-RD.
01628    047120 I10-END.                                                    CM000019
01629    047121      CLOSE B-FILE.
01630    047130      MOVE 101 TO CEB. MOVE 11 TO CEA PERFORM C-WRIT GO TO   CM000019
01631    047140      STA-CK.                                                CM000019
01632    047150 I10BB.                                                      CM000019
01633    047160      IF B-ST = 'PB1' MOVE 'PB2' TO R-ST GO TO I10TF.        CM000019
01634    047170      IF B-ST = 'PB2' MOVE 'PB1' TO R-ST.                    CM000019
01635    047180 I10TF. MOVE 16 TO FLIP-SW. ALTER I10CB TO PROCEED TO I10EB. CM000019
01636    047190      GO TO B7-OPEN.                                         CM000019
01637    047200 I10EB.                                                      CM000019
01638    047210      IF B6B NOT = R-ST GO TO B7-RD.                         CM000019
01639    047220      MOVE B-CARD TO B-TEMP. CLOSE B-FILE.                   CM000019
01640 ** 4723        OPEN I-O B-FILE.  MOVE 1 TO FLIP-SW.
01641    048010 BK-RD. READ B-FILE AT END GO TO I10-END.                    CM000019
01642    048020      IF B5 NOT = 'INTR' GO TO BK-RD.                        CM000019
01643    048030      IF B10 NOT = SPACE GO TO BK-RD. PERFORM B-TABLE.       CM000019
01644    048040      IF BSW-1 NOT = 1 GO TO BK-RD.                          CM000019
01645 ** 4805   I10FB. IF B6B NOT = B-ST GO TO I10TG.
01646    048050 S310-SET.                                                   CM000019
01647    048070      IF O-SW1 = 1 GO TO I10TH.                              CM000019
01648    048080      IF O-SW2 = 1   IF I9 = SPACE  IF A17 = SPACE
01649    048081      GO TO S310-SET22  ELSE GO TO I10TH  ELSE GO TO I10TH.
01650    048090      IF O-SW4 NOT = 1 GO TO I10TI.                          CM000019
```

30

```
    048091 S310-SET22.
    048100        IF THRU-SW NOT = S-ST1 GO TO I10TH.                        CM000019
    048110        MOVE B-ST TO S-ST2. MOVE 2 TO APT5 (APT-SUB).              CM000019
    048120 I10TH.                                                            CM000019
    048130        IF A13A NOT = SPACE OR A15A NOT = SPACE OR A18A NOT = SPACE CM000019
 ** 4814          GO TO I10TI. PERFORM SQUID-ROUTINE.
    48141         MOVE B7 TO QPRTE (SQ-SUB)
    048150        MOVE 1 TO SCA-SW. MOVE S-ST2 TO QPRTF (SQ-SUB) GO TO I10TJ.
    048160 I10TI. MOVE B7 TO APT4 (APT-SUB).                                 CM000019
    048170 I10TJ. ADD 1 TO APT-SUB. MOVE B8 TO APT2 (APT-SUB). PERFORM       CM000019
    048180        PAT-M. MOVE B9 TO APT3 (APT-SUB). MOVE B8B TO B-ST.        CM000019
    048190 I10TK. PERFORM B-UPDATE. CLOSE B-FILE.                            CM000019
    048200        IF BT6B = B-ST MOVE BT7 TO APT4 (APT-SUB)
 **048200         OPEN I-O B-FILE  PERFORM BT-UPDATE
 ** 48200         PERFORM MI10TK THRU MI10TKX
    048201        MOVE BT3 TO P10 (HK-SUB)
 **048201         CLOSE B-FILE
    048210        GO TO STA-CK. MOVE 102 TO CEB MOVE I1 TO CEA PERFORM C-WRIT CM000019
    048220        GO TO STA-CK.                                              CM000019
 ** 48221 MI10TK.                                                         CM000019
    48222         IF B3TRRB = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'
 ** 48222         OR '7' OR '8' OR '9' GO TO MI10TKX.
    48223         IF M-SW3 = 0                                               CM000019
    48224         MOVE 1 TO M-SW3                                            CM000019
    48225         MOVE BT3 TO M-6ST.
 ** 48222 MI10TKX.   EXIT.
    049010 I10TG.  IF B8B NOT = B-ST GO TO BK-RD.                         CM000019
    049020 S410-SET.
    049021        IF O-SW1 = 1 GO TO I10TL.
    049022        IF O-SW2 = 1   IF 19 = SPACE  IF A17 = SPACE
    049023        GO TO S410-SET22  ELSE GO TO I10TL  ELSE GO TO I10TL.
    049030        IF O-SW4 NOT = 1 GO TO I10TM.                              CM000019
    049031 S410-SET22.
    049040        IF THRU-SW = S-ST1 MOVE B-ST TO S-ST2                      CM000019
    049050        MOVE 2 TO APT5 (APT-SUB).                                  CM000019
    049060 I10TL.  IF A13A NOT = SPACE OR A15A NOT = SPACE OR A18A NOT =    CM000019
    049070        SPACE OR A188 = SPACE GO TO I10TM. PERFORM SQUID-ROUTINE.  CM000019
 ** 49071         MOVE B8 TO QPRTF (SQ-SUB)
    049080        MOVE B9 TO QPRTE (SQ-SUB) MOVE 1 TO SCA-SW. GO TO I10TN.   CM000019
    049090 I10TM. MOVE B9 TO APT4 (APT-SUB).                                 CM000019
 ** 4910  I10TN. ADD 1 TO APT-SUB. PERFORM PAT-M.
    49101         MOVE B6 TO APT2 (APT-SUB)
    049110        MOVE B7 TO APT3 (APT-SUB). MOVE B6B TO B-ST. GO TO I10TK.  CM000019
 **036010 B-TABLE.                                                        CM000019
 ** 36011         MOVE 1 TO BSW-1.
    5021   STA-CK. SUBTRACT 1 FROM THRU-SW. IF THRU-SW = ZERO GO TO
    5022          PRINT-OUT.
    50222         IF SCA-SW = 1 SUBTRACT 1 FROM SQUID-COUNT MOVE ZERO TO
    5023          SCA-SW.
    050230        IF SQUID-COUNT = 0 MOVE 0 TO O-SWI O-SW2 O-SW4 S-ST1
 **050230         MOVE SPACE TO S-ST2 S-ST3.
 ** 50231         PERFORM END-ALT.                                           CM000019
 ** 2025          MOVE ALN (THRU-SW) TO A-TEMP. PERFORM I-READ.
    5026          ADD 1 TO HK-SUB. GO TO ASQ-LK.
    5050   R-EXT. PERFORM OXX THRU HXX UNTIL THRU-SW < 2. GO TO ENDIT.       CM000019
    5051   OXX. READ I-FILE AT END GO TO I-END. SUBTRACT 1 FROM THRU-SW.
    5052   HXX. EXIT.                                                        CM000019
```

31

```
   5053  IA-END. GO TO I-END.
   5101  PRINT-OUT.
   5102      MOVE ZERO TO HK-SUB. MOVE ZERO TO PAT-SUB.                    CM000019
   5107      PERF3RM HK-ROUT THRU HK-PREX UNTIL HK-SUB > 5.                CM00
   5108      GO TO PAT-ROUT.                                               CM000019
   5109  HK-ROUT.                                                          CM000019
   5112      ADD 1 TO HK-SUB. IF P15 (HK-SUB) = 1 MOVE P1 (HK-SUB) TO      CM000019
   5113 -    PBT1 MOVE P2 (HK-SUB) TO PBT2 MOVE P3 (HK-SUB) TO PBT3        CM000019
   5114      MOVE P4 (HK-SUB) TO PBT4 MOVE P5A (HK-SUB) TO PBT5A
   51141     MOVE P5B (HK-SUB) TO PBT5B MOVE
   5115      P6 (HK-SUB) TO PBT6 MOVE P7 (HK-SUB) TO PBT7
   51151     MOVE PB (HK-SUB)
   5116 -    TO PBTB MOVE P9 (HK-SUB) TO PBT9 MOVE P10 (HK-SUB) TO PBT10   CM000019
   5117 -    MOVE P11 (HK-SUB) TO PBT11 MOVE P12 (HK-SUB) TO PBT12 MOVE    CM000019
   5118 -    P13 (HK-SUB) TO PBT13 MOVE P14 (HK-SUB) TO PBT14              CM000019
   51181     MOVE P1A (HK-SUB) TO PBT1A
   51182     MOVE P16 (HK-SUB) TO PBT15                                    CM000019
** 51171     MOVE P14 (HK-SUB) TO PZM
              PERFORM CK-PZM
   51173     MOVE PZMP TO PBT14
   51174     MOVE  P12 (HK-SUB) TO PZM
  051175     PERF3RM CK-PZM
** 51178     MOVE PZMP  TO PBT12
   5119      WRITE HK-PRT FROM EOUT-PRT.
  051210 HK-PREX. EXIT.                                                    CM000019
** 5201  PAT-ROUT.                                                         CM000019
   5205      PERFORM PT-ROUT THRU PTEX UNTIL PAT-SUB > 95. GO TO ENDIT.
   5206  PT-ROUT.                                                          CM000019
   5209      ADD 1 TO PAT-SUB. IF APT5 (PAT-SUB) = 1 GO TO PT-B.           CM000019
   5210      IF APT5 (PAT-SUB) NOT = 2 GO TO PTEX.                         CM000019
   5211      IF APT2 (PAT-SUB) = 'PB1       ' PERFORM PT-B ELSE
   52111     PERF3RM BTP.   MOVE ZERO TO N-SUB.
   5212      PERFORM PT-S UNTIL N-SUB > 5. GO TO PTEX.
   5213  PT-S.
   52141     ADD 1 TO N-SUB                                                CM000019
   52142     IF QPRTD (N-SUB) = 1 IF QPRTF (N-SUB) = 'PB1        '
             MOVE QPRTA (N-SUB)
   52151     TO PAT1 MOVE QPRTB (N-SUB) TO PAT1A MOVE QPRTC (N-SUB) TO     CM000019
   52152     PAT3 MOVE QPRTE (N-SUB) TO PAT4 MOVE QPRTF (N-SUB) TO PAT2
** 52152     MOVE SPACE TO TAP1 TAP2 TAP3 TAP4  MOVE 0 TO TAP1A
** 52152     ADD 1 TO SUB36 MOVE SUB36 TO PAT36 MOVE QPRTA (N-SUB) TO PZM
             PERFORM CK-PZM
             MOVE PZMP TO PZPAT
** 52152     WRITE PAT-PRT FROM BOUT-PRT
             ELSE PERFORM SQTP.
   52155 SQTP.
   52156     MOVE SPACE TO PAT1 PAT2 PAT3 PAT4 MOVE 0 TO PAT1A.
   52157     MOVE QPRTA (N-SUB) TO TAP1  MOVE QPRTB (N-SUB) TO TAP1A
   52158     MOVE QPRTC (N-SUB) TO TAP3  MOVE QPRTE (N-SUB) TO TAP4
   52159     MOVE QPRTF (N-SUB) TO TAP2.
** 52158     ADD 1 TO SUB36 MOVE SUB36 TO PAT36 MOVE QPRTA (N-SUB) TO PZM
             PERFORM CK-PZM
             MOVE PZMP TO PZPAT
   52159     WRITE PAT-PRT FROM BOUT-PRT.
   52211 BTP.
   52212     MOVE SPACE TO PAT1 PAT2 PAT3 PAT4 MOVE 0 TO PAT1A.
   52213     MOVE APT1 (PAT-SUB) TO TAP1. MOVE APT1A (PAT-SUB) TO TAP1A.
```

```
 32

01765     52214     MOVE APT2 (PAT-SUB) TO TAP2. MOVE APT3 (PAT-SUB) TO TAP3.
01766     52215     MOVE APT4 (PAT-SUB) TO TAP4.
01767 **  52214     ADD 1 TO SUB36 MOVE SUB36 TO PAT36 MOVE APT1 (PAT-SUB) TO PZM
01768               PERFORM CK-PZM
01769               MOVE PZMP TO PZPAT
01770     52216     WRITE PAT-PRT FROM BOUT-PRT.
01771    052160 PT-B.                                                             CM000019
01772 **  52161     IF APT2 (PAT-SUB) = 'PB1      ' NEXT SENTENCE ELSE
01773     52162     PERFORM BTP GO TO PTEX.
01774 **  52161     MOVE APT1 (PAT-SUB) TO PAT1. MOVE APT1A (PAT-SUB) TO PAT1A.   CM000019
01775    052170     MOVE APT2 (PAT-SUB) TO PAT2. MOVE APT3 (PAT-SUB) TO PAT3.     CM000019
01776    052180     MOVE APT4 (PAT-SUB) TO PAT4.                                  CM000019
01777 **  52190     MOVE SPACE TO TAP1 TAP2 TAP3 TAP4 MOVE 0 TO TAP1A.
01778 **  52180     ADD 1 TO SUB36 MOVE SUB36 TO PAT36 MOVE APT1 (PAT-SUB) TO PZM
01779               PERFORM CK-PZM
01780               MOVE PZMP TO PZPAT
01781      5221     WRITE PAT-PRT FROM BOUT-PRT.
01782    052200 PTEX. EXIT.                                                       CM000019
01783    053010 ENDIT.                                                            CM000019
01784 **  53011     MOVE 0 TO SUB36
01785      5302     MOVE ZERO TO C-SW.
01786    053021     MOVE ZERO TO SQ-SUB.                                          CM000019
01787 **   5308     MOVE ZERO TO PB-SW2.
01788    053090     MOVE ZERO TO O-SW1. MOVE ZERO TO O-SW2. MOVE ZERO TO O-SW4.   CM000019
01789 **   5310     MOVE ZERO TO THRU-SW. MOVE ZERO TO P-CNT. MOVE ZERO TO CSW-1.CM000019
01790           CK-MULTOUT.                                                       CM000019
01791               IF M-SW1 = 1 OR M-SW2 = 1 OR M-SW3 = 1 NEXT SENTENCE ELSE     CM000019
01792               GO TO M-BACK.                                                 CM000019
01793               OPEN I-O B-FILE.
01794           RD-MBFILE.                                                        CM000019
01795               READ B-FILE AT END GO TO MUL-END.                             CM000019
01796               IF B3RRA = M-ST1 OR B3RRA = M-ST2 OR B3RRA = M-ST3            CM000019
01797               OR B3RRA = M-ST4 OR B3RRA = M-ST5 OR B3RRA = M-ST6            CM000019
01798               NEXT SENTENCE ELSE GO TO RD-MBFILE.
01799               IF B3RRB = '0' OR '1' OR '2' OR '3' OR '4' OR '5' OR '6'
01800               OR '7' OR '8' OR '9' GO TO RD-MBFILE.
01801               PERFORM B-TABLE.   IF BSW-1 = 1 PERFORM B-UPDATE.
01802               GO TO RD-MBFILE.
01803           MUL-END.                                                          CM000019
01804               CLOSE B-FILE.                                                 CM000019
01805               MOVE 0 TO M-SW1 M-SW2 M-SW3.                                  CM000019
01806               MOVE '9999' TO M-ST1 M-ST2 M-ST3 M-ST4 M-ST5 M-ST6.
01807           M-BACK.
01808     53101     MOVE ZERO TO CSW-2. MOVE SPACE TO B-ST. MOVE SPACE TO R-ST.   CM000019
01809     53102     MOVE ZERO TO PB-SW1.
01810     53104     MOVE ZERO TO HK-SUB. MOVE ZERO TO AL-SUB. MOVE ZERO TO BSW-1.CM000019
01811     53105     MOVE ZERO TO BSW-2. MOVE ZERO TO PAT-SUB.                     CM000019
01812     53106     MOVE ZERO TO N-SUB.
01813 **  53106     MOVE 0 TO S-ST1.
01814    053107     MOVE 0 TO APT-SUB.
01815    053108     MOVE SPACE TO S-ST2.
01816    053109     MOVE 0 TO SQUID-COUNT SCA-SW.
01817 **  5310A END-ALT.                                                          CM000019
01818     5310B     MOVE ZERO TO PB-SW1 PB-SW2 STA-SW.
01819     5310C     MOVE SPACE TO B-ST R-ST.                                      CM000019
01820     53107     ALTER I7AA TO PROCEED TO I7HA.
01821     53108     ALTER APB-SET TO PROCEED TO BPB-SET.
```

33

```
      53109     ALTER GJMP TO PROCEED TO IJMP.
      5311      ALTER I9GC TO PROCEED TO I9HC.
      53111     ALTER I9BD TO PROCEED TO I9BE.
      53112     ALTER I10CA TO PROCEED TO I10DA.
      53113     ALTER I10CB TO PROCEED TO I10D8.
      53114 WH-TO.
   ** 5310      GO TO A-OPEN.
     053120 I-END.                                                CM000019
   ** 53122     OPEN OUTPUT O-CARD.                               CM000019
     053123     CLOSE A-FILE.
     053124     IF CF-SW = 0 CLOSE C-FILE.
   **  803      OPEN INPUT A-FILE.
       8031     WRITE PRT-REC FROM AAAA-HD  AFTER AAAA-H.
       8032     GO TO AJECT.
     00804  READ-A.                                               CM000020
     00805      READ A-FILE AT END GO TO START-8.                 CM000020
   **  8051     MOVE A-CARD TO A-TEMP.
     00806      MOVE A1   TO A1H          MOVE A18   TO A18H
     00807      MOVE A2   TO A2H          MOVE A3   TO A3H
     00808      MOVE A4   TO A4H          MOVE A5   TO A5H
     00809      MOVE A6   TO A6H          MOVE A7   TO A7H
     00810      MOVE A8   TO A8H          MOVE A9   TO A9H
     00811      MOVE A10   TO A1CH        MOVE A11   TO A11H
     00812      MOVE A12   TO A12H        MOVE A13   TO A13H
     00813      MOVE A14   TO A14H        MOVE A15   TO A15H
     00814      MOVE A16   TO A16H        MOVE A17   TO A17H
     00815      MOVE A18   TO A18H        MOVE A19   TO A19H
     00816      MOVE A20   TO A20H        MOVE A21   TO A21H
     00817      WRITE PRT-REC FROM BA-HD AFTER 8AA.               CM000020
   **  8171     MOVE ' ' TO BAA.
     00818      ADD 1 TO A-CT.                                    CM000020
     00819      IF A-CT > 49 GO TO AJECT.                         CM000020
     00820      GO TO READ-A.                                     CM000020
     00821  AJECT.                                                CM000020
   **  8211     MOVE 0 TO A-CT.
     00822      WRITE PRT-REC FROM AA-HD AFTER AAA.               CM000020
     00823      WRITE PRT-REC FROM AAA-HD AFTER AAAA.             CM000020
   **  8231     MOVE '0' TO BAA.
     00824      MOVE '1' TO AAA.                                  CM000020
     00825      GO TO READ-A.                                     CM000020
   **     01  START-B.                                            CM000020
                CLOSE A-FILE.
          03    OPEN I-O  8-FILE. WRITE PRT-REC FROM ABB8-HD AFTER 0.  CM000020
                MOVE 50 TO 8-CT.
          05    GO TO 8-JECT.                                     CM000020
          06  READ-8C.                                            CM000020
          10    READ B-FILE AT END GO TO START-C.
          16  BO. MOVE 81   TO B1H          MOVE 82   TO 82H
          17    MOVE 83   TO 83H          MOVE 84   TO B4H
          18    MOVE B5   TO B5H          MOVE B6   TO B6H
          19    MOVE 87   TO 87H          MOVE 88   TO BBH
          20    MOVE B9   TO 89H          MOVE 810   TO B10H
          21    MOVE 811   TO B11H
   **     II    WRITE PRT-REC FROM BB-HD AFTER 8BB.
          222   MOVE ' ' TO 8BB.
          23    ADD 1 TO B-CT                                     CM000020
          24    PERFORM 8-JECT.                                   CM000020
```

34

```
01879                 GO TO READ-BC.
01880 **    05  B-JECT.                                                        CM000020
01881       06      IF B-CT > 49                                               CM000020
01882               MOVE 0 TO B-CT
01883       07      WRITE PRT-REC FROM AB-HD AFTER A88                         CM000020
01884       08      MOVE '1' TO AB8                                            CM000020
01885 **    061     MOVE '0' TO 888
01886       09      WRITE PRT-REC FROM A88-HD AFTER A888.                      CM000020
01887       10  81GO.  GO TO READ-BC.                                          CM000020
01888 **    03  START-C.                                                       CM000020
01889       04      CLOSE B-FILE.                                              CM000020
01890               OPEN I-O C-FILE.
01891       06      WRITE PRT-REC FROM ACCC-HD AFTER 0.                        CM000020
01892       07      MOVE 50 TO C-CT.                                           CM000020
01893       08      GO TO C-JECT.                                              CM000020
01894           PASFOUR.
01895               READ C-FILE AT END GO TO CFEND.
01896       09  READ-CF.                                                       CM000020
01897       10      READ C-FILE AT END GO TO CFEND.                            CM000020
01898               IF IFCLIST = '0' GO TO ONLY-ASGIN.
01899       16  CO. MOVE C1  TO C1H
01900       17      MOVE C3  TO C3H     MOVE C4A  TO C4AH
01901       18      MOVE C4B  TO C4BH   MOVE C4C  TO C4CH
01902       19      MOVE C5  TO  C5H    MOVE C6  TO  C6H
01903       20      MOVE C7A  TO C7AH   MOVE C7B  TO C7BH
01904       21      MOVE C8  TO  C8H    MOVE C9   TO C9BH
01905       22                          MOVE C10A  TO C10AH
01906               MOVE C11A TO C11AH.
01907       24      MOVE C11B  TO C11BH   MOVE C12  TO C12H
01908 **    01      WRITE PRT-REC FROM BC-HD AFTER BCC.
01909       012     MOVE ' ' TO BCC.
01910       02      ADD 1 TO C-CT                                              CM000020
01911       03      PERFORM C-JECT.                                            CM000020
01912       04  GOC.    GO TO READ-CF.                                         CM000020
01913       09  C-JECT.                                                        CM000020
01914       10      IF C-CT > 49  MOVE 0 TO C-CT                               CM000020
01915       111     MOVE '0' TO BCC
01916 **    11      WRITE PRT-REC FROM AC-HD AFTER ACC                         CM000020
01917       12      MOVE '1' TO ACC                                            CM000020
01918       13      WRITE PRT-REC FROM ACC-HD AFTER ACCC.                      CM000020
01919 **    08      GO TO READ-CF.                                             CM000020
01920           ONLY-ASGIN.
01921               IF C9 NOT = '0' GO TO READ-CF.
01922               IF C1 NOT = TSTCELL GO TO READ-CF.
01923               IF C5 = SPACE GO TO READ-CF.
01924               PERFORM CO.
01925               PERFORM PASFOUR.
01926               PERFORM CO.
01927               PERFORM PASFOUR.
01928               PERFORM CO.
01929               PERFORM PASFOUR.
01930               PERFORM CO.
01931               PERFORM PASFOUR.
01932               PERFORM CO.
01933               GO TO READ-CF.
01934       19  CFEND.                                                         CM000020
01935 **    02      CLOSE C-FILE.                                              CM000020
```

```
   53181        GO TO PED.
             CK-PZM.
                IF PZ4 = SPACE   IF PZ3 = SPACE
                IF PZ2 = SPACE   IF PZ1 = SPACE
                MOVE SPACE TO PZMP1 PZMP2 PZMP3 PZMP4
                ELSE MOVE PZ1 TO PZMP4 MOVE SPACE TO PZMP1 PZMP2 PZMP3
                ELSE MOVE PZ1 TO PZMP3 MOVE PZ2 TO PZMP4
                MOVE SPACE TO PZMP1 PZMP2
                ELSE MOVE PZ1 TO PZMP2      MOVE PZ2 TO PZMP3
                MOVE PZ3 TO PZMP4  MOVE SPACE TO PZMP1
                ELSE MOVE PZ1 TO PZMP1
                MOVE PZ2 TO PZMP2   MOVE PZ3 TO PZMP3   MOVE PZ4 TO PZMP4.
             BCK-PZM.
                IF PZ3 = SPACE  IF PZ2 = SPACE  IF PZ1 = SPACE
                MOVE SPACE TO PZMP1 PZMP2 PZMP3
                ELSE MOVE PZ1 TO PZMP3 MOVE SPACE TO PZMP1 PZMP2
                ELSE MOVE PZ2 TO PZMP3 MOVE PZ1 TO PZMP2 MOVE SPACE TO PZMP1
                ELSE MOVE PZ1 TO PZMP1 MOVE PZ2 TO PZMP2 MOVE PZ3 TO PZMP3.
   5323      PED. CLOSE I-FILE. CLOSE PRT-A. CLOSE PRT-B. CLOSE O-CARD.      CM000019
                OPEN I-O B-FILE.  OPEN OUTPUT B-UPTAPE.
             B-PED.
                READ B-FILE AT END GO TO C-PED.
                WRITE B-UPTAPER FROM B-CARD.
                GO TO B-PED.
             C-PED.
                CLOSE B-FILE B-UPTAPE.
                OPEN I-O C-FILE OUTPUT C-UPTAPE.
             C-PEDR.
                READ C-FILE AT END GO TO C-PEDEND.
                WRITE C-UPTAPER FROM C-CARD.
                GO TO C-PEDR.
             C-PEDEND.
                CLOSE C-FILE C-UPTAPE.
** 1061         STOP RUN.
  077010 1.
  077011        MOVE 77 TO FLIP-SW.
  077072        IF I10A = 'M'  IF I10B = 'T' GO TO 2.
**077030        IF I10A = 'D' GO TO 3.
  077040        IF I10A = 'M'  IF I10B = 'R' GO TO  4.
  077050        IF I10A = 'E'  IF I10B = 'R' GO TO  4.
  077070        DISPLAY '077070  ' I10.
** 77080        GO TO STA-CK.
  077100 2.
  077110        ALTER I7AA TO PROCEED TO 21.
  077120        GO TO B7-OPEN.
  077130 21.
  077140        IF I10AR NOT = B3KA GO TO B7-RD.
  077150        IF I10D NOT = N-B3 GO TO B7-RD.
  077151        IF A20A = 'MT' GO TO 22.
  077160        GO TO BTAB-LK.
  077161 22.
  077162        IF A20B = SPACE GO TO BTAB-LK.
  077163        IF A20B NOT = B5B GO TO B7-RD.
  077164        GO TO BTAB-LK.
  077170 3.
  077180        ALTER I7AA TO PROCEED TO 31.
  077190        GO TO B7-OPEN.
```

36

```
01993    077200 31.
01994    077210         IF I10ARR NOT = B3A GO TO B7-RD.
01995                   IF I10C NOT = N-B3 GO TO B7-RD.
01996    077220         IF B5BRR NOT = I10D GO TO B7-RD.
01997    077230         IF B5CRR NOT = I10E GO TO B7-RD.
01998    077240         GO TO BTAB-LK.
01999    078010 4.
02000    078020         ALTER I7AA TO PROCEED TO 41.
02001    078030         GO TO B7-OPEN.
02002    078040 41.
02003    078050         IF I10AR NOT = B3RA GO TO B7-RD.
02004    078060         IF I10D NOT = N-B3 GO TO B7-RD.
02005    078080         GO TO BTAB-LK.
```

```
001010 IDENTIFICATION OIVISION.                                         CM000036
001020 PROGRAM-ID. 'CM000036'.                                          CM000036
001030 AUTHOR. J M ROSE.                                                CM000036
001040 ENVIRONMENT DIVISION.                                            CM000036
001050 CONFIGURATION SECTION.                                           CM000036
001060 SOURCE-COMPUTER.  IBM-360  H50.                                  CM000036
001070 OBJECT-COMPUTER.  IBM-360  H50.                                  CM000036
001080 INPUT-OUTPUT SECTION.                                            CM000036
001090 FILE-CONTROL.                                                    CM000036
001100         SELECT PAT-IN ASSIGN 'P001' UTILITY.                     CM000036
001110         SELECT HK-IN  ASSIGN 'H001' UTILITY.                     CM000036
001120         SELECT LISTT  ASSIGN 'L001' UTILITY.                     CM000036
001121         SELECT SHK-IN ASSIGN 'S001' UTILITY.                     CM000036
001122         SELECT OT-PAT ASSIGN 'OP001' UTILITY.
001123         SELECT OT-HK  ASSIGN 'OH001' UTILITY.
                       SELECT A-FILE   ASSIGN  'AFILEREC' UTILITY.
                       SELECT A-UPTAPE  ASSIGN 'ATAPE' UTILITY.
001130 DATA DIVISION.                                                   CM000036
001140 FILE SECTION.                                                    CM000036
001150 FD  PAT-IN      RECOROING F   BLOCK 1 RECORDS    RECORO 133      CM000036
001160                 LABEL RECOROS STANOARD    DATA RECORD PIN.       CM000036
001170 01  PIN.                                                         CM000036
001180     02  CCP     PICTURE X.                                       CM000036
001190     02  FILLER1 PICTURE X(126).
001200     02  PCC     PICTURE 99.
001210     02  PITM    PICTURE XXXX.
002010 FD  HK-IN       RECORDING F    BLOCK 1 RECOROS    RECORO 133     CM000036
002020                  LABEL RECORDS STANDARD    DATA RECORD HIN.      CM000036
002030 01  HIN.                                                         CM000036
002040     02  ALL-HIN     PICTURE  X(133).
002050 FO  SHK-IN      RECOROING F    BLOCK 1 RECORDS     RECORO 133    CM000036
002060                  LABEL RECORDS STANDARD     DATA RECORD CIN.     CM000036
002070 01  CIN.                                                         CM000036
002080     02  FILLER  PICTURE  X.                                      CM000036
002090     02  CPAR    PICTURE  X(9).                                   CM000036
002100     02  FILLER  PICTURE  X(39).                                  CM000036
002110     02  CDEV    PICTURE  X(9).                                   CM000036
002120     02  FILLER  PICTURE  X.                                      CM000036
002130     02  CPT     PICTURE  X(7).                                   CM000036
002140     02  FILLER  PICTURE  XX.                                     CM000036
002150     02  CUDC    PICTURE  X(5).                                   CM000036
002151     02  FILLER  PICTURE  XX.
002152     02  CUDCC   PICTURE   XXXX.
002153     02  FILLER  PICTURE   XXX.
002154     02  CSIGC   PICTURE   XXXXX.
002160     02  FILLER  PICTURE X(11).
002161     02  ROUT.
002162         03  ROT1    PICTURE XX.
002163         03  ROT2    PICTURE XXX.
002164         03  RRT2    REOEFINES ROT2  PICTURE 999.
002165     02  FILLER  PICTURE X(10).
002170     02  CCAB    PICTURE  XXXX.
002180     02  FILLER  PICTURE X(6).
002181     02  CITEM  PICTURE XXXX.
```

2

```
00055   002182        02  FILLER   PICTURE X(6).
00056   003010 FD  LISTT           RECORDING F     BLOCK 1 RECORDS     RECORD 133       CM000036
00057   003020                      LABEL RECORDS STANDARD     DATA RECORD LIT.         CM000036
00058   003030 01  LIT.                                                                 CM000036
00059   003040        02  FILLER   PICTURE  X(133).                                     CM000036
00060   003050 FD  OT-PAT    RECORDING F BLOCK  1 RECORDS RECORD 133  LABEL
00061   003060               RECORDS STANDARD  DATA RECORD OPOUT.
00062   003070 01  OPOUT    PICTURE  X(133).
00063   003080 FD  OT-HK    RECORDING F BLOCK 1  RECORDS RECORD 133  LABEL
00064   003090               RECORDS STANDARD  DATA RECORD OHOUT.
00065   003100 01  OHOUT    PICTURE X(133).
00066          FD  A-UPTAPE     RECORDING F  BLOCK 1  RECORDS  RECORD  80
00067                           LABEL RECORDS STANDARD  DATA RECORD A-UPTAPER.
00068          01  A-UPTAPER    PICTURE  X(80).
00069          FD  A-FILE         RECORDING F  BLOCK 45 RECORDS   RECORD 80
00070                          LABEL RECORDS STANDARD   DATA RECORD A-CARD.
00071          01  A-CARD    PICTURE  X(80).
00072   004010 WORKING-STORAGE SECTION.                                                 CM000036
00073   004020 77  PEJECT   PICTURE  99  COMPUTATIONAL-3  VALUE 51.                     CM000036
00074   004030 77  CABCNT   PICTURE XXX      VALUE SPACE.
00075   004050 77  TSW1     PICTURE 9 VALUE 0.
00076   004060 77  TSW2     PICTURE 9 VALUE 0.
00077   004070 77  TSW3     PICTURE 9 VALUE 0.
00078   004080 77  TSW4     PICTURE 9 VALUE 0.
00079   004090 77  I        PICTURE 999  VALUE 0.
00080   004091 77  J        PICTURE 9    VALUE 0.
00081   004092 77  K        PICTURE S999     VALUE 0.
00082   004110 01  LISTW.                                                               CM000036
00083   004120        02  LCC     PICTURE X.                                            CM000036
00084   004130        02  FILLER2 PICTURE X(127).                                       CM000036
00085   004140        02  FILLER  PICTURE X(5)    VALUE SPACE.                          CM000036
00086   005010 01  CAB-LINE.                                                            CM000036
00087   005020        02  FILLER  PICTURE X(61) VALUE '         CAB       FROM
00088   005030-       '           TO              WIRED '.
00089   005031        02  FILLER  PICTURE X(9) VALUE '     ITEM'.
00090   005040        02  FILLER  PICTURE X(63)  VALUE SPACE.
00091   005050 01  FAB-LINE.                                                            CM000036
00092   005060        02  FILLER  PICTURE X(60) VALUE '         FAB       TRANSDUCER
00093   005070-       '   DEVICE      POINT        S.C. '.
00094   005071        02  FILLER  PICTURE X(8) VALUE '     NO'.
00095   005080        02  FILLER  PICTURE X(65)  VALUE SPACE.
00096   005090 01  CAB-HEAD.                                                            CM000036
00097   005100        02  FILLER  PICTURE X(39) VALUE '
00098   005110-       ' CABLE FABS'.
00099   005120        02  FILLER  PICTURE X(94) VALUE SPACE.
00100   005130 01  CAB-LIST.                                                            CM000036
00101   005140        02  FILLER  PICTURE   X(9)    VALUE SPACE.                        CM000036
00102   005150        02  LCAB    PICTURE   XXXX.
00103   005160        02  FILLER  PICTURE   X(6)    VALUE SPACE.                        CM000036
00104   005161        02  LPAR    PICTURE X(9).
00105   005162        02  FILLER  PICTURE XXXX  VALUE SPACE.
00106   005170        02  LDEV    PICTURE   X(9).                                       CM000036
00107   005180        02  FILLER  PICTURE  XXX   VALUE SPACE.
00108   005190        02  LPT     PICTURE   X(7).                                       CM000036
00109   005200        02  FILLER  PICTURE   X(5)    VALUE SPACE.                        CM000036
00110   005210        02  LUOC    PICTURE   X(5)    VALUE SPACE.                        CM000036
00111   005211        02  FILLER  PICTURE X(6) VALUE SPACE.
```

3

```
00112   005212      02  LITEM   PICTURE  XXXX.
00113   005220      02  FILLER  PICTURE X(63)  VALUE SPACE.
00114   006010 01   AOUT-PRT.                                            CM000036
00115   006020      02  FILLER  PICTURE    X(7)   VALUE SPACES.          CM000036
00116   006030      02  FILLER  PICTURE    X(16)  VALUE 'C             '. CM000036
00117   006040      02  FILLER  PICTURE    X(12)  VALUE 'FROM      TO'.  CM000036
00118   006050      02  FILLER  PICTURE    X(48)  VALUE SPACE.           CM000036
00119   006060      02  FILLER  PICTURE    X(50)  VALUE 'C          FROM  CM000036
00120   006070-     ' TO                         '.                      CM000036
00121   006080 01   AAOUT-PRT.                                           CM000036
00122   006090      02  FILLER  PICTURE    X(23) VALUE ' ITEM  C   DEVICE     '. CM000036
00123   006100      02  FILLER  PICTURE    X(15) VALUE 'POINT     POINT'.   CM000036
00124   006110      02  FILLER  PICTURE    X(39) VALUE SPACE.            CM000036
00125   006120      02  FILLER  PICTURE    X(56) VALUE 'ITEM  C   DEVICE       POINCM000036
00126   006130-     'T     POINT                 '.                      CM000036
00127   007010 01   DOUT-PRT.                                            CM000036
00128   007020      02  FILLER PICTURE X(27) VALUE ' PARAMETER C NOMENCLATURE  '.CM000036
00129   007030      02  FILLER PICTURE X(26) VALUE '            1-NO.    DEVI'. CM000036
00130   007040      02  FILLER PICTURE X(26) VALUE 'CE     POINT   S.C.   CARD'. CM000036
00131   007050      02  FILLER PICTURE X(26) VALUE '  CONO.   COND.   READOUT'. CM000036
00132   007060      02  FILLER PICTURE X(26) VALUE '  NO.  FAB  SK.   NO   C '. CM000036
00133   007070      02  FILLER PICTURE X(2)  VALUE ' '.                 CM000036
00134   007080 01   COUT-PRT.                                            CM000036
00135   007090      02  FILLER PICTURE X(27) VALUE '          C              '.CM000036
00136   007100      02  FILLER PICTURE X(26) VALUE '            TRAN         '. CM000036
00137   007110      02  FILLER PICTURE X(26) VALUE 'CONNECTING    WIRED  UDC '. CM000036
00138   007120      02  FILLER PICTURE X(26) VALUE '  SIG.     SIG.          '. CM000036
00139   007130      02  FILLER PICTURE X(26) VALUE '  TYP  CAB  LOC  ITEM  C '. CM000036
00140   007140      02  FILLER PICTURE XX     VALUE SPACE.                CM000036
00141   007150 01   GOUT-PRT.
00142   007160      02  FILLER  PICTURE X(34)  VALUE '           PATCHING - PB1
00143   007170-     '      '.
00144   007180      02  FILLER  PICTURE X(45)  VALUE SPACE.
00145   007190      02  FILLER PICTURE X(31)  VALUE '         PATCHING - PB2
00146   007200-     '  '.
00147   007210      02  FILLER  PICTURE   X(22)  VALUE SPACE.
00148   007220 01   FOUT-PRT.
00149   007230      02  FILLER  PICTURE X(54)  VALUE SPACE.
00150   007240      02  FILLER  PICTURE X(25) VALUE '   HOOKUP INFORMATION   '.
00151   007250      02  FILLER  PICTURE   X(54)  VALUE SPACE.
00152          01   LISTER.
00153               02  FILLER  PICTURE  X(117).
00154               02  ILLER4     PICTURE   XX.
00155               02  FILLER  PICTURE  XX.
00156               02  ILLER3   PICTURE  XX.
00157               02  FILLER  PICTURE   XXXX.
00158               02  ILLER2   PICTURE    XX.
00159               02  FILLER   PICTURE  X.
00160               02  ILLER1   PICTURE  XXX.
00161   008010 01   TABLES.
00162   008020      02  TB1 OCCURS 4.
00163   008030          03  TP      PICTURE   X(9)  OCCURS 100.
00164   008040          03  TI      PICTURE   X(4)  OCCURS 100.
00165   008050          03  TA      PICTURE   9(3)  OCCURS 100.
00166   008060 01   DHEAD1.
00167   008061      02  FILLER  PICTURE  X(4)   VALUE SPACE.
00168   008070      02  FILLER  PICTURE X(73)   VALUE '  MICROSADIC REFERENCE SHE
```

4

```
00169   008080-     'ET          PROJECT                    SHEET    OF L'.
00170   008090      02  FILLER  PICTURE   X(55)   VALUE SPACE.
00171   008100 01   DHEA02.
00172   008101      02  FILLER  PICTURE   X(4)    VALUE SPACE.
00173   008110      02  FILLER  PICTURE X(6) VALUE '  SCAN'.
00174   008120      02  FILLER  PICTURE X(19) VALUE SPACE.
00175   008130      02  FILLER  PICTURE X(4)   VALUE 'ITEM'.
00176   008140      02  FILLER  PICTURE X(29) VALUE SPACE.
00177   008150      02  FILLER  PICTURE X(4)   VALUE 'AMP.'.
00178   008160      02  FILLER  PICTURE   X(56)   VALUE SPACE.
00179   008170 01   DHEAD3.
00180   008171      02  FILLER  PICTURE   X(4)    VALUE SPACE.
00181   008180      02  FILLER  PICTURE X(73) VALUE '  SEQ.     PARAMETER     NO.
00182   008190-     '     CAL STEP     COUNTS     NO.     REMARKS'.
00183   008200      02  FILLER  PICTURE   X(55)   VALUE SPACE.
00184   009010 01   DGLIST.
00185   009020      02  FILLER  PICTURE   X(6)    VALUE SPACE.
00186   009030      02  DGSS    PICTURE 999.
00187   009040      02  FILLER  PICTURE X(6) VALUE SPACE.
00188   009050      02  DGPAR   PICTURE X(9).
00189   009060      02  FILLER  PICTURE X(5) VALUE SPACE.
00190   009070      02  OGIT    PICTURE X(4).
00191   009080      02  FILLER  PICTURE X(29)   VALUE SPACE.
00192   009090      02  OGAM    PICTURE  999.
00193   009100      02  FILLER  PICTURE   X(67)   VALUE SPACE.
00194 **008010 PROCEDURE DIVISION.                                              CM000036
00195   008020 BEGP.                                                            CM000036
00196   008021      MOVE 1 TO J.
00197   008022      MOVE -1 TO K.
00198   008023      PERFORM DOTAB VARYING I FROM 1 BY 1 UNTIL I = 101.
00199   008024      MOVE 2 TO J
00200   008025      MOVE 399 TO K
00201   008026      PERFORM DOTAB VARYING I FROM 1 BY 1 UNTIL 1 = 101.
00202   008027      MOVE 3 TO J
00203   008028      MOVE 99 TO K
00204   008029      PERFORM ODTAB VARYING I FROM 1 BY 1 UNTIL I = 101.
00205   008030      MOVE 4 TO J
00206   008031      MOVE 399 TO K
00207   008032      PERFORM ODTAB VARYING I FROM 1 BY 1 UNTIL I = 101.
00208 **008021      OPEN OUTPUT OT-PAT.
00209   008030      OPEN INPUT PAT-IN OUTPUT LISTT.  GO  TO  P-JECT.                CM000036
00210   008031 DOTAB.
00211   008032      ADD 1 TO K GIVING K
00212   008033      MOVE K TO TA (J, I).
00213   008034      MOVE SPACE TO TP (J, I)  TI (J, I).
00214   008040 READ-P.                                                          CM000036
00215   008050      READ PAT-IN AT END GO TO BEGH.                              CM000036
00216   008060      MOVE FILLER1 TO FILLER2.                                    CM000036
00217   008070      WRITE LIT FROM LISTW  AFTER 2.                              CM000036
00218   008071      WRITE OPOUT FROM PIN.
00219   008080      ADD 2 TO PEJECT.                                            CM000036
00220   008100 P-JECT.                                                          CM000036
00221   008110      IF PEJECT > 50  WRITE LIT FROM GOUT-PRT AFTER 0             CM000036
00222   008120      WRITE LIT FROM  AOUT-PRT AFTER 2                            CM000036
00223   008130      WRITE LIT FROM AAOUT-PRT AFTER 1                            CM000036
00224   008140      MOVE 0 TO PEJECT.                                           CM000036
00225   008150      GO TO READ-P.                                               CM000036
```

5

```
008160 BEGH.                                                      CM000036
008170     CLOSE PAT-IN.       MOVE 51 TO PEJECT.                 CM000036
008171     CLOSE OT-PAT  OPEN OUTPUT OT-HK.
008180     OPEN INPUT HK-IN.   GO TO H-JECT.                      CM000036
008190 READ-H.                                                    CM000036
008200     READ HK-IN AT END GO TO BEGLH.                         CM000036
008210     MOVE ALL-HIN TO LISTER.
008211     MOVE SPACE TO ILLER1 ILLER2 ILLER3 ILLER4.
008220     WRITE LIT FROM LISTER AFTER 2.
008221     WRITE OHOUT FROM HIN.
008230     ADD 2 TO PEJECT.                                       CM000036
009010 H-JECT.                                                    CM000036
009020     IF PEJECT > 50  WRITE LIT FROM FOUT-PRT AFTER 0        CM000036
009030     WRITE LIT FROM COUT-PRT AFTER 2                        CM000036
009040     WRITE LIT FROM DOUT-PRT AFTER 1                        CM000036
009050     MOVE 0 TO PEJECT.                                      CM000036
009060     GO TO READ-H.                                          CM000036
009070 BEGLH.                                                     CM000036
009080     CLOSE HK-IN.                                           CM000036
009081     CLOSE OT-HK.
009090     OPEN INPUT SHK-IN.                                     CM000036
           MOVE 51 TO PEJECT.  GO TO L-JECT.
009120 READ-L.                                                    CM000036
009130     READ SHK-IN AT END GO TO EOF.                          CM000036
009131     PERFORM DGTAL THRU DEX.
009140     IF CCAB = SPACE GO TO READ-L.                          CM000036
009150     MOVE CCAB TO LCAB.                                     CM000036
009151     MOVE CPAR TO LPAR.
009152     MOVE CITEM TO LITEM
009160     MOVE COEV TO LOEV.                                     CM000036
009170     MOVE CPT . TO LPT.                                     CM000036
009180     MOVE CUDC TO LUDC.                                     CM000036
009181     IF CUDC = SPACE MOVE CSIGC TO LUDC.
009190     WRITE LIT FROM CAB-LIST AFTER 2.                       CM000036
009200     ADD 2 TO PEJECT.                                       CM000036
009210 L-JECT.                                                    CM000036
009220     IF PEJECT > 50 WRITE LIT FROM CAB-HEAD AFTER 0         CM000036
009230     WRITE LIT FROM CAB-LINE AFTER 2                        CM000036
009240     WRITE LIT FROM FAB-LINE AFTER 1                        CM000036
009250     MOVE 0 TO PEJECT.   GO TO READ-L.                      CM000036
010010 EOF.                                                       CM000036
           OPEN I-O A-FILE.  OPEN OUTPUT A-UPTAPE.
       A-PED.
           READ A-FILE AT END GO TO A-PEDEND.
           WRITE A-UPTAPER FROM A-CARD.
           GO TO A-PED.
       A-PEDEND.
014        PERFORM TAKOUT THRU TEX
           CLOSE A-FILE A-UPTAPE.
**010020   CLOSE SHK-IN LISTT.                                    CM000036
010030     STOP RUN.                                              CM000036
011010 DGTAL.
011020     IF ROT1 NOT = 'MC' GO TO DEX.
011030     IF RRT2 < 100 GO TO DG100.
011040     IF RRT2 < 200 GO TO DG200.
011050     IF RRT2 < 400 GO TO DG400.
011060     IF RRT2 > 499 GO TO DG500.   MOVE 2 TO J MOVE 0 TO I.
```

6

```
00283   011070       PERFORM INTB THRU INX.   MOVE 4 TO J  MOVE 0 TO I.
00284   011080       PERFORM INTB THRU INX.
00285   011090       MOVE 1 TO TSW2 TSW4.
00286   011100       GO TO DEX.
00287   011110 INTB.     ADD 1 TO I.
00288   011120       IF I > 100 DISPLAY 'I>100' GO TO INX.
00289   011130       IF TA (J, I) = RRT2  MOVE CPAR TO TP (J, I)
00290   011140           MOVE CITEM TO TI (J, I) GO TO INX.
00291   011150       GO TO INTB.
00292   011160 INX.  EXIT.
00293   011170 DG100.
00294   011180       MOVE 0 TO I.  MOVE 1 TO J..
00295   011190       PERFORM INTB THRU INX.   MOVE 1 TO TSW1.
00296   011200       GO TO DEX.
00297   011210 DG200.
00298   011220       MOVE 0 TO I.  MOVE 3 TO J.
00299   011230       PERFORM INTB THRU INX.
00300   011240       MOVE 1 TO TSW3.
00301   011250       GO TO DEX.
00302   012010 DG400.
00303   012020       DISPLAY '200<RTT2<400'
00304   012030       GO TO DEX.
00305   012040 DG500.
00306   012050       DISPLAY 'READOUT TOO LARGE'.
00307   012060 DEX.  EXIT.
00308   013010 TAKOUT.
00309   013020       MOVE 0 TO K.
00310   013030       MOVE 1 TO J.
00311   013040       IF TSW1 = 1  PERFORM WHDS
00312   013050           PERFORM WTAB VARYING I FROM 1 BY 1 UNTIL I > 100.
00313   013060       IF TSW2 NOT = 1 GO TO CKSW3.
00314   013070       IF TSW1 NOT = 1 GO TO CKSW3.
00315   013080       IF TSW3 NOT = 1 GO TO CKSW4.
00316   013090       MOVE 2 TO J.
00317   013100       PERFORM WHDS.
00318   013110       PERFORM WTAB VARYING I FROM 1 BY 1 UNTIL I > 100.
00319   013120 CKSW3.
00320   013130       MOVE 3 TO J
00321   013140       IF TSW3 = 1 PERFORM WHDS
00322   013150           PERFORM WTAB VARYING I FROM 1 BY 1 UNTIL I > 100.
00323   013160 CKSW4.
00324   013170       MOVE 4 TO J
00325   013180       IF TSW4 = 1 PERFORM WHDS
00326   013190           PERFORM WTAB VARYING I FROM 1 BY 1 UNTIL I > 100.
00327   013200 TEX.
00328   013210       EXIT.
00329   013220 WTAB.
00330   013230       ADD 1 TO K.
00331   013240       MOVE K TO DGSS.
00332   014050       IF PEJECT = 25  PERFORM WHDS.
00333 **013250       MOVE TA (J, I) TO OGAM.
00334   014010       MOVE TP (J, I) TO OGPAR.
00335   014020       MOVE TI (J, I) TO OGIT.
00336   014030       WRITE LIT FROM OGLIST AFTER 2.
00337   014040       ADD 1 TO PEJECT
00338   014060 WHDS.
00339   014070       WRITE LIT FROM DHEAD1 AFTER 0.
```

```
00340   014080     WRITE LIT FROM DHEAD2 AFTER 2.
00341   014090     WRITE LIT FROM DHEAD3 AFTER 1.
00342   014100     MOVE 0 TO PEJECT.
```

```
1

00001   00101  IDENTIFICATION DIVISION.                                         CM000085
00002   00102  PROGRAM-ID. 'CM000085'.                                          CM000085
00003   00103  AUTHOR. RDSE.                                                    CM000085
00004   001031 DATE-WRITTEN. FEB, 1968.
00005   001032 DATE-COMPILED. JAN 23,1970
00006   00104  ENVIRONMENT DIVISION.                                            CM000085
00007   00105  CONFIGURATION SECTION.                                           CM000085
00008   00106  SOURCE-COMPUTER. IBM-360.                                        CM000085
00009   00107  OBJECT-COMPUTER. IBM-360.                                        CM000085
00010   00108  INPUT-OUTPUT SECTION.                                            CM000085
00011   00109  FILE-CONTROL.                                                    CM000085
00012   00112      SELECT I-FILE ASSIGN  'I001'  UTILITY.                       CM000085
00013   00113      SELECT A-FILE ASSIGN  'A001'  UTILITY.                       CM000085
00014   00114      SELECT B-FILE ASSIGN  'B001'  UTILITY.                       CM000085
00015   00115      SELECT C-FILE ASSIGN  'C001'  UTILITY.                       CM000085
00016   00116      SELECT A-WORK ASSIGN  'AW01'  UTILITY.                       CM000085
00017   00117      SELECT B-WORK ASSIGN  'BW01'  UTILITY.                       CM000085
00018   00118      SELECT C-WORK ASSIGN  'CW01'  UTILITY.                       CM000085
00019   00119      SELECT HOOKUP ASSIGN  'H001'  UTILITY.                       CM000085
00020   00120      SELECT PATCH  ASSIGN  'P001'  UTILITY.                       CM000085
00021   00121      SELECT W-HOOK ASSIGN  'WH01'  UTILITY.                       CM000085
00022   00122      SELECT W-PATH ASSIGN  'WP01'  UTILITY.                       CM000085
00023   00124      SELECT HK-OUT ASSIGN  'DH01'  UTILITY.                       CM000085
00024   00125      SELECT PT-OUT ASSIGN  'OP01'  UTILITY.                       CM000085
00025   00126  DATA DIVISION.                                                   CM000085
00026   00127  FILE SECTION.                                                    CM000085
00027   00201  FD  I-FILE  RECORDING F  BLOCK 1 RECORDS  RECORD 80  LABEL       CM000085
00028   00202       RECORDS OMITTED  DATA RECORDS I-CARD A-CARD B-CARD C-CARD   CM000085
00029   002021     O-CARD.                                                      CM000085
00030   00203  01  O-CARD.                                                      CM000085
00031   00204      02  OPTN    PICTURE  X(7).                                   CM000085
00032   00206      02  FILLER  PICTURE  X(73).                                  CM000085
00033   00213  01  I-CARD.                                                      CM000085
00034   00214      02  OELPARM PICTURE X(9).                                    CM000085
00035   00215      02  FILLER  PICTURE X(71).                                   CM000085
00036   00301  01  A-CARD.                                                      CM000085
00037   00302      02  A10     PICTURE  XXXX.
00038   00303      02  A20     PICTURE  9.                                      CM000085
00039   00304      02  FILLER  PICTURE  X(75).
00040   00305  01  B-CARD.                                                      CM000085
00041   00306      02  B10     PICTURE  XXXX.                                   CM000085
00042   00307      02  B20     PICTURE  9.                                      CM000085
00043   00308      02  B30     PICTURE  X(65).                                  CM000085
00044   00309      02  B100    PICTURE  X(9).                                   CM000085
00045   00310      02  B110    PICTURE  X.                                      CM000085
00046   00312  01  C-CARD.                                                      CM000085
00047   00313      02  C10     PICTURE  X(41).                                  CM000085
00048   00314      02  C40     PICTURE  X(6).                                   CM000085
00049   00315      02  C50     PICTURE  X(33).                                  CM000085
00050   00401  FD  A-FILE      RECORDING F  BLOCK 45 RECORDS  RECORD 80
00051   00402              LABEL RECORDS STANDARD  DATA RECORD AIN.             CM000085
00052   00403  01  AIN.                                                         CM000085
00053   00404      02  A1      PICTURE  XXXX.
00054   00405      02  A2      PICTURE  9.                                      CM000085
```

```
  2

00055   00406       02  A3       PICTURE  X(75).
00056   00408  FO  B-FILE        RECORDING F  BLOCK 45 RECORDS  RECORO 80
00057   00409               LABEL RECOROS STANOARD   OATA RECORD BIN.          CM000085
00058   00410  01  BIN.                                                        CM000085
00059   00411       02  B1       PICTURE  XXXX.                                CM000085
00060   00412       02  B2       PICTURE  9.                                   CM000085
00061   00413       02  83       PICTURE  X(65).                               CM000085
00062   00414       02  B10      PICTURE  X(9).                                CM000085
00063   00415       02  811      PICTURE  X.                                   CM000085
00064   00417  FO  C-FILE        RECOROING F  BLOCK 45 RECOROS  RECORO 80
00065   00418               LABEL RECOROS STANOARO   DATA RECORD CIN.          CM000085
00066   00419  01  CIN.                                                        CM000085
00067   00420       02  C1       PICTURE  X(23).                               CM000085
00068   00421       02  C2       PICTURE  X(9).                                CM000085
00069   00422       02  C3       PICTURE  X(9).                                CM000085
00070   00423       02  C4       PICTURE  X(6).                                CM000085
00071   00424       02  C5       PICTURE  X(33).                               CM000085
00072   00501  FO  HOOKUP  RECOROING F  BLOCK 1  RECOROS  RECORO 133           CM000085
00073   00502           LABEL RECOROS STANOARD  OATA RECORO HOK.               CM000085
00074   00503  01  HOK.                                                        CM000085
00075   00504       02  H1       PICTURE X.                                    CM000085
00076   00505       02  H2       PICTURE X(9).                                 CM000085
00077   00506       02  H3       PICTURE X(113).
00078   00507       02  H4       PICTURE XXXX.                                 CM000085
00079   00508       02  H5       PICTURE X(6).                                 CM000085
00080   00510  FD  PATCH   RECOROING F  BLOCK 1  RECORDS  RECORO 133           CM000085
00081   00511           LABEL RECORDS STANDARD  OATA RECORO PAT.               CM000085
00082   00512  01  PAT.                                                        CM000085
00083   00513       02  P1       PICTURE X.                                    CM000085
00084   00514       02  P2       PICTURE XXXX.                                 CM000085
00085   00515       02  P3       PICTURE X(72).                                CM000085
00086   00516       02  P4       PICTURE XXXX.                                 CM000085
00087   00517       02  P5       PICTURE X(52).                                CM000085
00088   00601  FD  W-HOOK  RECORDING F  BLOCK 1  RECORDS  RECORD 133           CM000085
00089   00602               LABEL RECOROS STANDARD   OATA RECORO WHOK.         CM000085
00090   00603  01  WHOK.                                                       CM000085
00091   00604       02  WH1      PICTURE X.                                    CM000085
00092   00605       02  WH2      PICTURE X(9).                                 CM000085
00093   00606       02  WH3      PICTURE X(113).                               CM000085
00094   00607       02  WH4      PICTURE XXXX.                                 CM000085
00095   00608       02  WH5      PICTURE X(6).                                 CM000085
00096   00610  FD  W-PATH  RECORDING F  BLOCK 1  RECOROS   RECORD 133          CM000085
00097   00611               LABEL RECORDS STANOARD   OATA RECORD WPAT.         CM000085
00098   00612  01  WPAT.                                                       CM000085
00099   00613       02  WP1      PICTURE X.                                    CM000085
00100   00614       02  WP2      PICTURE XXXX.                                 CM000085
00101   00615       02  WP3      PICTURE X(72).                                CM000085
00102   00616       02  WP4      PICTURE XXXX.                                 CM000085
00103   00617       02  WP5      PICTURE  X(48).
00104   00618       02  WP6      PICTURE  XXXX.
00105   00701  FD  HK-OUT        RECOROING F  BLOCK 1  RECORDS   RECORO 133    CM000085
00106   00702               LABEL RECORDS STANOARO   DATA RECORD OHOK.         CM000085
00107   00703  01  OHDK.                                                       CM000085
00108   00704       02  OH1      PICTURE X.                                    CM000085
00109   00705       02  OH2      PICTURE X(9).                                 CM000085
00110   00706       02  OH3      PICTURE X(113).                               CM000085
00111   00707       02  OH4      PICTURE XXXX.                                 CM000085
```

3

```
00112   00708       02  OH5       PICTURE X(6).                                         CM000085
00113   00710  FD   PT-OUT        RECORDING F  BLOCK 1  RECORDS   RECORD 133            CM000085
00114   00711               LABEL RECORDS STANDARD  DATA RECORD OPAT.                   CM000085
00115   00712  01   OPAT.                                                               CM000085
00116   00713       02  OP1       PICTURE  X.                                           CM000085
00117   00714       02  OP2       PICTURE  XXXX.                                        CM000085
00118   00715       02  OP3       PICTURE  X(72).                                       CM000085
00119   00716       02  OP4       PICTURE  XXXX.                                        CM000085
00120   00717       02  OP5       PICTURE  X(52).                                       CM000085
00121   00801  FD   A-WORK        RECORDING F  BLOCK 45 RECORDS   RECORD 80
00122   00802               LABEL RECORDS STANDARD  DATA RECORD AWRK.                   CM000085
00123   00803  01   AWRK.                                                               CM000085
00124   00804       02  A1W       PICTURE XXXX.
00125   00805       02  A2W       PICTURE 9.                                            CM000085
00126   00806       02  FILLER    PICTURE X(75).
00127   00808  FD   B-WORK        RECORDING F  BLOCK 45 RECORDS   RECORD 80
00128   00809                     LABEL RECORDS STANDARD  DATA RECORD BWRK.             CM000085
00129   00810  01   BWRK.                                                               CM000085
00130   00811       02  B1W       PICTURE  XXXX.                                        CM000085
00131   00812       02  B2W       PICTURE  9.                                           CM000085
00132   00813       02  B3W       PICTURE  X(65).                                       CM000085
00133   00814       02  B10W      PICTURE  X(9).                                        CM000085
00134   00815       02  B11W      PICTURE  X.                                           CM000085
00135   00817  FD   C-WORK        RECORDING F  BLOCK 45 RECORDS  RECORD 80               CM00008
00136   00818                     LABEL RECORDS STANDARD  DATA RECORD CWRK.             CM000085
00137   00819  01   CWRK.                                                               CM000085
00138   00820       02  C1W       PICTURE  X(23).                                       CM000085
00139   00821       02  C2W       PICTURE  X(9).                                        CM000085
00140   00822       02  C3W       PICTURE  X(9).                                        CM000085
00141   00823       02  C4W       PICTURE  X(6).                                        CM000085
00142   00824       02  C5W       PICTURE  X(33).
00143   01001  WORKING-STORAGE SECTION.                                                 CM000085
00144   01002  77   AA-SW   PICTURE 9   VALUE 0.                                        CM000085
00145   01003  77   A-SW    PICTURE 9   VALUE 0.                                        CM000085
00146   01004  77   A-CNT   PICTURE XXXX VALUE SPACE.
00147   01005  77   END-SW  PICTURE 9   VALUE 0.                                        CM000085
00148   01006  77   AB-SW   PICTURE 9   VALUE 0.                                        CM000085
00149   01007  77   B-CNT   PICTURE XXXX  VALUE SPACE.                                  CM000085
00150   01008  77   AC-SW   PICTURE 9   VALUE 0.                                        CM000085
00151   01009  77   C-CNT   PICTURE X(6)  VALUE SPACE.                                  CM000085
00152   01501  PROCEDURE DIVISION.                                                      CM000085
00153   01502       OPEN INPUT HOOKUP PATCH.                                            CM000085
00154   01503       OPEN OUTPUT W-HOOK W-PATH.                                          CM000085
00155   01504  DISK-HK.                                                                 CM000085
00156   01505       READ HOOKUP AT END GO TO DISKH.                                     CM000085
00157   01506       WRITE WHOK  FROM HOK.                                               CM000085
00158   01507       GO TO DISK-HK.                                                      CM000085
00159   01508  DISKH.                                                                   CM000085
00160   01509       CLOSE HOOKUP W-HOOK.                                                CM000085
00161   01510  DISK-PT.                                                                 CM000085
00162   01511       READ PATCH AT END GO TO DISKP.                                      CM000085
00163   01512       WRITE WPAT FROM PAT.                                                CM000085
00164   01513       GO TO DISK-PT.                                                      CM000085
00165   01514  DISKP.                                                                   CM000085
00166   01515       CLOSE PATCH W-PATH.                                                 CM000085
00167   01516       OPEN I-O A-FILE B-FILE C-FILE.                                      CM000085
00168   01517       OPEN INPUT I-FILE.                                                  CM000085
```

```
00169   01519       READ I-FILE AT END GO TO IA1NO.                              CM000085
00170   01520       IF OPTN = 'DELETEA'  GO TO DELETE-A.                         CM000085
00171   01521       IF OPTN = 'ADDA   '  GO TO ADD-A.                            CM000085
00172   01522       IF OPTN = 'DELETEB'  GO TO DELETE-B.                         CM000085
00173   01523       IF OPTN = 'ADDB   '  GO TO ADD-B.                            CM000085
00174   01524       IF OPTN = 'DELETEC'  GO TO DELETE-C.                         CM000085
00175   01525       IF OPTN = 'ADDC   '  GO TO ADD-C.                            CM000085
00176   01601       IF OPTN = 'DELETEP' GO TO DELETE-P.                          CM000085
00177   01602   IA1NO.                                                           CM000085
00178   01603       DISPLAY 'NO HEADER CARDS'.                                   CM000085
00179   01604       STOP RUN.                                                    CM000085
00180   01605   DELETE-A.                                                        CM000085
00181   01606       READ I-FILE AT END GO TO IA1NO.                              CM000085
00182   01607       IF OPTN = 'ADDA   ' CLOSE A-FILE  OPEN I-O A-FILE            CM000085
00183   01608        GO TO ADD-A.                                                CM000085
00184   01609       IF OPTN = 'DELETEB' GO TO DELETE-B.                          CM000085
00185   01610       IF OPTN = 'ADDB   ' GO TO ADD-B.                             CM000085
00186   01611       IF OPTN = 'DELETEC' GO TO DELETE-C.                          CM000085
00187   01612       IF OPTN = 'ADDC   ' GO TO ADD-C.                             CM000085
00188   01613       IF OPTN = 'DELETEP' GO TO DELETE-P.                          CM000085
00189   01614   OA-READ.                                                         CM000085
00190   01615       READ A-FILE AT END GO TO AO-END.                             CM000085
00191   01616       IF A1 NOT = A10 GO TO OA-READ.                               CM000085
00192   01617   OAR1.
00193   01618       MOVE 'XXXX' TO A1.
00194   01619       REWRITE AIN.                                                 CM000085
00195   016191      READ A-FILE AT END CLOSE A-FILE OPEN I-O A-FILE
00196   016192       GO TO DELETE-A.
00197   016193      IF A1 = A10 GO TO OAR1.
00198   01620       GO TO DELETE-A.                                              CM000085
00199   01621   AO-END.                                                          CM000085
00200   01622       DISPLAY 'NOT IN A-FILE ' A10 A20.                            CM000085
00201   01623       GO TO DELETE-A.                                              CM000085
00202   01701   ADD-A.                                                           CM000085
00203   01702       MOVE 1 TO AA-SW.                                             CM000085
00204   01703       OPEN OUTPUT A-WORK.                                          CM000085
00205   017031  AO-A1.
00206   01704       READ A-FILE AT END GO TO AA-READ.                            CM000085
00207   017041      IF A1 = 'XXXX' GO TO AD-A1.
00208   01705   AA-READ.                                                         CM000085
00209   01706       READ I-FILE AT END GO TO IA1NO.                              CM000085
00210   01707       IF OPTN = 'DELETEB'  PERFORM FINIS-A THRU AX GO TO DELETE-B. CM000085
00211   01708       IF OPTN = 'ADDB   '  PERFORM FINIS-A THRU AX GO TO ADD-B.    CM000085
00212   01709       IF OPTN = 'DELETEC'  PERFORM FINIS-A THRU AX GO TO DELETE-C. CM000085
00213   01710       IF OPTN = 'ADDC   '  PERFORM FINIS-A THRU AX GO TO ADD-C.    CM000085
00214   01711       IF OPTN = 'DELETEP'  PERFORM FINIS-A THRU AX GO TO DELETE-P. CM000085
00215   01712   AA-A.                                                            CM000085
00216   01713       GO TO AA-C.                                                  CM000085
00217   01714   AA-C.                                                            CM000085
00218   01715       IF A1 < A10 GO TO AA-1.                                      CM000085
00219   01716       IF A1 = A10  MOVE 1 TO A-SW.                                 CM000085
00220   01717   AA-B.                                                            CM000085
00221   01718       WRITE AWRK FROM A-CARD.                                      CM000085
00222   01719       GO TO AA-READ.                                               CM000085
00223   01720   AA-1.                                                            CM000085
00224   01721       IF A-SW = 1  MOVE 0 TO A-SW  MOVE A1 TO A-CNT                CM000085
00225   01722        GO TO AL-READ.                                              CM000085
```

5

```
01723        WRITE AWRK FROM AIN.                                  CM000085
017231 AA-2.
01724        READ A-FILE AT END GO TO AI-END.                      CM000085
017241       IF A1 = 'XXXX' GO TO AA-2.
01725        GO TO AA-A.                                           CM000085
01801    AL-READ.                                                  CM000085
01802        READ A-FILE AT END GO TO AI-END.                      CM000085
018021       IF A1 = 'XXXX' GO TO AL-READ.
01803        IF A1 = A-CNT  GO TO AL-READ.                         CM000085
01804        GO TO AA-A.                                           CM000085
01805    AI-END.                                                   CM000085
01806        MOVE 1 TO END-SW.                                     CM000085
01807        ALTER AA-A TO PROCEED TO AA-B.                        CM000085
01808        GO TO AA-B.                                           CM000085
01809    FINIS-A.                                                  CM000085
018091       MOVE 0 TO A-SW.
01810        IF END-SW = 1 MOVE 0 TO END-SW GO TO AX.              CM000085
018101       IF A1 > A10 GO TO AF-WRT.
01811    AF-READ.                                                  CM000085
01812        READ A-FILE AT END GO TO AX.                          CM000085
018121       IF A1 = 'XXXX' GO TO AF-READ.
018122 AF-WRT.
01813        WRITE AWRK FROM AIN.                                  CM000085
01814        GO TO AF-READ.                                        CM000085
01815    AX.                                                       CM000085
01816        EXIT.                                                 CM000085
01901    DELETE-B.                                                 CM000085
01902        READ I-FILE AT END GO TO IAIND.                       CM000085
01903        IF OPTN = 'ADDB    '  CLOSE B-FILE OPEN I-O B-FILE    CM000085
01904          GO TO ADD-B.                                        CM000085
01905        IF OPTN = 'DELETEC'  GO TO DELETE-C.                  CM000085
01906        IF OPTN = 'ADDC    '  GO TO ADD-C.                    CM000085
01907        IF OPTN = 'DELETEP'  GO TO DELETE-P.                  CM000085
01908    DB-READ.                                                  CM000085
01909        READ B-FILE AT END GO TO DB-END.                      CM000085
01910        IF B1 NOT = B10 GO TO DB-READ.                        CM000085
01911        IF B2 NOT = B20 GO TO DB-READ.                        CM000085
019111 DBR1.
01912        MOVE 'XXXX' TO B1.                                    CM000085
01913        REWRITE BIN.                                          CM000085
019131       READ B-FILE AT END CLOSE B-FILE OPEN I-O B-FILE
019132.        GO TO DELETE-B.
019133       IF B1 = B10 IF B2 = B20 GO TO DBR1.
01914        GO TO DELETE-B.                                       CM000085
01915    DB-END.                                                   CM000085
01916        DISPLAY 'NOT IN B-FILE ' B10 B20.                     CM000085
01917        GO TO DELETE-B.                                       CM000085
02001    ADD-B.                                                    CM000085
02002        MOVE 1 TO AB-SW.                                      CM000085
02003        MOVE 0 TO A-SW.                                       CM000085
02004        MOVE 0 TO END-SW.                                     CM000085
02005        OPEN OUTPUT B-WORK.                                   CM000085
020051 AD-B1.
02006        READ B-FILE AT END GO TO ABB-READ.                    CM000085
020061       IF B1 = 'XXXX' GO TO AD-B1.
02007    ABB-READ.                                                 CM000085
02008        READ I-FILE AT END GO TO IAIND.                       CM000085
```

6

```
02009       IF OPTN = 'DELETEC'  PERFORM FINIS-B THRU BX GO TO DELETE-C. CM0000B5
02010       IF OPTN = 'ADDC    '  PERFORM FINIS-B THRU BX GO TO ADD-C.    CM0000B5
02011       IF OPTN = 'DELETEP'  PERFORM FINIS-B THRU BX GO TO DELETE-P. CM0000B5
02012   AB-AB0.                                                            CM0000B5
02013       GO TO AB-AB1.                                                  CM0000B5
02014   AB-AB1.                                                            CM0000B5
02015       IF B1 < B10  GO TO AB-LO.                                      CM0000B5
02016       IF B1 = B10  MOVE 1 TO A-SW.                                   CM0000B5
02017   AB-AB2.                                                            CM0000B5
02018       WRITE BWRK  FROM B-CARD.                                       CM0000B5
02019       GO TO ABB-READ.                                                CM0000B5
02020   AB-LO.                                                             CM0000B5
02021       IF A-SW = 1  MOVE 0 TO A-SW MOVE B1 TO B-CNT                  CM0000B5
02022         GO TO RD-ABLO.                                               CM0000B5
02023       WRITE BWRK FROM BIN.                                           CM0000B5
020231  AB-LO1.
02024       READ B-FILE AT END GO TO B-END.                                CM0000B5
020241      IF B1 = 'XXXX' GO TO AB-LO1.
02025       GO TO AB-AB0.                                                  CM0000B5
02101   RD-ABLO.                                                           CM0000B5
02102       READ B-FILE AT END GO TO B-END.                                CM0000B5
021021      IF B1 = 'XXXX' GO TO RD-ABLO.
02103       IF B1 = B-CNT GO TO RD-ABLO.                                   CM0000B5
02104       GO TO AB-AB0.                                                  CM0000B5
02105   B-END.                                                             CM0000B5
02106       MOVE 1 TO END-SW.                                              CM0000B5
02107       ALTER AB-AB0 TO PROCEED TO  AB-AB2.                            CM0000B5
02108       GO TO AB-AB2.                                                  CM0000B5
02109   FINIS-B.                                                           CM0000B5
02110       IF END-SW = 1 GO TO BX.                                        CM0000B5
021101      IF B1 > B10 GO TO FB-WRT.
02111   FB-RD.                                                             CM0000B5
02112       READ B-FILE AT END GO TO BX.                                   CM0000B5
021121      IF B1 = 'XXXX' GO TO FB-RD.
021122  FB-WRT.
02113       WRITE BWRK FROM BIN.                                           CM0000B5
02114       GO TO FB-RD.                                                   CM0000B5
02115   BX.                                                                CM0000B5
02116       EXIT.                                                          CM0000B5
02201   DELETE-C.                                                          CM0000B5
02202       READ I-FILE AT END GO TO IAINO.                                CM0000B5
02203       IF OPTN = 'ADDC    '  CLOSE C-FILE   OPEN I-O C-FILE           CM0000B5
02204         GO TO ADD-C.                                                 CM0000B5
02205       IF OPTN = 'DELETEP'  GO TO DELETE-P.                           CM0000B5
02206   DC-READ.                                                           CM0000B5
02207       READ C-FILE AT END GO TO CO-END.                               CM0000B5
02208       IF C4 NOT = C40 GO TO DC-READ.                                 CM0000B5
02209       MOVE 'XXXXXX' TO C4.                                           CM0000B5
02210       REWRITE CIN.
02211       GO TO DELETE-C.                                                CM0000B5
02212   CO-END.                                                            CM0000B5
02213       DISPLAY 'NOT IN C-FILE ' C40.
02214       GO TO DELETE-C.                                                CM0000B5
02301   ADD-C.                                                             CM0000B5
02302       MOVE 1 TO AC-SW.                                               CM0000B5
02303       MOVE 0 TO END-SW A-SW.                                         CM0000B5
02304       OPEN OUTPUT C-WORK.                                            CM0000B5
```

7

```
00340   023041 AO-C1.
00341   02305      READ C-FILE AT END GO TO ACC-READ.                       CM000085
00342   023051     IF C4 = 'XXXXXX' GO TO AO-C1.
00343   02306  ACC-READ.                                                    CM000085
00344   02307      READ I-FILE AT END GO TO IA1NO.                          CM000085
00345   02308      IF OPTN = 'DELETEP'  PERFORM  FINIS-C THRU CX            CM000085
00346   02309        GO TO DELETE-P.                                        CM000085
00347   02310  AC-ACCO.                                                     CM000085
00348   02311      GO TO AC-ACC2.                                           CM000085
00349   02312  AC-ACC2.                                                     CM000085
00350   02313      IF C4 < C40 GO TO AC-LO.                                 CM000085
00351   02314      IF C4 = C40 MOVE 1 TO A-SW.                              CM000085
00352   02315  AC-ACC1.                                                     CM000085
00353   02316      WRITE CWRK FROM C-CARD.                                  CM000085
00354   02317      GO TO ACC-READ.                                          CM000085
00355   02318  AC-LO.                                                       CM000085
00356   02319      IF A-SW = 1  MOVE 0 TO A-SW  MOVE C4 TO C-CNT            CM000085
00357   02320      GO TO LO-ACRO.                                           CM000085
00358   02321      WRITE CWRK FROM  CIN.                                    CM000085
00359   023211 AC-LO1.
00360   02322      READ C-FILE AT END GO TO AC-END.                         CM000085
00361   023221     IF C4 = 'XXXXXX' GO TO AC-LOI.
00362   02323      GO TO AC-ACCO.                                           CM000085
00363   02401  AC-END.                                                      CM000085
00364   02402      ALTER AC-ACCO TO PROCEED TO AC-ACC1.                     CM000085
00365   02403      MOVE 1 TO END-SW.                                        CM000085
00366   02404      GO TO AC-ACC1.                                           CM000085
00367   02405  LO-ACRO.                                                     CM000085
00368   02406      READ C-FILE AT END GO TO AC-END.                         CM000085
00369   024061     IF C4 = 'XXXXXX' GO TO LO-ACRO.
00370   02407      IF C4 = C-CNT GO TO LO-ACRO.                             CM000085
00371   02408      GO TO AC-ACCO.                                           CM000085
00372   02409  FINIS-C.                                                     CM000085
00373   02410      IF END-SW = 1 MOVE 0 TO END-SW GO TO CX.                 CM000085
00374   024101     IF C4 > C40 GO TO FC-WRT.
00375   02411  FC-RO.                                                       CM000085
00376   02412      READ C-FILE AT END GO TO CX.                             CM000085
00377   024121     IF C4 = 'XXXXXX' GO TO FC-RO.
00378   024122 FC-WRT.
00379   02413      WRITE CWRK FROM CIN.                                     CM000085
00380   02414      GO TO FC-RO.                                             CM000085
00381   02415  CX.                                                          CM000085
00382   02416      EXIT.                                                    CM000085
00383   02501  DELETE-P.                                                    CM000085
00384   02502      IF AA-SW = 1 CLOSE A-WORK GO TO OP-BA.
00385   02503      OPEN OUTPUT A-WORK.                                      CM000085
00386   02504      CLOSE A-FILE  OPEN I-O A-FILE.                           CM000085
00387   02505  OP-ARD.                                                      CM000085
00388   02506      READ A-FILE AT END GO TO AP-END.                         CM000085
00389   02507      IF A1 = 'XXXX' GO TO OP-ARD.
00390   02508      WRITE AWRK FROM AIN.                                     CM000085
00391   02509      GO TO OP-ARD.                                            CM000085
00392   02510  AP-END.                                                      CM000085
00393   02511      CLOSE A-WORK.                                            CM000085
00394   02512  OP-BA.                                                       CM000085
00395   02513      IF AB-SW = 1 CLOSE B-WORK GO TO OP-CA.
00396   02514      OPEN OUTPUT B-WORK.                                      CM000085
```

```
00397   02515       CLOSE B-FILE  OPEN I-O B-FILE.                          CM000085
00398   02516   OP-BRO.                                                     CM000085
00399   02517       READ B-FILE AT END GO TO BP-END.                        CM000085
00400   02518       IF B1 = 'XXXX' GO TO OP-BRO.                            CM000085
00401   02519       WRITE BWRK FROM BIN.                                    CM000085
00402   02520       GO TO OP-BRO.                                           CM000085
00403   02521   BP-END.                                                     CM000085
00404   02522       CLOSE B-WORK.                                           CM000085
00405   02523   OP-CA.                                                      CM000085
00406   02524       IF AC-SW = 1  CLOSE C-WORK  GO TO OPLO.
00407   02525       OPEN OUTPUT C-WORK.                                     CM000085
00408   02601       CLOSE C-FILE  OPEN I-O C-FILE.                          CM000085
00409   02602   OP-CRD.                                                     CM000085
00410   02603       READ C-FILE AT END GO TO CP-END.                        CM000085
00411   02604       IF C4 = 'XXXXXX' GO TO OP-CRD.                          CM000085
00412   02605       WRITE CWRK FROM CIN.
00413   02606       GO TO OP-CRD.                                           CM000085
00414   02607   CP-END.                                                     CM000085
00415   02608       CLOSE C-WORK.                                           CM000085
00416   02609   OPLO.                                                       CM000085
00417   02610       OPEN I-O W-HOOK.                                        CM000085
00418   02612       READ W-HOOK AT END GO TO WH-END.                        CM000085
00419   02613   OPI-RD.                                                     CM000085
00420   02614       READ I-FILE AT END GO TO IF-END.                        CM000085
00421   02615       OPEN I-O C-WORK.                                        CM000085
00422   02616   OPC-RD.                                                     CM000085
00423   02617       READ C-WORK AT END GO TO OP-CWX.                        CM000085
00424   02618       IF DELPARM NOT = C2W GO TO OPC-RD.                      CM000085
00425   02619       MOVE SPACE TO C2W.                                      CM000085
00426   02620       REWRITE CWRK.                                           CM000085
00427   02621       GO TO OPC-RD.                                           CM000085
00428   02622   OP-CWX.                                                     CM000085
00429   02623       CLOSE C-WORK.                                           CM000085
00430   02624       OPEN I-O B-WORK.                                        CM000085
00431   02701   OPB-RD.                                                     CM000085
00432   02702       READ B-WORK AT END GO TO OP-BWX.
00433   02703       IF DELPARM NOT = B10W GO TO OPB-RD.                     CM000085
00434   02704       MOVE SPACE TO B10W.                                     CM000085
00435   02705       REWRITE BWRK.
00436   02706       GO TO OPB-RD.                                           CM000085
00437   02707   OP-BWX.                                                     CM000085
00438   02708       CLOSE B-WORK.                                           CM000085
00439   02709   OP. IF DELPARM NOT = WH2  GO TO OP-OPH.                     CM000085
00440   02710       MOVE 'XXXXXXXXX' TO WH2.                                CM000085
00441   02711       OPEN I-O W-PATH.                                        CM000085
00442   02712   OP-PTRD.                                                    CM000085
00443   02713       READ W-PATH AT END GO TO WP-END.                        CM000085
00444   02714       IF WP6 = WH4  GO TO ITEM-EQ.
00445   02716       GO TO OP-PTRD.                                          CM000085
00446   02717   ITEM-EQ.                                                    CM000085
00447   02718       MOVE 'XXXX' TO WP2.                                     CM000085
00448   02719       REWRITE WPAT.                                           CM000085
00449   02720       GO TO OP-PTRD.                                          CM000085
00450   02721   OP-OPH.                                                     CM000085
00451   02722       READ W-HOOK AT END GO TO WH-END.                        CM000085
00452   02723       GO TO OP.                                               CM000085
00453   02724   WP-END.                                                     CM000085
```

9

```
00454   02725        CLOSE W-PATH.                                               CM000085
00455   02801        REWRITE WHOK.                                               CM000085
00456   02802        GO TO OP-OPH.                                               CM000085
00457   02803    WH-END.                                                         CM000085
00458   02804        CLOSE W-HOOK.                                               CM000085
00459   02805        OPEN I-O W-HOOK.                                            CM000085
00460   02806        GO TO OPI-RO.                                               CM000085
00461   02807    IF-END.                                                         CM000085
00462   02808        CLOSE A-FILE 8-FILE C-FILE.                                 CM000085
00463   02810        CLOSE I-FILE.                                               CM000085
00464   02811        CLOSE W-HOOK.
00465   02812        OPEN I-O W-HOOK  W-PATH.                                    CM000085
00466   02813        OPEN OUTPUT HK-OUT PT-OUT.                                  CM000085
00467   02814    IF-ROH.                                                         CM000085
00468   02815        READ W-HOOK AT ENO GO TO ALL-HK.                            CM000085
00469   02816        IF WH2 = 'XXXXXXXXX'  GO TO IF-RDH.                         CM000085
00470   02817        WRITE OHOK FROM WHOK.                                       CM000085
00471   02818        GO TO IF-ROH.                                               CM000085
00472   02819    ALL-HK.                                                         CM000085
00473   02820        CLOSE W-HOOK.                                               CM000085
00474   02821        CLOSE HK-OUT.                                               CM000085
00475   02822    IF-ROP.                                                         CM000085
00476   02823        READ W-PATH AT ENO GO TO ALL-PT.                            CM000085
00477   02824        IF WP2 = 'XXXX'  GO TO IF-RDP.                              CM000085
00478   02825        WRITE OPAT FROM WPAT.                                       CM000085
00479   02901        GO TO IF-ROP.                                               CM000085
00480   02902    ALL-PT.                                                         CM000085
00481   02903        CLOSE W-PATH                                                CM000085
00482   02904        CLOSE PT-OUT.                                               CM000085
00483   02905        STOP RUN.                                                   CM000085
```

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY *(Corporate author)*
Arnold Engineering Development Center
ARO, Inc., Operating Contractor
Arnold Air Force Station, Tennessee

2a. REPORT SECURITY CLASSIFICATION
UNCLASSIFIED

2b. GROUP
N/A

3 REPORT TITLE
COMPUTER-AIDED DESIGN AND DOCUMENTATION OF INSTRUMENTATION SYSTEMS

4 DESCRIPTIVE NOTES *(Type of report and inclusive dates)*
Final Report

5. AUTHOR(S) *(First name, middle initial, last name)*
J. L. Dorris, ARO, Inc.

6 REPORT DATE
July 1971

7a. TOTAL NO. OF PAGES
159

7b. NO. OF REFS
0

8a. CONTRACT OR GRANT NO.
F40600-72-C-0003

b. PROJECT NO.

c.

d.

9a. ORIGINATOR'S REPORT NUMBER(S)
AEDC-TR-71-109

9b. OTHER REPORT NO(S) *(Any other numbers that may be assigned this report)*
ARO-ETF-TR-71-83

10 DISTRIBUTION STATEMENT
Approved for public release; distribution unlimited.

11. SUPPLEMENTARY NOTES
Available in DDC

12. SPONSORING MILITARY ACTIVITY
Arnold Engineering Development Center, Air Force Systems Command, Arnold Air Force Station, Tennessee

13 ABSTRACT

A system of digital computer programs developed to aid in the design and documentation of instrumentation systems is described. Included are brief descriptions of system concepts and capabilities, required system inputs, explanations of system outputs and information contained therein, and system utilization. This system is currently in use by the ETF J-Instrument Branch of the Arnold Engineering Development Center.

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
instruments						
design						
documentation						
computers						
computer systems programs						

AFSC
Arnold AFS Tenn