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PROGRAMMER'S HANDBOOK. DYNAMIC SCHEDULING AND ENVIRONMENTAL CONTROL SYSTEM.

VOLUME 6, CCSSOI 18-320

AUTOMATED LOGISTICS MANAGEMENT SYSTEMS AGENCY

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COMMODITY COMMAND STANDARD SYSTEM OPERATING INSTRUCTIONS (GUIDANCE)

PROGRAMER'S HANDBOOK

DYNAMIC SCHEDULING AND ENVIRONMENTAL CONTROL SYSTEM

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Dynamat controls the scheduling of a computer system. It allows the user to dynamically schedule externally, as well as internally, the processing of jobs within any type of ADP environment by optimizing the work required based upon the environment in which the work will be performed.

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Job matrix
Master data base
Simulation

17b. Identifiers/Open-Ended Terms

17c. COSATI Field/Group

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DYNAMIC SCHEDULING AND ENVIRONMENTAL CONTROL SYSTEM

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CHAPTER 1

GENERAL

1-1 Purpose. This instruction provides technical information concerning the concepts, facilities, and use of the Dynamic Scheduling and Environmental Control System (DSECS).

1-2. Scope. This instruction applies to any ADP installation desiring an automatic scheduling system.

1-3. Definition. a. ABEND--abnormal termination of a program either with a system completion code (e.g., data check), or a user completion code greater than 499.

b. Application--a grouping of related jobs for scheduling considerations (e.g., weekly billing).

c. Job--a grouping of programs into the lowest controllable element of the system.

d. Master Data Base--contains all information required for scheduling/controlling of any job to be put under DSECS control.

e. Master matrix--used interchangeably with Master Data Base.

f. On-the-fly update--the ability to modify the Running Matrix dynamically while jobs under DSECS are executing.

g. Predecessor job--one whose functional and/or data constraint must be met prior to another job being considered for scheduling.

h. Quiesce--to inhibit the releasing of jobs so that the system "dry up."

i. Running Matrix--a data base, extracted from the Master Data Base, which contains information required for scheduling and controlling jobs established under DSECS control.

j. TSO--time sharing option, providing remote scheduling capabilities.

1-4 General. a. This system allows the user to dynamically schedule externally, as well as internally, the processing of jobs within any type of ADP environment. It will perform the primary functions of effective computer utilization.

b. Complete updating and reporting capabilities are available to the user including temporary and permanent data base modification, automatic data base updating with respect to job statistics, on-the-fly updating, and a variety of data base reports to aid those scheduling and/or controlling the environment.

c. A complete trace of actions within the system pertaining to each job is available. This will allow the user to monitor any action (or non-action) taken by DSECS. This information will reflect the releasing or non-releasing of jobs and the reason for each action.

d. The simulation and the actual control at execution time use the same scheduling algorithm. The only difference being at simulation time the system resources as defined in the data base are used for scheduling, and at the actual time of execution, the resources within the particular computer environment are used for scheduling purposes.

e. The system can be operated in a batch mode or remotely via a terminal utilizing TSO.

f. The system is comprised of two major components, DYNAMAT and JIM. DYNAMAT edits input, verifies data base integrity, produces reports, simulates environments, and allows maintenance to the data base. JIM allows internal controlling/scheduling capabilities for job level processing. They were designed to be used together or with DYNAMAT alone, if internal control of job processing is not a requirement at a particular installation. Subsequent chapters of the document will discuss the properties of each component and their interrelationships.

1-5. Objective. The objective of this instruction is to provide the user with a standardized operational guidance and information to use DSECS.

CHAPTER 2

DYNAMAT

2-1. Concept. a. DYNAMAT is designed to provide an effective and accurate method of automatically scheduling a computer system. It will optimize the work required based upon the environment in which the work will be performed.

b. Due to the multitude of variables which are introduced into any scheduling task (e.g., volume of input, type of input, resource availability, condition of each master file ...), a minimum or nonexistent level of predictability relative to any given job may prevail. Hence DYNAMAT does not balance the workload based on average running times of the jobs being scheduled. Instead of utilizing average times as its prime criteria, it optimizes those jobs under its control based upon the maximum utilization of the system resources available (i.e., core, disks, tapes, printers, punches, and initiators). This concept readily adapts to any dynamic environment. This even becomes more meaningful as the number of jobs to be scheduled increases and as the job relationships become more complex.

2-2. General. DYNAMAT is the front end of the Dynamic Scheduling and Environmental Control System. For the control program (JIM) to be used, processing must first occur in DYNAMAT which is the only means of accessing the Master Data Base. DYNAMAT will then, based upon the user's request, create or modify the Running Matrix, so that JIM can dynamically schedule the execution of the computer system.

2-3. Master Data Base. The Master Data Base is the data set that DYNAMAT uses in performing its various functions. It is comprised of distinct segments.

a. Job matrix segment. This segment contains any jobs that the user would want to be under the control of the DSECS. Each job entry in this segment contains all information for that job that is required by the system to perform its scheduling/controlling function. Figure A-1 depicts the elements comprising an entry in this segment. A definition of each element follows:

(1) JOB NUMBER--the relative position within the job matrix segment of this job (max 960).

(2) JOB NAME--the name of the job under DSECS control.

(3) CRITICAL PATH--the indicator whether this job is deemed relatively more critical than other jobs in the job matrix segment. YES denotes that it is critical and NO denotes that it is not.

(4) VOLUME NUMBER--the application volume number that this job is a part of. This offers a method of grouping related jobs for scheduling purposes. The volume number can be from 401 through 600.

(5) CORE SIZE--the region that the job will request.

(6) FUNCTIONAL JOB DEPENDENCIES--the data and/or functional constraints placed upon a job that must be met prior to that job being executed. DSECS offers two different types of dependency relationships, if required, to be indicated in this field. One is a dependency back-off relationship and the other is a no-back-off relationship.

(a) Back-off relationship. If, in the following job matrix segment example, only jobs A and C were to be scheduled, the resultant dependency relationship would appear as shown in the resultant job matrix. Since job C's dependency was job B, and job B was not scheduled, then job C would back-off its dependency toward a job that was in this same string and was scheduled, which in this example was job A.

Example:

Job matrix segment

Job	Dependency
A	NONE
B	A
C	B

Resultant job matrix

Job	Dependency
A	NONE
C	A

(b) No-back-off relationship. If, in the following job matrix segment example, only jobs A and C were to be scheduled, the resultant dependency relationship would appear as shown in the resultant job matrix. Note the asterisks surrounding job C's dependency. This indicates the no-back-off relationship. In this example, since job B was not scheduled and job C's dependency of job B indicates no-back-off, the dependency of job C on the resultant matrix becomes NONE.

Example:

Job matrix segment

Job	Dependency
A	NONE
B	A
C	*B*

Resultant job matrix

Job	Dependency
A	NONE
C	NONE

(7) MASTER FILE UTILIZATION--The disk master files that the job is using and in what mode (R = reference, U = update) it is being used.

(8) TP9--the number of 9-track tape devices the job uses.

(9) TP7--the number of 7-track tape devices the job uses.

(10) PRT--the number of printers the job directly allocates.

(11) PCH--the number of punches the job directly allocates.

(12) RECENT RUN DATE--the Julian date of the most recent running of this job (automatically posted).

(13) RECENT RUN TIME--the time in minutes that the most recent running of this job required (automatically posted).

(14) AVERAGE RUN TIME--the time in minutes reflecting the current running average time of this job (automatically updated).

(15) TIMES RUN--the number of times that this job has been run since the installation of DSECS (automatically updated).

(16) %TIME VARIANCE--the plus or minus percentage difference between the RECENT RUN TIME and the last AVERAGE RUN TIME.

b. Application matrix segment. This segment contains the application mnemonics for each of the application volumes that the user has established. This offers the capability of grouping related jobs for scheduling purposes. The application volumes are cross-referenced to the application mnemonics and vice versa. Figure A-3 and figure A-4 reflect this double cross-reference. The application volume numbers must be from 401 to 640.

c. File matrix segment. This segment contains the file mnemonics and disk pack requirements for each of the disk master files that the user has established. There is a double cross-reference from file number to file mnemonic and vice versa. Figure A-5 reflects this double cross-reference. The file numbers must be from 1 to 60.

d. Installation matrix segment. This segment can contain up to 14 different installation mnemonics and associated codes. This offers the user the capability of identifying at which installation the Master Data Base is located. This provides for the situation in which a central installation is the distribution center for a common Master Data Base to be used at various installations. If this segment is not built by the user, the installation field on all reports will default to NONE. Figure A-6 depicts the possibilities available to the user.

e. Device characteristic table. This table contains the devices (i.e., disks, tapes, printers, punches) that the user defines to DSECS for simulation purposes only. This table is not used by the JIM program, as the JIM program actually scans the computer system to make a point-in-time determination of what resources are available and has no need to interrogate this table. Figure A-7 depicts the device characteristic table and its elements.

f. Dummy UCB table. This table offers the user the capability to indicate the number of dummy UCB's, if any, for each of the device types within the system. This should be created only if, at system generation (SYSGEN) time, there were UCB's defined to the system for which there is no physical device. This table is not used at simulation time, but only by JIM at dynamic-schedule time. Figure A-5 depicts the dummy UCB table and its elements.

g. Core entry. This entry contains the total core assigned by the user, available for simulation purposes only. This entry is not used by JIM, as JIM obtains the actual core environment at dynamic-schedule time. Figure A-5 depicts the core entry.

2-4. Functions. a. Building the Master Data Base. The DYNABLD function is used to initially build the Master Data Base, which is the basis for all subsequent job execution. The execution of this function will, upon normal completion, generate a report of each of the segments created during the build process.

b. Updating the Master Data Base. The DYNAUPD function is used to update any of the segments within the Master Data Base. This function can either temporarily or permanently update any field within any of the segments. The execution of this function will, upon normal completion, generate a report of each of the segments updated and indicate whether this was a permanent or temporary change.

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c. Simulation. The DYNASIM function is used to simulate the processing of applications and/or jobs as if those jobs were to be executed on a computer utilizing a multiprogramming environment. The simulator considers factors such as available core and devices (disk, tape, printers, punches), active and inactive initiators, priority, disk file usage, etc. .... Jobs and/or applications can be scheduled, any temporary or permanent modification to the Master Data Base can be made, and special keyword processing can be utilized for performing specific actions. For a more thorough discussion of the keyword input to the simulator, reference the DYNASIM control card (para 2-7c(1)). Messages are produced indicating reasons why a job could not be released, as shown in figure A-10, to be used for re-scheduling and re-configuring purposes. This function will not produce a Running Matrix; therefore simulation and re-simulation of varied environments can be accomplished without impact. The execution of this function will, upon normal completion, generate three reports.

(1) Jobs being scheduled. This report will depict the jobs being scheduled (simulated) and the characteristics of each job including the dependencies, after processing by the DYNAMAT dependency optimizer. Figure A-11 shows the elements within this output product.

(2) Inter-intra application dependencies. This report breaks out the inter and intra application dependencies by job within application for just those jobs being simulated. This is primarily for use by scheduling personnel, when jobs must be scheduled out of their normal scheduling sequence. Figure A-12 shows the elements within this output product.

(3) Hardcopy simulation. This report depicts the running of the scheduled jobs in a multiprogramming environment. This report will indicate idle time, if present. Also, at the end of the report, a summary of the times are shown (MVT time, sequential time, idle time). Figure A-13 shows this type of output product.

d. Initiating a schedule. The DYNARUN function is used to initially start up a scheduling period and to create the Running Matrix which supports those jobs scheduled for execution. The DYNARUN function will perform the exact same function as the DYNASIM function (ref para 2-4c) with the additional tasks of creating a Running Matrix and starting the releasing of jobs to the system.

e. Creating reports. The DYNARPT function is used to create various reports from the Master Data Base. For more detailed explanations of the types of reports, reference the DYNARPT report operand definitions (para 2-7e(4)).

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f. On-the-fly updating test.

(1) General.

(a) The DYNACHK function is used to test on-the-fly Running Matrix changes without modifying the Running Matrix.

(b) This is provided so that changes can be tested prior to their application to the Running Matrix.

(c) All accepted input to DYNASIM and DYNAUPD functions can be input here (i.e., updates, adding/deleting jobs to the Master Data Base) with the additional capability of adding and/or deleting jobs and/or applications on the Running Matrix.

(2) Restrictions.

(a) Only temporary modifications (TMOD) are allowed as input to this function.

(b) Any prior TMOD to a job on the current Running Matrix that modified a dependency must be TMOD'ed again.

(c) TMOD's affecting any fields other than dependencies need not be repeated as DYNAMAT will recognize them.

(d) Any job that was a TMOD ADD to the current Running Matrix need not be repeated as DYNAMAT will recognize it as such and accept all fields, including the dependencies.

(3) Output.

(a) The execution of the cataloged procedure for this function (DYNACHKP), will, in addition to the DYNACHK output, generate a SIM report (ref fig D-1) before and after the on-the-fly actions are taken.

(b) The after image will reflect the status of the Running Matrix (RMATRIX), as if the update was actually done, since no actual updating was performed.

(c) A message data set, shown in figure A-14, indicates any actions that DYNAMAT took with respect to the on-the-fly update. Note that for this DYNACHK function a message is produced saying "DYNAMAT-111 RMATRIX REWRITE BYPASSED -- DYNAFLY NOT INVOKED."

g. On-the-fly updating.

(1) General.

(a) The DYNAFLY function is used to actually perform the on-the-fly Running Matrix change that DYNACHK tested.

(b) This function allows the same input as DYNACHK and the output is the same, except for the message "DYNAMAT-111 RMATRIX REWRITE COMPLETE--DYNAFLY INVOKED", as shown in figure A-15.

(2) Restrictions. The same restrictions as DYNACHK (ref para 2-7f(2)) apply for DYNAFLY.

(3) Output.

(a) The execution of the cataloged procedure for this function (DYNAFLYP), will, in addition to the DYNAFLY output, generate a JIM report (ref fig D-1) before and after the on-the-fly actions are taken.

(b) These reports will reflect the status of the Running Matrix (RMATRIX) at these points-in-time, since the updates are physically performed.

2-5. Function usage cross-referenced. Many of the DYNAMAT functions can be used together; however, there are exceptions. Some functions are mutually exclusive. Other functions cannot be secondary functions of primary functions, where the primary function reflects the cataloged procedure which is being executed. The combinations of allowable and not allowable functions appear in figure 2-1.

Function number	Function name
1	DYNABLD
2	DYNAUPD
3	DYNASIM
4	DYNARUN
5	DYNARPT
6	DYNACHK
7	DYNAFLY

	SECONDARY						
PRIMARY	1	2	3	4	5	6	7
1		N	N	N	N	N	N
2	N		N	N	Y	N	N
3	N	Y		N	Y	N	N
4	N	Y	N		Y	N	N
5	N	N	N	N		N	N
6	N	*Y	N	N	N		N
7	N	*Y	N	N	N	N	

Y = allowable
N = not allowable
* = only TMOD allowable

Figure 2-1. Allowable function relationships.

2-6. <u>Execution control</u>. a. <u>General</u>. The execution of the various functions under DYNAMAT is done via cataloged procedures (PROCS) as shown in appendix B. Each function has an associated cataloged procedure. The catalog procedure naming convention is the function name with the letter P appended to it. The symbolic parameters, as depicted in appendix B, are assigned the default values to be used in the production environment, and therefore need not be repeated in the job control language (JCL). The only symbolic parameters required at execution are those mentioned in the following narrative. The DYNAMAT program is controlled by a combination of JCL and an input control data set.

b. <u>JCL required</u>. The following executions of cataloged procedures are for primary functions. For any secondary functions that could also be performed under this primary function, reference figure 2-1.

(1) DYNABLD--primary function is initial build.

```
//stepname EXEC DYNABLDP,MDISP=OLD
```

<u>Note</u>. If this is the initial build of the Master Data Base, then MDISP must equal NEW.

(2) DYNAUPD--primary function is data base maintenance.

```
//stepname EXEC DYNAUPDP
```

(3) DYNASIM--primary function is simulation.

```
//stepname EXEC DYNASIMP
```

(4) DYNARUN--primary function is initiating a schedule

```
//stepname EXEC DYNARUNP
```

(5) DYNARPT--primary function is report generation.

```
//stepname EXEC DYNARPTP
```

(6) DYNACHK--primary function is testing on-the-fly updates.

```
//stepname EXEC DYNACHKP
```

(7) DYNAFLY--primary function is applying on-the-fly updates.

```
//stepname  EXEC DYNAFLYP
```

c. Input data set. The input control data set will contain two types of statements:

(1) Control card--This card must always be present and it defines the operation being performed and the segment of the data base addressed (or the type report requested if the DYNARPT function is the operation). The operation and operand must be on the same card, and there can be only one operand per operation. The format for this card follows:

cc 1-3	OPERATION	OPERAND
./b̸	operation	operand

Note. Past column 3, free form coding prevails.

(2) Data card--This card(s) is optionally present based upon the operation field of the control card. If present, it defines the input to DYNAMAT to perform data base creation, maintenance, or simulation. All data on this card is free form, keyword coding, with the only exception being the continuation of data relative to one action of the operation on to more than one card. The continuation rules are:

(a) Insertion of a comma after the last keyword/data combination on a card.

(b) One or more blank columns prior to card column 72.

(c) Insertion of a non-blank character in card column 72.

(d) Continuation of the data in card column 16 of the next card.

2-7. Input control data set by function. a. DYNABLD.

(1) Control card.

cc 1-3	OPERATION	OPERAND
./b̸	BUILD	MATRIX APPL FILES DEVICES CORE INST

(2) Data card(s).

(a) Conventions.

1 Is the only fixed format type data card used by DYNAMAT.

2 Must immediately follow the BUILD control card for the segment of the Master Data Base being addressed by the operand.

3 Must always begin in cc 1.

4 Follows continuation rules (ref para 2-6c(2)), except that cc 1 is the starting point on continuation cards.

5 Is in specific formats dependent upon the operand.

(b) Formats.

1 MATRIX data card.

cc	Entry	Description
1-3	Job number	Relative position of the job within the Master Data Base; must be three numeric digits from 001 through 960.
4-11	Job name	Name of the job within the Master Data Base; must be eight positions, left justified, space filled.
12-14	Volume number	Application volume number associated with the job; must be three numeric digits from 401 through 640.
15-17	Core size	Region required to execute the job; must be three numeric digits, zero filled.
18-35	Files used	All disk master files used by the by the job must be defined by the file number. If no files are used, enter NONE in cc 18-21, or else enter the two digit file number of each file beginning in cc 18, left justified with no separation. A maximum of nine file numbers per job can be entered. If a file is to be used in update mode, enter an 11 overpunch in the low-order digit of the file number.

cc	Entry	Description
36-37	Tape 9	Number of 9-track devices used in the job; must be two numeric digits, zero filled.
38	Tape 7	Number of 7-track devices used in the job; must be one numeric digit or zero.
39	Print	Number of printers directly allocated by the jobs; must be one numeric digit or zero.
40	Punch	Number of punches directly allocated by the job; must be one numeric digit or zero.
41	Critical path	Indicated higher priority assignment to a job; must be Y for yes or N for no.
42-47	Dependencies	The job number of the job(s) that place a functional or data constraint on the job being defined. If no constraints are present, enter NONE in cc 42-45, else enter the three digit job number of each dependent job beginning in cc 42, left justified with no separation. A maximum of 12 dependent job numbers per job can be entered. If a job is to have the no-back-off option of dependency handling, enter an 11 overpunch in the low-order digit of the dependent job number.
78-80		Blank

17<

2 APPL data card.

Format starting in cc 1
VVVaaaaaaa

where:

VVV = application volume number; must be three numeric digits from 401 through 640.

aaaaaaa = application mnemonic; must be seven positions, left justified, space filled.

Note. There can be a maximum of six entries per APPL data card, each entry separated by a comma.

3 FILES data card.

Format starting in cc 1

ffmmmmmpp

where

ff = file number assigned to this file; must be two numeric digits, zero filled.

mmmmm = file mnemonic; must be five positions, left justified, space filled.

pp = number of disk packs on which the file resides; must be two numeric digits, zero filled.

Note. There can be a maximum of seven entries per FILES data card, each entry separated by a comma.

4 DEVICES data card.

cc	Entry	Description
1-6	Keyword	TAPE9 =
7-8	Tape 9	Number of 9-track devices defined to DYNAMAT for simulation purposes; must be two numeric digits, zero filled.

cc	Entry	Description
9-15	Keyword	,TAPE7=
16-17	Tape 7	Number of 7-track devices defined to DYNAMAT for simulation purposes; must be two numeric digits, zero filled.
18-24	Keyword	,PRINT=
25	Print	Number of printers defined to DYNAMAT for simulation purposes; must be one numeric digit.
26-32	Keyword	,PUNCH=
33	Punch	Number of punches defined to DYNAMAT for simulation purposes; must be one numeric digit.
34-39	Keyword	,DISK=
40-41	Disks	Number of disk drives defined to DYNAMAT for simulation purposes; must be two numeric digits, zero filled.
42-80		Blank.

5 Core data card.

cc	Entry	Description
1-4	Core	Region defined to DYNAMAT for system simulation purposes.
5		,
6	INST Code	Installation code for this installation; corresponds to the codes created in the INST data card (ref para 2-7a (2)(b)6).
7-8	Version	Optional, two digit version number of files used (e.g., 02).

cc	Entry	Description
9		, if following Dummy UCB's are defined.
10-11	DISK DUCB	Number of disk Dummy UCB's (default = 0).
12-13	Tape 9 DUCB	Number of 9-track tape Dummy UCB's (default = 0).
14-15	Tape 7 DUCB	Number of 7-track tape Dummy UCB's (default = 0).
16-17	Printer DUCB	Number of printer Dummy UCB's (default = 0).
18-19	Punch DUCB	Number of punch Dummy UCB's (default = 0).

Note. If there are any Dummy UCB's assigned, then cc 10-19 must be filled, indicating zero if none are assigned.

6 INST data card. A matrix of installation codes and mnemonics may be built using a maximum of two cards, each containing a maximum of seven installation names per card. The installation name must have eight characters, left justified, space filled. Code UNKNOWN in any of the name fields not being created, otherwise eight consecutive blanks will terminate the build. No comma separators are permitted. The installation name placed in the following columns on the associated card will be assigned the listed alphabetic code.

cc	Card 1	Card 2
1-8	A	H
9-16	B	I
17-24	C	J
25-32	D	K
33-40	E	L
41-48	F	M
49-56	G	N

Note. This segment of the Master Data Base need not be built. If it is not built, the installation mnemonics will default to UNKNOWN.

b. DYNAUPD.

(1) Control card.

cc 1-3	OPERATION	OPERAND
./b̸	PMOD TMOD	MATRIX APPL FILES DEVICES CORE

Note. PMOD's and TMOD's are mutually exclusive operations. Only one type operation may be performed per each DYNAMAT execution. However, each execution may address more than one of the segments (operands) of the data base using the same type operation.

(2) Data card(s).

(a) Conventions.

1 Cards must immediately follow the PMOD or TMOD control card for the segment of the Master Data Base being addressed by the operand.

2 Free form keyword coding may begin in any column prior to 72.

3 Continuation rules (ref para 2-6c(2)) followed, with the exception that the continuation of the dependency keyword (DEPNO) is not allowed.

4 Keywords need not be in any specific position, but each one must be separated by a comma.

5 Multiple updates to the same entry of a particular segment within the same execution of DYNAMAT are not allowed.

6 Duplicate keywords for the same entry are not allowed.

7 Each keyword has a two character abbreviation as indicated in the ensuing keyword discussion.

8 Keywords are separated into three categories; required for all operands, required for specific segments, and optional for specific segments.

(b) Required keyword for all operands. This keyword is required to define the type of update to be performed.

Keyword	Field content	Description
ACTION = AC	ADD	A new entry, one that does not presently exist, is to be added to the specific segment identified by the control card operand; cannot add fields to an existing entry.
	CHANGE	Field(s) are to be altered for an existing entry to the specific segment identified by the control card operand; must define only fields to be changed.
	DELETE	An existing entry is to be deleted from the specific segment identified by the control card operand.

(c) Required keywords for specific segments. These keywords are required to obtain entry into the designated segment.

Segment	Keyword	Description
Job matrix	JOBNUM = JN	The relative number of the job within this segment; must be one to three numeric digits from 1 through 960.
Application	APPLNO = AN	The application volume number; must be three numeric digits from 401 through 640.
Files	FILENO = FN	The file number of the file being addressed; must be one or two numeric digits from 1 through 60.
Devices	None	All keywords are optional.
Core	CORE = CR	The amount of available region for the total environment, to be used for simulation purposes; must be one to four numeric digits.
Installation	None	No update is permitted to this segment; if a change is required, use the DYNABLD function (ref para 2-7a(2)(b)6).

(d) Optional keywords for specific segments. These keywords are to be used at the discretion of the user to update those fields requiring modification.

Segment	Keyword	Description
1 Job matrix	JOBNAME JM =	The job name of the job being modified; can be up to eight characters; required if the ACTION keyword specifies ADD or DELETE, since there is no default assignment.
	APPLNO AN =	The application volume number; must be three numeric digits from 401 through 640; required if the ACTION keyword specifies ADD, since there is no default assignment.
	DEPNO DP =	The job number(s) for job(s) which place a data and/or functional constraint on the job being modified, each must be one to three numeric digits from 1 through 960; if no constraints are present, must enter NONE; must be inclosed in parenthesis even if only one job is a constraint or NONE is specified; a maximum of 12 dependent job numbers may be specified; if the no-back-off option is used, the job number must be preceded by a minus (-) sign; the dependency numbers are treated as an AND condition, not as an OR condition, therefore, all dependent jobs must complete prior to this job being scheduled; required if the ACTION keyword specifies ADD, since there is no default assignment.
	CORE CR =	The region required to execute this job, must be two to four numeric digits; if region assigned is less than 54K, then 54K will be assigned automatically; default for ADD = 54K.
	CRITPATH CP =	The indicator that this job should receive a relatively higher priority for scheduling purposes; if yes, must = Y, if no, must = N; default for ADD = N.
	FILENO FN =	The file number(s) for the files used by this job, each must be one or two numeric digits from 1 through 60; if no files are used, must enter NONE; must be inclosed in parentheses even if only

Segment	Keyword	Description
		one file is used or NONE is specified; a maximum of nine file numbers may be specified; if the file is used in update mode, the file number must be preceded by a minus (-) sign; default for ADD = NONE.
	TAPE9 = T9	The number of each type of device required for this job; must be one or two numeric digits; default for ADD = 0.
	TAPE7 = T7	
	PRINT = PT	
	PUNCH = PC	
	AVETIME = AT	The average running time in minutes for this job; must be one to four numeric digits; default for ADD = 0.
	TIMESRUN = TR	The number of times the job has been run; must be one to four numeric digits; default for ADD if AVETIME is greater than 0 is 1; if AVETIME = 0, default = 0; automatically maintained.
	RECDATE = RD	The last four digits of the Julian day of the most current run; automatically maintained.
	RECTIME = RT	The time in minutes of the most current running of this job; must be one to four numeric digits; automatically maintained.
	OLDTIME = OT	The time in minutes for a particular execution of this job that is to be backed out of the RECTIME field (and obtain an automatic recalculation of AVETIME); must be one to four numeric digits; mutually exclusive with keywords RECTIME and AVETIME.

Segment	Keyword	Description
	NEWTIME NT =	The time in minutes to be replaced in the RECTIME field; used in conjunction with the OLDTIME keyword which specifies the time to be pulled out (the AVETIME is automatically recalculated); must be one to four numeric digits; mutually exclusive with keywords AVETIME and RECTIME.

Note. The following keywords pertaining to the job matrix segment of the Master Data Base may only be used when the primary function of either DYNACHK or DYNAFLY is specified, as they are used to perform specific actions on the Running Matrix (RMATRIX).

	Keyword	Description
	RMATRIX RM =	CLEAR specifies that the start, end, and ABEND flags, and the start and end time fields are to be cleared out on the RMATRIX for the job number indicated.
	ELTIME EL =	The elapsed time in minutes for this job on RMATRIX; must be one to four numeric digits.
	ESTIME ES =	The early start time in hhmm format that is to be the time that this job is to first be considered for scheduling purposes on the computer system; must be four numeric digits from 0000 through 2400.
	CRITPATH CP =	The priority assignment to be placed upon a job residing on RMATRIX; must be one digit from 0 to 2, 2 being the highest priority assigned within DYNAMAT.
2 Application	APPLNAME A[illegible] =	The application mnemonic for the specified application number; must be one to seven characters; no default is assigned.
3 Files	FILENAME FM =	The file mnemonic for the specified file number; must be one to seven characters; required if action is ADD or DELETE, since there is no default assignment.
	PACKS PK =	The number of disk volumes on which the file resides; must be one or two numeric digits; default for ADD = 0.

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Segment	Keyword	Description
4 Devices	TAPE9 T9 =	The number of each type of device to be identified to DYNAMAT for simulation purposes; must be one or two numeric digits; no default assignment is made at data base creation time.
	TAPE7 T7 =	
	DISK DK =	
	PRINT PT =	
	PUNCH PC =	

c. DYNASIM.

(1) Control card.

cc 1-3	OPERATION	OPERAND
./b̸	RUN	b̸

Note. No operand is required for this control card, as no specific segment within the Master Data Base is addressed.

(2) Data card(s).

(a) Conventions.

1 Cards must immediately follow the RUN control card.

2 Free form keyword coding may begin in any column prior to 72.

3 Continuation rules (ref para 2-6c(2)) are followed.

4 Keywords need not be in any specific position, but each one must be separated by a comma.

5 Each keyword has a two character abbreviation as indicated in the ensuing keyword discussion.

6 The first 115 jobs defined to the simulator will be scheduled; any others will be eliminated from the scheduling period and a corresponding message will be generated.

7 Duplicate keywords for APPLNAME and JOBNAME are allowed and DYNAMAT will treat their contents as an add-on for the scheduling period.

8 An asterisk (*) preceding a specific jobname or application name being defined to the simulator will assign the highest priority available (2) to that job or all the jobs within the specified application.

9 A slash (/) followed by a four digit time from (0000 through 2400), following a jobname or application name places an early start time constraint on that job or all jobs within the specified application. This time allows a 23 hour 59 minute look-ahead and indicates when the particular job(s) are to be first considered for scheduling.

10 All keywords are optional with the exception that at least one job must be input to the simulator for scheduling by either the APPLNAME or JOBNAME keyword.

(b) Keywords input to DYNASIM

Keyword	Description
{APPLNAME AM} =	Each application mnemonic being defined to the simulator; must match the application mnemonic defined in the application segment of the Master Data Base (ref para 2-3b); must be inclosed in parentheses, even if only one application is input.
{JOBNAME JM} =	Each jobname being defined to the simulator that is not in a unique functional application, or is the only job of many within an application that is to be scheduled, or is the only job within an application already defined by APPLNAME which the user will assign a priority or an early start time; must match the job name as defined in the job matrix segment of the Master Data Base (ref para 2-3a); must be inclosed in parenthesis, even if only one job is input.
{INIT IN} =	The number of initiators defined to the simulator for use during this simulation; used only within the simulator; must be one numeric digit from 1 through 8; default assignment is eight indicators.
{STRTIME ST} =	The time of day representing the starting time for the simulator during this simulation; must be one to four digits from 0000 through 2400; default assignment is the current time of day.
{INTERVAL IT} =	The time increment in minutes to be used during the simulation; must be one or two digits from 1 through 60; default assignment is three minutes.

Keyword	Description
MESSAGE = MS	A message that will appear on a JIM report in the upper right corner; replaced each time a DYNARUN or DYNAFLY function is executed; can be used for cycle identification; default assignment is blanks.

d. DYNARUN. The control card and data card(s) are exactly the same as those mentioned for DYNASIM (ref para 2-7c). The only exception is that the Running Matrix is physically created and processing is automatically started.

e. DYNARPT.

(1) Control card.

cc 1-3	OPERATION	OPERAND
./b̸	REPORT	MATRIX
		APPL
		FILES
		RESOURCES
		ALL
		XMATRIX
		XAPPLJOB
		XAPPLDEP
		FILEMODE

(2) Data card(s). No data cards are permitted as input to this function.

(3) Conventions.

(a) The operand must be on the REPORT control card.

(b) No continuation cards are accepted.

(c) Only one operand may be specified per REPORT control card.

(d) Multiple REPORT control cards are acceptable into DYNAMAT.

(e) If the operands MATRIX (or ALL) and XMATRIX are input during the same execution, then the sequence of input will determine which job matrix report will be generated.

(4) Report operand definitions.

(a) MATRIX--generates a report of the job matrix segment in job number sequence; a sample of this report can be found in figure A-1.

(b) APPL--generates a double cross-reference of application volume to application mnemonic (sample report in figure A-3), and application mnemonic to application volume (sample report in fig A-4).

(c) FILES--generates a double cross-reference of file number to file mnemonic and file mnemonic to file number; a sample of this report can be found in figure A-5.

(d) RESOURCES--generates a report showing the system resources available for simulation (core and devices) and the double cross-reference listing as generated by the FILES report operand; a sample of this report can be found in figure A-5.

(e) ALL--generates all reports as mentioned for the MATRIX,APPL, and RESOURCES report operands in one report.

(f) XMATRIX--generates a report of the job matrix segment in job name sequence; a sample of this report can be found in figure A-2.

(g) XAPPLJOB--generates, in application mnemonics sequence, a cross-reference of all jobs within each application; a sample of this report can be found in figure A-7.

(h) XAPPLDEP--generates, in job within application sequence, a breakout of the inter and intra application job dependencies; a sample of this report can be found in figure A-8.

(i) FILEMODE--generates, in file mnemonic sequence, a report of all jobs using that file and a breakout of the mode used (reference or update); a sample of this report can be found in figure A-9.

f. DYNACHK.

(1) Control card.

cc 1-3	OPERATION	OPERAND
./b̸	FLY	ADD DELETE

(2) Sequence of processing.

(a) Any job that has started and ended normally will be posted to the Master Data Base.

1 Any job that has previously ABENDED will not be posted.

2 Any job that has ended, according to the Running Matrix, but was initiated outside of DYNAMAT will be bypassed for posting.

3 Any job that was a TMOD ADD to the Running Matrix will be bypassed for posting.

(b) The following jobs will be deleted from the Running Matrix:

1 Any job that has started and ended normally, including any job that has previously ABENDED but has now completed normally.

2 Any job that has ended, but was initiated outside of DYNAMAT.

(c) All remaining jobs on the Running Matrix are flagged as input for the simulator and scheduling algorithm.

(d) The input data set (SYSIN) is read.

(e) All TMOD's are processed.

(f) All FLY DELETE's are processed.

(g) All FLY ADD's are processed.

(h) The simulator is activated.

(i) No Running Matrix or Master Data Base rewrites (updates) are accomplished.

(3) Data card(s).

(a) Conventions.

1 Conventions previously mentioned for the DYNASIM function (ref 2-7c(2)(a)) apply for this function.

2 Applications and/or jobs may be deleted and/or added to the Running Matrix (RMATRIX).

(b) Keywords input to DYNACHK.

Keyword	Description
APPLNAME AM =	Each application mnemonic being defined to DYNACHK for either addition or deletion on the Running Matrix, depending on the operands ADD or DELETE; must match the application mnemonic defined in the application segment of the Master Data Base (ref para 2-3b); must be inclosed in parentheses, even if only one application is input.
JOBNAME JM =	Each jobname being defined to DYNACHK for either addition or deletion on the Running Matrix, depending on the operands ADD or DELETE, that is not in a unique functional application, or is the only job of many within an application for which action is to be taken, or is the only job within an application already defined by APPLNAME for which the user will assign a priority or an early start time (for an ADD only); must match the jobname as defined in the job matrix segment of the Master Data Base for an existing entry or match the Running Matrix jobname if the job was temporarily added; must be inclosed in parentheses, even if only one job is input.
MESSAGE MS =	Same as defined in para 2-7c(2)(b) for this keyword.

g. DYNAFLY. The control cards and data card(s) are exactly the same as those mentioned for DYNACHK (ref para 2-7f). The only exception is in the sequence of processing (ref para 2-7f(2)(i)) in that the Running Matrix and the Master Data Base are physically updated (rewritten).

2-8. Special processing utilities/options. a. Compare utility. This utility will allow the user to compare any two Master Data Bases. The output will indicate only those changes encountered by the utility. A sample of this output report is in figure A-16. The JCL required to execute this utility follows:

```
//stepname EXEC DYNACOMP,MASTER1=mmatrix1,MASTER2=mmatrix2
```

where mmatrix1 = DSN of any Master Data Base
mmatrix2 = DSN of any Master Data Base

b. Infinite dependency set-up. This option is available when the situation occurs in which more than 12 dependencies are required for one job. Note that the dummy jobs are not scheduled and are a permanent entry in the Master Data Base.

(1) Technique.

(a) Establish dummy jobs in the job matrix segment; enough to contain all those dependencies required (should indicate the no-back-off option) for the job in question.

(b) Create dependencies for the job in question pointing to the dummy jobs (should indicate the back-off option).

(2) Example. In this example, JOBA will effectively have 30 dependent jobs. If any of those 30 dependent jobs are scheduled in this scheduling time frame, JOBA will run only after they complete.

JOB MATRIX SEGMENT

JOBNUM	JOBNAME	APPLNO	DEPENDENCIES
100	JOBA	427	801,802,803
801	DUMMY1	600	-10,-11,-12,-13,-14,-15,-16,
802	DUMMY2	600	-301,-302,-303,-304,-305, -401,-402,-403,-404,-405
803	DUMMY3	600	-511,-512,-513,-514,-515, -516,-517,-518,-519,-520

c. Zero out statistic fields. This option is available for zeroing out the statistic fields (RECENT RUN DATE, RECENT RUN TIME, AVERAGE RUN TIME, and TIMES RUN) in the Master Data Base. This should only be used to re-initialize these fields prior to the first DYNAMAT run. This option may be done on a TMOD or PMOD basis.

(1) TMOD zero statistic fields JCL.

```
//stepname  EXEC DYNAUPDP,ACTION=TZERO
```

(2) PMOD zero statistic fields JCL.

```
//stepname  EXEC DYNAUPDP,ACTION=PZERO
```

2-9 Coding examples. a. Building a Master Data Base.

```
//stepname  EXEC  DYNABLDP,MDISP=OLD
./  BUILD MATRIX
    data cards as described in para 2-7a(2)(b)1.
          .
          .
          .
./  BUILD APPL
    data cards as described in para 2-7a(2)(b)2.
          .
          .
          .
./  BUILD FILES
    data cards as described in para 2-7a(2)(b)3.
          .
          .
          .
./  BUILD DEVICES
TAPE9=22,TAPE7=02,PRINT=3,PUNCH=1,DISK=48
./  BUILD INST
    data cards as described in para 2-7a(2)(b)6.
          .
          .
          .
./  BUILD CORE
1000,A02
```

b. Updating segments in the Master Data Base.

```
                                                                      cc
//stepname  EXEC  DYNAUPDP                                            72
./. PMOD MATRIX
  AC=ADD,JN=825,JM=NEWJOB,AN=600,                                     X
               DP=(NONE),CR=76,T9=4
  AC=CHANGE,JN=10,DP=(-723,265,11),T9=4
  AC=DELETE,JN=101,JM=OLDJOB
./  PMOD  APPL
  AC=ADD,AN=600,AM=NEWAPPL
  AC=CHANGE,AN=524,AM=CHGAPPL
  AC=DELETE,AN=427,AM=OLDAPPL
./  PMOD  FILES
  AC=ADD,FN=60,FM=FILEX,PK=2
  AC=CHANGE,FN=3,PK=14
  AC=DELETE,FN=4,FN=FILEY
./  PMOD  CORE
  AC=CHANGE,CR=1000
```

c. Simulating an environment.

```
//stepname  EXEC  DYNASIMP                                      cc
./        RUN                                                   72
      AM=(BILLING,*PAYROLL,ACCTREC),                            X
          JM=(*NEWJOB/1400),                                    X
          ST=1200,IN=4,IT=5,                                    X
          MS=TESTRUN
./        TMOD  MATRIX
      AC=ADD,JN=845,JM=NEWJOB,AN=600,                           X
              DP=(-4,6,725),CR=60,T9=1
      AC=CHANGE,JN=6,CR=142
```

d. On-the-fly updating.

```
//stepname  EXEC DYNAFLYP
./    FLY  ADD
      AM=(*APPL1,APPL2/1600),JM=(JOB1),
          MS=FLYTEST1
./      TMOD  MATRIX
      AC=CHANGE,JN=623,DP=(14,-15,103)
      AC=CHANGE,JN=625,FN=(-4,5,-6)
      AC=CHANGE,JN=342,CP=2
      AC=CHANGE,JN=403,RM=CLEAR
      AC=CHANGE,JN=275,ES=1730
./    FLY  DELETE
      AM=(APPL3),JM=(JOB2)
```

e. Reporting.

```
//stepname  EXEC DYNARPTP
./  REPORT  XMATRIX
./  REPORT  FILEMODE
```

CHAPTER 3

JOB INITIATOR AND MONITOR (JIM)

3-1. Concept. a. The Job Initiator and Monitor (JIM) is designed to automatically control the execution of given jobs within a specified scheduling period. This control is achieved by means of a Running Matrix which defines all jobs to be run, the characteristics of each job (e.g., files used, devices required, core required,...), and the dependencies or relationships of those jobs with each other. All of these factors along with available system resources (e.g., core, initiators, and devices) as they exist at that point in time are passed through the scheduling algorithm to effect an optimum system environment.

b. The available system resources are discovered by JIM through a scan of the computer system at each point in time that scheduling/controlling occurs. The system resources that are defined in the Master Data Base are not used by JIM as the scan of the computer system provides an exact picture at that instant.

c. Everything to be processed on the computer system need not be within the Master Data Base (and consequently in the Running Matrix). Since JIM recognizes resources in use throughout the total computer system, it is aware of any resources being used by a job not under its control. JIM will continue to optimize any jobs under its control and schedule these jobs accordingly based on total resource utilization within the system.

d. When JIM releases a job it is a certainty that the job will begin execution, due to the system resource scan. This is quite relevant in that no stacking of jobs in the job queue will occur. If stacking would occur, it would, in effect, deoptimize anything that JIM would have optimized. This no-stacking concept will effect better throughput and, hence, more effective use of the computer system.

3-2. General. There are several functions unique to JIM processing available to the user to monitor and/or initiate action upon the system. These functions do not directly modify any data base (as DYNAMAT is the only means of update). These functions include:

a. Obtaining status (JIMREPT).

b. System environment scan (JIMENV).

c. Job restart (JIMREST).

d. System termination (JIMTERM).

e. System restart (JIMRUN).

f. Posting statistics (JIMPOST).

g. Simulation of current workload (JIMSIM).

h. Posting job completion (JIMEND).

i. System scan (JIMSCAN).

3-3. Running Matrix. a. The Running Matrix is the data set that JIM uses for scheduling/controlling the system environment.

b. The Running Matrix can be created and/or modified only by the DYNAMAT program. This forced interaction with DYNAMAT will insure the integrity of the Master Data Base and the Running Matrix and, hence, the total system, as DYNAMAT has the ability, via several levels of intercept, to encounter possible error conditions prior to their application to the Running Matrix.

c. Figure D-1 depicts the elements used by JIM in scheduling/controlling the system. A definition of each element follows:

(1) MAT NUM--The Running Matrix job number; the relative position within the Running Matrix of a job under DSECS control (max 115).

(2) P--The priority (i.e., 0 or 1 or 2) of the job relative to DSECS.

(3) JOB NUM--The Master Data Base job number; corresponds to the relative position of the job within the Master Data Base.

(4) JOB NAME--The name of the job under DSECS control.

(5) SRT--indicates whether the job has started (i.e., posted with an S.

(6) END--indicates whether the job has ended (i.e., posted with an E.

(7) ABN--indicates whether the job has ended abnormally (i.e., posted with an A.

(8) JDAY--The Julian day that the job started.

(9) START TIME--The time of day that the job started.

(10) STOP TIME--The time of day that the job ended or ABENDED.

(11) ELAPSED TIME--The total processing time of a job, includes accumulated time of a job if ABENDED, restarted, and ended (or ABENDED again).

(12) EST--The early start time of a job; that time that a job may be first considered for scheduling.

(13) AB--The number of times that a job ABENDED contains P if a job has been posted.

(14) DEPENDENT JOB NUMBERS--The data and/or functional constraints of a job, extrapolated from the Master Data Base, in terms of the Running Matrix job numbers.

3-4. Execution by function. a. General. The execution of the various functions under JIM is done via cataloged procedures (PROCS) as shown in appendix E. Each function has an associated cataloged procedure. The catalog procedure naming convention is the function name with the letter P appended to it. The symbolic parameters, as depicted in appendix E, are assigned the default values to be used in the production environment, therefore need not be repeated in the execution job control language (JCL). The only symbolic parameters required at execution time are those mentioned in the following narrative.

b. Execution options. Each of the PROCS associated with JIM processing can be initiated into the system in any of three methods.

(1) Via an EXEC card (e.g. // EXEC procname).

(2) Via the system reader (e.g. // S procname).

(3) Via the system console (e.g. S procname).

c. JIM functions. Following is each of the functions under JIM, the definition and performing characteristics of each function, and the JCL required to execute each function. For the purpose of simplification, the only method of execution JCL shown will be via the EXEC card, however, note that any of the three methods mentioned previously (para 3-4b) can be used.

(1) JIMREPT--obtains current status of the Running Matrix; can be run at any point in time; does not modify either data base; figure D-1 illustrates this output report.

Execution JCL.
```
//stepname EXEC JIMREPTP
```

(2) JIMENV--obtains current status of the system environment as it pertains to core, disks, tapes, printers, punches, and initiators; can be run at any point in time; does not modify either data base; figure D-4 illustrates this output report.

Execution JCL.
```
//stepname EXEC JIMENVP
```

(3) JIMREST--used to restart a job that previously has abnormally terminated; clears out the SRT,END, and ABN flags and the START TIME and STOP TIME fields; eliminates job flush postings (F) for jobs dependent on the ABENDED job; initiates a scan of the Running Matrix (ref JIMSCAN function para 3-4c(9)) to determine optimum job(s) to release to the system; figure D-6 illustrates this output report.

Execution JCL.
```
//stepname EXEC JIMRESTP,JOBNUM=xxx
```

Where xxx = The master matrix job number of the job to be restarted.

(4) JIMTERM--used to quiesce the system; inhibits the releasing of jobs under DSECS control; must be used if DSECS is active; system can be re-initiated only via JIMRUN function.

Execution JCL.
```
//stepname EXEC JIMTERMP
```

(5) JIMRUN--used to re-initiate the DSECS following the execution of the JIMTERM function; will remove the job release inhibitor and initiate a scan of the Running Matrix (ref JIMSCAN function para 3-4c(9)); figure D-6 illustrates this output report.

Execution JCL.
```
//stepname EXEC JIMRUNP
```

(6) JIMPOST--forces statistic postings from the Running Matrix to the Master Data Base for any job that has gone through a normal completion; posts date and time, re-computes new average time, maintains number of times a job ran; new statistics will be available on any subsequent DYNAMAT Master Data Base report (including % of time variance of this run as compared to the preceding average time); if a job had previously ABENDED (but is EOJ now) or was initiated outside of DYNAMAT, an exception message is generated, but no statistics are posted; figure D-4 illustrates this output report.

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Execution JCL.

```
//stepname JIMPOSTP
```

(7) JIMSIM--creates simulation of currently running jobs and any subsequent jobs to be processed in scheduling period as defined on the Running Matrix; figure A-13 illustrates this output report.

Execution JCL.

```
//stepname EXEC JIMSIMP
```

(8) JIMEND--posts whether job has ended normally (i.e., E) or abnormally (i.e., A); job is considered to have ended normally if the system completion code equals zero and the user completion code is less than 500; if the job is terminating abnormally any dependent job is posted with a flush (i.e., F) indicating that it is not releasable by JIM until the abended job is restarted and completes normally; after the posting occurs, JIM initiates a scan of the Running Matrix (ref JIMSCAN function para 3-4c(9)) to determine optimum job(s) to release to the system; if all jobs have gone to normal end of job the JIMPOST function is automatically initiated (ref para 3-4c(6); must be placed as last jobstep in job; figure D-6 illustrates this output report.

(9) JIMSCAN--initiates a scan of the Running Matrix to determine optimum job(s) to be released; information pertaining to tracking performance of the Running Matrix relative to actions taken by the JIMSCAN function are output (e.g., job released or job not released and reason); can be run at any point in time; figure D-3 illustrates this output report.

Execution JCL.

```
//stepname EXEC JIMSCANP
```

3-5. Special processing options. The following unique processing options should be used only for the situations for which they are intended.

a. JIMUPD--permits Running Matrix updates via TMOD CHANGE input cards (ref DYNAUPD para 2-7b). This function will modify fields on the Running Matrix directly, bypassing any interface with DYNAMAT. To maintain the DYNAMAT interface, use the function DYNAFLY (ref para 2-7g).

WARNING. This function does not invoke the DYNAMAT interface; therefore, the dependency optimizer is bypassed. The user executes this function at his own risk.

b. Priority modification--used to modify priority of job existing on Running Matrix; should be used only in exceptional situations; should use DYNAFLY function (ref para 2-7g); no verification other than initial editing is performed.

Execution JCL.

```
//stepname EXEC JIMREPTP,PARAM=Pxxxy
```

where xxx = Running Matrix job number
y = priority modification (0,1, or 2)

c. Current file and ABEND status--used to obtain current status of files in the system (i.e., files used, number of users for each file, mode of file); generated following a normal JIM report; can be run at any point in time; figure D-2 illustrates this output report.

Execution JCL.

```
//stepname EXEC JIMREPTP,PARAM=A
```

d. Hexadecimal print of job entry--used to obtain a hexadecimal print of a job entry on the Running Matrix; generated following a normal JIM report; used in problem resolution; can be run at any point in time; figure D-3 illustrates this output report.

Execution JCL.

```
//stepname EXEC JIMREPTP,PARAM=Hxxx
```

where xxx = Running Matrix job number

e. Binary job entry replacement--used to replace one binary coded job entry in the Running Matrix; used in problem resolution; can be run at any point in time; should be run only with developer assistance.

Execution JCL.

```
//stepname EXEC JIMOLDUP,JOBNUM=xxx
//SYSIN DD *
 data card
```

where xxx = Running Matrix job number

data card = binary coded job entry

f. Clear out Running Matrix--used to clear job status, job start and end times, job elapsed time, job start date, job ABEND code for entire Running Matrix; also will zero out file count and blank out the file usage status for the Running Matrix; used in testing and recurring production situations; should be used cautiously.

```
Execution JCL.
//stepname EXEC JIMSCANP,
//              PARM='MATRIX,AA3JIMND,X000'
```

3-6. Operational considerations. a. Required when DSECS is active. There are two specific instructions which must be adhered to for the efficient operation of JIM.

(1) If the computer system is to be quiesced, always use the JIMTERM function of JIM as opposed to computer operator commands to the computer system. This will prohibit the releasing of jobs to the system by JIM, thus causing the system to dry up.

(2) When starting any initiator through the console, always include class A as one of the classes (e.g., S INIT,CLASS=AB).

b. Special conditions.

(1) Releasing a job in the running matrix manually--When the JIMEND function is processed, the running matrix will reflect an E with no S flag and a zero end time and elapsed time; will not inhibit releasing of dependent jobs; will not be posted via JIMPOST function to master matrix.

(2) Modification of normal completion codes--The JIMEND catalogued procedure is internally condition coded, so that user completion codes of greater than 499 are considered to be abnormal. In the event that this requires modification, it could be handled in one of two ways.

(a) PROC modification--if all jobs within the data base are equally affected, the catalogued procedure should be modified accordingly.

(b) PROC overrides--if selected jobs are affected, the JCL required to override must be as follows:

```
//stepname EXEC JIMENDP,COND.END=(xxx....)
```

where xxx = proper condition codes that reflect event in which you want JIM to post an ABEND to the running matrix.

3-7. Standard processing data. a. General. Unique application matrixes are used to allow all jobs within a given application run to process with the same date. These matrixes are updated by executing the procedure JIMCLEAR prior to starting the application.

b. JCL required. The following JCL is required to execute the procedure.

```
//stepname  EXEC  JIMCLEAR,MATRIX=application name,
                  TYPE= { CONS } [,DATE=nnnnn]
                        { PARM }
```

(1) MATRIX--This symbolic defines the matrix data set name which is the application name.

(2) TYPE--This symbolic defines the source of the standard processing date. The default value CONS causes the program to interrogate the operator for the standard processing date. The value PARM indicates that the date is defined in the PARM field.

(3) DATE--This is the actual date to be used in five digit Julian format. If not coded but TYPE=PARM, the current date is used.

c. Console messages.

(1) Informational messages.

(a) AA5JIMJR-03I CUT-OFF DATE NNNNN FAILED EDIT

Issued when date from either the operator or the parm field fails an edit. The program will go to operator for another date.

(b) AA5JIMJR-04I CUT-OFF DATE FOR APPLICATION xxxxxxxx is NNNNN

{ FROM PARM FIELD }
{ *CURRENT DATE* }

Self explanatory.

(c) AA5JIMJR-05I PARM FIELD INVALID CONS ASSUMED

The PARM field has been incorrectly coded; the program goes to the operator for a date.

(d) AA5JIMJR-06I **** APPLICATION xxxxxxxx STARTING ****

Self explanatory.

(2) Messages requiring operator replies.

(a) AA5JIMJR-01R PLEASE ENTER THE 5-POSITION ORDINAL CUT-OFF DATE FOR APPLICATION xxxxxxxx

The operator must reply with a five position date.

(b) AA5JIMJR-02R CUT-OFF DATE ENTERED FOR APPLICATION xxxxxxxx WAS NNNN (xxxxxxxxxxx), IS THAT OKAY, Y OR N.

This is a verification message. The operator must reply Y or N. If the reply is N,the message 2(a) above is reissued.

CHAPTER 4

METHOD FOR SCHEDULED UPDATING OF THE MASTER DATA BASE

4-1. General. This chapter deals with the scheduled updating procedures for the Master Data Base for a central installation to use in disseminating modifications to user installations. The procedures outlined reflect the suggested method for dissemination to enable the user to efficiently and accurately make the modifications necessary to upgrade their Master Data Base.

4-2. Central installation requirements. The central installation will create a 9-track tape for each user. The created tape will contain three data sets. Figure G-1 illustrates a sample JCL stream to perform this option.

a. Label 1. The DSN will be JCLrrrr (where rrrr = the new release number). This data set will contain JCL as follows:

(1) Comments. These comments will inform the user of:

(a) The individual that should receive this JCL.

(b) The contents of the execution JCL (i.e., what each step will do.

(c) Any modifications to be made that are user dependent.

(d) Any actions to be taken after executing the following JCL.

(e) The contents of the 9-track tape being used.

(2) Executable jobstep. This is to assist the user in maintenance of the Master Data Base as follows:

(a) Scratch and uncatalog the DSN for the deliverable Master Data Base (DYNArrrr where rrrr = the new release number).

(b) Put the new deliverable Master Data Base (DYNArrrr where rrrr = the new release) on a user pack.

(c) Compare the new deliverable Master Data Base (DYNArrrr where rrrr = the new release) to the user's existing production Master Data Base (DYNABASE), using the DYNACOMP cataloged procedure.

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b. Label 2. The DSN will be DYNArrrr (where rrrr = the new release number). This data set is the new deliverable Master Data Base.

c. Label 3. The DSN will be CHGrrrr (where rrrr = the new release number). This data set contains the DYNAUPD input control cards that were used to update the new deliverable Master Data Base from the previously delivered Master Data Base.

4-3. User installation requirements. Each user, upon receipt of the 9-track tape, will perform the following:

a. Punch out the JCL from label 1 of the 9-track tape.

b. Make any modification to the JCL punched from label 1 required for processing at their installation.

c. Execute the JCL punched out from Label 1.

d. Analyze the output.

e. Prepare the DYNAUPD modifications necessary for updating the production Master Data Base (DYNABASE), using, if appropriate, the changes provided in label 3 of the 9-track tape. The user must be aware of any user-unique modifications previously made to the Master Data Base and apply any new changes accordingly.

```
LEGEND --- * = ESTABLISHED BY BUILD              **  D Y N A M A T  **
          ** = MODIFIED BY UPDATE
                                                MATRIX REPORT BY JOBNUM

             MASTER MATRIX = SAMPLE             RUNNING MATRIX = NULLFILE     GENERATED BY REQUESTOR

             INSTALLATION = ANY USER            DATE OF REPORT OCT 13 1974

  JOB      JOB   CRITICAL VOLUME  CORE     FUNCTIONAL JOB        MASTER FILE    DEVICES   REQUIRED   RECENT  RUN  AVERAGE  TIMES  % TIME
 NUMBER    NAME    PATH   NUMBER  SIZE      DEPENDENCIES         UTILIZATION   *TP9 TP7 PRT PCH*  *DATE TIME*  RUN TIME  RUN  VARIANCE

     2   D02A       YES    403    220K  701                    IFACP-R            3   0   0   0    0000    0       26      1      0
    10   201A       YES    402    250K  2,*400*,704,*744*,     IFAHF-R,MFAHF-U,   9   0   0   0    0000    0       26      1      0
                                        *755*                  IFFSN-R,IFRHL-R,
                                                               IFSAD-R,IFTRI-U
    11   201B       YES    402    110K  10                      NONE              2   0   0   0    0000    0        5      1      0
    12   201C       YES    402    450K  10,*364*               IFAMF-U,MFAHF-U,   2   0   0   0    0000    0       70      1      0
                                                               IFFSN-U,MFFSN-U,
                                                               IFRAH-U,MFRAH-U,
                                                               IFTRI-R
    13   201D       YES    402    467K  11,12                  IFAHF-R,MFAHF-U,   2   0   0   0    0000    0       86      1      0
                                                               IFFSN-R,MFFSN-U,
                                                               IFRAH-U,MFRAH-U,
                                                               IFTRI-R
    14   201E       YES    402    376K  13                     MFRAH-R,IFRAH-R,  11   0   0   0    0000    0       31      1      0
                                                               IFTRI-R
    15   201F       NO     402    138K  13                      NONE              6   0   0   0    0000    0       16      1      0
    16   201H       NO     402    188K  13                     IFFSN-R,MFFSN-R    4   0   0   0    0000    0       35      1      0
    20   ITERACTE   NO     402     54K  *14*,*15*,*16*          NONE              0   0   0   0    0000    0        1      1      0
    21   2210TRI    NO     600     54K  2                      IFTRI-U            0   0   0   0    0000    0        0    · 0      0
   100   D35A       YES    404    250K  *12*,722,723,*746*     IFAHF-R,MFAHF-R,   6   0   0   0    0000    0      135      1      0
                                                               IFFSN-R,MFFSN-R,
                                                               IFSAD-R,IFFFC-U,
                                                               MFFFC-U,IFMAD-R,
                                                               MFMAD-U
   101   D26A       YES    405    410K  153                    IFFSN-R,IFSAD-R,   6   0   0   0    0000    0       64      1      0
                                                               IFMAD-R,MFMAD-R
   102   D26C       NO     405    400K  101                     NONE              3   0   0   0    0000    0        1      1      0
   103   D27A       NO     405    174K  101                    MFMAD-R,IFMAD-R,   1   0   0   0    0000    0       19      1      0
                                                               MFFSN-R,IFFSN-R,
                                                               MFSAD-R,IFSAD-R
   104   D27B       YES    405    128K  101                    MFMAD-U,IFMAD-U    1   0   0   0    0000    0        8      1      0
   105   D26B       NO     405    200K  101                     NONE              3   0   0   0    0000    0       13      1      0
   106   D38A       YES    405    284K  101,*364*,*400*        IFAMF-U,MFAHF-U,   4   0   0   0    0000    0       42      1      0
                                                               IFFSN-U,MFFSN-U,
                                                               IFRAH-U,MFRAH-U,
                                                               IFTRI-R,IFMAD-R,
                                                               MFMAD-R
   108   D70A       YES    406     54K  14,106,*400*            NONE              0   0   0   0    0000    0       26      1      0
   110   D72A       YES    406    140K  108                    MFFAD-U,IFFAD-U    1   0   0   0    0000    0       20      1      0
   111   D70B       YES    406    380K  155,490                IFFFC-U,MFFFC-U,   2   0   0   0    0000    0       51      1      0
                                                               FMU-U,IFFSF-U
   113   D72B       YES    406    360K  110,111                IFFAD-U,MFFAD-U,   5   0   0   0    0000    0      103      1      0
                                                               IFFFC-U,MFFFC-U,
                                                               MMU-R,IFFSF-U
```

Figure A-1. Matrix report by JOBNUM.

```
LEGEND --- * = ESTABLISHED BY BUILD               ** D Y N A M A T **
          ** = MODIFIED BY UPDATE
                                              MATRIX REPORT BY JOBNAME

                 MASTER MATRIX = SAMPLE         RUNNING MATRIX = NULLFILE    GENERATED BY REQUESTOR

                 INSTALLATION = ANY USER        DATE OF REPORT OCT 13 1974

   JOB      JOB   CRITICAL VOLUME  CORE    FUNCTIONAL JOB        MASTER FILE      DEVICES  REQUIRED   RECENT  RUN   AVERAGE  TIMES  % TIME
   NAME    NUMBER   PATH   NUMBER  SIZE     DEPENDENCIES         UTILIZATION     *TP9 TP7  PRT PCH*  *DATE TIME*  RUN TIME  RUN  VARIANCE

 ARCSTPE    780     NJ      472     54K  *D83F*,*D83G*,          NONE              0    0    0   0      0000   0        1       1       0
                                         *D83D*
 AUTODSP1   781     NJ      600     54K  *Z01E*,*D26B*,          NONE              0    0    0   0      0000   0        0       0       0
                                         *D72A*,*D35B*,
                                         *D04A*,*M21A*
 AUTODSP2   782     NJ      600     54K  *A490*,*M19D*,          NONE              0    0    0   0      0000   0        0       0       0
                                         *M19E*,*D18A*,
                                         *D83G*,*W22A*,
                                         *D93F*
 A01A       600     NJ      443    130K  *D17B*,*M26A*       MFFSN-U,IFFSN-U       8    0    0   0      0000   0      147       1       0
 A02        607     NJ      445    116K  *SCSREVE*,*M03A*    MFPDF-U,IFPDF-U       0    0    0   0      0000   0        7       1       0
 A444       601     NJ      444     54K  *A02*                   NONE              0    0    0   0      0000   0        0       0       0
 A463       353     NJ      463     54K  *W08E*,*W07B*           NONE              0    0    0   0      0000   0        2       1       0
 A477       520     NJ      477    190K  Q01A01,*W04A*,      IFMMD-R,MFMMD-R       9    0    0   0      0000   0        0       0       0
                                         Q01A02,Q01A03
 A479       583     NJ      479     54K  D02A,*D04A*,            NONE              0    0    0   0      0000   0        0       0       0
                                         *W02A*,*M26A*,
                                         *W08H*
 A480       621     NJ      480     54K  D02A,*D04A*,            NONE              0    0    0   0      0000   0        0       0       0
                                         *W02A*,*M26A*
 A490       490     NJ      490     98K   NONE               IFFFC-R,MFFFC-R,      1    1    0   0      0000   0        0       0       0
                                                             FMU-R
 A499       743     NJ      499    180K  *M26A*              IFFSN-U,MFFSN-U       0    0    0   0      0000   0        6       1       0
 A505       457     NJ      505    130K   NONE               IFFSN-R,MFFSN-R       8    1    0   0      0000   0        0       0       0
 A508       326     NJ      508    214K  Q01A01,Q01A02,          NONE              6    0    0   0      0000   0      113       1       0
                                         Q01A03,D30A
 A509       755     NJ      509    310K  D02A,*M26A*         IFFSN-R,MFFSN-R,      4    0    0   0      0000   0        0       0       0
                                                             IFT&I-R
 A510       130     NJ      510    200K  *Z01A*,*Z01E*,      IFFSN-R,MFFSN-U       2    0    0   0      0000   0        7       1       0
                                         *D38A*,*M26A*,
                                         *D02A*
 A512       629     NJ      512    104K   NONE                   NONE              1    0    0   0      0000   0        0       0       0
 A513       632     NJ      513     54K  *M26A*,*Q1EB*           NONE              0    0    0   0      0000   0        0       0       0
 A516       131     NJ      516    150K  D02A,*M26A*         IFFSN-U,MFFSN-U       1    0    0   0      0000   0        0       0       0
 A521       651     NJ      521     54K   NONE                   NONE              0    0    0   0      0000   0        0       0       0
 A522       627     NJ      522     54K  A505                    NONE              2    0    0   0      0000   0        0       0       0
 A526       776     NJ      526    100K  *W08H*,*M26A*       IFAMF-U,MFAMF-U       2    0    0   0      0000   0        0       0       0
 A535       777     NJ      535    110K  *W03A*,*M26A*       IFFSN-R,MFFSN-U       1    0    0   0      0000   0        0       0       0
 A537       491     NJ      537    170K  *D02A*,*D24A*           NONE              4    0    0   0      0000   0        0       0       0
 A539       660     NJ      539    280K  *D26A*,*D38A*       IFMAD-R,MFMAD-R       3    0    0   0      0000   0        0       0       0
 A555       332     NJ      555    260K  *Z01A*,*Z01C*,          NONE              9    0    0   0      0000   0        0       0       0
                                         *Z01D*,*D38A*,
                                         *D17B*,*D07A*,
                                         *M26A*,*M19C*,
```

Figure A-2. Matrix report by JOBNAME.

```
LEGEND --- * = ESTABLISHED BY BUILD                ** D Y N A M A T **
          ** = MODIFIED BY UPDATE
                                                                                          PAGE 1 OF 2
                                          ****************************
                                          *                          *
                                          * A P P L I C A T I O N    *
            MASTER MATRIX = SAMPLE        *                          *            DATE OF REPORT OCT 13 1974
                                          * CROSS REFERENCE LISTING  *
                                          *                          *
              INSTALLATION = ANY USER     ****************************               GENERATED BY REQUESTOR

                                   ***************************************************
                                   *                                                 *
                                   * APPLICATION VOLUME TO APPLICATION MNEMONIC      *
                                   *                                                 *
                                   ***************************************************

VOL MNEMONIC     VOL MNEMONIC     VCL MNEMONIC     VOL MNEMONIC     VOL MNEMONIC     VOL MNEMONIC     VOL MNEMONIC     VOL MNEMONIC

401  UNUSED      426  UNUSED      451 FSNKEY       476  UNUSED      501 SKCLSRV      526 QTRSIM       551  UNUSED      576  UNUSED
402 ITEMACT      427 MTHPRO       452 FSNNKEY      477 GROSS        502  UNUSED      527  UNUSED      552  UNUSED      577  UNUSED
403 HEARTNC      428 AUTODIS      453 PROVED       478 PDIBALA      503 FININV       528  UNUSED      553  UNUSED      578 PDIBALB
404 REQCTL       429 PJSTAWD      454 FIAUPRG      479 MABSIMS      504 FINCOM       529  UNUSED      554  UNUSED      579  UNUSED
405 CCSSMIL      430  UNUSED      455 DMUPCON      480 QABSIMS      505 INTRVIS      530  UNUSED      555 SCSUTUP      580  UNUSED
406 FINFISC      431 FINMCEN      456 DMJPMIC      481 FSNS28       506 FIAMANT      531  UNUSED      556  UNUSED      581  UNUSED
407 STKCTL       432 DMUPMG       457 SADUPDT      482  UNUSED      507  UNUSED      532  UNUSED      557 PSCSUPD      582  UNUSED
408 FIAPHY       433 FINQTRD      458 SCS5YR       483 BSIHDV       508 SMFSNS       533  UNUSED      558  UNUSED      583  UNUSED
409 SMEDIT       434 STDREJP      459 PDFPRT       484 BSILDV       509 PKGSHP       534  UNUSED      559  UNUSED      584  UNUSED
410 AMDFINQ      435 BGRECON      460 RFNMICR      485 BSCHDV       510 DMUPISS      535 SCSACT       560  UNUSED      585  UNUSED
411 CATMANT      436 BGRCONF      461 PMORREV      486 BSCLDV       511 PASS         536 PROVFM       561 MIPSIR       586  UNUSED
412 DMPRL        437 ILSUPPR      462 FSNBUDG      487 BSISTR       512 MOBUPDT      537 DCHRETR      562 SIR          587  UNUSED
413 PEMARS       438 INVSCHD      463 ILCASE       488 BSRSTR       513 MOBRCON      538  UNUSED      563  UNUSED      588  UNUSED
414 SDSDISB      439 INVREPT      464 RHFINQ       489 BSDMDR       514 FARHIST      539 CONWEEK      564  UNUSED      589  UNUSED
415 WKBILL       440 PPBRKDT      465 ILINQ        490 AMCRCON      515  UNUSED      540  UNUSED      565  UNUSED      590  UNUSED
416 PREAWD       441 JCDEXPL      466 FMOUPDT      491 PPINQ        516 TMD          541  UNUSED      566  UNUSED      591  UNUSED
417 MRHSSUR      442 BUDGSTR      467 FFCMANT      492 MRHSINQ      517  UNUSED      542  UNUSED      567  UNUSED      592  UNUSED
418 PRESCSU      443 PHYINV       468 AUTODSP      493 FGLMT        518  UNUSED      543  UNUSED      568  UNUSED      593  UNUSED
419 INVSTRT      444 MOBCOMP      469 DPOPMRO      494 RPSLDRF      519 BOBAL        544  UNUSED      569  UNUSED      594  UNUSED
420 SCSREV       445 ANSLIDE      470 HVSADMT      495 RPSLPRF      520  UNUSED      545  UNUSED      570  UNUSED      595  UNUSED
421 SCSPRT       446 MASSCAN      471  UNUSED      496 RETRVL       521 FADBAL       546  UNUSED      571  UNUSED      596  UNUSED
422 RAHSURV      447 PDFUPDT      472 ARCSIP       497 PEXRSP       522 SIMSPER      547  UNUSED      572  UNUSED      597 BRDGING
423 FSNSURV      448 MMDUPDT      473 FINMOPN      498 ABAMDFU      523  UNUSED      548  UNUSED      573 FINMCLO      598 UNLOADS
424 AMDFUPD      449  UNUSED      474 FINYOPN      499 FSNRFUP      524 BUDEXT       549  UNUSED      574 FINYCLO      599 DUMPS
425 AMDFCHG      450 DCD          475 BASS         500 MRHSMT       525  UNUSED      550  UNUSED      575  UNUSED      600 MISC
```

Figure A-3. Application volume to application mnemonic.

```
LEGEND --- * = ESTABLISHED BY BUILD              ** D Y N A M A T **
          ** = MODIFIED BY UPDATE

                                            ****************************                    PAGE 2 OF 2
                                            *                          *
             MASTER MATRIX = SAMPLE         *  A P P L I C A T I O N   *              DATE OF REPORT OCT 13 1974
                                            *                          *
                                            * CROSS REFERENCE LISTING  *
                                            *                          *
              INSTALLATION = ANY USER       ****************************                GENERATED BY REQUESTOR

                                      ********************************************
                                      *                                          *
                                      * APPLICATION MNEMONIC TO APPLICATION VOLUME *
                                      *                                          *
                                      ********************************************

  MNEMONIC VOL     MNEMONIC VOL     MNEMONIC VOL     MNEMONIC VOL     MNEMONIC VOL     MNEMONIC VOL     MNEMONIC VOL     MNEMONIC VOL

   ABAMDFU 498      BSDMDR   489     DPOPMRD 469      FINYCLO 574      INVSCHD 438      OCDEXPL 441      PRESCSU 418      SCSPRT  421
   AMCRCON 490      BSIHDV   483     DUMPS   599      FINYOPN 474      INVSTRT 419      OROSS   477      PROVED  453      SCSREV  420
   AMDFCHG 425      BSILDV   484     FADBAL  521      FMUUPDT 466      ITEMACT 402      PASS    511      PROVFM  536      SCSUTUP 555
   AMDFINQ 410      BSISTR   487     FARHIST 514      FSNBUDG 452      MABSIMS 479      PDFPRT  459      PSCSUPD 557      SCS5YR  458
   AMDFUPD 424      BSRSTR   488     FFCMANT 467      FSNKEY  451      MASSCAN 446      PDFUPDT 447      QABSIMS 480      SIMSPER 522
   ANSLIDE 445      BUDEXT   524     FBLMT   493      FSNNKEY 452      MIPSIR  561      PDIBALA 478      QTRSIM  526      SIR     562
   ARCSIP  472      BUDGSTR  442     FIAMANT 506      FSNRFUP 499      MISC    600      PDIBALB 578      RAMSURV 422      SKCLSRV 501
   AUTODIS 428      CATMANT  411     FIAPHY  408      FSNSURV 423      MNDUPDT 448      PEMARS  413      REQCTL  404      SMEDIT  409
   AUTODSP 468      CCSSMIL  405     FIAUPRG 454      FSNS28  481      MOBCOMP 444      PEXRSP  497      RETRVL  496      SMFSNS  508
   BASS    475      CONWEEK  539     FINCOM  504      HEARTNC 403      MOBRCON 513      PHYINV  443      RFNMICR 460      STDREJP 434
   BOBAL   519      DCHRETR  537     FINFISC 406      HVSADMT 470      MOBUPDT 512      PKGSHP  509      RMFINQ  464      STKCTL  407
   BORCONF 436      DMPRL    412     FININV  503      ILCASE  463      MRHSINQ 492      PMDRREV 461      RPSLDRF 494      SUSDISB 414
   BORECON 435      DMUPCON  455     FINMCLD 573      ILINQ   465      MRHSMT  500      POSTAWD 429      RPSLPRF 495      TMD     516
   BRDGING 597      DMUPISS  510     FINMGEN 431      ILSUPPR 437      MRHSSUR 417      PPBRKOT 440      SADUPDT 457      UNLOADS 598
   BSCHDV  485      DMUPMIC  456     FINMOPN 473      INTRVIS 505      MTHPRG  427      PPINQ   491      SCSACT  535      WKBILL  415
   BSCLDV  486      DMUPMD   432     FINQTRD 433      INVREPT 439      OCD     450      PREAWD  416

THE FOLLOWING APPLICATION VOLUME NUMBERS ARE UNASSIGNED.

    401,426,430,449,471,476,482,502,507,515,517,518,520,523,525,527,528,529,530,531,532,533,534,538,540,541,542,543,544,545,546,547
    548,549,550,551,552,553,554,556,558,559,560,563,564,565,566,567,568,569,570,571,572,575,576,577,579,580,581,582,583,584,585,586
    587,588,589,590,591,592,593,594,595,596
```

Figure A-4. Application mnemonic to application volume

```
LEGEND --- * = ESTABLISHED BY BUILD                    ** D Y N A M A T **
          ** = MODIFIED BY UPDATE
                                            ************************************
                                            *                                  *                    PAGE 1 OF 1
            MASTER MATRIX - SAMPLE          * S Y S T E M   R E S O U R C E S  *        DATE OF REPORT OCT 13 1974
                                            *                                  *
              INSTALLATION = ANY USER       ************************************           GENERATED BY REQUESTOR

      AVAILABLE CORE --- 1000K         AVAILABLE DEVICES --- DISK = 46, TAPE9 = 22, TAPE7 =  2, PRINTER = 2, PUNCH = 1
                                            DUMMY UCBS --- DISK =  0, TAPE9 =  0, TAPE7 =  0, PRINTER = 0, PUNCH = 0

*************************************************************************************************************************

                                            ************************************
                                            *  C R O S S   R E F E R E N C E   *
                                            *                                  *
                                            *  FILE NUMBER TO FILE MNEMONIC    *
                                            ************************************

  FILE MNEMONIC PACKS       FILE MNEMONIC PACKS       FILE MNEMONIC PACKS       FILE MNEMONIC PACKS       FILE MNEMONIC PACKS

     1    IFAHF     2         13    IFFCT     1         25    IFOCD     0         37    MFSNI     0         49    IFMOB     1
     2    MFAHF     6         14    IFFFC     1         26    MFOCD     3         38    IFSPN     0         50    MFMOB     1
     3    IFFSN     1         15    MFFFC     1         27    IFPDF     1         39    MFSPN     0         51    IFFSF     0
     4    MFFSN    21         16    IFFGL     0         28    MFPDF     1         40    IFACP     1         52    IFFAR     1
     5    IFRAH     1         17    IFFIS     1         29    ZAB       0         41    IFPHA     0         53    MFFAR     3
     6    MFRAH     4         18    MFFIS     2         30    IFEIP     0         42    IGL99     0         54    IFPHR     0
     7    IFRHL     1         19    FMU       0         31    MFEIP     0         43    IFD99     1         55    MFPHR     1
     8    IFSAD     1         20    IFMAD     1         32    IFLPN     0         44    MFD99     2         56    UNUSED
     9    MFSAD     3         21    MFMAD     2         33    MFLPN     0         45    IFC99     1         57    UNUSED
    10    IFTRI     1         22    IFMMD     0         34    IFPMR     1         46    MFC99     1         58    UNUSED
    11    IFFAD     1         23    MFMMD     0         35    MFPMR     9         47    IFS99     1         59    UNUSED
    12    MFFAD     2         24    UNUSED              36    IFSNI     0         48    MFS99     2         60    UNUSED

*************************************************************************************************************************

                                            ************************************
                                            *  C R O S S   R E F E R E N C E   *
                                            *                                  *
                                            *  FILE MNEMONIC TO FILE NUMBER    *
                                            ************************************

  MNEMONIC FILE PACKS       MNEMONIC FILE PACKS       MNEMONIC FILE PACKS       MNEMONIC FILE PACKS       MNEMONIC FILE PACKS

    FMU       19     0        IFFIS     17     1        IFPMK     34     1        MFD99     44     2        MFOCD     26     3
    IFACP     40     1        IFFSF     51     0        IFRAH      5     1        MFEIP     31     0        MFPDF     28     1
    IFAHF      1     2        IFFSN      3     1        IFRHL      7     1        MFFAD     12     2        MFPHR     55     1
    IFC99     45     1        IFLPN     32     0        IFSAD      8     1        MFFAR     53     3        MFPMR     35     9
    IFD99     43     1        IFMAD     20     1        IFSNI     36     0        MFFFC     15     1        MFRAH      6     4
    IFEIP     30     0        IFMMD     22     0        IFSPN     38     0        MFFIS     18     2        MFSAD      9     3
    IFFAD     11     1        IFMOB     49     1        IFS99     47     1        MFFSN      4    21        MFSNI     37     0
    IFFAR     52     1        IFOCD     25     0        IFTRI     10     1        MFLPN     33     0        MFSPN     39     0
    IFFCT     13     1        IFPDF     27     1        IGL99     42     0        MFMAD     21     2        MFS99     48     2
    IFFFC     14     1        IFPHA     41     0        MFAHF      2     6        MFMMD     23     0        ZAB       29     0
    IFFGL     16     0        IFPHR     54     0        MFC99     46     1        MFMOB     50     1

       THE FOLLOWING FILE VOLUME NUMBERS ARE UNASSIGNED.

            24,56,57,58,59,60
```

Figure A-[illegible] System resources.

Appendix A--Continued

```
                                      ** D Y N A M A T **
                                                                                    PAGE 1 OF 1
                                 ***********************************
                                 *                                 *
        MASTER MATRIX = SAMPLE   *   INSTALLATIONS CODE/MNEMONIC   *    DATE OF REPORT OCT 13 1974
                                 *                                 *
                                 ***********************************     GENERATED BY REQUESTOR
             INSTALLATION = ANY USER

INST
CODES     A        B        C        D        E        F        G        H        I        J        K        L        M        N

INST
NAMES ANY USER UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN  UNKNOWN
```

Figure A-6. Installation code/mnemonic.

Appendix A--Continued

```
                                       ** D Y N A M A T **

                                 ********************************************
                                 *                                          *
     MASTER MATRIX = SAMPLE      *      C R O S S    R E F E R E N C E      *   DATE OF REPORT OCT 13 1974
                                 *                                          *
      INSTALLATION = ANY USER    *         JOBS WITHIN APPLICATIONS         *   GENERATED BY REQUESTOR
                                 *                                          *
                                 ********************************************


APPLICATION                JOBS WITHIN APPLICATIONS

  ABAMDFU    *******   W99A
  AMCRCUN    *******   A490
  AMDFCHG    *******   M01A,M01B,M01C,M01D,M01E,M01F,M01G,M01H
  AMDFING    *******   D31A
  AMDFUPD    *******   M26A
  ANSLIDE    *******   A02
  ARCSIP     *******   ARCSIPE,D83A,D83B,D83C,D83D,D83E,D83F,D83G
  AUTODIS    *******   D40A
  AUTODSP    *******   D40B
  BASS       *******   BASSE,M27A,M27B,M27C,M27D,M27E,M27F,M27G,M27H
  BDBAL      *******   W09B
  BDRCONF    *******   Q07B
  BDRECON    *******   Q07A
  BRDGING    *******   NONE
  BSCHDV     *******   Q1CA,Q1CB,Q1CC,Q1CD
  BSCLDV     *******   Q1DA,Q1DB,Q1DC,Q1DD,Q1DE,Q1DF,Q1DG,Q1DH
  BSDMDR     *******   Q1GA,Q1GB,Q1GC,Q1GD,Q1GE,Q1GF
  BSIHDV     *******   Q1AA,Q1AB,Q1AC,Q1AD
  BSILDV     *******   Q1BA,Q1BB,Q1BC,Q1BD,Q1BE,Q1BF,Q1BG
  BSISTR     *******   Q1EA,Q1EB,Q1EC,Q1ED,Q1EE,Q1EF,Q1EG,Q1EH
  BSRSTR     *******   Q1FA,Q1FB,Q1FC,Q1FD,Q1FE,Q1FF
  BUDEXT     *******   Q01C
  BUDGSTR    *******   Q01B
  CATMANT    *******   D01A,D01B,D01C,D01D,D01E,D04A
  CCSSMIL    *******   CCSSMILE,D26A,D26B,D26C,D27A,D27B,D27D,D3CA
  CONWEEK    *******   A539
  CCHRETR    *******   A537
  DMPRL      *******   DMPRLE,D20A,D20B,D20C,D20D,D20E
  DMUPCON    *******   M11A
  DMUPISS    *******   A510
  DMUPMIC    *******   Q06A
  DMUPMG     *******   M07A
  DPDPMRD    *******   D23B
  DUMPS      *******   NONE
  FACBAL     *******   A521,B521,C521,D521,L521,FACBALE,F521,G521,M521
  FARHIST    *******   D99A,D99B,D99C
  FFCMANT    *******   CE5A
  FGLMT      *******   D11A
```

Figure A-7. Cross-reference jobs within applications.

Appendix A--Continued

```
                                         ** D Y N A M A T **

                           *****************************************
                           *                                       *     DATE OF REPORT OCT 13 1974
  MASTER MATRIX = SAMPLE   *       C R O S S   R E F E R E N C E   *
                           *                                       *     GENERATED BY REQUESTOR
  INSTALLATION = ANY USER  * INTRA/INTER - APPLICATION JOB DEPENDENCIES *
                           *                                       *
                           *****************************************

APPLICATION   JOB
 NAME   VOL   NAME      INTRA-APPLICATION JOB DEPENDENCIES          INTER-APPLICATION JOB DEPENDENCIES / APPLICATION VOLUME

ABAMDFU 498   W99A      NONE                                        NONE
AMCRCON 490   A490      NONE                                        NONE
AMDFCHG 425   M01A      NONE                                        *A557*/557,*M26A*/424,*W99A*/498
              M01B      M01A                                        NONE
              M01C      M01A                                        NONE
              M01D      M01B                                        NONE
              M01E      M01D                                        NONE
              M01F      M01C,M01E                                   NONE
              M01G      M01F                                        NONE
              M01H      M01G                                        NONE
AMDFINQ 410   D31A      NONE                                        D02A/403
AMDFUPD 424   M26A      NONE                                        *W13F*/422,W99A/498
ANSLIDE 445   A02       NONE                                        *SCSREVE*/420,*M05A*/427
ARCSIP  472   ARCSIPE   *D83F*,*D83G*,*D83D*                        NONE
              D83A      NONE                                        D02A/403,D32A/448,D24A/536
              D83B      D83C                                        NONE
              D83C      D83A                                        NONE
              D83D      D83B                                        NONE
              D83E      D83B                                        NONE
              D83F      D83E                                        NONE
              D83G      D83C,D83E                                   NONE
AUTODIS 426   D40A      NONE                                        NONE
AUTODSP 468   D40B      NONE                                        AUTODSP1/600,AUTODSP2/600
BASS    475   BASSE     *M27D*,*M27E*,*M27F*,*M27G*,*M27H*          NONE
              M27A      NONE                                        *D71A*/406,*D15A*/408,*W19D*/415,*Q01C*/524
              M27B      M27A                                        NONE
              M27C      M27B                                        NONE
              M27D      M27C                                        NONE
              M27E      M27A                                        NONE
              M27F      M27A                                        NONE
              M27G      M27A                                        NONE
              M27H      M27A                                        *W04A*/420
BDBAL   519   W09B      NONE                                        *W06E*/417,*W07B*/423
BDRCONF 436   Q07B      NONE                                        D02A/403,*Q07A*/435
BDRELON 435   Q07A      NONE                                        *W08E*/417
BRDGING 597   **NONE**  NONE                                        NONE
BSCHLV  485   Q1CA      NONE                                        *Q01B*/442
```

Figure A-8. Cross-reference intra/inter-application job dependencies.

```
                                 ** D Y N A M A T **

                         ****************************************
  MASTER MATRIX = SAMPLE *                                      *
                         *   C R O S S   R E F E R E N C E      *   DATE OF REPORT OCT 13 1974
   INSTALLATION = ANY USER *  MASTER FILE / USER / MODE         *
                         *                                      *    GENERATED BY REQUESTOR
                         ****************************************

MASTER-FILE
 NAME   NUM    ****  REFERENCE MODE USERS / APPLICATION VOLUME  ****      ****   UPDATE MODE USERS / APPLICATION VOLUME    ****

 FMU    19     D72B/406,D72C/406,W19D/415,D75B/504,D73B/503,             D70B/406,D71A/406,W19B/415,D89A/474,D89B/574,
               D74A/503,D74B/503,M24L/562,M14B/431,M21A/431,             D66A/406,D79A/473,D79B/573
               M09A/431,M24A/431,M10A/431,M12A/431,A490/490,
               Q02A/433,D65A/467,D99B/514
 IFACP  40     D02A/403                                                  E40A/428,D40B/468
 IFAMF   1     Z01A/402,Z01B/402,D35A/404,W08A/417,W03A/419,             Z01C/402,D38A/405,W08H/417,M26A/424,E479/479,
               W02A/418,D23B/492,D23A/440,D23B/469                       D23C/500,D93F/478,A526/526
 IFC99  45     M21A/431,M10A/431,M23A/431                                D89B/574,D79A/473
 IFD99  43     M21A/431,M23A/431                                         D89B/574,D79A/473
 IFETP  30     D83B/472,D01A/494                                         D83C/472
 IFFAD  11     W14A/413,C521/521,D79A/473                                D72A/406,D72B/406,D75D/504
 IFFAR  52     **NONE**                                                  W19A/415,W19B/415
 IFFCT  13     D73B/503                                                  **NONE**
 IFFFC  14     W14A/413,W19D/415,D75D/504,D74B/503,A490/490              D35A/404,D70B/406,D72B/406,D75B/504,D89A/474,
                                                                         D85A/467,D79A/473
 IFFGL  16     D75D/504                                                  W19D/415,D75B/504,D89A/474,D89B/574,D79B/573,D11A/493
 IFFIS  17     D75D/504,D89A/474                                         W19D/415,D74A/503,D79B/573
 IFFSF  51     W14A/413                                                  C70B/406,D72B/406
 IFFSN   3     Z01A/402,Z01B/402,Z01H/402,D35A/404,D26A/405,             Z01C/402,D38A/405,D17B/406,A516/516,D04A/411,
               D27A/405,D17A/406,D15B/506,A510/510,D35B/404,             W02A/418,M26A/424,W11A/438,Q11B/439,Q01A/462,
               D20A/412,W03A/419,W03C/420,A557/557,W07A/423,             C479/479,E479/479,A01A/443,D480/480,A499/499,W99A/498
               W07B/423,W07C/423,W13C/422,M01D/425,M01F/425,
               A505/505,Q12A/440,M18B/441,M18C/441,M19A/441,
               B479/479,C444/444,B480/480,Z01J/451,D65A/452,
               D18A/453,M02A/460,W22A/497,D05A/481,D93E/478,
               D93F/478,A509/509,D86A/495,D34B/450,A535/535
 IFLPN  32     D80A/496                                                  D24A/536
 IFMAD  20     D35A/404,D26A/405,D27A/405,D38A/405,D06A/491,             D27B/405,D35B/404
               W12A/416,M15A/429,Q12A/440,B521/521,A539/539,
               D93A/478,D93G/576,D29A/511
 IFMMD  22     W03C/420,W05A/420,W04A/420,W05B/420,W05C/420,             D32A/446
               A557/557,A477/477,G444/444,H444/444,I444/444,
               D513/513,D83B/472
 IFMOE  49     **NONE**                                                  **NONE**
 IFCCD  25     D20A/412,D20B/412,M16C/441,M16B/441,M19C/441,M18L/441     M18F/441,M18J/441
 IFPDF  27     W05B/420,W05C/420,F444/444,Q10/459                        M05A/427,A02/445,D30A/447
 IFPHA  41     **NONE**                                                  **NONE**
```

Figure A-9. Cross-reference master file/user/mode.

Appendix A--Continued

```
---------------------- CONTROL CARD(S) INPUT TO SIMULATOR ----------------------
 AM=(REGCTL,CCSSMIL,CAIMANT,PRESCSO,*SCSREV,SCSPRT),                    X
              JM=(026A/1500),ST=0800,IT=20
DYNAMAT-090 AT TIME = 1920 JOB 026B     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 1920 JOB 027A     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0440 JOB #05C     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0720 JOB #11C     SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0720 JOB #118     SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
```

Figure A-10. Simulator messages.

```
                                        ** D Y N A M A T **

               ***** THE FOLLOWING 36 JOBS WILL BE RUN THRU THE DYNAMAT SIMULATOR *****

RJN BJN JOBNAME  P VOL  CORE  T9 T7 PT PC E-S-T       MASTER FILE UTILIZATION        JOB DEPENDENCIES----NUMBERS = RUN JOBNUMS (RJN)

  1 100 D35A     1 404  250    8  0  0  0       01R 02R 03R 04P 08R 14U 15U 20R 21U NONE
  2 101 D26A     1 405  410    6  0  0  0 1800  03R 08R 20R 21R                       9
  3 102 D26C     0 405  400    3  0  0  0       NONE                                  2
  4 103 D27A     0 405  174    1  0  0  0       21R 20R 04R 03R 09R 08R               2
  5 104 D27B     1 405  128    1  0  0  0       21U 20U                               2
  6 105 D26B     0 405  200    3  0  0  0       NONE                                  2
  7 106 D38A     1 405  284    4  0  0  0       01U 02U 03U 04U 05U 06U 10R 20R 21R   2
  8 150 CCSSMILE 0 405   54    0  0  0  0       NONE                                  4   5   7  10
  9 153 D35B     1 404  310    7  0  0  0       03R 04U 08R 09R 10R 20U 21U 54R 55R   1
 10 154 D27D     1 405  144    1  0  0  0       54U 55U                               2
 11 200 D01A     0 411  160    2  0  0  0       NONE                                NONE
 12 201 D01B     0 411  130    0  0  0  0       NONE                                 11
 13 202 D01C     0 411   80    3  0  0  0       NONE                                 11
 14 203 D01D     0 411   80    2  0  0  0       NONE                                 12
 15 204 D01E     0 411  160    3  0  0  0       13R                                  13  14
 16 207 D04A     1 411  530   13  0  0  0       03U 04U                              15
 17 302 W03B     2 420   54    0  0  0  0       NONE                                 16  32
 18 303 W02B     2 420   60    1  0  0  0       NONE                                 17
 19 304 W02C     2 420  126    8  0  0  0       NONE                                 17
 20 305 W03C     2 420  360    8  0  0  0       03R 22R 23R 04R                      17
 21 306 W05A     2 420   84    0  0  0  0       23R 22R                              17
 22 307 W04A     2 420  280   13  0  0  0       22R 23R                              18  19
 23 308 W04C     2 420  140   16  0  0  0       NONE                                 22
 24 309 W05B     2 420  520    9  0  0  0       10R 27R 28R 22R 23R 29R              20  21  22
 25 310 W05C     2 420  520    9  0  0  0       28R 27R 23R 22R 10R 29R              20  21  22
 26 311 W11A     2 420  132    9  0  0  0       NONE                                 24  25
 27 313 W11B     1 421  210    8  0  0  0       NONE                                 24  25
 28 314 W11C     1 421  250    6  0  0  0       NONE                                 24  25
 29 315 W11D     1 421  250    8  0  0  0       NONE                                 24
 30 316 W11E     1 421  190    6  0  0  0       NONE                                 28  34
 31 317 W11F     1 421  190    6  0  0  0       NONE                                 29  35
 32 327 W02A     1 418  360   10  0  0  0       01R 02U 03U 04U                       7  16
 33 329 W11I     1 421  116    3  0  0  0       NONE                                 28
 34 330 W11G     1 421  250    7  0  0  0       NONE                                 27
 35 331 W11H     1 421  250    7  0  0  0       NONE                                 27
 36 350 SCSPEVE  2 420   54    0  0  0  0       NONE                                 23  26
```

Figure A-11. Simulator jobs to be run.

Appendix A--Continued

```
                                   ** DYNAMAT **

                           ****************************************
                           *                                      *
    MASTER MATRIX = SAMPLE *      C R O S S   R E F E R E N C E   *   DATE OF REPORT OCT 13 1974
                           *                                      *
    INSTALLATION = ANY USER* INTRA/INTER = APPLICATION JOB DEPENDENCIES * GENERATED BY REQUESTOR
                           *                                      *
                           ****************************************

                                                                INTER-APPLICATION JOB DEPENDENCIES / APPLICATION VOLUME
 APPLICATION    JOB      INTRA-APPLICATION JOB DEPENDENCIES
 NAME    VOL    NAME

 CATMANT  411   D01A     NONE                                   NONE
                D01B     D01A                                   NONE
                D01C     D01A                                   NONE
                D01D     D01B                                   NONE
                D01E     D01C,D01D                              NONE
                D04A     D01E                                   NONE
 CCSSMIL  405   CCSSMILE D27A,D27B,D38A,D27D                    NONE
                D26A     NONE                                   D35B/404
                D26B     D26A                                   NONE
                D26C     D26A                                   NONE
                D27A     D26A                                   NONE
                D27B     D26A                                   NONE
                D27D     D26A                                   NONE
                D38A     D26A                                   NONE
 PRESCSU  418   W02A     NONE                                   D36A/405,D04A/411
 REDCTL   404   D35A     NONE                                   NONE
                D35B     D35A                                   NONE
 SCSPRT   421   W11B     NONE                                   W05B/420,W05C/420
                W11C     NONE                                   W05B/420,W05C/420
                W11D     NONE                                   W05B/420
                W11E     W11C,W11G                              NONE
                W11F     W11D,W11H                              NONE
                W11G     W11B                                   NONE
                W11H     W11B                                   NONE
                W11I     W11C                                   NONE
 SCSREV   420   SCSREVE  W04C,W11A                              NONE
                W02B     W03B                                   NONF
                W02C     W03B                                   NONE
                W03B     NONE                                   D04A/411,W02A/418
                W03C     W03B                                   NONE
                W04A     W02B,W02C                              NONE
                W04C     W04A                                   NONE
                W05A     W03B                                   NONE
                W05B     W03C,W05A,W04A                         NONE
                W05C     W03C,W05A,W04A                         NONE
                W11A     W05B,W05C                              NONE
```

Figure A-12. Simulator cross-reference intra/inter application job dependencies.

```
                                   ** D Y N A M A T **

                                                                                           PAGE   1
                                  *********************************
      MASTER MATRIX = SAMPLE      *                               *        DATE OF REPORT OCT 13 1974
                                  *  R U N   S I M U L A T I O N  *
      INSTALLATION = ANY USER     *                               *        ACTIVE INITS = 8
                                  *********************************

*****************************************************************************************************

    AVAILABLE CORE --- 1000K       AVAILABLE DEVICES --- DISK = 48, TAPE9 = 22, TAPE7 =  2, PRINTER = 2, PUNCH = 1
                                          DUMMY UCBS --- DISK =  0, TAPE9 =  0, TAPE7 =  0, PRINTER = 0, PUNCH = 0

*****************************************************************************************************

                                                                    TOT  MAX   **** RESOURCES ********* RESOURCES,*****
                                                                    FREE CNTG  ****   IN  USE ********* NOT  USED *****
 TIME   INIT1   INIT2   INIT3   INIT4   INIT5   INIT6   INIT7   INIT8  CORE CORE  * DSK T9 T7 PT PC * DSK T9 T7 PT PC *
                                                                                  *                  *                  *
 0800   D35A    D01A                                                 570  570  *  36 10  0  0  0 *  12 12  2  2  1 *
 0820    *      D01B    D01C                                         540  540  *  36 11  0  0  0 *  12 11  2  2  1 *
 0840    *      D01D                                                 670  670  *  36 10  0  0  0 *  12 12  2  2  1 *
 0900    *      D01E                                                 570  570  *  37 11  0  0  0 *  11 11  2  2  1 *
 0920    *      D04A                                                 220  220  *  36 21  0  0  0 *  12  1  2  2  1 *
 0940    *       *                                                   220  220  *  36 21  0  0  0 *  12  1  2  2  1 *
 1000    *       *                                                   220  220  *  36 21  0  0  0 *  12  1  2  2  1 *
 1020            *                                                   470  250  *  22 13  0  0  0 *  26  9  2  2  1 *
 1040            *                                                   470  250  *  22 13  0  0  0 *  26  9  2  2  1 *
 1100            *                                                   470  250  *  22 13  0  0  0 *  26  9  2  2  1 *
 1120            *                                                   470  250  *  22 13  0  0  0 *  26  9  2  2  1 *
 1140            *                                                   470  250  *  22 13  0  0  0 *  26  9  2  2  1 *
 1200   D35B                                                         690  690  *  31  7  0  0  0 *  17 15  2  2  1 *
 1220    *                                                           690  690  *  31  7  0  0  0 *  17 15  2  2  1 *
 1240    *                                                           690  690  *  31  7  0  0  0 *  17 15  2  2  1 *
 1300    *                                                           690  690  *  31  7  0  0  0 *  17 15  2  2  1 *
 1320    *                                                           690  690  *  31  7  0  0  0 *  17 15  2  2  1 *
 1340    *                                                           690  690  *  31  7  0  0  0 *  17 15  2  2  1 *
 1400    *                                                           690  690  *  31  7  0  0  0 *  17 15  2  2  1 *
 1420 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1440 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1500 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1520 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1540 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1600 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1620 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1640 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1700 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1720 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1740 * IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE ** IDLE * 1000 1000  *   0  0  0  0  0 *  48 22  2  2  1 *
 1800   D26A                                                         590  590  *   5  6  0  0  0 *  43 16  2  2  1 *
 1820    *                                                           590  590  *   5  6  0  0  0 *  43 16  2  2  1 *
 1840    *                                                           590  590  *   5  6  0  0  0 *  43 16  2  2  1 *
 1900    *                                                           590  590  *   5  6  0  0  0 *  43 16  2  2  1 *
 1920   D38A    D27D    D27B    D26C                                  44   44  *  40  9  0  0  0 *   8 13  2  2  1 *
```

Figure A-[illegible]. Run simulation.

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```
                                          ** D Y N A M A T **

                                                                                                      PAGE   2

                                                                             TOT   MAX    **** RESOURCES ********* RESOURCES *****
 TIME   INIT1   INIT2    INIT3   INIT4   INIT5   INIT6   INIT7   INIT8      FREE  CNTG   ****   IN   USE  ********* NOT   USED *****
                                                                            CORE  CORE   * DSK TY T7 PT PC  * DSK TY T7 PT PC  *
 1940     *     U26B     L27A                                                            *                  *
 2000     *                                                                  342   342   *  43  8  0  0  0  *   5 14  2  2  1  *
 2020   W02A    CCSSMILE                                                     716   716   *  39  4  0  0  0  *   9 18  2  2  1  *
 2040     *                                                                  586   586   *  30 10  0  0  0  *  18 12  2  2  1  *
 2100     *                                                                  640   640   *  30 10  0  0  0  *  18 12  2  2  1  *
 2120     *                                                                  640   640   *  30 10  0  0  0  *  18 12  2  2  1  *
 2140     *                                                                  640   640   *  30 10  0  0  0  *  16 12  2  2  1  *
 2200     *                                                                  640   640   *  30 10  0  0  0  *  18 12  2  2  1  *
 2220     *                                                                  640   640   *  30 10  0  0  0  *  18 12  2  2  1  *
 2240     *                                                                  640   640   *  30 10  0  0  0  *  18 12  2  2  1  *
 2300     *                                                                  640   640   *  30 10  0  0  0  *  18 12  2  2  1  *
 2320     *                                                                  640   640   *  30 10  0  0  0  *  18 12  2  2  1  *
 2340   W03B                                                                 640   640   *  30 10  0  0  0  *  18 12  2  2  1  *
 0000   W03C    W02C     W05A    W02B                                        946   946   *   0  0  0  0  0  *  48 22  2  2  1  *
 0020     *     W04A                                                         364   364   *  22 17  0  0  0  *  26  5  2  2  1  *
 0040     *       *                                                          360   360   *  22 21  0  0  0  *  26  1  2  2  1  *
 0100     *       *                                                          360   360   *  22 21  0  0  0  *  26  1  2  2  1  *
 0120     *       *                                                          360   360   *  22 21  0  0  0  *  26  1  2  2  1  *
 0140     *       *                                                          360   360   *  22 21  0  0  0  *  26  1  2  2  1  *
 0200     *       *                                                          360   360   *  22 21  0  0  0  *  26  1  2  2  1  *
 0220     *     W04C                                                         360   360   *  22 21  0  0  0  *  26  1  2  2  1  *
 0240     *                                                                  500   500   *  22 18  0  0  0  *  26  4  2  2  1  *
 0300     *                                                                  640   640   *  22  8  0  0  0  *  26 14  2  2  1  *
 0320     *                                                                  640   640   *  22  8  0  0  0  *  26 14  2  2  1  *
 0340     *                                                                  640   640   *  22  8  0  0  0  *  26 14  2  2  1  *
 0400     *                                                                  640   640   *  22  8  0  0  0  *  26 14  2  2  1  *
 0420     *                                                                  640   640   *  22  8  0  0  0  *  26 14  2  2  1  *
 0440   W05B                                                                 640   640   *  22  8  0  0  0  *  26 14  2  2  1  *
 0500     *                                                                  480   480   *   3  9  0  0  0  *  45 13  2  2  1  *
 0520     *                                                                  480   480   *   3  9  0  0  0  *  45 13  2  2  1  *
 0540     *                                                                  480   480   *   3  9  0  0  0  *  45 13  2  2  1  *
 0600     *                                                                  480   480   *   3  9  0  0  0  *  45 13  2  2  1  *
 0620     *                                                                  480   480   *   3  9  0  0  0  *  45 13  2  2  1  *
 0640   W05C    W11D                                                         480   480   *   3  9  0  0  0  *  45 13  2  2  1  *
 0700     *       *                                                          230   230   *   3 17  0  0  0  *  45  5  2  2  1  *
 0720   W11A      *                                                          230   230   *   3 17  0  0  0  *  45  5  2  2  1  *
 0740     *       *                                                          618   388   *   0 17  0  0  0  *  48  5  2  2  1  *
 0800   SCSREVE W11C     W11E                                                616   388   *   0 17  0  0  0  *  48  5  2  2  1  *
 0820   W11G      *      W11H                                                486   486   *   0 16  0  0  0  *  48  6  2  2  1  *
 0840     *     W11I       *                                                 230   196   *   0 22  0  0  0  *  48  0  2  2  1  *
 0900   W11E      *      W11F                                                384   196   *   0 17  0  0  0  *  48  5  2  2  1  *
 0920     *                *                                                 504   504   *   0 15  0  0  0  *  48  7  2  2  1  *
 0940                      *                                                 620   504   *   0 12  0  0  0  *  48 10  2  2  1  *
                                                                             810   504   *   0  6  0  0  0  *  48 16  2  2  1  *

                        *****  PROCESS TIME UNDER MVT ENVIRONMENT =  20 HOURS 26 MINUTES  *****
                        *****     IDLE TIME UNDER MVT ENVIRONMENT =   3 HOURS 40 MINUTES  *****
                        *****  ELAPSED TIME UNDER MVT ENVIRONMENT =  24 HOURS  8 MINUTES  *****

                       *******  ELAPSED TIME IF RUN SEQUENTIALLY  =  27 HOURS 46 MINUTES  *****
```

Figure A-13--Continued.

```
DYNAMAT-095      JOB D02A      PREVIOUSLY POSTED TO MASTER    --- NO ACTION TAKEN
DYNAMAT-095      JOB D26A      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB D26C      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB D27A      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB D27B      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB D26B      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB D38A      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB CCSSMILE  HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB Z01A      PREVIOUSLY POSTED TO MASTER    --- NO ACTION TAKEN
DYNAMAT-095      JOB D27D      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB Z01B      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB Z01C      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB Z01D      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB Z01E      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB Z01F      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB Z01H      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W03B      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W02B      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W02C      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W03C      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W05A      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W04A      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W04C      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W05B      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W05C      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11A      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11B      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11C      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11D      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11E      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11F      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W02A      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11I      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11G      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB W11H      HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB SCSREVE   HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-095      JOB ITEMACTE  HAS NOT PROCESSED TO EOJ       --- NO ACTION TAKEN
DYNAMAT-098      JOB D02A      PROCESSED TO EOJ  --- BEING DELETED FROM RMATRIX
DYNAMAT-098      JOB Z01A      PROCESSED TO EOJ  --- BEING DELETED FROM RMATRIX
DYNAMAT-100    MMATRIX REWRITE BYPASSED -- DYNAFLY NOT INVOKED
--------------- CONTROL CARD(S) INPUT FOR ON-THE-FLY DELETES ----------------
 AM=(ITEMACT)
DYNAMAT-105      JOBNAME Z01A       NOT ON RMATRIX FOR DELETE - DYNAMAT SIMULATION CONTINUES
DYNAMAT-200      JOBNAME Z01B       BEING DELETED PER REQUEST
DYNAMAT-200      JOBNAME Z01C       BEING DELETED PER REQUEST
DYNAMAT-200      JOBNAME Z01D       BEING DELETED PER REQUEST
DYNAMAT-200      JOBNAME Z01E       BEING DELETED PER REQUEST
DYNAMAT-200      JOBNAME Z01F       BEING DELETED PER REQUEST
DYNAMAT-200      JOBNAME Z01H       BEING DELETED PER REQUEST
DYNAMAT-200      JOBNAME ITEMACTE   BEING DELETED PER REQUEST
DYNAMAT-110      NO MMATRIX MODIFICATIONS/RMATRIX ADDS -- DEPENDENCY OPTIMIZER BYPASSED
DYNAMAT-090 AT TIME = 1830 JOB D26B        SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 1830 JOB D27A        SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0300 JOB W05C        SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0533 JOB W11C        SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0533 JOB W11B        SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0603 JOB W11B        SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
DYNAMAT-111      RMATRIX REWRITE BYPASSED -- DYNAFLY NOT INVOKED
```

Figure A-14. On-the-fly updating test.

```
DYNAMAT-095    JOB D26A     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB D26C     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB D27A     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB D27B     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB D28C     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB D38A     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB CCSSFILE HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB D27D     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W03B     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W02E     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W02C     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W03C     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W05A     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W04A     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W04C     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W05B     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W05C     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11A     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11B     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11C     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11D     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11E     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11F     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W02A     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11I     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11G     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB W11H     HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-095    JOB SCSKEVC  HAS NOT PROCESSED TO EOJ     --- NO ACTION TAKEN
DYNAMAT-100    RMATRIX REWRITE COMPLETE -- DYNAFLY INVOKED
---------------- CONTROL CARD(S) INPUT FOR ON-THE-FLY ADDS    ----------------
 AM=(ITEMACT,HEARTNCT
DYNAMAT-110    RMATRIX MODIFIED/RMATRIX ADDED TO  -- DEPENDENCY OPTIMIZER INVOKED
DYNAMAT-090 AT TIME = 1949 JOB D26C     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 1949 JOB D27A     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 2010 JOB D28C     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 2010 JOB 201H     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 2010 JOB 201F     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 2022 JOB 201F     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 2052 JOB D26C     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0440 JOB W05C     SELECTED/NOT RELEASED --- NOT ENOUGH CORE  CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0713 JOB W11C     SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0713 JOB W11B     SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
DYNAMAT-090 AT TIME = 0743 JOB W11D     SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
DYNAMAT-111    RMATRIX REWRITE COMPLETE -- DYNAFLY INVOKED
```

Figure A-15. On-the-fly updating.

Appendix A--Continued

```
                              * *  D Y N A M A T  * *

                        **  MASTER DATA BASE COMPARE  **

     DATA BASE 1 = DYNA2600          OCT 13 1974          DATA BASE 2 = DYNA2700


****************  J O B   M A T R I X   D I F F E R E N C E S  ****************

          MASTER DATA BASE = DYNA2600                  MASTER DATA BASE = DYNA2700

JOBNUM

   10   DP=(2,-400,704,-755)                   DP=(2,-400,704,-744,-755)
   12   DP=(10,-364,-744)                      DP=(10,-364)
  101   CR=298                                 CR=410
  111   CR=320                                 CR=360
  130   DP=(-10,-14,-106,-400)                 DP=(-10,-14,-106,-400,-2)
  155   CR=300                                 CR=220
  305   DP=(302,-706,-777)                     DP=(302,-706)
  319   DP=(-312,324,-400)                     DP=(-312,324,-400,-745)
  329   DP=(-309,-310)                         DP=(314)
  373   CR=300                                 CR=180
        T9=7                                   T9=2
  380   *** TOTAL JOB ENTRY NOT PRESENT ***    JM=M24B
                                               AN=561
                                               CR=54
                                               T9=0
                                               T7=0
                                               PT=0
                                               PC=0
                                               CP=N
                                               DP=(-2)
                                               FN=(NONE)
```

Figure A-16. Master data base compare.

Figure A--Continued

```
                                  * *  D Y N A M A T  * *
                            **  MASTER DATA BASE COMPARE  **
        DATA BASE 1 = DYNA2600        OCT 13 1974       DATA BASE 2 = DYNA2700

************  A P P L   M A T R I X   D I F F E R E N C E S  ***************
            MASTER DATA BASE = DYNA2600            MASTER DATA BASE = DYNA2700
APPLNUM
   561   *** APPLICATION NOT ACTIVE ***        AM=MIPSIR
   562   *** APPLICATION NOT ACTIVE ***        AM=SIR
```

Figure A-16--Continued

Appendix A--Continued

```
                              * * D Y N A M A T * *

                         **  MASTER DATA BASE COMPARE  **

     DATA BASE 1 = DYNA2600        OCT 13 1974        DATA BASE 2 = DYNA2700

************* F I L E   M A T R I X   D I F F E R E N C E S  ****************

          MASTER DATA BASE = DYNA2600               MASTER DATA BASE = DYNA2700

FILENUM
                  NO FILE DIFFERENCES                       NO FILE DIFFERENCES
```

Figure A-16--Continued

Appendix B

DYNAMAT catalog procedures.

DYNAMAT PROCS

```
MEMBER NAME - DYNABLDP

//DYNABLDP        PROC     ACTION=DYNABLD,MMATRIX=DYNABASE,RMATRIX=NA,        00000100
//                MDISP=OLD                                                   00000200
//DYNABLD  EXEC   PGM=SHARDISK,REGION=194K,                                   00000300
//                PARM=(MMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.)   00000400
//STEPLIB  DD     DSN=DYLOAD,DISP=SHR                                         00000500
//ASOEND01 DD     SYSOUT=A,SPACE=(TRK,(1,100))                                00000600
//SYSUDUMP DD     SYSOUT=A,SPACE=(TRK,(1,100))                                00000700
//MMATRIX  DD     DSN=&MMATRIX,DISP=SHR                                       00000800
//TMATRIX  DD     DUMMY                                                       00000900
//SYSOUT   DD  SYSOUT=A,SPACE=(TRK,(1,10))                                    00001000
//REPORT   DD  SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)                00001100
//CARDIN   DD   DDNAME=SYSIN,DCB=BLKSIZE=80                                   00001200
```

Figure B-1. DYNAMAT PROCS.

Appendix B--Continued

MEMBER NAME - DYNACHKP

```
//DYNACHKP      PROC    ACTION=DYNACHK,MMATRIX=DYNABASE,RMATRIX=RMATRIX,  00000100
//                MDISP=OLD                                               00000200
//DYNACARD EXEC  PGM=DYNACARD                                             00000205
//STEPLIB   DD  DSN=DYLOAD,DISP=SHR                                       00000210
//MASTER    DD  DSN=&&DYNACARD,DISP=(,PASS),UNIT=2314,                    00000215
//              DCB=(LRECL=80,BLKSIZE=800,RECFM=FB),SPACE=(TRK,(2,1))     00000220
//MSTIN     DD  DDNAME=SYSIN,DCB=BLKSIZE=80                               00000225
//*                                                                       00000230
//*             JIM REPORT BEFORE DYNACHK                                 00000235
//*                                                                       00000240
//RPBEFORE EXEC  PGM=AA3JIMRP,PARM=A                                      00000245
//STEPLIB   DD  DSN=DYLOAD,DISP=SHR                                       00000250
//SYSUDUMP DD   SYSOUT=A,SPACE=(TRK,(1,100))                              00000255
//MATRIX    DD  DSN=&RMATRIX,DISP=SHR                                     00000260
//REPORT    DD  SYSOUT=A,SPACE=(TRK,(1,10))                               00000265
//SYSIN     DD  DUMMY,DCB=BLKSIZE=80                                      00000270
//SYSOUT    DD  SYSOUT=A,SPACE=(TRK,(1,10))                               00000275
//DYNACHK   EXEC  PGM=SHARDISK,REGION=194K,                               00000300
//              PARM=(TMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.)  00000400
//STEPLIB   DD  DSN=DYLOAD,DISP=SHR                                       00000500
//SYSUDUMP DD   SYSOUT=A,SPACE=(TRK,(1,100))                              00000600
//MMATRIX   DD  DSN=&MMATRIX,DISP=SHR                                     00000700
//TMATRIX   DD  DSN=&RMATRIX,DISP=SHR                                     00000800
//CHKMAT    DD  DSN=&&PASSRM,DISP=(,PASS),UNIT=2314,SPACE=(TRK,(2,1))     00000900
//SYSOUT    DD SYSOUT=A,SPACE=(TRK,(1,10))                                00001000
//REPORT    DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)            00001100
//CARDIN    DD  DSN=&&DYNACARD,DISP=(OLD,DELETE)                          00001200
```

Figure B-1--Continued

Appendix B--Continued

```
//REBLOCK   EXEC   PGM=IEBGENER,REGION=100K                            00001300
//SYSPRINT DD   SYSOUT=S,SPACE=(TRK,(1,10))                            00001400
//SYSUT1    DD   DSN=&&PASSRM,DISP=(OLD,DELETE)                        00001500
//SYSUT2    DD   DSN=&&REBLOCK,DISP=(,PASS),UNIT=2314,SPACE=(TRK,(1)), 00001600
//             DCB=(LRECL=60,BLKSIZE=7260,RECFM=FB)                    00001700
//SYSIN DD DUMMY                                                       00001800
//*                                                                    00001810
//*            JIM REPORT AFTER DYNACHK                                00001820
//*                                                                    00001830
//RPAFTER   EXEC   PGM=AA3JIMRP,PARM=A                                 00001900
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                   00002000
//SYSUDUMP DD   SYSOUT=A,SPACE=(TRK,(1,100))                           00002100
//MATRIX    DD   DSN=&&REBLOCK,DISP=(OLD,DELETE),                      00002200
//             DCB=(LRECL=60,BLKSIZE=7260,RECFM=F)                     00002300
//REPORT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                           00002400
//SYSIN     DD   DUMMY,DCB=BLKSIZE=80                                  00002500
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                           00002600
```

MEMBER NAME - DYNACOMP

```
//DYNACOMP      PROC     MASTER1=NULLFILE,MASTER2=NULLFILE             00000100
//DYNACOM   EXEC   PGM=DYNACOMP,REGION=150K,PARM='&MASTER1,&MASTER2.'  00000200
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                   00000300
//SYSUDUMP DD   SYSOUT=A,SPACE=(TRK,(1,100))                           00000400
//DYNA1     DD   DSN=&MASTER1,DISP=SHR                                 00000500
//DYNA2     DD   DSN=&MASTER2,DISP=SHR                                 00000600
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                           00000700
//REPORT    DD   SYSOUT=A,DCB=BLKSIZE=790                              00000800
```

Figure B-1--Continued

Appendix B--Continued

```
MEMBER NAME - DYNAFLYP

//DYNAFLYP      PROC     ACTION=DYNAFLY,MMATRIX=DYNABASE,RMATRIX=RMATRIX,  00000100
//              MDISP=OLD                                                 00000200
//DYNACARD EXEC  PGM=DYNACARD                                             00000205
//STEPLIB  DD  DSN=DYLOAD,DISP=SHR                                        00000210
//MASTER   DD  DSN=&&DYNACARD,DISP=(,PASS),UNIT=2314,                     00000215
//             DCB=(LRECL=80,BLKSIZE=800,RECFM=FB),SPACE=(TRK,(2,1))     00000220
//MSTIN    DD  DDNAME=SYSIN,DCB=BLKSIZE=80                                00000225
//*                                                                       00000230
//*            JIM REPORT  BEFORE DYNAFLY                                 00000235
//*                                                                       00000240
//RPBEFORE EXEC  PGM=AA3JIMRP,PARM=A                                      00000245
//STEPLIB  DD  DSN=DYLOAD,DISP=SHR                                        00000250
//SYSUDUMP DD  SYSOUT=A,SPACE=(TRK,(1,100))                               00000255
//MATRIX   DD  DSN=&RMATRIX,DISP=SHR                                      00000260
//REPORT   DD  SYSOUT=A,SPACE=(TRK,(1,10))                                00000265
//SYSIN    DD  DUMMY,DCB=BLKSIZE=80                                       00000270
//SYSOUT   DD  SYSOUT=A,SPACE=(TRK,(1,10))                                00000275
//DYNAFLY  EXEC  PGM=SHARDISK,REGION=194K,                                00000300
//             PARM=(TMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.,  00000400
//STEPLIB  DD  DSN=DYLOAD,DISP=SHR                                        00000500
//SYSUDUMP DD  SYSOUT=A,SPACE=(TRK,(1,100))                               00000600
//MMATRIX  DD  DSN=&MMATRIX,DISP=SHR                                      00000700
//TMATRIX  DD  DSN=&RMATRIX,DISP=SHR                                      00000800
//SYSOUT   DD SYSOUT=A,SPACE=(TRK,(1,10))                                 00000900
//REPORT   DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)             00001000
//CARDIN   DD  DSN=&&DYNACARD,DISP=(OLD,DELETE)                           00001100
```

Figure B-1--Continued

Appendix B--Continued

```
//SCAN      EXEC  PGM=SHARDISK,PARM='MATRIX,AA3JIMND,SCAN'            00001200
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                  00001300
//SYSUDUMP  DD   SYSOUT=A,SPACE=(TRK,(1,100))                         00001400
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                          00001500
//MATRIX    DD   DSN=&RMATRIX,DISP=SHR                                00001600
//MMATRIX   DD   DSN=&MMATRIX,DISP=SHR                                00001700
//WMATRIX   DD   DSN=&&WMATRIX,DISP=(,DELETE),UNIT=2314,SPACE=(TRK,(20)), 00001800
//               DCB=(LRECL=58,BLKSIZE=580,RECFM=FB)                  00001900
//HASPRDR   DD   DSN=NULLFILE,UNIT=INTRDR,DISP=SHR                    00002000
//*                                                                   00002010
//*              JIM REPORT AFTER DYNAFLY                             00002020
//*                                                                   00002030
//RPAFTER   EXEC  PGM=AA3JIMRP,PARM=A                                 00002100
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                  00002200
//SYSUDUMP  DD   SYSOUT=A,SPACE=(TRK,(1,100))                         00002300
//MATRIX    DD   DSN=&RMATRIX,DISP=SHR                                00002400
//REPORT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                          00002500
//SYSIN     DD   DUMMY,DCB=BLKSIZE=80                                 00002600
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                          00002700
```

Figure B-1--Continued

MEMBER NAME - DYNALOAD

```
//DYNALOAD      PROC      DISKVOL=NONE,TAPEVOL=NONE,REL=NONE,LIB=DYLOAD         00000100
//CREATE    EXEC  PGM=DYNALOAD,REGION=120K,                                     00000200
//              PARM='F&TAPEVOL.&DISKVOL.&REL.'                                 00000300
//STEPLIB   DD  DSN=&LIB,DISP=(OLD,PASS)                                        00000400
//SYSUDUMP  DD  SYSOUT=A                                                        00000500
//SCRDYNA   DD  DSN=&&SCRDYNA,DISP=(,PASS),UNIT=2314,SPACE=(TRK,(1,1))          00000600
//LOADPDS   DD  DSN=&&LOADPDS,DISP=(,PASS),UNIT=2314,SPACE=(TRK,(1,1))          00000700
//COPYPROC  DD  DSN=&&COPYPROC,DISP=(,PASS),UNIT=2314,SPACE=(TRK,(1,1))         00000800
//SCRUNCAT  EXEC  PGM=IEHPROGM                                                  00000900
//SYSPRINT  DD  SYSOUT=A                                                        00001000
//DD1       DD  UNIT=2314,VOL=SER=&DISKVOL,DISP=OLD                             00001100
//SYSIN     DD  DSN=&&SCRDYNA,DISP=(OLD,DELETE)                                 00001200
//ALLOCDYN  EXEC  PGM=IEFBR14                                                   00001300
//SOURCE    DD  DSN=DYSOURCE,DISP=(,CATLG),UNIT=2314,VOL=SER=&DISKVOL,          00001400
//              DCB=(LRECL=80,BLKSIZE=1680,RECFM=FB),                           00001500
//              SPACE=(TRK,(200,20,20))                                         00001600
//LOAD      DD  DSN=DYLOAD,DISP=(,CATLG),UNIT=2314,VOL=SER=&DISKVOL,            00001700
//              DCB=(LRECL=7294,BLKSIZE=7294,RECFM=U),                          00001800
//              SPACE=(TRK,(100,20,20))                                         00001900
//PROC      DD  DSN=DYPROC,DISP=(,CATLG),UNIT=2314,VOL=SER=&DISKVOL,            00002000
//              DCB=(LRECL=80,BLKSIZE=1680,RECFM=FB),                           00002100
//              SPACE=(TRK,(10,10,20))                                          00002200
//LOADPDS   EXEC  PGM=IEHMOVE,REGION=100K                                       00002300
//SYSPRINT  DD  SYSOUT=A                                                        00002400
//SYSUT1    DD  UNIT=2314,VOL=SER=WORK01,DISP=OLD                               00002500
//DISK      DD  UNIT=2314,VOL=SER=&DISKVOL,DISP=OLD                             00002600
//TAPE      DD  DSN=DYNA&REL,DISP=(OLD,KEEP),UNIT=TAPE9,                        00002700
//              DCB=(LRECL=80,BLKSIZE=800,RECFM=FB),                            00002800
//              VOL=(PRIVATE,RETAIN,,,SER=&TAPEVOL.)                            00002900
//SYSIN     DD  DSN=&&LOADPDS,DISP=(OLD,DELETE)                                 00003000
//COPYPROC  EXEC  PGM=SHARDISK,PARM=(OUTDD,IEBCOPY)                             00003100
//SYSPRINT  DD  SYSOUT=A                                                        00003200
//INDD      DD  DSN=DYPROC,DISP=SHR                                             00003300
//OUTDD     DD  DSN=SYS1.PROCLIB,DISP=SHR                                       00003400
//SYSUT3    DD  UNIT=2314,SPACE=(TRK,(1,1))                                     00003500
//SYSUT4    DD  UNIT=2314,SPACE=(TRK,(1,1))                                     00003600
//SYSIN     DD  DSN=&&COPYPROC,DISP=(OLD,DELETE)                                00003700
```

Figure B-1--Continued

Appendix B--Continued

```
MEMBER NAME - DYNARPTP

//DYNARPTP        PROC    ACTION=DYNARPT,MMATRIX=DYNABASE,RMATRIX=NA,       00000100
//                MDISP=OLD                                                  00000200
//DYNARPT   EXEC   PGM=SHARDISK,REGION=194K,                                 00000300
//               PARM=(MMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.)   00000400
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                         00000500
//ASOEND01  DD   SYSOUT=A,SPACE=(TRK,(1,100))                                00000600
//SYSUDUMP  DD   SYSOUT=A,SPACE=(TRK,(1,100))                                00000700
//MMATRIX   DD   DSN=&MMATRIX,DISP=SHR                                       00000800
//TMATRIX   DD   DUMMY                                                       00000900
//SYSOUT    DD SYSOUT=A,SPACE=(TRK,(1,10))                                   00001000
//REPORT    DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)               00001100
//CARDIN    DD   DDNAME=SYSIN,DCB=BLKSIZE=80                                 00001200
```

Figure B-1--Continued

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Appendix B--Continued

MEMBER NAME - DYNARUNP

```
//DYNARUNP      PROC    ACTION=DYNARUN,MMATRIX=DYNABASE,RMATRIX=RMATRIX,  00000100
//                      MDISP=OLD                                         00000200
//DYNARUN   EXEC   PGM=SHARDISK,REGION=194K,                              00000300
//                 PARM=(MMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.) 00000400
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                      00000500
//ASUENDOL  DD   SYSOUT=A,SPACE=(TRK,(1,100))                             00000600
//SYSUDUMP  DD   SYSOUT=A,SPACE=(TRK,(1,100))                             00000700
//MMATRIX   DD   DSN=&MMATRIX,DISP=SHR                                    00000800
//TMATRIX   DD   DSN=&RMATRIX,DISP=SHR                                    00000900
//SYSOUT    DD SYSOUT=A,SPACE=(TRK,(1,10))                                00001000
//REPORT    DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)            00001100
//CARDIN    DD   DDNAME=SYSIN,DCB=BLKSIZE=80                              00001200
//JIMSTART  EXEC   PGM=SHARDISK,PARM='MATRIX,AA3JIMND,SCAN',              00001300
//               COND=(0,NE,DYNARUN)                                      00001400
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                      00001500
//SYSUDUMP  DD   SYSOUT=A,SPACE=(TRK,(1,10))                              00001600
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                              00001700
//MATRIX    DD   DSN=&RMATRIX,DISP=SHR                                    00001800
//MMATRIX   DD   DSN=&MMATRIX,DISP=SHR                                    00001900
//WMATRIX   DD   DSN=&&WMATRIX,DISP=(,DELETE),UNIT=2314,SPACE=(TRK,(20)), 00002000
//               DCB=(LRECL=58,BLKSIZE=580,RECFM=FB)                      00002100
//HASPRDR   DD   DSN=NULLFILE,UNIT=INTRDR,DISP=SHR                        00099999
```

Figure B-1--Continued

Appendix B--Continued

```
MEMBER NAME - DYNASIMP

//DYNASIMP      PROC     ACTION=DYNARUN,MMATRIX=DYNABASE,RMATRIX=NA,        00000100
//              MDISP=OLD                                                   00000200
//DYNASIM   EXEC  PGM=SHARDISK,REGION=194K,                                 00000300
//              PARM=(MMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.)  00000400
//STEPLIB   DD  DSN=DYLOAD,DISP=SHR                                         00000500
//ASOENDO1  DD  SYSOUT=A,SPACE=(TRK,(1,100))                                00000600
//SYSUDUMP  DD  SYSOUT=A,SPACE=(TRK,(1,100))                                00000700
//MMATRIX   DD  DSN=&MMATRIX,DISP=SHR                                       00000800
//TMATRIX   DD  DUMMY                                                       00000900
//SYSOUT    DD SYSOUT=A,SPACE=(TRK,(1,10))                                  00001000
//REPORT    DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)              00001100
//CARDIN    DD  DDNAME=SYSIN,DCB=BLKSIZE=80                                 00001200
```

Figure B-1--Continued

Appendix B--Continued

MEMBER NAME - DYNAUNLD

```
//DYNAUNLD      PROC     DISKVOL=NONE,TAPEVOL=NONE,REL=NONE,LIB=DYLOAD        00000100
//CREATE    EXEC  PGM=DYNALOAD,REGION=120K,                                   00000200
//              PARM='B&TAPEVOL.&DISKVOL.&REL.'                               00000300
//STEPLIB   DD  DSN=&LIB,DISP=SHR                                             00000400
//SYSUDUMP  DD  SYSOUT=A                                                      00000500
//SCRDYNA   DD  DUMMY                                                         00000600
//LOADPDS   DD  DSN=&&LOADPDS,DISP=(,PASS),UNIT=2314,SPACE=(TRK,(1,1))        00000700
//COPYPROC  DD  DUMMY                                                         00000800
//UNLDB     EXEC  PGM=IEBGENER,REGION=100K                                    00000900
//SYSPRINT  DD  SYSOUT=A                                                      00001000
//SYSUT1    DD  DSN=DYNA&REL,DISP=SHR                                         00001100
//SYSUT2    DD  DSN=DYNA&REL,DISP=(,KEEP),UNIT=TAPE9,LABEL=1,                 00001200
//              DCB=(LRECL=7250,BLKSIZE=7250,RECFM=F),                        00001300
//              VOL=(PRIVATE,RETAIN,,,SER=&TAPEVOL.)                          00001400
//SYSIN     DD  DUMMY                                                         00001500
//UNLPDS    EXEC  PGM=IEHMOVE,REGION=100K                                     00001600
//SYSPRINT  DD  SYSOUT=A                                                      00001700
//SYSUT1    DD  UNIT=2314,VOL=SER=WORK01,DISP=OLD                             00001800
//DISK      DD  UNIT=2314,VOL=SER=&DISKVOL,DISP=OLD                           00001900
//TAPE      DD  DSN=DYNA&REL,DISP=(OLD,KEEP),UNIT=TAPE9,                      00002000
//              DCB=(LRECL=80,BLKSIZE=800,RECFM=FB),                          00002100
//              VOL=(PRIVATE,RETAIN,,,SER=&TAPEVOL.)                          00002200
//SYSIN     DD  DSN=&&LOADPDS,DISP=(OLD,DELETE)                               00002300
//UNLCORN   EXEC  PGM=IEBGENER,REGION=100K                                    00002400
//SYSPRINT  DD  SYSOUT=A                                                      00002500
//SYSUT1    DD  DSN=CORNQUE,DISP=SHR                                          00002600
//SYSUT2    DD  DSN=CORNQUE,DISP=(,KEEP),UNIT=TAPE9,LABEL=5,                  00002700
//              DCB=(LRECL=80,BLKSIZE=800,RECFM=FB),                          00002800
//              VOL=(PRIVATE,RETAIN,,,SER=&TAPEVOL.)                          00002900
//SYSIN     DD  DUMMY                                                         00003000
```

Figure B-1--Continued

Appendix B--Continued

```
MEMBER NAME - DYNAUPDP

//DYNAUPDP       PROC     ACTION=DYNAUPD,MMATRIX=DYNABASE,RMATRIX=NA,             00000100
//                 MDISP=OLD                                                       00000200
//DYNAUPD   EXEC   PGM=SHARDISK,REGION=194K,                                       00000300
//                 PARM=(MMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.)        00000400
//STEPLIB   DD     DSN=DYLOAD,DISP=SHR                                             00000500
//ASOENDO1  DD     SYSOUT=A,SPACE=(TRK,(1,100))                                    00000600
//SYSUDUMP  DD     SYSOUT=A,SPACE=(TRK,(1,100))                                    00000700
//MMATRIX   DD     DSN=&MMATRIX,DISP=SHR                                           00000800
//TMATRIX   DD     DUMMY                                                           00000900
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                                       00001000
//REPORT    DD   SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)                   00001100
//CARDIN    DD    DDNAME=SYSIN,DCB=BLKSIZE=80                                      00001200
```

Figure B-1--Continued

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Appendix B--Continued

```
MEMBER NAME - JCLMODP

//JCLMODP       PROC    OPTION=' ',OUTDISP='SHR',PDSOUT=NULLFILE,     00000100
//                LIB=DYLOAD,DYNADSN=NODSN,PDSIN=NODSN                 00000200
//JCLMOD    EXEC  PGM=SHARDISK,REGION=150K,                            00000300
//                PARM='PDSOUT,JCLMOD,&OPTION.'                        00000400
//STEPLIB   DD  DSN=&LIB,DISP=SHR                                      00000500
//SYSUDUMP  DD  SYSOUT=A                                               00000600
//SYSOUT    DD  SYSOUT=A                                               00000700
//NEWMEMBS  DD  SYSOUT=A                                               00000800
//PDSOUTPT  DD  SYSOUT=A                                               00000900
//MMATRIX   DD  DSN=&DYNADSN,DISP=SHR                                  00001000
//ALLPDS    DD  DSN=&PDSIN,DISP=SHR                                    00001100
//PDSOUT    DD  DSN=&PDSOUT,DISP=&OUTDISP,UNIT=2314,                   00001200
//              SPACE=(TRK,(50,10,100))                                00001300
//EXCEPT    DD  DDNAME=SYSIN,DCB=BLKSIZE=80                            00001400
```

Figure B-1--Continued

Appendix C

DYNAMAT MESSAGES

DYNACOMP-001 DATA SET NAME MISSING IN PARM

Explanation: The DYNACOMP utility was invoked, and one or more data set name was omitted from the PARM field (or symbolic parameters MASTER1 and MASTER2).

System Action: Processing is terminated.

User Response: Insure proper data set names are inserted. Resubmit job.

DYNAMAT-002 INCORRECT OR MISSING ACTION IN PARM FIELD--DYNAMAT PROCESSING TERMINATED

Explanation: The PARM field contains invalid data.

System Action: Processing terminates.

User Response: Correct PARM field entry and rerun.

DYNAMAT-003 NON IDENTIFIABLE INPUT CONTROL CARD--DYNAMAT PROCESSING TERMINATED

Explanation: Control card missing in input stream that should have preceded data cards.

System Action: Input card displayed and processing is terminated.

User Response: Check input stream for missing control card. Resubmit job.

DYNAMAT-004 MAX NUMBER OF JOBS TO RUN EXCEEDS 115--JOBNAME jjjjjjjj WILL NOT BE TERMINATED IN SIMULATION

Explanation: More than 115 jobs and/or actions were input to the simulator. Job jjjjjjjj is bypassed during this simulation.

System Action: Processing continues.

User Response: Reduce the input into the simulator to the allowable level.

DYNAMAT-005 EXPECTED CONTINUATION CARD NOT RECEIVED--DYNAMAT PROCESSING TERMINATED

Explanation: Preceding data card contained a non-blank character in cc 72, thus indicating a continuation of the data card.

System Action: Input card displayed and processing is terminated.

User Response: Check input data cards for error. Resubmit job.

DYNAMAT-006 FORMAT ERROR IN CARD COLUMN xx--DYNAMAT PROCESSING TERMINATED

Explanation: An error was encountered in cc xx on an input card. This may be: (1) an incorrect keypunch; or (2) a duplicate keyword for the same data card; or (3) an invalid number of characters in a keyword field; or (4) a blank in cc 72 when it should have been a non-blank character to denote a continuation.

System Action: Input card displayed and processing is terminated.

User Response: Check input streams for error. Resubmit job.

Appendix C—Continued

DYNAMAT-007 INVALID TYPE/KEYWORD ON INPUT CARD--DYNAMAT PROCESSING TERMINATED

Explanation: (1) A control card contained an invalid combination of operand/operation. (2) A data card contained a keyword that was invalid for the function being performed or was invalid for the action being taken. (3) A non-recognizable keyword was encountered on a control card or data card.

System Action: Input card displayed and processing is terminated.

User Response: Check input stream for error. Resubmit job.

DYNAMAT-009 KEYWORD kkkkkkkk CONTAINS INVALID DATA--DYNAMAT PROCESSING TERMINATED

Explanation: The data following a keyword kkkkkkkk contains: (1) an invalid character; or (2) too many characters for this keyword; or (3) this keyword has already been processed for this data card.

System Action: Input card is displayed and processing is terminated.

User Response: Check input stream for error. Resubmit job.

DYNAMAT-010 ** ERROR ** kkkkkkkk $\left\{\begin{matrix}\text{AAA}\\ \text{AAAAnnnn}\end{matrix}\right\}\left\{\begin{matrix}\text{PREDEFINED}\\ \text{NOT DEFINED}\end{matrix}\right\}$ ON $\left\{\begin{matrix}\text{RUNNING MATRIX}\\ \text{MASTER DATA BASE}\end{matrix}\right\}$ FOR $\left\{\begin{matrix}\text{RMATRIX}\\ \text{sssssss}\end{matrix}\right\}$ ffffffff --- DYNAMAT PROCESSING TERMINATED

Explanation: An update action is being performed and an error has been encountered. The contents $\begin{matrix}\text{AAA}\\ \text{AAAn}\\ \text{AAAAnnnn}\end{matrix}$ of the key field kkkkkkkk is either predefined or not defined on the indicated data base for the indicated modification ffffffff. If the update is to the Master Data Base, ssssss indicates the segment being addressed.

System Action: Input card is displayed and processing is terminated.

User Response: Check input stream for indicated error. Resubmit job.

DYNAMAT-011 KEYWORD kkkkkkkk INVALID ON CONTROL CARD--DYNAMAT PROCESSING TERMINATED

Explanation: An invalid keyword kkkkkkkk was encountered on a control card or data card. This keyword may appear more than once on the same data card.

System Action: Input card is displayed and processing terminates.

User Response: Check input stream for indicated error. Resubmit job.

DYNAMAT-012 CONTINUATION CARD DOES NOT START IN COL 16--DYNAMAT PROCESSING TERMINATED

Explanation: An expected continuation card did not begin in cc 16.

System Action: Input card is displayed and processing is terminated.

User Response: Check input stream for indicated error. Resubmit job.

DYNAMAT-015 DUPLICATE ENTRY IN ssssss BUILD FOR NUMBER nnn--DYNAMAT FILE BUILD TERMINATED

Explanation: During the build for segment ssssss a duplicate build data card for number nnn was encountered. Duplicate build keys are not allowed.

System Action: Input card is displayed and processing is terminated.

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DYNAMAT-020 ERROR IN DEPENDENCIES OR RESOURCES FOR UNKNOWN JOB NOT YET RUN--INITIATORS EMPTY--TOTAL JOBS NOT RUN

```
***** THE FOLLOWING JOBS HAVE NOT RUN THRU THE SIMULATOR *****

                    RJN     BJN     JOBNAME
                    rrr     bbb     jjjjjjjj
```

__Explanation__: The simulator encountered a condition in its last level of intercept for which no action could be taken. The condition could be: (1) a dependency loop due to the job mix and/or a TMOD dependency modification; or (2) an unknown job indicates resources beyond the system environment capability. The job in error is one of the jobs listed; where rrr is the Running Matrix job number, bbb is the Master Matrix job number, and jjjjjjjj is the job name of the job in error.

__System Action__: Processing terminates.

__User Response__: Determine which job contains the invalid condition. Resubmit job.

DYNAMAT-025 xxxxx FOLLOWED BY yyyyy FOR fffff--THESE ARE MUTUALLY EXCLUSION ACTIONS--DYNAMAT PROCESSING TERMINATED

__Explanation__: Operation yyyyy was encountered on a control card following operation xxxxx for the operand fffff. The two operations indicated are mutually exclusive within the same execution.

__System Action__: Input card is displayed and processing is terminated.

__User Response__: Change the operation on the incorrect control card. Resubmit job.

DYNAMAT-030 PARM ACTION OF pppppppp DOES NOT PERMIT THE REQUESTED FUNCTION OF ffffffff--DYNAMAT PROCESSING TERMINATED

__Explanation__: The symbolic parameter ACTION in the PARM field contains pppppppp which does not permit the requested operation ffffffff on the input control card. The operation ffffffff cannot be input under the action pppppppp.

__System Action__: Input control card is displayed and processing terminates.

__User Response__: Change the ACTION field to correspond to the operation being used or change the operation to correspond to the ACTION field. Resubmit job.

DYNAMAT-035 PARM DISP OF ddd INCONSISTENT WITH PARM REQUEST OF ffffffff--DYNAMAT PROCESSING TERMINATED

__Explanation__: The symbolic parameter DISP contents ddd in the PARM field is not consistent with the symbolic parameter ACTION contents ffffffff in the PARM field. An example would be a DISP of OLD with an ACTION of BUILD .

__System Action__: Processing is terminated.

__User Response__: Change the DISP field to contain the proper contents for the action being performed. Resubmit job.

Appendix C--Continued

DYNAMAT-050

** WARNING ** KEYWORD kkkkkkkk $\left\{\begin{matrix}\text{OMITTED DURING}\\ \text{NOT USED FOR}\\ \text{FORCED -AVE FOR}\\ \text{SUPERFLUOUS FOR}\end{matrix}\right\}$ ssssss ffffff FOR $\left\{\begin{matrix}\text{NUMBER/NAME}\\ \text{JOBNUM/JOBNAME}\end{matrix}\right\}$ aaa/nnnnnnnn--DYNAMAT WILL $\left\{\begin{matrix}\text{INSERT vvv}\\ \text{BYPASS}\end{matrix}\right\}$

Explanation: This is only a warning message to the user, indicating action taken by DYNAMAT during an update process. The keyword kkkkkkkk is currently being processed. The action was taken during update ffffff for segment ssssss. The data card encountered has a JOBNUM/NUMBER of aaa and a JOBNAME/NAME of nnnnnnnn. DYNAMAT either bypassed this keyword or inserted a default value of vvv.

System Action: Processing continues.

User Response: Verify that the DYNAMAT action taken of bypassing or inserting a default value is acceptable.

DYNAMAT-053

XMATRIX REQUEST NOT ALLOWED WITH xxxx ACTION(S)--REQUEST IGNORED

Explanation: A report control card for an XMATRIX report was encountered in the input stream which also contains the operation xxxx (PMOD or TMOD). This is not allowed with an update.

System Action: Processing continues.

User Response: If the XMATRIX type of report is required, submit in a jobstep without PMODs or TMODs.

DYNAMAT-060

** ERROR ** $\left\{\begin{matrix}\text{KEYWORD kkkkkkkk OMITTED}\\ \text{DUPLICATE UPDATE ATTEMPT}\end{matrix}\right\}$ DURING ssssss ffffff FOR JOBNUM/JOBNAME aaa/nnnnnnnn - DYNAMAT TERMINATING

Explanation: An error was encountered during an update process. One of two conditions existed: (1) a keyword kkkkkkkk was omitted that was required; or (2) an attempt was made to update the same entry in the same segment more than once. The error occurred while updating segment ssssss using the operation ffffff. The data card in error was for JOBNUM aaa and JOBNAME jjjjjjjj.

System Action: Input card is displayed and processing is terminated.

User Response: Correct the data card error. Resubmit job.

DYNAMAT-065

xxxx REQ EXCEEDS ENVIRONMENT IN DATA BASE FOR JOBNUM/JOBNAME aaa/jjjjjjjj - DYNAMAT TERMINATING

Explanation: The simulator encountered a condition, whereby the device type xxxx request for JOBNUM aaa and JOBNAME jjjjjjjj exceeded the system environment.

System Action: Processing is terminated.

User Response: Correct the unit request for device type xxxx to be within the environment being simulated, or change the simulation environment accordingly. Resubmit job.

Appendix C--Continued

DYNAMAT-070 JOBNAME jjjjjjjj NOT DEFINED ON MASTER DATA BASE--DYNAMAT WILL CONTINUE SIMULATION

Explanation: Job jjjjjjjj input to the simulator was not found on the Master Data Base, and no TMOD/PMOD ADD was present in the input stream.

System Action: Processing continues.

User Response: Add the job to the data base via a TMOD or PMOD or delete from input stream for simulation. Resubmit job if any modification is desired.

DYNAMAT-080 NO SIM JOBS IN INPUT STREAM--DYNAMAT SIMULATION ABANDONED

Explanation: The simulator did not encounter any input to be processed.

System Action: Processing is terminated.

User Response: Check input stream. Resubmit job.

DYNAMAT-081 xxxxxx RESOURCE NOT DEFINED ON MASTER DATA BASE--DYNAMAT SIMULATION ABANDONED

Explanation: The resource xxxxxx is not defined on the Master Data Base for simulation. It has not been built via DYNABLD.

System Action: Processing is terminated.

User Response: Build the resource xxxxxx into the Master Data Base. Resubmit job.

DYNAMAT-082 KEYWORD kkkkkkkk CANNOT BE PROCESSED--JOB jjjjjjjj HAS NEVER RUN--DYNAMAT PROCESS TERMINATING

Explanation: The keyword kkkkkkkk (OLDTIME or NEWTIME) is being processed, but the job named jjjjjjjj has never been processed.

System Action: Input card is displayed and processing is terminated.

User Response: None.

DYNAMAT-090 AT TIME = tttt JOB jjjjjjjj SELECTED/NOT RELEASED--reason not released

Explanation: At time tttt during the simulation, the job named jjjjjjjj was selected for scheduling, but was not released to the simulator, due to the reason given. The possible reasons are:

- FILE NUM nn UNDEFINED IN SYSTEM
- fffff CURRENTLY BEING UPDATED
- NOT ENOUGH xxxxx CURRENTLY AVAILABLE

where nn = a file number
fffff = a file name
xxxxx = a system resource

System Action: Processing continues

User Response: None.

Appendix C--Continued

DYNAMAT-091 AT TIME = tttt x MORE INITIATORS REQUIRED TO EFFECT OPTIMUM SYSTEM UTILIZATION *****

Explanation: At time tttt during the simulation, x more initiators could have been used. There were jobs available for processing, but there was a lack of initiators.

System Action: Processing continues.

User Response: Increase the initiators defined to the simulator if desired.

DYNAMAT-095 JOB jjjjjjjj reason statistics not posted--NO ACTION TAKEN

Explanation: The statistic posting routine encountered a condition that caused statistics for job jjjjjjjj not to be posted. The reason for not posting is one of the following:

- Previously posted to master
- Has not processed to EOJ
- Has invalid master JOBNUM
- Not active in Master Matrix
- Not matched to Master Matrix
- Initiated outside of DYNAMAT

System Action: Processing continues.

User Response: None.

DYNAMAT-097 ** WARNING ** ELAPSED TIME OF tttt MIN FOR JOB jjjjjjjj INCLUDES

TIME ACCRUED DURING x ABEND(S)--NO ACTION TAKEN

Explanation: During the automatic statistic posting for job jjjjjjjj, which had gone to a normal end-or-job, it was found that this job had previously abended x times. The total elapsed time from when the job initially started until it completed normally, including the abends, was tttt. minutes. No posting will occur due to the ABENDED.

System Actions: Processing continues.

User Response: The time may be manually inserted via an update with 'OLDTIME=0,NEWTIME=tttt, if desired.

DYNAMAT-098 JOB jjjjjjjj {PROCESSED TO EOJ / EOJ OUTSIDE DYNAMAT} --BEING DELETED FROM RMATRIX

Explanation: The on-the-fly process is deleting job jjjjjjjj from the Running Matrix, due to the stated reason.

System Action: Processing continues

User Response: None.

DYNAMAT-099 ** WARNING ** JOBNAME jjjjjjjj IS DUPLICATED IN THE DATA BASE

Explanation: During an XMATRIX report request, job jjjjjjjj was found to exist more than once in the Master Data Base.

System Action: Processing continues.

User Response: Take the appropriate action to insure unique job name entries on the Master Data Base. Duplicate job names may cause unpredictable results.

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Appendix C--Continued

DYNAMAT-100 MMATRIX REWRITE $\begin{Bmatrix}\text{BYPASSED}\\ \text{COMPLETE}\end{Bmatrix}$ --DYNAFLY $\begin{Bmatrix}\text{NOT INVOKED}\\ \text{INVOKED}\end{Bmatrix}$

__Explanation:__ The stated action was taken on the Master Data Base (MMATRIX), based upon whether or not the DYNAFLY function was invoked.

__System Action:__ Processing continues.

__User Response:__ None.

DYNAMAT-105 JOBNAME jjjjjjjj NOT ON RMATRIX FOR DELETE--DYNAMAT SIMULATION CONTINUING

__Explanation:__ The on-the-fly process received a request to delete job jjjjjjjj from the Running Matrix. One of two conditions existed; (1) the job did not exist on the Running Matrix; or (2) during the initial process for on-the-fly, the job has been flagged as EOJ and already has been deleted from the Running Matrix.

__System Action:__ Processing continues.

__User Response:__ If the first condition exists, verify the job named for the delete action and resubmit the job. If the second condition exists, no action is required.

DYNAMAT-110 $\begin{Bmatrix}\text{MMATRIX MODIFIED/RMATRIX ADDED TO}\\ \text{NO MMATRIX MODIFICATIONS/RMATRIX ADDS}\end{Bmatrix}$ --DEPENDENCY OPTIMIZER $\begin{Bmatrix}\text{INVOKED}\\ \text{BYPASSED}\end{Bmatrix}$

__Explanation:__ During the on-the-fly process, the stated condition caused the Dependency Optimizer to either be invoked or bypassed. Any modification that may cause a dependency change will invoke the Dependency Optimizer.

__System Action:__ Processing continues.

__User Response:__ None.

DYNAMAT-111 RMATRIX REWRITE $\begin{Bmatrix}\text{COMPLETE}\\ \text{BYPASSED}\end{Bmatrix}$ -- $\begin{Bmatrix}\text{DYNAFLY INVOKED}\\ \text{DYNAFLY/JIMUPD NOT INVOKED}\end{Bmatrix}$

__Explanation:__ The stated action was taken on the Running Matrix (RMATRIX), based upon whether or not the DYNAFLY or the JIMUPD functions were invoked.

__System Action:__ Processing continues.

__User Response:__ None.

DYNAMAT-120 DELETION OF FILE fffff DISALLOWED--CURRENTLY IN USE--DYNAMAT PROCESSING TERMINATED.

__Explanation:__ A request to delete file fffff was received by the on-the-fly process. The file was currently in use on the Running Matrix.

__System Action:__ Processing is terminated.

__User Response:__ Verify the request for accuracy and (1) wait for the file to become inactive, or (2) take appropriate action to cancel the job currently using the file.

DYNAMAT-150 ** WARNING ** --ABOVE UPDATES APPLIED TO RMATRIX DIRECTLY

__Explanation:__ The JIMUPD function was invoked and updates were applied to the Running Matrix directly without benefit of the DYNAMAT interface.

__System Action:__ Processing continues.

__User Response:__ None.

Appendix C--Continued

DYNAMAT-200 JOBNAME jjjjjjjj BEING DELETED PER REQUEST

Explanation: The on-the-fly process encountered a request to delete job jjjjjjjj and is in process of doing so.

System Action: Processing continues.

User Response: None.

DYNAMAT-250 RMATRIX JOBNAME rrrrrrrr NOT = MMATRIX JOBNAME mmmmmmmm FOR JOBNUM nnnn--DYNAMAT PROCESSING TERMINATED

Explanation: The on-the-fly process encountered jobname rrrrrrrr on the Running Matrix (RMATRIX) which did not match the jobname mmmmmmmm on the Master Data Base (MMATRIX). The job number for the job is nnnn. This condition is not allowed.

System Action: Processing is terminated.

User Response: Correct the condition by invoking (1) JIMUPD to change the jobname on the Running Matrix, or (2) DYNAUPD to change (via TMOD or PMOD) the jobname on the Master Data Base. Resubmit job.

DYNAMAT-275 JN nnnn HAS NOT PROCESSED TO EOJ --EL UPDATE DISALLOWED--DYNAMAT PROCESSING

Explanation: The on-the-fly process encountered a request to modify the elapsed time field (EL) on the Running Matrix for job number nnnn. This job has not gone to end-of-job (EOJ) yet; therefore, this request is not allowed.

System Action: Processing is terminated.

User Response: None.

DYNAMAT-280 TMOD $\left\{\begin{array}{l}\text{DELETE}\\ \text{ADD}\end{array}\right\}$ DISALLOWED UNDER JIMUPD --DYNAMAT TERMINATING

Explanation: During the JIMUPD process, a TMOD ADD or DELETE was encountered. No adds or deletes are allowed under the JIMUPD function.

System Action: Processing is terminated.

User Response: Use the DYNAFLY function to perform any TMOD ADD or DELETE. Resubmit job.

DYNAMAT-290 TMOD ssssss DISAL[illegible] UNDER JIMUPD --DYNAMAT TERMINATING

Explanation: The JIMUPD process encountered a TMOD for segment ssssss. The only segment that may be addressed during a JIMUPD process is the job matrix segment.

System Action: Processing is terminated.

User Response: Use the DYNAFLY function to perform the requested TMOD segment update.

DYNAMAT-310 JOBNUM nnnn HAS S/E/A--ES DISALLOWED--DYNAMAT TERMINATING

Explanation: The on-the-fly process encountered a request to modify the early start field (ES) for job number nnnn on the Running Matrix. This job has already gone to end-of-job; therefore, any modification to the early start field is meaningless.

System Action: Processing is terminated.

User Response: None.

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Appendix C--Continued

DYNAMAT-411 RMATRIX REWRITE COMPLETE--JIMUPD INVOKED

DYNAMAT INTERFACE NOT INVOKED

PROCEED WITH CAUTION

Explanation: The JIMUPD function was invoked and updates were applied to the Running Matrix directly without benefit of the DYNAMAT interface. This message is only a word of caution to the user, as the modifications were applied directly.

System Action: Processing continues.

User Response: None.

DYNAMAT-420 FLY ADD OF JOB jjjjjjjj INVALID--ALREADY ON RMATRIX--WILL BYPASS

Explanation: The on-the-fly process encountered a request to add job jjjjjjjj to the Running Matrix (RMATRIX). This job was already present on the Running Matrix.

System Action: Processing continues.

User Response: None.

DYNAMAT-431 DEPENDENCIES FOR JOB nnnn EXCEED 12--DYNAMAT SIMULATION ABANDONED

Explanation: The Dependency Optimizer, after it had processed to EOJ, encountered a job nnnn that has more than 12 dependencies.

System Action: Processing is terminated.

User Response: Verify the dependencies established for this job and modify accordingly. Resubmit job.

DYNAMAT-460 ** ERROR **--NO INPUT ALLOWED UNDER JIMSIM--DYNAMAT TERMINATING

Explanation: During execution of the JIMSIM process, data was encountered in the input stream. No data may be input to this process, as it would be meaningless.

System Action: Processing is terminated.

User Response: Remove the data from the input stream. Resubmit job.

DYNAMAT-495 JOBNUM nnnn CONTAINS OR BACKS UP TO INVALID DEP OF dddd--DYNAMAT PROCESSING TERMINATED

Explanation: The Dependency Optimizer, in processing the dependencies for job number nnnn encountered a dependency dddd which it determined to be invalid for one of two conditions. (1) The job number nnnn being processed contained a dependency dddd which pointed to job nnnn; or (2) during this process the depency dddd eventually backed-off to some job which contained a dependency dddd which pointed to job number nnnn.

System Action: Processing is terminated.

User Response: Determine which dependency is invalid and correct it. Resubmit job.

Appendix C--Continued

DYNAMAT-498 xxxxxx OVERFLOW FOR JOB nnnn--SIMULATION ABANDONED

Explanation: The subscript counter xxxxxx overflowed during the Dependency Optimizer process. The job number it was addressing at the time was nnnn.

System Action: Processing is terminated.

User Response: Notify the developer of DSECS immediately.

DYNAMAT-499 DEP IN $\left\{\begin{matrix}\text{UNSCHEDULED}\\\text{SCHEDULED}\end{matrix}\right\}$ JOB nnnn POINTS BACK TO JOB xxxx CURRENTLY BEING OPTIMIZED --SIMULATION ABANDONED

Explanation: The Dependency Optimizer encountered an invalid dependency condition. It was currently addressing job number xxxx. A dependency in job number nnnn points back to job number xxxx. Job number nnnn was reached due to the use of the back-off option of handling dependencies.

System Action: Processing is terminated.

User Response: Determine which dependency is invalid and correct it. Resubmit job.

DYNAMAT-500 ALL JOBS ON RMATRIX HAVE COMPLETED NORMALLY--DYNAMAT PROCESSING TERMINATED

Explanation: The JIMSIM process was invoked and found all jobs on the Running Matrix to be complete; therefore, there were no jobs to be simulated.

System Action: Processing is terminated.

User Response: None.

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Appe[illegible] D

JIM REPORTS/OUTPUT

```
                    * *   D Y N A M A T   * *

                 JOB INITIATION STATUS REPORT

MATRIX START DATE/TIME 4286/1247          CURRENT DATE/TIME OCT 13 1974/1339

MAT    JOB   JOB                          START  STOP   ELAPSED        A  DEPENDENT
NUM P  NUM   NAME     SRI END ABN JDAY    TIME   TIME    TIME    EST   B  JOB NUMBERS

001 1  100   D35A      S   F      4286    12.47  13.31   00.44         0  NONE
002 1  101   D26A          F                                     1800  0  009
003 0  102   D26C          F                                           0  002
004 0  103   D27A          F                                           0  002
005 1  104   D27B          F                                           0  002
006 0  105   D26B          F                                           0  002
007 1  106   D38A          F                                           0  002
008 0  150   CCSSMILE      F                                           0  004,005,007.
                                                                          010
009 1  153   D35B      S   E   A  4286    13.31  13.39   00.08         1  001
010 1  154   D27D          F                                           0  002
011 0  200   D01A      S   E      4286    12.47  13.24   00.37         0  NONE
012 0  201   D01B      S   E      4286    13.24  13.31   00.07         0  011
013 0  202   D01C      S   E      4286    13.24  13.38   00.14         0  011
014 0  203   D01D      S          4286    13.31                        0  012
015 0  204   D01E                                                      0  013,014
016 1  207   DC4A                                                      0  015
017 2  302   W03B                                                      0  016,032
018 2  303   W02B                                                      0  017
019 2  304   W02C                                                      0  017
020 2  305   W03C                                                      0  017
021 2  306   W05A                                                      0  017
022 2  307   W04A                                                      0  018,019
023 2  308   W04C                                                      0  022
024 2  309   W05B                                                      0  020,021,022
025 2  310   W05C                                                      0  020,021,022
026 2  311   W11A                                                      0  024,025
027 1  313   W11B                                                      0  024,025
028 1  314   W11C                                                      0  024,025
029 1  315   W11D                                                      0  024
030 1  316   W11E                                                      0  028,034
031 1  317   W11F                                                      0  029,035
032 1  327   W02A          F                                           0  007,016
033 1  329   W11I                                                      0  028
034 1  330   W11G                                                      0  027
035 1  331   W11H                                                      0  027
036 2  350   SCSPEVE                                                   0  023,026
```

Figure D-1[illegible]JIM report.

Appendix [redacted]-Continued

```
                      ** D Y N A M A T **

                  JOB INITIATION STATUS REPORT

MATRIX START DATE/TIME 4286/1247          CURRENT DATE/TIME OCT 13 1974/1331

MAT    JOB  JOB                             START  STOP   ELAPSED         A  DEPENDENT
NUM P  NUM  NAME     SFT END ABN JDAY  TIME   TIME   TIME      EST   B  JOB NUMBERS

001 1  100  D35A      S   E      4286  12.47  13.31  00.44
002 1  101  D26A                                                    0  NONE
003 0  102  D26C                                              1800  0  009
004 0  103  D27A                                                    0  002
005 1  104  D27B                                                    0  002
006 0  105  D26B                                                    0  002
007 1  106  D38A                                                    0  002
008 0  150  CCSSMILE                                                0  002
                                                                    0  004,005,007,
009 1  153  D35B      S          4286  13.31                           010
010 1  154  D27D                                                    0  001
011 0  200  D01A      S   E      4286  12.47  13.24  00.37          0  002
012 0  201  D01B      S   E      4286  13.24  13.31  00.07          0  NONE
013 0  202  D01C      S          4286  13.24                        0  011
014 0  203  D01D      S          4286  13.31                        0  011
015 0  204  D01F                                                    0  012
016 1  207  D04A                                                    0  013,014
017 2  302  W03B                                                    0  015
018 2  303  W02B                                                    0  016,032
019 2  304  W02C                                                    0  017
020 2  305  W03C                                                    0  017
021 2  306  W05A                                                    0  017
022 2  307  W04A                                                    0  017
023 2  308  W04C                                                    0  018,019
024 2  309  W05B                                                    0  022
025 2  310  W05C                                                    0  020,021,022
026 2  311  W11A                                                    0  020,021,022
027 1  313  W11B                                                    0  024,025
028 1  314  W11C                                                    0  024,025
029 1  315  W11D                                                    0  024,025
030 1  316  W11E                                                    0  024
031 1  317  W11F                                                    0  028,034
032 1  327  W02A                                                    0  029,035
033 1  329  W11I                                                    0  007,016
034 1  330  W11G                                                    0  028
035 1  331  W11H                                                    0  027
036 2  350  SCSREVE                                                 0  027
                                                                    0  023,026
```

Figure D-2. JIM r[redacted]t (with param = A).

Appendix D--Continued

```
FILE NUMBER          111111111122222222223333333333444444444455555555556
            123456789012345678901234567890123456789012345678901234567890

FILE STATUS   RU   ERR         UU                                RR
FILE USERS  001100011100000000011000000000000000000000000000000001100000
FILE DEVICE 000200000000000000000000000000000000000000000000000000000000
            261114113112111012012000031100000190000100121112110130100000
ABEND COUNT 000000000000000000000000000000000000000000000000000000000000
ABEND COUNT 00000000000000000000000000000000000000000000000000000000
```

Figure D-2--Continued

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Appendix D--Continued

```
                         * *   D Y N A M A T   * *

                       JOB INITIATION STATUS REPORT

MATRIX START DATE/TIME 4286/1637          CURRENT DATE/TIME OCT 13 1974/1724

MAT    JOB   JOB                                START  STOP    ELAPSED        A  DEPENDENT
NUM P  NUM   NAME       SPT END ABN JDAY TIME   TIME    TIME    EST   B  JOB NUMBERS

001 1 002 D02A      S   E       4286 16.37  16.56   00.19          P  NONE
002 1 101 D26A                                                     0  001,012
003 0 102 D26C                                                     0  002
004 0 103 D27A                                                     0  002
005 1 104 D27B                                                     0  002
006 0 105 D26B                                                     0  002
007 1 106 D38A                                                     0  002
008 0 150 CCSSMILE                                                 0  004,005,007,
                                                                      010
009 1 010 Z01A      S   E       4286 16.56  17.06   00.10          P  001
010 1 154 D27D                                                     0  002
011 1 011 Z01B      S           4286 17.06                         0  009
012 1 012 Z01C      S           4286 17.06                         0  009
013 1 013 Z01D                                                     0  011,012
014 1 014 Z01E                                                     0  013
015 0 015 Z01F                                                     0  013
016 0 016 Z01H                                                     0  013
017 2 302 W03B                                                     0  001,032
018 2 303 W02B                                                     0  017
019 2 304 W02C                                                     0  017
020 2 305 W03C                                                     0  017
021 2 306 W05A                                                     0  017
022 2 307 W04A                                                     0  001,018,019
023 2 308 W04C                                                     0  022
024 2 309 W05B                                                     0  020,021,022
025 2 310 W05C                                                     0  020,021,022
026 2 311 W11A                                                     0  024,025
027 1 313 W11B                                                     0  024,025
028 1 314 W11C                                                     0  024,025
029 1 315 W11D                                                     0  024
030 1 316 W11E                                                     0  028,034
031 1 317 W11F                                                     0  029,035
032 1 327 W02A                                                     0  013,007
033 1 329 W11I                                                     0  028
034 1 330 W11G                                                     0  027
035 1 331 W11H                                                     0  027
036 2 350 SCSREVE                                                  0  023,026
037 0 020 ITEMACTE                                                 0  014,015,016
```

Figure D-3. JIM report (with param = H).

Appendix D--Continued

```
COLMN NUMBR           11111111112222222222333333333344444444445555555556
             123456789012345678901234567890123456789012345678901234567890

             D02A     002000000000000000000000000029994000000000000015E4601
                      0200000000000000000000000002094490000000000003000   2609

FORMAT       --------*********************************************---****

   - = EBCDIC CHARACTERS.    * = HEXADECIMAL CHARACTERS.
```

```
FILE NUMBER           11111111112222222222333333333344444444445555555556
             123456789012345678901234567890123456789012345678901234567890

FILE STATUS  000000   R
FILE USERS   111110001000000000000000000000000000000000000000000000000000
FILE DEVICE  000200000000000000000000000000000000000000000000000000000000
             261114113112111012012000031100000190000100121112113130100000
ABEND COUNT   0000000 0000000000000000000000000000000000000000000000000000
ABEND COUNT  00000000000000000000000000000000000000000000000000000000
```

Figure D-3--Continued.

Appendix D--Continued

```
 ** DATE **  OCT 13 1974    ** TIME **  1724
CONTIGUOUS BLOCKS OF CORE AVAILABLE
   0994 0222 0000 0000 0000 0000 0000 0000 0000 0000
DEVICES AVAILABLE
   DISK(S)=0040  TAPE9(S)=0017  TAPE7(S)=0001  PRINTER(S)=0001  PUNCH(S)=0000
INITIATORS AVAILABLE = 00010
```

Figure D-4. JIMENV SYSOUT.

Appendix D--Continued

```
DYNAMAT-095     JOB 02CA      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB 026C      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB 027A      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB 027B      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB 02CB      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB 036A      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB CCSSMILL HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB 027D      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB Z01B      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB Z01C      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB Z01D      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB Z01E      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB Z01F      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB Z01H      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W03B      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W02B      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W02C      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W03C      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W05A      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W04A      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W04C      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W05B      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W05C      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11A      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11B      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11C      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11D      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11E      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11F      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W02A      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11T      HAS NOT PROCESSEB THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11G      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB W11H      HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB SCSREVL   HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
DYNAMAT-095     JOB ITEMACTE HAS NOT PROCESSED THRU TO NORMAL EOJ----NO ACTION WILL BE TAKEN
UPDATE RECORDS WRITTEN = 1000
UPDATE RECORDS READ = 1000
THE SORT REQUIRED     1 PASSES
```

Figure D-5. JIMPOST SYSOUT.

Appendix D--Continued

```
 ** DATE **  OCT 13 1974    ** TIME **  1339

CONTIGUOUS BLOCKS OF CORE AVAILABLE
   0998 0288 0000 0000 0000 0000 0000 0000 0000 0000
DEVICES AVAILABLE
   DISK(S)=0041  TAPE9(S)=0017  TAPE7(S)=0001  PRINTER(S)=0000  PUNCH(S)=0000
INITIATORS AVAILABLE = 00009

JOB=D35A     (001) RELEASED
JOB=D01A     (011) RELEASED


JOB=D26A    (0002) NOT RELEASED -- EST OF 1800 HRS NOT SATISFIED


JOB=D35B     (009) NOT RELEASED -- FN-REQ=004(U), CURRENTLY IN UPDATE


JOB=D26B     (006) NOT RELEASED -- PT-REQ=001  PT-AVAIL=000


AAQJIMND-TERM  JIMTERM IN PROCESS --- NO JOBS WILL BE RELEASED.
               TO BEGIN RELEASING JOBS --- EXEC PROC JIMRUNP
```

Figure D-6. SCAN SYSOUT examples.

Appendix D--Continued

```
** DATE **  OCT 13 1974    ** TIME **  1339

CONTIGUOUS BLOCKS OF CORE AVAILABLE
   0998 0288 0000 0000 0000 0000 0000 0000 0000 0000
DEVICES AVAILABLE
   DISK(S)=0041  TAPE9(S)=0017  TAPE7(S)=0001  PRINTER(S)=0000  PUNCH(S)=0000
INITIATORS AVAILABLE = 00009


JOB=D35A     (001) RELEASED
JOB=D01A     (011) RELEASED



JOB=D26A     (0002) NOT RELEASED -- EST OF 1800 HRS NOT SATISFIED



JOB=D35B     (009) NOT RELEASED -- FN-REQ=004(U), CURRENTLY IN UPDATE



JOB=D26B     (006) NOT RELEASED -- PT-REQ=001  PT-AVAIL=000



AAOJIMND-TERM  JIMTERM IN PROCESS --- NO JOBS WILL BE RELEASED.
               TO BEGIN RELEASING JOBS --- EXEC PROC JIMRUNP
```

Figure D-6. SCAN SYSOUT examples.

Appendix E

JIM CATALOGUED PROCEDURES

JIM PROCS

```
NAME=JIMCLEAR
 //JIMCLEAR     PROC    MATRIX=MATRIX,TYPE=CONS,DATE=                      00000100
 //***                                                                     00000200
 //*** THIS PROC IS USED TO OBTAIN THE APPLICATION CUT-OFF DATE            00000300
 //*** WHICH IS POSTED IN THE MATRIX FOR USE BY THE DATE-TIME              00000400
 //*** ROUTINE, AS9AOD, WHEN THE JIMDATE DD CARD IS PRESENT                00000500
 //***   AMXAL-TC   MARCH,1975                                             00000600
 //***                                                                     00000700
 //CLEAR EXEC   PGM=SHARDISK,REGION=54K,                                   00000800
 //             PARM='MATRIX,AA5JIMJR,&TYPE.&DATE'                         00000900
 //SYSUDUMP DD  SYSOUT=A,SPACE=(TRK,(1,100))                               00001000
 //MATRIX   DD  DSN=&MATRIX,DISP=SHR                                       00001100
 //* PROC JIMCLEAR WAS ADDED    ON 03/28/75 AT 04.01 WITH 00011 CARD(S).   99999999
```

Figure E-1. JIM PROCS.

MEMBER NAME - JIMENDP

```
//JIMENDP        PROC     MATRIX=RMATRIX,MMATRIX=DYNABASE,JOBNUM=NONE       00000100
//END         EXEC   PGM=SHARDISK,PARM='MATRIX,AA3JIMND,E&JOBNUM.',         00000200
//                REGION=62K,COND=(499,LT)                                  00000300
//STEPLIB    DD   DSN=DYLOAD,DISP=SHR                                       00000400
//SYSUDUMP   DD   SYSOUT=A,SPACE=(TRK,(1,10))                               00000500
//SYSOUT     DD   SYSOUT=A,SPACE=(TRK,(1,10))                               00000600
//MATRIX     DD   DSN=&MATRIX,DISP=SHR                                      00000700
//MMATRIX DD DSN=&MMATRIX,DISP=SHR                                          00000800
//WMATRIX    DD   DSN=&&WMATRIX,DISP=(,DELETE),UNIT=2314,SPACE=(TRK,(20)),  00000900
//              DCB=(LRECL=58,BLKSIZE=580,RECFM=FB)                         00001000
//HASPRDR    DD   DSN=NULLFILE,UNIT=INTRDR,DISP=SHR                         00001050
//ABEND      EXEC   PGM=SHARDISK,PARM='MATRIX,AA3JIMND,A&JOBNUM.',          00001100
//              COND=((0,EQ,END),EVEN)                                      00001200
//STEPLIB    DD   DSN=DYLOAD,DISP=SHR                                       00001300
//SYSUDUMP   DD   SYSOUT=A,SPACE=(TRK,(1,10))                               00001400
//SYSOUT     DD   SYSOUT=A,SPACE=(TRK,(1,10))                               00001500
//MATRIX     DD   DSN=&MATRIX,DISP=SHR                                      00001600
//HASPRDR    DD   DSN=NULLFILE,UNIT=INTRDR,DISP=SHR                         00001650
```

MEMBER NAME - JIMENVP

```
//JIMENVP        PROC     MATRIX=RMATRIX                                    00000100
//JIMENV     EXEC   PGM=SHARDISK,PARM='MATRIX,AA3JIMND,RXXX'                00000200
//STEPLIB    DD   DSN=DYLOAD,DISP=SHR                                       00000300
//SYSUDUMP   DD   SYSOUT=A,SPACE=(TRK,(1,10))                               00000400
//SYSOUT     DD   SYSOUT=A,SPACE=(TRK,(1,10))                               00000500
//MATRIX     DD   DSN=&MATRIX,DISP=SHR                                      00000600
```

Figure E-1--Continued.

Appendix E--Continued

MEMBER NAME - JIMOLDUP

```
//JIMUPDP        PROC     MATRIX=RMATRIX,JOBNUM=NONE
//JIMUPD    EXEC   PGM=SHARDISK,PARM='MATRIX,AA3JIMRP,U&JOBNUM.'     00000100
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                 00000200
//SYSUDUMP  DD   SYSOUT=A,SPACE=(TRK,(1,10))                         00000300
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                         00000400
//REPORT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                         00000500
//MATRIX    DD   DSN=&MATRIX,DISP=SHR                                00000600
                                                                     00000700
```

MEMBER NAME - JIMPOSTP

```
//JIMPOSTP       PROC     MATRIX=RMATRIX,MMATRIX=DYNABASE
//POST        EXEC   PGM=SHARDISK,PARM='MATRIX,AA3JIMND,POST',REGION=64K   00000200
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                 00000300
//SYSUDUMP  DD   SYSOUT=A,SPACE=(TRK,(1,10))                         00000400
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                         00000500
//MATRIX    DD   DSN=&MATRIX,DISP=SHR                                00000600
//MMATRIX   DD   DSN=&MMATRIX,DISP=SHR                               00000700
//WMATRIX   DD   DSN=&&WMATRIX,DISP=(,DELETE),UNIT=2314,SPACE=(TRK,(20)),  00000800
//             DCB=(LRECL=58,BLKSIZE=580,RECFM=FB)                   00000900
                                                                     00001000
```

MEMBER NAME - JIMREPTP

```
//JIMREPTP       PROC     MATRIX=RMATRIX,PARAM=
//JIMREPT   EXEC   PGM=AA3JIMRP,PARM=&PARAM                          00000100
//STEPLIB   DD   DSN=DYLOAD,DISP=SHR                                 00000200
//SYSUDUMP  DD   SYSOUT=A,SPACE=(TRK,(1,10))                         00000300
//SYSOUT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                         00000400
//REPORT    DD   SYSOUT=A,SPACE=(TRK,(1,10))                         00000500
//MATRIX    DD   DSN=&MATRIX,DISP=SHR                                00000600
                                                                     00000700
```

Figure E-1--Continued.

Appendix E--Continued

MEMBER NAME - JIMRESTP

```
//JIMRESTP      PROC     MATRIX=RMATRIX,JOBNUM=NONE                    00000100
//JIMREST  EXEC  PGM=SHARDISK,PARM='MATRIX,AA3JIMND,C&JOBNUM.'         00000200
//STEPLIB  DD  DSN=DYLOAD,DISP=SHR                                     00000300
//SYSUDUMP DD  SYSOUT=A,SPACE=(TRK,(1,10))                             00000400
//SYSOUT   DD  SYSOUT=A,SPACE=(TRK,(1,10))                             00000500
//MATRIX   DD  DSN=&MATRIX,DISP=SHR                                    00000600
//HASPRDR  DD  DSN=NULLFILE,UNIT=INTRDR,DISP=SHR                       00099999
```

MEMBER NAME - JIMRUNP

```
//JIMRUNP       PROC     MATRIX=RMATRIX                                00000100
//JIMRUN   EXEC  PGM=SHARDISK,PARM='MATRIX,AA3JIMND,Q'                 00000200
//STEPLIB  DD  DSN=DYLOAD,DISP=SHR                                     00000300
//SYSUDUMP DD  SYSOUT=A,SPACE=(TRK,(1,10))                             00000400
//SYSOUT   DD  SYSOUT=A,SPACE=(TRK,(1,10))                             00000500
//MATRIX   DD  DSN=&MATRIX,DISP=SHR                                    00000600
//HASPRDR  DD  DSN=NULLFILE,UNIT=INTRDR,DISP=SHR                       00099999
```

MEMBER NAME - JIMSCANP

```
//JIMSCANP      PROC     MATRIX=RMATRIX,MMATRIX=DYNABASE               00000100
//SCAN      EXEC  PGM=SHARDISK,PARM='MATRIX,AA3JIMND,SCAN'             00000200
//STEPLIB  DD  DSN=DYLOAD,DISP=SHR                                     00000300
//SYSUDUMP DD  SYSOUT=A,SPACE=(TRK,(1,10))                             00000400
//SYSOUT   DD  SYSOUT=A,SPACE=(TRK,(1,10))                             00000500
//MATRIX   DD  DSN=&MATRIX,DISP=SHR                                    00000600
//MMATRIX  DD  DSN=&MMATRIX,DISP=SHR                                   00000700
//WMATRIX  DD  DSN=&&WMATRIX,DISP=(,DELETE),UNIT=2314,SPACE=(TRK,(20)), 00000800
//             DCB=(LRECL=58,B( KSIZE=580,RECFM=FB)                    00000900
//HASPRDR  DD  DSN=NULLFILE,UNIT=INTRDR,DISP=SHR                       00099999
```

Figure E-1--Continued.

Appendix E--Continued

```
MEMBER NAME - JIMSIMP

//JIMSIMP       PROC    ACTION=JIMSIM,MMATRIX=DYNABASE,RMATRIX=RMATRIX, 000000100
//                      MDISP=OLD                                         00000200
//JIMREPT    EXEC   PGM=AA3JIMRP                                          00000210
//STEPLIB    DD   DSN=DYLOAD,DISP=SHR                                     00000220
//SYSUDUMP   DD   SYSOUT=A,SPACE=(TRK,(1,10))                             00000230
//SYSOUT     DD   SYSOUT=A,SPACE=(TRK,(1,10))                             00000240
//REPORT     DD   SYSOUT=A,SPACE=(TRK,(1,10))                             00000250
//MATRIX     DD   DSN=&RMATRIX,DISP=SHR                                   00000260
//JIMSIM     EXEC   PGM=SHARDISK,REGION=194K,                             00000300
//                  PARM=(TMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.) 00000400
//STEPLIB    DD   DSN=DYLOAD,DISP=SHR                                     00000500
//SYSUDUMP   DD   SYSOUT=A,SPACE=(TRK,(1,100))                            00000600
//MMATRIX    DD   DSN=&MMATRIX,DISP=SHR                                   00000700
//TMATRIX    DD   DSN=&RMATRIX,DISP=SHR                                   00000800
//SYSOUT     DD SYSOUT=A,SPACE=(TRK,(1,10))                               00000900
//REPORT     DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)           00001000
//CARDIN     DD   DDNAME=SYSIN,DCB=BLKSIZE=80                             00001100


MEMBER NAME - JIMTERMP

//JIMTERMP       PROC    MATRIX=RMATRIX                                   00000100
//JIMTERM    EXEC   PGM=SHARDISK,PARM='MATRIX,AA3JIMND,T'                 00000200
//STEPLIB    DD   DSN=DYLOAD,DISP=SHR                                     00000300
//SYSUDUMP   DD   SYSOUT=A,SPACE=(TRK,(1,10))                             00000400
//SYSOUT     DD   SYSOUT=A,SPACE=(TRK,(1,10))                             00000500
//MATRIX     DD   DSN=&MATRIX,DISP=SHR                                    00000600
```

Figure E-1--Continued

Appendix E--Continued

```
MEMBER NAME - JIMUPDP

//JIMUPDP       PROC    ACTION=JIMUPD,MMATRIX=DYNABASE,RMATRIX=RMATRIX, 000000100
//              MDISP=OLD                                                00000200
//JIMUPD    EXEC  PGM=SHARDISK,REGION=194K,                              00000300
//              PARM=(TMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.) 00000400
//STEPLIB   DD  DSN=DYLOAD,DISP=SHR                                      00000500
//SYSUDUMP  DD  SYSOUT=A,SPACE=(TRK,(1,100))                             00000600
//MMATRIX   DD  DSN=&MMATRIX,DISP=SHR                                    00000700
//TMATRIX   DD  DSN=&RMATRIX,DISP=SHR                                    00000800
//SYSOUT    DD SYSOUT=A,SPACE=(TRK,(1,10))                               00000900
//REPORT    DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)           00001000
//CARDIN    DD  DDNAME=SYSIN,DCB=BLKSIZE=80                              00001100
//RPAFTER   EXEC  PGM=AA3JIMRP,PARM=A                                    00001200
//STEPLIB   DD  DSN=DYLOAD,DISP=SHR                                      00001300
//SYSUDUMP  DD  SYSOUT=A,SPACE=(TRK,(1,100))                             00001400
//MATRIX    DD  DSN=&RMATRIX,DISP=SHR                                    00001500
//REPORT    DD  SYSOUT=A,SPACE=(TRK,(1,10))                              00001600
//SYSIN     DD  DUMMY,DCB=BLKSIZE=80                                     00001700
//SYSOUT    DD  SYSOUT=A,SPACE=(TRK,(1,10))                              00001800
```

Figure E-1--Continued.

Appendix F

JIM MESSAGES

1. JIM processing messages.

```
AA0JIMND-TERM JIMTERM IN PROCESS--NO JOBS WILL BE RELEASED

              TO BEGIN RELEASING JOBS--EXEC PROC JIMRUNP
```

Explanation: The RMATRIX has been quiesced via a JIMTERM, thus prohibiting the releasing of jobs.

System Action: Processing is terminated.

User Response: If processing is to be re-established, execute the JIMRUNP PROC.

```
AA0JIMND 'error message'
AA0JIMND TERMINATING ABNORMALLY DUE TO ABOVE ERROR
* AFTER CORRECTING SYNTAX THIS STEP MAY BE RERUN *
* VALID PARAMETERS FOR JIMEND ARE A,E, or S ONLY *
```

Explanation: The JIM process encountered an error in the parm field. The error message above may be one of the following:

```
. PARM INVALID-MUST BE 4 CHARACTERS
. PARM INVALID-JOB NUMBER NOT NUMERIC
. PARM INVALID-FIRST CHARACTER NOT A, E, S, R, or C
. JOB NUMBER ON PARM NOT IN MATRIX
```

System Action: Processing is terminated.

User Response: Correct the stated error condition. Resubmit job.

```
                                 {UPDATE }
ERROR IN UPDATING MASTER MATRIX  {REWRITE}  PHASE
```

Explanation: During the automatic posting of the statistics from RMATRIX to MMATRIX an uncorrectable error was encountered.

System Action: Processing is terminated.

User Response: Validate the block size of the Master Data Base, and, if erroneous, correct and resubmit job. Otherwise, notify the developer of DSECS immediately.

```
                              {A}
** ERROR **  ATTEMPT TO POST  {E}  TO JOB (nnnn) REDUNDANT

          AA3JIMND PROCESSING TERMINATED
```

Explanation: The JIMEND process encountered a request to post either an ABEND (A) or an end (E) to jobname jjjjjjjj, which is jobnumber nnnn. This job has already been posted as ended or ABENDED, thus this is a redundant request.

System Action: Processing is terminated.

User Response: Validate symbolic parameters on JIMENDP PROC. Resubmit job if required.

Appendix F--Continued

JOB = jjjjjjjj (nnnn) RELEASED

<u>Explanation</u>: Job jjjjjjjj with job number nnnn has been released to the computer system for processing.

<u>System Action</u>: Processing continues.

<u>User Response</u>: None.

JOB = jjjjjjjj (nnnn) NOT RELEASED--reason not released

<u>Explanation</u>: Job jjjjjjjj with job number nnnn could have been released, but was not for the reason indicated. The possible reasons for not releasing this job are:

- xx-REQ=ff(U),CURRENTLY IN UPDATE MODE
- xx-REQ=rrr,yy-AVAIL=aaa FOR FN = ff
- ii INSUFFICIENT CLASS-A initiators

where xx = mnemonic of a requested resource
ff = file number
rrr = number of devices requested
yy = mnemonic of available resource
aaa = number of devices available
ii = number of insufficient Class-A initiators

```
** DATE ** date     ** TIME ** time

CONTIGUOUS BLOCKS OF CORE AVAILABLE
  cccc cccc cccc cccc cccc cccc cccc cccc cccc cccc
DEVICES AVAILABLE
  DISK(S)=nn TAPE9(S)=nn TAPE7(S)=nn PRINTER(S)=nn PUNCH(S)=nn
INITIATORS AVAILABLE = nn
```

<u>Explanation</u>: This message is generated each time the scan process is invoked. This indicates the date and time that the system resources were scanned, depicting the blocks of core (cccc) and the number of units of each type (nn) that are presently available.

<u>System Action</u>: Processing continues.

<u>User Response</u>: None.

2. <u>JIM report messages</u>.

INVALID PARM pppp

<u>Explanation</u>: The JIM report process encountered an invalid parm field.

<u>System Action</u>: Processing is terminated.

<u>User Response</u>: Correct the parm error. Resubmit job.

RMATRIX NOT CREATED--ERROR

<u>Explanation</u>: The JIM report process was invoked, but the Running Matrix had not been created.

<u>System Action</u>: Processing is terminated.

<u>User Response</u>: Create the Running Matrix and resubmit job.

Appendix F--Continued

3. Console messages.

```
AA0JIMND-INIT **** JOB=jjjjjjjj (nnnn) NOT RELEASED --INSUFFICIENT CLASS A INITIATORS
```

Explanation: Job jjjjjjjj with job number nnnn could have been released at this time; however, there were not enough Class-A initiators available.

System Action: Processing continues.

User Response: No reply is required. However, if more initiators are desired, the operator should be so informed. After an initiator is started, the JIMSCANP PROC should be run, so that JIM is made aware of the additional resource.

```
AA0JIMND-TERM JIMTERM IN AFFECT--NO JOBS RELEASED
```

Explanation: The scan process was invoked, but the RMATRIX had been previously flagged by a JIMTERM, to prohibit releasing of jobs.

System Action: Processing is terminated.

User Response: If processing is to be re-established, execute the JIMRUNP PROC.

```
*********************************************************
***** ALL JOBS UNDER DYNAMAT CONTROL HAVE PROCESSED *****
***** NOTIFY SCHEDULING OR MONITOR PERSONNEL*************
*********************************************************
```

Explanation: All jobs have processed to EOJ.

System Action: Processing terminates.

User Response: None.

```
CORE BLOCKS (10 MAX) cccc cccc cccc cccc cccc cccc cccc cccc cccc cccc
DEVICES AVAILABLE TAPE9=nn TAPE7=nn 2314=nn PRINTERS=nn PUNCHES=nn INITS=nn
```

Explanation: This message is generated each time the JIMENVP PROC is executed. This indicates the blocks of core (cccc) and the number of units of each type (nn) that are available.

System Action: Processing is terminated

User Response: None.

Appendix G

RELEASE JCL

```
//ADDJCL1  EXEC  PGM=IEBGENER
//SYSPRINT DD  SYSOUT=A
//SYSUT1  DD  DATA
//***    ***   ***   ***   ***   ***   ***   ***   ***   ***   ***   ***
//***    ***   THIS FOLLOWING JOB IS TO GO TO THE INDIVIDUAL    ***   ***
//***    ***        THAT WILL PERFORM THE DYNAMAT RELEASE 2700 UPDATE.***
//***    ***   ***   ***   ***   ***   ***   ***   ***   ***   ***   ***
//*      THIS JOB WILL PERFORM THE FOLLOWING --                     ***
//*      1.  SCRATCH AND UNCATLG 'DYNA2700' ON YOUR SYSTEM          ***
//*      2.  GENER DATASET  'DYNA2700' TO YOUR SYSTEM               ***
//*      3.  COMPARE 'DYNA2700' TO 'DYNABASE'                       ***
//*                                                                 ***
//*      NOTE  REPLACE ALL REFERENCE TO 'XXXXXX' IN STEPS 1 AND 2   ***
//*            WITH VOLID OF PACK WHERE 'DYNA2700' IS TO BE PLACED  ***
//*                                                                 ***
//*      NOTE  REPLACE THE REFERENCE TO 'YYYYYY' IN STEP 2 WITH     ***
//*            THE TAPE VOLID USED FOR THE 2700 DYNAMAT UPDATE      ***
//*                                                                 ***
//*      NOTE  ANALYZE OUTPUT OF STEP 3 (COMPARE)                   ***
//*            AND MAKE APPROPRIATE DATA BASE CHANGES.              ***
//*                                                                 ***
//*      NOTE     THIS TAPE VOLID CONTAINS THE FOLLOWING --         ***
//*      1.  LABEL 1 = 'JCL2700' DATA SET.                          ***
//*      2.  LABEL 2 = 'DYNA2700' DATA SET.                         ***
//*      3.  LABEL 3 = DYNAMAT UPDATE CARDS THAT WERE APPLIED       ***
//*            TO 'DYNA2600' IN ORDER TO CREATE 'DYNA2700'.         ***
//*            THESE MAY BE USED IN UPDATING YOUR 'DYNABASE'        ***
//*            MASTER DATASET TO COME UP TO RELEASE 2700 SPECS.     ***
//SCRATCH   EXEC   PGM=IEHPROGM
//SYSPRINT DD   SYSOUT=A
//DD1        DD   UNIT=2314,VOL=SER=XXXXXX,DISP=OLD
//SYSIN      DD   *
  SCRATCH DSNAME=DYNA2700,VOL=2314=XXXXXX
  UNCATLG DSNAME=DYNA2700
```

Figure G-1

Figure G-1. Sampe JCL stream for central installation requirements.

Appendix G--Continued

```
//GENER      EXEC  PGM=IEBGENER,REGION=100K
//SYSPRINT DD   SYSOUT=A
//SYSUT1     DD   DSN=DYNA2700,UNIT=2400-3,DISP=OLD,LABEL=2,
//                VOL=SER=YYYYYY
//SYSUT2     DD   DSN=DYNA2700,UNIT=2314,DISP=(,CATLG),SPACE=(TRK,(8)),
//                DCB=(LRECL=7250,BLKSIZE=7250,RECFM=F),
//                VOL=SER=XXXXXX
//SYSIN      DD   DUMMY
//COMPARE    EXEC  DYNACOMP,MASTER1=DYNABASE,MASTER2=DYNA2700
//*    ***    ***    ***    ***    T H E   E N D     ***    ***    ***    ***
//*    ***    ***    ***    ***    T H E   E N D     ***    ***    ***    ***
/*
//SYSUT2     DD   DSN=JCLTEMP,DISP=(,PASS),UNIT=2314,
//                SPACE=(TRK,(10,10)),
//                DCB=(LRECL=80,BLKSIZE=80,RECFM=F)
//SYSIN      DD   DUMMY
//GENCHGS    EXEC  PGM=IEBGENER
//SYSPRINT  DD   SYSOUT=A
//SYSUT1     DD   *
/*
//SYSUT2     DD   DSN=CHGTEMP,DISP=(,PASS),UNIT=2314,
//                SPACE=(TRK,(10,10)),
//                DCB=(LRECL=80,BLKSIZE=80,RECFM=F)
//SYSIN DD   DUMMY
//RELEASE         PROC     VOLID=NONE,REL=NONE
//JCL        EXEC  PGM=IEBGENER
//SYSPRINT DD   SYSOUT=A
//SYSUT1     DD   DSN=JCLTEMP,DISP=(OLD,PASS)
//SYSUT2     DD   DSN=JCL&REL,DISP=(,KEEP),UNIT=2400-3,
//                VOL=(PRIVATE,RETAIN,,,SER=&VOLID.),
//                DCB=(LRECL=80,BLKSIZE=80,RECFM=F),LABEL=1
//SYSIN      DD   DUMMY
//DATABASE EXFC  PGM=IEBGENER,REGION=100K
//SYSPRINT DD   SYSOUT=A
//SYSUT1     DD   DSN=DYNA&REL,DISP=SHR
//SYSUT2     DD   DSN=DYNA&REL,DISP=(,KEEP),UNIT=2400-3,
//                VOL=(PRIVATE,RETAIN,,,SER=&VOLID.),
//                DCB=(LRECL=7250,BLKSIZE=7250,RECFM=F),LABEL=2
//SYSIN DD   DUMMY
```

Figure G-1--Continued

```
//UPDATES   EXEC   PGM=IEBGENER
//SYSPRINT DD    SYSOUT=A
//SYSUT1    DD    DSN=CHGTEMP,DISP=(OLD,PASS)
//SYSUT2    DD    DSN=CHG&REL,DISP=(,KEEP),UNIT=2400-3,
//                VOL=SER=&VOLID,
//                DCB=(LRECL=80,BLKSIZE=80,RECFM=F),LABEL=3
//SYSIN     DD    DUMMY
// PEND
//TAPE1      EXEC   RELEASE,REL=2700,VOLID=008285
//TAPE2      EXEC   RELEASE,REL=2700,VOLID=009186
//TAPE3      EXEC   RELEASE,REL=2700,VOLID=010673
//TAPE4      EXEC   RELEASE,REL=2700,VOLID=010009
//TAPE5      EXEC   RELEASE,REL=2700,VOLID=010755
//TAPE6      EXEC   RELEASE,REL=2700,VOLID=010334
//PRINT1     EXEC   PGM=IEBPTPCH
//SYSPRINT DD    SYSOUT=A
//SYSUT1    DD    DSN=JCL2700,DISP=OLD,UNIT=2400-3,VOL=SER=010334,LABEL=1
//SYSUT2    DD    SYSOUT=A,DCB=BLKSIZE=81
//SYSIN     DD    *
 PRINT MAXFLDS=1
 RECORD FIELD=(80)
//PRINT2     EXEC   PGM=IEBPTPCH
//SYSPRINT DD    SYSOUT=A
//SYSUT1    DD    DSN=DYNA2700,DISP=OLD,UNIT=2400-3,VOL=SER=010334,
// LABEL=2,DCB=(LRECL=116,BLKSIZE=7250,RECFM=FB)
//SYSUT2    DD    SYSOUT=A,DCB=BLKSIZE=117
//SYSIN     DD    *
 PRINT MAXFLDS=1
 RECORD FIELD=(116)
//PRINT3     EXEC   PGM=IEBPTPCH
//SYSPRINT DD    SYSOUT=A
//SYSUT1    DD    DSN=CHG2700,DISP=OLD,UNIT=2400-3,VOL=SER=010334,LABEL=3
//SYSUT2    DD    SYSOUT=A,DCB=BLKSIZE=81
//SYSIN     DD    *
 PRINT MAXFLDS=1
 RECORD FIELD=(80)
/*
```

Figure G-1--Continued

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