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COMMODITY COMMAND STANDARD SYSTEM OPERATING
INSTRUCTIONS (GUIDANCE)

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

VOLUME 6, CCSSOI 18-320

AUTOMATED LOGISTICS MANAGEMENT SYSTEMS AGENCY

DECEMBER 1974

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MANAGEMENT INFORMATION SYSTEMS**COMMODITY COMMAND STANDARD SYSTEM
OPERATING INSTRUCTIONS
(GUIDANCE)****PROGRAMMER'S HANDBOOK****DYNAMIC SCHEDULING
AND ENVIRONMENTAL CONTROL SYSTEM**

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COMMODITY COMMAND STANDARD SYSTEM OPERATING INSTRUCTIONS (GUIDANCE)

PROGRAMMER'S HANDBOOK

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/controling 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:

<u>Job matrix segment</u>		<u>Resultant job matrix</u>	
<u>Job</u>	<u>Dependency</u>	<u>Job</u>	<u>Dependency</u>
A	NONE	A	NONE
B	A	C	A
C	B		

(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:

<u>Job matrix segment</u>		<u>Resultant job matrix</u>	
<u>Job</u>	<u>Dependency</u>	<u>Job</u>	<u>Dependency</u>
A	NONE	A	NONE
B	A	C	NONE
C	*B*		

- (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) XTIME 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.

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)).

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 CIM 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. Execution control. a. General. 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. JCL required. 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

Note. 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:

<u>cc 1-3</u>	<u>OPERATION</u>	<u>OPERAND</u>
./b	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.

<u>cc 1-3</u>	<u>OPERATION</u>	<u>OPERAND</u>
./b	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.

<u>cc</u>	<u>Entry</u>	<u>Description</u>
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 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.

<u>cc</u>	<u>Entry</u>	<u>Description</u>
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

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

ffmmmmpp

where

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

mmmmmm = 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.

<u>cc</u>	<u>Entry</u>	<u>Description</u>
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.

<u>cc</u>	<u>Entry</u>	<u>Description</u>
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.

<u>cc</u>	<u>Entry</u>	<u>Description</u>
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).

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

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.

<u>cc</u>	<u>Card 1</u>	<u>Card 2</u>
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.

<u>cc 1-3</u>	<u>OPERATION</u>	<u>OPERAND</u>
./b	{ 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.

<u>Keyword</u>	<u>Field content</u>	<u>Description</u>
$\left\{ \begin{array}{l} \text{ACTION} \\ \text{AC} \end{array} \right\} =$	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.

<u>Segment</u>	<u>Keyword</u>	<u>Description</u>
Job matrix	$\left\{ \begin{array}{l} \text{JOBNUM} \\ \text{JN} \end{array} \right\} =$	The relative number of the job within this segment; must be one to three numeric digits from 1 through 960.
Application	$\left\{ \begin{array}{l} \text{APPLNO} \\ \text{AN} \end{array} \right\} =$	The application volume number; must be three numeric digits from 401 through 640.
Files	$\left\{ \begin{array}{l} \text{FILENO} \\ \text{FN} \end{array} \right\} =$	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	$\left\{ \begin{array}{l} \text{CORE} \\ \text{CR} \end{array} \right\} =$	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.

<u>Segment</u>	<u>Keyword</u>	<u>Description</u>
<u>1 Job</u> <u>matrix</u>	$\left\{ \begin{array}{c} \text{JOBNAME} \\ \text{JM} \end{array} \right\} -$	The job name of the job being modified; can be up to eight characters; <u>required</u> if the ACTION keyword specifies ADD or DELETE, since there is no default assignment.
	$\left\{ \begin{array}{c} \text{APPLNO} \\ \text{AN} \end{array} \right\} -$	The application volume number; must be three numeric digits from 401 through 640; <u>required</u> if the ACTION keyword specifies ADD, since there is no default assignment.
	$\left\{ \begin{array}{c} \text{DEPNO} \\ \text{DP} \end{array} \right\} -$	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; <u>required</u> if the ACTION keyword specifies ADD, since there is no default assignment.
	$\left\{ \begin{array}{c} \text{CORE} \\ \text{CR} \end{array} \right\} -$	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.
	$\left\{ \begin{array}{c} \text{CRITPATH} \\ \text{CP} \end{array} \right\} -$	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.
	$\left\{ \begin{array}{c} \text{FILENO} \\ \text{FN} \end{array} \right\} -$	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

<u>Segment</u>	<u>Keyword</u>	<u>Description</u>
		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.
	$\left\{ \begin{array}{l} \text{TAPE9} \\ \text{T9} \end{array} \right\} =$	$\left\{ \begin{array}{l} \text{The number of each type of device re-} \\ \text{quired for this job; must be one or} \\ \text{two numeric digits; default for ADD =} \\ 0. \end{array} \right\}$
	$\left\{ \begin{array}{l} \text{TAPE7} \\ \text{T7} \end{array} \right\} =$	
	$\left\{ \begin{array}{l} \text{PRINT} \\ \text{PT} \end{array} \right\} =$	
	$\left\{ \begin{array}{l} \text{PUNCH} \\ \text{PC} \end{array} \right\} =$	
	$\left\{ \begin{array}{l} \text{AVETIME} \\ \text{AT} \end{array} \right\} =$	The average running time in minutes for this job; must be one to four numeric digits; default for ADD = 0.
	$\left\{ \begin{array}{l} \text{TIMESRUN} \\ \text{TR} \end{array} \right\} =$	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.
	$\left\{ \begin{array}{l} \text{RECDATE} \\ \text{RD} \end{array} \right\} =$	The last four digits of the Julian day of the most current run; automatically maintained.
	$\left\{ \begin{array}{l} \text{RECTIME} \\ \text{RT} \end{array} \right\} =$	The time in minutes of the most current running of this job; must be one to four numeric digits; automatically maintained.
	$\left\{ \begin{array}{l} \text{OLDTIME} \\ \text{OT} \end{array} \right\} =$	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.

<u>Segment</u>	<u>Keyword</u>	<u>Description</u>
	$\left\{ \begin{array}{c} \text{NEWTIME} \\ \text{NT} \end{array} \right\} =$	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).

	<u>Keyword</u>	<u>Description</u>
	$\left\{ \begin{array}{c} \text{RMATRIX} \\ \text{RM} \end{array} \right\} =$	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.
	$\left\{ \begin{array}{c} \text{ELTIME} \\ \text{EL} \end{array} \right\} =$	The elapsed time in minutes for this job on RMATRIX; must be one to four numeric digits.
	$\left\{ \begin{array}{c} \text{ESTIME} \\ \text{ES} \end{array} \right\} =$	The early start time in hmmm 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.
	$\left\{ \begin{array}{c} \text{CRITPATH} \\ \text{CP} \end{array} \right\} =$	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 <u>Appli-</u> <u>cation</u>	$\left\{ \begin{array}{c} \text{APPLNAME} \\ \text{AN} \end{array} \right\} =$	The application mnemonic for the specified application number; must be one to seven characters; no default is assigned.
3 <u>Files</u>	$\left\{ \begin{array}{c} \text{FILENAME} \\ \text{FM} \end{array} \right\} =$	The file mnemonic for the specified file number; must be one to seven characters; <u>required</u> if action is ADD or DELETE, since there is no default assignment.
	$\left\{ \begin{array}{c} \text{PACKS} \\ \text{PK} \end{array} \right\} =$	The number of disk volumes on which the file resides; must be one or two numeric digits; default for ADD = 0.

<u>Segment</u>	<u>Keyword</u>	<u>Description</u>
<u>4 Devices</u>	{ 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 1-3OPERATIONOPERAND./~~Y~~

RUN

~~Y~~

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

<u>Keyword</u>	<u>Description</u>
$\left\{ \begin{array}{c} \text{APPLNAME} \\ \text{AM} \end{array} \right\} =$	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.
$\left\{ \begin{array}{c} \text{JOBNAME} \\ \text{JM} \end{array} \right\} =$	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.
$\left\{ \begin{array}{c} \text{INIT} \\ \text{IN} \end{array} \right\} =$	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.
$\left\{ \begin{array}{c} \text{STRTIME} \\ \text{ST} \end{array} \right\} =$	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.
$\left\{ \begin{array}{c} \text{INTERVAL} \\ \text{IT} \end{array} \right\} =$	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.

<u>Keyword</u>	<u>Description</u>
$\left\{ \begin{array}{l} \text{MESSAGE} \\ \text{MS} \end{array} \right\} =$	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.

<u>cc 1-3</u>	<u>OPERATION</u>	<u>OPERAND</u>
./p	REPORT	$\left\{ \begin{array}{l} \text{MATRIX} \\ \text{APPL} \\ \text{FILES} \\ \text{RESOURCES} \\ \text{ALL} \\ \text{XMATRIX} \\ \text{XAPPLJOB} \\ \text{XAPPLDEP} \\ \text{FILEMODE} \end{array} \right\}$

(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

./b

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 DYNCHK.

<u>Keyword</u>	<u>Description</u>
$\left\{ \begin{array}{c} \text{APPLNAME} \\ \text{AM} \end{array} \right\} =$	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.
$\left\{ \begin{array}{c} \text{JOBNAME} \\ \text{JM} \end{array} \right\} =$	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.
$\left\{ \begin{array}{c} \text{MESSAGE} \\ \text{MS} \end{array} \right\} =$	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

<u>JOBNUM</u>	<u>JOBNAME</u>	<u>APPLNO</u>	<u>DEPENDENCIES</u>
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.

```
//stepname EXEC DYNAUPDP
./ PMOD MATRIX
    AC=ADD,JN=825,JM=NEWJOB,AN=600,
        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
```

cc
72

X

c. Simulating an environment.

//stepname EXEC DYNASIMP	cc
./ RUN	<u>72</u>
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=6000,	X
DP=(-4,6,725),CR=600,T9=1	
AC=CHANGE,JN=6,CR=142	

d. On-the-fly updating.

```
//stepname EXEC DYNAFLYP
./ FLY ADD
  AM=(*APPL1,APPL2/1000),JM=(JOB1),
  MS=FLYTEST1
./ TMOD MATRIX
  AC=CHANGE,JN=623,DP=(14,-15,103)
  AC=CHANGE,JN=625,FP=(-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, de-optimize 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.

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 DYNALY function (ref para 2-7g); no verification other than initial editing is performed.

Execution JCL.
//stepname EXEC JIMREPTP,PARAM=Pxxxxy

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.FND=(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 (xxxxxxxxxx), 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.

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.

DYNAMAT REPORTS/OUTPUT

LEGEND --- * = ESTABLISHED BY BUILD
** = MODIFIED BY UPDATE

** DYNAMAT **

MATRIX REPORT BY JOBNUM

GENERATED BY REQUESTOR

RUNNING MATRIX = NULLFILE

DATE OF REPORT OCT 13 1974

MASTER MATRIX = SAMPLE

INSTALLATION = ANY USE

JOB NUMBER	JOB NAME	CRITICAL PATH	VOLUME NUMBER	CORE SIZE	FUNCTIONAL JOB DEPENDENCIES	MASTER FILE UTILIZATION	DEVICES *TP9 TPT PRT PCH*	REQUIRE	RECENT RUN DATE	TIME	AVERAGE RUN TIME	TIMES RUN	% TIME VARIANCE
2	D02A	YES	403	220K	701	IFACP-R	3 0 0 0	0	0000	0	26	1	0
10	Z01A	YES	402	250K	2,*400*,701,*744*,*755*	IFAHF-R,*IFAHF-U, IFPSN-R,*IFRHL-R, IFSAU-R,*IFTRI-U	5 0 0 0	0	0000	0	26	1	0
11	Z01B	YES	402	110K	10	NONE	2 0 0 0	0	0000	0	5	1	0
12	Z01C	YES	402	450K	10,*364*	IFAHF-U,*IFAHF-U, IFPSN-U,*IFPSN-U, IFRAH-U,*IFRAH-U, IFTRI-R	2 0 0 0	0	0000	0	70	1	0
13	Z01D	YES	402	450K	11,12	IFAHF-R,*IFAHF-U, IFPSN-R,*IFPSN-U, IFRAH-U,*IFRAH-U, IFTRI-R	2 0 0 0	0	0000	0	86	1	0
14	Z01E	YES	402	370K	13	IFRAH-R,*IFRAH-R, IFTRI-R	11 0 0 0	0	0000	0	31	1	0
15	Z01F	NJ	402	130K	13	NONE	6 0 0 0	0	0000	0	16	1	0
16	Z01H	NJ	402	180K	13	IFPSN-R,*IFPSN-R	4 0 0 0	0	0000	0	35	1	0
20	IFRACIE	NJ	402	54K	*14*,*15*,*16*	NONE	0 0 0 0	0	0000	0	1	1	0
21	4410TAL	NJ	600	54K	2	IFTRI-U	0 0 0 0	0	0000	0	0	0	0
100	Z35A	YES	404	250K	*12*,*22*,*23*,*746*	IFAHF-R,*IFAHF-R, IFPSN-R,*IFPSN-R, IFSAU-R,*IFFFC-U, IFFFC-U,*IFMAU-R, IFMAU-U	6 0 0 0	0	0000	0	135	1	0
101	D26A	YES	405	410K	153	IFPSN-R,*IFSAU-R, IFMAU-R,*IFMAU-R	6 0 0 0	0	0000	0	64	1	0
102	D26C	NJ	405	420K	101	NONE	3 0 0 0	0	0000	0	1	1	0
103	D27A	NJ	405	174K	101	IFMAU-R,*IFMAU-R, IFPSN-R,*IFPSN-R, IFSAU-R,*IFSAU-R	1 0 0 0	0	0000	0	19	1	0
104	D27E	YES	405	128K	101	NONE	1 0 0 0	0	0000	0	3	1	0
105	D26B	NJ	405	200K	101	IFAHF-U,*IFAHF-U, IFPSN-U,*IFPSN-U, IFRAH-U,*IFRAH-U, IFTRI-R,*IFMAU-R	3 0 0 0	0	0000	0	13	1	0
106	D38A	YES	405	254K	101,*364*,*400*	IFPSN-R,*IFPSN-R, IFSAU-R,*IFSAU-R, IFMAU-U,*IFMAU-U	4 0 0 0	0	0000	0	42	1	0
108	D70A	YES	406	54K	14,100,*400*	IFMAU-R	0 0 0 0	0	0000	0	26	1	0
110	D72A	YES	406	140K	108	IFMAU-U,*IFMAU-U, IFFFC-U,*IFFFC-U, IFMAU-U,*IFFFC-U	1 0 0 0	0	0000	0	20	1	0
111	L70B	YES	406	380K	153,*490	IFMAU-U,*IFFFC-U, IFMAU-U,*IFFFC-U	2 0 0 0	0	0000	0	51	1	0
113	U72B	YES	406	360K	110,111	IFFFC-U,*IFFFC-U, IFMAU-R,*IFFFC-U	5 0 0 0	0	0000	0	103	1	0

A-1

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Figure A-1. Matrix report by JOBNUM.

LEGEND --- * = ESTABLISHED BY BUILD
** = MODIFIED BY UPDATE

** J Y N A M A T **
MATRIX REPORT BY JOBNAM

GENERATED BY REQUESTOR

DATE OF REPORT OCT 13 1974

MASTER MATRIX = SAMPLE
INSTALLATION = ANY USER

Vol. 6, CESSOI 18-320

JOB NAME	JOB NUMBER	CRITICAL PATH	VOLUME NUMBER	CORE SIZE	FUNCTIONAL JOB DEPENDENCIES	MASTER FILE UTILIZATION	DEVICES *TP9 TPT	REQUIRE PRT PCH	RECENT RUN DATE TIME*	AVERAGE RUN TIME	TIMES RUN	% TIME VARIANCE
ARCSTPE	780	NJ	472	54K	*D83F*,*D83G*, *D83D*, *Z01E*,*D20B*, *D71A*,*D350*, *D04A*,*M21A*, *A490*,*M19U*, *M19E*,*D18A*, *D83G*,*M22A*, *D93F*	NONE	0 0 0 0	0 0 0 0	0000	1	1	0
AUTODSP1	781	NJ	600	54K		NONE	0 0 0 0	0 0 0 0	0000	0	0	0
AUTODSP2	782	NJ	600	54K		NONE	0 0 0 0	0 0 0 0	0000	0	0	0
A01A	600	NJ	443	130K	*D17B*,*M20A*, *SCSREVE*,*M05A*, *A02*, *M08E*,*M07D*, *Q01A01*,*M04A*, *Q01A02*,*Q01A03*, *D02A*,*M04A*, *M02A*,*M26A*, *M08H*	MFFSN-U, IFFSN-U MFPDF-U, IFFPDF-U NONE NONE IFMMU-R, MFMMD-R NONE	8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 9 0 0 0 0 0 0 0	0 0	0000 0000 0000 0000 0000 0000	147	1	0
A02	607	NJ	443	116K						7	1	0
A444	601	NJ	444	54K						0	0	0
A463	353	NJ	463	54K						2	1	0
A477	520	NJ	477	190K						0	0	0
A479	583	NJ	479	54K						0	0	0
A480	621	NJ	480	54K						0	0	0
A490	490	NJ	490	98K						0	0	0
A499	743	NJ	499	180K	*M26A*					6	1	0
A505	457	NJ	505	130K	NONE					0	0	0
A508	326	NJ	508	214K	*Q01A01*,*Q01A02*, *Q01A03*,*Q03A*, *D02A*,*M26A*	IFFSN-U, MFFSN-U IFFSN-R, MFFSN-R NONE	8 1 0 0 6 0 0 0	0 0 0 0 0 0 0 0	0000 0000	113	1	0
A509	755	NJ	509	310K						0	0	0
A510	130	NJ	510	200K	*Z01A*,*Z01E*, *Q38A*,*M20A*, *D02A*	IFFSN-R, MFFSN-R IFFSN-U, MFFSN-U IFFSN-R, MFFSN-R IFFSN-R, MFFSN-R	4 0 0 0 2 0 0 0	0 0 0 0 0 0 0 0	0000 0000	7	1	0
A512	629	NJ	512	104K	NONE					0	0	0
A513	632	NJ	513	54K	*M26A*,*Q1E*					0	0	0
A516	131	NJ	516	150K	*D02A*,*M26A*					0	0	0
A521	651	NJ	521	54K	NONE					0	0	0
A522	627	NJ	522	54K	A505					0	0	0
A526	776	NJ	526	100K	*M08H*,*M20A*, *M03A*,*M20A*, *D02A*,*D24A*, *D02A*,*D38A*, *Z01A*,*Z01C*, *Z01D*,*Q38A*, *D17B*,*D07A*, *M26A*,*M19C*	IFFSN-U, MFFSN-U IFFSN-R, MFFSN-R NONE NONE	2 0 0 0 2 0 0 0 1 0 0 0 4 0 0 0 3 0 0 0 9 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000 0000 0000 0000 0000	0	0	0
A535	777	NJ	535	110K						0	0	0
A537	491	NJ	537	170K						0	0	0
A539	660	NJ	539	280K						0	0	0
A553	332	NJ	553	260K						0	0	0

Figure A-2. Matrix report by JOBNAM

LEGEND --- * = ESTABLISHED BY BUILD
 ** = MODIFIED BY UPDATE

PAGE 1 OF 2

DATE OF REPORT OCT 13 1974

GENERATED BY REQUESTOR

MASTER MATRIX = SAMPLE

INSTALLATION = ANY USER

 * APPLICATION VOLUME TO APPLICATION MNEMONIC *

VOL	MNEMONIC	VOL	MNEMONIC	VOL	MNEMONIC	VOL	MNEMONIC	VOL	MNEMONIC	VOL	MNEMONIC	VOL	MNEMONIC	VOL	MNEMONIC	VOL	MNEMONIC	VOL	MNEMONIC
401	UNUSED	426	UNUSED	451	FSNKEY	476	UNUSED	501	SKCLSRV	526	UTRSIM	551	UNUSED	576	UNUSED	501	SKCLSRV	526	UTRSIM
402	ITERACT	427	WTRPRD	452	FSNKEY	477	URDSS	502	UNUSED	527	UNUSED	552	UNUSED	577	UNUSED	502	UNUSED	527	UNUSED
403	HEARTAC	428	AUTUDIS	453	PROVED	478	POIBALA	503	FININV	528	UNUSED	553	UNUSED	578	POIBALB	503	FININV	528	UNUSED
404	RECTL	429	POSTAND	454	FIAPRG	479	MBSIMS	504	FINCOM	529	UNUSED	554	UNUSED	579	UNUSED	504	FINCOM	529	UNUSED
405	CCSMIL	430	UNUSEL	455	DMUPCUN	480	MBSIMS	505	INTRVLS	530	UNUSED	555	SCSUTUP	580	UNUSED	505	INTRVLS	530	UNUSED
406	FINFISC	431	FINRLEN	456	DRJPNIC	481	FSMSZB	506	FIAMANT	531	UNUSED	556	UNUSED	581	UNUSED	506	FIAMANT	531	UNUSED
407	STKCTL	432	DMUPNG	457	SADUPUT	482	UNUSEL	507	UNUSEL	532	UNUSED	557	PSCSUPU	582	UNUSED	507	UNUSEL	532	UNUSED
408	FIAPHY	433	FINTRD	458	SCSSYR	483	BSIHCV	508	SMFSNS	533	UNUSED	558	UNUSED	583	UNUSED	508	SMFSNS	533	UNUSED
409	SREDIT	434	STREJJP	459	PUPPRT	484	BSILDV	509	PKGSHP	534	UNUSED	559	UNUSED	584	UNUSED	509	PKGSHP	534	UNUSED
410	ANDFTNG	435	BURECON	460	RFVNICR	485	BSCHDV	510	DRUPISS	535	SCSACT	560	UNUSED	585	UNUSED	510	DRUPISS	535	SCSACT
411	CATMANI	436	BCRCUNF	461	PDAKEY	486	BSCLDV	511	PASS	536	PROVFM	561	MIPSIR	586	UNUSED	511	PASS	536	PROVFM
412	DMPLR	437	ILSUPPR	462	FSNBUDG	487	BSISTR	512	MOBUPDT	537	DCHRETR	562	SIR	587	UNUSED	512	MOBUPDT	537	DCHRETR
413	PEMARS	438	INVSCHU	463	ILCASE	488	BSRSTR	513	MOBRCON	538	CONWEEK	563	UNUSED	588	UNUSED	513	MOBRCON	538	CONWEEK
414	SUSDT58	439	INVRPT	464	RHFING	489	BSMDR	514	FARHIST	539	CONWEEK	564	UNUSED	589	UNUSED	514	FARHIST	539	CONWEEK
415	WK8ILL	440	PPBRKOT	465	ILING	490	AMRCUN	515	UNUSED	540	UNUSED	565	UNUSED	590	UNUSED	515	UNUSED	540	UNUSED
416	PREADU	441	JCEXPL	466	FMDUPDT	491	PTING	516	TRD	541	UNUSED	566	UNUSED	591	UNUSED	516	TRD	541	UNUSED
417	MKHSUR	442	DUUGSTK	467	FFCANT	492	MHSING	517	UNUSED	542	UNUSED	567	UNUSED	592	UNUSED	517	UNUSED	542	UNUSED
418	PRESCSU	443	PHYINV	468	AUTODSP	493	FLGWT	518	UNUSED	543	UNUSED	568	UNUSED	593	UNUSED	518	UNUSED	543	UNUSED
419	INVSTRI	444	KUCJMP	469	DGPMRU	494	KPLDRF	519	BOBAL	544	UNUSED	569	UNUSED	594	UNUSED	519	BOBAL	544	UNUSED
420	SCSREV	445	ANSLTDE	470	HVSADMT	495	RPLPRF	520	UNUSED	545	UNUSED	570	UNUSED	595	UNUSED	520	UNUSED	545	UNUSED
421	SCSPRT	446	MASSCAN	471	UNUSED	496	KETRLV	521	FADBAL	546	UNUSED	571	UNUSED	596	UNUSED	521	FADBAL	546	UNUSED
422	KRSURV	447	PDUPDT	472	ARCSTP	497	PEARSP	522	STMSPER	547	UNUSED	572	UNUSED	597	BRDGING	522	STMSPER	547	UNUSED
423	FSNSURV	448	MFDUPDT	473	FINRUPN	498	ABANDFW	523	UNUSED	548	UNUSED	573	FINMCLO	598	UNLADS	523	UNUSED	548	UNUSED
424	AMDFUPU	449	UNUSED	474	FINYOPN	499	FSNRFP	524	BUDEXT	549	UNUSED	574	FINYCLO	599	DUMPS	524	BUDEXT	549	UNUSED
425	AMDFCHG	450	UCD	475	BASS	500	MHSMT	525	UNUSED	550	UNUSED	575	UNUSED	600	MISC	525	UNUSED	550	UNUSED

Figure A-3. Application volume to application mnemonic.

LEGEND --- * = ESTABLISHED BY BUILD
 ** = MODIFIED BY UPDATE

PAGE 2 OF 2

MASTER MATRIX = SAMPLE

DATE OF REPORT OCT 13 1974

INSTALLATION = ANY USER

GENERATED BY REQUESTOR

Vol. 6, CC8801 18-920

 * APPLICATION MEMORIC TO APPLICATION VOLUME *

MEMORIC VOL	MEMORIC VJL	MEMORIC VOL	MEMORIC VJL	MEMORIC VOL	MEMORIC VJL	MEMORIC VOL	MEMORIC VJL
ABAMFU 498	BSMDR 489	DOPPRU 469	FINVCLU 574	INVSCHD 438	GCDEXPL 441	PRESCSU 418	SCSPRT 421
AMRCUN 490	BSHDV 483	JUMPS 599	FINVOPN 474	INVSTRT 419	ORDSS 477	PROVED 453	SCSREV 420
AMDFCHG 425	BSILDV 484	FADBAL 521	FNUUPUT 466	ITEMACT 402	PASS 511	PROMFM 536	SCSUTUP 555
AMDFING 410	BSISTR 487	FARHIST 514	FSNBUDG 452	MABSTMS 479	POFPRT 459	PSCSUPO 557	SCSSVR 458
AMDFUPU 424	BSRSTR 488	FFCMANT 467	FSNKEY 451	MASSCAN 446	POFUPDT 447	QABSIMS 480	SIRSPER 522
ANSLIDE 445	BUDEAT 424	FSLMT 493	FSNKEY 452	MIPSTR 561	POIBALA 478	WTKSIM 526	SIR 562
ARC.SIP 472	BUJGSTR 444	FLAMANT 506	FSNKFUP 497	MISC 600	POIBALB 578	RAHSURV 422	SKELSRW 521
AUTODIS 428	CATHANT 411	FIAPHY 408	FSMSURV 423	MNDUPDT 448	PEMARS 413	REBCTL 404	SMEDIT 409
AUTODSP 468	CCSSMIL 405	FLAUPRG 454	FSMS28 481	MOBCOMP 444	PEXASP 497	KETRVL 496	SMFSNS 508
BASS 475	CONWEEK 539	FINCON 504	HEARTNG 605	MOBRCON 513	PHYINV 443	RFNNICR 460	STOREJP 435
BUBAL 519	DCRRETR 537	FINFISC 406	HVSADMT 470	MOBUPDT 512	PKGSMP 509	RHFING 464	STACTL 407
BORCONF 436	DMPL 412	FININV 503	ILCASE 463	MRHSMT 492	PMDSREV 461	RPSLDRF 494	SUSDISB 414
BURECCN 435	DMUPCN 455	FINVCLU 573	ILINA 465	MRHSMT 500	POSTAMD 429	KPSLPRF 495	TND 516
BRODING 597	DMUP155 510	FINNGEN 431	ILSUPPR 437	MRHSSUR 417	PPBRKOT 440	SADUPDT 457	UNLOADS 598
BSCHDV 485	DMUPMIC 456	FINHUPN 473	INTRVIS 505	ATHPRU 427	PPING 491	SCSACT 535	WKBILL 415
BSCLUV 486	DMUPRU 432	FINTRD 433	INPREPT 439	UCD 450	PREARD 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 memoric to application volume.

LEGEND --- * = ESTABLISHED BY BUILD
 ** = MODIFIED BY UPDATE

*** DYNAMAT ***

PAGE 1 OF 1

MASTER MATRIX - SAMPLE

INSTALLATION = ANY USER

*** SYSTEM RESOURCES ***

DATE OF REPORT OCT 13 1974

GENERATED BY REQUESTOR

AVAILABLE CORE --- 100K AVAILABLE DEVICES --- DISK = 48, TAPE9 = 22, TAPE7 = 2, PRINTER = 2, PUNCH = 1
 DUMMY UCBS --- DISK = 0, TAPE9 = 0, TAPE7 = 0, PRINTER = 0, PUNCH = 0

*** CROSS REFERENCE ***

*** FILE NUMBER TO FILE MNEMONIC ***

FILE MNEMONIC PACKS	FILE MNEMONIC PACKS	FILE MNEMONIC PACKS	FILE MNEMONIC PACKS
1 IFARF 2	13 IFECT 1	25 IFOLD 0	37 MFSNI 0
2 MFAHF 6	14 IFECF 1	26 MFCOD 3	38 IFSPN 0
3 IFPSN 1	15 MFEFC 1	27 IFPDF 1	39 MFSFN 0
4 MFFSN 21	16 IFEGF 0	28 MFPDF 1	40 IFACP 1
5 IFRAH 1	17 IFELS 1	29 ZAB 0	41 IFPHA 0
6 MFAHF 4	18 MFFIS 2	30 IFELP 0	42 IGL59 0
7 IFRHL 1	19 FMU 1	31 MFEIP 0	43 IFD99 1
8 IFSAU 1	20 IFMAD 1	32 IFLPN 0	44 MFD99 2
9 MFSAD 3	21 MFMAD 2	33 MFLPN 0	45 IFD99 1
10 IFTRI 1	22 IFMND 0	34 IFPMR 1	46 MFC99 1
11 IFPAD 1	23 MFMND 0	35 MFPMR 9	47 IFS99 1
12 MFFAD 2	24 UNUSED	36 IFSNI 0	48 MFS99 2
			49 IFMOB 1
			50 MFMOB 1
			51 IFFSF 0
			52 IFRAF 1
			53 MFFAR 3
			54 IFPHR 0
			55 MFPHR 1
			56 UNUSED
			57 UNUSED
			58 UNUSED
			59 UNUSED
			60 UNUSED

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*** CROSS REFERENCE ***

*** FILE MNEMONIC TO FILE NUMBER ***

MNEMONIC FILE PACKS	MNEMONIC FILE PACKS	MNEMONIC FILE PACKS	MNEMONIC FILE PACKS
FMU 19 0	IFETS 17 1	IFPMR 34 1	MFD99 44 2
IFACP 40 1	IFFSF 51 0	IFRAH 5 1	MFEIP 31 0
IFARF 1 2	IFFSN 3 1	IFRHL 7 1	MFFAD 12 2
IFC99 45 1	IFLPN 32 0	IFSAD 8 1	MFFAR 53 3
IFD99 43 1	IFMAD 20 1	IFSNI 36 0	MFFFC 15 1
IFEIP 30 0	IFMND 22 0	IFSPN 38 0	MFFIS 18 2
IFFAD 11 1	IFMOB 49 1	IFS99 47 1	MFFSN 4 21
IFFAK 52 1	IFODF 25 0	IFTRI 10 1	MFLPN 33 0
IFFCI 13 1	IFPDF 27 1	IFGL 42 0	MFMAD 21 2
IFFEC 14 1	IFPHA 41 0	MFAF 2 6	MFMND 23 0
IFFGL 16 0	IFPHR 54 0	MFC99 46 1	MFMOB 50 1
			26 MFCOD 3
			28 MFPDF 1
			35 MFPHR 9
			36 MFAH 4
			37 MFSNI 0
			39 MFSFN 0
			48 MFS99 2
			49 ZAB 0

THE FOLLOWING FILE VOLUME NUMBERS ARE UNASSIGNED.

24, 50, 51, 58, 59, 60

Figure A-8 System resources.

Appendix A--Continued

.. D Y N A M I C ..

PAGE 1 OF 1

DATE OF REPORT OCT 13 1974

GENERATED BY REQUESTOR

MASTER MATRIX = SAMPLE
INSTALLATION = ANY USER

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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

Appendix A---Continued

00 U Y N A M A T 00

```
*****  
MASTER DATA = SAMPLE  
INSTALLATION = ANY USER  
  
CROSS REFERENCE  
JOBS WITHIN APPLICATIONS  
  
*****
```

APPLICATIONS	JOB WITHIN APPLICATIONS
ABAMFU	M99A
AMCKCUN	A49U
AMDFCHG	PDIA,MOIB,MOIC,MOLD,MOIE,MOIF,MOIG,MOIH
AMUFINU	U31A
AMUFUPD	M21A
ANSLIUE	A02
ARCSIP	ARCS TPE, DB3A, DB3d, DB3C, Dd3D, Dd3E, DB3F, Dd3G
AUTODIS	D4UA
AUTODPS	D4UB
BASS	DA3SE, M47A, M47b, M47C, M47D, M47E, M47F, M47G, M47H
BUBAL	M09b
BUXCONF	M07b
BURECON	M07A
BRDZING	NONE
B5CHDV	GICA, QICb, QICC, QICD
B5CLDV	QIDA, QIDB, QIDC, QIDD, QIDE, QIDF, QIDG, QIDH
B5DNOK	QIGA, QIGb, QIGc, QIGD, QIGE, QIGF
B5IDHV	QIAB, QIAB, QIAC, QIAU
B5ILDV	QIBa, QIBb, QIBc, QIBD, QIBE, QIBF, QIBG
B5ISIK	QICa, QICb, QICc, QICd, QICE, QIEF, QIEG, QIEH
B5ASTK	QIFA, QIFb, QIFc, QIFd, QIFE, QIFF
BUEXT	QJIC
BUDGSTR	Q01B
CATMAN	QJ1A, QJ1b, QJ1C, QJ1D, QJ1E, QJ1F, QJ1G
C55MIL	C55M ILE, D26A, D26B, D26C, D27A, D27B, D27C, D27D
CUNWEEK	A539
LCBRETR	A537
UMPLR	DMPKLL, D20A, D20B, D20C, D20D, D20E
DRUPCON	M11A
DMUPISS	A510
DMUPNIC	M00A
DMUPMIG	M07A
DMUPMRO	D23B
DUMPS	NONE
FACBAL	A571, B521, C521, D521, L521, PAD5ALE, F521, G521, M521
FACMIST	U99A, U99b, U99c
FFCMAT	C55A
FGLMT	D11A

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

Appendix A--Continued

** U Y A M A T **

 * CROSS REF L E R C U *
 *
 * INTRA/INTER - APPLICATION JOB DEPENDENCIES *
 *

DATE OF REPORT OCT 13 1974

GENERATED BY REQUESTER

MASTER MAIN-1A = SAMPLE

INSTALLATION = ANY USER

INTER-APPLICATION JOB DEPENDENCIES / APPLICATION VOLUME

INTRA-APPLICATION JOB DEPENDENCIES

APPLICATION NAME	VOL	JOB NAME	INTER-APPLICATION JOB DEPENDENCIES / APPLICATION VOLUME
ABAMDFU	498	*99A	NONE
AMCRCON	490	A490	NONE
AMUFCBG	425	M01A	*A557*/557,*M26A*/424,*M99A*/498
		M01B	NONE
		M01C	NONE
		M01D	NONE
		M01E	NONE
		M01F	NONE
		M01G	NONE
		M01H	NONE
AMUFINQ	410	U31A	D02A/403
AMUFPUP	424	M26A	*M13F*/422,*M99A/498
AMSLIDE	445	A02	*SCSKEVE*/420,*M05A*/427
ARCSTP	472	A02	NONE
		A02	D02A/403,032A/448,D24A/536
		U63A	NONE
		U63B	NONE
		U63C	NONE
		U63D	NONE
		U63E	NONE
		U63F	NONE
		U63G	NONE
AUTODIS	426	D40A	AUTODISP1/600,AUTODISP2/600
AUTODSP	468	U40B	NONE
BASS	475	BASSE	*D71A*/406,*D15A*/408,*M19D*/415,*Q01C*/524
		M27A	NONE
		M27B	NONE
		M27C	NONE
		M27D	NONE
		M27E	NONE
		M27F	NONE
		M27G	NONE
		M27H	NONE
BUBAL	519	M09B	*M04A*/420
BURCONF	436	Q07B	*M06E*/417,*M07B*/423
BURELUN	435	U07A	D02A/403,*Q07A*/435
BRDCTIC	597	**NONE**	*M08E*/417
BSCHLV	485	U1CA	NONE
			Q01B/442

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

Appendix A--Continued

```

----- CONTROL CARDS INPUT TO SIMULATOR -----
AM=INUCTL,CUSSML,CAMANT,PRESO,SCSREV,SCSPRT)
JM=026A/1000,11=0000,11=20
DYNAMAT-09C AT TIME = 1920 JJB 0260 SELECTED/NOT RELEASED --- NOT ENOUGH CORE CURRENTLY AVAILABLE
DYNAMAT-09C AT TIME = 1920 JJB 0260 SELECTED/NOT RELEASED --- NOT ENOUGH CORE CURRENTLY AVAILABLE
DYNAMAT-09C AT TIME = 0440 JJB 0050 SELECTED/NOT RELEASED --- NOT ENOUGH CORE CURRENTLY AVAILABLE
DYNAMAT-09C AT TIME = 0720 JJB 0110 SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE
DYNAMAT-09C AT TIME = 0720 JJB 0110 SELECTED/NOT RELEASED --- NOT ENOUGH TAPE9 CURRENTLY AVAILABLE

```

Figure A-10. Simulator messages.

Appendix A--Continued

*** U V N A M A T ***

***** THE FOLLOWING 30 JOBS WILL BE RUN THRU THE DYNAMAT SIMULATOR *****

RJN	QJN	JOBNAME	P	VJL	LUKE	T9	T7	PT	PC	E-S-T	MASTER FILE UTILIZATION	JOB DEPENDENCIES-----NUMBERS = RUN JOBNUMS (RJN)
1	100	U35A	1	404	250	0	0	0	0	0	U1K 02R 03K 04P 08K 140 150 20K 21U NONE	9
2	101	U26A	1	405	410	0	0	0	0	0	03K 08K 20K 21K	2
3	102	U26C	0	405	400	3	0	0	0	0	NONE	2
4	103	U27A	0	405	174	1	0	0	0	0	21R 20K 04K 03K 09K 08K	2
5	104	U27B	1	405	128	1	0	0	0	0	21U 20U	2
6	105	U260	0	405	200	3	0	0	0	0	NONE	2
7	106	U36A	1	405	284	4	0	0	0	0	01U 02U 03U 04U 05U 06U 10K 20R 21K	4
8	150	CCSMILE	0	405	54	0	0	0	0	0	NONE	5 7 10
9	153	U35B	1	404	310	7	0	0	0	0	03K 04U 08K 10K 20U 21U 54K 55K	1
10	154	U27U	1	405	144	1	0	0	0	0	54U 55U	2
11	200	U01A	0	411	160	2	0	0	0	0	NONE	NONE
12	201	U01B	0	411	130	0	0	0	0	0	NONE	11
13	202	U01C	0	411	80	3	0	0	0	0	NONE	11
14	203	U01D	0	411	80	2	0	0	0	0	NONE	12
15	204	U01E	0	411	160	3	0	0	0	0	13K	13
16	207	U04A	1	411	530	13	0	0	0	0	03U 04U	14
17	302	W03B	2	420	54	0	0	0	0	0	NONE	15
18	303	W02B	2	420	60	1	0	0	0	0	NONE	16 32
19	304	W02C	2	420	126	8	0	0	0	0	NONE	17
20	305	W03C	2	420	360	8	0	0	0	0	03K 22K 23K 04K	17
21	306	W05A	2	420	84	0	0	0	0	0	23K 22K	17
22	307	W04A	2	420	280	13	0	0	0	0	22K 23K	18
23	308	W04C	2	420	140	10	0	0	0	0	NONE	19
24	309	W05B	2	420	520	9	0	0	0	0	10K 21K 22K 23K 24K 25K	22
25	310	W05C	2	420	520	9	0	0	0	0	20K 27K 28K 29K 30K	21 22
26	311	W11A	2	420	132	9	0	0	0	0	NONE	24 25
27	313	W11B	1	421	210	8	0	0	0	0	NONE	24 25
28	314	W11C	1	421	250	8	0	0	0	0	NONE	24 25
29	315	W11D	1	421	250	8	0	0	0	0	NONE	24 25
30	316	W11E	1	421	190	6	0	0	0	0	NONE	24 34
31	317	W11F	1	421	190	6	0	0	0	0	NONE	29 35
32	327	W02A	1	418	360	10	0	0	0	0	01K 02J 03U 04U	7 10
33	329	W11I	1	421	116	3	0	0	0	0	NONE	28
34	330	W11G	1	421	250	7	0	0	0	0	NONE	27
35	331	W11H	1	421	250	7	0	0	0	0	NONE	27
36	350	SCSPEVE	2	420	54	0	0	0	0	0	NONE	23 26

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DYNAMAT

PAGE 1

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ACTIVE INITS = 0

MASTER MATRIX = SAMPLE

INSTALLATION = ARMY USER

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

TIME	INIT1	INIT2	INIT3	INIT4	INIT5	INIT6	INIT7	INIT8	TOT FREE CORE CNTG	***** RESOURCES IN USE *****	***** RESOURCES, NOT USED *****
0800	U35A	D01A							570 570	36 10 0 0 0 0	12 12 2 2 1 0
0820		D01B							540 540	36 11 0 0 0 0	12 11 2 2 1 0
0840		D01C							670 670	36 10 0 0 0 0	12 12 2 2 1 0
0900		D01E							570 570	37 11 0 0 0 0	11 11 2 2 1 0
0920		D04A							220 220	36 21 0 0 0 0	12 1 2 2 1 0
0940									220 220	36 21 0 0 0 0	12 1 2 2 1 0
1000									220 220	36 21 0 0 0 0	12 1 2 2 1 0
1020									470 250	22 13 0 0 0 0	26 9 2 2 1 0
1040									470 250	22 13 0 0 0 0	26 9 2 2 1 0
1100									470 250	22 13 0 0 0 0	26 9 2 2 1 0
1120									470 250	22 13 0 0 0 0	26 9 2 2 1 0
1140									470 250	22 13 0 0 0 0	26 9 2 2 1 0
1200	U35B								690 690	31 7 0 0 0 0	17 15 2 2 1 0
1220									690 690	31 7 0 0 0 0	17 15 2 2 1 0
1240									690 690	31 7 0 0 0 0	17 15 2 2 1 0
1300									690 690	31 7 0 0 0 0	17 15 2 2 1 0
1320									690 690	31 7 0 0 0 0	17 15 2 2 1 0
1340									690 690	31 7 0 0 0 0	17 15 2 2 1 0
1400									690 690	31 7 0 0 0 0	17 15 2 2 1 0
1420									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1440									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1500									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1520									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1540									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1600									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1620									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1640									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1700									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1720									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1740									1000 1000	0 0 0 0 0 0	48 22 2 2 1 0
1800	D26A								590 590	5 6 0 0 0 0	43 16 2 2 1 0
1820									590 590	5 6 0 0 0 0	43 16 2 2 1 0
1840									590 590	5 6 0 0 0 0	43 16 2 2 1 0
1900									590 590	5 6 0 0 0 0	43 16 2 2 1 0
1920	D38A	D270	D270	D270	D270	D26C			44 44	40 9 0 0 0 0	8 13 2 2 1 0

Figure A-13. Run simulation.

Appendix A--Continued

[illegible]

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

Appendix A--Continued

** D Y V A M A T **

** MASTER JAYA BASE COMPARE **

DATA BASE 1 = DYNAZ600 OCT 13 1974 DATA BASE 2 = DYNAZ700

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

MASTER DATA BASE = DYNAZ600 MASTER DATA BASE = DYNAZ700

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,-740)

329 DP=(-309,-310) DP=(314)

375 CR=300 CR=180

19=7

380 ** TOTAL JOB ENTRY NOT PRESENT: *** JM=M2+B

AN=501

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

```

** UYVAMAT **
** MASTER DATA BASE COMPARE **
DATA BASE 1 = DYNA2600    OCT 13 1974    DATA BASE 2 = DYNA2700

***** A P P L M A T 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

*** DYNAMAT ***

*** MASTER DATA BASE COMPARE ***

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

***** FILE MATRIX DIFFERENCES *****

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

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

Appendix B--Continued

MEMBER NAME - DYNACHKP

//DYNACHKP	PGOC	ACTION=DYNACHK,MMATRIX=DYNABASE,MMATRIX=RMATRIX,	00000100
//	MDISP=OLD		00000200
//DYNACARD EXEC	PGM=DYNACARD		00000205
//STEPLIB DD	DSN=DYLOAD,DISP=SHR		00000210
//MASTER DD	DSN=66DYNACARD,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
//RPFORCE 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=66RMATRIX,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=(IMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.)		00000400
//STEPLIB DD	DSN=DYLOAD,DISP=SHR		00000500
//SYSUDUMP DD	SYSOUT=A,SPACE=(TRK,(1,100))		00000600
//MATRIX DD	DSN=66RMATRIX,DISP=SHR		00000700
//TMATRIX DD	DSN=66RMATRIX,DISP=SHR		00000800
//CHKMAT DD	DSN=66PASSRM,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=FB)		00001100
//CARDIN DD	DSN=66DYNACARD,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=66PASSRM,DISP=(OLD,DELETE) 00001500
//SYSUT2 DD DSN=66REBLOCK,DISP=(,PASS),UNIT=2314,SPACE=(TRK,(1)), 00001600
// DCB=(1,RECL=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=66REBLOCK,DISP=(OLD,DELETE), 00002200
// DCB=(1,RECL=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
//DYNACOMP 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
//DYN1 DD DSN=66MASTER1,DISP=SHR 00000500
//DYN2 DD DSN=66MASTER2,DISP=SHR 00000600
//SYSOUT DD SYSOUT=A,SPACE=(TRK,(1,10)) 00000700
//REPORT DD SYSOUT=A,DCB=BLKSIZE=790 00000800

```

Figure B-1--Continued

MEMBER NAME - DYNAFLYP

//DYNAPLY	PROC	ACTION=DYNAFLY,MATRIX=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	UDNAME=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
//MATRX	DD	DSN=ERMATRIX,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,	00000280
//		PARM=(TMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.,	00000285
//STEPLIB	DD	DSN=DYLOAD,DISP=SHR	00000290
//SYSUDUMP	DD	SYSOUT=A,SPACE=(TRK,(1,100))	00000295
//MMATRIX	DD	DSN=&MMATRIX,DISP=SHR	00000300
//TMATRIX	DD	DSN=ERMATRIX,DISP=SHR	00000305
//SYSOUT	DD	SYSOUT=A,SPACE=(TRK,(1,10))	00000310
//REPORT	DD	SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FB)	00000315
//CARDIN	DD	DSN=&&DYNACARD,DISP=(OLD,DELETE)	00000320

Figure B-1--Continued

Appendix B--Continued

```

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

```

Appendix 3--Continued

MEMBER NAME - DYNALUAD

```

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

```

Figure B-1--Continued

Appendix B--Continued

MEMBER NAME - DYNARPT

MEMBER NAME	EXEC	PROC	ACTION	MMATRIX	DYNABASE	RMATRIX	NA	
//DYNARPT		MOISP=ULD						00000100
//DYNARPT	EXEC	PGM=SHARDISK, REGION=194K,						00000200
//		PARM=(MMATRIX, DYNAMAT, &ACTION, &MMATRIX, &RMATRIX, &MDISP.)						00000300
//STEPLIB	DD	DSN=DYLOAD, DISP=SHR						00000400
//ASOEND01	DD	SYSOUT=A, SPACE=(TRK, (1, 100))						00000500
//SYSUDUMP	DD	SYSOUT=A, SPACE=(TRK, (1, 100))						00000600
//MMATRIX	DD	DSN=MMATRIX, DISP=SHR						00000700
//TMATRIX	DD	DUMMY						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
								00001200

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Appendix B--Continued

MEMBER NAME - DYNARUMP

```

//DYNARUMP      PROC      ACTION=DYNARUN,MMATRIX=DYNABASE,RMATRIX=RMATRIX, 00000100
//              HDISP=OLD
//DYNARUN      EXEC      PGM=SHARDISK,REGION=194K, 00000200
//              PARM=(MMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.) 00000300
//STEPLIB      DD      DSN=DYLOAD,DISP=SHR
//ASUEND01     DD      SYSOUT=A,SPACE=(TRK,(1,100)) 00000500
//SYSUDUMP     DD      SYSOUT=A,SPACE=(TRK,(1,100)) 00000600
//MMATRIX      DD      DSN=MMATRIX,DISP=SHR 00000700
//TMATRIX      DD      DSN=MMATRIX,DISP=SHR 00000800
//SYSOUT       DD      SYSOUT=A,SPACE=(TRK,(1,10)) 00000900
//REPORT       DD      SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FB) 00001000
//CARD01      DD      DYNAMAT=SYSIN,DCB=BLKSIZE=80 00001100
//JIMSTART     EXEC      PGM=SHARDISK,PARM='MATRIX,AA3JIMND,SCAN', 00001200
//              COND=10,NE,DYNARUN) 00001300
//STEPLIB      DD      DSN=DYLOAD,DISP=SHR 00001400
//SYSUDUMP     DD      SYSOUT=A,SPACE=(TRK,(1,10)) 00001500
//SYSOUT       DD      SYSOUT=A,SPACE=(TRK,(1,10)) 00001600
//MATRIX       DD      DSN=MMATRIX,DISP=SHR 00001700
//MMATRIX      DD      DSN=MMATRIX,DISP=SHR 00001800
//MMATRIX      DD      DSN=MMATRIX,DISP=(,DELETE),UNIT=2314,SPACE=(TRK,(20)), 00001900
//              DCB=(LRECL=58,BLKSIZE=580,RECFM=FB) 00002000
//HASPRDR      DD      DSN=NULLFILE,UNIT=INTRDR,DISP=SHR 00002100
//              00099999

```

Figure B-1--Continued

Appendix B--Continued

MEMBER NAME - DYNASIMP

MEMBER NAME	EXEC	PROC	ACTION	MMATRIX	DYNABASE	RMATRIX	NA
//DYNASIMP		PROC	ACTION=DYNARUN	MMATRIX	DYNABASE	RMATRIX	NA
//		MDISP=OLD					
//DYNASIMP	EXEC	PGM=SHARDISK	REGION=194K				
//		PARM=(MMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.)					
//STEPLIB	DD	DSN=DYLOAD	DISP=SHR				
//ASOEND01	DD	SY\$OUT=A	SPACE=(TRK,(1,100))				
//SYSUDUMP	DD	SY\$OUT=A	SPACE=(TRK,(1,100))				
//MMATRIX	DD	DSN=MMATRIX	DISP=SHR				
//TMATRIX	DD	DUMMY					
//SY\$OUT	DD	SY\$OUT=A	SPACE=(TRK,(1,10))				
//REPORT	DD	SY\$OUT=A	DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA)				
//CAKUDIN	DD	ODNAME=SYSIN	DCB=BLKSIZE=80				

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
//              DD      DSN=GLIB,DISP=SHR                                    00000400
//              DD      SYSOUT=A                                              00000500
//              DD      DUMMY                                                 00000600
//              DD      DSN=GLLOADPDS,DISP=(,PASS),UNIT=2314,SPACE=(TRK,(1,1)) 00000700
//              DD      DUMMY                                                 00000800
//              EXEC      PGM=IEBGENER,REGION=100K                          00000900
//              DD      SYSOUT=A                                              00001000
//              DD      DSN=DYNAREL,DISP=SHR                                  00001100
//              DD      DSN=DYNAREL,DISP=(,KEEP),UNIT=TAPE9,LABEL=1,          00001200
//              DCB=(LRECL=7250,BLKSIZE=7250,RECFM=F),                      00001300
//              VOL=(PRIVATE,RETAIN,,,SER=ETAPEVOL.)                        00001400
//              DD      DUMMY                                                 00001500
//              DD      DUMMY                                                 00001600
//              EXEC      PGM=IEHMOVE,REGION=100K                          00001700
//              DD      SYSOUT=A                                              00001800
//              DD      UNIT=2314,VOL=SER=WORK01,DISP=OLD                     00001900
//              DD      UNIT=2314,VOL=SER=EDISKVOL,DISP=OLD                   00002000
//              DD      DSN=DYNAREL,DISP=(OLD,KEEP),UNIT=TAPE9,              00002100
//              DCB=(LRECL=80,BLKSIZE=800,RECFM=FB),                        00002200
//              VOL=(PRIVATE,RETAIN,,,SER=ETAPEVOL.)                        00002300
//              DD      DSN=GLLOADPDS,DISP=(OLD,DELETE)                     00002400
//              EXEC      PGM=IEBGENER,REGION=100K                          00002500
//              DD      SYSOUT=A                                              00002600
//              DD      DSN=CORNQUE,DISP=SHR                                  00002700
//              DD      DSN=CORNQUE,DISP=(,KEEP),UNIT=TAPE9,LABEL=5,          00002800
//              DCB=(LRECL=80,BLKSIZE=800,RECFM=FB),                        00002900
//              VOL=(PRIVATE,RETAIN,,,SER=ETAPEVOL.)                        00003000
//              DD      DUMMY

```

Figure B-1--Continued

Appendix B--Continued

MEMBER NAME - DYNAUPDP

//DYNAUPDP	PROC	ACTION=DYNAUPD,MMATRIX=DYNABASE,RMATRIX=NA,	00000100
//	NOISP=OLD		00000200
//DYNAUPD	EXEC	PGM=SHARDISK,REGION=194K,	00000300
//	PARM=(MMATRIX,DYNAMAT,&ACTION,&MMATRIX,&RMATRIX,&MDISP.)		00000400
//STEPLIB	DD	DSN=DYLOAD,DISP=SHR	00000500
//ASOENDOL	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

Appendix B--Continued

MEMBER NAME - JCLMODP

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

Appendix C

DYNAMAT MESSAGES

- DYNACOM-P-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 { DDD RRRR } { PREDEFINED NOT DEFINED } ON { RUNNING MATRIX MASTER DATA BASE } (BOR RMATRIX) sssssss ffffffff --- DYNAMAT PROCESSING TERMINATED**
- Explanation: An update action is being performed and an error has been encountered. The contents RRRR 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, sssssss 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.

Appendix C--Continued

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 yyyy FOR fffff--THESE ARE MUTUALLY EXCLUSION ACTIONS--
DYNAMAT PROCESSING TERMINATED

Explanation: Operation yyyy 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

[illegible]

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 JOBNAM/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 ** { KEYWORD kkkkkkkk OMITTED } DURING ##### ffffff FOR JOBNUM/JOBNAME
 { DUPLICATE UPDATE ATTEMPT }
- 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 zaa 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-of-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 Action: 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 } --BEING DELETED FROM RMATRIX
 { EOJ OUTSIDE DYNAMAT }

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 ** JOBNAM E 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.

Appendix C--Continued

DYNAMAT-100

```
MMATRIX REWRITE {BYPASSED} --DYNFLY {NOT INVOKED}
                  {COMPLETE}          {INVOKED}
```

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

```

{MMATRIX MODIFIED/RMATRIX ADDED TO      --DEPENDENCY OPTIMIZER  {INVOKED}
 NO MMATRIX MODIFICATIONS/RMATRIX ADDS}                        BYPASSED

```

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

RNATRIX REWRITE { COMPLETE } -- { DYNAPLY INVOKED }
 BY PASSED DYNAPLY/JIMUPD NOT INVOKED

Explanation: The stated action was taken on the Running Matrix (RMATRIX), based upon whether or not the DYNFLY 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 mmmmmmmmm 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 mmmmmmmmm 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 { DELETE
ADD } 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 DYNAPLY function to perform any TMOD ADD or DELETE. Resubmit job.

DYNAMAT-290 TMOD ssssss DISAL' D 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 DYNAPLY 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.

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 dependency 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 { UNSCHEDULED } JOB nnnn POINTS BACK TO JOB xxxx CURRENTLY BEING OPTIMIZED
 { SCHEDULED }
 --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.

JIM REPORTS/OUTPUT

* * D Y N A M I C * *

JOB INITIATION STATUS REPORT

MATRIX		START DATE/TIME	4286/1247	CURRENT DATE/TIME		OCT 13 1974/1339		
MAT NUM	JOB P NUM	JOB NAME	SRT END	ABN JOAY	TIME	START TIME	ELAPSED TIME	A DEPENDENT EST B JOB NUMBERS
001	1	100 D13A	S	F	4286 12.47	13.31	00.44	1800 0 009
002	1	101 D26A	F					0 002
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					0 004,005,007.
008	0	150 CCSMILE	F					0 010
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 D11A	S	E	4286 12.47	13.24	00.37	0 NONE
012	0	201 D21B	S	E	4286 13.24	13.11	00.37	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	S					0 013,014
016	1	207 D04A						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						0 018,019
022	2	307 W04A						0 022
023	2	308 W04C						0 020,021,022
024	2	309 W05B						0 020,021,022
025	2	310 W05C						0 024,025
026	2	311 W11A						0 024,025
027	1	313 W11B						0 024,025
028	1	314 W11C						0 024
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 SC5PEVE						0 023,026

Figure D-1 JIM report.

Appendix A - Continued

*** DYNAMAT ***

JOB INITIATION STATUS REPORT

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

MAT NUM	JOB NAME	SAT END	ABM JOY	DAY TIME	START TIME	STOP TIME	ELAPSED TIME	EST B	A DEPENDENT	DEPENDENT JOB NUMBERS
001	100 D25A	S	E	4286	12.47	13.31	00.44	1800	0	NONE
002	101 D26A								0	009
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,
009	1 153 D35B	S		4286	13.31				0	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	13.31	00.07		0	011
014	0 203 D01D	S		4286	13.31				0	011
015	0 204 D01E								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 SC5REVE								0	027
									0	023,026

Figure D-2. JIM report (with param = A).

Appendix D--Continued

[illegible]

Figure D-2--Continued

Appendix D--Continued

JJO INITIATION STATUS REPORT									
MATRIX START DATE/TIME 4280/1637 CURRENT DATE/TIME OCT 13 1974/1724									
MAT	JOB	JCS	START	STOP	ELAPSED	A	DEPENDENT		
NUM	P	RUN	NAME	SPT	END	ABN	JOAY	TIME	EST
B JOB NUMBERS									
001	1	002	102A	S	E	4280	16.37	16.56	00.19
002	1	101	026A						P NONE
003	0	102	026C						0 001,012
004	0	103	027A						0 002
005	1	104	027B						0 002
006	0	105	026B						0 002
007	1	106	036A						0 002
008	0	150	CCSSMILE						0 004,005,007,010
009	1	010	201A	S	E	4280	16.56	17.06	00.10
010	1	154	027D						0 002
011	1	011	201C	S		4280	17.06		0 009
012	1	012	201C	S		4280	17.06		0 009
013	1	013	201D						0 011,012
014	1	014	201E						0 013
015	0	015	201F						0 013
016	0	016	201H						0 013
017	2	302	W03H						0 001,032
018	2	303	W02B						0 017
019	2	304	W02C						0 017
020	2	305	W03C						0 017
021	2	306	W03A						0 017
022	2	307	W04A						0 001,015,019
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						0 020,034
031	1	317	W11F						0 029,035
032	1	327	W02A						0 013,007
033	1	329	W11I						0 026
034	1	330	W11G						0 027
035	1	331	W11H						0 027
036	2	350	SCSHEVE						0 023,020
037	0	020	ITERACTE						0 014,015,016

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

Appendix D--Continued

[illegible][illegible]

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  TAPE(S)=0017  TAPE7(S)=0001  PRINTER(S)=0000
INITIATORS AVAILABLE = 0000

```

Figure D-4. JIMENW SYSOUT.

Appendix D--Continued

DYNAMAT-095	JOB L26A	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 026C	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 027A	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 027B	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 026B	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 036A	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB CCSSMILL	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 027D	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 201B	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 201C	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 201D	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 201E	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 201F	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 201H	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 203B	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 202A	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 202C	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 203C	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 205A	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 204A	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 204C	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 205B	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 205C	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211A	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211B	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211C	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211D	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211E	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211F	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 202A	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211T	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211U	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB 211H	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB SCSSMILL	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
DYNAMAT-095	JOB ITEMACTE	HAS NOT PROCESSED	THRU TO NORMAL	EUJ-----NO	ACTION	WILL BE TAKEN
UPDATE RECORDS WRITTEN = 1000						
UPDATE RECORDS READ = 1000						
THE SORT REQUIRED	1 PASSES					

Figure D-5 JIMPOST SYSOUT.

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Appendix D--Continued

Vol. 6, CCSSOI 18-320

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

CONTIGUOUS BLOCKS OF CORE AVAILABLE

0998 0288 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=035A (001) RELEASED
JOB=001A (011) RELEASED

JOB=026A (0002) NOT RELEASED -- EST OF 1800 HRS NOT SATISFIED

D-8

JOB=035B (009) NOT RELEASED -- FN-REQ=004(U), CURRENTLY IN UPDATE

JOB=026B (006) NOT RELEASED -- PT-REQ=001 PT-Avail=000

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

Appendix D--Continued

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

CONTIGUOUS BLOCKS OF CORE AVAILABLE

0928 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=035A (001) RELEASED
JOB=001A (011) RELEASED

JOB=026A (0002) NOT RELEASED -- EST OF 1800 HRS NOT SATISFIED

JOB=035B (009) NOT RELEASED -- FN-REQ=004(U), CURRENTLY IN UPDATE

JOB=026B (006) NOT RELEASED -- PT-REQ=001 PT-Avail=000

AAQJ:MD-Term JIMTERM IN PROCESS --- NO JOBS WILL BE RELEASED.
TO BEGIN RELEASING JOBS --- EXEC PROC JIMRUP

Appendix E

JIM CATALOGUED PROCEDURES

JIM PROCS

```

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

```

Figure E-1. JIM PROCS.

Appendix E--Continued

MEMBER NAME - JIMENDP

```

//JIMENDP      PROC      MATRIX=RMATRIX,MMATRIX=DYNABASE,JOBNUM=NONE
//END          EXEC      PGM=SHARDISK,PARM='MATRIX,AA3JIMND,E&JOBNUM.',
//              REGION=62K,COND=(499,LT)
//STEPLIB      DD      DSN=DYLOAD,DISP=SHR
//SYSUDUMP      DD      SYSOUT=A,SPACE=(TRK,(1,10))
//SYSOUT        DD      SYSOUT=A,SPACE=(TRK,(1,10))
//MATRIX        DD      DSN=EMATRIX,DISP=SHR
//MMATRIX       DD      DSN=EMMATRIX,DISP=SHR
//WMATRIX       DD      DSN=EMMATRIX,DISP=(,DELETE),UNIT=2314,SPACE=(TRK,(20)),
//              DCB=(LRECL=58,BLKSIZE=580,RECFM=FB)
//HASPRUK       DD      DSN=NULLFILE,UNIT=INTRDR,DISP=SHR
//ABEND        EXEC      PGM=SHARDISK,PARM='MATRIX,AA3JIMND,A&JOBNUM.',
//              COND=(10,EQ,END),EVEN)
//STEPLIB      DD      DSN=DYLOAD,DISP=SHR
//SYSUDUMP      DD      SYSOUT=A,SPACE=(TRK,(1,10))
//SYSOUT        DD      SYSOUT=A,SPACE=(TRK,(1,10))
//MATRIX        DD      DSN=EMATRIX,DISP=SHR
//HASPRUK       DD      DSN=NULLFILE,UNIT=INTRDR,DISP=SHR

```

E-2

MEMBER NAME - JIMENV

```

//JIMENV       PROC      MATRIX=RMATRIX
//JIMENV        EXEC      PGM=SHARDISK,PARM='MATRIX,AA3JIMND,RXXX'
//STEPLIB      DD      DSN=DYLOAD,DISP=SHR
//SYSUDUMP      DD      SYSOUT=A,SPACE=(TRK,(1,10))
//SYSOUT        DD      SYSOUT=A,SPACE=(TRK,(1,10))
//MATRIX        DD      DSN=EMATRIX,DISP=SHR

```

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.'
//STEPLIB DD DSN=DYLOAD,DISP=SHR
//SYSUDUMP DD SYSOUT=A,SPACE=(TRK,(1,10))
//SYSOUT DD SYSOUT=A,SPACE=(TRK,(1,10))
//REPORT DD SYSOUT=A,SPACE=(TRK,(1,10))
//MATRIX DD DSN=RMATRIX,DISP=SHR
00000100
00000200
00000300
00000400
00000500
00000600
00000700
```

MEMBER NAME - JIMPOSTP

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

MEMBER NAME - JIMREPTP

```
//JIMREPTP      PROC      MATRIX=RMATRIX,PARAM=
//JIMREPT      EXEC      PGM=AA3JIMRP,PARM=6PARAM
//STEPLIB DD DSN=DYLOAD,DISP=SHR
//SYSUDUMP DD SYSOUT=A,SPACE=(TRK,(1,10))
//SYSOUT DD SYSOUT=A,SPACE=(TRK,(1,10))
//REPORT DD SYSOUT=A,SPACE=(TRK,(1,10))
//MATRIX DD DSN=RMATRIX,DISP=SHR
00000100
00000200
00000300
00000400
00000500
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=EMATRIX,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=EMATRIX,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=EMATRIX,DISP=SHR 00000600
//MMATRIX DD DSN=EMMATRIX,DISP=SHR 00000700
//MMATRIX DD DSN=EMMATRIX,DISP=(,DELETE),UNIT=2314,SPACE=(TRK,(20)), 00000800
// DCB=(LRECL=58,BLKSIZE=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=JIMSIMP,MMATRIX=DYNABASE,RMATRIX=RMATRIX, 000000100
//              MDISP=OLD                                         00000200
//
//JIMREPT      EXEC      PGM=AA3JIMRP
//STEPLIB      DD      DSN=DYLOAD,DISP=SHR
//SYSUDUMP     DD      SYSOUT=A,SPACE=(TRK,(1,10))
//SYSOUT       DD      SYSOUT=A,SPACE=(TRK,(1,10))
//REPORT       DD      SYSOUT=A,SPACE=(TRK,(1,10))
//MATRIX       DD      DSN=RMATRIX,DISP=SHR
//JIMSIMP      EXEC      PGM=SHARDDISK,REGION=194K,
//              PARM=(1,MATRIX,DYNABASE,ACTION,MMATRIX,MMDISP.) 00000300
//              00000400
//              DD      DSN=DYLOAD,DISP=SHR
//SYSUDUMP     DD      SYSOUT=A,SPACE=(TRK,(1,10))
//MATRIX       DD      DSN=MMATRIX,DISP=SHR
//MATRIX       DD      DSN=RMATRIX,DISP=SHR
//SYSOUT       DD      SYSOUT=A,SPACE=(TRK,(1,10))
//REPORT       DD      SYSOUT=A,DCB=(LRECL=133,BLKSIZE=1330,RECFM=FBA) 00000700
//CARDIN       DD      DDNAME=SYSIN,DCB=BLKSIZE=80
//              00000800
//              00000900
//              00001000
//              00001100

```

MEMBER NAME - JIMTERMP

```

//JIMTERMP     PROC      MATRIX=RMATRIX
//JIMTERMP     EXEC      PGM=SHARDDISK,PARM=MMATRIX,AA3JIMND,T, 000000100
//STEPLIB      DD      DSN=DYLOAD,DISP=SHR
//SYSUDUMP     DD      SYSOUT=A,SPACE=(TRK,(1,10))
//SYSOUT       DD      SYSOUT=A,SPACE=(TRK,(1,10))
//MATRIX       DD      DSN=MMATRIX,DISP=SHR
//              00000200
//              00000300
//              00000400
//              00000500
//              00000600

```

Figure E-1--Continued

Appendix E--Continued

MEMBER NAME - JIMUPDP

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

Figure E-1--Continued.

Appendix F

JTM MESSAGES

1. JTM processing messages.

AAQJIMND-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.

AAQJIMND 'error message'

AAQJIMND 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.

ERROR IN UPDATING MASTER MATRIX { UPDATE
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.

** ERROR ** ATTEMPT TO POST { A
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 jjjjjjj, 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

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

System Action: Processing continues.

User Response: None.

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

Explanation: 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

DEVICES AVAILABLE

DISK(S)=nn TAPE(S)=nn TAPE7(S)=nn PRINTER(S)=nn PUNCH(S)=nn

INITIATORS AVAILABLE = nn

Explanation: 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.

System Action: Processing continues.

User Response: None.

2. JIM report messages.

INVALID PARM pppp

Explanation: The JIM report process encountered an invalid parm field.

System Action: Processing is terminated.

User Response: Correct the parm error. Resubmit job.

RMATRIX NOT CREATED--ERROR

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

System Action: Processing is terminated.

User Response: Create the Running Matrix and resubmit job.

Appendix F--Continued

3. Console messages.

AAGJIMND-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.

AAGJIMND-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 JIMENWP PROC is executed. This indicates the balance 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 DSN= 'DYNA2700',VOL=2314=XXXXXX
UNCATLG DSN= 'DYNA2700'

```

Figure G-1

Figure G-1. Sample 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
//* *** ** THE END *** *** ***
//* *** ** THE END *** *** ***
//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

Appendix G--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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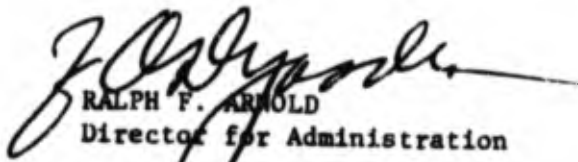
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