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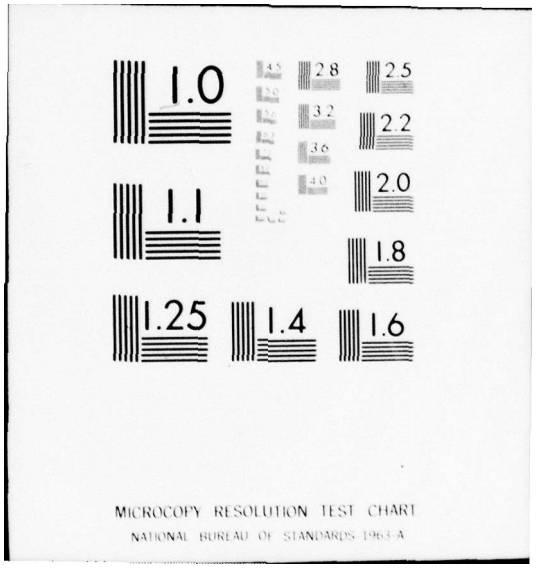
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SYSTEM AVIONICS VALUE ESTIMATION (SAVE): AN AID FOR AVIONICS LOGISTICS-AND-SUPPORT-COST ANALYSES

BATTELLE'S COLUMBUS LABORATORIES
505 KING AVENUE
COLUMBUS, OHIO 43201

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This technical report has been reviewed and is approved for publication.

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CACE	Interactive Cost Models
LSC	Life Cycle Cost
LCC2	Logistic Support Cost
GEMM	Models
MOD-METRIC	

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report documents a contract research effort by Battelle's Columbus Laboratories to develop an interactive graphics computer system which will allow government cost analysts to exercise five existing logistics and support cost models in an integrated, consistent, and efficient manner. This work was sponsored by the Air Force Avionics Laboratory (AFAL/AAA).

In response to the need for improved ILS modeling capability, an interactive

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computer program has been developed to guide and assist the analyst in establishing input for any of five selected models, running the program, and reviewing the output. The software is structured to allow:

- -User definition of the hardware configuration with up to five levels of indenture.
- -Establishment and use of one consistent data file for the entire set of models.
- -On-line descriptions of each data item's usage by the available models.
- -Use of appropriate models for the problem being analyzed.
- -On-line graphical interpretation of results (both primary and iteration results).
- -Adaptability to add models beyond the initial set of five.

Numerous factors influenced the selection of an initial set of models in the SAVE system. The penalty associated with the exclusion of an important model is relatively minor since the processor was developed in anticipation of incorporating additional models. The major factors affecting model selection were:

- -Coverage of logistics and technical performance measures.
- -Coverage of the organizational hierarchy of logistics cost analysis issues.

Additional factors considered were extent of past usage and acceptance of the model, model complexity, and valuable unique aspects of the model.

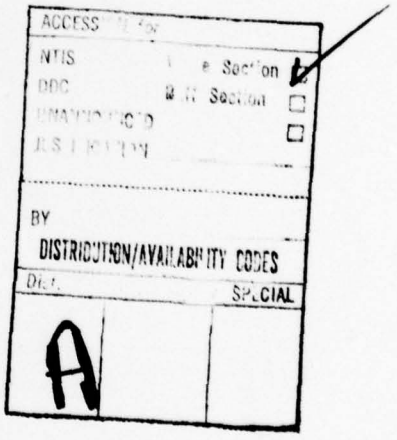
The models selected for inclusion in SAVE are:

- -CACE (Cost Analysis Cost Estimating Model)
- -LSC (Logistics Support Cost Model)
- -LCC2 (Operations and Maintenance Model developed by The Analytical Science Corp.)
- -GEMM (Generalized Electronics Maintenance Model)
- -MOD-METRIC (Inventory model developed by AFLC)

The SAVE program developed under this effort is available at the ASD Computer Center at Wright-Patterson AFB. Use of the system is monitored by the Air Force Avionics Laboratory (AFAL/AAA-3).

FOREWORD

This is the final report on work conducted to develop an interactive graphics processor for life cycle cost and operating and support cost models to perform System Avionics Value Estimation (SAVE) analyses. The work was performed by Battelle's Columbus Laboratories, 505 King Avenue, Columbus, Ohio 43201, for the U. S. Air Force Avionics Laboratory, Wright-Patterson Air Force Base, Ohio 45433. Information in this report covers work conducted under Contract F33615-76-C-1299, Project 2003/09/08. The Air Force Program Monitors were Captain Ken Almquist and Mr. Robert L. Harris (AFAL/AAA-3), System Evaluation Group, Synthesis and Analysis Branch. Research for this final report was conducted from July 15, 1976 through June 30, 1977. No copyrighted material is included. This report was submitted by the authors on June 30, 1977.



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SECTION I

INTRODUCTION

This report describes the results of an effort to develop for the U. S. Air Force Avionics Laboratory an interactive computer program for convenient and consistent utilization of a selected set of logistics and support cost models. Using the program, analysts may exercise any one of five special purpose cost models with one data file containing common and consistent data elements. In addition, by recognizing the potential interface between the various models, this approach will allow analysts to perform System Avionics Value Estimation (SAVE) analyses and to understand the many effects of design and system level deployment interactions upon resource requirements, costs, and performance measures.

The purpose of the effort was to develop a logistics-cost-analysis capability comparable to the present mission effectiveness analysis capability residing in the Avionics Evaluation Program (AEP).[1]* The AEP is an extensive set of analysis tools, developed to assess the influence of aircraft hardware characteristics (primarily performance and reliability) on mission effectiveness. Figure 1 is a conceptual diagram of a complimentary set of cost and effectiveness analyses requirements which necessitate both technical and logistics performance measures. The considerations of the left side are treated by the AEP (with the exception of the force level requirement). The AEP is a Monte Carlo analysis model supported by separate computer programs for analysis of individual flight functions. On the right side of Figure 1, the various considerations of logistics support analyses are noted. The SAVE software structures the application of several special purpose logistics and support cost programs in a hierarchical manner to analyze the interactions between the resource categories/levels shown. The bridging between the two sets of models must be performed by the analyst. However, the definitional interface of consistent data elements is covered in this report.

The SAVE development effort was preceded by (and is a logical extension to) a project conducted by Battelle's Columbus Laboratories for the U. S. Air Force Logistics Command.[2] The purposes of that effort were to:

*Numbers in parenthesis refer to references listed at the end of this document.

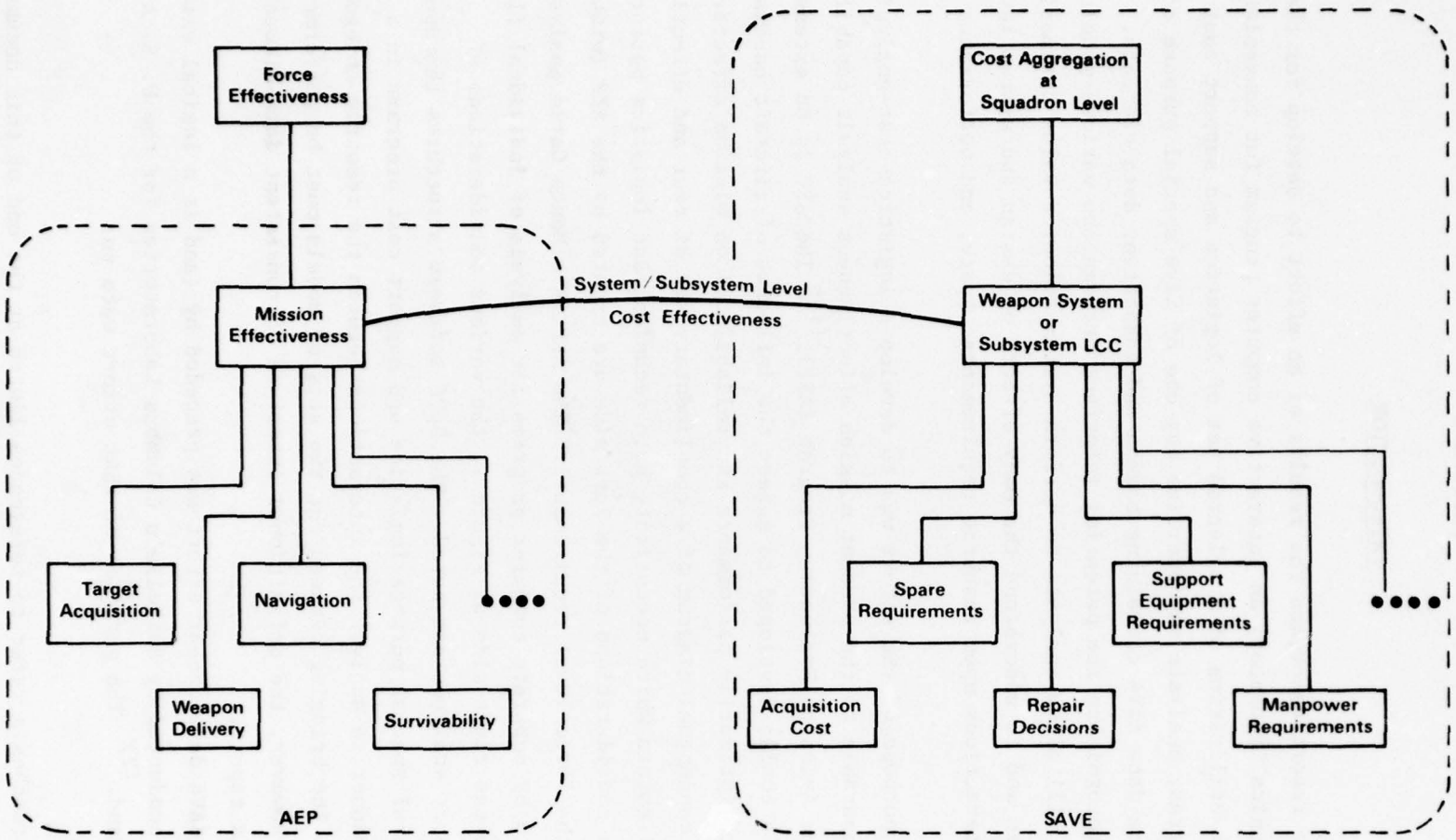

FIGURE 1. COMPLEMENTARY SET OF COST AND EFFECTIVENESS ANALYSIS CONSIDERATIONS

(1) Conduct an extensive review of currently available logistics planning models and identify the interface of those models with each other and within the weapon system development process.

(2) Define the characteristics of a systematic approach with which the available tools can be made easily accessible and usable for iterative applications via an interactive graphics computer processor.

The results of that effort provided a foundation for moving on to the implementation of SAVE.

This report describes: the procedures used for selection of the initial set of cost models; the interactive graphics software; the roles of the models; and the potential interface with the AEP. Following the main portion of the volume, four appendices are included. The first appendix lists the aggregate set of input data items for all models and then it lists the set of input data items for each model separately. The second appendix contains the "teach" message descriptions of: the library sections, subsections, and data item descriptions; the output file categories; and other miscellaneous items. The third appendix presents data record structure and computer program output examples for each of the five models. Lastly, the fourth appendix provides reference type programmer information on the SAVE interactive computer program.

SECTION II

SELECTION OF SAVE MODELS

Numerous factors influenced the selection of an initial set of models for inclusion in the SAVE system. The penalty associated with the exclusion of an important model is relatively minor since the processor was developed in anticipation of incorporating additional models. The major factors affecting model selection were:

(1) Coverage of logistics and technical performance measures

(2) Coverage of the organizational hierarchy of logistics cost analysis issues.

Additional factors considered were extent of past usage and acceptance of the model, model complexity, and valuable unique aspects of the model.

The models selected for inclusion in SAVE are:

(1) CACE (Cost Analysis Cost Estimating Model)[3]

(2) LSC (Logistics Support Cost) Model[4]

(3) LCC2 (Operations and Maintenance Model developed by the Analytic Science Corp.)[5]

(4) GEMM (Generalized Electronics Maintenance Model)[6]

(5) MOD-METRIC (Inventory model developed by AFLC)[7]

Following is a brief description of each model relative to the major criteria affecting model selection. The references should be consulted for a complete description of the models. More information on the use of each model is contained in the Model Utilization Section.

Logistics and Technical Performance Measures

The model selection for an initial SAVE implementation can be judged by how well logistics and technical performance measures are addressed. AFLCP-800-3[8] defines four general logistics performance factors: availability, reliability, maintainability, and logistics support. Typical technical performance measures are mission capability, detectability, and survivability. The primary considerations in the selection of performance measures are that:

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(1) The measures are quantifiable and are the best direct indicators of performance, and

(2) The data required to calculate performance can be identified and measured.

Figure 2 is a graphical portrayal of factors which influence logistics and technical performance measures. This figure is an attempt to structure the interrelationships of commonly used performance concepts (availability, capability, maintainability, etc.). For discussion purposes, it is useful to focus on the center column of Figure 2 and follow the flow to either the left or the right. This is done in a sequential manner below.

At the top and to the left,mission capability is shown to be a function of the mission scenario, the design performance of the system, and the hardware reliability. In this relationship, reliability determines the operating modes of the system. These modes influence the technical performance of the system in the given mission environment.

The next relationship down the center column is the interaction of reliability, utilization, time, and maintainability as they generate maintenance requirements. Maintainability is shown as broken into unscheduled, scheduled, and calendar time to differentiate between the types of tasks which should be considered during design, evaluation, and operations. Reliability functions here as the driving factor for the frequency of the maintenance tasks.

The logistics posture, consisting of various types and quantities of resources, is principally sized in order to respond to the maintenance requirements and is therefore shown as a derivative of the requirements. Because of funding limitations, the resources in the logistics posture are usually constrained. Application of the limited logistics resources to the tasks required by the maintainability structure, in conjunction with the system utilization and time, influences the availability of each system to respond to a particular mission requirement. This relationship is shown to the left of the center column for reasons to be discussed below. Time is considered as a discrete element in this relationship to account for scheduling conflicts which occur with limited resources.

Moving to the left, toward technical performance measures, the capability to launch a weapon system is portrayed as a relationship between the available system and the application of other resources. Within the context of this discussion, other resources refer to such elements as operating crews, launch

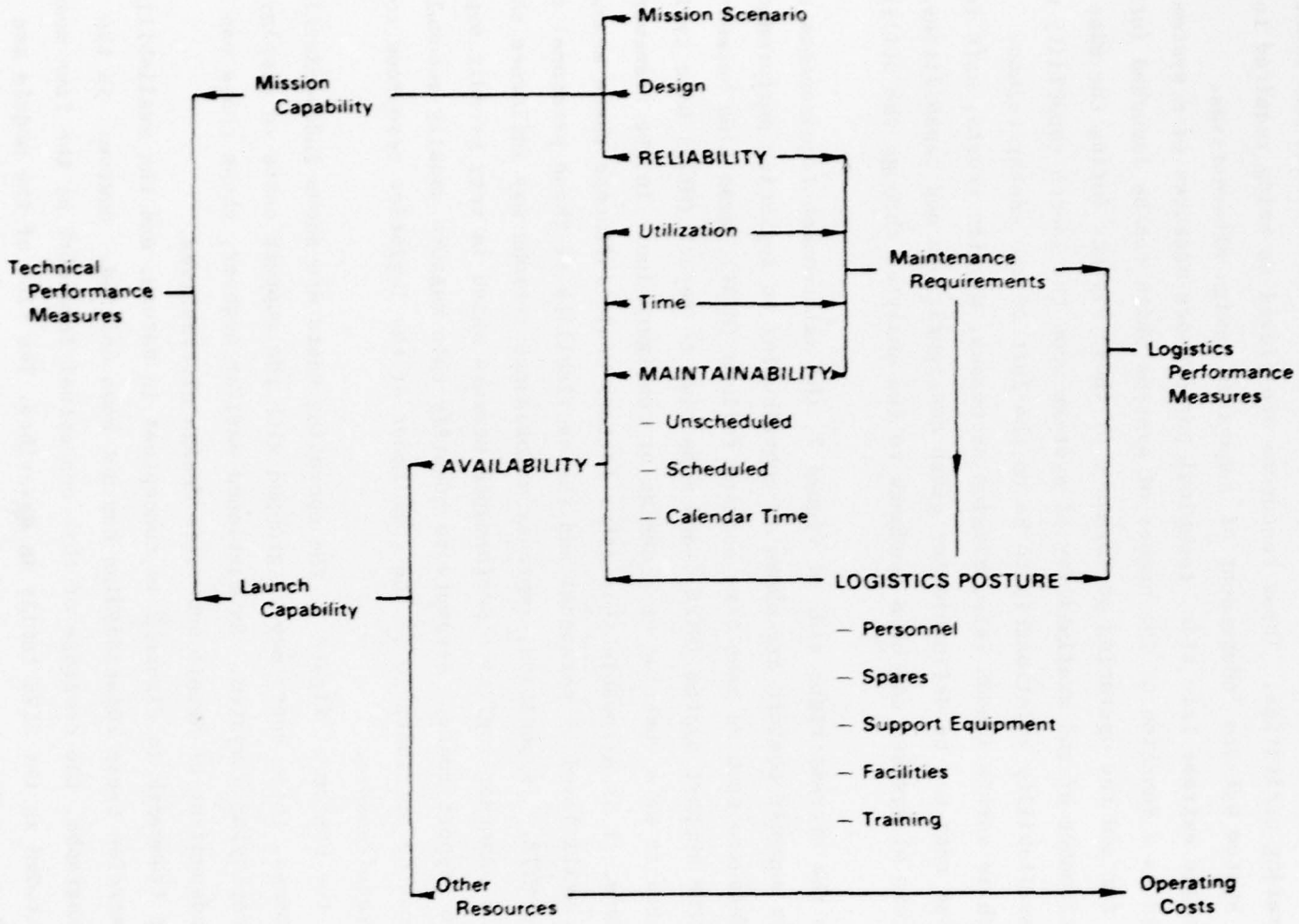


FIGURE 2. INFLUENCES ON LOGISTICS AND TECHNICAL PERFORMANCE MEASURE

facilities, munitions and munition crews, administrative activities, and other general operating activities. These resources are viewed as being required to operate the system but are independent of subsystem design alternatives.

On the extreme left side, technical performance measures of a system are displayed as a function of the number of systems which can be launched (utilized) when called for and the operating performance of those systems during the mission. It is the influence of the availability of systems upon the launch capability which causes the availability relationship to be on the left of the center column. Measures such as sortie launch rate, mission successes, mission aborts, safe return rate, and loss rate may be definable for given configurations and capabilities. The safe return of systems can be a feedback to the analyses through the utilization factor.

To the extreme right side of Figure 2, the maintenance requirements and the logistics support posture are shown as contributing to logistics performance measures. Measures such as mean time between failure (MTBF), mean time between demand upon the support system (MTBD), and mean time to repair (MTTR) have typically been considered to be a function of a design or configuration. In the framework identified here, it is allowable that other factors could influence these measures. For example, skill level of personnel and the availability of those personnel can influence the MTTR. In addition, improper maintenance actions may influence the MTBF and MTBD. Another logistics performance measure which is very broadly applied, is the system support costs. Attempts to quantify this measure usually accumulate costs which can be attributable to the commitment of the logistics resources to the maintenance requirements.

At the bottom of Figure 2, the operating costs are shown independently. In some instances, these costs may be grouped with the support costs to display the cost of deploying a system. As mentioned earlier however, these costs can be considered independent of detail subsystem design alternatives.

The framework in Figure 2 is conceptual in nature, and the availability of data to exercise these relationships has not been defined. However, in the following paragraphs, the coverage of this conceptual framework by the five models initially included in the SAVE family is described. The flow of the models are portrayed and the performance measures which they develop are identified.

CACE

This model is the primary type of tool used by the Air Force in the Defense Systems Acquisition Review Council (DSARC) process. It aggregates the cost to operate and support a squadron of aircraft at the base level. Of primary interest is the size of maintenance work force and operational crew size/ratios. Resources such as POL*, training munitions, and vehicular equipment are also costed. Other support costs included are the apportioned base support and operational support personnel. These latter, indirect costs are influenced by the size of the direct personnel force. The Comptroller organization at the Air Staff has developed an Operating and Support Cost Reporting (OSCR) system to identify and aggregate such squadron level costs for existing systems. In the DSARC process, the comparison of what it costs now for a certain capability (i.e. medium airlift, attack, strategic bombing) to the projection of what it will cost to operate a squadron of new systems is becoming a more significant factor. In early stages, these costs will play a role in defining the affordability limit for a new system being designed to Life Cycle Costs.

The CACE computer model included in the SAVE processor was developed by AFLC/AQ and uses the AFR173-10[3] equations. In addition to the 173-10 equations, an optional manpower algorithm is included which generates a squadron manpower package in accordance with AFM 26-3 estimating procedures.

LSC

The LSC model addresses only support costs and basically is a set of ten cost equations. Each equation is a separate cost accumulation for a particular element of support costs (e.g., spares, support equipment, on-equipment maintenance). The basic element considered is the line-replaceable unit (LRU) (e.g., landing gear, radio receiver-transmitter, ejection seat). LRUs combine to make systems (e.g., flight control system, radio communication system) and systems combine to form the weapon system. The LSC model is intended for use in two ways:

(1) To differentiate between alternative designs

(2) To analyze support cost aspects of design trade decisions.

It is being used on Air Force programs for both functions.

*Petroleum, Oils and Lubricants.

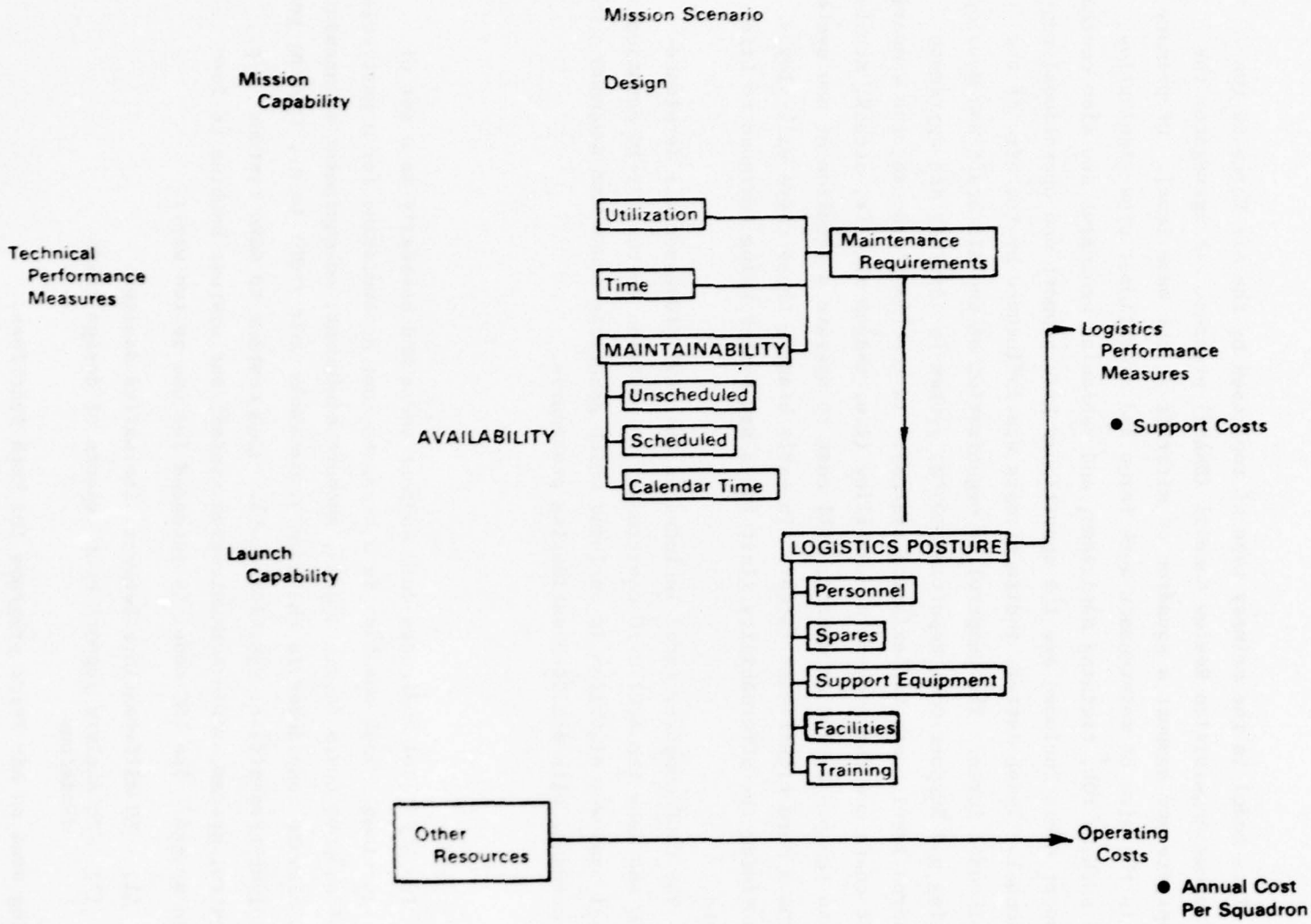


FIGURE 3. FRAMEWORK OF THE CACE MODEL

The principal connecting factor in the LSC model (Figure 4) is the mean time between failure (MTBF) of identifiable line replaceable units (LRUs). The time units are equipment operating hours in the operational environment. An equation is developed to compute the cost of each of several identified elements of support resources. Output measures include quantities and distribution of resources required. The output is formated in a manner which allows accumulation of the cost/quantity measures at several levels of indenture (e.g., weapon system, major system, subsystem levels). The only consideration of availability is in the calculation of inventory spares which includes a safety stock provision. Adequacy of the supply of other resources is not considered.

LCC2

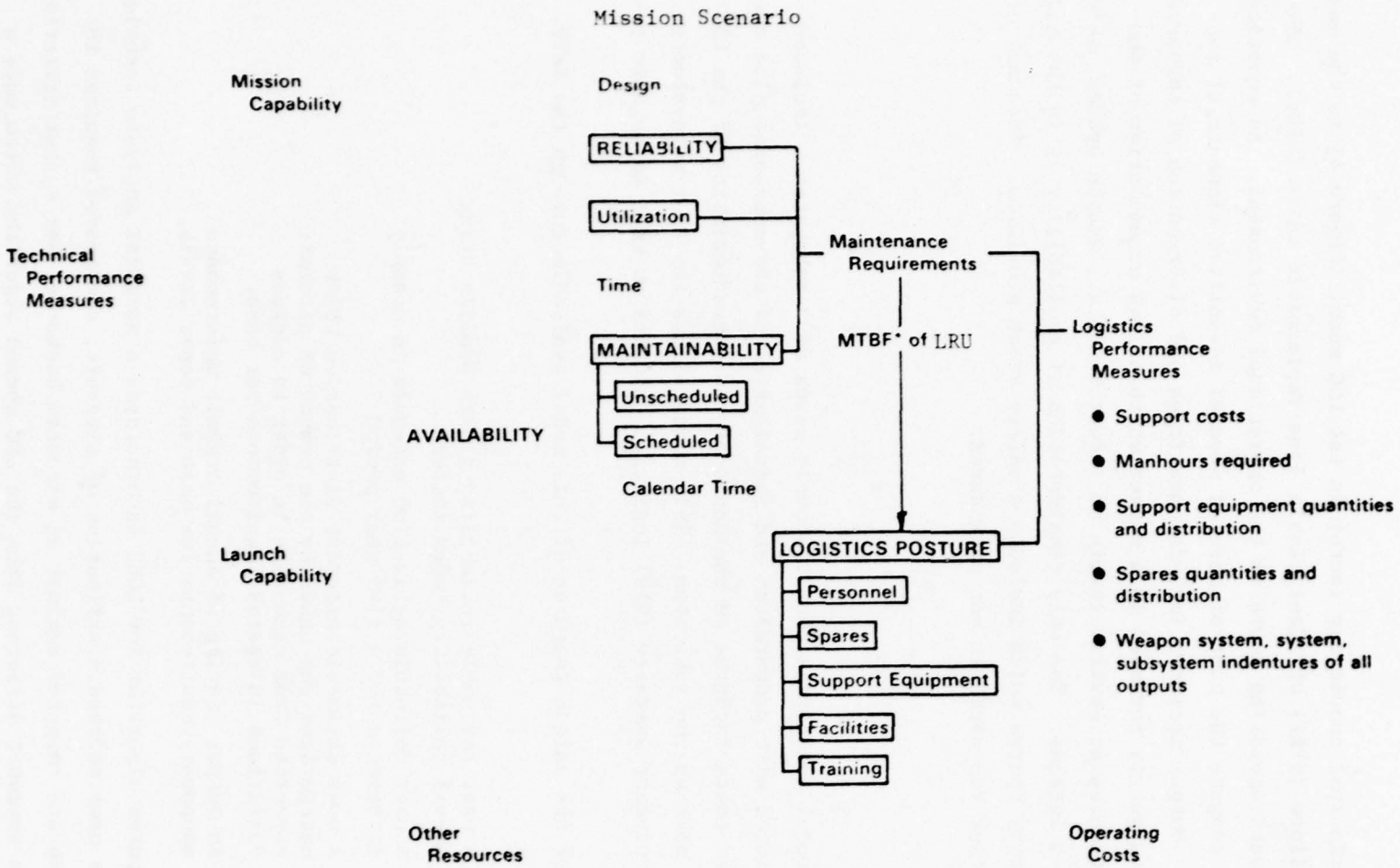
This model quantifies the life cycle costs of a subsystem. Included are costs associated with procurement and installation of the subsystem plus the life time support costs incurred on the basis of the characteristics of the LRU's and SRU's* which make up the subsystem. This model allows the user to evaluate reliability improvement warranty (RIW) logistics concepts as well as organic repair.

Some of the unique features of this model available through the SAVE software are:

- A user definable reliability growth profile using annual reliability index factors
- A user definable activation schedule in monthly increments for a five year period
- A user definable aircraft distribution which categorizes the bases by the number of aircraft supported from each base in order to address variations in spares requirements per base.
- An output listing of annual organic maintenance manpower requirements for base and depot levels.

The spares algorithm for LCC2 incorporates a marginal analysis technique. According to the user defined distribution of aircraft, the spares required to support each base are computed against an expected backorder per system criterion. This approach is somewhat different from the LSC spares algorithm which uses a backorder per base criterion.

*Shop replaceable unit.



*Mean Time Between Failure of Line Replaceable Unit, in operating hours in operating environment.

FIGURE 4. FRAMEWORK OF THE LSC MODEL

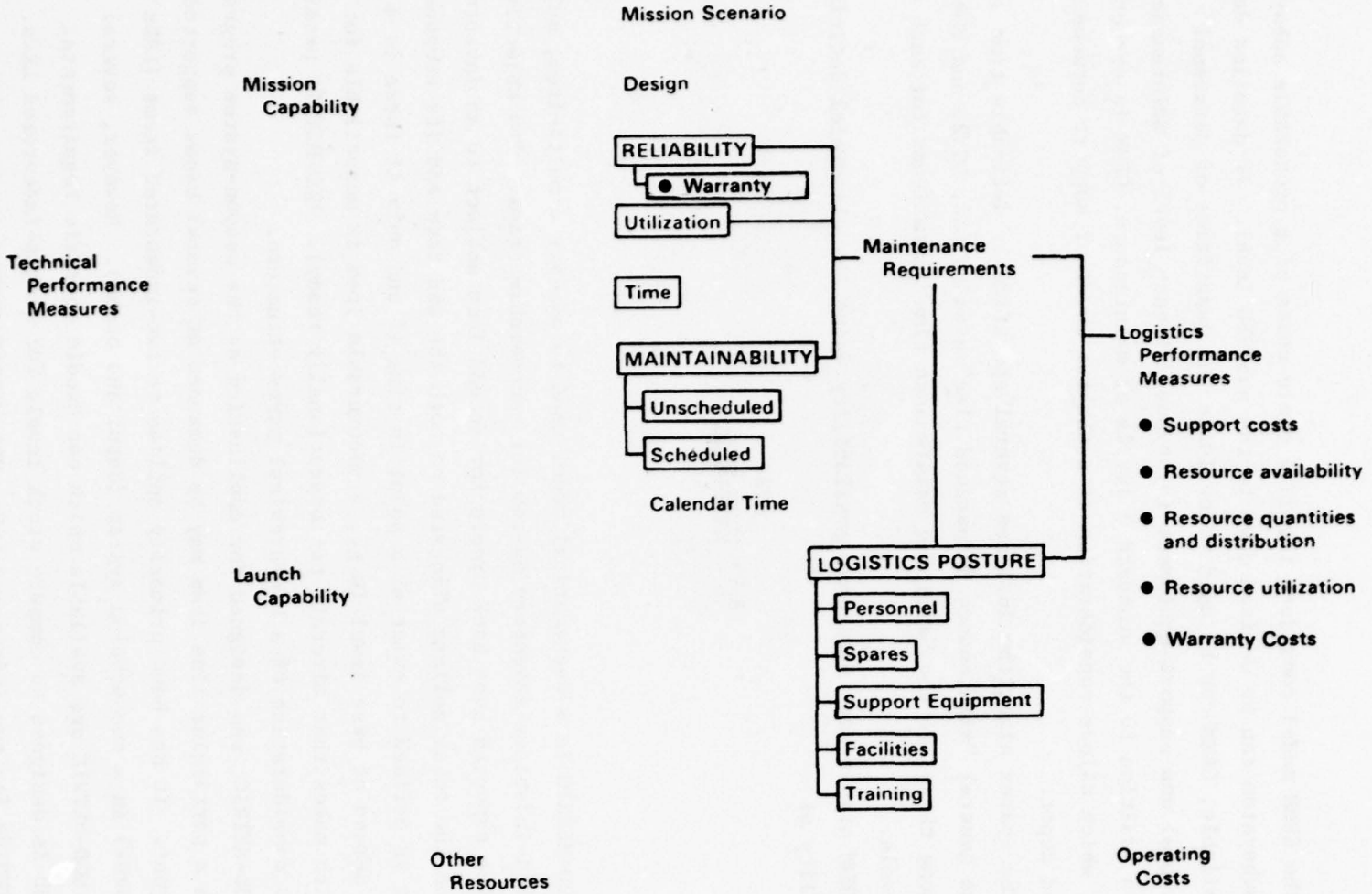


FIGURE 5. FRAMEWORK OF THE LCC 2 MODEL

GEMM

The GEMM model considers the life cycle costs of a procurable subsystem where the subsystem can be defined down to the sub-SRU level. If detailed design data is available, GEMM can be used to evaluate the quantities of personnel (by skill types) and support equipment (by types) at each level of maintenance.

In addition to the standard 3 levels of maintenance, GEMM is structured in a manner which allows consideration of a theatre level of support between the base and depot.

The spares algorithm includes several specifically definable time segments of the general "maintenance turnaround time" used by LSC, LCC2, and MOD-METRIC. Among these are the "awaiting maintenance time" data items for each of the four levels.

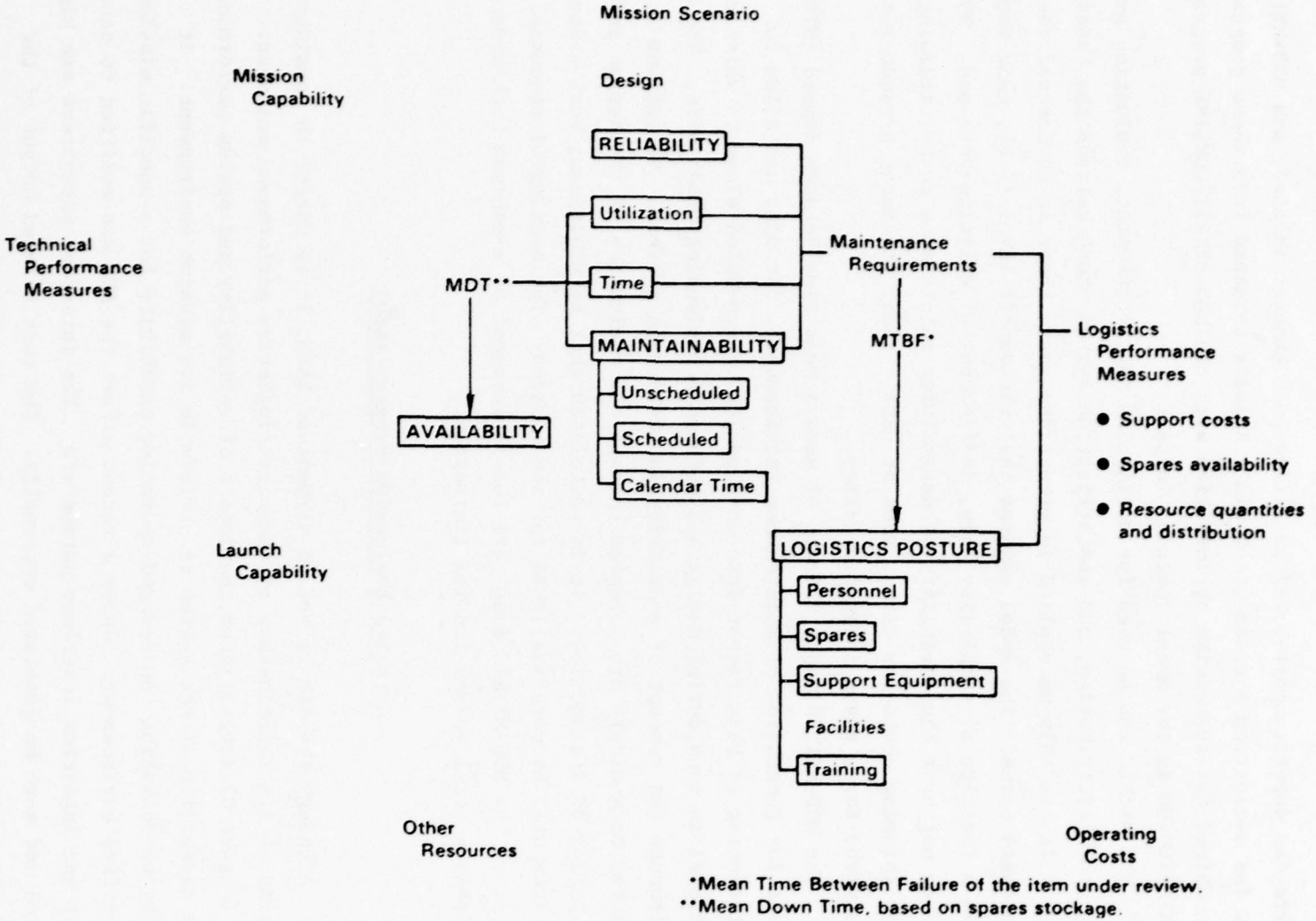
GEMM also treats equipment availability using the classicial definition of availability of

$$A_o = \frac{MTBF}{MTBF+MTTR} .$$

MOD-METRIC

MOD-METRIC is a mathematical model used to analyze a multi-item, multi-echelon, multi-indenture inventory system for recoverable items. Its objective is to minimize expected base back orders for an end item subject to an investment constraint on the total dollars allocated to both the end item and its components. A back order is defined to exist at a point in time if and only if there is an unsatisfied demand at base level (e.g., a recoverable item is unavailable for an aircraft which makes that aircraft not operationally ready). MOD-METRIC permits the explicit consideration of a hierarchical parts structure.

MOD-METRIC was designed for application at the weapon-system program level, where a particular line item may be demanded at several bases supported by a central depot. It has been primarily applied to two-indentured items (LRUs which have SRUs) in a two-echelon system (depot and bases). However, several versions of MOD-METRIC are available which can handle specific requirements. MOD-METRIC/ONEIND is designed to compute stock levels for single-indentured LRUs, MOD-METRIC/TWOIND for two-indentured LRUs, MOD-METRIC/TREMOR for two indentured



*Mean Time Between Failure of the item under review.
**Mean Down Time, based on spares stockage.

FIGURE 6. FRAMEWORK OF THE GEMM MODEL

LRUs where the depot/support-base/ satellite-base concept is used, and MOD-METRIC/EVALUATE for evaluating a given stock mix. Results obtained from these programs can be combined for systemwide optimization with the MOD-METRIC/COMBINE program. MOD-METRIC/TWOIND is the model included in SAVE.

MOD-METRIC can be used for optimizing new procurement, evaluating an existing stock distribution, and redistributing system stock between the bases and depot. It can only be applied in situations where there is no lateral resupply between bases. The model assumes that the repair level (i.e., base versus depot) is a function of complexity only, independent of existing workload. MOD-METRIC does not have the capability of determining maintenance costs, training costs, or shipping costs for either LRUs or SRUs. Thus, it cannot present the other costs incurred for a given inventory policy.

The MOD-METRIC model (Figure 4) uses a mean time between demand (MTBD) to account for generation of maintenance requirements. It does not allow for the partitioning of this factor into unscheduled or scheduled elements which might be beneficial in considering design and maintenance planning trade-offs. The model does introduce the concept of modularity in the design process. Variations in the expected back orders are measured through the evaluation of the design and sparing policy of its modules. It is postulated that by minimizing back orders, the end item will be more available for its mission. The meaningful measures, therefore, of the MOD-METRIC model are the achievement of a minimum back-orders level within a total spares funding limitation.

Avionics Evaluation Program (AEP)

Although the AEP is not an element of SAVE, it is useful to consider it in terms of its relationship to technical/logistics performance measures. The AEP (Figure 8) investigates the impact of reliability and system performance upon the capability of the system to perform in its mission environment. It does so by establishing the desired operating capability for a specific mission in a specified environment. Under a recent effort the AEP was modified to accomodate cost and logistics interface parameters. The interface parameters are highly aggregated and must be generated externally. The cost related output of the modified AEP is in terms of dollars per mission and ability to sustain operations with the user defined support posture.

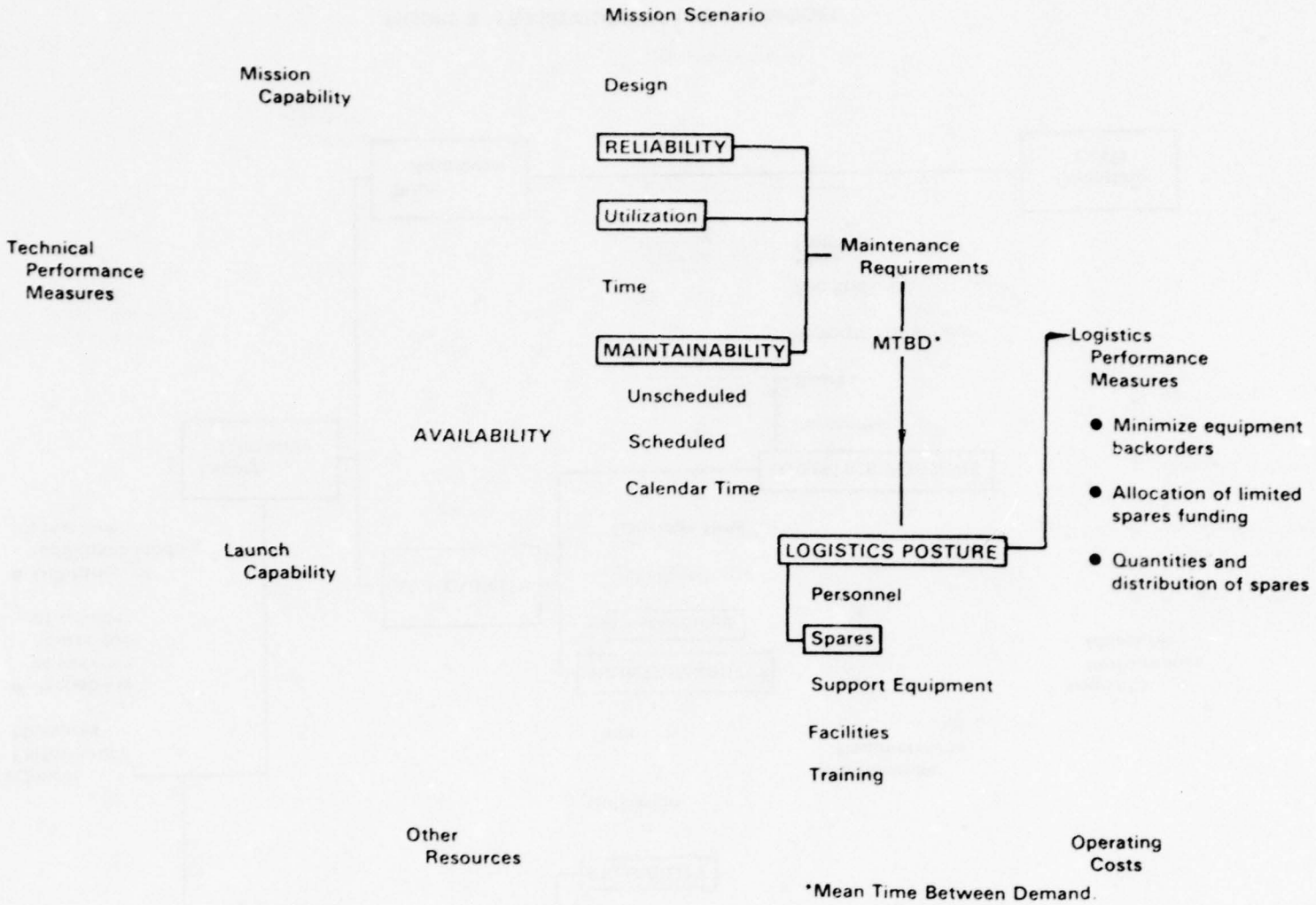


FIGURE 7. FRAMEWORK OF THE MOD-METRIC MODEL

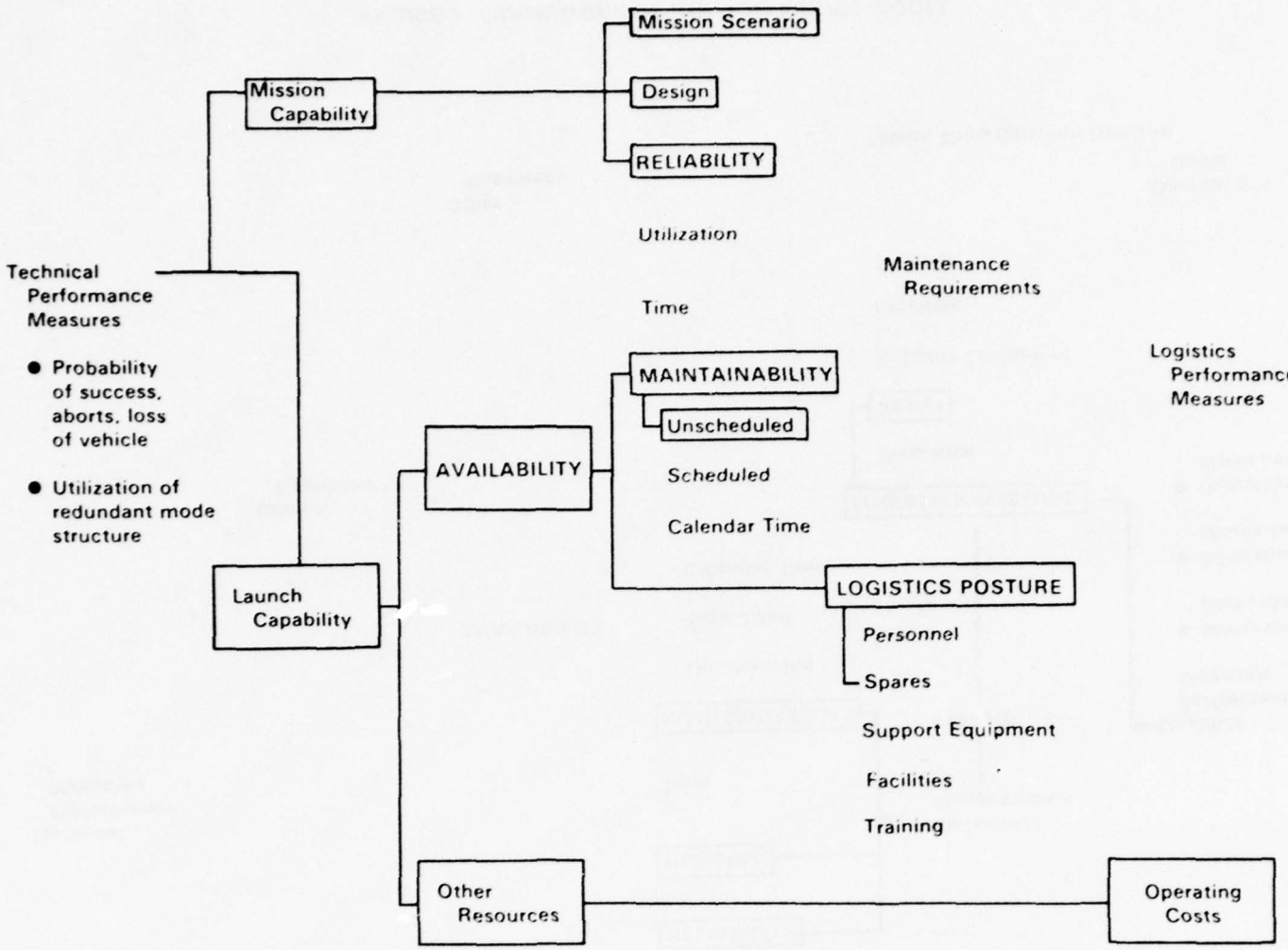


FIGURE 8. FRAMEWORK OF THE AEP MODEL

The Concept of a Hierarchical Set of Cost Models

During the SCALE study,[2] emphasis was placed on a framework relating technical performance factors (i.e. missions completed, targets killed) to logistics performance factors (i.e. manpower resources, spares investment, NORS,* NORM).** As a consequence, the interrelationships between cost models of primary interest were on a lateral plane to assure the coverage of all significant parameters. There is also utility in establishing a hierarchical relationship between the models. This hierarchy should be associated with the levels of cost analysis in the user community. We identify these as:

1. Squadron/Force level costing as used at DSARC (Defense System Acquisition Review Council) levels.
2. System level costing as addressed in source selection and program management activities.
3. Support concept planning and analysis of level of repair.
4. Detailed support resource requirements analysis for personnel, support equipment, and spares.

This hierarchical concept does not eliminate the technical/logistic performance measure framework. That framework is still needed to relate the logistics support impact of equipment reliability and design characteristics with the mission performance influences. The hierarchical concept structures the cost side of the "balance" in Figure 1 to allow the logistics/performance interface to occur at the system level (level 2 above). This hierarchical concept is graphically portrayed in Figure 9.

The primary effect of including coverage of an organizational hierarchy in the selection criteria is that it introduces the requirement for a squadron/force level model (CACE) that is not explicitly called for when addressing the technical/logistics performance measures. From the hierarchy point of view, it is quite clear that program management organizations involved in system level costing, and utilizing models like LSC or LCC2, will also be concerned with force level costing since that is the level of costing used for Air Staff and OSD level reviews.

Another hierarchical consideration is the level of indenture covered by each model. CACE addresses only the weapon system level. LSC addresses the weapon system as a composite of subsystems where each subsystem is composed of

*Not operationably ready-supply

**Not operationably ready-maintenance

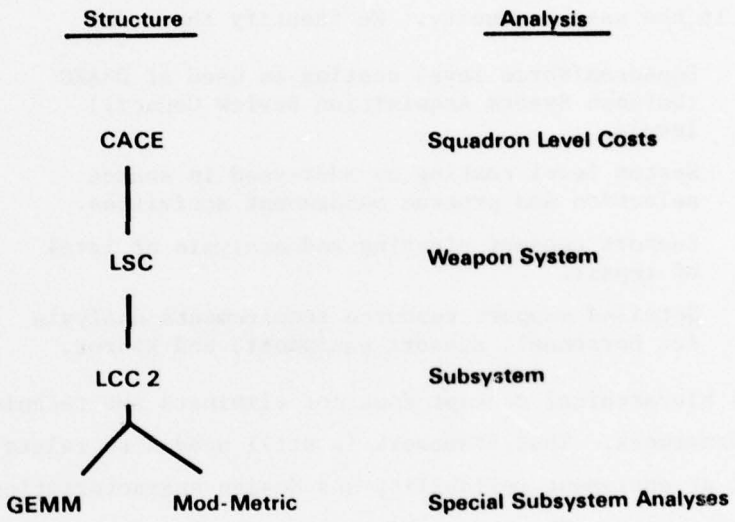


FIGURE 9. A HIERARCHY OF LOGISTICS AND SUPPORT COST MODELS

line-replaceable units (LRUs). LCC2, MOD-METRIC, and GEMM only address one subsystem at a time, but each to different degrees. LCC2 treats the subsystem costs and costs associated with multiple line replaceable units (LRU's) and shop replaceable units (SRU's). GEMM goes one indenture further to the parts level. MOD-METRIC does not treat subsystem costs but associates LRU and SRU stockage costs with system level availability. These hierarchical differences reflect different analytical applications and are used in structuring the data input for the SAVE software.

SECTION III

TERMINAL USAGE, DATA BASE STRUCTURE, AND PROCEDURES

This section of the report describes the structure of SAVE and how the user interacts with the system. Examples are provided to demonstrate the procedures to be used in: establishing the library structure; inputting data; establishing model execution records; executing models; and reviewing on-line outputs.

In addition to the material provided in this section, four appendices have been prepared. Appendix A is a listing of all the data elements in the Library (as discussed subsequently in this Section). Appendix B is a structured compilation of the descriptive TEACH messages which are accessible on-line from the terminal using the "?" feature (as discussed below). These two appendices are subject to revision if new models are added to the SAVE system. Appendix B is computer generated to facilitate updating as well as additions. Appendix C presents examples of data structure and outputs for each model. Appendix D is a programmer's guide for the SAVE interactive processor and is a working tool for the Avionics Laboratory personnel.

The following paragraphs present information on SAVE in this order:

- o General discussion of interactive terminal usage
- o Data base structure description
- o Library section procedures
- o Execution section procedures
- o Output section procedures

General Discussion

This interactive program provides the framework for (1) executing a set of logistics support cost models, (2) storage of a consistent set of input data for all models, (3) viewing the program results of all models in an integrated manner.

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The main objectives in providing an interactive capability are:

(1) To provide the user with an easier means of communicating with the computer

(2) To help verify that input data are free of the common card punching mistakes

(3) To provide a data bank for storing and retrieving input data

(4) To provide sufficient instructions within the interactive software to avoid the need for consulting computer program manuals

(5) To provide graphical representation of program results.

Use of the Terminal

The interactive program has been designed for use with a Tektronix 4000 series graphics terminal. However, the program can be utilized with any standard TTY or other type of terminal. Generally, the only compromise is that graphics may not be available on other terminals.

There are two basic requests for user response that are common to all of the routines.

--	Whenever a double dash appears, the program is waiting for a response from the operator. Information should not be entered until the double dash appears.
BEEP	An audible tone, beep or bell from the terminal is an indication that at the next step, the existing page will be erased. The program automatically keeps track of the number of lines on the display so that, when the bottom of the display is reached or whenever the next output requires a full page,

the user can be warned to make a hard copy if desired. Any entry following the beep is used to command a page erase. The contents of the command are ignored. It is typical to hit the space bar and return when a beep sounds. This feature is provided only if the user indicates (upon entering the program) that a graphics terminal is being used.

Following is a description of several basic keyboard entries which may be used at any time in the program.

RETURN this key is used to send the previously typed information to the computer. The computer will not respond to the typed information until the return key is depressed.

CTRL-H These two keys pressed simultaneously will cause a back space on terminals which do not have a separate back space key.

> The greater than symbol will cause all information entered before it to be neglected.

%A This sequence will abort an executing command, any output coming to the terminal must be interrupted with the ESC key before entering %A. After entering %A, the program will repeat the last request for input preceding the abort and will continue normal execution from there.

=, The comma and equal sign are used as data delimiters. They can be used interchangeably.

The pound sign will cause the program to request a page change or screen erase.

TTY This command will force the program to bypass all page change requests. It can be entered any time there is a request for a page change (beep or bell).

MANUAL This command provides an on line users manual. The user can select any subsection and paragraph of the manual for immediate viewing. A listing of the manual sections is obtained using the question mark feature after commanding manual. Then an index of each section and subsection can be obtained by again using the question mark after commanding the appropriate section or subsection.

? The question mark is a request for information or explanations. There are three options:

(a) At any time, the user may enter a question mark by itself to request information about user options or available commands.

(b) When the response to a solitary question mark is a list of commands, the user may enter any of the available commands followed by a question mark to obtain a more detailed description of the command in question.

(c) A number followed by a question mark is available at any point in the program where permanently numbered items are being displayed to obtain a description of the items so numbered. Thus, in the LIBRARY and EXECUTE sections of the program, information is available for the numbered sections, subsections and data items. In the EXECUTE section, information is available on the MOD-METRIC default parameters if the user wishes to modify them and in the OUTPUT section information is available on the numbered cost categories.

Using the Interactive Program

There are four steps involved in executing one of the available models. These are:

(1) Providing Data. This is done by storing data in the data file. Each user may have one or more data files which are accessed by entering a User ID upon entering the SAVE interactive program. Data is entered into the data base in the LIBRARY section of the program.

(2) Defining an Execution Record. An execution record consists of pointers to subsets of the data stored in the LIBRARY section. An execution record is defined in the EXECUTE portion of the interactive program. Execution records themselves can be stored for later use or modification.

(3) Executing a Model. This is also done in the EXECUTE section of the interactive program. When the user is ready to execute the analysis program, the interactive program creates a file containing all data for input to the desired model. The model itself may be executed on-line if it fits within interactive core limits.

(3) Executing a Model (Continued). In this case, the model is automatically executed and the user returned to the interactive program. For those models which are too large to run on line, a batch job is routed to the input queue. At some later time, the job will be executed.

(4) Viewing the Output. Once the desired model has executed, the results will be available for display through the interactive program in the Output section.

Executive Command

Upon entering the SAVE interactive program, the user is requested to provide a user ID so that the program may access the appropriate data base. The user is then requested to provide a SAVE command. The SAVE commands are the executive commands which access one of the major program sections described above. Following is a description of user executive commands.

LIBRARY (LIB). This command accesses the LIBRARY section to enable the user to store and retrieve data.

EXECUTE (XEQ). This command permits the user to define execution records and execute models.

OUTPUT (OUT). This command enables the user to review the results of model executions.

Data Base Structure

In order to use the SAVE interactive software, the user must first have a basic understanding of the structure of the data base in which the data to execute the models is stored. The following paragraphs describe the essential elements of this structure.

There are two types of information to be entered by the user in order to execute the models. The first of these is the structure (hardware configuration) of the system being modeled and the second is the set of data values describing the system.

The process of defining the hardware configuration consists of breaking it into its component parts (e.g. LRU, SRU, etc.) and identifying these parts to the SAVE program. An example of this structure is shown in Figure 10. It can be

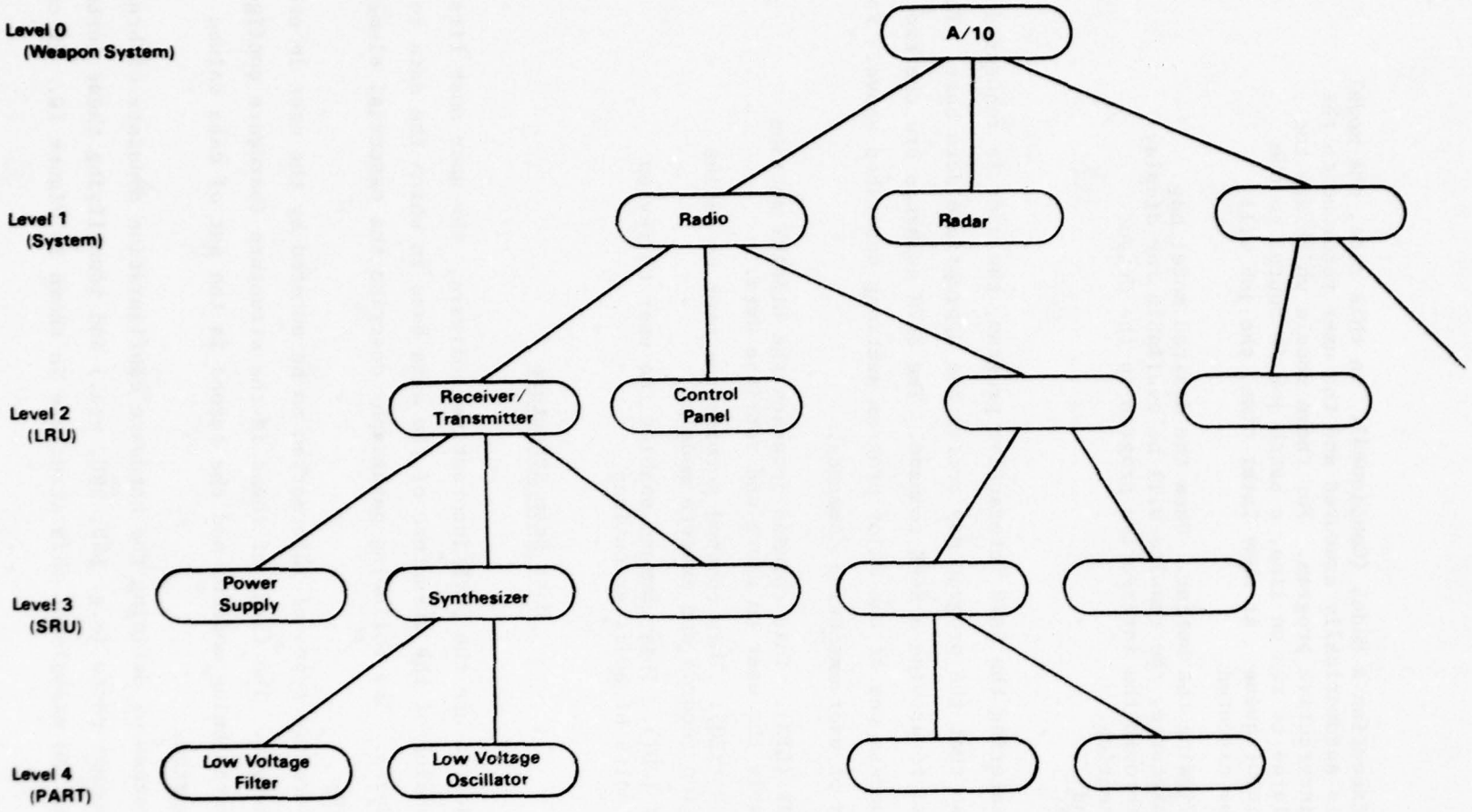


FIGURE 10. EXAMPLE OF SYSTEM STRUCTURE (HARDWARE CONFIGURATION)

seen in this diagram, that there are five levels labeled level 0 through level 4. For reference purposes, level 0 will be referred to as the "highest" level and level 4 as the "lowest" level. By examining the inverted tree structure in Figure 10, it can be seen that the items shown at each level are components of the parent item at the next higher level. These levels also refer to "level of indenture" as indicated under each level number. Thus, an A-10 aircraft can contain a radio and a TACAN (as well as many other items not shown for reasons of space), while a radio contains a receiver/transmitter, a control panel, etc. Each item on the tree is referred to as a node. Thus, at level 0 there is one node - the A-10 node, at level 1 there are two nodes labelled and so on. There is always only one node at level 0, however there may be as many nodes at every other level as the user finds necessary.

The second type of information stored in the data base is the actual data values describing the system being modeled. Since each node of the system structure defines a different "box" in the system, it is evident that data values must be associated with a particular node. Thus, each node in Figure 10 will have a set of data values associated with it. In order to facilitate evaluation of alternatives (e.g. alternative deployments or alternative contractors' proposals) and the storage of previous analyses, the data base has been designed so that each node may have associated with it more than one set of data values, anyone of which may be used in the execution of a model. Each set of data for a node is referred to as a candidate. Thus, each node in Figure 10 may have one or more candidates. This is graphically shown in Figure 11 where the nodes at level 4 have one candidate each, while the radio and receiver/transmitter nodes have two candidates each.

One final aspect of the data base structure remains to be explained. For this purpose, the following terms are defined:

> a data item is a name of a variable for which the user must supply data
>
> a data value is a number entered by the user for a given data item. These numbers are stored as part of a candidate for a node.

As might be expected, the data required to describe a "box" at the subsystem level (level 1) are different from the data required to describe a "box" at the SRU level (level 3). Thus, each level of the system structure has a unique list of data items associated with it. That is, the data values the user enters for each node are determined by the level of the node. To repeat, then all nodes at a given

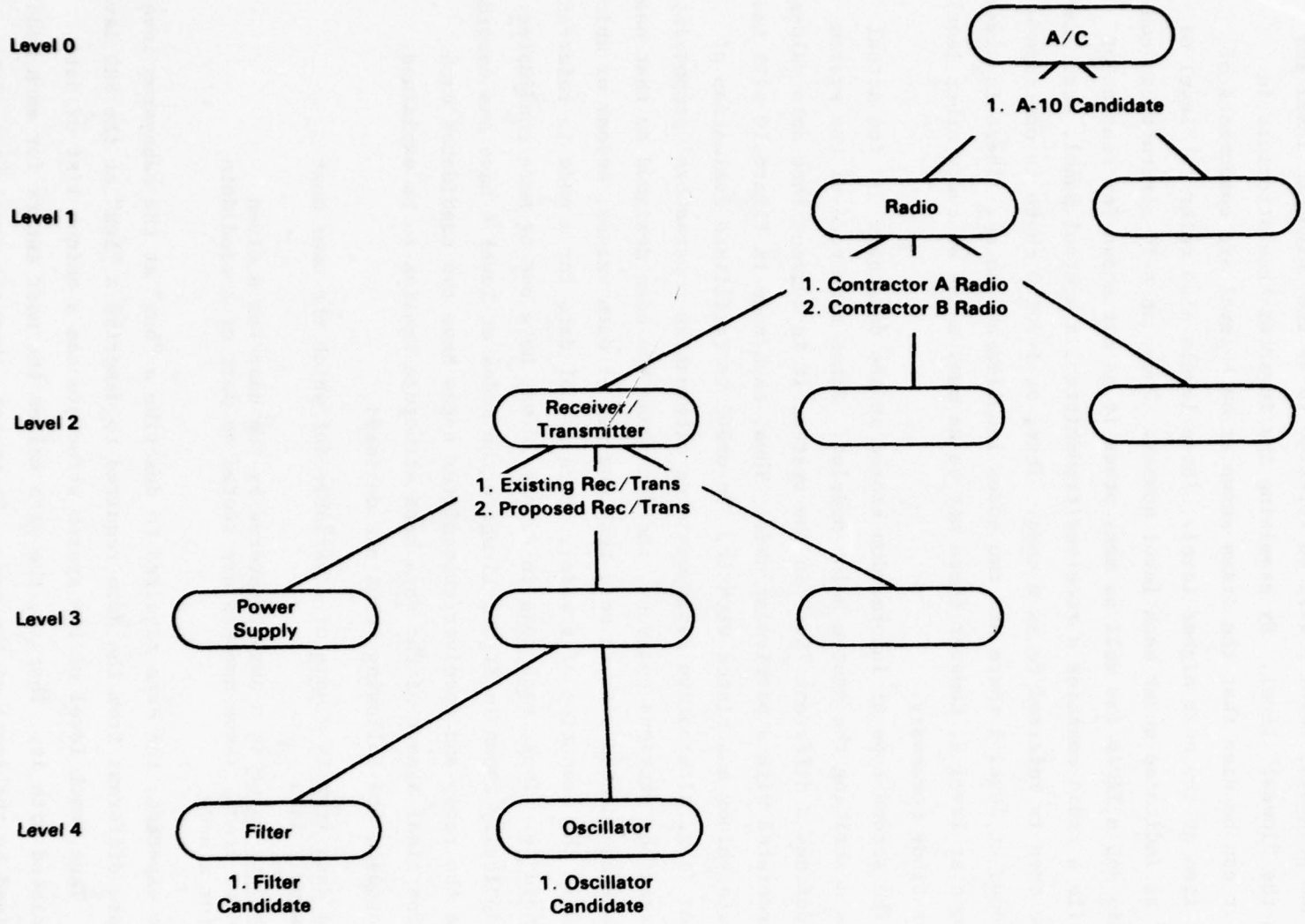


FIGURE 11. SYSTEM STRUCTURE AND CANDIDATES

level have the same data items, but the user enters a unique set of data values for each node. Nodes at different levels have different data items. One result of the SCALE study performed for AFLC/AQ was the identification of six general categories of data items used by logistics support models. Some models have data items in all six categories; others do not. However, in order to define a general data base structure applicable to the inclusion of additional models, as well as maintain a consistent data structure across levels, this initial grouping has been retained and refined. Thus, the data item list at each level of the system structure has been assigned to these six categories. These categories within the program are referred to as library sections. Each section is further subdivided into subsections.

It should be noted here, that the library section and subsections are the same at every level; the data items in each subsection, however, differ from level to level and in some cases there are no data items in a given subsection at some levels. Table 1 lists the section and subsections and indicate at what levels they contain data items. This section/subsection classification not only facilitates the addition of new models to the system, but it enables the user to quickly access any portion of the data by subject matter.

In addition to being classified into sections and subsections, each data item is classified by the models that use it. As will be further explained in the next section, this enables the user who is entering data for one model only to work with a subset of the entire data base thus saving both computer and staff time.

To sum up the data base structure; the information supplied by the user consists of (1) the system structure and (2) data describing each element of the system. The system structure is entered in the form of user defined nodes in an inverted tree relationship. The data is entered in the form of values for predefined data items and stored as candidates for a particular node. The data items for which the user enters values vary from level to level of the system structure and are grouped into library sections and subsections. The mechanics of entering this information are described in the next section of this report.

TABLE 1. SECTIONS AND SUBSECTIONS THAT CONTAIN DATA ITEMS AT EACH LEVEL

SECTION / *SUBSECTION*	Library Level 0	1	2	3	4
1 WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS					
1 WEAPON SYSTEM DEPLOYMENT	X	X			
2 MISSION UTILIZATION	X	X	X		
3 EQUIPMENT CHARACTERISTICS	X	X	X	X	X
2 MAINTENANCE RATES, ACTIVITIES AND COSTS					
1 RELIABILITY AND MAINTENANCE RATE FACTORS		X	X	X	X
2 LEVEL OF REPAIR		X	X	X	
3 CORRECTIVE ACTION ACTIVITIES AND COSTS	X		X	X	
4 SCHEDULED MAINTENANCE ACTIONS AND COSTS		X	X	X	
3 PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING					
1 PERSONNEL REQUIREMENTS	X	X	X	X	
2 PERSONNEL COSTS	X	X			
4 SPARES-INITIAL AND REPLENISHMENT					
1 STOCKAGE OBJECTIVES	X	X			
2 COMPUTATIONAL TIME FACTORS	X	X	X	X	
5 SUPPORT EQUIPMENT AND FACILITIES					
1 SUPPORT EQUIPMENT USAGE		X	X	X	
2 SUPPORT EQUIPMENT COSTS		X			
6 LOGISTICS OPERATIONS					
1 SUPPLY MANAGEMENT FACTORS	X	X	X		
2 TRANSPORTATION FACTORS	X				
3 TECHNICAL ORDERS	X	X			

Library Section

The executive command LIB places the user in the Library section of the program where he can define nodes and candidates. When the user enters the library section he is automatically positioned at the level 0 node (recall there is always only one level 0 node). This is the only predefined node in the system structure. The user can name this node using the NAME, NODE command and save it using the SAVE, NODE command, but he may not delete it. Once the level 0 node has been named and saved the user may then enter data for this node. The SELECT, CAND command permits the user to access existing candidates or create new candidates. Figure12 shows a sample operation of the interactive program to create a new candidate for the level 0 node. A double dash appears wherever user input is requested. These have been numbered for reference in the following explanation of the command sequence shown in Figure 12.

(1) The user requests a list of existing candidates for this node. The program informs him that there are no candidates defined.

(2) The user indicates he wishes to create a new candidate by entering SELECT, CAND, 0. If there were candidates defined and the user wished to modify some of them, he would enter SELECT, CAND, n where n is the candidate ID.

(3) In order to enter data, a library section and subsection must be selected. The LIST, SEC command requests a list of valid sections at level 0.

(4) A section number followed by a question mark before a section is selected requests information about that section. The user requests information about section 1.

(5) The user selects section one with the SELECT, SEC command.

(6) The user requests a list of the subsections in section 1.

(7) A subsection number followed by a question mark entered after a section has been selected and before a subsection has been selected requests information about the subsection. The user requests information about subsection 1.

(8) The user selects subsection one.

(9) A question mark entered by itself requests a list of available commands.

(10) A command followed by a question mark requests further information about the command.

(11) The user wishes to enter data values for model LSC only. The MODEL, LSC command requests the SAVE program to access only those data items used by LSC.

(12) The RANGE command displays data items and their range of acceptable values. The user requested to see items 1-9. Since the user used the MODEL command only items used by LSC are displayed.

(13) When a section and subsection have been selected an item number followed by a question mark can be entered to obtain an explanation of the data item and its use by the models. The user requests an explanation of data item 1.

(14) The user enters a value of 15 for data item 1 using the DATA command.

(15) The SHOW, DATA command string displays data for the selected section and subsection.

(16) The user supplies an alphanumeric name for the candidate with the NAME, CAND command.

(17) The candidate is permanently stored in the data file with the SAVE, CAND command.

(18) The STATUS command may be entered at any time to display the current selections.

In addition to the commands demonstrated in the foregoing example, the DELETE, CAND commands allows the user to remove stored candidates.

The TEXT command gives the user access to an additional set of commands to store descriptive text with each candidate. Up to 10 lines of 60 characters each of descriptive information may be stored with each candidate. In the text segment of the program, the user is permitted to add, change, delete and display this text information. The text feature permits the user to store any special information related to a particular candidate with the candidate (e.g. reference sources, date data was input, analyses supported by the data).

FIGURE 12. DATA ENTRY EXAMPLE

```
      LEVEL 0 COMMAND
(1)   --        LIST,CAND
      NO CANDIDATES DEFINED
      LEVEL 0 COMMAND
(2)   --        SELECT,CAND,0
      LEVEL 0 COMMAND
(3)   --        LIST,SEC
      SECTIONS FOR LEVEL 0
      ID  NAME
       1  WEAPON SYSTEM DEPLOYMENT,USAGE AND CHARACTERISTICS
       2  MAINTENANCE RATES, ACTIVITIES AND COSTS
       3  PERSONNEL-OPERATIONS,MAINTENANCE AND TRAINING
       4  SPARES-INITIAL AND REPLENISHMENT
       6  LOGISTICS OPERATIONS
      LEVEL 0 COMMAND
(4)   --        1?
      SECTION NAME--WEAPON SYSTEM DEPLOYMENT,USAGE, AND CHARACTERISTICS
      DESCRIPTION--THIS SECTION HAS THREE SUBSECTIONS AT LEVEL 0 WHICH HAVE
        DATA ITEMS. THESE ARE--(1)WEAPON SYSTEM DEPLOYMENT-WITH 65 ITEMS,
        (2)MISSION UTILIZATION-WITH 2 ITEMS, AND (3) EQUIPMENT CHARACTER-
        ISTICS-WITH 9 ITEMS
      ASSOCIATED MODELS--CACE,LSC,LCC2,GEMM,MOD-METRIC
      LEVEL 0 COMMAND
(5)   --        SELECT,SEC,1
      LEVEL 0 COMMAND
(6)   --        LIST,SUB
      SUBSECTIONS FOR  1  WEAPON SYSTEM DEPLOYMENT,USAGE AND CHARACTERISTICS
      ID  NAME
       1  WEAPON SYSTEM DEPLOYMENT
       2  MISSION UTILIZATION
       3  EQUIPMENT CHARACTERISTICS
      LEVEL 0 COMMAND
(7)   --        1?
      SUBSECTION NAME--WEAPON SYSTEM DEPLOYMENT
      DESCRIPTION--THIS SUBSECTION HAS 65 DATA ITEMS AT LEVEL ZERO. THESE
        DEAL PRIMARILY WITH HOW MANY AIRCRAFT(SYSTEMS) ARE TO BE SUPPORTED
        AND HOW THEY ARE DISTRIBUTED TO BASES OVERSEAS AND CONUS. THE LAST
        57 DATA ITEMS ARE OPTIONAL ITEMS FOR LCC2 AND MOD-METRIC MODELS ONLY
        THERE,IT IS SUGGESTED THAT'SHOW'OR'RANGE'COMMANDS BE LIMITED, IE
        'RANGE,1,8'
      ASSOCIATED MODELS--CACE,LSC,LCC2,GEMM,MOD-METRIC
      LEVEL 0 COMMAND
(8)   --        SELECT,SUB,1
      LEVEL 0 COMMAND
(9)   --        ?
      LIBRARY COMMANDS ARE
      LIST      SELECT    NAME      SAVE      DELETE    SHOW      PRINT
      RANGE     DATA      MODEL     STATUS    TEXT      QUIT      END
      LEVEL 0 COMMAND
(10)  --        MODEL?
      COMMAND TO SELECT A MODEL TO CONTROL ITEMS DISPLAYED UNDER THE
      RANGE AND SHOW,DATA COMMANDS AND THE ENTERING OF DATA UNDER THE
      DATA COMMAND.  MODELS ARE CACE, LCC2, GEMM, MOD-METRIC, AND LSC.
      EX.  MODEL,GEMM      SELECT MODEL GEMM.  ONLY ITEMS FOR GEMM WILL
                           BE ACCESSABLE
           MODEL,NONE      TURN OFF ALL MODEL SELECTION
      LEVEL 0 COMMAND
(11)  --        MODEL,LSC
      LEVEL 0 COMMAND
      --        RANGE,1,9
(12)
```

FIGURE 12. DATA ENTRY EXAMPLE (Continued)

```
     DATA ITEMS FOR LSC
     ID  NAME                                          LOWER LIMIT  UPPER LIMIT
      1  EXPECTED OPERATIONAL LIFE (YRS)               *      1.         25.  *
      2  SYSTEMS DEPLOYED IN CONUS(QTY)                *       0         1000
      3  SYSTEMS DEPLOYED OVERSEAS(QTY)                *       0         1000
      4  OPERATING BASES IN CONUS (QTY)                *       0           75
      5  OPERATING BASES OVERSEAS (QTY)                *       0           50
     LEVEL 0 COMMAND
(13) --         1?
     APPLICABLE MODELS--LSC,LCC2,GEMM
     ITERATION VARIABLE IN--LSC,LCC2,GEMM
     LSC--EQUIVALENT MODEL INPUT VARIABLE,PROJECTED INVENTORY USAGE PERIOD
     LCC2-EQUIVALENT MODEL INPUT VARIABLE IS NUMBER OF YEARS OF OPERATION
     GEMM-EQUIVALENT MODEL INPUT VARIABLE IS ECONOMIC LIFE
     LEVEL 0 COMMAND
(14) --         DATA,X1,15
     LEVEL 0 COMMAND
(15) --         SHOW,DATA,1,5
     DATA FOR                                                      LSC
     ID  NAME                                              VALUE
      1  EXPECTED OPERATIONAL LIFE (YRS)                   15.
      2  SYSTEMS DEPLOYED IN CONUS(QTY)                     0
      3  SYSTEMS DEPLOYED OVERSEAS(QTY)                     0
      4  OPERATING BASES IN CONUS (QTY)                     0
      5  OPERATING BASES OVERSEAS (QTY)                     0
     LEVEL 0 COMMAND
(16) --         NAME,CAND,TEST CANDIDATE
     LEVEL 0 COMMAND
(17) --         SAVE,CAND
     LEVEL 0 COMMAND
(18) --         STATUS
     LEVEL - 0
     NODE  - 1  MODEL TEST
     CAND  - 1  TEST CANDIDATE
     SEC   - 1  WEAPON SYSTEM DEPLOYMENT,USAGE AND CHARACTERISTICS
     SUB   - 1  WEAPON SYSTEM DEPLOYMENT
     MODEL - 5  LSC
     LEVEL 0 COMMAND
     --
```

The preceding discussion demonstrated the mechanisms of entering data for the level 0 node, the point at which the user enters the data base. In order to define nodes at other levels the SELECT, NODE command must be used. Issuing a SELECT, NODE command moves the user "down" one level in the system structure. Thus, from level 0 a SELECT, NODE command would move the user to level 1. To define a new node at the destination level, the user would enter the command in the form SELECT, NODE, 0. To access an existing node, the user would enter SELECT, NODE, n where n represents the numerical ID of a node at the next level "down" which is connected to the "parent" node. The QUIT command will move the user "up" one level. Figure 13 shows an example of "moving" through the system structure, which is described as follows.

(1) The user begins at the level 0 node and requests a list of the nodes at level 1. There are 5 nodes defined at level 1.

(2) The user selects the first node and thus at the completion of this command will be at level 1.

(3) The program requests LEVEL 1 COMMAND indicating that the user is now positioned at a level 1 node. As demonstrated in the previous section, the user could enter the command STATUS to display details about the node, candidates, sections and subsections that are selected. In response to the level 1 command, the user command requests a list of the nodes at level 2 that have LCC propulsion node as the parent node at level 1. The program informs the user that there are no nodes beneath the node he is currently at.

(4) The SELECT, NODE, 0 command informs the program that the user wishes to move down one level and create a new node.

(5) The user is now at level 2. The NAME,NODE command supplies a name for the node the user is creating.

(6) The SAVE, NODE command stores this node permanently in the data base.

(7) The QUIT command moves the user up one level to level 1.

(8) The LIST, NODE command now shows the node the user just created as being defined for the node he is currently at.

(9),(10),(11),(12),(13)
The process is repeated defining a second node at level 2 beneath the level 1 node LSC propulsion node.

The previous example demonstrated the use of the LIBRARY commands to position oneself at any desired node or to define new nodes. The total process of entering data is then (1) positioning oneself at the appropriate node by use of the SELECT, NODE command and (2) as demonstrated in the first example in this section defining candidates and entering data for the nodes.

FIGURE 13. NODE STRUCTURE EXAMPLES

```
        LEVEL 0 COMMAND
(1)     --          LIST,NODE
        NODES FOR MODEL TEST
        ID  NAME
         1  PROPULSION
         2  RADIO COMMUNICATION
         3  DUMMY MODMETRIC NODE
         4  GEMM END ITEM
         5  A
        LEVEL 0 COMMAND
(2)     --          SELECT,NODE,1
        LEVEL 1 COMMAND
(3)     --          LIST,NODE
        NO NODES DEFINED
        LEVEL 1 COMMAND
(4)     --          SELECT,NODE,0
        LEVEL 2 COMMAND
(5)     --          NAME,NODE,PROPULSION LRU NUMBER 1
        LEVEL 2 COMMAND
(6)     --          SAVE,NODE
        LEVEL 2 COMMAND
(7)     --          QUIT
        LEVEL 1 COMMAND
(8)     --          LIST,NODE
        NODES FOR PROPULSION
        ID  NAME
         1  PROPULSION LRU NUMBER 1
        LEVEL 1 COMMAND
(9)     --          SELECT,NODE,0
        LEVEL 2 COMMAND
(10)    --          NAME,NODE,PROPULSION LRU NUMBER 2
        LEVEL 2 COMMAND
(11)    --          SAVE,NODE
        LEVEL 2 COMMAND
(12)    --          QUIT
        LEVEL 1 COMMAND
(13)    --          LIST,NODE
        NODES FOR PROPULSION
        ID  NAME
         1  PROPULSION LRU NUMBER 1
         2  PROPULSION LRU NUMBER 2
        LEVEL 1 COMMAND
        --
```

Execute Section

The purpose of the Execute Section is to allow the user to define an execution record. That is, the user selects from all the data he has entered in the data base which candidates are to be used to run a model. As in the Library Section, when the user enters the Execute Section he is at the level 0 node of the data base. To create an execution record, the user adds nodes and candidates from the data base to the execution record. The execution record is in the same general format as the data base (i.e. an inverted tree structure of nodes with associated candidates) although, in general, an execution record will be a subset of the whole data file. Further, when a node is included in the execution record only one of the candidates defined for it may be added to the record. In order to add a node to the execution record, the user must use the SELECT, NODE command to position himself at the desired node. He may then add the node and one of its' candidates to the execution record. Figure 14 is an example of the procedure to be followed in creating an execution record. The user inputs have been numbered and are referenced below in the explanation of sequence of operations shown.

(1) The user enters the XEQ command to enter the EXECUTE of the program.

(2) The user requests a list of the stored records in response to the request for record ID.

(3) 0 is entered to create a new record.

(4) A list of candidates for the level 0 node are requested.

(5) Candidate 2 is added to the record thereby adding the level 0 node also.

(6) A list of nodes at the next level is requested.

(7) The use moves down a level by selecting node 2.

(8) The user adds the node to the record.

(9) The user requests a list of the candidates for the current node.

(10) The user adds the first candidate to the record.

(11) The user saves the record.

(12) The user provides a name for the record in response to the request for a name.

FIGURE 14. EXECUTION RECORD EXAMPLE

```
        SAVE COMMAND
(1)     --          XEQ
        ENTER RECORD ID
(2)     --          LIST
        ID  NAME
         1  LCC2 EXAMPLE
         2  LSC EXAMPLE
         3  MOD-METRIC EXAMPLE
         4  GEMM EXAMPLE
         5  CACE ITERATION EXAMPLE
         6  LCC2 ITERATION EXAMPLE
         7  MOD-METRIC ITERATION EXAMPLE
         8  GEMM ITERATION EXAMPLE
         9  LSC ITERATION EXAMPLE
        ENTER RECORD ID
(3)     --          0
        LEVEL 0 XEQ COMMAND
(4)     --          LIST,CAND
        CANDIDATES FOR MODEL TEST
        ID  NAME
         1  TEST CAND FOR CACE
         2  TEST CAND FOR LSC
         3  TEST CAND FOR LCC2
         4  TEST CAND FOR MOD-METRIC
         5  TEST CAND FOR GEMM
        LEVEL 0 XEQ COMMAND
(5)     --          ADD,CAND,2
        LEVEL 0 XEQ COMMAND
(6)     --          LIST,NODE
        NODES FOR MODEL TEST
        ID  NAME
         1  PROPULSION
         2  RADIO COMMUNICATION
         3  DUMMY MODMETRIC NODE
         4  GEMM END ITEM
         5  A
        LEVEL 0 XEQ COMMAND
(7)     --          SELECT,NODE,2
        LEVEL 1 XEQ COMMAND
(8)     --          ADD,NODE
        LEVEL 1 XEQ COMMAND
(9)     --          LIST,CAND
        CANDIDATES FOR RADIO COMMUNICATION
        ID  NAME
         1  LSC RADIO
         2  LCC2 RADIO
        LEVEL 1 XEQ COMMAND
(10)    --          ADD,CAND,1
        LEVEL 1 XEQ COMMAND
(11)    --          SAVE
        RECORD NOT NAMED
        ENTER NAME-MAX OF 60 CHARS
(12)    --          DEMONSTRATION RECORD
        LEVEL 1 XEQ COMMAND
        --
```

This process is repeated until a record referencing all desired data is created.

The second feature of an execution record is the ability to perform iterations varying one to 5 parameters. Figure 15 is an example of adding an iteration request to an execution record. A description of the sequence of operations follows.

(1) The user uses the MODEL Command to specify only LSC data items be accessible.

(2) The user selects library section 2 and subsection 2.

(3) The RANGE command on the EXECUTE section displays only those items which can be used as iteration variables.

(4) The user requests an explanation of item 3, the only iteration variable for LSC in the selected section and subsection.

(5) An iteration request is entered specifying 3 values for data item 3 to assume.

(6) The SHOW, ITER command displays stored iterations.

Once the execution record is defined, the user may execute a model by issuing the RUN command. When the RUN command is entered, the program gets the selected data from the data base and checks it for errors. If no errors are found, the necessary control cards and input data are written to a file and for every model except CACE the file is routed to the batch input queue. CACE is executed on-line and the user is returned to the interactive program when it is completed. All other models run as batch jobs. Since the results of the model execution are placed in the users data file, the models cannot run until the user releases control of his data file by exiting the program. When the models complete execution, the user can again enter the program and selectively examine the results as described in the next section.

FIGURE 15. ITERATION FEATURE EXAMPLE

```
     LEVEL 1 XEQ COMMAND
(1)  --         MODEL,LSC
     LEVEL 1 XEQ COMMAND
(2)  --         SELECT,SEC,2,SUB,2
     LEVEL 1 XEQ COMMAND
(3)  --         RANGE
     DATA ITEMS FOR LSC
     ID  NAME                                              LOWER LIMIT  UPPER LIMIT
      3  SYS FAILURES FIXED BY LRU REMOVAL (FRAC)  *          0.           1.   *
     LEVEL 1 XEQ COMMAND
(4)  --         3?
     APPLICABLE MODEL--LSC,LCC2
     ITERATION VARIABLE--LSC,LCC2
     LSC--THE COMPLEMENT OF THIS DATA ITEM IS THE INPUT VARIABLE--RIP,FRAC-
       TION OF MAINTENANCE ACTIONS WHICH ARE REPAIRED IN PLACE. THE RELA-
       TIONSHIP IS--RIP=1-FRACTION OF FAILURES REPAIRED BY REMOVAL.
     LCC2--THIS DATA ITEM IS EQUIVALENT TO THE INPUT VARIABLE--NRTS(1).
       IT IS THE FRACTION OF ACTIONS ON THE LEVEL ONE SUBSYSTEM WHICH RE-
       SULTS IN REMOVAL AND REPLACEMENT OF A LEVEL TWO ITEM.
     LEVEL 1 XEQ COMMAND
(5)  --         ADD,ITER,X3,.1,.15,.25
     LEVEL 1 XEQ COMMAND
(6)  --         SHOW,ITER
     ITERATION 1 LEVEL- 1
     NODE - 2  RADIO COMMUNICATION
     SEC  - 2  MAINTENANCE RATES, ACTIVITIES AND COSTS
     SUB  - 2  LEVEL OF REPAIR
     ITEM - 3  SYS FAILURES FIXED BY LRU REMOVAL (FRAC)
     VALUES          .1          .15          .25
     LEVEL 1 XEQ COMMAND
     --
```

Output Section

The Executive Command OUT enables the user to examine output from execution of the models. There are two types of output available; (a) All models except MOD-METRIC produce the standard output which is the life cycle costs broken into 10 cost categories and (b) models LSC, LCC2 and MOD-METRIC produce optional output which is unique to each model. LSC produces life cycle cost by system, LCC2 produces a manpower-requirements-by-year - table and MOD-METRIC produces a table of backorders vs budget.

The standard output may be displayed in tabular form or in pie chart form. In addition, if iterations were performed any of the standard cost categories may be plotted against the iteration step number.

All optional output may be displayed in tabular form. In addition, the LSC optional output may be displayed in pie chart form and the MOD-METRIC optional output may be plotted.

Figure 16 is an example of the use of the output commands to view results from an LSC execution. The sequence of commands is as follows:

(1) The user enters the Executive command OUT to access the output section.

(2) The SAVE Program requests a record ID. The user responds with a question mark to find out what his options are.

(3) The user requests a list of the stored output records.

(4) The user selects record 6 to be examined.

(5) The Table command requests a display of results in tabular form. The Basic option requests display of the baseline run.

(6) The user requests a description of cost category 6 by entering 6?

(7) A tabular display of the first iteration step is requested.

(8) The user requests a list of available commands.

(9) A further explanation of the Display command is requested.

FIGURE 16. OUTPUT EXAMPLE

```
    SAVE COMMAND
(1) --          OUT
    ENTER OUTPUT RECORD ID
(2) --          ?
    ENTER ID OF OUTPUT RECORD TO BE EXAMINED.  ENTER LIST FOR A LIST OF
    AVAILABLE RECORDS.  ENTER QUIT TO RETURN IMMEDIATELY FROM OUTPUT
    COMMAND.
    ENTER OUTPUT RECORD ID
(3) --          LIST
    ID  NAME
     1  MOD-METRIC ITERATION EXAMPLE
     2  GEMM ITERATION EXAMPLE
     3  LSC ITERATION EXAMPLE
     4  CACE ITERATION EXAMPLE
     5  LCC2 ITERATION EXAMPLE
     6  LSC ITERATION EXAMPLE
     7  LSC ITERATION EXAMPLE
    ENTER OUTPUT RECORD ID
(4) --          6
    OUTPUT COMMAND
(5) --          TABLE,BASIC
     6  LSC ITERATION EXAMPLE
        MODEL--LSC

    COST CATEGORY                                                  DOLLARS
     4 OPERATING COSTS-CONSUMABLES                              1800000.00
     6 PERSONNEL SUPPORT-TRAINING, MEDICAL AND OTHER                  0.00
     7 MAINTENANCE-PERSONNEL AND MATERIAL                    4365702957.77
     8 SPARES-INITIAL AND REPLENISHMENT                        19094000.00
     9 SUPPORT EQUIPMENT AND FACILITIES                         1155000.00
    10 LOGISTICS OPERATIONS                                          0.00
                                                               ------------
    11 TOTAL                                                 4387751957.77
    OUTPUT COMMAND
(6) --          6?
    OUTPUT CATEGORY 6--PERSONNEL SUPPORT-TRAINING,MEDICAL,AND OTHER
    ADDRESSED BY--CACE,LSC,LCC2,GEMM
    CACE--THIS CATEGORY IS THW SUM OF SEVERAL CACE RESULTS. THESE INCLUDE
      BOS/RPM SUBTOTAL+MEDICAL SUPPORT SUBTOTAL+PCS SUBTOTAL + PIPELINE
      COSTS SUBTOTAL+ VEHICULAR EQUIPMENT
    LSC--THIS CATEGORY INCLUDES THE WEAPON SYSTEM LEVEL RESULT FOR EQUA-
      TION C-6,COST OF PERSONNEL TRAINING
    LCC2--THIS CATEGORY IS THE DISCOUNTED LCC2 RESULT FOR INITIAL TRAINING
      NOTE--IF NON-DISCOUNTED RESULTS ARE WANTED SET DISCOUNT FACTOR TO 0.
    GEMM--THIS CATEGORY IS THE GEMM RESULT LABELLED TRAINING COST.
    OUTPUT COMMAND
(7) --          TABLE,ITER,1
     6  LSC ITERATION EXAMPLE
        MODEL--LSC              ITERATION 1

    COST CATEGORY                                                  DOLLARS
     4 OPERATING COSTS-CONSUMABLES                              5400000.00
     6 PERSONNEL SUPPORT-TRAINING, MEDICAL AND OTHER                  0.00
     7 MAINTENANCE-PERSONNEL AND MATERIAL                    8821405915.54
     8 SPARES-INITIAL AND REPLENISHMENT                        57272000.00
     9 SUPPORT EQUIPMENT AND FACILITIES                         2117500.00
    10 LOGISTICS OPERATIONS                                          0.00
                                                               ------------
    11 TOTAL                                                 8886195415.54
    OUTPUT COMMAND
```

FIGURE 16. OUTPUT EXAMPLE (Continued)

```
(8) --          ?
    COMMANDS ARE
    LIST    SHOW    SELECT    DELETE    DISPLAY
    PLOT    PIE     TABLE     QUIT
    OUTPUT COMMAND
(9) --          DISPLAY?
    COMMAND TO SELECT BETWEEN STANDARD AND OPTIONAL OUTPUT.  OPTIONS ARE
    DISPLAY,STD     SELECT,STANDARD OUTPUT (VALID FOR ALL MODELS EXCEPT
                    MOD-METRIC).  STANDARD OUTPUT FOR EACH MODEL IS A TABLE
                    OF LIFE CYCLE COSTS BY APPLICABLE CATEGORIES.
    DISPLAY,OPT     SELECT OPTIONAL OUTPUT (VALID WITH MODELS LCC2, LSC,
                    AND MOD-METRIC).  OPTIONAL OUTPUTS ARE
                    MOD-METRIC      BUDGET VS BACKORDERS
                    LCC2            MANPOWER REQUIREMENTS BY YEAR
                    LSC             STANDARD OUTPUT COST FIGURES FOR EACH
                                    SUBSYSTEM.
    EX.  DISPLAY,STD            SELECT STANDARD OUTPUT
         DISPLAY,OPT,3          SELECT OPTIONAL OUTPUT FOR SUBSYSTEM NUMBER 3
         DISPLAY,OPT            SELECT OPTIONAL OUTPUT.  IF THE OUTPUT BEING
                                EXAMINED IS FROM LSC THE USER WILL BE
                                PROMPTED FOR THE SUBSYSTEM NUMBER.
    THE DISPLAY COMMAND DOES NOT PRODUCE ANY OUTPUT.  IT MERELY SETS
    AN INDICATOR FOR FUTURE PLOT, PIE, AND TABLE COMMANDS WHICH DO
    PRODUCE MODEL OUTPUT.
    OUTPUT COMMAND
(10)--          DISPLAY,OPT,1
    OUTPUT COMMAND
(11)--          TABLE,BASIC
     6  LSC ITERATION EXAMPLE
        MODEL--LSC

        RESULTS BY SYSTEM                                    SYSTEM- 1

    COST CATEGORY                                                 DOLLARS
     4 OPERATING COSTS-CONSUMABLES                                   0.00
     6 PERSONNEL SUPPORT-TRAINING, MEDICAL AND OTHER                 0.00
     7 MAINTENANCE-PERSONNEL AND MATERIAL                  4275702957.77
     8 SPARES-INITIAL AND REPLENISHMENT                     294000.00
     9 SUPPORT EQUIPMENT AND FACILITIES                    1155000.00
    10 LOGISTICS OPERATIONS                                        0.00
                                                          ---------------
    11 TOTAL                                              4277151957.77
    OUTPUT COMMAND
    --
```

(10) The optional output indicator is set to system 1 for LSC.

(11) A tabular display of results from the baseline run is requested.

In addition to the tabular display of results, plots of selected outputs are available. Figures 17, 18, 19 display some of these options.

Utility Commands

In addition to the commands described in the previous sections, several other commands are available in the program. These commands are described here as Utility commands because their purpose is to facilitate any necessary debugging and future modifications. Use of these commands effectively requires an in depth knowledge of Fortran and the CDC system, as well as the availability of loader and subroutine maps of the SAVE program.

DEBUG permits the user access to an interactive dump package in the event of a mode error

PRTFLG request an extensive trace of the interactive session be written to the IACTF file for later examination.

STOP returns the user immediately to the Executive command level without saving any data.

RUN,WAIT requests the program to go through all steps in the execution of a model but to exit the SAVE program instead of executing the model.

FIGURE 17. OUTPUT PLOT FOR MOD-METRIC

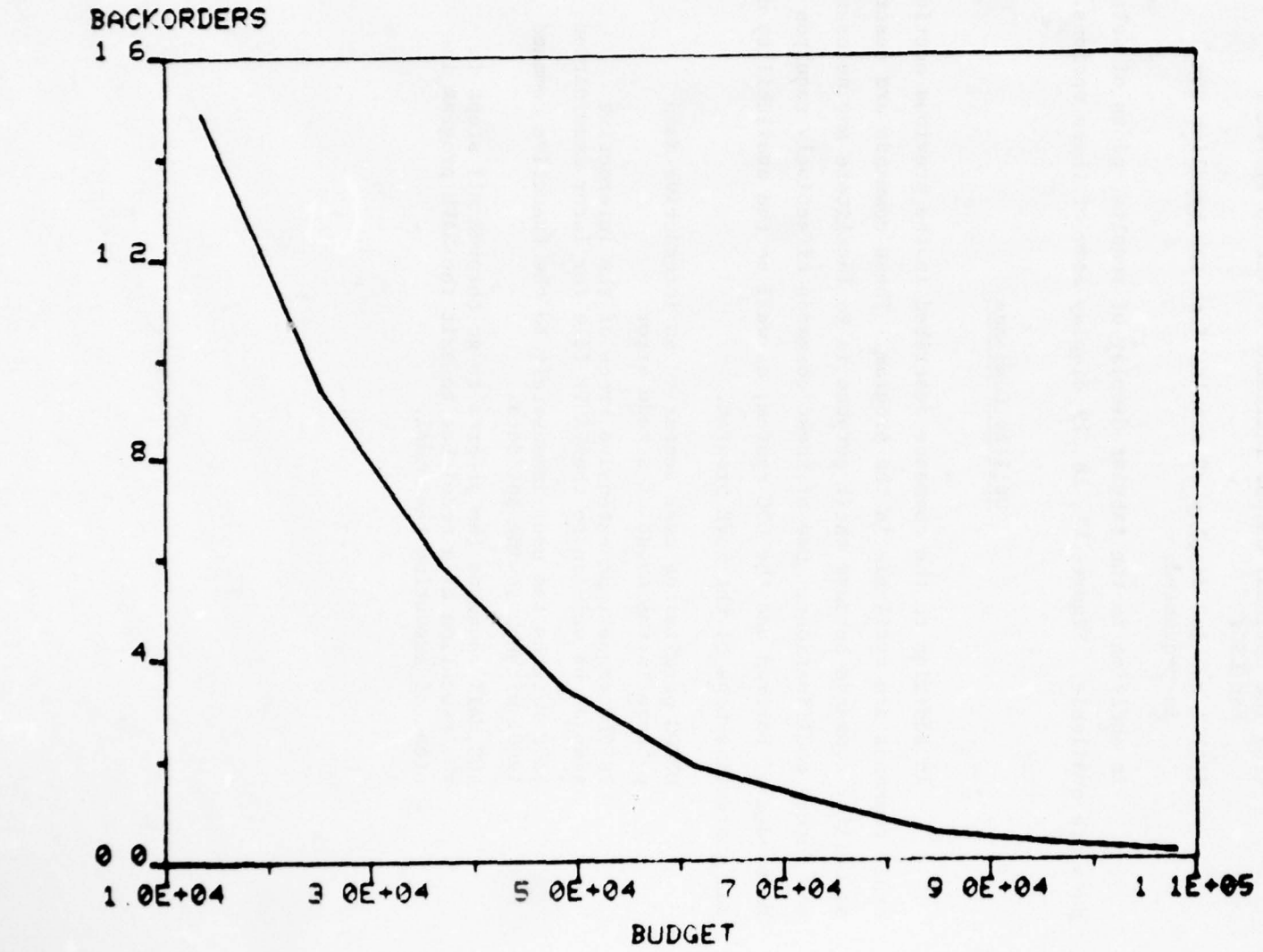
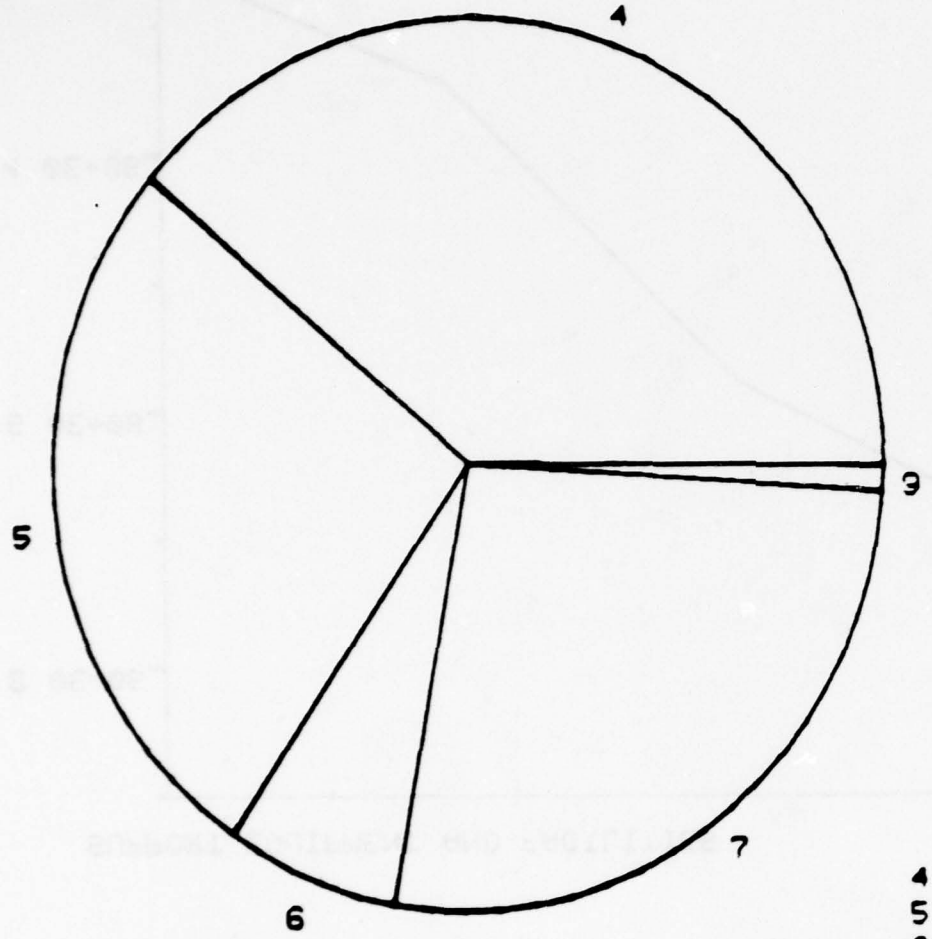


FIGURE 18. PIE: CHART S OR CACE BASELINE RUN

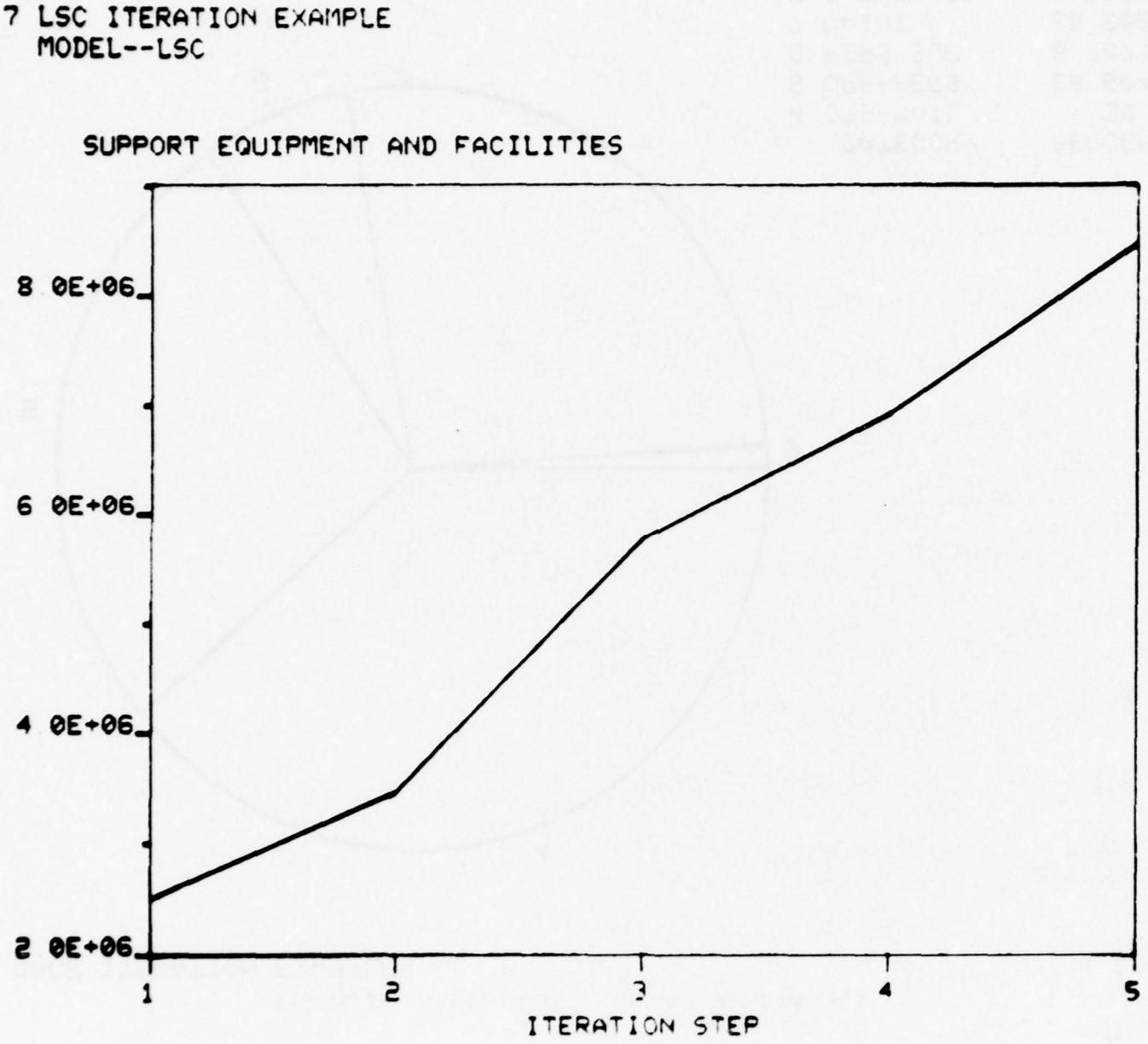
4 CACE ITERATION EXAMPLE

CACE



	CATEGORY	PERCENT
4	OPS-MATL	38 9
5	OPS-PERS	26 6041
6	PERS SUP	6 70776
7	MAINT	26 8024
9	SUP EQUIP	98573

FIGURE 19. LSC PLOT EXAMPLE



SECTION IV

DISCUSSION OF MODEL UTILIZATION

General

Inherent to the concept of SAVE analyses is the recognition that different decision situations require different modeling techniques. Among the types of analyses which can be addressed by the initial set of five models in the SAVE processor are the following:

(1) The physical distribution of a specific type of weapon system influences the generation of repairable items in a non-uniform manner (LCC2 and MOD-METRIC).

(2) The deployment policy influences the number, and cost, of maintenance locations to be equipped and staffed (CACE, LSC, LCC2, GEMM).

(3) The support objectives influence the type of maintenance actions to be performed at each level which subsequently affects manpower and support equipment requirements (LSC, LCC2, GEMM).

These analyses, and many others, may be performed by straightforward application of the noted models.

After gaining experience with any analytical tools, an analyst usually discovers optional paths in performing an analysis. Optional usage of the model is one area where the "TEXT" feature of SAVE helps the analyst keep track of how he is applying any one model or set of data. As noted earlier, "TEXT" allows the user to insert and edit up to 600 characters of reference material for each candidate at each level. For example, if a user is interested in determining the sensitivity of the spares calculations for a subsystem to the number of aircraft per base, he can use MOD-METRIC or LCC2. Both of these models allow consideration, within any one execution, of bases with different quantities of aircraft per base. However the LSC model computes spares for only the average quantity per base during any one execution. Thus, in using LSC, sensitivity to quantities per base could be examined by multiple runs of LSC. A "TEXT" entry for the level 0 candidate could be used to record which values are baseline data and what range has been investigated.

In addition to different analyses objectives and different input limitations, as described in the previous paragraphs, there are some major definitional differences among the models. The primary area of definitional conflict is in the data elements which compute the frequency of maintenance requirements relative to aircraft utilization and/or passage of calendar time. As described in the text associated with Figure 2, all logistics models use reliability and maintenance factors to generate maintenance requirements. These maintenance requirements have different dimensions (e.g., per month, per year, per base, a per weapon system force structure) but are used to "size" the logistics resources. Clearly, in order to develop consistency between models, there must be consistency in definition of the reliability terms. In the development of the SAVE software the reliability and maintainability definitions were adapted from the directions in a Headquarters, USAF/LG, letter dated 21 October 1976.[9] At levels 1 through 4 in the SAVE data base, reliability factors are defined using the following data items:

1. Mean operating time between preventive maintenance actions (equivalent to Support General and Preventive Maintenance group in Reference 9) .
2. Mean operating time between corrective maintenance actions (equivalent to Corrective Maintenance Group with items 4, 5 and 6 below).
3. Mean operating time between overhaul (can be considered as equivalent to Product Improvement Group).
4. Inherent failure fraction of corrective maintenance actions (inherent failures defined as Type 1 failures in Reference 9 and AFLCR 66-15).
5. Induced failure fraction of corrective maintenance actions (induced failures defined as Type 2 failures in Reference 9 and AFLCR 66-15).
6. No defect found fraction of corrective maintenance actions (as defined in Reference 9).

As each model incorporates different assumptions into the reliability variables, the algorithms for transforming the above data items into input variables differ for each model. For example, some models include adjustments for the operating hour to flying hour ratio in the reliability terms; others do not. In addition, use of these data elements sometimes change between equipment levels (i.e. subsystem, LRU and SRU) and different algorithms are required. The algorithms used in the SAVE software to formulate the specific model input variables from the above data items are provided to the user in the "teach" messages

for Section 2, Subsection 1 at levels 1, 2, 3 and 4 for the appropriate models. They are also documented in Appendix 2 to this report.

In most cases, the algorithm for the corrective action terms include both induced and inherent failures. This is done to allow flexibility to the analyst. For example, if the analyst is performing a life cycle cost analysis for a procurement decision, it is usually inappropriate to hold the subsystem contractor responsible for failures of his equipment induced by the failure of an external subsystem. Suppose, however, experience shows that half of the corrective actions will be induced failures. The impact on the cost to the government could be shown by initially setting the appropriate inherent fraction to .5 and the induced fraction to zero; executing the selected model; and then setting the induced fraction to .5 and executing the model again. (As appropriate, this procedure may be done using the ITERATE feature of the SAVE processor).

Because the five current models are appropriate for different analyses, and because they are subject to (among others) the input flexibilities noted above, this report does not attempt to specifically identify all the possible modes in which the models may be used. The following paragraphs do, however, highlight some potential applications for each individual model. Subsequently, the potential supporting interaction between some of the models are discussed. Lastly, the potential interface between the cost models and the Avionics Evaluation Program (AEP) mission analysis capability is discussed.

Individual Model Utilization

CACE

The user has basically two options in applying the CACE model. The first option is the straight enumeration of squadron level costs in accordance with AFR 173-10.[3] In this mode, the user can easily assess the sensitivity of the annual squadron level costs by deleting (setting to zero) or adjusting specific cost factors. Data in this mode would primarily come from AFR 173-10. The second mode of operation involves the estimation of the squadron manpower package based upon a maintenance manhours per flying hour factor.

It is in the second mode that the SAVE analyst will most likely use CACE. Use of the optional manpower algorithm allows investigation of the sensitivity

of squadron personnel operating and support costs to such factors as:

(1) Aircraft per squadron

(2) Aircraft utilization rates for both peacetime and wartime

(3) Maintenance manhour per flying hour variances

The manpower algorithm is in accordance with AFM 26-3 and is applied automatically when the following data items are non-zero:

(1) Wartime peak flying hours per system per month (Level 0, Section 1, Subsection 2, Data Item 2).

(2) Maintenance manhours per flying hour (Level 0, Section 3, Subsection 1, Data Item 1).

The equivalent input values for the following data items are computed by the manpower algorithm and may, therefore, be left as zero by the user when using this mode:

Level 0, Section 3, Subsection 1, Data item:

(6) Base Maintenance - Airmen

(12) Primary Program Element (PPE) - Officers

(13) PPE - Airmen

(14) PPE - Civilians

(15) Base Operations/Real Property Maintenance (BOS/RPM) - Officers

(16) BOS/RPM - Airmen

(17) BOS/RPM - Civilians

(18) Medical Dispensary - Officers

(19) Medical Dispensary - Airmen

(20) Medical Dispensary - Civilians

LSC

The LSC model has been widely applied in recent years and many analysts are familiar with it. The user's manual provides a good description of the model and its features.[4]

For use of the LSC model in SAVE software the analyst must take care in numbering the subsystem (level 1) with a Work Unit Code (WUC) identifier. When the first two digits of the five digit WUC are "23", the model will compute the logistics requirements for that subsystem using the special propulsion subsystem algorithms. In addition, the WUC inputs for all the subsystems will be used in generating the standard LSC model outputs available through the off-line printer. In the off-line mode, all of the LSC standard output will be generated. In cross referencing to the LSC documentation, the analyst may be confused by the terms LRU and FLU. AFLC developers of LSC have generated the term FLU (first level replaceable unit) in order to generalize the term for items which are not physically removed at the "flight line" where "flight line" is synonomous with the term "line" in line replaceable unit (LRU).

Optional on-line results may be obtained for each level 1 node (subsystem) in the LSC execution record. The output will consist of the standard table. The user must identify the results by correlation back to the execution record level 1 nodes.

LCC2

The LCC2 model was developed for use in evaluating the life cycle costs of a subsystem for use in procurement decisions. It can also be used to evaluate warranty concepts, and the effects of reliability growth/decay, deployment concepts and activation schedules upon the logistics resources and life cycle costs. In using these features of the LCC2 model through the SAVE software the user must note the following guidelines:

- For the base by base deployment data items, all CONUS systems must be accounted for prior to OVERSEAS systems (Level 0, Section 1, Subsection 1, Data Items 2 through 65.

- The reliability growth profile factor must be non-zero for all n years of life (n less than 26) (Level 1, Section 2, Subsection 1, Data Items 7 through 31).
- The activation schedule will allow 60 entries (months) and interpret the first zero in the list as the end of activation. The model will cross check the cumulative activations with the number of systems deployed. (Level 1, Section 1, Subsection 1, Data Items 6 through 65).

The off-line printed results include all the standard LCC2 outputs as described by the LCC2 documentation.[5] The on-line optional output for LCC2 is the annual maintenance manpower requirements.

For cross-referencing to the LCC2 documentation and off-line output, the user will find the following cross referencing useful:

- Level of Repair

SAVE	LCC2
1. Flight Line	0 - Organizational
2. Intermediate	1 - Base
4. Depot	2 - Depot

GEMM

The features of GEMM which the SAVE analyst may find particularly useful include: break-down to the sub-SRU level of hardware (data level 4); sensitivity of spares requirements to special segments of the repair/supply turn-around time segments; flexible integer/proportional accounting for personnel and support equipment; and consideration of a theatre level of maintenance between the base level and the depot level. These features are specifically described in the GEMM documentation[6]. However, the user will find the following cross referencing useful in referring to the GEMM output and documentation:

- Levels of Indenture

SAVE	GEMM Output
Level 0 - Weapon System	System
Level 1 - Subsystem	End Item
Level 2 - LRU	Component
Level 3 - SRU	Module
Level 4 - Sub-SRU	Part

- Level of Repair

SAVE		GEMM Output	
1	Flight line	1	Organizational
2	Intermediate	2	Direct Support
3	Theatre	3	General Support
4	Depot	4	Depot

MOD-METRIC

Application-wise, MOD-METRIC is appropriate for consideration of high dollar value spares. It is typically the situation in AFLC that funding does not allow for the investment in all the spare items which analyses show are required. Therefore, budget allocation is required and MOD-METRIC can be used to analyze the approach for less impact on system availability.

The most significant feature of MOD-METRIC of concern to the SAVE user should be the length of the execution time. It is noted that the model uses a sophisticated technique for LRU-SRU spares allocations with a budget constraint. In performing that analysis, use of the central processor may approach 60 seconds per run (high relative to the other models currently in the SAVE system). The critical parameter to control this time is the number of different bases being evaluated.

Interfaces Between Models

Just as it is not feasible to identify the many ways in which an analyst may use a model, it is also not feasible to try to identify all the ways in which one model may support the use of another. However, in this section, a few interfaces between the five models are discussed. The discussions will focus on the supporting model and how it's results may be used by a model higher in the hierarchy (reference Figure 9).

Maintenance Manhours for CACE

If a complete aircraft can be modeled using the LSC model, (or at least the significant subsystems which represent 75 to 80% of the logistics costs) the impact of subsystem characteristics on weapon system maintenance manhours per flying hour could be evaluated. An analyst could extract from the LSC off-line output the on-equipment actions per LRU. By correlating those actions with maintenance manhours per action, a baseline estimate could be established. The following algorithm would have to be manually exercised in order to compute on-equipment LRU maintenance manhours per action:

$$MMHA_i = A_i + REP_i + ((REM_i)\ (\ 1 - RIP_i))$$

Where

$MMHA_i$ = on-equipment maintenance manhours per maintenance action for LRU_i

A_i = access time (Level 2, Section 2, Subsection 3, Data Item 1)

REP_i = on-equipment repair time (Level 2, Section 2, Subsection 3, Data Item 4)

REM_i = remove and replace time (Level 2, Section 2, Subsection 3, Data Item 5)

RIP_i = repair in place percentage (Level 1, Section 2, Subsection 2, Data Item 3)

The sensitivity of the maintenance manhour factor to LRU level reliability could subsequently be evaluated. The sensitivity of CACE results to the manhour fluctuations could be determined by iterating on Data Item 1, Level 0, Section 3, Subsection 1.

SRU Repair Costs for LSC

The LSC model accounts for all maintenance on below LRU level items through one data item per LRU -- Data Item 10, Level 2, Section 2, Subsection 3. Both LCC2 and GEMM could be used to compute these costs if lower level detail data is available. For example, LCC2 could be used in following the sequence of steps:

1. Define an LCC2 execution record including SRU's.
2. Execute LCC2 for the subsystem using common deployment, reliability, and utilization factors with the basic LSC requirement.
3. Set the following data items for each level 3 (SRU) candidate to zero:
   - o cost - Data Item 1, Level 3, Section 1, Subsection 3
   - o repair times - Data Items 2, 3, 4, Level 3, Section 2, Subsection 3
   - o repair material - Data Item 5, Level 3, Section 2, Subsection 3
4. Rerun LCC2 - The difference in the total will be the cost for repair (including spares) of the SRU level items.

Spares Limitations in LSC or LCC2

MOD-METRIC can be used to evaluate the availability impact of buying fewer spares than the number that LSC or LCC2 analyses indicate as required. For such an analysis, the following steps could be used:

(1) Execute an LCC2 run and obtain an off-line output. The LRU-SRU spares requirement per base type is part of the output.

(2) Construct a MOD-METRIC record. Most notable addition to LCC2 candidates will be repair turn-around time in each level 2 and 3 candidate. (Data Items 1 and 2, Section 4, Subsection 2).

(3) Execute MOD-METRIC and obtain off-line output.

Interface with AEP

The Avionics Evaluation Program (AEP) is an extensive set of analysis tools developed to assess the influence of aircraft hardware characteristics (primarily performance and reliability) on mission effectiveness. Under a recent effort[1] the AEP was modified to accommodate cost input parameters. The purpose of that extension was to allow assessment of both cost and mission effectiveness measures simultaneously. There are two groups of input data elements for the AEP data structure which include cost/logistics factors. The first is the list of standard data items for each hardware item. The second is the list of data items for the cost accumulation function. The following paragraphs address the interface of the SAVE data items and specific model output results with these AEP data groups.

Interface with AEP Standard Data Items

There are three general types of interface with the AEP Standard Data Items. These three are consistency in data values, data element manipulation, and output result manipulation. The left side of Table 2 is the list of the AEP Standard Data Items as extracted from Reference 1. The right hand column identifies potential cross-referencing SAVE data items to maintain consistency or, as appropriate, the requirement for manipulation of input or output items. The three items which can be determined by manipulating input and output are

TABLE 2. SAVE SYSTEM INTERFACE WITH STANDARD EQUIPMENT DATA ITEMS FOR AEP

	AEP Data Items	SAVE Data Items
1.	MTBF - True mean time between failure based on flight hours	Input Item Manipulation
2.	MTBMA - Mean time between unscheduled maintenance actions	Input Item Manipulation
3.	OFR - Operational hours per flight hour	Level 1, Section 1, Subsection 2, Data Item 1
4.	P_v - Vulnerability	N/A*
5.	N_R - Number of redundant boxes	N/A**
6.	MTTR - Mean time to repair	Level 2 & 3, Section 2, Subsection 3, Data Item 1, 3, or 4
7.	P_R - Probability the box will be replaced	Level 2, Section 2, Subsection 2, Data Item 1
8.	P_A - Probability replacement box is available	Level 1, Section 4, Subsection 1, Data Items 1, 2, 3
9.	P_u - Probability of undetected failure	N/A
10.	P_F - Probability of false failure	Level 1 or 2, Section 2, Subsection 2, Data Item 6
11.	A_c - Acquisition cost	Level 1, 2, or 3, Section 1, Subsection 3, Data Item 1
12.	UM_c - Cost per unscheduled maintenance action	Output Manipulation

* N/A - Not Applicable

** Not directly equivalent to quantity of like items per application

discussed in the following paragraphs.

The AEP is structured to use data items 1 and 2 in Table 2 in terms of flying hours. In order to compute MTBF and MTBMA using SAVE data elements, the following equations are suggested:

$$MFTBF = \frac{MOTBF}{OFR} = \frac{MOTBCMA}{OFR(INHFF+INDFF)}$$

Where

MFTBF = mean flying time between failure (AEP Data Item 1)

MOTBF = mean operating time between failure

OFR = operating hour to flying hour ratio (Level 1, Section 1, Subsection 2, Data Item 1)

MOTBCMA = mean operating time between corrective maintenance actions (Levels 1, 2, 3 and 4, Section 2, Subsection 1, Data Item 2)

INHFF = fraction of failures due to inherent failure (Levels 1, 2, 3 and 4, Section 2, Subsection 1, Data Item 4)

INDFF = fraction of failures due to induced failures (Levels 1, 2, 3 and 4, Section 2, Subsection 1, Data Item 5)

$$MFTBMA = \frac{1}{\alpha+\beta+\frac{1}{MTBF}}$$

$$= \frac{MOTBCMA}{OFR(INHFF+INDFF+NDFF)}$$

Where

MOTBCMA, OFR, INHFF and INDFF are as above, and:

MFTBMA = mean flying time between maintenance action (AEP data item 2)

α = false failure rate (AEP item)

β = pilot complaint rate (AEP item)

NDFF = percent of corrective maintenance action found to be no defect (Levels 1, 2, 3 or 4, Section 2, Subsection 1, Data Item 6)

In the AEP analysis, the false failure rate is broken into two components (α and β) because of the potentially different impacts upon mission performance.

For the AEP data item 12, cost per unscheduled maintenance action, the best source would be the off-line output of LSC. By dividing the results of equation C_2 (on-equipment maintenance) for each LRU by the number of repair action generations (from detailed spare analysis) an estimate of on-equipment costs per unscheduled maintenance action can be calculated.

Interface with AEP Cost Accumulation Function

The SAVE system has three types of interface with the AEP Cost Accumulation function which are similar to the interfaces with the Standard Data Items. Table 3 presents the AEP cost accumulation data items in the left column. The interface of each item with the SAVE system in shown in the right column of Table 3.

Items c. and d. in Table 3 can be determined using the results of a CACE analysis. As in many of the other uses of the logistics and support cost models, there exists more than one way to generate the analysis. The important requirement remains, however, to document the assumptions made and the procedures followed. With this in mind, one of the potential algorithms for "Per flight cost" (PFC) is as follows:

$$PFC = \frac{\text{Annual Squadron Operating Cost Total - Squadron Fuel Costs}}{\text{Hours of Operation Per Squadron/Average Hours Per Flight}}$$

Similarly, a "Per Unit of Flight Time Costs" (PUFTC) estimate could be developed as follows:

$$PUFTC = \frac{\text{Annual Fuel Costs Per Squadron}}{\text{Hours of Operation per Squadron}}$$

Data items g, and k through o in Table 3 can be determined by manipulation of basis CACE input data and AFM 26-3 estimating procedures included in the CACE program. The algorithm used for the CACE manpower package is a general one and a System Program Office should develop their own unique manpower algorithm. Because of the generality, munitions crews are not treated and should be added separately. Munitions crew costs could be derived from the other personnel costs (per officer and per airman). The Command Staff size item k, is computed as follows:

TABLE 3. SAVE INTERFACE WITH AEP COST ACCUMULATION FUNCTION

AEP Data Item	SAVE Data Item
a. Number of Aircraft per Squadron	Level 0, Section 1, Subsection 1, Data Item 2
b. Fuel Cost	Level 0, Section 1, Subsection 3, Data Item 9
c. Per Flight Cost	Output Manipulation
d. Per Unit of Flight Time Cost	Output Manipulation
e. Flight Crew Size	Level 0, Section 3, Subsection 1, Data Items 2&3&4
f. Flight Crew Cost	Level 0, Section 3, Subsection 2, Data Items 1 and 2
g. Ground Crew Size	Data Manipulation
h. Ground Crew Cost	Level 0, Section 3, Subsection 2, Data Item 2
i. Munitions Crew Size	Not Available
j. Munitions Crew Cost	Not Available
k. Command Staff Size	Data Manipulation
l. Command Staff Cost	Data Manipulation
m. Number of Additional Personnel	Data Manipulation
n. Additional Personnel Cost	Level 0, Section 3, Subsection 2, Data Item 2
o. Investment Peculair to System	Level 0, Section 3, Subsection 2, Data Item 2
p. Amoritization Period	Level 0, Section 1, Subsection 1, Data Item 1

$$CMDS = PPE(0) - (FCS \times FCR)$$

Where

CMDS = Command Staff Size (AEP input)

PPE(0) = Primary Program Element - Officers
(from CACE input or output)

FCS = Flight Crew Size
(Level 0, Section 3, Subsection 1, Item 2 and 3)

FCR = Flight Crew Ratio
(Level 0, Section 3, Subsection 1, Item 5)

Command Staff cost is officer cost times CMDS.

The ground crew size, item g, is aircraft dependent. Based on an initial estimate, item m can be estimated as follows:

$$NAP = PPE(A) - (GC \times UE) + PPE(C)$$

Where

NAP = number of additional personnel (AEP input)

PPE(A) = Primary Program Element - Airmen
(from CACE input or output)

GC = Ground crew size (to be assumed by analyst)

UE = Number of aircraft per squadron (each needs a dedicated ground crew) (Level 0, Section 1, Subsection 1, Item 6)

PPE(C) = Primary Program Element - Civilians

Personnel costs can be calculated by multiplying by the appropriate factors from Level 0, Section 3, Subsection 2.

APPENDIX A

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APPENDIX A

DATA LIBRARY ITEMS AND INPUT SHEETS

Appendix A initially lists the aggregate set of input data items in the SAVE data library. This listing is structured by level, section and subsection groupings. Subsequently, the subsets of the input data for each specific model are listed. These listings are also structured into level, section, and subsection groupings. As noted in the main body of this report, not all models address all the levels, sections, and subsections.

It is intended that if additional models are added to the SAVE system, any new unique data items required will be added at the end of the appropriate subsections. Thus, any user's file compatible with the original SAVE system will remain compatible with future modified systems.

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SAVE DATA LIBRARY, LEVEL 0

WEAPON SYSTEM DEPLOYMENT, USAGE, AND CHARACTERISTICS (Section 1)

Weapon System Deployment (Subsection 1)

		Lower Limit		Upper Limit		Value
1	EXPECTED OPERATIONAL LIFE (YRS)	*	1.	25.	*	
2	SYSTEMS DEPLOYED IN CONUS (QTY)	*	0	1000		
3	SYSTEMS DEPLOYED OVERSEAS (QTY)	*	0	1000		
4	OPERATING BASES IN CONUS (QTY)	*	0	75		
5	OPERATING BASES OVERSEAS (QTY)	*	0	50		
6	NUMBER OF SYSTEMS AT BASE TYPE 1 (QTY)	*	1	100		
7	NUMBER OF TYPE 1 BASES (QTY)	*	1	100		
8	NUMBER OF SYSTEMS AT BASE TYPE 2 (QTY)	*	0	100		
9	NUMBER OF TYPE 2 BASES (QTY)	*	0	100		
10	NUMBER OF SYSTEMS AT BASE TYPE 3 (QTY)	*	0	100		
11	NUMBER OF TYPE 3 BASES (QTY)	*	0	100		
12	NUMBER OF SYSTEMS AT BASE TYPE 4 (QTY)	*	0	100		
13	NUMBER OF TYPE 4 BASES (QTY)	*	0	100		
14	NUMBER OF SYSTEMS AT BASE TYPE 5 (ATY)	*	0	100		
15	NUMBER OF TYPE 5 BASES (QTY)	*	0	100		
16	NUMBER OF SYSTEMS AT BASE TYPE 6 (QTY)	*	0	100		
17	NUMBER OF TYPE 6 BASES (QTY)	*	0	100		
18	NUMBER OF SYSTEMS AT BASE TYPE 7 (QTY)	*	0	100		
19	NUMBER OF TYPE 7 BASES (QTY)	*	0	100		
20	NUMBER OF SYSTEMS AT BASE TYPE 8 (QTY)	*	0	100		
21	NUMBER OF TYPE 8 BASES (QTY)	*	0	100		
22	NUMBER OF SYSTEMS AT BASE TYPE 9 (QTY)	*	0	100		

* - Fixed Limit

SAVE DATA LIBRARY, LEVEL 0 (Continued)

WEAPON SYSTEM DEPLOYMENT, USAGE, AND CHARACTERISTICS (Section 1)
(Continued)

Weapon System Deployment (Subsection 1)
(Continued)

	Lower Limit	Upper Limit	Value
23 NUMBER OF TYPE 9 BASES (QTY)	* 0	100	
24 NUMBER OF SYSTEMS AT BASE TYPE 10 (QTY)	* 0	100	
25 NUMBER OF TYPE 10 BASES (QTY)	* 0	100	
26 NUMBER OF SYSTEMS AT BASE TYPE 11 (QTY)	* 0	100	
27 NUMBER OF TYPE 11 BASES (QTY)	* 0	100	
28 NUMBER OF SYSTEMS AT BASE TYPE 12 (QTY)	* 0	100	
29 NUMBER OF TYPE 12 BASES (QTY)	* 0	100	
30 NUMBER OF SYSTEMS AT BASE TYPE 13 (QTY)	* 0	100	
31 NUMBER OF TYPE 13 BASES (QTY)	* 0	100	
32 NUMBER OF SYSTEMS AT BASE TYPE 14 (QTY)	* 0	100	
33 NUMBER OF TYPE 14 BASES (QTY)	* 0	100	
34 NUMBER OF SYSTEMS AT BASE TYPE 15 (QTY)	* 0	100	
35 NUMBER OF TYPE 15 BASES (QTY)	* 0	100	
36 NUMBER OF SYSTEMS AT BASE TYPE 16 (QTY)	* 0	100	
37 NUMBER OF TYPE 16 BASES (QTY)	* 0	100	
38 NUMBER OF SYSTEMS AT BASE TYPE 17 (QTY)	* 0	100	
39 NUMBER OF TYPE 17 BASES (QTY)	* 0	100	
40 NUMBER OF SYSTEMS AT BASE TYPE 18 (QTY)	* 0	100	
41 NUMBER OF TYPE 18 BASES (QTY)	* 0	100	
42 NUMBER OF SYSTEMS AT BASE TYPE 19 (QTY)	* 0	100	
43 NUMBER OF TYPE 19 BASES (QTY)	* 0	100	
44 NUMBER OF SYSTEMS AT BASE TYPE 20 (QTY)	* 0	100	
45 NUMBER OF TYPE 20 BASES (QTY)	* 0	100	
46 NUMBER OF SYSTEMS AT BASE TYPE 21 (QTY)	* 0	100	

* - No Fixed Limit

SAVE DATA LIBRARY, LEVEL 0 (Continued)

WEAPON SYSTEM DEPLOYMENT, USAGE, AND CHARACTERISTICS (Section 1)
(Continued)

Weapon System Deployment (Subsection 1)
(Continued)

	Lower Limit	Upper Limit	Value
47 NUMBER OF TYPE 21 BASES (QTY)	* 0	100	
48 NUMBER OF SYSTEMS AT BASE TYPE 22 (QTY)	* 0	100	
49 NUMBER OF TYPE 22 BASES (QTY)	* 0	100	
50 NUMBER OF SYSTEMS AT BASE TYPE 23 (QTY)	* 0	100	
51 NUMBER OF TYPE 23 BASES (QTY)	* 0	100	
52 NUMBER OF SYSTEMS AT BASE TYPE 24 (QTY)	* 0	100	
53 NUMBER OF TYPE 24 BASES (QTY)	* 0	100	
54 NUMBER OF SYSTEMS AT BASE TYPE 25 (QTY)	* 0	100	
55 NUMBER OF TYPE 25 BASES (QTY)	* 0	100	
56 NUMBER OF SYSTEMS AT BASE TYPE 26 (QTY)	* 0	100	
57 NUMBER OF TYPE 26 BASES (QTY)	* 0	100	
58 NUMBER OF SYSTEMS AT BASE TYPE 27 (QTY)	* 0	100	
59 NUMBER OF TYPE 27 BASES (QTY)	* 0	100	
60 NUMBER OF SYSTEMS AT BASE TYPE 28 (QTY)	* 0	100	
61 NUMBER OF TYPE 28 BASES (QTY)	* 0	100	
62 NUMBER OF SYSTEMS AT BASE TYPE 29 (QTY)	* 0	100	
63 NUMBER OF TYPE 29 BASES (QTY)	* 0	100	
64 NUMBER OF SYSTEMS AT BASE TYPE 30 (QTY)	* 0	100	
65 NUMBER OF TYPE 30 BASES (QTY)	* 0	100	

Mission Utilization (Subsection 2)

1 PEACETIME FLYING (HOURS/SYSTEM/MONTH)	*	1	730	*	
2 WARTIME PEAK FLYING (HOURS/SYSTEM/MONTH)	*	0	730	*	

* - Fixed Limit

SAVE DATA LIBRARY, LEVEL 0 (Continued)

WEAPON SYSTEM DEPLOYMENT, USAGE, AND CHARACTERISTICS (Section 1)
(Continued)

Equipment Characteristics (Subsection 3)

			Lower Limit	Upper Limit	Value
1	WEAPON SYSTEM FLYAWAY COST, FAC ($)	*	0.	8.00E+7	
2	CLASS IV MOD COST FACTOR (PERCENT OF FAC)	*	0.	.1	
3	COMMON SUPPORT EQUIPMENT (COST/SYSTEM/YR)	*	0.	20000.	
4	REPLENISHMENT SPARES (COST/FLYING HR)	*	0.	150.	
5	VEHICULAR EQUIPMENT (COST/SUPPORT MANYR)	*	0.	1000.	
6	MUNITIONS, TRAINING (COST/SYSTEM/YR)	*	0.	50000.	
7	MUNITIONS, TRAINING (COST/CREW/YR)	*	0.	50000.	
8	AVIATION FUEL (UNITS CONSUMED/FLYING HR)	*	0.	1000.	
9	AVIATION FUEL (COST/UNIT CONSUMED)	*	0.	100.	

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)

Corrective Action Activities and Costs (Subsection 3)

1	BASE LEVEL MAINTENANCE MATERIAL ($/FH)	*	0.	200.	
2	BASE LEVEL MAINTENANCE MATERIAL ($/SYS/YR)	*	0.	10000.	
3	DEPOT MAINTENANCE ($/FH)	*	0.	500.	
4	DEPOT MAINTENANCE ($/SYS/YR)	*	0.	80000.	
5	ON-EQUIP MAINT DOCUMENTATION (MHRS/ACT)	*	0.	1.	
6	OFF-EQUIP MAINT DOCUMENTATION (MHRS/ACT)	*	0.	1.	

* - Fixed Limit

SAVE DATA LIBRARY, LEVEL 0 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE, AND TRAINING (Section 3)

Personnel Requirements (Subsection 1)

		Lower Limit	Upper Limit	Value
1	MAINTENANCE MANHOURS/FLYING HOUR	* 0.	40.	
2	AIRCREW, RATED OFFICER, PILOT-(MEN/CREW)	* 1.	3.	
3	AIRCREW, RATED OFFICER, OTHER-(MEN/CREW)	* 0.	3.	
4	AIRCREW, AIRMEN, - (MEN/CREW)	* 0.	4.	
5	CREWS PER AIRCRAFT (CREW RATIO)	* 1.	3.	
6	BASE MAINTENANCE-AIRMEN (MYRS/SQDR)	* 1.	500.	
7	PILOT, ANNUAL TURNOVER RATE	* 0.	1. *	
8	OTHER OFF, CREW, ANNUAL TURNOVER RATE	* 0.	1. *	
9	OTHER OFF., ANNUAL TURNOVER RATE	* 0.	1. *	
10	BASE AIRMEN, ANNUAL TURNOVER RATE	* 0.	1. *	
11	DEPOT PERSONNEL, ANNUAL TURNOVER RATE	* 0.	1.	
12	PRI PROGRAM ELEMENT (OFFICERS/SQDR/YR)	* 0.	100.	
13	PRI PROGRAM ELEMENT (AIRMEN/SQDR/YR)	* 0.	300.	
14	PRI PROGRAM ELEMENT (CIVILIANS/SQDR/YR)	* 0.	100.	
15	BASE OPS/REAL PROP (OFFICERS/SQDR/YR)	* 0.	500.	
16	BASE OPS/REAL PROP (AIRMEN/SQDR/YR)	* 0.	500.	
17	BASE OPS/REAL PROP (CIVILIANS/SQDR/YR)	* 0.	500.	
18	MEDICAL DISPENSARY (OFFICERS/SQDR/YR)	* 0.	50.	
19	MEDICAL DISPENSARY (AIRMEN/SQDR/YR)	* 0.	100.	
20	MEDICAL DISPENSARY (CIVILIANS/SQDR/YR)	* 0.	100.	
21	DIRECT PRODUCTIVE MHRS/MNYR, BASE (QTY)	* 0.	2080.	
22	DIRECT PRODUCTIVE MHRS/MNYR, DEPOT, (QTY)	* 0.	2080.	
23	RETRAINING INTERVAL, FLT LINE LEVEL (YRS)	* .1	25.	
24	RETRAINING INTERVAL, BASE LEVEL (YRS)	* .1	25.	
25	RETRAINING INTERVAL, THEATRE LEVEL (YRS)	* .1	25.	
26	RETRAINING INTERVAL, DEPOT LEVEL (YRS)	* .1	25.	
27	PRODUCTIVITY AT LEVELS BELOW DEPOT (FRAC)	* .1	1. *	

* - Fixed Limit

SAVE DATA LIBRARY, LEVEL 0 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE, AND TRAINING (Section 3)
(Continued)

Personnel Costs (Subsection 2)

		Lower Limit		Upper Limit	Value
1	PAY AND ALLOWANCES, OFFICE ($/MNYR)	*	0.	30000.	
2	PAY AND ALLOWANCES, AIRMEN ($/MNYR)	*	0.	15000.	
3	PAY AND ALLOWANCES, CIVILIAN ($/MNYR)	*	0.	18000.	
4	MEDICAL SUPPORT PER OFFICE ($/MNYR)	*	0.	1000.	
5	MEDICAL SUPPORT PER AIRMAN ($/MNYR)	*	0.	1000.	
6	BASE OPS, REAL PROPERTY COST ($/MNYR)	*	0.	500.	
7	UNDER GRAD PILOT TRNG ($/GRADUATE)	*	0.	100000.	
8	OTHER OFFICER AIRCREW TRNG ($/GRADUATE)	*	0.	30000.	
9	NONRATED OFFICER TRNG ($/GRADUATE)	*	0.	10000.	
10	AIRMAN MAINT TRNG ($/GRADUATE)	*	0.	10000.	
11	OTHER AIRMAN TRNG ($/GRADUATE)	*	0.	10000.	
12	OFFICER ACQUISITION COST ($/MAN)	*	0.	10000.	
13	AIRMAN ACQUISITION COST ($/MAN)	*	0.	5000.	
14	PCS COST, OFFICERS ($/PCS)	*	0.	1000.	
15	PCS COST, AIRMEN ($/PCS)	*	0.	1000.	

SPARES-INITIAL AND REPLENISHMENT (Section 4)

Stockage Objectives (Subsection 1)

1	EXPECTED BACKORDER LEVEL	*	.01	1	

Computational Time Factors

1	ORDER AND SHIPPING TIME, CONUS (DAYS)	*	0.	30.	
2	ORDER AND SHIPPING TIME, OVERSEAS (DAYS)	*	0.	30.	

* - Fixed Limit

SAVE DATA LIBRARY, LEVEL 0 (Continued)

LOGISTICS OPERATIONS (Section 6)

Supply Management Factors (Subsection 1)

			Lower Limit	Upper Limit	Value
1	INITIAL ITEM MGT ENTRY COST ($/NEW ITEM)	*	0.	70.	
2	RECURRING ITEM MGT COST ($/ITEM/YR)	*	0.	150.	
3	BASE SUPPLY MGT COST ($/ITEM/YR)	*	0.	50.	
4	LABOR TIME/SUPPLY TRANSACTION (MHRS/ACT)	*	0.	1.	

Transportation Factors (Subsection 2)

1	PACKING AND SHIPPING, CONUS ($/LB)	*	0.	1.	
2	PACKING AND SHIPPING, OVERSEAS ($/LB)	*	0.	2.	
3	TRANSPORTATION RECORDS LABOR (MHRS/ACT)	*	0.	1.	

Technical Orders (Subsection 3)

1	INITIAL DATA MGT COST, ($/COPY/PAGE)	*	0.	5.	
2	DATA MGT COST, ($/PAGE/YR)	*	0.	200.	
3	INITIAL COST OF TECH ORDERS ($/PAGE)	*	0.	300.	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1

WEAPON SYSTEM DEPLOYMENT, USAGE,AND CHARACTERISTICS (Section 1)

Weapon System Deployment (Subsection 1)

		Lower Limit	Upper Limit	Value
1	ORGANIZATIONAL MAINTENANCE POINTS (QTY)	* 1	100	
2	INTERMEDIATE MAINTENANCE POINTS(QTY)	* 0	80	
3	THEATRE LEVEL DEPOT POINTS (QTY)	* 0	0	
4	DEPOT MAINTENANCE POINTS (QTY)	* 1	1	
5	STOCKAGE LOCATIONS FOR SPARE ENGINES (QTY)	* 0	75	
6	SYSTEMS ACTIVATED IN MONTH 1 (QTY)	* 1	100	
7	SYSTEMS ACTIVATED IN MONTH 2 (QTY)	* 0	100	
8	SYSTEMS ACTIVATED IN MONTH 3 (QTY)	* 0	100	
9	SYSTEMS ACTIVATED IN MONTH 4 (QTY)	* 0	100	
10	SYSTEMS ACTIVATED IN MONTH 5 (QTY)	* 0	100	
11	SYSTEMS ACTIVATED IN MONTH 6 (QTY)	* 0	100	
12	SYSTEMS ACTIVATED IN MONTH 7 (QTY)	* 0	100	
13	SYSTEMS ACTIVATED IN MONTH 8 (QTY)	* 0	100	
14	SYSTEMS ACTIVATED IN MONTH 9 (QTY)	* 0	100	
15	SYSTEMS ACTIVATED IN MONTH 10 (QTY)	* 0	100	
16	SYSTEMS ACTIVATED IN MONTH 11 (QTY)	* 0	100	
17	SYSTEMS ACTIVATED IN MONTH 12 (QTY)	* 0	100	
18	SYSTEMS ACTIVATED IN MONTH 13 (QTY)	* 0	100	
19	SYSTEMS ACTIVATED IN MONTH 14 (QTY)	* 0	100	
20	SYSTEMS ACTIVATED IN MONTH 15 (QTY)	* 0	100	
21	SYSTEMS ACTIVATED IN MONTH 16 (QTY)	* 0	100	
22	SYSTEMS ACTIVATED IN MONTH 17 (QTY)	* 0	100	
23	SYSTEMS ACTIVATED IN MONTH 18 (QTY)	* 0	100	
24	SYSTEMS ACTIVATED IN MONTH 19 (QTY)	* 0	100	
25	SYSTEMS ACTIVATED IN MONTH 20 (QTY)	* 0	100	
26	SYSTEMS ACTIVATED IN MONTH 21 (QTY)	* 0	100	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1 (Continued)

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Section 1)

Weapon System Deployment (Subsection 1)

	Lower Limit		Upper Limit	Value
27 SYSTEMS ACTIVATED IN MONTH 22 (QTY)	*	0	100	
28 SYSTEMS ACTIVATED IN MONTH 23 (QTY)	*	0	100	
29 SYSTEMS ACTIVATED IN MONTH 24 (QTY)	*	0	100	
30 SYSTEMS ACTIVATED IN MONTH 25 (QTY)	*	0	100	
31 SYSTEMS ACTIVATED IN MONTH 26 (QTY)	*	0	100	
32 SYSTEMS ACTIVATED IN MONTH 27 (QTY)	*	0	100	
33 SYSTEMS ACTIVATED IN MONTH 28 (QTY)	*	0	100	
34 SYSTEMS ACTIVATED IN MONTH 29 (QTY)	*	0	100	
35 SYSTEMS ACTIVATED IN MONTH 30 (QTY)	*	0	100	
36 SYSTEMS ACTIVATED IN MONTH 31 (QTY)	*	0	100	
37 SYSTEMS ACTIVATED IN MONTH 32 (QTY)	*	0	100	
38 SYSTEMS ACTIVATED IN MONTH 33 (QTY)	*	0	100	
39 SYSTEMS ACTIVATED IN MONTH 34 (QTY)	*	0	100	
40 SYSTEMS ACTIVATED IN MONTH 35 (QTY)	*	0	100	
41 SYSTEMS ACTIVATED IN MONTH 36 (QTY)	*	0	100	
42 SYSTEMS ACTIVATED IN MONTH 37 (QTY)	*	0	100	
43 SYSTEMS ACTIVATED IN MONTH 38 (QTY)	*	0	100	
44 SYSTEMS ACTIVATED IN MONTH 39 (QTY)	*	0	100	
45 SYSTEMS ACTIVATED IN MONTH 40 (QTY)	*	0	100	
46 SYSTEMS ACTIVATED IN MONTH 41 (QTY)	*	0	100	
47 SYSTEMS ACTIVATED IN MONTH 42 (QTY)	*	0	100	
48 SYSTEMS ACTIVATED IN MONTH 43 (QTY)	*	0	100	
49 SYSTEMS ACTIVATED IN MONTH 44 (QTY)	*	0	100	
50 SYSTEMS ACTIVATED IN MONTH 45 (QTY)	*	0	100	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1 (continued)

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Section 1)

Weapon System Deployment (Subsection 1)

		Lower Limit	Upper Limit	Value
51	SYSTEMS ACTIVATED IN MONTH 46 (QTY)	* 0	100	
52	SYSTEMS ACTIVATED IN MONTH 47 (QTY)	* 0	100	
53	SYSTEMS ACTIVATED IN MONTH 48 (QTY)	* 0	100	
54	SYSTEMS ACTIVATED IN MONTH 49 (QTY)	* 0	100	
55	SYSTEMS ACTIVATED IN MONTH 50 (QTY)	* 0	100	
56	SYSTEMS ACTIVATED IN MONTH 51 (QTY)	* 0	100	
57	SYSTEMS ACTIVATED IN MONTH 52 (QTY)	* 0	100	
58	SYSTEMS ACTIVATED IN MONTH 53 (QTY)	* 0	100	
59	SYSTEMS ACTIVATED IN MONTH 54 (QTY)	* 0	100	
60	SYSTEMS ACTIVATED IN MONTH 55 (QTY)	* 0	100	
61	SYSTEMS ACTIVATED IN MONTH 56 (QTY)	* 0	100	
62	SYSTEMS ACTIVATED IN MONTH 57 (QTY)	* 0	100	
63	SYSTEMS ACTIVATED IN MONTH 58 (QTY)	* 0	100	
64	SYSTEMS ACTIVATED IN MONTH 59 (QTY)	* 0	100	
65	SYSTEMS ACTIVATED IN MONTH 60 (QTY)	* 0	100	

Mission Utilization (Subsection 2)

1	OPERATING HOUR/FLYING HOUR FACTOR	*	.1	2.5	
2	DAYS/YEAR OF SYSTEM OPERATION	*	1.	366. *	

Equipment Characteristics (Subsection 3)

1	SYSTEM RESEARCH AND DEVELOPMENT COST($)	*	0.	1.00E+7	
2	SYSTEM ACQUISITION COST, INITIAL ($/UNIT)	*	0.	250000.	
3	SYSTEM ACQUISITION COST, SPARES ($/UNIT)	*	1.	200000.	

* Fixed Limit

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Section 1)

Equipment Characteristics (Subsection 3) (Continued)

			Lower Limit		Upper Limit		Value
4	INSTALLATION COST PER SYSTEM ($)	*	0.		10000.		
5	WARRANTY COST, TOTAL ($)	*	0.		2.00E+7		
6	DISCOUNT FACTOR (FRAC)	*	0.		.25	*	
7	WARRANTY PERIOD (YEARS)	*	0		25	*	
8	SYSTEM WEIGHT (LBS)	*	0.		300		
9	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	*	1		10		
10	WORK UNIT CODE (5 NUMERIC DIGITS)	*	0		99999	*	

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)

Reliability and Maintenance Rate Factors (Subsection 1)

			Lower Limit		Upper Limit		Value
1	MEAN OP TIME BETWEEN PREV MAINT ACT (HRS)		0.		10000.		
2	MEAN OP TIME BETWEEN CORP MAINT ACT (HRS)		0.		10000.		
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)		0.		100000.		
4	INHERENT FAILURE FRAC OF CORP MAINT ACTS	*	0.		1.	*	
5	INDUCED FAILURE FRAC OF CORP MAINT ACTS	*	0.		1.	*	
6	NO DEFECT FOUND FRAC OF CORP MAINT ACTS	*	0.		1.	*	
7	RELIABILITY PROFILE FACTOR, YR 1 (YR 0=1.)		.1		10.		
8	RELIABILITY PROFILE FACTOR, YR 2	*	.1		10.		
9	RELIABILITY PROFILE FACTOR, YR 3	*	.1		10.		
10	RELIABILITY PROFILE FACTOR, YR 4	*	.1		10.		
11	RELIABILITY PROFILE FACTOR, YR 5	*	.1		10.		

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1 (Continued)

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)

Reliability and Maintenance Rate Factors (Subsection 1)

		Lower Limit	Upper Limit	Value
12	RELIABILITY PROFILE FACTOR, YR 6	* .1	10.	
13	RELIABILITY PROFILE FACTOR, YR 7	* .1	10.	
14	RELIABILITY PROFILE FACTOR, YR 8	* .1	10.	
15	RELIABILITY PROFILE FACTOR, YR 9	* .1	10.	
16	RELIABILITY PROFILE FACTOR, YR 10	* .1	10.	
17	RELIABILITY PROFILE FACTOR, YR 11	* .1	10.	
18	RELIABILITY PROFILE FACTOR, YR 12	* .1	10.	
19	RELIABILITY PROFILE FACTOR, YR 13	* .1	10.	
20	RELIABILITY PROFILE FACTOR, YR 14	* .1	10.	
21	RELIABILITY PROFILE FACTOR, YR 15	* .1	10.	
22	RELIABILITY PROFILE FACTOR, YR 16	* .1	10.	
23	RELIABILITY PROFILE FACTOR, YR 17	* .1	10.	
24	RELIABILITY PROFILE FACTOR, YR 18	* .1	10.	
25	RELIABILITY PROFILE FACTOR, YR 19	* .1	10.	
26	RELIABILITY PROFILE FACTOR, YR 20	* .1	10.	
27	RELIABILITY PROFILE FACTOR, YR 21	* .1	10.	
28	RELIABILITY PROFILE FACTOR, YR 22	* .1	10.	
29	RELIABILITY PROFILE FACTOR, YR 23	* .1	10.	
30	RELIABILITY PROFILE FACTOR, YR 24	* .1	10.	
31	RELIABILITY PROFILE FACTOR, YR 25	* .1	10.	

Level of Repair (Subsection 2)

1	SYSTEM REMOVALS PER PREV MAINT ACT (FRAC)	* 0.	1.	*	
2	LEVEL OF REPAIR OF REMOVED SYS (0-4) OR4)	* 0	4	*	
3	SYS FAILURES FIXED BY LRU REMOVAL (FRAC)	* 0.	1.	*	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1 (Continued)

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)

Corrective Action Activities and Costs (Subsection 3)

			Lower Limit	Upper Limit	Value
1	MEAN TIME TO CHECKOUT SYSTEM (HRS)	*	0.	4.	
2	MEAN TIME TO REPAIR (HRS)	*	0.	10.	
3	STATE VERIFICATION TIME (MHRS)	*	0.	4.	
4	REMOVE, REPLACE, CHECKOUT, ON-EQUIP(MHRS)	*	0.	5.	
5	REPAIR TIME, ON EQUIP (MHRS)	*	0.	4.	
6	MATERIAL COST PER ON-EQUIP REPAIR ($)	*	0.	100.	
7	MATERIAL COST/LABOR HOUR, BASE ($/HR)	*	0.	20.	
8	MATERIAL COST/LABOR HOUR, DEPOT ($/HR)	*	0.	20.	

Scheduled Maintenance Actions and Costs (Subsection 4)

1	PERIODIC/PHASED MAINTENANCE TIME (MHRS)	*	0.	8.	
2	OVERHAUL COST (R)	*	0.	10000.	

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING (Section 3)

Personnel Requirements (Subsection 1)

1	NUMBER OF 8 HR SHIFTS/DAY, FLT LINE (QTY)	*	1	3*	
2	NUMBER OF 8 HR SHIFTS/DAY, BASE (QTY)	*	1	3*	
3	NUMBER OF 8 HR SHIFTS/DAY, THEATRE (QTY)	*	1	3*	
4	NUMBER OF 8 HR SHIFTS/DAY, DEPOT (QTY)	*	1	3*	
5	MNHRS/MO AVAILABLE, BASE LEVEL (QTY)	*	0.	200.	
6	MNHRS/MO AVAILABLE, DEPOT LEVEL (QTY)	*	0.	200.	
7	NUMBER OF MANPOWER SKILL TYPES (QTY)	*	0	10*	
8	NUMBER OF DEDICATED MANPOWER TYPES (QTY)	*	0	10*	
9	INDEX OF SKILL TYPE 1 USED TO CHECK SYS	*	0	10*	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING (Section 3)

Personnel Requirements (Subsection 1)

		Lower Limit	Upper Limit	Value
10	INDEX OF SKILL TYPE 2 USED TO CHECK SYS	* 0	10*	
11	INDEX OF SKILL TYPE 3 USED TO CHECK SYS	* 0	10*	
12	INDEX OF SKILL TYPE 4 USED TO CHECK SYS	* 0	10*	
13	INDEX OF SKILL TYPE 1 USED TO REPAIR SYS	* 0	10*	
14	INDEX OF SKILL TYPE 2 USED TO REPAIR SYS	* 0	10*	
15	INDEX OF SKILL TYPE 3 USED TO REPAIR SYS	* 0	10*	
16	INDEX OF SKILL TYPE 4 USED TO REPAIR SYS	* 0	10*	
17	DEPOT MAINTENANCE FACTOR (REVERSE RATIO)	* 0.	1. *	

Personnel Costs (Subsection 2)

1	MAINTENANCE LABOR RATE, BASE LEVEL ($/MHR)	* 0.	25.	
2	MAINTENANCE LABOR RATE, DEPOT ($/MHR)	* 0.	35.	
3	TRAINING COST OF SKILL TYPE 1, ($/MAN)	* 0.	2000.	
4	TRAINING COST OF SKILL TYPE 2, ($/MAN)	* 0.	2000.	
5	TRAINING COST OF SKILL TYPE 3, ($/MAN)	* 0.	2000.	
6	TRAINING COST OF SKILL TYPE 4, ($/MAN)	* 0.	2000.	
7	TRAINING COST OF SKILL TYPE 5, ($/MAN)	* 0.	2000.	
8	TRAINING COST OF SKILL TYPE 6, ($/MAN)	* 0.	2000.	
9	TRAINING COST OF SKILL TYPE 7, ($/MAN)	* 0.	2000.	
10	TRAINING COST OF SKILL TYEP 8, ($/MAN)	* 0.	2000.	
11	TRAINING COST OF SKILL TYPE 9, ($/MAN)	* 0.	2000.	
12	TRAINING COST OF SKILL TYPE 10, ($/MAN)	* 0.	2000.	
13	TRNG COST OF BASE LEVEL SKILLS (TOTAL $)	* 0.	50000.	
14	TRNG COST OF DEPOT LEVEL SKILLS (TOTAL $)	* 0.	25000.	
15	TRNG COST OF BASE LEVEL SKILLS ($/MAN)	* 0.	5000.	
16	TRNG COST OF DEPOT LEVEL SKILLS ($/MAN)	* 0.	5000.	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1 (Continued)

SPARES-INITIAL AND REPLENISHMENT (Section 4)

Stockage Objectives (Subsection 1)

			Lower Limit	Upper Limit	Value
1	SPARES OBJECTIVE, HDW LEVEL 2 ITEMS (FRAC)	*	.01	.99	
2	SPARES OBJECTIVE, HDW LEVEL 3 ITEMS (FRAC)	*	.01	.99	
3	SPARES OBJECTIVE, HDW LEVEL 4 ITEMS (FRAC)	*	.01	.99	
4	DEPOT SAFETY STOCK OBJECTIVE (FRAC)	*	.01	.99	

Computational Time Factors (Subsection 2)

1	BASE REPAIR CYCLE TIME (DAYS)	*	0.	15.	
2	THEATRE REPAIR CYCLE TIME (DAYS)	*	0.	30.	
3	DEPOT REPAIR CYCLE TIME (DAYS)	*	0.	60.	
4	DEPOT REPAIR CYCLE FOR RTS REPAIR (DAYS)	*	0.	30.	
5	CONTRACTOR REPAIR CYCLE TIME (DAYS)	*	0.	80.	
6	ORDER AND SHIPPING TIME, CONUS (DAYS)	*	0.	30.	
7	ORDER AND SHIPPING TIME, OVERSEAS (DAYS)	*	0.	30.	
8	CONTRACTOR ORDER/SHIP TIME, CONUS (DAYS)	*	0.	45.	
9	CONTRACTOR ORDER/SHIP TIME, OVERSEAS (DAYS)	*	0.	45.	
10	PROCUREMENT LEAD TIME, CONSUMABLES (MONTHS)	*	0.	18.	
11	TRANSPORT TIME, BASE-DEPOT, CONUS (DAYS)	*	0.	30.	
12	TRANSPORT TIME, BASE-DEPOT, OVERSEAS(DAYS)	*	0.	45.	
13	TRANSPORT TIME, BASE-THEATRE (DAYS)	*	0.	30.	
14	TRANSPORT TIME, THEATRE-DEPOT, (DAYS)	*	0.	10.	
15	ATTRITION FACTOR, HDW LEVEL 1-SYS(FRAC)	*	0.	1.*	
16	ATTRITION FACTOR, HDW LEVEL 2-LRU(FRAC)	*	0.	1.*	
17	ATTRITION FACTOR, HDW LEVEL 3-SRU (FRAC)	*	0.	1.*	
18	ATTRITION FACTOR, HDW LEVEL 4-PART (FRAC)	*	0.	1.*	
19	REQUISITION TIME, FLT LINE-DEPOT (DAYS)	*	0.	30.	

* Fixed Limit

SPARES-INITIAL AND REPLENISHMENT (Section 4)
(Continued)

Computational Time Factors (Subsection 2)
(Continued)

		Lower Limit	Upper Limit	Value
20	REQUISITION TIME, BASE-DEPOT (DAYS)	* 0.	30.	
21	REQUISITION TIME, THEATRE-DEPOT (DAYS)	* 0.	30.	
22	REQUISITION TIME, INTRA-DEPOT (DAYS)	* 0.	10.	
23	AWAITING MAINT TIME, FLT LINE (DAYS)	* 0.	2.	
24	AWAITING MAINT TIME, BASE (DAYS)	* 0.	10.	
25	AWAITING MAINT TIME, THEATRE (DAYS)	* 0.	20.	
26	AWAITING MAINT TIME, DEPOT (DAYS)	* 0.	45.	
27	STK OBJ PERIOD, CONSUMABLES, FLT LINE (DAYS)	* 0.	10.	
28	STK OBJ PERIOD, CONSUMABLES, BASE (DAYS)	* 0.	30.	
29	STK OBJ PERIOD, CONSUMABLES, THEATRE (DAYS)	* 0.	60.	
30	STK OBJ PERIOD, CONSUMABLES, DEPOT (DAYS)	* 0.	180.	
31	SYS REQUISITION TIME FROM DEPOT (DAYS)	* 0.	20.	
32	SYS REQUISITION TIME FROM FLOAT (DAYS)	* 0.	5.	
33	ENGINE AUTOMATIC RESUPPLY TIME (DAYS)	* 0.	30.	

SUPPORT EQUIPMENT AND FACILITIES (Section 5)

Support Equipment Usage (Subsection 1)

1	INDEX OF SE TYPE TO VERIFY STATE (1-10)	* 0	10 *	
2	INDEX OF SE TYPE 1 USED IN REPAIR(1-10)	* 0	10 *	
3	INDEX OF SE TYPE 2 USED IN REPAIR (1-10)	* 0	10*	
4	INDEX OF SE TYPE 3 USED IN REPAIR (1-10)	* 0	10*	
5	INDEX OF SE TYPE 4 USED IN REPAIR (1-10)	* 0	10*	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1 (Continued)

SUPPORT EQUIPMENT AND FACILITIES (Section 5)

Support Equipment Costs (Subsection 2)

		Lower Limit	Upper Limit	Value
1	NUMBER OF SE TYPES REQUIRED (QTY)	* 0	10 *	
2	NUMBER OF DEDICATED TYPES OF SE (QTY)	* 0	10 *	
3	COST/SET OF SE TYPE 1 ($)	* 0.	100000.	
4	ANNUAL COST, SE TYPE 1 (FRAC OF COST/SET)	* 0.	1. *	
5	COST/SET OF SE TYPE 2 ($)	* 0.	100000.	
6	ANNUAL COST, SE TYPE 2 (FRAC OF COST/SET)	* 0.	1. *	
7	COST/SET OF SE TYPE 3 ($)	* 0.	100000.	
8	ANNUAL COST, SE TYPE 3 (FRAC OF COST/SET)	* 0.	1. *	
9	COST/SET OF SE TYPE 4 ($)	* 0.	100000.	
10	ANNUAL COST, SE TYPE 4 (FRAC OF COST/SET)	* 0.	1. *	
11	COST/SET OF SE TYPE 5 ($)	* 0.	100000.	
12	ANNUAL COST, SE TYPE 5 (FRAC OF COST/SET)	* 0.	1. *	
13	COST/SET OF SE TYPE 6 ($)	* 0.	100000.	
14	ANNUAL COST, SE TYPE 6 (FRAC OF COST/SET)	* 0.	1. *	
15	COST/SET OF SE TYPE 7 ($)	* 0.	100000.	
16	ANNUAL COST, SE TYPE 7 (FRAC OF COST/SET)	* 0.	1. *	
17	COST/SET OF SE TYPE 8 ($)	* 0.	100000.	
18	ANNUAL COST, SE TYPE 8 (FRAC OF COST/SET)	* 0.	1.	
19	COST/SET OF SE TYPE 9 ($)	* 0.	100000.	
20	ANNUAL COST, SE TYPE 9 (FRAC OF COST/SET)	* 0.	1. *	

* Fixed Limit

SUPPORT EQUIPMENT AND FACILITIES (Section 5) (Continued)

Support Equipment Costs (Subsection 2) (Continued)

	Lower Limit	Upper Limit	Value
21 COST/SET OF SE TYPE 10 ($)	* 0.	100000.	
22 ANNUAL COST, SE TYPE 10 (FRAC OF COST/SET)	* 0.	1. *	
23 COST OF ADDED COMMON SE PER BASE ($)	* 0.	1.00E+6	
24 COST OF ADDED COMMON SE PER DEPOT ($)	* 0.	1.00E+7	
25 SYS LEVEL SE, NON-LRU RELATED, BASE ($)	* 0.	100000.	
26 SYS LEVEL SE, NON-LRU RELATED, DEPOT ($)	* 0.	1.00E+6	
27 COST OF FLIGHT LINE SE PER BASE ($)	* 0.	100000.	
28 SOFTWARE TO UTILIZE EXISTING ATE, ($)	* 0.	1.00E+6	
29 HARDWARE TO UTILIZE EXISTING ATE, ($)	* 0.	1.00E+6	
30 COST OF PECULIAR TRAINING EQUIPMENT($)	* 0.	1.00E+6	
31 COST OF UNIQUE FACILITIES/BASE ($)	* 0.	1.00E+7	
32 COST OF UNIQUE DEPOT FACILITIES ($)	* 0.	1.00E+8	

LOGISTICS OPERATIONS (Section 6)

Supply Management Factors (Subsection 1)

1 NUMBER OF NEW INVENTORY ITEMS (QTY)	* 0	1000	
2 INVENTORY MGT FACTOR (FRAC OF TOTAL COST)	* 0.	1. *	

Technical Orders (Subsection 3)

1 BASE LEVEL DATA ACQUISITION COST ($)	* 0.	1.00E+6	
2 DEPOT LEVEL DATA ACQUISITION COST ($)	* 0.	1.00E+6	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 1 (Continued)

LOGISTICS OPERATIONS (Section 6)
(Continued)

Technical Orders (Subsection 3)
(Continued)

		Lower Limit	Upper Limit	Value
3	OTHER DATA ACQUISITION COST ($)	* 0.	1.00E+6	
4	PAGES OF BASE LEVEL DATA (QTY)	* 0	1000	
5	PAGES OF OTHER DATA (QTY)	* 0	1000	
6	PAGES OF OTHER DATA (QTY)	* 0	1000	

* Fixed limit

SAVE DATA LIBRARY, LEVEL 2

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Section 1)

Mission Utilization (Subsection 2)

		Lower Limit	Upper Limit	Value
1	ITEM OPERATING/SYSTEM OPER. TIME RATIO	* .1	2.	

Equipment Characteristics (Subsection 3)

		Lower Limit	Upper Limit	Value
1	ITEM ACQUISITION COST, SPARES ($/UNIT)	* 0.	1.00E+6	
2	ITEM WEIGHT (LBS)	* 0.	100.	
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	* 1	10	

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)

Reliability and Maintenance Rate Factors (Subsection 1)

		Lower Limit	Upper Limit	Value
1	MEAN OP TIME BETWEEN PREV MAINT ACT (HRS)	0.	10000.	
2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)	0.	10000.	
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)	0.	100000.	
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	
6	NO DEFECT FOUND FRAC OF CORR MAINT ACTS	* 0.	1. *	

* - Fixed limit

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)
(Continued)

Level of Repair (Subsection 2)

		Lower Limit	Upper Limit	Value
1	ITEM REMOVALS PER PREV MAINT ACT (FRAC)	* 0.	1. *	
2	ITEM REMOVALS PER CORR MAINT ACT (FRAC)	* 0.	1. *	
3	LEVEL OF FAULT VERIFICATION (1 THRU 4)	* 1	4 *	
4	LEVEL OF REPAIR (0 THRU 4, 0 = CONDEMNED)	* 0	4 *	
5	ITEM REMOVALS NRTS (FRAC)	* 0.	1. *	
6	ITEM REMOVALS CONDEMNED (FRAC)	* 0.	1. *	
7	ITEM REMOVALS RETEST OK (FRAC)	* 0.	1. *	

Corrective Action Activities and Costs (Subsection 3)

1	MEAN TIME TO REPAIR ITEM (HRS)	* 0.	4.
2	ACCESS TIME, ON-EQUIP (MHRS)	* 0.	5.
3	STATE VERIFICATION TIME, ON-EQUIP (MHRS)	* 0.	5.
4	REPAIR TIME, ON-EQUIP (MHRS)	* 0.	5.
5	REMOVE, REPLACE, CHECKOUT, ON-EQUIP (MHRS)	* 0.	5.
6	STATE VERIFICATION TIME, BENCH CHECK (MHRS)	* 0.	20.
7	REPAIR TIME, OFF-EQUIPMENT (MHRS)	* 0.	20.
8	REPAIR TIME, DEPOT (MHRS)	* 0.	20.
9	MATERIAL COST/OFF-EQUIPMENT REPAIR ($)	* 0.	100.
10	REPAIR OF INDENTURED UNITS, BASE ($/ACT)	* 0.	500.
11	REPAIR OF INDENTURED UNITS, DEPOT ($/ACT)	* 0.	500.

* - Fixed Limit

SAVE DATA LIBRARY, LEVEL 2 (Continued)

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)
(Continued)

Scheduled Maintenance Actions and Costs (Subsection 4)

			Lower Limit	Upper Limit	Value
1	OVERHAUL COST ($)	*	0.	1000.	

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING (Section 3)

Personnel Requirements (Subsection 1)

1	INDEX OF SKILL TYPE 1 FOR REPAIR OF ITEM	*	0	10*	
2	INDEX OF SKILL TYPE 2 FOR REPAIR OF ITEM	*	0	10*	
3	INDEX OF SKILL TYPE 3 FOR REPAIR OF ITEM	*	0	10*	
4	INDEX OF SKILL TYPE 4 FOR REPAIR OF ITEM	*	0	10*	

SPARES-INITIAL AND REPLENISHMENT (Section 4)

Computational Time Factors (Subsection 2)

1	BASE REPAIR CYCLE TIME (DAYS)	*	0.	15.	
2	DEPOT REPAIR CYCLE TIME (DAYS)	*	0.	60.	
3	PROCUREMENT LEAD TIME (MONTHS)	*	0.	36.	

* - Fixed Limit

SAVE DATA LIBRARY, LEVEL 2 (Continued)

SUPPORT EQUIPMENT AND FACILITIES (Section 5)

Support Equipment Usage (Subsection 1)

	Lower Limit	Upper Limit	Value
1 UTILIZATION RATE, SE TYPE 1, BASE LEVEL	* 0.	1. *	
2 UTILIZATION RATE, SE TYPE 1, DEPOT LEVEL	* 0.	1. *	
3 UTILIZATION RATE, SE TYPE 2, BASE LEVEL	* 0.	1. *	
4 UTILIZATION RATE, SE TYPE 2, DEPOT LEVEL	* 0.	1. *	
5 UTILIZATION RATE, SE TYPE 3, BASE LEVEL	* 0.	1. *	
6 UTILIZATION RATE, SE TYPE 3, DEPOT LEVEL	* 0.	1. *	
7 UTILIZATION RATE, SE TYPE 4, BASE LEVEL	* 0.	1. *	
8 UTILIZATION RATE, SE TYPE 4, DEPOT LEVEL	* 0.	1. *	
9 UTILIZATION RATE, SE TYPE 5, BASE LEVEL	* 0.	1. *	
10 UTILIZATION RATE, SE TYPE 5, DEPOT LEVEL	* 0.	1. *	
11 UTILIZATION RATE, SE TYPE 6, BASE LEVEL	* 0.	1. *	
12 UTILIZATION RATE, SE TYPE 6, DEPOT LEVEL	* 0.	1. *	
13 UTILIZATION RATE, SE TYPE 7, BASE LEVEL	* 0.	1. *	
14 UTILIZATION RATE, SE TYPE 7, DEPOT LEVEL	* 0.	1. *	
15 UTILIZATION RATE, SE TYPE 8, BASE LEVEL	* 0.	1. *	
16 UTILIZATION RATE, SE TYPE 8, DEPOT LEVEL	* 0.	1. *	

* - Fixed Limit

AD-A056 348 BATTELLE COLUMBUS LABS OHIO F/G 1/3
SYSTEM AVIONICS VALUE ESTIMATION (SAVE): AN AID FOR AVIONICS LO--ETC(U)
SEP 77 T R CORK, J F MULCAHY F33615-76-C-1299
UNCLASSIFIED AFAL-TR-77-179 NL

2 OF 3
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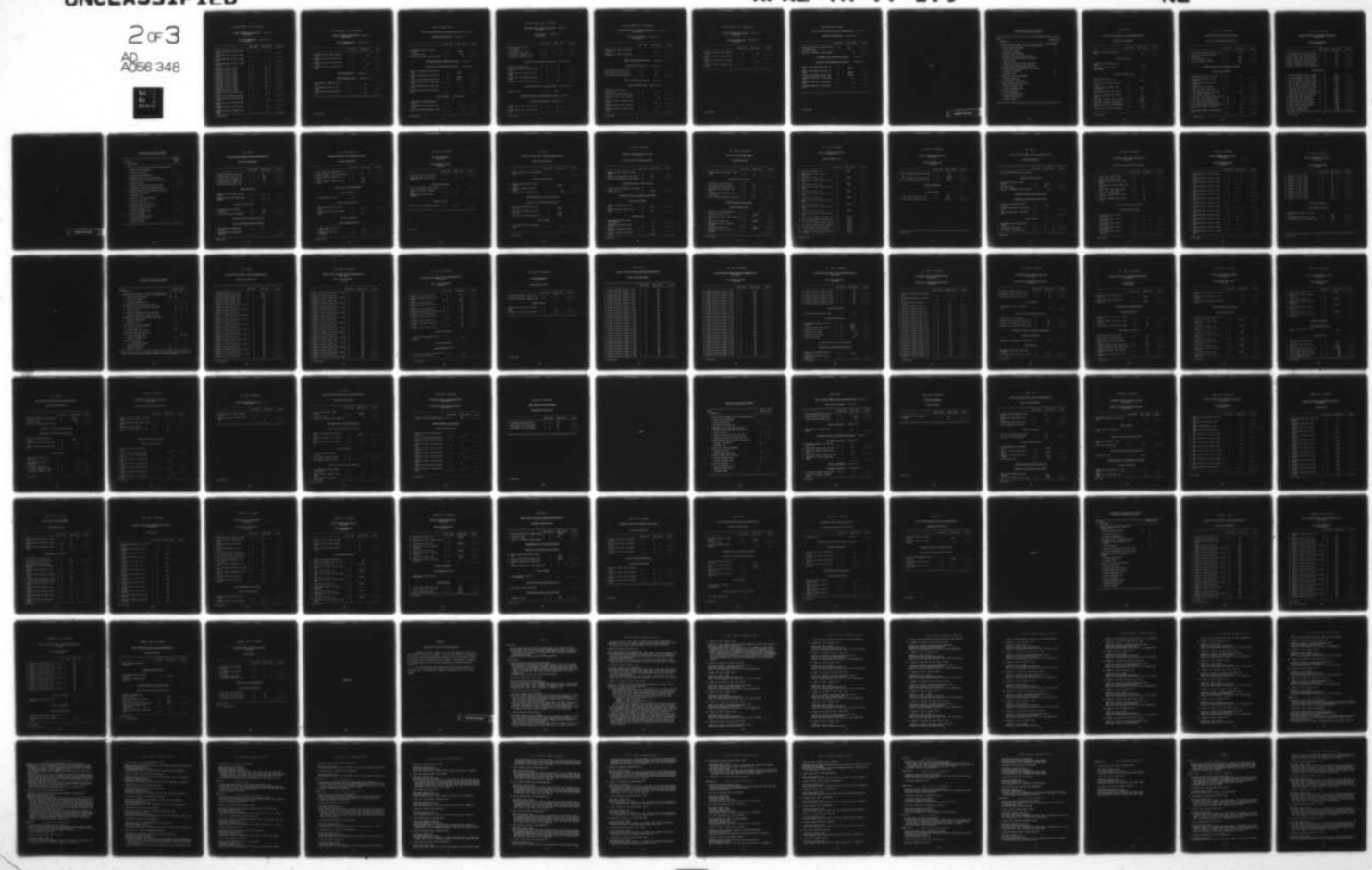

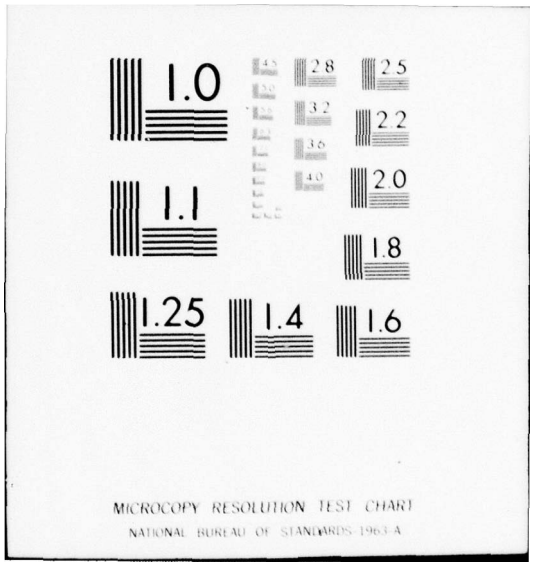
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

SUPPORT EQUIPMENT AND FACILITIES (Section 5)
(Continued)

Support Equipment Usage (Subsection 1)
(Continued)

	Lower Limit	Upper Limit	Value
17 UTILIZATION RATE, SE TYPE 9, BASE LEVEL	* 0.	1. *	
18 UTILIZATION RATE, SE TYPE 9, DEPOT LEVEL	* 0.	1. *	
19 UTILIZATION RATE, SE TYPE 10, BASE LEVEL	* 0.	1. *	
20 UTILIZATION RATE, SE TYPE 10, DEPOT LEVEL	* 0.	1. *	
21 DOWNTIME, SE TYPE 1 (FRAC)	* 0.	.99 *	
22 DOWNTIME, SE TYPE 2 (FRAC)	* 0.	.99 *	
23 DOWNTIME, SE TYPE 3 (FRAC)	* 0.	.99 *	
24 DOWNTIME, SE TYPE 4 (FRAC)	* 0.	.99 *	
25 DOWNTIME, SE TYPE 5 (FRAC)	* 0.	.99 *	
26 DOWNTIME, SE TYPE 6 (FRAC)	* 0.	.99 *	
27 DOWNTIME, SE TYPE 7 (FRAC)	* 0.	.99 *	
28 DOWNTIME, SE TYPE 8 (FRAC)	* 0.	.99 *	
29 DOWNTIME, SE TYPE 9 (FRAC)	* 0.	.99 *	
30 DOWNTIME, SE TYPE 10 (FRAC)	* 0.	.99 *	
31 INDEX OF SE TYPE 10 VERIFY STATE (0-10)	* 0	10 *	
32 USAGE OF SE TO VERIFY STATE (HRS)	* 0.	24.	
33 INDEX OF SE TYPE 1 USED IN REPAIR (0-10)	* 0	10 *	
34 USAGE OF SE TYPE 1 TO REPAIR ITEM (HRS)	* 0.	24.	
35 INDEX OF SE TYPE 2 USED IN REPAIR (0-10)	* 0	10*	
36 USAGE OF SE TYPE 2 TO REPAIR ITEM (HRS)	* 0.	24.	

* - Fixed Limit

SAVE DATA LIBRARY, LEVEL 2 (Continued)

SUPPORT EQUIPMENT AND FACILITIES (Section 5)
(Continued)

Support Equipment Usage (Subsection 1)
(Continued)

	Lower Limit	Upper Limit	Value
37 INDEX OF SE TYPE 3 USED IN REPAIR (0-10)	* 0	10*	
38 USAGE OF SE TYPE 3 TO REPAIR ITEM (HRS)	* 0.	24.	
39 INDEX OF SE TYPE 4 USED IN REPAIR (0-10)	* 0	10*	
40 USAGE OF SE TYPE 4 TO REPAIR ITEM (HRS)	* 0.	24.	

LOGISTICS OPERATIONS (Section 6)

Supply Management Factors (Subsection 1)

1 NEW REPARABLE ASSEMBLIES IN ITEM (QTY)	* 0	100	
2 NEW CONSUMABLE PARTS IN ITEM (QTY)	* 0	1000	
3 ADDITIONAL PARTS FOR BASE SUPPLY (QTY)	* 0	1000	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 3

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Section 1)

Equipment Characteristics (Subsection 3)

		Lower Limit	Upper Limit	Value
1	ITEM ACQUISITION COST, SPARES ($/UNIT)	* 0.	1.00E+6	
2	ITEM WEIGHT (LBS)	* 0.	50.	
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	* 1	10	

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)

Reliability and Maintenance Rate Factors (Subsection 1)

1	MEAN OP TIME BETWEEN PREV MAINT ACT (HRS)	0.	10000.	
2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)	0.	10000.	
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)	0.	100000.	
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	
6	NO DEFECT FOUND FRAC OF CORR MAINT ACTS	* 0.	1. *	

Level of Repair (Subsection 2)

1	ITEM REMOVALS PER PREV MAINT ACT (FRAC)	* 0.	1. *	
2	ITEM REMOVALS PER CORR MAINT ACT (FRAC)	* 0.	1. *	
3	LEVEL OF FAULT VERIFICATION (1 THRU 4)	* 1	4 *	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 3 (Continued)

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)
(Continued)

Level of Repair (Subsection 2)
(Continued)

	Lower Limit		Upper Limit		Value
4 LEVEL OF REPAIR (0 THRU 4, 0 = CONDEMNED)	*	0	4	*	
5 ITEM REMOVALS NRTS (FRAC)	*	0.	1.	*	
6 ITEM REMOVALS CONDEMNED (FRAC)	*	0.	1.	*	
7 ITEM REMOVALS RETEST OK (FRAC)	*	0.	1.	*	

Corrective Action Activities and Costs (Subsection 3)

1 MEAN TIME TO REPAIR (HRS)	*	0.	8.		
2 STATE VERIFICATION TIME, BENCH CHECK (MHRS)	*	0.	6.		
3 REMOVE, REPLACE, CHECKOUT OF NHA (MHRS)	*	0.	6.		
4 REPAIR TIME, OFF-EQUIPMENT OR DEPOT (MHRS)	*	0.	8.		
5 MATERIAL COST/OFF-EQUIPMENT REPAIR ($)	*	0.	100.		

Scheduled Maintenance Actions and Costs (Subsection 4)

1 OVERHAUL COST($)	*	0.	1000.		

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING (Section 3)

Personnel Requirements (Subsection 1)

1 INDEX OF SKILL TYPE 1 FOR REPAIR OF ITEM	*	0.	10	*	
2 INDEX OF SKILL TYPE 2 FOR REPAIR OF ITEM	*	0	10	*	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 3 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING (Section 3)
(Continued)

Personnel Requirements (Subsection 1)
(Continued)

	Lower Limit	Upper Limit	Value
3 INDEX OF SKILL TYPE 3 FOR REPAIR OF ITEM	* 0	10 *	
4 INDEX OF SKILL TYPE 4 FOR REPAIR OF ITEM	* 0	10 *	

SPARES-INITIAL AND REPLENISHMENT (Section 4)

Computational Time Factors (Subsection 2)

1 BASE REPAIR CYCLE TIME (DAYS)	* 0.	15.	
2 DEPOT REPAIR CYCLE TIME (DAYS)	* 0.	60.	
3 PROCUREMENT LEAD TIME (MONTHS)	* 0.	36.	

SUPPORT EQUIPMENT AND FACILITIES (Section 5)

Support Equipment Usage (Subsection 1)

1 INDEX OF SE TYPE TO VERIFY STATE (1-10)	* 0	10*	
2 USAGE OF SE TO VERIFY STATE (HRS)	* 0.	24.	
3 INDEX OF SE TYPE 1 USED IN REPAIR (1-10)	* 0	10*	
4 USAGE OF SE TYPE 1 TO REPAIR ITEM (HRS)	* 0.	24.	
5 INDEX OF SE TYPE 2 USED IN REPAIR (1-10)	* 0	10*	
6 USAGE OF SE TYPE 2 TO REPAIR ITEM (HRS)	* 0.	24.	

* Fixed Limit

SUPPORT EQUIPMENT AND FACILITIES (Section 5)
(Continued)

Support Equipment Usage (Subsection 1)
(Continued)

	Lower Limit	Upper Limit	Value
7 INDEX OF SE TYPE 3 USED IN REPAIR (1-10)	* 0	10*	
8 USAGE OF SE TYPE 3 TO REPAIR ITEM (HRS	* 0.	24.	
9 INDEX OF SE TYPE 4 USED IN REPAIR (1-10)	* 0	10*	
10 USAGE OF SE TYPE 4 TO REPAIR ITEM (HRS)	* 0.	24.	

* Fixed Limit

SAVE DATA LIBRARY, LEVEL 4

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Section 1)

Equipment Characteristics (Subsection 3)

			Lower Limit	Upper Limit	Value
1	ITEM ACQUISITION COST, SPARES ($/UNIT)	*	0.	1000.	
2	ITEM WEIGHT (LBS)	*	0.	25.	
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	*	1	10	

MAINTENANCE RATES, ACTIVITIES AND COSTS (Section 2)

Reliability and Maintenance Rate Factors (Subsection 1)

1	MEAN OP TIME BETWEEN PREV MAINT ACT (HRS)		0.	100000.	
2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)		0.	100000.	
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)		0.	100000.	
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	*	0.	1.*	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	*	0.	1.*	
6	NO DEFECT FOUND FRAC OF CORR MAINT ACTS	*	0.	1.*	

* Fixed Limit

CACE

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DISTRIBUTION OF CACE DATA ITEMS BY
SECTIONS, SUBSECTIONS AND LEVELS

SECTION / SUBSECTION		LIBRARY LEVEL 0
		#Data Items
1	WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS	
	1 WEAPON SYSTEM DEPLOYMENT	1
	2 MISSION UTILIZATION	2
	3 EQUIPMENT CHARACTERISTICS	9
2	MAINTENANCE RATES, ACTIVITIES AND COSTS	
	1 RELIABILITY AND MAINTENANCE RATE FACTORS	
	2 LEVEL OF REPAIR	
	3 CORRECTIVE ACTION ACTIVITIES AND COSTS	4
	4 SCHEDULED MAINTENANCE ACTIONS AND COSTS	
3	PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING	
	1 PERSONNEL REQUIREMENTS	19
	2 PERSONNEL COSTS	15
4	SPARES-INITIAL AND REPLENISHMENT	
	1 STOCKAGE OBJECTIVES	
	2 COMPUTATIONAL TIME FACTORS	
5	SUPPORT EQUIPMENT AND FACILITIES	
	1 SUPPORT EQUIPMENT USAGE	
	2 SUPPORT EQUIPMENT COSTS	
6	LOGISTICS OPERATIONS	
	1 SUPPLY MANAGEMENT FACTORS	
	2 TRANSPORTATION FACTORS	
	3 TECHNICAL ORDERS	

CACE, LEVEL 0

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Weapon System Deployment

		Lower Limit	Upper Limit	Value
6	NUMBER OF SYSTEMS AT BASE TYPE 1 (QTY)	* 1	100	

Mission Utilization

		Lower Limit	Upper Limit	Value
1	PEACETIME FLYING (HOURS/SYSTEM/MONTH)	* 1.	730. *	
2	WARTIME PEAK FLYING (HOURS/SYSTEM/MONTH)	* 0.	730. *	

Equipment Characteristics

		Lower Limit	Upper Limit	Value
1	WEAPON SYSTEM FLYAWAY COST, FAC ($)	* 0.	8.00E+7	
2	CLASS IV MOD COST FACTOR (PERCENT OF FAC)	* 0.	.1	
3	COMMON SUPPORT EQUIPMENT (COST/SYSTEM/YR)	* 0.	20000.	
4	REPLENISHMENT SPARES (COST/FLYING HR)	* 0.	150.	
5	VEHICULAR EQUIPMENT (COST/SUPPORT MANYR)	* 0.	1000.	
6	MUNITIONS, TRAINING (COST/SYSTEM/YR)	* 0.	50000.	
7	MUNITIONS, TRAINING (COST/CREW/YR)	* 0.	50000.	
8	AVIATION FUEL (UNITS CONSUMED/FLYING HR)	* 0.	1000.	
9	AVIATION FUEL (COST/UNIT CONSUMED)	* 0.	100.	

* Fixed Limit

CACE, LEVEL 0 (Continued)

MAINTENANCE RATES, ACTIVITIES AND COSTS

Corrective Action Activities and Costs

			Lower Limit	Upper Limit		Value
1	BASE LEVEL MAINTENANCE MATERIAL ($/FH)	*	0.	200.		
2	BASE LEVEL MAINTENANCE MATERIAL (R/SYS/YR)	*	0.	10000.		
3	DEPOT MAINTENANCE ($/FH)	*	0.	500.		
4	DEPOT MAINTENANCE ($/SYS/YR)	*	0.	80000.		

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING

Personnel Requirements

1	MAINTENANCE MANHOURS/FLYING HOUR	*	0.	40.		
2	AIRCREW, RATED OFFICER, PILOT-(MEN/CREW)	*	1.	3.		
3	AIRCREW, RATED OFFICER, OTHER-(MEN/CREW)	*	0.	3.		
4	AIRCREW, AIRMEN, (MEN/CREW)	*	0.	4.		
5	CREWS PER AIRCRAFT (CREW RATIO)	*	1.	3.		
6	BASE MAINTENANCE-AIRMEN (MYRS/SQDR)	*	1.	500.		
7	PILOT, ANNUAL TURNOVER RATE	*	0.	1.	*	
8	OTHER OFF, CREW, ANNUAL TURNOVER RATE	*	0.	1.	*	
9	OTHER OFF, ANNUAL TURNOVER RATE	*	0.	1.	*	
10	BASE AIRMEN, ANNUAL TURNOVER RATE	*	0.	1.	*	
12	PRI PROGRAM ELEMENT (OFFICERS/SQDR/YR)	*	0.	100.		
13	PRI PROGRAM ELEMENT (AIRMEN/SQDR/YR)	*	0.	300.		
14	PRI PROGRAM ELEMENT (CIVILIANS/SQDR/YR)	*	0.	100.		

* Fixed Limit

CACE, LEVEL 0 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING
(Continued)

Personnel Requirements
(Continued)

		Lower Limit	Upper Limit	Value
15	BASE OPS/REAL PROP (OFFICERS/SQDR/YR)	*	0.	500.	_____
16	BASE OPS/REAL PROP (AIRMEN/SQDR/YR)	*	0.	500.	_____
17	BASE OPS/REAL PROP (CIVILIANS/SQDR/YR)	*	0.	500.	_____
18	MEDICAL DISPENSARY (OFFICERS/SQDR/YR)	*	0.	50.	_____
19	MEDICAL DISPENSARY (AIRMEN/SQDR/YR)	*	0.	100.	_____
20	MEDICAL DISPENSARY (CIVILIANS/SQDR/YR)	*	0.	100.	_____

Personnel Costs

1	PAY AND ALLOWANCES, OFFICER ($/MNYR)	*	0.	30000.	_____
2	PAY AND ALLOWANCES, AIRMEN ($/MNYR)	*	0.	15000.	_____
3	PAY AND ALLOWANCES, CIVILIAN ($/MNYR)	*	0.	18000.	_____
4	MEDICAL SUPPORT PER OFFICER ($/MNYR)	*	0.	1000.	_____
5	MEDICAL SUPPORT PER AIRMAN ($/MNYR)	*	0.	1000.	_____
6	BASE OPS, REAL PROPERTY COST ($/MNYR)	*	0.	500.	_____
7	UNDER GRAD PILOT TRNG ($/GRADUATE)	*	0.	100000.	_____
8	OTHER OFFICER AIRCREW TRNG ($/GRADUATE)	*	0.	30000.	_____
9	NONRATED OFFICER TRNG ($/GRADUATE)	*	0.	10000.	_____
10	AIRMAN MAINT TRNG ($/GRADUATE)	*	0.	10000.	_____
11	OTHER AIRMAN TRNG ($/GRADUATE)	*	0.	10000.	_____
12	OFFICER ACQUISITION COST ($/MAN)	*	0.	10000.	_____
13	AIRMAN ACQUISITION COST ($/MAN)	*	0.	5000.	_____
14	PCS COST, OFFICERS ($/PCS)	*	0.	1000.	_____
15	PCS COST, AIRMEN ($/PCS)	*	0.	1000.	_____

* Fixed Limit

LSC

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DISTRIBUTION OF LSC DATA ITEMS BY
SECTIONS, SUBSECTIONS AND LEVELS

SECTION / SUBSECTION			Library Level 0	1	2
1	WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS				
	1	WEAPON SYSTEM DEPLOYMENT	5	1	
	2	MISSION UTILIZATION	2		1
	3	EQUIPMENT CHARACTERISTICS	2	3	3
2	MAINTENANCE RATES, ACTIVITIES AND COSTS				
	1	RELIABILITY AND MAINTENANCE RATE FACTORS		3	3
	2	LEVEL OF REPAIR		1	3
	3	CORRECTIVE ACTION ACTIVITIES AND COSTS	2	3	8
	4	SCHEDULED MAINTENANCE ACTIONS AND COSTS		2	
3	PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING				
	1	PERSONNEL REQUIREMENTS	4	2	
	2	PERSONNEL COSTS		4	
4	SPARES-INITIAL AND REPLENISHMENT				
	1	STOCKAGE OBJECTIVES	1	1	
	2	COMPUTATIONAL TIME FACTORS	2	5	
5	SUPPORT EQUIPMENT AND FACILITIES				
	1	SUPPORT EQUIPMENT USAGE			30
	2	SUPPORT EQUIPMENT COSTS		31	
6	LOGISTICS OPERATIONS				
	1	SUPPLY MANAGEMENT FACTORS	4		3
	2	TRANSPORTATION FACTORS	3		
	3	TECHNICAL ORDERS	1	2	

LSC, LEVEL 0

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Weapon System Deployment

		Lower Limit		Upper Limit		Value
1	EXPECTED OPERATIONAL LIFE (YRS)	*	1.	25.	*	
2	SYSTEMS DEPLOYED IN CONUS (QTY)	*	0	1000		
3	SYSTEMS DEPLOYED OVERSEAS (QTY)	*	0	1000		
4	OPERATING BASES IN CONUS (QTY)	*	0	75		
5	OPERATING BASES OVERSEAS (QTY)	*	0	50		

Mission Utilization

1	PEACETIME FLYING (HOURS/SYSTEM/ MONTH)	*	1.	730.	*	
2	WARTIME PEAK FLYING (HOURS/SYSTEM/ MONTH)	*	0.	730.	*	

Equipment Characteristics

8	AVIATION FUEL (lbs/CONSUMED/ FLYING HR)	*	0.	1000.		
9	AVIATION FUEL (COST/lb CONSUMED)	*	0.	100.		

MAINTENANCE RATES, ACTIVITIES AND COSTS

Corrective Action Activities and Costs

5	ON-EQUIP MAINT DOCUMENTATION (MHRS/ACT)	*	0.	1.		
6	OFF-EQUIP MAINT DOCUMENTATION (MHRS/ACT)	*	0.	1.		

* Fixed Limit

LSC, LEVEL 0 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING

Personnel Requirements

		Lower Limit		Upper Limit		Value
10	BASE AIRMEN, ANNUAL TURNOVER RATE	*	0.	1.	*	
11	DEPOT PERSONNEL, ANNUAL TURNOVER RATE	*	0.	1.	*	
21	DIRECT PRODUCTIVE MHRS/MNYR, BASE, (QTY)	*	0.	2080.		
22	DIRECT PRODUCTIVE MHRS/MNYR, DEPOT (QTY)	*	0.	2080.		

SPARES-INITIAL AND REPLENISHMENT

Stockage Objectives

1	EXPECTED BACKORDER LEVEL	*	.01	1.		

Computational Time Factors

1	ORDER AND SHIPPING TIME, CONUS (DAYS)	*	0.	30.		
2	ORDER AND SHIPPING TIME, OVERSEAS (DAYS)	*	0.	30.		

LOGISTICS OPERATIONS

Supply Management Factors

1	INITIAL ITEM MGT ENTRY COST ($/NEW ITEM)	*	0.	70.		
2	RECURRING ITEM MGT COST ($/ITEM/YR)	*	0.	150.		

* Fixed Limit

LSC, LEVEL 0 (Continued)

LOGISTICS OPERATIONS (Continued)

Supply Management Factors (Continued)

			Lower Limit	Upper Limit	Value
3	BASE SUPPLY MGT COST ($/ITEM/YR)	*	0.	50.	
4	LABOR TIME/SUPPLY TRANSACTION (MHRS/ACT)	*	0.	1.	

Transportation Factors

1	PACKING AND SHIPPING, CONUS ($/LB)	*	0.	1.	
2	PACKING AND SHIPPING, OVERSEAS ($/LB)	*	0.	2.	
3	TRANSPORTATION RECORDS LABOR (MHRS/ACT)	*	0.	1.	

Technical Orders

3	INITIAL COST OF TECH ORDERS ($/PAGE)	*	0.	300.	

* Fixed Limit

LSC, LEVEL 1

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Weapon System Deployment

			Lower Limit	Upper Limit	Value
5	STOCKAGE LOCATIONS FOR SPARE ENGINES (QTY)	*	0.	75	

Equipment Characteristics

			Lower Limit	Upper Limit	Value
3	SYSTEM ACQUISITION COST, SPARES ($/UNIT)	*	1.	200000.	
9	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	*	1	10	
10	WORK UNIT CODE (5 NUMERIC DIGITS)	*	0	99999*	

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

			Lower Limit	Upper Limit	Value
1	MEAN OP TIME BETWEEN PREV MAINT ACT (HRS)		0.	10000.	
2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)		0.	10000.	
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)		0.	100000.	

Level of Repair

			Lower Limit	Upper Limit	Value
3	SYS FAILURES FIXED BY LRU REMOVAL (FRAC)	*	0.	1. *	

* Fixed Limit

MAINTENANCE RATES, ACTIVITIES AND COSTS (Continued)

Corrective Action Activities and Costs

			Lower Limit	Upper Limit	Value
4	REMOVE, REPLACE, CHECKOUT, ON-EQUIP (MHRS)	*	0.	5.	
7	MATERIAL COST/LABOR HOUR, BASE ($/HR)	*	0.	20.	
8	MATERIAL COST/LABOR HOUR, DEPOT ($/HR)	*	0.	20.	

Scheduled Maintenance Actions and Costs

1	PERIODIC/PHASED MAINTENANCE TIME (MHRS)	*	0.	8.	
2	OVERHAUL COST ($)	*	0.	10000.	

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING

Personnel Requirements

5	MNHRS/MO AVAILABLE, BASE LEVEL (QTY)	*	0.	200.	
6	MNHRS/MO AVAILABLE, DEPOT LEVEL (QTY)	*	0.	200.	

Personnel Costs

1	MAINTENANCE LABOR RATE, BASE LEVEL ($/MHR)	*	0.	25.	
2	MAINTENANCE LABOR RATE, DEPOT ($/MHR)	*	0.	35.	
15	TRNG COST OF BASE LEVEL SKILLS ($/MAN)	*	0.	5000.	
16	TRNG COST OF DEPOT LEVEL SKILLS ($/MAN)	*	0.	5000.	

** Fixed Limit*

LSC, LEVEL 1 (Continued)

SPARES-INITIAL AND REPLENISHMENT

Stockage Objectives

			Lower Limit	Upper Limit		Value
1	SPARES OBJECTIVE, HDW LEVEL 2 ITEMS (FRAC)	*	.01	.99		

Computational Time Factors

1	BASE REPAIR CYCLE TIME (DAYS)	*	0.	15.		
3	DEPOT REPAIR CYCLE TIME (DAYS)	*	0.	60.		
11	TRANSPORT TIME, BASE-DEPOT, CONUS (DAYS)	*	0.	30.		
12	TRANSPORT TIME, BASE-DEPOT, OVERSEAS (DAYS)	*	0.	45.		
33	ENGINE AUTOMATIC RESUPPLY TIME (DAYS)	*	0.	30.		

SUPPORT EQUIPMENT AND FACILITIES

Support Equipment Costs

1	NUMBER OF SE TYPES REQUIRED(QTY)	*	0	10	*	
3	COST/SET OF SE TYPE 1 ($)	*	0.	100000.		
4	ANNUAL COST, SE TYPE 1 (FRAC OF COST/SET)	*	0.	1.	*	
5	COST/SET OF SE TYPE 2 ($)	*	0.	100000.		
6	ANNUAL COST, SE TYPE 2 (FRAC OF COST/SET)	*	0.	1.	*	
7	COST/SET OF SE TYPE 3 ($)	*	0.	100000.		
8	ANNUAL COST, SE TYPE 3 (FRAC OF COST/SET)	*	0.	1.	*	

* Fixed Limit

SUPPORT EQUIPMENT AND FACILITIES
(Continued)

Support Equipment Costs

		Lower Limit	Upper Limit	Value
9	COST/SET OF SE TYPE 4 ($)	* 0.	100000.	
10	ANNUAL COST, SE TYPE 4 (FRAC OF COST/SET)	* 0.	1. *	
11	COST/SET OF SE TYPE 5 ($)	* 0.	100000.	
12	ANNUAL COST, SE TYPE 5 (FRAC OF COST/SET)	* 0.	1. *	
13	COST/SET OF SE TYPE 6 ($)	* 0.	100000.	
14	ANNUAL COST, SE TYPE 6 (FRAC OF COST/SET)	* 0.	1. *	
15	COST/SET OF SE TYPE 7 ($)	* 0.	100000.	
16	ANNUAL COST, SE TYPE 7 (FRAC OF COST/SET)	* 0	1. *	
17	COST/SET OF SE TYPE 8 ($)	* 0	100000.	
18	ANNUAL COST, SE TYPE 8 (FRAC OF COST/SET)	* 0.	1. *	
19	COST/SET OF SE TYPE 9 ($)	* 0.	100000.	
20	ANNUAL COST, SE TYPE 9 (FRAC OF COST/SET)	* 0.	1. *	
21	COST/SET OF SE TYPE 10 ($)	* 0.	100000.	
22	ANNUAL COST, SE TYPE 10 (FRAC OF COST/SET)	* 0.	1. *	
23	COST OF ADDED COMMON SE PER BASE ($)	* 0.	1.00E+6	
24	COST OF ADDED COMMON SE PER DEPOT ($)	* 0.	1.00E+7	
25	SYS LEVEL SE, NON-LRU RELATED, BASE ($)	* 0.	100000.	
26	SYS LEVEL SE, NON-LRU RELATED, DEPOT($)	* 0.	1.00E+6	
27	COST OF FLIGHT LINE SE PER BASE($)	* 0.	100000.	
28	SOFTWARE TO UTILIZE EXISTING ATE, ($)	* 0.	1.00E+6	
29	HARDWARE TO UTILIZE EXISTING ATE, ($)	* 0.	1.00E+6	

* Fixed Limit

SUPPORT EQUIPMENT AND FACILITIES
(Continued)

Support Equipment Costs
(Continued)

			Lower Limit	Upper Limit	Value
30	COST OF PECULIAR TRAINING EQUIPMENT ($)	*	0.	1.00E+6	
31	COST OF UNIQUE FACILITIES/BASE ($)	*	0.	1.00E+7	
32	COST OF UNIQUE DEPOT FACILITIES ($)	*	0.	1.00E+8	

LOGISTICS OPERATIONS

Technical Orders

4	PAGES OF BASE LEVEL DATA (QTY)	*	0	1000	
5	PAGES OF DEPOT LEVEL DATA (QTY)	*	0	1000	

* Fixed Limit

LSC, LEVEL 2

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Mission Utilization

			Lower Limit	Upper Limit		Value
1	ITEM OPERATING/SYSTEM OPER. TIME RATIO	*	.1	2.		

Equipment Characteristics

1	ITEM ACQUISITION COST, SPARES ($/UNIT)	*	0.	1.00E+6		
2	ITEM WEIGHT (LBS)	*	0.	100.		
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	*	1	10		

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)		0.	10000.		
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	*	0.	1.	*	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	*	0.	1.	*	

Level of Repair

2	ITEM REMOVALS PER CORR MAINT ACT (FRAC)	*	0.	1.	*	
5	ITEM REMOVALS NRTS (FRAC)	*	0.	1.	*	
6	ITEM REMOVALS CONDEMNED (FRAC)	*	0.	1.	*	

* Fixed Limit

MAINTENANCE RATES, ACTIVITIES AND COSTS (Continued)

Corrective Action Activities and Costs

		Lower Limit	Upper Limit	Value
2	ACCESS TIME, ON-EQUIP (MHRS)	* 0.	5.	
4	REPAIR TIME, ON-EQUIP (MHRS)	* 0.	5.	
5	REMOVE, REPLACE, CHECKOUT, ON-EQUIP (MHRS)	* 0.	5.	
6	STATE VERIFICATION TIME, BENCH CHECK (MHRS)	* 0.	5.	
7	REPAIR TIME, OFF-EQUIPMENT (MHRS)	* 0.	20.	
8	REPAIR TIME, DEPOT (MHRS)	* 0.	20.	
10	REPAIR OF INDENTURED UNITS, BASE ($/ACT)	* 0.	500.	
11	REPAIR OF INDENTURED UNITS, DEPOT ($/ACT)	* 0.	500.	

SUPPORT EQUIPMENT AND FACILITIES

Support Equipment Usage

		Lower Limit	Upper Limit	Value
1	UTILIZATION RATE, SE TYPE 1, BASE LEVEL	* 0.	1. *	
2	UTILIZATION RATE, SE TYPE 1, DEPOT LEVEL	* 0.	1. *	
3	UTILIZATION RATE, SE TYPE 2, BASE LEVEL	* 0.	1. *	
4	UTILIZATION RATE, SE TYPE 2, DEPOT LEVEL	* 0.	1. *	
5	UTILIZATION RATE, SE TYPE 3, BASE LEVEL	* 0.	1. *	

* Fixed Limit

LSC, LEVEL 2 (Continued)

SUPPORT EQUIPMENT AND FACILITIES
(Continued)

Support Equipment Usage
(Continued)

		Lower Limit	Upper Limit	Value
6	UTILIZATION RATE, SE TYPE 3, DEPOT LEVEL	* 0.	1. *	_____
7	UTILIZATION RATE, SE TYPE 4, BASE LEVEL	* 0.	1. *	_____
8	UTILIZATION RATE, SE TYPE 4, DEPOT LEVEL	* 0.	1. *	_____
9	UTILIZATION RATE, SE TYPE 5, BASE LEVEL	* 0.	1. *	_____
10	UTILIZATION RATE, SE TYPE 5, DEPOT LEVEL	* 0.	1. *	_____
11	UTILIZATION RATE, SE TYPE 6, BASE LEVEL	* 0.	1. *	_____
12	UTILIZATION RATE, SE TYPE 6, DEPOT LEVEL	* 0.	1. *	_____
13	UTILIZATION RATE, SE TYPE 7, BASE LEVEL	* 0.	1. *	_____
14	UTILIZATION RATE, SE TYPE 7, DEPOT LEVEL	* 0.	1. *	_____
15	UTILIZATION RATE, SE TYPE 8, BASE LEVEL	* 0.	1. *	_____
16	UTILIZATION RATE, SE TYPE 8, DEPOT LEVEL	* 0.	1. *	_____
17	UTILIZATION RATE, SE TYPE 9, BASE LEVEL	* 0.	1. *	_____
18	UTILIZATION RATE, SE TYPE 9, DEPOT LEVEL	* 0.	1. *	_____
19	UTILIZATION RATE, SE TYPE 10, BASE LEVEL	* 0.	1. *	_____
20	UTILIZATION RATE, SE TYPE 10, DEPOT LEVEL	* 0.	1. *	_____

* Fixed Limit

SUPPORT EQUIPMENT AND FACILITIES
(Continued)

Support Equipment Usage
(Continued)

		Lower Limit		Upper Limit		Value
21	DOWNTIME, SE TYPE 1 (FRAC)	*	0.	.99	*	
22	DOWNTIME, SE TYPE 2 (FRAC)	*	0.	.99	*	
23	DOWNTIME, SE TYPE 3 (FRAC)	*	0.	.99	*	
24	DOWNTIME, SE TYPE 4 (FRAC)	*	0.	.99	*	
25	DOWNTIME, SE TYPE 5 (FRAC)	*	0.	.99	*	
26	DOWNTIME, SE TYPE 6 (FRAC)	*	0.	.99	*	
27	DOWNTIME, SE TYPE 7 (FRAC)	*	0.	.99	*	
28	DOWNTIME, SE TYPE 8 (FRAC)	*	0.	.99	*	
29	DOWNTIME, SE TYPE 9 (FRAC)	*	0.	.99	*	
30	DOWNTIME, SE TYPE 10 (FRAC)	*	0.	.99	*	

LOGISTICS OPERATIONS

Supply Management Factors

1	NEW REPARABLE ASSEMBLIES IN ITEM (QTY)	*	0	100		
2	NEW CONSUMABLE PARTS IN ITEM (QTY)	*	0	1000		
3	ADDITIONAL PARTS FOR BASE SUPPLY (QTY)	*	0	1000		

* Fixed Limit

LCC2

DISTRIBUTION OF LCC2 DATA ITEMS BY
SECTIONS, SUBSECTIONS AND LEVELS

SECTION / SUBSECTION			Library Level 0	1	2	3
1	WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS					
	1	WEAPON SYSTEM DEPLOYMENT	65*	60*		
	2	MISSION UTILIZATION	1	1		
	3	EQUIPMENT CHARACTERISTICS		6	3	3
2	MAINTENANCE RATES, ACTIVITIES AND COSTS					
	1	RELIABILITY AND MAINTENANCE RATE FACTORS		29*	3	3
	2	LEVEL OF REPAIR		1	5	3
	3	CORRECTIVE ACTION ACTIVITIES AND COSTS		4	4	4
	4	SCHEDULED MAINTENANCE ACTIONS AND COSTS				
3	PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING					
	1	PERSONNEL REQUIREMENTS		1		
	2	PERSONNEL COSTS		4		
4	SPARES-INITIAL AND REPLENISHMENT					
	1	STOCKAGE OBJECTIVES		3		
	2	COMPUTATIONAL TIME FACTORS		10		
5	SUPPORT EQUIPMENT AND FACILITIES					
	1	SUPPORT EQUIPMENT USAGE			10*	10*
	2	SUPPORT EQUIPMENT COSTS		21*		
6	LOGISTICS OPERATIONS					
	1	SUPPLY MANAGEMENT FACTORS	2	1		
	2	TRANSPORTATION FACTORS	2			
	3	TECHNICAL ORDERS	2	6		

* These numbers represent the maximum allowable number of data items. Significantly fewer values may be used to execute the model. See TEACH messages.

LCC2, LEVEL 0

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Weapon System Deployment

		Lower Limit		Upper Limit		Value
1	EXPECTED OPERATIONAL LIFE (YRS)	*	1.	25.	*	
2	SYSTEMS DEPLOYED IN CONUS (QTY)	*	0	1000		
3	SYSTEMS DEPLOYED OVERSEAS (QTY)	*	0	1000		
4	OPERATING BASES IN CONUS (QTY)	*	0	75		
5	OPERATING BASES OVERSEAS (QTY)	*	0	50		
6	NUMBER OF SYSTEMS AT BASE TYPE 1 (QTY)	*	1	100		
7	NUMBER OF TYPE 1 BASES (QTY)	*	1	100		
8	NUMBER OF SYSTEMS AT BASE TYPE 2 (QTY)	*	0	100		
9	NUMBER OF TYPE 2 BASES (QTY)	*	0	100		
10	NUMBER OF SYSTEMS AT BASE TYPE 3 (QTY)	*	0	100		
11	NUMBER OF TYPE 3 BASES (QTY)	*	0	100		
12	NUMBER OF SYSTEMS AT BASE TYPE 4 (QTY)	*	0	100		
13	NUMBER OF TYPE 4 BASES (QTY)	*	0	100		
14	NUMBER OF SYSTEMS AT BASE TYPE 5 (QTY)	*	0	100		
15	NUMBER OF TYPE 5 BASES (QTY)	*	0	100		
16	NUMBER OF SYSTEMS AT BASE TYPE 6 (QTY)	*	0	100		
17	NUMBER OF TYPE 6 BASES (QTY)	*	0	100		
18	NUMBER OF SYSTEMS AT BASE TYPE 7 (QTY)	*	0	100		
19	NUMBER OF TYPE 7 BASES (QTY)	*	0	100		
20	NUMBER OF SYSTEMS AT BASE TYPE 8 (QTY)	*	0	100		
21	NUMBER OF TYPE 8 BASES (QTY)	*	0	100		
22	NUMBER OF SYSTEMS AT BASE TYPE 9 (QTY)	*	0	100		
23	NUMBER OF TYPE 9 BASES (QTY)	*	0	100		
24	NUMBER OF SYSTEMS AT BASE TYPE 10 (QTY)	*	0	100		
25	NUMBER OF TYPE 10 BASES (QTY)	*	0	100		
26	NUMBER OF SYSTEMS AT BASE TYPE 11 (QTY)	*	0	100		
27	NUMBER OF TYPE 11 BASES (QTY)	*	0	100		

* - Fixed Limit

LCC2, LEVEL 0 (Continued)

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS
(Continued)

Weapon System Deployment
(Continued)

	Lower Limit	Upper Limit	Value
28 NUMBER OF SYSTEMS AT BASE TYPE 12 (QTY)*	0	100	
29 NUMBER OF TYPE 12 BASES (QTY) *	0	100	
30 NUMBER OF SYSTEMS AT BASE TYPE 13 (QTY)*	0	100	
31 NUMBER OF TYPE 13 BASES (QTY) *	0	100	
32 NUMBER OF SYSTEMS AT BASE TYPE 14 (QTY)*	0	100	
33 NUMBER OF TYPE 14 BASES (QTY) *	0	100	
34 NUMBER OF SYSTEMS AT BASE TYPE 15 (QTY)*	0	100	
35 NUMBER OF TYPE 15 BASES (QTY) *	0	100	
36 NUMBER OF SYSTEMS AT BASE TYPE 16 (QTY)*	0	100	
37 NUMBER OF TYPE 16 BASES (QTY) *	0	100	
38 NUMBER OF SYSTEMS AT BASE TYPE 17 (QTY)*	0	100	
39 NUMBER OF TYPE 17 BASES (QTY) *	0	100	
40 NUMBER OF SYSTEMS AT BASE TYPE 18 (QTY)*	0	100	
41 NUMBER OF TYPE 18 BASES (QTY) *	0	100	
42 NUMBER OF SYSTEMS AT BASE TYPE 19 (QTY)*	0	100	
43 NUMBER OF TYPE 19 BASES (QTY) *	0	100	
44 NUMBER OF SYSTEMS AT BASE TYPE 20 (QTY)*	0	100	
45 NUMBER OF TYPE 20 BASES (QTY) *	0	100	
46 NUMBER OF SYSTEMS AT BASE TYPE 21 (QTY)*	0	100	
47 NUMBER OF TYPE 21 BASES (QTY) *	0	100	
48 NUMBER OF SYSTEMS AT BASE TYPE 22 (QTY)*	0	100	
49 NUMBER OF TYPE 22 BASES (QTY) *	0	100	
50 NUMBER OF SYSTEMS AT BASE TYPE 23 (QTY)*	0	100	
51 NUMBER OF TYPE 23 BASES (QTY) *	0	100	
52 NUMBER OF SYSTEMS AT BASE TYPE 24 (QTY)*	0	100	
53 NUMBER OF TYPE 24 BASES (QTY) *	0	100	
54 NUMBER OF SYSTEMS AT BASE TYPE 25 (QTY)*	0	100	

* - Fixed Limit

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Continued)

Weapon System Deployment (Continued)

		Lower Limit	Upper Limit	Value
55	NUMBER OF TYPE 25 BASES (QTY)	* 0	100	
56	NUMBER OF SYSTEMS AT BASE TYPE 26 (QTY)	* 0	100	
57	NUMBER OF TYPE 26 BASES (QTY)	* 0	100	
58	NUMBER OF SYSTEMS AT BASE TYPE 27 (QTY)	* 0	100	
59	NUMBER OF TYPE 27 BASES (QTY)	* 0	100	
60	NUMBER OF SYSTEMS AT BASE TYPE 28 (QTY)	* 0	100	
61	NUMBER OF TYPE 28 BASES (QTY)	* 0	100	
62	NUMBER OF SYSTEMS AT BASE TYPE 29 (QTY)	* 0	100	
63	NUMBER OF TYPE 29 BASES (QTY)	* 0	100	
64	NUMBER OF SYSTEMS AT BASE TYPE 30 (QTY)	* 0	100	
65	NUMBER OF TYPE 30 BASES (QTY)	* 0	100	

Mission Utilization

1	PEACETIME FLYING (HOURS/SYSTEM/ MONTH)	* 1.	730. *	

LOGISTICS OPERATIONS

Supply Management Factors

1	INITIAL DATA MGT COST, ($/COPY/PAGE)	* 0.	5.	
2	DATA MGT COST ($/PAGE/YR)	* 0.	200.	

* - Fixed Limit

LCC2, LEVEL 0 (Continued)

LOGISTICS OPERATIONS
(Continued)

Transportation Factors

			Lower Limit	Upper Limit	Value
1	PACKING AND SHIPPING, (CONUS($/LB)	*	0.	1.	_____
2	PACKING AND SHIPPING, OVERSEAS($/LB)	*	0.	2.	_____

Technical Orders

1	INITIAL ITEM MGT ENTRY COST ($/NEW ITEM)	*	0.	70.	_____
2	*RECURRING ITEM MGT COST ($/ITEM/YR)*	*	0.	150.	_____

* - Fixed Limit

LCC2, LEVEL 1

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Weapon System Deployment

		Lower Limit	Upper Limit	Value
6	SYSTEMS ACTIVATED IN MONTH 1 (QTY)	* 1	100	
7	SYSTEMS ACTIVATED IN MONTH 2 (QTY)	* 0	100	
8	SYSTEMS ACTIVATED IN MONTH 3 (QTY)	* 0	100	
9	SYSTEMS ACTIVATED IN MONTH 4 (QTY)	* 0	100	
10	SYSTEMS ACTIVATED IN MONTH 5 (QTY)	* 0	100	
11	SYSTEMS ACTIVATED IN MONTH 6 (QTY)	* 0	100	
12	SYSTEMS ACTIVATED IN MONTH 7 (QTY)	* 0	100	
13	SYSTEMS ACTIVATED IN MONTH 8 (QTY)	* 0	100	
14	SYSTEMS ACTIVATED IN MONTH 9 (QTY)	* 0	100	
15	SYSTEMS ACTIVATED IN MONTH 10 (QTY)	* 0	100	
16	SYSTEMS ACTIVATED IN MONTH 11 (QTY)	* 0	100	
17	SYSTEMS ACTIVATED IN MONTH 12 (QTY)	* 0	100	
18	SYSTEMS ACTIVATED IN MONTH 13 (QTY)	* 0	100	
19	SYSTEMS ACTIVATED IN MONTH 14 (QTY)	* 0	100	
20	SYSTEMS ACTIVATED IN MONTH 15 (QTY)	* 0	100	
21	SYSTEMS ACTIVATED IN MONTH 16 (QTY)	* 0	100	
22	SYSTEMS ACTIVATED IN MONTH 17 (QTY)	* 0	100	
23	SYSTEMS ACTIVATED IN MONTH 18 (QTY)	* 0	100	
24	SYSTEMS ACTIVATED IN MONTH 19 (QTY)	* 0	100	
25	SYSTEMS ACTIVATED IN MONTH 20 (QTY)	* 0	100	
26	SYSTEMS ACTIVATED IN MONTH 21 (QTY)	* 0	100	
27	SYSTEMS ACTIVATED IN MONTH 22 (QTY)	* 0	100	
28	SYSTEMS ACTIVATED IN MONTH 23 (QTY)	* 0	100	
29	SYSTEMS ACTIVATED IN MONTH 24 (QTY)	* 0	100	
30	SYSTEMS ACTIVATED IN MONTH 25 (QTY)	* 0	100	
31	SYSTEMS ACTIVATED IN MONTH 26 (QTY)	* 0	100	
32	SYSTEMS ACTIVATED IN MONTH 27 (QTY)	* 0	100	

* - Fixed Limit

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Continued)

Weapon System Deployment (Continued)

	Lower Limit	Upper Limit	Value
33 SYSTEMS ACTIVATED IN MONTH 28 (QTY)	* 0	100	
34 SYSTEMS ACTIVATED IN MONTH 29 (QTY)	* 0	100	
35 SYSTEMS ACTIVATED IN MONTH 30 (QTY)	* 0	100	
36 SYSTEMS ACTIVATED IN MONTH 31 (QTY)	* 0	100	
37 SYSTEMS ACTIVATED IN MONTH 32 (QTY)	* 0	100	
38 SYSTEMS ACTIVATED IN MONTH 33 (QTY)	* 0	100	
39 SYSTEMS ACTIVATED IN MONTH 34 (QTY)	* 0	100	
40 SYSTEMS ACTIVATED IN MONTH 35 (QTY)	* 0	100	
41 SYSTEMS ACTIVATED IN MONTH 36 (QTY)	* 0	100	
42 SYSTEMS ACTIVATED IN MONTH 37 (QTY)	* 0	100	
43 SYSTEMS ACTIVATED IN MONTH 38 (QTY)	* 0	100	
44 SYSTEMS ACTIVATED IN MONTH 39 (QTY)	* 0	100	
45 SYSTEMS ACTIVATED IN MONTH 40 (QTY)	* 0	100	
46 SYSTEMS ACTIVATED IN MONTH 41 (QTY)	* 0	100	
47 SYSTEMS ACTIVATED IN MONTH 42 (QTY)	* 0	100	
48 SYSTEMS ACTIVATED IN MONTH 43 (QTY)	* 0	100	
49 SYSTEMS ACTIVATED IN MONTH 44 (QTY)	* 0	100	
50 SYSTEMS ACTIVATED IN MONTH 45 (QTY)	* 0	100	
51 SYSTEMS ACTIVATED IN MONTH 46 (QTY)	* 0	100	
52 SYSTEMS ACTIVATED IN MONTH 47 (QTY)	* 0	100	
53 SYSTEMS ACTIVATED IN MONTH 48 (QTY)	* 0	100	
54 SYSTEMS ACTIVATED IN MONTH 49 (QTY)	* 0	100	
55 SYSTEMS ACTIVATED IN MONTH 50 (QTY)	* 0	100	
56 SYSTEMS ACTIVATED IN MONTH 51 (QTY)	* 0	100	
57 SYSTEMS ACTIVATED IN MONTH 52 (QTY)	* 0	100	
58 SYSTEMS ACTIVATED IN MONTH 53 (QTY)	* 0	100	
59 SYSTEMS ACTIVATED IN MONTH 54 (QTY)	* 0	100	

* - Fixed Limit

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Continued)

Weapon System Deployment (Continued)

		Lower Limit	Upper Limit	Value
60	SYSTEMS ACTIVATED IN MONTH 55 (QTY)	* 0	100	
61	SYSTEMS ACTIVATED IN MONTH 56 (QTY)	* 0	100	
62	SYSTEMS ACTIVATED IN MONTH 57 (QTY)	* 0	100	
63	SYSTEMS ACTIVATED IN MONTH 58 (QTY)	* 0	100	
64	SYSTEMS ACTIVATED IN MONTH 59 (QTY)	* 0	100	
65	SYSTEMS ACTIVATED IN MONTH 60 (QTY)	* 0	100	

Mission Utilization

1	OPERATING HOUR/FLYING HOUR FACTOR	* .1	2.5	

Equipment Characteristics

2	SYSTEM ACQUISITION COST, INITIAL ($/UNIT)	* 0.	250000.	
4	INSTALLATION COST PER SYSTEM ($)	* 0.	10000.	
5	WARRANTY COST, TOTAL ($)	* 0.	2.00E+7	
6	DISCOUNT FACTOR (FRAC)	* 0.	.25 *	
7	WARRANTY PERIOD (YEARS)	* 0	25*	
8	SYSTEM WEIGHT (LBS)	* 0.	300.	

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)	* 0.	10000.	
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	

* - Fixed Limit

MAINTENANCE RATES, ACTIVITIES AND COSTS (Continued)

Reliability and Maintenance Rate Factors (Continued)

		Lower Limit		Upper Limit		Value
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	*	0.	1.	*	
6	NO DEFECT FOUND FRAC OF CORR MAINT ACTS	*	0.	1.	*	
7	RELIABILITY PROFILE FACTOR, YR 1 (YR 0=1.)	*	.1	10.		
8	RELIABILITY PROFILE FACTOR, YR 2	*	.1	10.		
9	RELIABILITY PROFILE FACTOR, YR 3	*	.1	10.		
10	RELIABILITY PROFILE FACTOR, YR 4	*	.1	10.		
11	RELIABILITY PROFILE FACTOR, YR 5	*	.1	10.		
12	RELIABILITY PROFILE FACTOR, YR 6	*	.1	10.		
13	RELIABILITY PROFILE FACTOR, YR 7	*	.1	10.		
14	RELIABILITY PROFILE FACTOR, YR 8	*	.1	10.		
15	RELIABILITY PROFILE FACTOR, YR 9	*	.1	10.		
16	RELIABILITY PROFILE FACTOR, YR 10	*	.1	10.		
17	RELIABILITY PROFILE FACTOR, YR 11	*	.1	10.		
18	RELIABILITY PROFILE FACTOR, YR 12	*	.1	10.		
19	RELIABILITY PROFILE FACTOR, YR 13	*	.1	10.		
20	RELIABILITY PROFILE FACTOR, YR 14	*	.1	10.		
21	RELIABILITY PROFILE FACTOR, YR 15	*	.1	10.		
22	RELIABILITY PROFILE FACTOR, YR 16	*	.1	10.		
23	RELIABILITY PROFILE FACTOR, YR 17	*	.1	10.		
24	RELIABILITY PROFILE FACTOR, YR 18	*	.1	10.		
25	RELIABILITY PROFILE FACTOR, YR 19	*	.1	10.		
26	RELIABILITY PROFILE FACTOR, YR 20	*	.1	10.		
27	RELIABILITY PROFILE FACTOR, YR 21	*	.1	10.		
28	RELIABILITY PROFILE FACTOR, YR 22	*	.1	10.		

* - Fixed Limit

MAINTENANCE RATES, ACTIVITIES AND COSTS (Continued)

Reliability and Maintenance Rate Factors (Continued)

			Lower Limit	Upper Limit	Value
29	RELIABILITY PROFILE FACTOR, YR 23	*	.1	10.	
30	RELIABILITY PROFILE FACTOR, YR 24	*	.1	10.	
31	RELIABILITY PROFILE FACTOR, YR 25	*	.1	10.	

Level of Repair

3	SYS FAILURES FIXED BY LRU REMOVAL (FRAC)	*	0.	1.*	

Corrective Action Activities and Costs

5	REPAIR TIME, ON EQUIP (MHRS)	*	0.	4.	
6	MATERIAL COST PER ON-EQUIP REPAIR ($)	*	0.	100.	
7	MATERIAL COST/LABOR HOUR, BASE ($/HR)	*	0.	20.	
8	MATERIAL COST/LABOR HOUR, DEPOT ($/HR)	*	0.	20.	

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING

Personnel Requirements

4	NUMBER OF 8 HR SHIFTS/DAY, DEPOT (QTY)	*	1	3*	

Personnel Costs

1	MAINTENANCE LABOR RATE, BASE LEVEL ($/MHR)	*	0.	25.	
2	MAINTENANCE LABOR RATE, DEPOT ($/MHR)	*	0.	35.	

* - Fixed Limit

LCC2, LEVEL 1 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING (Continued)

Personnel Costs (Continued)

		Lower Limit	Upper Limit	Value
13	TRNG COST OF BASE LEVEL SKILLS (TOTAL $)	* 0.	50000.	
14	TRNG COST OF DEPOT LEVEL SKILLS (TOTAL $)	* 0.	25000.	

SPARES-INITIAL AND REPLENISHMENT

Stockage Objectives

		Lower Limit	Upper Limit	Value
1	SPARES OBJECTIVE, HDW LEVEL 2 ITEMS (FRAC)	* .01	.99	
2	SPARES OBJECTIVE, HDW LEVEL 3 ITEMS (FRAC)	* .01	.99	
4	DEPOT SAFETY STOCK OBJECTIVE (FRAC)	* .01	.99	

Computational Time Factors

		Lower Limit	Upper Limit	Value
1	BASE REPAIR CYCLE TIME (DAYS)	* 0.	15.	
3	DEPOT REPAIR CYCLE TIME (DAYS)	* 0.	60.	
4	DEPOT REPAIR CYCLE FOR RTS REPAIR (DAYS)	* 0.	30.	
5	CONTRACTOR REPAIR CYCLE TIME (DAYS)	* 0.	80.	
6	ORDER AND SHIPPING TIME, CONUS (DAYS)	* 0.	30.	
7	ORDER AND SHIPPING TIME, OVERSEAS (DAYS)	* 0.	30.	
8	CONTRACTOR ORDER/SHIP TIME, CONUS (DAYS)	* 0.	45.	

* - Fixed Limit

SPARES-INITIAL AND REPLENISHMENT (Continued)

Computational Time Factors (Continued)

		Lower Limit	Upper Limit	Value
9	CONTRACTOR ORDER/SHIP TIME, OVERSEAS (DAYS)	* 0.	45.	
11	TRANSPORT TIME, BASE-DEPOT, CONUS (DAYS)	* 0.	30.	
12	TRANSPORT TIME, BASE-DEPOT, OVERSEAS (DAYS)	* 0.	45.	

SUPPORT EQUIPMENT AND FACILITIES

Support Equipment Costs

1	NUMBER OF SE TYPES REQUIRED (QTY)	* 0	10*	
3	COST/SET OF SE TYPE 1 ($)	* 0.	100000.	
4	ANNUAL COST, SE TYPE 1 (FRAC OF COST/SET)	* 0.	1. *	
5	COST/SET OF SE TYPE 2 ($)	* 0.	100000.	
6	ANNUAL COST, SE TYPE 2 (FRAC OF COST/SET)	* 0.	1. *	
7	COST/SET OF SE TYPE 3 (R)	* 0.	100000.	
8	ANNUAL COST, SE TYPE 3 (FRAC OF COST/SET)	* 0.	1. *	
9	COST/SET OF SE TYPE 4 ($)	* 0.	100000.	
10	ANNUAL COST, SE TYPE 4 (FRAC OF COST/SET)	* 0.	1. *	
11	COST/SET OF SE TYPE 5 ($)	* 0.	100000.	
12	ANNUAL COST, SE TYPE 5 (FRAC OF COST/SET)	* 0.	1. *	
13	COST/SET OF SE TYPE 6 ($)	* 0.	100000.	
14	ANNUAL COST, SE TYPE 6 (FRAC OF COST/SET)	* 0.	1. *	

* - Fixed Limit

SUPPORT EQUIPMENT AND FACILITIES
(Continued)

Support Equipment Costs
(Continued)

		Lower Limit	Upper Limit	Value
15	COST/SET OF SE TYPE 7 ($)	* 0.	100000.	
16	ANNUAL COST, SE TYPE 7 (FRAC OF COST/SET)	* 0.	1.	
17	COST/SET OF SE TYPE 8 ($)	* 0.	100000.	
18	ANNUAL COST, SE TYPE 8 (FRAC OF COST/SET)	* 0.	1.*	
19	COST/SET OF SE TYPE 9 ($)	* 0.	100000.	
20	ANNUAL COST, SE TYPE 9 (FRAC OF COST/SET)	* 0.	1. *	
21	COST/SET OF SE TYPE 10 ($)	* 0.	100000. *	
22	ANNUAL COST, SE TYPE 10 (FRAC OF COST/SET)	* 0.	1. *	

LOGISTICS OPERATIONS

Supply Management Factors

1	NUMBER OF NEW INVENTORY ITEMS (QTY)	* 0	1000	

Technical Orders

1	BASE LEVEL DATA ACQUISITION COST ($)	* 0.	1.00E+6	
2	DEPOT LEVEL DATA ACQUISITION COST ($)	* 0.	1.00E+6	
3	OTHER DATA ACQUISITION COST ($)	* 0.	1.00E+6	
4	PAGES OF BASE LEVEL DATA (QTY)	* 0	1000	
5	PAGES OF DEPOT LEVEL DATA (QTY)	* 0	1000	
6	PAGES OF OTHER DATA (QTY)	* 0	1000	

* - Fixed Limit

LCC2, LEVEL 2

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Equipment Characteristics

			Lower Limit		Upper Limit		Value
1	ITEM ACQUISITION COST, SPARES($/UNIT)	*	0.		1.00E+6		
2	ITEM WEIGHT (LBS)	*	0.		100.		
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	*	1		10		

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)	*	0.		10000.		
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	*	0.		1.	*	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	*	0.		1.	*	

Level of Repair

3	LEVEL OF FAULT VERIFICATION (1 THRU 4)	*	1		4	*	
4	LEVEL OF REPAIR (0 THRU 4, 0=CONDEMNED)	*	0		4	*	
5	ITEM REMOVALS NRTS (FRAC)	*	0.		1.	*	
6	ITEM REMOVALS CONDEMNED (FRAC)	*	0.		1.	*	
7	ITEM REMOVALS RETEST OK (FRAC)	*	0.		1.	*	

* - Fixed Limit

MAINTENANCE RATES, ACTIVITIES AND COSTS (Continued)

Corrective Action Activities and Costs

		Lower Limit	Upper Limit	Value
5	REMOVE, REPLACE, CHECKOUT, ON-EQUIP (MHRS)	* 0.	5.	
6	STATE VERIFICATION TIME, BENCH CHECK (MHRS)	* 0.	5.	
8	REPAIR TIME, DEPOT (MHRS)	* 0.	20.	
9	MATERIAL COST/OFF-EQUIPMENT REPAIR ($)	* 0.	100.	

SUPPORT EQUIPMENT AND FACILITIES

Support Equipment Usage

		Lower Limit	Upper Limit	Value
31	INDEX OF SE TYPE TO VERIFY STATE (0-10)	* 0	10*	
32	USAGE OF SE TO VERIFY STATE (HRS)	* 0.	24.	
33	INDEX OF SE TYPE 1 USED IN REPAIR (0-10)	* 0	10*	
34	USAGE OF SE TYPE 1 TO REPAIR ITEM (HRS)	* 0.	24.	
35	INDEX OF SE TYPE 2 USED IN REPAIR (0-10)	* 0	10*	
36	USAGE OF SE TYPE 2 TO REPAIR ITEM (HRS)	* 0.	24.	
37	INDEX OF SE TYPE 3 USED IN REPAIR (0-10)	* 0	10*	
38	USAGE OF SE TYPE 3 TO REPAIR ITEM (HRS)	* 0.	24.	

*Fixed Limit

SUPPORT EQUIPMENT AND FACILITIES
(Continued)

		Lower Limit	Upper Limit	Value
39	INDEX OF SE TYPE 4 USED IN REPAIR (0-10)	* 0	10 *	
40	USAGE OF SE TYPE 4 TO REPAIR ITEM (HRS)	* 0.	24.	

* Fixed Limit

LCC2, LEVEL 3

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Equipment Characteristics

		Lower Limit	Upper Limit	Value
1	ITEM ACQUISITION COST, SPARES ($/UNIT)	* 0.	1.00E+6	
2	ITEM WEIGHT (LBS)	* 0.	50.	
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	* 1	10	

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)	0.	10000.	
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	

Level of Repair

3	LEVEL OF FAULT VERIFICATION (1 THRU 4)	* 1	4 *	
6	ITEM REMOVALS CONDEMNED (FRAC)	* 0.	1. *	
7	ITEM REMOVALS RETEST OK (FRAC)	* 0.	1. *	

Corrective Action Activities and Costs

2	STATE VERIFICATION TIME, BENCH CHECK (MHRS)	* 0.	6.	
3	REMOVE, REPLACE, CHECKOUT OF NHA (MHRS)	* 0.	6.	
4	REPAIR TIME, OFF-EQUIPMENT OR DEPOT (MHRS)	* 0.	8.	

* Fixed Limit

MAINTENANCE RATES, ACTIVITIES AND COSTS (Continued)

Corrective Action Activities and Costs (Continued)

		Lower Limit	Upper Limit	Value
5	MATERIAL COST/OFF-EQUIPMENT REPAIR ($) *	0.	100.	

SUPPORT EQUIPMENT AND FACILITIES

Support Equipment Usage

1	INDEX OF SE TYPE TO VERIFY STATE (1-10)	*	0	10 *	
2	USAGE OF SE TO VERIFY STATE (HRS)	*	0.	24.	
3	INDEX OF SE TYPE 1 USED IN REPAIR (1-10)	*	0	10 *	
4	USAGE OF SE TYPE 1 TO REPAIR ITEMS (HRS)	*	0.	24.	
5	INDEX OF SE TYPE 2 USED IN REPAIR (1-10)	*	0	10 *	
6	USAGE OF SE TYPE 2 TO REPAIR ITEM (HRS)	*	0.	24.	
7	INDEX OF SE TYPE 3 USED IN REPAIR (1-10)	*	0	10 *	
8	USAGE OF SE TYPE 3 TO REPAIR ITEM (HRS)	*	0.	24.	
9	INDEX OF SE TYPE 4 USED IN REPAIR (1-10)	*	0	10 *	
10	USAGE OF SE TYPE 4 TO REPAIR ITEM (HRS)	*	0.	24.	

* Fixed Limit

LCC2 LEVEL 3 (Continued)

SPARES-INITIAL AND REPLENISHMENT

Computational Time Factors

		Lower Limit		Upper Limit	Value
1	BASE REPAIR CYCLE TIME (DAYS)	*	0.	15.	_____
2	DEPOT REPAIR CYCLE TIME (DAYS)	*	0.	60.	_____
3	PROCUREMENT LEAD TIME (MONTHS)	*	0.	36.	_____

* Fixed Limit

GEMM

DISTRIBUTION OF GEMM DATA ITEMS BY
SECTIONS, SUBSECTIONS AND LEVELS

SECTION / SUBSECTION		Library Level 0	1	2	3	4
1	WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS					
	1 WEAPON SYSTEM DEPLOYMENT	2	4			
	2 MISSION UTILIZATION	1	2			
	3 EQUIPMENT CHARACTERISTICS		4	3	3	2
2	MAINTENANCE RATES, ACTIVITIES AND COSTS					
	1 RELIABILITY AND MAINTENANCE RATE FACTORS		3	4	4	3
	2 LEVEL OF REPAIR		1	1	1	
	3 CORRECTIVE ACTION ACTIVITIES AND COSTS		2	1	1	
	4 SCHEDULED MAINTENANCE ACTIONS AND COSTS		1	1	1	
3	PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING					
	1 PERSONNEL REQUIREMENTS	5	15	4	4	
	2 PERSONNEL COSTS		14			
4	SPARES-INITIAL AND REPLENISHMENT					
	1 STOCKAGE OBJECTIVES		3			
	2 COMPUTATIONAL TIME FACTORS		26			
5	SUPPORT EQUIPMENT AND FACILITIES					
	1 SUPPORT EQUIPMENT USAGE		5	4	4	
	2 SUPPORT EQUIPMENT COSTS		22			
6	LOGISTICS OPERATIONS					
	1 SUPPLY MANAGEMENT FACTORS		1			
	2 TRANSPORTATION FACTORS	2				
	3 TECHNICAL ORDERS	1	3			

GEMM, LEVEL 0

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Section 1)

Weapon System Deployment (Subsection 1)

		Lower Limit		Upper Limit		Value
1	EXPECTED OPERATIONAL LIFE (YRS)	*	1.	25.	*	
2	SYSTEMS DEPLOYED IN CONUS (QTY)	*	0	1000		
	SYSTEMS DEPLOYED OVERSEAS (QTY)	*	0	1000		

Mission Utilization (Subsection 2)

1	PEACETIME FLYING (HOURS/SYSTEM/ MONTH)	*	1.	730.	*	

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING (Section 3)

Personnel Requirements (Subsection 1)

23	RETRAINING INTERVAL, FLT TIME LINE LEVEL (YRS)	*	.1	25.		
24	RETRAINING INTERVAL, BASE LEVEL (YRS)	*	.1	25.		
25	RETRAINING INTERVAL, THEATRE LEVEL (YRS)	*	.1	25.		
26	RETRAINING INTERVAL, DEPOT LEVEL (YRS)	*	.1	25.		
27	PRODUCTIVITY AT LEVELS BELOW DEPOT (FRAC)	*	.1	1.	*	

LOGISTICS OPERATIONS (Section 6)

Transportation Factors (Subsection 2)

1	PACKING AND SHIPPING, CONUS ($/LB)	*	0.	1.		
2	PACKING AND SHIPPING, OVERSEAS ($/LB)	*	0.	2.		

* Fixed Limit

GEMM, LEVEL 0 (Continued)

LOGISTICS OPERATIONS

Technical Orders

		Lower Limit	Upper Limit	Value
3	INITIAL COST OF TECH ORDERS ($/PAGE)	* 0.	300.	_____

* Fixed Limit

GEMM, LEVEL 1

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Weapon System Deployment

		Lower Limit	Upper Limit	Value
1	ORGANIZATIONAL MAINTENANCE POINTS (QTY)	* 1	100	
2	INTERMEDIATE MAINTENANCE POINTS (QTY)	* 0	80	
3	THEATRE LEVEL DEPOT POINTS (QTY)	* 0	0	
4	DEPOT MAINTENANCE POINTS (QTY)	* 1	1	

Mission Utilization

1	OPERATING HOUR/FLYING HOUR FACTOR	*	.1	2.5	
2	DAYS/YEAR OF SYSTEM OPERATION	*	1.	366. *	

Equipment Characteristics

1	SYSTEM RESEARCH AND DEVELOPMENT COST ($)	*	0.	1.00E+7	
2	SYSTEM ACQUISITION COST, INITIAL ($/UNIT)	*	0.	250000.	
3	SYSTEM ACQUISITION COST, SPARES ($/UNIT)	*	1.	250000.	
8	SYSTEM WEIGHT (LBS)	*	0.	300.	

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)	0.	10000.	
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)	0.	100000	

* - Fixed Limit

GEMM, LEVEL 1 (Continued)

MAINTENANCE RATES, ACTIVITIES AND COSTS
(Continued)

Reliability and Maintenance Rate Factors
(Continued)

		Lower Limit	Upper Limit	Value
6	NO DEFECT FOUND FRAC OF CORR MAINT ACTS	* 0.	1. *	
	Level of Repair			
2	LEVEL OF REPAIR OF REMOVED SYS (0-4)	* 0	4 *	
	Corrective Action Activities and Costs			
1	MEAN TIME TO CHECKOUT SYSTEM (HRS)	* 0.	4.	
2	MEAN TIME TO REPAIR (HRS)	* 0.	10.	
	Scheduled Maintenance Actions and Costs			
2	OVERHAUL COST ($)	* 0.	10000.	
	PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING			
	Personnel Requirements			
1	NUMBER OF 8 HR SHIFTS/DAY, FLT LINE (QTY)	* 1	3 *	
2	NUMBER OF 8 HR SHIFTS/DAY, BASE (QTY)	* 1	3 *	

* Fixed Limit

GEMM, LEVEL 1 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING
(Continued)

Personnel Requirements
(Continued)

		Lower Limit		Upper Limit		Value
3	NUMBER OF 8 HR SHIFTS/DAY, THEATRE (QTY)	*	1	3	*	
4	NUMBER OF 8 HR SHIFTS/DAY, DEPOT (QTY)	*	1	3	*	
7	NUMBER OF MANPOWER SKILL TYPES (QTY)	*	0	10	*	
8	NUMBER OF DEDICATED MANPOWER TYPES (QTY)	*	0	10	*	
9	INDEX OF SKILL TYPE 1 USED TO CHECK SYS	*	0	10	*	
10	INDEX OF SKILL TYPE 2 USED TO CHECK SYS	*	0	10	*	
11	INDEX OF SKILL TYPE 3 USED TO CHECK SYS	*	0	10	*	
12	INDEX OF SKILL TYPE 4 USED TO CHECK SYS	*	0	10	*	
13	INDEX OF SKILL TYPE 1 USED TO REPAIR SYS	*	0	10	*	
14	INDEX OF SKILL TYPE 2 USED TO REPAIR SYS	*	0	10	*	
15	INDEX OF SKILL TYPE 3 USED TO REPAIR SYS	*	0	10	*	
16	INDEX OF SKILL TYPE 4 USED TO REPAIR SYS	*	0	10	*	
17	DEPOT MAINTENANCE FACTOR (REVERSE RATIO)	*	0.	1.	*	

* Fixed Limit

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING
(Continued)

Personnel Costs

		Lower Limit	Upper Limit	Value
1	MAINTENANCE LABOR RATE, BASE LEVEL ($/MHR)	* 0.	25.	
2	MAINTENANCE LABOR RATE, DEPOT ($/MHR)	* 0.	35.	
3	TRAINING COST OF SKILL TYPE 1, ($/MAN)	* 0.	2000.	
4	TRAINING COST OF SKILL TYPE 2, ($/MAN)	* 0.	2000.	
5	TRAINING COST OF SKILL TYPE 3, ($/MAN)	* 0.	2000.	
6	TRAINING COST OF SKILL TYPE 4, ($/MAN)	* 0.	2000.	
7	TRAINING COST OF SKILL TYPE 5, ($/MAN)	* 0.	2000.	
8	TRAINING COST OF SKILL TYPE 6, ($/MAN)	* 0.	2000.	
9	TRAINING COST OF SKILL TYPE 7, ($/MAN)	* 0.	2000.	
10	TRAINING COST OF SKILL TYPE 8, ($/MAN)	* 0.	2000.	
11	TRAINING COST OF SKILL TYPE 9, ($/MAN)	* 0.	2000.	
12	TRAINING COST OF SKILL TYPE 10 ($/MAN)	* 0.	2000.	
15	TRNG COST OF BASE LEVEL SKILLS ($/MAN)	* 0	5000.	
16	TRNG COST OF DEPOT LEVEL SKILLS ($/MAN)	* 0	5000.	

* Fixed Limit

GEMM, LEVEL 1 (Continued)

SPARES-INITIAL AND REPLENISHMENT

Stockage Objectives

		Lower Limit		Upper Limit		Value
1	SPARES OBJECTIVE, HDW LEVEL 2 ITEMS (FRAC)	*	.01	.99		
2	SPARES OBJECTIVE, HDW LEVEL 3 ITEMS (FRAC)	*	.01	.99		
3	SPARES OBJECTIVE, HDW LEVEL 4 ITEMS (FRAC)	*	.01	.99		

Computational Time Factors

1	BASE REPAIR CYCLE TIME (DAYS)	*	0.	15.		
2	THEATRE REPAIR CYCLE TIME (DAYS)	*	0.	30.		
3	DEPOT REPAIR CYCLE TIME (DAYS)	*	0.	60.		
10	PROCUREMENT LEAD TIME, CONSUMABLES (MNTHS)	*	0.	18.		
11	TRANSPORT TIME, BASE-DEPOT, CONUS (DAYS)	*	0.	30.		
12	TRANSPORT TIME, BASE-DEPOT, OVERSEAS (DAYS)	*	0.	45.		
13	TRANSPORT TIME, BASE-THEATRE (DAYS)	*	0.	30.		
14	TRANSPORT TIME, THEATRE-DEPOT (DAYS)	*	0.	10.		
15	ATTRITION FACTOR, HDW LEVEL 1-SYS (FRAC)	*	0.	1.	*	
16	ATTRITION FACTOR, HDW LEVEL 2-LRU (FRAC)	*	0.	1.	*	
17	ATTRITION FACTOR, HDW LEVEL 3-SRU (FRAC)	*	0.	1.	*	
18	ATTRITION FACTOR, HDW LEVEL 4-PART (FRAC)	*	0.	1.	*	
19	REQUISITION TIME, FLT LINE-DEPOT (DAYS)	*	0.	30.		

* Fixed Limit

GEMM, LEVEL 1 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING
(Continued)

Personnel Costs

		Lower Limit		Upper Limit	Value
1	MAINTENANCE LABOR RATE, BASE LEVEL ($/MHR)	*	0.	25.	
2	MAINTENANCE LABOR RATE, DEPOT ($/MHR)	*	0.	35.	
3	TRAINING COST OF SKILL TYPE 1, ($/MAN)	*	0.	2000.	
4	TRAINING COST OF SKILL TYPE 2, ($/MAN)	*	0.	2000.	
5	TRAINING COST OF SKILL TYPE 3, ($/MAN)	*	0.	2000.	
6	TRAINING COST OF SKILL TYPE 4, ($/MAN)	*	0.	2000.	
7	TRAINING COST OF SKILL TYPE 5, ($/MAN)	*	0.	2000.	
8	TRAINING COST OF SKILL TYPE 6, ($/MAN)	*	0.	2000.	
9	TRAINING COST OF SKILL TYPE 7, ($/MAN)	*	0.	2000.	
10	TRAINING COST OF SKILL TYPE 8, ($/MAN)	*	0.	2000.	
11	TRAINING COST OF SKILL TYPE 9, ($/MAN)	*	0.	2000.	
12	TRAINING COST OF SKILL TYPE 10, ($/MAN)	*	0.	2000.	
15	TRNG COST OF BASE LEVEL SKILLS ($/MAN)	*	0.	5000.	
16	TRNG COST OF DEPOT LEVEL SKILLS ($/MAN)	*	0.	5000.	

* Fixed Limit

SPARES-INITIAL AND REPLENISHMENT (Continued)

Computational Time Factors (Continued)

			Lower Limit	Upper Limit		Value
20	REQUISITION TIME, BASE DEPOT (DAYS)	*	0.	30.		
21	REQUISITION TIME, THEATRE-DEPOT (DAYS)	*	0.	30.		
22	REQUISITION TIME, INTRA-DEPOT (DAYS)	*	0.	10.		
23	AWAITING MAINT TIME, FLT LINE (DAYS)	*	0.	2.		
24	AWAITING MAINT TIME, BASE (DAYS)	*	0.	10.		
25	AWAITING MAINT TIME, THEATRE (DAYS)	*	0.	20.		
26	AWAITING MAINT TIME, DEPOT (DAYS)	*	0.	45.		
27	STK OBJ PERIOD, CONSUMABLES, FLT LINE (DAYS)	*	0.	10.		
28	STK OBJ PERIOD, CONSUMABLES, BASE (DAYS)	*	0.	30.		
29	STK OBJ PERIOD, CONSUMABLES, THEATRE (DAYS)	*	0.	60.		
30	STK OBJ PERIOD, CONSUMABLES, DEPOT (DAYS)	*	0.	180.		
31	SYS REQUISITION TIME FROM DEPOT (DAYS)	*	0.	20.		
32	SYS REQUISITION TIME FROM FLOAT (DAYS)	*	0.	5.		

SUPPORT EQUIPMENT AND FACILITIES

Support Equipment Usage

1	INDEX OF SE TYPE TO VERIFY STATE (1-10)	*	0.	10.	*	
2	INDEX OF SE TYPE 2 USED IN REPAIR (1-10)	*	0.	10.	*	

* Fixed Limit

SUPPORT EQUIPMENT AND FACILITIES (Continued)

Support Equipment Usage (Continued)

		Lower Limit	Upper Limit	Value
3	INDEX OF SE TYPE 2 USED IN REPAIR (1-10)	* 0	10 *	
4	INDEX OF SE TYPE 3 USED IN REPAIR (1-10)	* 0	10 *	
5	INDEX OF SE TYPE 4 USED IN REPAIR (1-10)	* 0	10 *	

Support Equipment Costs

1	NUMBER OF SE TYPES REQUIRED (QTY)	* 0	10 *	
2	NUMBER OF DEDICATED TYPES OF SE (QTY)	* 0	10 *	
3	COST/SET OF SE TYPE 1 ($)	* 0.	100000.	
4	ANNUAL COST, SE TYPE 1 (FRAC OF COST/ SET)	* 0.	1. *	
5	COST/SET OF SE TYPE 2 ($)	* 0.	100000.	
6	ANNUAL COST, SE TYPE 2 (FRAC OF COST/ SET)	* 0.	1. *	
7	COST/SET OF SE TYPE 3 ($)	* 0.	100000.	
8	ANNUAL COST, SE TYPE 3 (FRAC OF COST/ SET)	* 0.	1. *	
9	COST/SET OF SE TYPE 4 ($)	* 0.	100000.	
10	ANNUAL COST, SE TYPE 4 (FRAC OF COST/SET)	* 0.	1. *	
11	COST/SET OF SE TYPE 5 ($)	* 0.	100000.	
12	ANNUAL COST, SE TYPE 5 (FRAC OF COST/SET)	* 0.	1. *	
13	COST/SET OF SE TYPE 6 ($)	* 0.	100000.	
14	ANNUAL COST, SE TYPE 6 (FRAC OF COST/ SET)	* 0.	1. *	

* Fixed Limit

GEMM, LEVEL 1 (Continued)

SUPPORT EQUIPMENT AND FACILITIES (Continued)

Support Equipment Costs (Continued)

		Lower Limit	Upper Limit	Value
15	COST/SET OF SE TYPE 7 ($)	* 0.	100000.	
16	ANNUAL COST, SE TYPE 7 (FRAC OF COST/SET)	* 0.	1. *	
17	COST/SET OF SE TYPE 8 ($)	* 0.	100000. *	
18	ANNUAL COST, SE TYPE 8 (FRAC OF COST/SET)	* 0.	1. *	
19	COST/SET OF SE TYPE 9 ($)	* 0.	100000.	
20	ANNUAL COST, SE TYPE 9 (FRAC OF COST/SET)	* 0.	1. *	
21	COST/SET OF SE TYPE 10 ($)	* 0.	100000.	
22	ANNUAL COST, SE TYPE 10 (FRAC OF COST/SET)	* 0.	1. *	

LOGISTICS OPERATIONS

Supply Management Factors

2	INVENTORY MGT FACTOR (FRAC OF TOTAL COST)	* 0.	1. *	

Technical Orders

4	PAGES OF BASE LEVEL DATA (QTY)	* 0	1000	
5	PAGES OF DEPOT LEVEL DATA (QTY)	* 0	1000	
6	PAGES OF OTHER DATA (QTY)	* 0	1000	

* Fixed Limit

GEMM, LEVEL 2

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Equipment Characteristics

			Lower Limit		Upper Limit		Value
1	ITEM ACQUISITION COST, SPARES ($/UNIT)	*	0.		1.00E+6		
2	ITEM WEIGHT (LBS)	*	0.		100.		
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	*	1		10		

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)		0.		10000.		
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)		0.		100000.		
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	*	o.		1.	*	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	*	0.		1.	*	

Level of Repair

4	LEVEL OF REPAIR (0 THRU 4, 0 = CONDEMNED)	*	0.		4	*	

Corrective Action Activities and Costs

1	MEAN TIME TO REPAIR ITEM (HRS)	*	0.		4.		

Scheduled Maintenance Actions and Costs

1	OVERHAUL COST ($)	*	0.		1000.		

*Fixed Limit

GEMM, LEVEL 2 (Continued)

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING

Personnel Requirements

		Lower Limit		Upper Limit		Value
1	INDEX OF SKILL TYPE 1 FOR REPAIR OF ITEM	*	0	10	*	_____
2	INDEX OF SKILL TYPE 2 FOR REPAIR OF ITEM	*	0	10	*	_____
3	INDEX OF SKILL TYPE 3 FOR REPAIR OF ITEM	*	0	10	*	_____
4	INDEX OF SKILL TYPE 4 FOR REPAIR OF ITEM	*	0	10	*	_____

SUPPORT EQUIPMENT AND FACILITIES

Support Equipment Usage

33	INDEX OF SE TYPE 1 USED IN REPAIR (0-10)	*	0	10	*	_____
35	INDEX OF SE TYPE 2 USED IN REPAIR (0-10)	*	0	10	*	_____
37	INDEX OF SE TYPE 3 USED IN REPAIR (0-10)	*	0	10	*	_____
39	INDEX OF SE TYPE 4 USED IN REPAIR (0-10)	*	0	10	*	_____

* Fixed Limit

GEMM, LEVEL 3

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Equipment Characteristics

		Lower Limit	Upper Limit	Value
1	ITEM ACQUISITION COST, SPARES ($/UNIT)	* 0.	1.00E+6	
2	ITEM WEIGHT (LBS)	* 0.	50.	
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	* 1	10	

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)	0.	10000.	
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)	0.	100000.	
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	

Level of Repair

4	LEVEL OF REPAIR (0 THRU 4, 0=CONDEMNED)	* 0	4. *	

Corrective Action Activities and Costs

1	MEAN TIME TO REPAIR (HRS)	* 0.	8.	

* Fixed Limit

GEMM, LEVEL 3 (Continued)

MAINTENANCE RATES, ACTIVITIES AND COSTS

Scheduled Maintenance Actions and Costs

		Lower Limit	Upper Limit	Value
1	OVERHAUL COST ($)	0.	1000.	

PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING

Personnel Requirements

1	INDEX OF SKILL TYPE 1 FOR REPAIR OF ITEM	*	0	10	*	
2	INDEX OF SKILL TYPE 2 FOR REPAIR OF ITEM	*	0	10	*	
3	INDEX OF SKILL TYPE 3 FOR REPAIR OF ITEM	*	0	10	*	
4	INDEX OF SKILL TYPE 4 FOR REPAIR OF ITEM	*	0	10	*	

SUPPORT EQUIPMENT AND FACILITIES

Support Equipment Usage

3	INDEX OF SE TYPE 1 USED IN REPAIR (1-10)	*	0	10	*	
5	INDEX OF SE TYPE 2 USED IN REPAIR (1-10)	*	0	10	*	
7	INDEX OF SE TYPE 3 USED IN REPAIR (1-10)	*	0	10	*	
9	INDEX OF SE TYPE 4 USED IN REPAIR (1-10)	*	0	10	*	

* Fixed Limit

GEMM, LEVEL 4

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Equipment Characteristics

		Lower Limit	Upper Limit	Value
1	ITEM ACQUISITION COST, SPARES ($/UNIT)	* 0.	1000.	
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	* 1	10	

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)	0.	100000.	
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	* 0.	1.	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	* 0.	1. *	

* Fixed Limit

MODMETRIC

DISTRIBUTION OF MOD-METRIC DATA ITEMS BY
SECTIONS, SUBSECTIONS AND LEVELS

SECTION / SUBSECTION			LIBRARY LEVEL 0	2	3
1	WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS				
	1	WEAPON SYSTEM DEPLOYMENT	62*		
	2	MISSION UTILIZATION	1	1	
	3	EQUIPMENT CHARACTERISTICS		2	2
2	MAINTENANCE RATES, ACTIVITIES AND COSTS				
	1	RELIABILITY AND MAINTENANCE RATE FACTORS		5	5
	2	LEVEL OF REPAIR		4	4
	3	CORRECTIVE ACTION ACTIVITIES AND COSTS			
	4	SCHEDULED MAINTENANCE ACTIONS AND COSTS			
3	PERSONNEL-OPERATIONS, MAINTENANCE AND TRAINING				
	1	PERSONNEL REQUIREMENTS			
	2	PERSONNEL COSTS			
4	SPARES-INITIAL AND REPLENISHMENT				
	1	STOCKAGE OBJECTIVES			
	2	COMPUTATIONAL TIME FACTORS		3	3
5	SUPPORT EQUIPMENT AND FACILITIES				
	1	SUPPORT EQUIPMENT USAGE			
	2	SUPPORT EQUIPMENT COSTS			
6	LOGISTICS OPERATIONS				
	1	SUPPLY MANAGEMENT FACTORS	2		
	2	TRANSPORTATION FACTORS			
	3	TECHNICAL ORDERS			

MODMETRIC, LEVEL 0

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Weapon System Deployment

			Lower Limit	Upper Limit	Value
4	OPERATING BASES IN CONUS (QTY)	*	0	75	
5	OPERATING BASES OVERSEAS (QTY)	*	0	50	
6	NUMBER OF SYSTEMS AT BASE TYPE 1 (QTY)	*	1	100	
7	NUMBER OF TYPE 1 BASES (QTY)	*	1	100	
8	NUMBER OF SYSTEMS AT BASE TYPE 2 (QTY)	*	0	100	
9	NUMBER OF TYPE 2 BASES (QTY)	*	0	100	
10	NUMBER OF SYSTEMS AT BASE TYPE 3 (QTY)	*	0	100	
11	NUMBER OF TYPE 3 BASES (QTY)	*	0	100	
12	NUMBER OF SYSTEMS AT BASE TYPE 4 (QTY)	*	0	100	
13	NUMBER OF TYPE 4 BASES (QTY)	*	0	100	
14	NUMBER OF SYSTEMS AT BASE TYPE 5 (QTY)	*	0	100	
15	NUMBER OF TYPE 5 BASES (QTY)	*	0	100	
16	NUMBER OF SYSTEMS AT BASE TYPE 6 (QTY)	*	0	100	
17	NUMBER OF TYPE 6 BASES (QTY)	*	0	100	
18	NUMBER OF SYSTEMS AT BASE TYPE 7 (QTY)	*	0	100	
19	NUMBER OF TYPE 7 BASES (QTY)	*	0	100	
20	NUMBER OF SYSTEMS AT BASE TYPE 8 (QTY)	*	0	100	
21	NUMBER OF TYPE 8 BASES (QTY)	*	0	100	
22	NUMBER OF SYSTEMS AT BASE TYPE 9 (QTY)	*	0	100	
23	NUMBER OF TYPE 9 BASES (QTY)	*	0	100	
24	NUMBER OF SYSTEMS AT BASE TYPE 10 (QTY)	*	0	100	
25	NUMBER OF TYPE 10 BASES (QTY)	*	0	100	
26	NUMBER OF SYSTEMS AT BASE TYPE 11(QTY)	*	0	100	
27	NUMBER OF TYPE 11 BASES (QTY)	*	0	100	

* Fixed Limit

No * - Can Be Exceeded

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Continued)

Weapon System Deployment (Continued)

			Lower Limit	Upper Limit	Value
28	NUMBER OF SYSTEMS AT BASE TYPE 12 (QTY)	*	0	100	
29	NUMBER OF TYPE 12 BASES (QTY)	*	0	100	
30	NUMBER OF SYSTEMS AT BASE TYPE 13	*	0	100	
31	NUMBER OF TYPE 13 BASES (QTY)	*	0	100	
32	NUMBER OF SYSTEMS AT BASE TYPE 14 (QTY)	*	0	100	
33	NUMBER OF TYPE 14 BASES (QTY)	*	0	100	
34	NUMBER OF SYSTEMS AT BASE TYPE 15 (QTY)	*	0	100	
35	NUMBER OF TYPE 15 BASES (QTY)	*	0	100	
36	NUMBER OF SYSTEMS AT BASE TYPE 16 (QTY)	*	0	100	
37	NUMBER OF TYPE 16 BASES (QTY)	*	0	100	
38	NUMBER OF SYSTEMS AT BASE TYPE 17 (QTY)	*	0	100	
39	NUMBER OF TYPE 17 BASES (QTY)	*	0	100	
40	NUMBER OF SYSTEMS AT BASE TYPE 18 (QTY)	*	0	100	
41	NUMBER OF TYPE 18 BASES (QTY)	*	0	100	
42	NUMBER OF SYSTEMS AT BASE TYPE 19 (QTY)	*	0	100	
43	NUMBER OF TYPE 19 BASES (QTY)	*	0	100	
44	NUMBER OF SYSTEMS AT BASE TYPE 20 (QTY)	*	0	100	
45	NUMBER OF TYPE 20 BASES (QTY)	*	0	100	
46	NUMBER OF SYSTEMS AT BASE TYPE 21 (QTY)	*	0	100	
47	NUMBER OF TYPE 21 BASES (QTY)	*	0	100	
48	NUMBER OF SYSTEMS AT BASE TYPE 22 (QTY)	*	0	100	
49	NUMBER OF TYPE 22 BASES (QTY)	*	0	100	
50	NUMBER OF SYSTEMS AT BASE TYPE 23 (QTY)	*	0	100	
51	NUMBER OF TYPE 23 BASES (QTY)	*	0	100	
52	NUMBER OF SYSTEMS AT BASE TYPE 24 (QTY)	*	0	100	
53	NUMBER OF TYPE 24 BASES (QTY)	*	0	100	

* Fixed Limit

No * - Can Be Exceeded

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS (Continued)

Weapon System Deployment (Continued)

			Lower Limit	Upper Limit		Value
54	NUMBER OF SYSTEMS AT BASE TYPE 25 (QTY)	*	0	100		
55	NUMBER OF TYPE 25 BASES (QTY)	*	0	100		
56	NUMBER OF SYSTEMS AT BASE TYPE 26 (QTY)	*	0	100		
57	NUMBER OF TYPE 26 BASES (QTY)	*	0	100		
58	NUMBER OF SYSTEMS AT BASE TYPE 27 (QTY)	*	0	100		
59	NUMBER OF TYPE 27 BASES (QTY)	*	0	100		
60	NUMBER OF SYSTEMS AT BASE TYPE 28 (QTY)	*	0	100		
61	NUMBER OF TYPE 28 BASES (QTY)	*	0	100		
62	NUMBER OF SYSTEMS AT BASE TYPE 29 (QTY)	*	0	100		
63	NUMBER OF TYPE 29 BASES (QTY)	*	0	100		
64	NUMBER OF SYSTEMS AT BASE TYPE 30 (QTY)	*	0	100		
65	NUMBER OF TYPE 30 BASES (QTY)	*	0	100		

Mission Utilization

1	PEACETIME FLYING (HOURS/SYSTEM/ MONTH)	*	1.	730.	*	

LOGISTICS OPERATIONS

Supply Management Factors

1	ORDER AND SHIPPING TIME, CONUS (DAYS)	*	0.	30.		
2	ORDER AND SHIPPING TIME, OVERSEAS (DAYS)	*	0.	30.		

* Fixed Limit

No * - Can Be Exceeded

MODMETRIC, LEVEL 2 (Continued)

WEAPON SYSTEM DEPLOYMENT, USAGE AND CHARACTERISTICS

Mission Utilization

		Lower Limit		Upper Limit		Value
1	ITEM OPERATING/SYSTEM OPER. TIME RATIO	*	.1	2.		

Equipment Characteristics

		Lower Limit		Upper Limit		Value
1	ITEM ACQUISITION COST, SPARES ($/UNIT)	*	0.	1.00E+6		
3	QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY	*	.1	10		

MAINTENANCE RATES, ACTIVITIES AND COSTS

Reliability and Maintenance Rate Factors

		Lower Limit		Upper Limit		Value
1	MEAN OP TIME BETWEEN PREV MAINT ACT (HRS)		0.	10000.		
2	MEAN OP TIME BETWEEN CORR MAINT ACT (HRS)		0.	10000.		
3	MEAN OP TIME BETWEEN OVERHAUL (HRS)		0.	100000.		
4	INHERENT FAILURE FRAC OF CORR MAINT ACTS	*	0.	1.	*	
5	INDUCED FAILURE FRAC OF CORR MAINT ACTS	*	0.	1.	*	

* Fixed Limit

No * - Can Be Exceeded

MAINTENANCE RATES, ACTIVITIES AND COSTS (Continued)

Level of Repair

		Lower Limit		Upper Limit		Value
1	ITEM REMOVALS PER PREV MAINT ACT (FRAC)	*	0.	1.	*	
2	ITEM REMOVALS PER CORR MAINT ACT (FRAC)	*	0.	1.	*	
5	ITEM REMOVALS NRTS (FRAC)	*	0.	1.	*	
6	ITEM REMOVALS CONDEMNED (FRAC)	*	0.	1.	*	

SPARES-INITIAL AND REPLENISHMENT

Computational Time Factors

1	BASE REPAIR CYCLE TIME (DAYS)	*	0.	15.		
2	DEPOT REPAIR CYCLE TIME (DAYS)	*	0.	60.		
3	PROCUREMENT LEAD TIME (MONTHS)	*	0.	36.		

* Fixed Limit

No * - Can Be Exceeded

APPENDIX B

APPENDIX B

COMPILATION OF DESCRIPTIVE TEACH MESSAGES

Appendix B contains a compilation of the TEACH messages available from the interactive terminal which address: the section and subsection characteristics; the use of each data item by appropriate models; the use of each output category by each model; and the MOD-METRIC default parameters. The appendix is organized in accordance with the level, section, and subsection structure of the data library.

It is expected that this appendix may require periodic updating. To facilitate this, it is generated by computer and reproduces the actual "teach" messages.

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(LEVEL 0)

SECTION 1

SECTION NAME--WEAPON SYSTEM DEPLOYMENT,USAGE, AND CHARACTERISTICS
DESCRIPTION--THIS SECTION HAS THREE SUBSECTIONS AT LEVEL 0 WHICH HAVE DATA ITEMS. THESE ARE--(1)WEAPON SYSTEM DEPLOYMENT-WITH 65 ITEMS, (2)MISSION UTILIZATION-WITH 2 ITEMS, AND (3) EQUIPMENT CHARACTERISTICS-WITH 9 ITEMS
ASSOCIATED MODELS--CACE,LSC,LCC2,GEMM,MOD-METRIC

SUBSECTION 1

SUBSECTION NAME--WEAPON SYSTEM DEPLOYMENT
DESCRIPTION--THIS SUBSECTION HAS 65 DATA ITEMS AT LEVEL ZERO. THESE DEAL PRIMARILY WITH HOW MANY AIRCRAFT(SYSTEMS) ARE TO BE SUPPORTED AND HOW THEY ARE DISTRIBUTED TO BASES OVERSEAS AND CONUS. THE LAST 57 DATA ITEMS ARE OPTIONAL ITEMS FOR LCC2 AND MOD-METRIC MODELS ONLY THERE,IT IS SUGGESTED THAT 'SHOW 'OR 'RANGE 'COMMANDS BE LIMITED, IE 'RANGE,1,8'
ASSOCIATED MODELS--CACE,LSC,LCC2,GEMM,MOD-METRIC

1 EXPECTED OPERATIONAL LIFE (YRS)

APPLICABLE MODELS--LSC,LCC2,GEMM
ITERATION VARIABLE IN--LSC,LCC2,GEMM
LSC--EQUIVALENT MODEL INPUT VARIABLE,PROJECTED INVENTORY USAGE PERIOD
LCC2-EQUIVALENT MODEL INPUT VARIABLE IS NUMBER OF YEARS OF OPERATION
GEMM-EQUIVALENT MODEL INPUT VARIABLE IS ECONOMIC LIFE

2 SYSTEMS DEPLOYED IN CONUS(QTY)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--THIS ITEM IS USED WITH ITEM 3(SYSTEMS DEPLOYED OVERSEAS) TO COMPUTE THE INPUT VARIABLE OS,PORTION OF FORCE LOCATED OVERSEAS. THE RELATIONSHIP IS--OS=SYSTEMS DEPLOYED OVERSEAS/(SYSTEMS DEPLOYED IN CONUS + SYSTEMS DEPLOYED OVERSEAS)
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE MODEL WILL USE THE VALUE OF THIS VARIABLE AS A CROSS CHECK WITH THE BASE BY BASE DEPLOYMENT FACTORS,DATA ITEMS 6 THROUGH 65 OF THIS SUBSECTION.
GEMM--THIS DATA ITEM IS ADDED TO DATA ITEM 3(SYSTEMS DEPLOYED OVERSEAS TO COMPUTE THE INPUT VARIABLE-NUMBER OF END ITEMS INSTALLED.

3 SYSTEMS DEPLOYED OVERSEAS(QTY)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--THIS ITEM IS USED WITH ITEM 2(SYSTEMS DEPLOYED IN CONUS) TO COMPUTE THE INPUT VARIABLE OS,PORTION OF FORCE LOCATED OVERSEAS. THE RELATIONSHIP IS--OS=SYSTEMS DEPLOYED OVERSEAS/(SYSTEMS DEPLOYED IN CONUS + SYSTEMS DEPLOYED OVERSEAS).
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE MODEL WILL USE THE VALUE OF THIS VARIABLE AS A CROSS CHECK WITH THE BASE BY BASE DE-

PLOYMENT FACTORS, DATA ITEMS 6 THROUGH 65 OF THIS SUBSECTION.
GEMM--THIS DATA ITEM IS ADDED TO DATA ITEM 2(SYSTEMS DEPLOYED IN CONUS TO COMPUTE THE INPUT VARIABLE-NUMBER OF END ITEMS INSTALLED.

4 OPERATING BASES IN CONUS (QTY)

APPLICABLE MODELS--LCC2,MOD-METRIC
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THIS DATA ITEM IS USED WITH ITEM 2 OR 3 TO IDENTIFY WHICH BASE TYPES ARE TO BE CONSIDERED AS CONUS AND OVERSEAS. DATA FOR CONUS BASES MUST BE INPUT PRIOR TO DATA FOR OVERSEAS BASES.
MOD-METRIC--THIS DATA ITEM IS USED TO CONTROL HOW MANY BASES(DATA ITEMS 7,9,11,...) HAVE ORDER AND SHIPPING TIME FOR CONUS OR OVERSEAS

5 OPERATING BASES OVERSEAS (QTY)

APPLICABLE MODELS--LCC2,MOD-METRIC
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THIS DATA ITEM IS USED WITH ITEM 2 OR 3 TO IDENTIFY WHICH BASE TYPES ARE TO BE CONSIDERED AS CONUS AND OVERSEAS. DATA FOR CONUS BASES MUST BE INPUT PRIOR TO DATA FOR OVERSEAS BASES.
MOD-METRIC--THIS DATA ITEM IS USED TO CONTROL HOW MANY BASES(DATA ITEMS 7,9,11,...) HAVE ORDER AND SHIPPING TIME FOR CONUS OR OVERSEAS

6 NUMBER OF SYSTEMS AT BASE TYPE 1(QTY)

NUMBER OF AIRCRAFT OPERATING FROM, AND SUPPORTED BY, A BASE TYPE 1.
APPLICABLE MODELS--CACE,LCC2,MOD-METRIC
ITERATION VARIABLE IN--CACE
LCC2 AND MOD-METRIC ALLOW FOR CONSIDERATION OF MULTIPLE TYPES AND QUANTITIES OF BASES WHICH ARE CHARACTERIZED BY THE NUMBER OF AIRCRAFT PER BASE. FOR EXAMPLE,CONSIDER THE CASE WHERE 60 AIRCRAFT ARE BASED AT 5 BASES SUCH THAT 2 BASES HAVE 15 AIRCRAFT AND 3 HAVE 10 EACH. THIS DISTRIBUTION MAY BE DESCRIBED AS FOLLOWS

NUMBER OF SYSTEMS AT BASE TYPE 1 = 15
NUMBER OF TYPE 1 BASES = 2
NUMBER OF SYSTEMS AT BASE TYPE 2 = 10
NUMBER OF TYPE 2 BASES = 3

UP TO 30 TYPES OF BASES MAY BE IDENTIFIED BY THE USER. FOR MODELS WHICH ADDRESS ONLY ONE TYPE OF BASE, BASE TYPE 1 MUST BE USED.
CACE--EQUIVALENT MODEL INPUT VARIABLE IS UNIT EQUIPMENT PER SQUADRON. CACE CONSIDERS ONLY ONE TYPE OF BASE AND ITERATION ON THIS DATA ITEM IS NECESSARY TO SHOW IMPACT OF SQUADRON SIZE UPON OPERATING COSTS. DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10,VOL 2, TABLE 5.
LCC2--EQUIVALENT MODEL INPUT VARIABLE IS FIRST ELEMENT OF ARRAY NSYS.
MOD-METRIC--NUMBER OF SYSTEMS AT BASE TYPE J IS MULTIPLIED BY PEACE-TIME FLYING HOURS PER SYSTEM PER MONTH TO COMPUTE THE MOD-METRIC INPUT VARIABLE-FLYING HOURS PER MONTH AT BASE K (FH(K)). IF FOR THE ABOVE EXAMPLE THE FLYING HOURS PER MONTH WERE 10 PER SYSTEM, MOD-METRIC INPUT WOULD BE COMPUTED AS FOLLOWS--FH(1)=FH(2)=150,FH(3)=FH(4)=FH(5)=100.

7 NUMBER OF TYPE 1 BASES (QTY)

NUMBER OF TYPE J BASES--REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SEC.
APPLICABLE MODELS--LCC2,MOD-METRIC
LCC2--EQUIVALENT MODEL INPUT VARIABLE IS JTH ELEMENT IN ARRAY NBASE. SYSTEMS DEPLOYED AT CONUS BASES,IF ANY, MUST BE ADDRESSED FIRST.
MOD-METRIC--THIS DATA ITEM DETERMINES THE NUMBER OF CASES WHICH MOD-METRIC CONSIDERS,AND IS,THEREFORE, ONE OF THE PRINCIPAL DETERMINANTS OF THE PROGRAM EXECUTION TIME. IT IS RECOMMENDED THAT THIS NUMBER BE HELD TO A MINIMUM. THE MODEL ESTABLISHES A CASE FOR EACH BASE WHERE THE NUMBER OF BASES IS THE SUM OF ALL-NUMBER OF TYPE J BASES-DATA ITEMS.

8 NUMBER OF SYSTEMS AT BASE TYPE 2(QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

9 NUMBER OF TYPE 2 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

10 NUMBER OF SYSTEMS AT BASE TYPE 3(QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

11 NUMBER OF TYPE 3 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

12 NUMBER OF SYSTEMS AT BASE TYPE 4(QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

13 NUMBER OF TYPE 4 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

14 NUMBER OF SYSTEMS AT BASE TYPE 5(QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC

```
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

15  NUMBER OF TYPE 5 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

16  NUMBER OF SYSTEMS AT BASE TYPE 6(QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

17  NUMBER OF TYPE 6 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

18  NUMBER OF SYSTEMS AT BASE TYPE 7(QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

19  NUMBER OF TYPE 7 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

20  NUMBER OF SYSTEMS AT BASE TYPE 8(QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

21  NUMBER OF TYPE 8 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

22  NUMBER OF SYSTEMS AT BASE TYPE 9(QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

23  NUMBER OF TYPE 9 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
```

REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

24 NUMBER OF SYSTEMS AT BASE TYPE 10 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

25 NUMBER OF TYPE 10 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

26 NUMBER OF SYSTEMS AT BASE TYPE 11 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

27 NUMBER OF TYPE 11 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

28 NUMBER OF SYSTEMS AT BASE TYPE 12 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

29 NUMBER OF TYPE 12 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

30 NUMBER OF SYSTEMS AT BASE TYPE 13 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

31 NUMBER OF TYPE 13 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

32 NUMBER OF SYSTEMS AT BASE TYPE 14 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC

REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

33 NUMBER OF TYPE 14 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

34 NUMBER OF SYSTEMS AT BASE TYPE 15 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

35 NUMBER OF TYPE 15 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

36 NUMBER OF SYSTEMS AT BASE TYPE 16 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

37 NUMBER OF TYPE 16 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

38 NUMBER OF SYSTEMS AT BASE TYPE 17 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

39 NUMBER OF TYPE 17 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

40 NUMBER OF SYSTEMS AT BASE TYPE 18 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

41 NUMBER OF TYPE 18 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC

```
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

42  NUMBER OF SYSTEMS AT BASE TYPE 19 (QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

43  NUMBER OF TYPE 19 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

44  NUMBER OF SYSTEMS AT BASE TYPE 20 (QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

45  NUMBER OF TYPE 20 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

46  NUMBER OF SYSTEMS AT BASE TYPE 21 (QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

47  NUMBER OF TYPE 21 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

48  NUMBER OF SYSTEMS AT BASE TYPE 22 (QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

49  NUMBER OF TYPE 22 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

50  NUMBER OF SYSTEMS AT BASE TYPE 23 (QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
```

REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

51 NUMBER OF TYPE 23 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

52 NUMBER OF SYSTEMS AT BASE TYPE 24 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

53 NUMBER OF TYPE 24 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

54 NUMBER OF SYSTEMS AT BASE TYPE 25 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

55 NUMBER OF TYPE 25 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

56 NUMBER OF SYSTEMS AT BASE TYPE 26 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

57 NUMBER OF TYPE 26 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

58 NUMBER OF SYSTEMS AT BASE TYPE 27 (QTY)

NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
APPLICABLE MODELS--LCC2,MOD-METRIC
REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

59 NUMBER OF TYPE 27 BASES (QTY)

NUMBER OF TYPE J BASES
APPLICABLE MODELS--LCC2,MOD-METRIC

```
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

60  NUMBER OF SYSTEMS AT BASE TYPE 28 (QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

61  NUMBER OF TYPE 28 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

62  NUMBER OF SYSTEMS AT BASE TYPE 29 (QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

63  NUMBER OF TYPE 29 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

64  NUMBER OF SYSTEMS AT BASE TYPE 30 (QTY)

   NUMBER OF AIRCRAFT OPERATING FROM BASE TYPE J
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR ITEM 6 OF THIS SUBSECTION.

65  NUMBER OF TYPE 30 BASES (QTY)

   NUMBER OF TYPE J BASES
   APPLICABLE MODELS--LCC2,MOD-METRIC
   REFER TO TEACH MESSAGE FOR DATA ITEM 7 OF THIS SECTION

SUBSECTION 2          Level 0, Section 1, Subsection 2

   SUBSECTION NAME--MISSION UTILIZATION
   DESCRIPTION--THIS SUBSECTION HAS TWO DATA ITEMS WHICH REFLECT WEAPON
     SYSTEM FLYING HOURS PER MONTH IN PEACETIME AND CONTIGENCY SITUATIONS
   ASSOCIATED MODELS--CACE,LSC,LCC2,GEMM,MOD-METRIC

 1  PEACETIME FLYING (HOURS/SYSTEM/MONTH)

   PEACETIME FLYING HOURS PER SYSTEM PER MONTH
   APPLICABLE MODELS--CACE,LSC,LCC2,GEMM,MOD-METRIC
   ITERATION VARIABLE IN ALL MODELS
   CACE--THIS DATA ITEM IS MULTIPLIED BY 12 TO COMPUTE ANNUAL UTILIZATION
   RATE PER AIRCRAFT.  DATA FOR EXISTING AIRCRAFT SYSTEMS IS IN AFR
   173-10, VOL 2, TABLE 5.
   LSC--THIS DATA ITEM IS USED IN CONJUNCTION WITH (1) TOTAL NUMBER OF
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SYSTEMS IN THE FORCE AND (2) OPERATIONAL LIFE OF THE SYSTEM TO COMPUTE THE LSC INPUT VARIABLE TOTAL FORCE FLYING HOURS(TFFH). THE RELATIONSHIP IS--TFFH=(PEACETIME FLYING HOURS PER SYSTEM PER MONTH) *(NUMBER OF SYSTEMS IN CONUS+NUMBER OF SYSTEMS OVERSEAS)*(12 MONTHS PER YEAR)*(EXPECTED YEARS OF OPERATIONAL LIFE)

LCC2--EQUIVALENT MODEL INPUT VARIABLE IS SYSTEM OPERATING HOURS PER MONTH (OH)

GEMM--THIS DATA ITEM IS USED IN CONJUNCTION WITH THE OPERATING HOUR TO FLYING HOUR RATIO DATA ITEM TO COMPUTE THE GEMM INPUT VARIABLE-OPERATING HOURS PER DAY(OPHRDY). THE RELATIONSHIP IS-OPHRDY=(FLYING HOUR PER SYSTEM PER MONTH)*(OPERATING HOURS PER FLYING HOURS)*(12 MONTHS PER YEAR)/(365 DAYS PER YEAR).

MOD-METRIC--THIS DATA ITEM IS MULTIPLIED BY THE NUMBER OF SYSTEMS AT BASE TYPE J DATA ITEM TO COMPUTE THE MOD-METRIC INPUT VARIABLE-FLYING HOURS PER MONTH AT BASE K,(FH(K)).
REFER TO TEACH MESSAGE FOR LEVEL 0,SEC 1,SUB 1,DATA ITEM 6.

2 WARTIME PEAK FLYING(HOURS/SYSTEM/MONTH)

PEAK FORCE UTILIZATION EXPECTED UNDER EMERGENCY CIRCUMSTANCES

APPLICABLE MODELS--CACE,LSC

ITERATION VARIABLE IN--CACE,LSC

CACE--THIS IS AN OPTIONAL INPUT VARIABLE FOR CACE. WHEN THIS DATA ITEM AND THE MAINTENANCE MAN HOURS PER FLYING HOUR DATA ITEM ARE ZERO,THE OPTIONAL MANPOWER ALGORITHM IS NOT COMPUTED AND THE CACE MODEL IS EXACTLY AS DESCRIBED IN AFR 173-10. WHEN THE TWO DATA ITEMS ARE BOTH NON-ZERO, THE OPTIONAL ALGORITHM USING AFM 26-3 ESTIMATING PROCEDURE IS AUTOMATICALLY INCLUDED. FOR USE IN THE OPTIONAL ALGORITHM, THIS DATA ITEM IS MULTIPLIED BY 12 TO COMPUTE THE ANNUAL UTILIZATION RATE UNDER WARTIME/EMERGENCY CONDITIONS.

LSC--THIS DATA ITEM IS MULTIPLIED BY THE TOTAL NUMBER OF SYSTEMS IN THE FORCE TO COMPUTE THE LSC INPUT VARIABLE-PEAK FORCE FLYING HOURS PER MONTH(PFFH). THE RELATIONSHIP IS--PFFH=(NUMBER OF SYSTEMS CONUST NUMBER OF SYSTEMS OVERSEAS)*(WARTIME FLYING HOURS PER SYSTEM PER MONTH). LSC COMPUTES BASE AND DEPOT PIPELINE SPARES REQUIREMENTS AGAINST THE PEAK REQUIREMENTS USING PFFH.

SUBSECTION 3 (Level 0, Section 1, Subsection 3)

SUBSECTION NAME--EQUIPMENT CHARACTERISTICS

DESCRIPTION--THIS SUBSECTION HAS 9 DATA ITEMS AT LEVEL ZERO. THESE RELATE TO THE PHYSICAL SIZE AND PROCUREMENT COST DATA AND MISCELLANEOUS ITEMS WHICH ARE DIRECT THROUGHPUT NUMBERS.

ASSOCIATED MODELS--CACE,LSC

1 WEAPON SYSTEM FLYAWAY COST,FAC ($)

APPLICABLE MODELS--CACE

ITERATION VARIABLE IN--CACE

CACE--DATA FOR EXISTING AIRCRAFT SYSTEMS,IN CURRENT YEAR DOLLARS, ARE IN AFR 173-10, VOL 1, TABLE 11, AND VOL 2, TABLE 4.

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2  CLASS IV MOD COST FACTOR(PERCENT OF FAC)

   ANNUAL CLASS IV MODIFICATION COSTS, WITH SPARES, FRACTION OF UNIT FAC.
   APPLICABLE MODELS--CACE
   ITERATION VARIABLE IN--CACE
   CACE--STANDARD VALUE IS .00449(PER AFR 173-10,6FEB 75,CHANGE 2)

3  COMMON SUPPORT EQUIPMENT(COST/SYSTEM/YR)

   COMMON SUPPORT EQUIPMENT,INCLUDING SPARES,ANNUAL COST PER AIRCRAFT
   APPLICABLE MODELS--CACE
   ITERATION VARIABLE IN--CACE
   CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10,VOL 1, TABLE 10

4  REPLENISHMENT SPARES (COST/FLYING HR)

   REPLENISHMENT SPARES COST PER FLYING HOUR
   APPLICABLE MODELS--CACE
   ITERATION VARIABLE IN--CACE
   CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10,VOL 1,TABLE 9

5  VEHICULAR EQUIPMENT (COST/SUPPORT MANYR)

   VEHICULAR EQUIPMENT COST,MARGINAL COST PER MILITARY MANYEAR
   APPLICABLE MODELS--CACE
   ITERATION VARIABLE IN--CACE
   CACE--STANDARD VALUE IS $44 (PER AFM 173-10, 6 FEB 75, CHANGE 2)

6  MUNITIONS,TRAINING (COST/SYSTEM/YR)

   MUNITIONS USED IN TRAINING, COST PER SYSTEM PER YEAR
   APPLICABLE MODELS--CACE
   ITERATION VARIABLE IN--CACE
   CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10, VOL 1, TABLE 30B.

7  MUNITIONS,TRAINING (COST/CREW/YR)

   MUNITIONS USED IN TRAINING,COST PER CREW PER YEAR
   APPLICABLE MODELS--CACE
   ITERATION VARIABLE IN--CACE
   CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10, VOL 1, TABLE 30B.

8  AVIATION FUEL (UNITS CONSUMED/FLYING HR)

   AVIATION FUEL CONSUMPTION RATE,UNITS PER FLYING HOUR
   APPLICABLE MODELS--CACE,LSC
   ITERATION VARIABLE IN--CACE,LSC
   CACE--MULTIPLIED BY COST PER UNIT FOR CACE INPUT,AVIATION FUEL COST
     PER FLYING HOUR. USER MUST MAINTAIN CONSISTENCY IN UNIT OF MEASURE.
     COST PER FLYING HOUR DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10,
     VOL 1, TABLE 3.
   LSC--EQUIVALENT PROPULSION SYSTEM VARIABLE IS FUEL CONSUMPTION RATE.
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9 AVIATION FUEL (COST/UNIT CONSUMED)

AVIATION FUEL COST PER UNIT
APPLICABLE MODELS--CACE,LSC
ITERATION VARIABLE IN--CACE,LSC
CACE-MULTIPLIED BY CONSUMPTION RATE PER FLYING HOUR FOR CACE INPUT VARIABLE AVIATION FUEL COST PER FLYING HOUR. USER MUST MAINTAIN CONSISTENCY IN UNIT OF MEASURE. FUEL COST PER FLYING HOUR DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10. VOL 1. TABLE 3.
LSC--EQUIVALENT PROPULSION SYSTEM VARIABLE IS FUEL COST PER UNIT.

SECTION 2 (Level 0, Section 2)

SECTION NAME--MAINTENANCE RATES, ACTIVITIES, AND COSTS
DESCRIPTION--THERE IS ONLY ONE SUBSECTION IN THIS SECTION WHICH HAS DATA ITEMS AT LEVEL ZERO. THAT ONE IS SUBSECTION 3-CORRECTIVE ACTION ACTIVITIES AND COSTS-WHICH HAS 6 ITEMS
ASSOCIATED MODELS--CACE,LSC

SUBSECTION 3
(Level 0, Section 2, Subsection 3)

SUBSECTION NAME--CORRECTIVE ACTION ACTIVITIES AND COSTS
DESCRIPTION--THIS SUBSECTION HAS 9 DATA ITEMS AT LEVEL ZERO. THESE RELATE TO AGGREGATE MAINTENANCE COSTS.
ASSOCIATED MODELS--CACE,LSC

1 BASE LEVEL MAINTENANCE MATERIAL ($/FH)

BASE LEVEL AIRCRAFT MAINTENANCE MATERIAL COST PER FLYING HOUR
APPLICABLE MODELS--CACE
ITERATION VARIABLE IN--CACE
CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10. VOL 1. TABLE 7.

2 BASE LEVEL MAINTENANCE MATERIAL($/SYS/YR

BASE LEVEL AIRCRAFT MAINTENANCE MATERIAL COST PER AIRCRAFT PER YEAR
APPLICABLE MODELS--CACE
ITERATION VARIABLE IN--CACE
CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10. VOL 1. TABLE 7.

3 DEPOT MAINTENANCE ($/FH)

AIRCRAFT DEPOT MAINTENANCE COST PER FLYING HOUR
APPLICABLE MODELS--CACE
ITERATION VARIABLE IN CACE
CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10. VOL1,TABLE 6

4 DEPOT MAINTENANCE ($/SYS/YR)

ANNUAL DEPOT MAINTENANCE COST PER AIRCRAFT
APPLICABLE MODEL--CACE
ITERATION VARIABLE IN CACE
CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10,VOL1, TABLE 6

5 ON-EQUIP MAINT DOCUMENTATION (MHRS/ACT)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT MODEL INPUT VARIABLE IS MRO. AFLC STANDARD VALUE IS.08

6 OFF-EQUIP MAINT DOCUMENTATION (MHRS/ACT)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT MODEL INPUT VARIABLE IS MRF. AFLC STANDARD VALUE IS.24

SECTION 3 (Level 0, Section 3)

SECTION NAME--PERSONNEL-OPERATIONS, MAINTENANCE, AND TRAINING
DESCRIPTION--THIS SECTION HAS TWO SUBSECTIONS AND EACH HAS DATA ITEMS AT LEVEL ZERO. THEY ARE--(1)PERSONNEL REQUIREMENTS-WITH 27 DATA ITEMS AND (2)PERSONNEL COSTS-WITH 15 DATA ITEMS
ASSOCIATED MODELS--CACE,LSC,GEMM

SUBSECTION 1 (Level 0, Section 3, Subsection 1)

SUBSECTION NAME--PERSONNEL REQUIREMENTS
DESCRIPTION--THIS SUBSECTION CONTAINS 27 DATA ITEMS AT LEVEL ZERO. THESE ARE PRIMARILY MANYEAR REQUIREMENTS FOR AN OPERTING UNIT.
ASSOCIATED MODELS--CACE,LSC,GEMM

1 MAINTENANCE MANHOURS/FLYING HOUR

APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--THIS IS AN OPTIONAL INPUT VARIABLE FOR CACE. WHEN THIS DATA ITEM AND THE WARTIME PEAK FLYING HOUR DATA ITEM ARE ZERO, THE OPTIONAL MANPOWER ALGORITHM IS NOT COMPUTED AND THE CACE MODEL IS EXACTLY AS DESCRIBED IN AFR 173-10. WHEN THE TWO DATA ITEMS ARE BOTH NON-ZERO, THE OPTIONAL ALGORITHM USING AFM 26-3 ESTIMATING PROCEDURE IS AUTOMATICALLY EXERCISED.

2 AIRCREW.RATED OFFICER.PILOT-(MEN/CREW)

APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10, VOL 1, TABLE 14

3 AIRCREW,RATED OFFICER,OTHER-(MEN/CREW)

APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10, VOL 1, TABLE 14

4 AIRCREW,AIRMEN,-(MEN/CREW)

APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10, VOL 1, TABLE 14

5 CREWS PER AIRCRAFT (CREW RATIO)

APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--DATA FOR EXISTING AIRCRAFT ARE IN AFR 173-10, VOL 2, TABLE 5

6 BASE MAINTENANCE-AIRMEN (MYRS/SQDR)

APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOWER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

7 PILOT, ANNUAL TURNOVER RATE

APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--STANDARD VALUE IS .063 (PER AFR 173-10,6 FEB 75, CHANGE 2)

8 OTHER OFF. CREW, ANNUAL TURNOVER RATE

APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--STANDARD VALUE IS .059 (PER AFR 173-10,6 FEB 75, CHANGE 2)

9 OTHER OFF.,ANNUAL TURNOVER RATE

APPLICABLE MODEL--CACE
ITERATION,VARIABLE IN--CACE
CACE--STANDARD VALUE IS .094 (PER AFR 173-10,6 FEB 75, CHANGE 2)

10 BASE AIRMEN, ANNUAL TURNOVER RATE

APPLICABLE MODELS--CACE,LSC
ITERATION VARIABLE IN--CACE,LSC
CACE--STANDARD VALUE IS .134 (PER AFR 173-10,6 FEB 75, CHANGE 2)
LSC--EQUIVALENT INPUT VARIABLE IS ANNUAL TURNOVER RATE FOR BASE PERSONNEL(TRB). AFLC RECOMMENDED VALUE IS .129 (PER LSC GUIDE, AUG 76)

11 DEPOT PERSONNEL, ANNUAL TURNOVER RATE

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS ANNUAL TURNOVER RATE FOR DEPOT PERSONNEL (TRD). AFLC RECOMMENDED VALUE IS .15 (PER LSC GUIDE, AUG 76)

12 PRI PROGRAM ELEMENT(OFFICERS/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOW-

ER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

13 PRI PROGRAM ELEMENT(AIRMEN/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOWER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

14 PRI PROGRAM ELEMENT(CIVILIANS/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOWER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

15 BASE OPS/REAL PROP(OFFICERS/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOWER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

16 BASE OPS/REAL PROP(AIRMEN/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOWER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

17 BASE OPS/REAL PROP(CIVILIANS/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOWER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

18 MEDICAL DISPENSARY(OFFICERS/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOW-

ER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

19 MEDICAL DISPENSARY(AIRMEN/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOWER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

20 MEDICAL DISPENSARY(CIVILIANS/SQDR/YR)

APPLICABLE MODEL--CACE
CACE--A VALUE FOR THIS DATA ITEM IS CALCULATED BY THE OPTIONAL MANPOWER ALGORITHM AND USED IN THE CACE MODEL. IF THE PEAK FLYING HOUR AND MAINTENANCE MANHOUR PER FLYING HOUR DATA ITEMS ARE ZERO, DATA VALUES INSERTED FOR THIS DATA ITEM WILL BE USED. DATA FOR EXISTING AIRCRAFT ARE FOUND IN AFR 173-10, VOL 2, TABLE 5.

21 DIRECT PRODUCTIVE MHRS/MNYR,BASE, (QTY)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN LSC
LSC--EQUIVALENT INPUT VARIABLE IS PMB. INCLUDES-TOUCH TIME,TRANSPORTATION TIME,AND SET-UP TIME. AFLC STANDARD VALUE IS 1704 HOURS/MAN/YR.

22 DIRECT PRODUCTIVE MHRS/MNYR,DEPOT,(QTY))

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN LSC
LSC--EQUIVALENT INPUT VARIABLE IS PMD. INCLUDES-TOUCH TIME,TRANSPORTATION TIME,AND SET-UP TIME. AFLC STANDARD VALUE IS 1788 HOURS/MAN/YR.

23 RETRAINING INTERVAL,FLT LINE LEVEL(YRS)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS AVERAGE TIME BETWEEN RETRAINING PERIODS FOR FLIGHT LINE LEVEL SKILLS,(DATA TYPE 42)

24 RETRAINING INTERVAL,BASE LEVEL (YRS)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS AVERAGE TIME BETWEEN RETRAINING PERIODS FOR BASE LEVEL SKILLS,(DATA TYPE 42)

25 RETRAINING INTERVAL,THEATRE LEVEL (YRS)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS AVERAGE TIME BETWEEN RETRAINING PERIODS FOR THEATRE LEVEL SKILLS,(DATA TYPE 42)

26 RETRAINING INTERVAL,DEPOT LEVEL (YRS)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS AVERAGE TIME BETWEEN RETRAINING PERIODS FOR DEPOT LEVEL SKILLS,(DATA TYPE 42)
APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE HAS SAME LABEL,(DATA TYPE 36). DEFINED AS THE RATIO OF TIME THE MAINTENANCE PERSON IS PRODUCTIVE WHEN HE IS AVAILABLE. MODEL ASSUMES VALUE OF 1.0 AT DEPOT LEVEL.

27 PRODUCTIVITY AT LEVELS BELOW DEPOT(FRAC)

SUBSECTION 2 (Level 0, Section 3, Subsection 2)

SUBSECTION NAME--PERSONNEL COSTS
DESCRIPTION--THIS SUBSECTION CONTAINS 15 DATA ITEMS FOR THE CACE MODEL WHICH ARE PRIMARILY COST/MANYEAR ITEMS.
ASSOCIATED MODEL--CACE

1 PAY AND ALLOWANCES,OFFICER ($/MNYR)

WORLDWIDE ANNUAL RATE
APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--CURRENT DATA ARE IN AFR 173-10, VOL 1, TABLE 21

2 PAY AND ALLOWANCES,AIRMEN ($/MNYR)

WORLDWIDE ANNUAL RATE
APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--CURRENT DATA ARE IN AFR 173-10, VOL 1, TABLE 21

3 PAY AND ALLOWANCES,CIVILIAN ($/MNYR)

MAJOR COMMAND RATE PER CIVILIAN MANYEAR
APPLICABLE MODEL--CACE
ITERATION VARIABLE IN--CACE
CACE--CURRENT DATA ARE IN AFR 173-10, VOL 1, TABLE 25

4 MEDICAL SUPPORT PER OFFICER ($/MNYR)

MARGINAL COST OF MEDICAL SUPPORT PER OFFICER MANYEAR
APPLICABLE MODEL--CACE
CACE-STANDARD VALUE IS $555(PER AFR 173-10,6 FEB 75, CHANGE 2)

5 MEDICAL SUPPORT PER AIRMAN ($/MNYR)

MARGINAL COST OF MEDICAL SUPPORT PER AIRMAN MANYEAR
APPLICABLE MODEL--CACE
CACE--STANDARD VALUE IS $480 (PER AFR 173-10,6 FEB 75, CHANGE 2)

6 BASE OPS,REAL PROPERTY COST ($/MNYR)

MARGINAL COST OF BASE OPERATIONS AND REAL PROPERTY MAINTENANCE PER MAN
APPLICABLE MODEL--CACE
CACE--VALUE IS DEPENDENT UPON MAJOR COMMAND. CURRENT VALUES ARE IN
AFR 173-10,VOL 1, TABLE 51A.

7 UNDER GRAD PILOT TRNG ($/GRADUATE)

APPLICABLE MODEL--CACE
CACE--STANDARD VALUE IS $90009 (PER AFR 173-10,6 FEB 75, CHANGE 2)

8 OTHER OFFICER AIRCREW TRNG ($/GRADUATE)

APPLICABLE MODEL--CACE
CACE--STANDARD VALUE IS $17839 (PER AFR 173-10, 6 FEB 75, CHANGE 2)

9 NONRATED OFFICER TRNG ($/GRADUATE)

APPLICABLE MODEL--CACE
CACE--STANDARD VALUE IS $3830 (PER AFR 173-10,6 FEB 75,CHANGE 2)

10 AIRMAN MAINT TRNG ($/GRADUATE)

APPLICABLE MODEL--CACE
CACE--STANDARD VALUE IS $5000 (PER AFR 173-10,6 FEB 75, CHANGE 2)

11 OTHER AIRMAN TRNG ($/GRADUATE)

APPLICABLE MODEL--CACE
CACE--STANDARD VALUE IS $2500 (PER AFR 173-10,6 FEB 75,CHANGE 2)

12 OFFICER ACQUISITION COST ($/MAN)

APPLICABLE MODEL--CACE
CACE--STANDARD VALUE IS $8807 (PER AFR 173-10,6 FEB 75,CHANGE 2)

13 AIRMAN ACQUISITION COST ($/MAN)

APPLICABLE MODEL--CACE
CACE--STANDARD VALUE IS $2400 (PER AFR 173-10,6 FEB 75,CHANGE 2)

14 PCS COST, OFFICERS ($/PCS)

APPLICABLE MODEL--CACE
CACE--CURRENT DATA VALUES ARE IN AFR 173-10, VOL 1, TABLE 27A

15 PCS COST, AIRMEN ($/PCS)

APPLICABLE MODEL--CACE
CACE--CURRENT DATA VALUES ARE IN AFR 173-10, VOL 1, TABLE 27A

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SECTION 4              ( Level 0, Section 4)

   SECTION NAME--SPARES-INITIAL AND REPLENISHMENT
   DESCRIPTION--THIS SECTION HAS TWO SUBSECTIONS AND EACH HAS DATA AT
     LEVEL ZERO. THEY ARE--(1)STOCKAGE OBJECTIVES-WITH ONE DATA ITEM, AND
     (2)COMPUTATIONAL TIME FACTORS-WITH TWO DATA ITEMS.
   ASSOCIATED MODELS--LSC,MOD-METRIC

SUBSECTION 1           ( Level 0, Section 4, Subsection 1 )

   SUBSECTION NAME--STOCKAGE OBJECTIVES
   DESCRIPTION--THIS SUBSECTION CONTAINS TWO ITEMS FOR ORDER/SHIP TIME
   ASSOCIATED MODELS--LSC,MOD-METRIC

 1  EXPECTED BACKORDER LEVEL


SUBSECTION 2           ( Level 0, Section 4, Subsection 2 )

   SUBSECTION NAME--COMPUTATIONAL TIME FACTORS
   DESCRIPTION--THIS SUBSECTION CONTAINS TWO ITEMS FOR ORDER/SHIP TIME.
   ASSOCIATED MODELS--LSC,MOD-METRIC

 1  ORDER AND SHIPPING TIME,CONUS (DAYS)

   APPLICABLE MODELS--MOD-METRIC
   ITERATION VARIABLE IN MOD-METRIC
   MOD-METRIC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

 2  ORDER AND SHIPPING TIME,OVERSEAS (DAYS)

   APPLICABLE MODELS--MOD-METRIC
   ITERATION VARIABLE IN MOD-METRIC
   MOD-METRIC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

SECTION 6              ( Level 0, Section 6 )

   SECTION NAME--LOGISTICS OPERATIONS
   DESCRIPTION--THIS SECTION CONTAINS 3 SUBSECTIONS AT LEVEL ZERO. THESE
     ARE--(1)SUPPLY MANAGEMENT FACTORS-WITH 4 ITEMS,(2)TRANSPORTATION
     FACTORS-WITH 3 ITEMS,AND(3)TECHNICAL ORDERS-WITH 3 ITEMS.
   ASSOCIATED MODELS--LSC,LCC2,GEMM

SUBSECTION 1           ( Level 0, Section 6, Subsection 1 )

   SUBSECTION NAME--SUPPLY MANAGEMENT FACTORS
   DESCRIPTION--THIS SUBSECTION CONTAINS FOUR DATA ITEMS WHICH DEAL WITH
     INVENTORY/SUPPLY COSTS.
   ASSOCIATED MODELS--LSC,LCC2

 1  INITIAL ITEM MGT ENTRY COST ($/NEW ITEM)

   APPLICABLE MODEL--LSC,LCC2
```

ITERATION VARIABLE IN--LSC,LCC2
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

2 RECURRING ITEM MGT COST ($/ITEM/YR)

APPLICABLE MODEL--LSC,LCC2
ITERATION VARIABLE IN--LSC,LCC2
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

3 BASE SUPPLY MGT COST ($/ITEM/YR)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

4 LABOR TIME/SUPPLY TRANSACTION (MHRS/ACT)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN LSC
LSC--EQUIVALENT INPUT VARIABLE IS THE MANHOURS REQUIRED TO COMPLETE SUPPLY TRANSACTION RECORD PER ACTION.

SUBSECTION 2 (Level 0, Section 6, Subsection 2)

SUBSECTION NAME--TRANSPORTATION FACTORS
DESCRIPTION--THIS SUBSECTION CONTAINS THREE DATA ITEMS RELATED TO TRANSPORTATION COSTS
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 PACKING AND SHIPPING,CONUS ($/LB)

APPLICABLE MODELS--LSC,LCC2
ITERATION VARIABLE IN LSC,LCC2
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. STANDARD VALUE IS $.53
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

2 PACKING AND SHIPPING,OVERSEAS ($/LB)

APPLICABLE MODELS--LSC,LCC2
ITERATION VARIABLE IN LSC,LCC2
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. STANDARD VALUE IS $.99
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

3 TRANSPORTATION RECORDS LABOR (MHRS/ACT)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN LSC
LSC--EQUIVALENT INPUT VARIABLE IS THE MANHOURS REQUIRED TO COMPLETE TRANSPORTATION RECORDS PER SHIPMENT.

SUBSECTION 3 (Level 0, Section 6, Subsection 3)

1 INITIAL DATA MGT COST, ($/COPY/PAGE)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN LCC2
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

2 DATA MGT COST, ($/PAGE/YR)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN LCC2
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

3 INITIAL COST OF TECH ORDERS ($/PAGE)

APPLICABLE MODELS--LSC, LCC2
ITERATION VARIABLE IN LSC, LCC2
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

LEVEL 1

SECTION 1 (Level 1, Section 1)

SECTION NAME--WEAPON SYSTEM DEPLOYMENT, USAGE, AND CHARACTERISTICS
DESCRIPTION--THIS SECTION CONTAINS 3 SUBSECTIONS AT LEVEL ONE. THESE ARE--(1)WEAPON SYSTEM DEPLOYMENT-WITH 65 ITEMS,(2)MISSION UTILIZATION-WITH 2 ITEMS,AND (3)EQUIPMENT CHARACTERISTICS-WITH 10 ITEMS.
ASSOCIATED MODELS--LSC,LCC2,GEMM

SUBSECTION 1 (Level 1, Section 1, Subsection 1)

SUBSECTION NAME--WEAPON SYSTEM DEPLOYMENT
DESCRIPTION--THIS SUBSECTION HAS 65 DATA ITEMS AT LEVEL ONE. THE FIRST FIVE DEAL WITH THE NUMBER OF MAINTENANCE LOCATIONS. THE LAST SIXTY ITEMS REPRESENT THE SYSTEM ACTIVATION ARRAY FOR THE LCC2 MODEL. IT IS SUGGESTED THAT SHOW AND RANGE COMMANDS BE LIMITED.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 ORGANIZATIONAL MAINTENANCE POINTS(QTY)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

2 INTERMEDIATE MAINTENANCE POINTS (QTY)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE QUANTITY OF ENGINE STOCKAGE POINTS IS SEPARATE FROM THE NUMBER OF STOCKAGE POINTS FOR OTHER L1 NODES.IF THE WORK UNIT CODE IS A FIVE DIGIT NUMBER WITH THE FIRST TWO DIGITS"23",THEN THIS VARIABLE MUST BE INPUT.

3 THEATRE LEVEL DEPOT POINTS (QTY)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE QUANTITY OF ENGINE STOCKAGE POINTS IS SEPARATE FROM THE NUMBER OF STOCKAGE POINTS FOR OTHER L1 NODES.IF THE WORK UNIT CODE IS A FIVE DIGIT NUMBER WITH THE FIRST TWO DIGITS"23",THEN THIS VARIABLE MUST BE INPUT.

4 DEPOT MAINTENANCE POINTS (QTY)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE QUANTITY OF ENGINE STOCKAGE POINTS IS SEPARATE FROM THE NUMBER OF STOCKAGE POINTS FOR OTHER L1 NODES.IF THE WORK UNIT CODE IS A FIVE DIGIT NUMBER WITH THE FIRST TWO DIGITS"23",THEN THIS VARIABLE MUST BE INPUT.

5 STOCKAGE LOCATIONS FOR SPARE ENGINES(QTY

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE QUANTITY OF ENGINE

STOCKAGE POINTS IS SEPARATE FROM THE NUMBER OF STOCKAGE POINTS FOR OTHER L1 NODES.IF THE WORK UNIT CODE IS A FIVE DIGIT NUMBER WITH THE FIRST TWO DIGITS"23",THEN THIS VARIABLE MUST BE INPUT.

6 SYSTEMS ACTIVATED IN MONTH 1 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

7 SYSTEMS ACTIVATED IN MONTH 2 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

8 SYSTEMS ACTIVATED IN MONTH 3 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

9 SYSTEMS ACTIVATED IN MONTH 4 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

10 SYSTEMS ACTIVATED IN MONTH 5 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

11 SYSTEMS ACTIVATED IN MONTH 6 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

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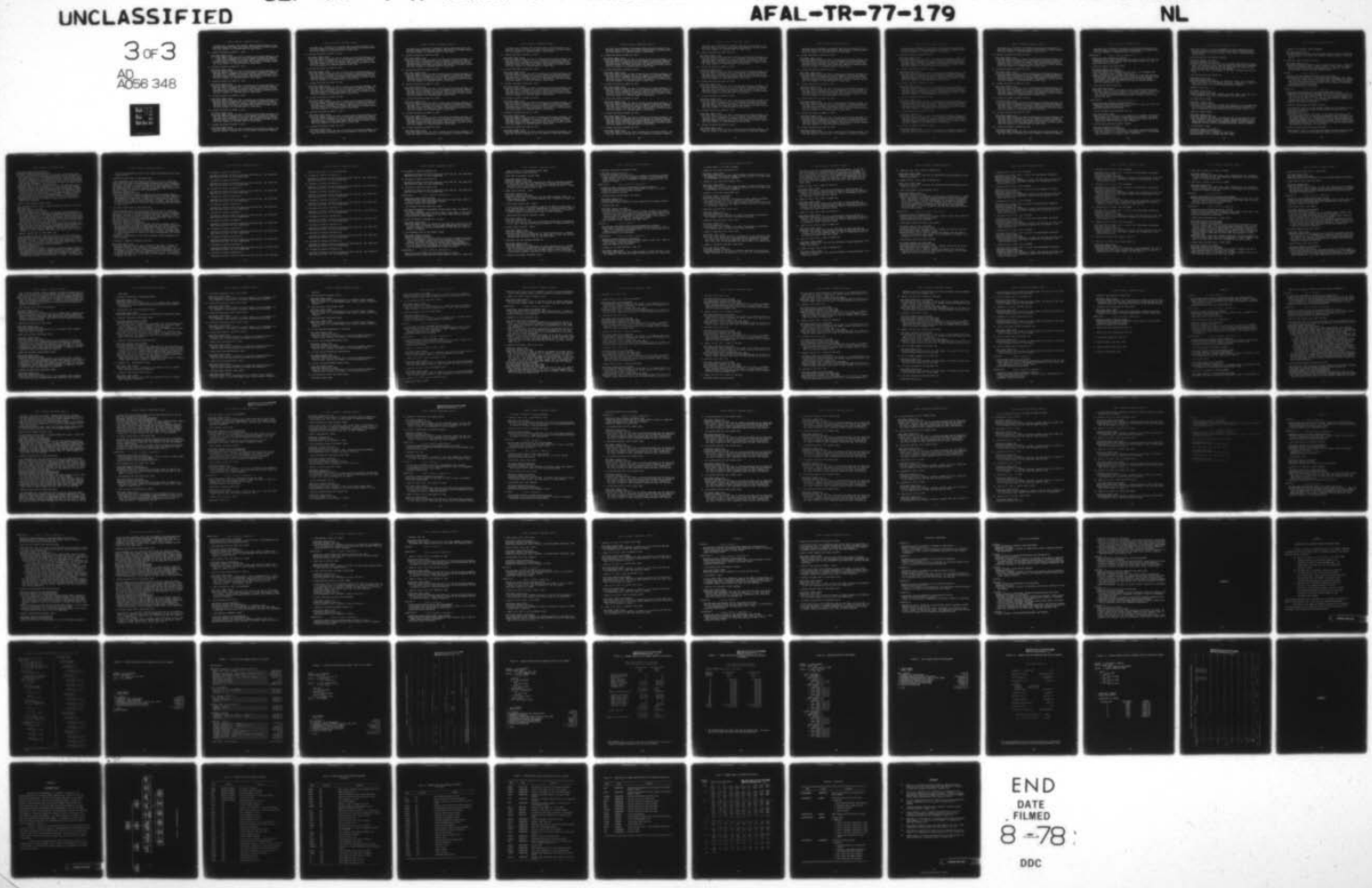

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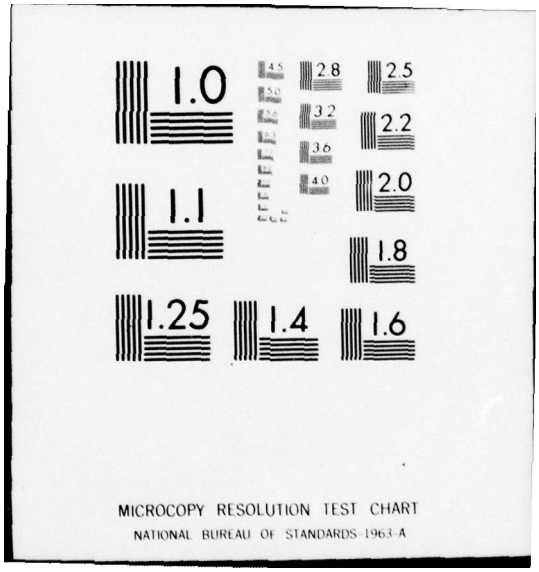
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

12 SYSTEMS ACTIVATED IN MONTH 7 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

13 SYSTEMS ACTIVATED IN MONTH 8 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

14 SYSTEMS ACTIVATED IN MONTH 9 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

15 SYSTEMS ACTIVATED IN MONTH 10 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

16 SYSTEMS ACTIVATED IN MONTH 11 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

17 SYSTEMS ACTIVATED IN MONTH 12 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

18 SYSTEMS ACTIVATED IN MONTH 13 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

19 SYSTEMS ACTIVATED IN MONTH 14 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

20 SYSTEMS ACTIVATED IN MONTH 15 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

21 SYSTEMS ACTIVATED IN MONTH 16 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

22 SYSTEMS ACTIVATED IN MONTH 17 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

23 SYSTEMS ACTIVATED IN MONTH 18 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

24 SYSTEMS ACTIVATED IN MONTH 19 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

25 SYSTEMS ACTIVATED IN MONTH 20 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

26 SYSTEMS ACTIVATED IN MONTH 21 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

27 SYSTEMS ACTIVATED IN MONTH 22 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

28 SYSTEMS ACTIVATED IN MONTH 23 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

29 SYSTEMS ACTIVATED IN MONTH 24 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

30 SYSTEMS ACTIVATED IN MONTH 25 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

31 SYSTEMS ACTIVATED IN MONTH 26 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

32 SYSTEMS ACTIVATED IN MONTH 27 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

33 SYSTEMS ACTIVATED IN MONTH 28 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

34 SYSTEMS ACTIVATED IN MONTH 29 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

35 SYSTEMS ACTIVATED IN MONTH 30 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

36 SYSTEMS ACTIVATED IN MONTH 31 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

37 SYSTEMS ACTIVATED IN MONTH 32 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

38 SYSTEMS ACTIVATED IN MONTH 33 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

39 SYSTEMS ACTIVATED IN MONTH 34 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

40 SYSTEMS ACTIVATED IN MONTH 35 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

41 SYSTEMS ACTIVATED IN MONTH 36 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

42 SYSTEMS ACTIVATED IN MONTH 37 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

43 SYSTEMS ACTIVATED IN MONTH 38 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

44 SYSTEMS ACTIVATED IN MONTH 39 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

45 SYSTEMS ACTIVATED IN MONTH 40 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

46 SYSTEMS ACTIVATED IN MONTH 41 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

47 SYSTEMS ACTIVATED IN MONTH 42 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

48 SYSTEMS ACTIVATED IN MONTH 43 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

49 SYSTEMS ACTIVATED IN MONTH 44 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

50 SYSTEMS ACTIVATED IN MONTH 45 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

51 SYSTEMS ACTIVATED IN MONTH 46 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

52 SYSTEMS ACTIVATED IN MONTH 47 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

53 SYSTEMS ACTIVATED IN MONTH 48 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

54 SYSTEMS ACTIVATED IN MONTH 49 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

55 SYSTEMS ACTIVATED IN MONTH 50 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

56 SYSTEMS ACTIVATED IN MONTH 51 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

57 SYSTEMS ACTIVATED IN MONTH 52 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

58 SYSTEMS ACTIVATED IN MONTH 53 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

59 SYSTEMS ACTIVATED IN MONTH 54 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

60 SYSTEMS ACTIVATED IN MONTH 55 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

61 SYSTEMS ACTIVATED IN MONTH 56 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

62 SYSTEMS ACTIVATED IN MONTH 57 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

63 SYSTEMS ACTIVATED IN MONTH 58 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

64 SYSTEMS ACTIVATED IN MONTH 59 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER, THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

65 SYSTEMS ACTIVATED IN MONTH 60 (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE AN ACTIVATION SCHEDULE. THE USER MAY DEFINE A SCHEDULE OF UP TO 60 MONTHS IN DURATION. HOWEVER,

THE MODEL WILL INTERPRET THE QUANTITY ZERO AS BEING THE END OF THE PHASE-IN PERIOD. THE MODEL WILL CHECK THE QUANTITY ACTIVATED AGAINST THE TOTAL QUANTITY OF SYSTEMS INPUT AT LEVEL ZERO.

SUBSECTION 2 (Level 1, Section 1, Subsection 2)

SUBSECTION NAME--MISSION UTILIZATION
DESCRIPTION--THIS SUBSECTION HAS TWO DATA ITEMS AT LEVEL TWO. THEY ARE MODIFIERS TO THE BASIC FLYING HOUR UTILIZATION WHICH IS AT LEVEL 0.
ASSOCIATED MODELS--LCC2,GEMM

1 OPERATING HOUR/FLYING HOUR FACTOR

APPLICABLE MODELS--LCC2,GEMM
ITERATION VARIABLE IN--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THIS VARIABLE MUST HAVE A NON-ZERO VALUE. TYPICAL VALUE IS 1.
GEMM--THIS DATA ITEM IS MULTIPLIED BY PEACETIME FLYING HOURS PER SYSTEM PER MONTH AND ADJUSTED TO A DAILY RATE FOR INPUT VARIABLE OPHRDY RELATIONSHIP IS--OPHRDY=(OPERATING HOUR TO FLYING HOUR RATIO* PEACETIME FLYING HOURS PER SYSTEM PER MONTH*12 MONTHS)/NUMBER OF DAYS OF OPERATION PER YEAR.

2 DAYS/YEAR OF SYSTEM OPERATION

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS EQUIVALENT TO INPUT VARIABLES NDAY AND NDAE. THE INPUT VALUE IS USED TO COMPUTE THE VARIABLE OPHRDY. THE RELATION SHIP IS--OPHRDY=(OPERATING HOUR TO FLYING HOUR RATIO*PEACETIME FLYING HOURS PER SYSTEM PER MONTH*12 MONTHS)/NUMBER OF DAYS OF OPERATION PER YEAR.

SUBSECTION 3 (Level 1, Section 1, Subsection 3)

SUBSECTION NAME--EQUIPMENT CHARACTERISTICS
DESCRIPTION--THIS SUBSECTION HAS 10 DATA ITEMS AT LEVEL ONE. THESE ARE PRIMARILY SUBSYSTEM ACQUISITION COSTS.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 SYSTEM RESEARCH AND DEVELOPMENT COST ($)

APPLICABLE MODEL--GEMM
GEMM--THIS IS THE ESTIMATED COST TO COMPLETE THE RESEARCH AND DEVELOPMENT PROGRAM FOR THE LEVEL 1 SUBSYSTEM BEING EVALUATED. THE MODEL PASSES THIS VALUE DIRECTLY TO THE OUTPUT WITHOUT BEING USED IN ANY CALCULATIONS EXCEPT THE TOTAL COST SUMMATION.

2 SYSTEM ACQUISTION COST,INITIAL ($/UNIT)

APPLICABLE MODELS--LCC2,GEMM
ITERATION VARIABLE IN--LCC2,GEMM
LCC2--THIS DATA ITEM IS EQUIVALENT TO THE INPUT VARIABLE-ACQUISITION COST PER SYSTEM. IT IS THE INITIAL PROCUREMENT COST OF THE HARDWARE WHICH REPRESENTS ONE COMPLETE LEVEL 1 SUBSYSTEM.

GEMM--THIS DATA ITEM IS USED TO COMPUTE THE TOTAL ACQUISITION COST. THE RELATIONSHIP IS--ACQUISITION COST=UNIT COST*(SYSTEMS DEPLOYED OVERSEAS+SYSTEMS DEPLOYED IN CONUS). THIS RESULT IS PASSED DIRECTLY TO THE OUTPUT.

3 SYSTEM ACQUISTION COST,SPARES ($/UNIT)

APPLICABLE MODELS--LSC,GEMM
ITERATION VARIABLE IN--LSC,GEMM
LSC--THIS DATA ITEM IS USED ONLY FOR THE ENGINE SUBSYSTEM AND IS EQUIVALENT TO ENGINE UNIT COST. WHEN THE WORK UNIT CODE DATA ITEM(NUMBER 10 OF THIS SECTION) BEGINS WITH THE DIGITS "23" THE VALUE OF THIS DATA ITEM WILL BE PASSED TO THE LSC PROGRAM.
GEMM--THIS DATA ITEM IS EQUIVALENT TO THE INPUT VARIABLE-COST PER END ITEM.

4 INSTALLATION COST PER SYSTEM ($)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME DATA LABEL. THIS ITEM REPRESENTS THE INITIAL COST TO INSTALL THE LEVEL 1 SUBSYSTEM. IT MAY BE A SIGNIFICANT COST FOR A RETROFIT/MODERNIZATION PROGRAM.

5 WARRANTY COST,TOTAL ($)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT MODEL INPUT VARIABLE HAS SAME LABEL. THIS ITEM IS THE TOTAL WARRANTY COST AND IS PASSED DIRECTLY TO THE OUTPUT.

6 DISCOUNT FACTOR (FRAC)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN LCC2
LCC2--THIS ITEM IS INPUT AS A DECIMAL AND REPRESENTS THE DISCOUNT RATE IN ADDITION TO UNDISCOUNTED TOTALS,LCC2 COMPUTES THE DISCOUNTED TOTALS IN ACCORDANCE WITH DOD DIRECTIVE 7041.3. NOMINAL VALUE IS .10

7 WARRANTY PERIOD (YEARS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THE VALUE OF THIS DATA ITEM CONTROLS THE CALCULATIONS FOR LOGISTICS RESOURCES. WHEN THE VALUE IS ZERO, ORGANIC MAINTENANCE IS ASSUMED. WHEN IT IS NON-ZERO, THE WARRANTY CONCEPT IS USED. RESOURCE CATEGORIES AFFECTED INCLUDE MANPOWER,SPARES,AND SUPPORT EQUIPMENT.

8 SYSTEM WEIGHT (LBS)

APPLICABLE MODELS--LCC2,GEMM
ITERATION VARIABLE IN--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

9 QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY

APPLICABLE MODELS--LSC
LSC--THIS DATA IS USED ONLY FOR THE ENGINE SUBSYSTEM AND IS EQUIVALENT TO THE QUANTITY OF ENGINES PER AIRCRAFT. MINIMAL VALUE OF 1 MUST BE INPUT.

10 WORK UNIT CODE (5 NUMERIC DIGITS)

APPLICABLE MODELS--LSC
LSC--THIS FIVE DIGIT NUMBER IS USED TO CONTROL WHICH LEVEL 1 CANDIDATE SHOULD BE CONSIDERED AS THE ENGINE SYSTEM. IF THE FIRST TWO DIGITS ARE "23", THEN THE ENGINE SYSTEM ALGORITHM IS COMPUTED. THE INPUT IS ALSO USED TO LABEL THE LINE PRINTER OUTPUT.

SECTION 2 (Level 1, Section 2)

SECTION NAME--MAINTENANCE RATES, ACTIVITIES AND COSTS
DESCRIPTION--THIS SECTION HAS FOUR SUBSECTIONS CONTAINING DATA ITEMS AT LEVEL ONE. THESE ARE--(1)RELIABILITY AND MAINTENANCE RATE FACTORS -WITH 31 DATA ITEMS, (2)LEVEL OF REPAIR-WITH 3 DATA ITEMS, (3)CORRECTIVE ACTION ACTIVITIES AND COSTS-WITH 8 DATA ITEMS, AND (4)SCHEDULED MAINTENANCE ACTIONS AND COSTS.
ASSOCIATED MODELS--LSC, LCC2, GEMM

SUBSECTION 1 (Level 1, Section 2, Subsection 1)

SUBSECTION NAME--RELIABILITY AND MAINTENANCE RATE FACTORS
DESCRIPTION--THIS SUBSECTION CONTAINS 31 DATA ITEMS AT LEVEL ONE. IN ADDITION TO THE BASIC FACTORS DRAWN FROM USAF/LG LETTER, DATED 21 OCT 76, THE LAST 26 DATA ITEMS FORM THE 25 YEAR RELIABILITY GROWTH PROFILE FOR THE LCC2 MODEL. IT IS SUGGESTED THAT CERTAIN COMMANDS, IE 'RANGE' AND 'SHOW' BE USED WITH A LIMITER.
ASSOCIATED MODELS--LSC, LCC2, GEMM

1 MEAN OP TIME BETWEEN PREV MAINT ACT(HRS)

MEAN OPERATING TIME (IN HOURS) BETWEEN PREVENTIVE MAINTENANCE ACTIONS FOR LEVEL 1 SUBSYSTEM AS DEFINED IN USAF/LG LETTER 21 OCT 76.
APPLICABLE MODEL--LSC
ITERATION IN -- LSC
LSC--THIS IS AN OPTIONAL DATA ITEM. IF THE VALUE IS NON-ZERO, THIS ITEM CONTRIBUTES TO THE COMBINED MAINTENANCE REMOVAL RATE(CMRI) FOR THE ENGINE SUBSYSTEM. IF THE OTHER FACTORS ARE ALSO NON-ZERO, THEN THE INPUT VARIABLE CMRI IS COMPUTED AS FOLLOWS CMRI=1/((1/MEAN TIME BETWEEN PREV MAINT)+(1/MEAN TIME BETWEEN CORRECTIVE ACTION)+(1/MEAN TIME BETWEEN OVERHAUL)). THIS CALCULATION IS VALID FOR ENGINE SUBSYSTEMS ONLY, FOR THIS MODEL, AT THIS LEVEL.

2 MEAN OP TIME BETWEEN CORR MAINT ACT(HRS)

MEAN OPERATING TIME (IN HOURS) BETWEEN CORRECTIVE MAINTENANCE ACTIONS FOR LEVEL 1 SUBSYSTEM AS DEFINED IN USAF/LG LETTER 21 OCT 76.

APPLICABLE MODELS--LSC,LCC2,GEMM
ITERATION VARIABLE IN--LSC,LCC2,GEMM
LSC--THIS IS AN OPTIONAL DATA ITEM. IF THE VALUE IS NON-ZERO, THIS ITEM CONTRIBUTES TO THE COMBINED MAINTENANCE REMOVAL RATE(CMRI) FOR THE ENGINE SUBSYSTEM. IF THE OTHER FACTORS ARE ALSO NON-ZERO, THEN THE INPUT VARIABLE CMRI IS COMPUTED AS FOLLOWS CMRI=1/((1/MEAN TIME BETWEEN PREV MAINT)+(1/MEAN TIME BETWEEN CORRECTIVE ACTION)+(1/MEAN TIME BETWEEN OVERHAUL)). THIS CALCULATION IS VALID FOR ENGINE SUBSYSTEMS ONLY,FOR THIS MODEL, AT THIS LEVEL.
LCC2--THIS ITEM IS USED TO COMPUTE THE MTBF OF THE SUBSYSTEM, INPUT VARIABLE MTBF(1). THE RELATIONSHIP IS MTBF(1)=(MEAN TIME BETWEEN CORRECTIVE MAINTENANCE ACTION)/(INHERENT FAILURE FRACTION + INDUCED FAILURE FRACTION + NO DEFECT FOUND FRACTION). THE DENOMINATOR MUST BE NON-ZERO BUT NOT LARGER THAN 1.0. THE USER CAN ADJUST THE EFFECTIVE MTBF WITH THE THREE FACTORS. THE INHERENT FRACTION IS USUALLY THE ONLY PORTION FOR WHICH THE HARDWARE VENDOR IS RESPONSIBLE.
GEMM--THIS DATA ITEM IS USED DIRECTLY AS THE MTBF OF THE SUBSYSTEM. ADJUSTMENT FOR NO DEFECT ACTIONS IS MADE USING DATA ITEM 6 AS A DIRECT INPUT VARIABLE.

3 MEAN OP TIME BETWEEN OVERHAUL (HRS)

MEAN OPERATING TIME(IN HOURS) BETWEEN SCHEDULED OVERHAUL OF THE LEVEL ONE SUBSYSTEM.
APPLICABLE MODELS--LSC,GEMM
ITERATION VARIABLE IN--LSC,GEMM
LSC--THIS IS AN OPTIONAL DATA ITEM. IF THE VALUE IS NON-ZERO, THIS ITEM CONTRIBUTES TO THE COMBINED MAINTENANCE REMOVAL RATE(CMRI) FOR THE ENGINE SUBSYSTEM. IF THE OTHER FACTORS ARE ALSO NON-ZERO, THEN THE INPUT VARIABLE CMRI IS COMPUTED AS FOLLOWS CMRI=1/((1/MEAN TIME BETWEEN PREV MAINT)+(1/MEAN TIME BETWEEN CORRECTIVE ACTION)+(1/MEAN TIME BETWEEN OVERHAUL)). THIS CALCULATION IS VALID FOR ENGINE SUBSYSTEMS ONLY,FOR THIS MODEL, AT THIS LEVEL.
GEMM--THIS DATA ITEM IS TRANSFORMED TO THE TIME BETWEEN OVERHAUL IN YEARS FOR INPUT VARIABLE TBOE. THE RELATIONSHIP IS--TBOE=MEAN OPERATING TIME(IN HOURS) BETWEEN OVERHAUL/(OPERATING HOURS PER DAY * NUMBER OF DAYS PER YEAR OF OPERATION). THE OPERATING HOURS PER DAY VARIABLE IS ITSELF COMPUTED FROM DATA ITEM 1,LEVEL 1,SEC 1, SUB 2.

4 INHERENT FAILURE FRAC OF CORR MAINT ACTS

---IN ACCORDANCE WITH AIR STAFF/LG LETTER OF 21 OCT 76, THERE ARE THREE TYPES OF CORRECTIVE MAINTENANCE ACTIONS--THOSE DUE TO INHERENT FAILURES, THOSE DUE TO INDUCED FAILURES AND THOSE IN WHICH NO DEFECTS ARE FOUND. IN ORDER TO ALLOW THE USER OF THE SAVE PROCEDURE TO TEST THE SENSITIVITY OF RESULTS TO FAILURE DEFINITIONS,THESE TYPES OF CORRECTIVE ACTIONS ARE INCLUDED WHERE APPROPRIATE.
APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE MTBF(1). THE RELATIONSHIP IS--MTBF(1)=(MEAN OPERATING TIME BETWEEN CORRECTIVE MAINTENANCE ACTIONS)/(FRAC OF CORRECTIVE ACTIONS DUE TO INHERENT FAILURES+FRAC OF CORRECTIVE ACTIONS DUE TO INDUCED FAILURES + FRAC OF CORRECTIVE ACTIONS IN WHICH NO DEFECT IS FOUND). THE DENOMINATOR

OF THIS RELATIONSHIP-THE SUM OF THE THREE FRACTIONS-MUST NOT EXCEED A VALUE OF 1.0

5 INDUCED FAILURE FRAC OF CORR MAINT ACTS

---IN ACCORDANCE WITH AIR STAFF/LG LETTER OF 21 OCT 76, THERE ARE THREE TYPES OF CORRECTIVE MAINTENANCE ACTIONS--THOSE DUE TO INHERENT FAILURES, THOSE DUE TO INDUCED FAILURES AND THOSE IN WHICH NO DEFECTS ARE FOUND. IN ORDER TO ALLOW THE USER OF THE SAVE PROCEDURE TO TEST THE SENSITIVITY OF RESULTS TO FAILURE DEFINITIONS,THESE TYPES OF CORRECTIVE ACTIONS ARE INCLUDED WHERE APPROPRIATE.
APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE MTBF(1). THE RELATIONSHIP IS--MTBF(1)=(MEAN OPERATING TIME BETWEEN CORRECTIVE MAINTENANCE ACTIONS)/(FRAC OF CORRECTIVE ACTIONS DUE TO INHERENT FAILURES+FRAC OF CORRECTIVE ACTIONS DUE TO INDUCED FAILURES + FRAC OF CORRECTIVE ACTIONS IN WHICH NO DEFECT IS FOUND). THE DENOMINATOR OF THIS RELATIONSHIP-THE SUM OF THE THREE FRACTIONS-MUST NOT EXCEED A VALUE OF 1.0

6 NO DEFECT FOUND FRAC OF CORR MAINT ACTS

---IN ACCORDANCE WITH AIR STAFF/LG LETTER OF 21 OCT 76, THERE ARE THREE TYPES OF CORRECTIVE MAINTENANCE ACTIONS--THOSE DUE TO INHERENT FAILURES, THOSE DUE TO INDUCED FAILURES AND THOSE IN WHICH NO DEFECTS ARE FOUND. IN ORDER TO ALLOW THE USER OF THE SAVE PROCEDURE TO TEST THE SENSITIVITY OF RESULTS TO FAILURE DEFINITIONS,THESE TYPES OF CORRECTIVE ACTIONS ARE INCLUDED WHERE APPROPRIATE.
APPLICABLE MODELS--LCC2,GEMM
ITERATION VARIABLE IN--LCC2,GEMM
LCC2--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE MTBF(1). THE RELATIONSHIP IS--MTBF(1)=(MEAN OPERATING TIME BETWEEN CORRECTIVE MAINTENANCE ACTIONS)/(FRAC OF CORRECTIVE ACTIONS DUE TO INHERENT FAILURES+FRAC OF CORRECTIVE ACTIONS DUE TO INDUCED FAILURES + FRAC OF CORRECTIVE ACTIONS IN WHICH NO DEFECT IS FOUND). THE DENOMINATOR OF THIS RELATIONSHIP-THE SUM OF THE THREE FRACTIONS-MUST NOT EXCEED A VALUE OF 1.0
GEMM--THIS IS EQUIVALENT TO THE INPUT VARIABLE PFNGO--PROBABILITY OF FALSE FAILURE.

7 RELIABILITY PROFILE FACTOR,YR 1(YR 0=1.)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL ALLOWS THE USER TO DEFINE A RELIABILITY GROWTH (OR DECREASE) PROFILE. THIS FEATURE IS PARTICULARLY WELL SUITED FOR ANALYSIS OF THE RELIABILITY ASPECTS OF CONTRACTOR WARRANTY. THE MODEL ASSUMES A FACTOR OF ONE AS A BENCHMARK. A MULTIPLICATIVE FACTOR IS REQUIRED(NON-ZERO) FOR EACH YEAR OF EXPECTED LIFE. THE LOGISTICS RESOURCES FOR EACH YEAR IS CALCULATED ON THE BASIS OF THE RELIABILITY FACTOR FOR YEAR 1.

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 8  RELIABILITY PROFILE FACTOR,YR 2

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

 9  RELIABILITY PROFILE FACTOR,YR 3

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

10  RELIABILITY PROFILE FACTOR,YR 4

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

11  RELIABILITY PROFILE FACTOR,YR 5

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

12  RELIABILITY PROFILE FACTOR,YR 6

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

13  RELIABILITY PROFILE FACTOR,YR 7

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

14  RELIABILITY PROFILE FACTOR,YR 8

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

15  RELIABILITY PROFILE FACTOR,YR 9

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

16  RELIABILITY PROFILE FACTOR,YR 10

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

17  RELIABILITY PROFILE FACTOR,YR 11

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
    SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

18  RELIABILITY PROFILE FACTOR,YR 12

    RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26)  SEE TEACH MES-
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SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

19 RELIABILITY PROFILE FACTOR,YR 13

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

20 RELIABILITY PROFILE FACTOR,YR 14

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

21 RELIABILITY PROFILE FACTOR,YR 15

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

22 RELIABILITY PROFILE FACTOR,YR 16

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

23 RELIABILITY PROFILE FACTOR,YR 17

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

24 RELIABILITY PROFILE FACTOR,YR 18

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

25 RELIABILITY PROFILE FACTOR,YR 19

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

26 RELIABILITY PROFILE FACTOR,YR 20

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

27 RELIABILITY PROFILE FACTOR,YR 21

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

28 RELIABILITY PROFILE FACTOR,YR 22

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MES-
SAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

29 RELIABILITY PROFILE FACTOR,YR 23

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MESSAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

30 RELIABILITY PROFILE FACTOR,YR 24

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MESSAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

31 RELIABILITY PROFILE FACTOR,YR 25

RELIABILITY PROFILE FACTOR FOR YEAR N,(N LESS THAN 26) SEE TEACH MESSAGE FOR DATA ITEM 7 OF THIS SUBSECTION.

SUBSECTION 2 (Level 1, Section 2, Subsection 2)

SUBSECTION NAME--LEVEL OF REPAIR
DESCRIPTION--THIS SUBSECTION HAS 3 DATA ITEMS AT LEVEL ONE. THESE RELATE TO SYSTEM LEVEL MAINTENANCE ACTIONS
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 SYS REMOVALS PER PREV MAINT ACT (FRAC)

FRACTION OF PREVENTIVE MAINTENANCE ACTIONS WHICH RESULT IN REMOVAL OF THE LEVEL 1 SYSTEM.
---NO MODEL CURRENTLY USES THIS DATA ITEM AT THIS LEVEL. IT IS INCLUD-
---ED TO PROVIDE CONSISTENCY WITH THE OTHER LEVELS AND FOR POSSIBLE
---FUTURE USE BY OTHER MODELS

2 LEVEL OF REPAIR OF REMOVED SYS (0-4) OR4)

APPLICABLE MODEL-GEMM
GEMM--THIS MODEL ALLOWS FOR REPAIR OF THE LEVEL ONE SYSTEM AT ANY ONE OF FOUR LEVELS OR DISCARD. IN AIR FORCE TERMINOLOGY, THE LEVEL OF REPAIR IS INPUT AS FOLLOWS--ON-EQUIPMENT=1, BASE SHOP=2, THEATRE=3, DEPOT=4, DISCARD=0.

3 SYS FAILURES FIXED BY LRU REMOVAL (FRAC)

APPLICABLE MODEL--LSC,LCC2
ITERATION VARIABLE--LSC,LCC2
LSC--THE COMPLEMENT OF THIS DATA ITEM IS THE INPUT VARIABLE--RIP,FRACTION OF MAINTENANCE ACTIONS WHICH ARE REPAIRED IN PLACE. THE RELATIONSHIP IS--RIP=1-FRACTION OF FAILURES REPAIRED BY REMOVAL.
LCC2--THIS DATA ITEM IS EQUIVALENT TO THE INPUT VARIABLE--NRTS(1). IT IS THE FRACTION OF ACTIONS ON THE LEVEL ONE SUBSYSTEM WHICH RESULTS IN REMOVAL AND REPLACEMENT OF A LEVEL TWO ITEM.

SUBSECTION 3 (Level 1, Section 2, Subsection 3)

SUBSECTION NAME--CORRECTIVE ACTION ACTIVITIES AND COSTS
DESCRIPTION--THIS SUBSECTION HAS 8 DATA ITEMS AT LEVEL ONE. THESE PRI-

MARILY RELATE TO MAINTENANCE ACTION TIMES.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 MEAN TIME TO CHECKOUT SYSTEM (HRS)

APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--THIS MODEL ALLOWS FOR ACCOUNTING OF SPECIFIC RESOURCES CONSUMED IN VERIFYING THAT THE LEVEL ONE SYSTEM IS OPERABLE AS INSTALLED. THIS DATA ITEM IS EQUIVALENT TO THE INPUT VARIABLE MTTRCE. IT INCLUDES ONLY ACTIVE HANDS-ON REPAIR TIME.

2 MEAN TIME TO REPAIR (HRS)

APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--THIS DATA ITEM IS EQUIVALENT TO THE INPUT VARIABLE MTTRE. IT SHOULD INCLUDE ONLY THE ACTIVE,HANDS-ON TIME TO REPAIR THE LEVEL ONE SYSTEM ON-EQUIPMENT.

3 STATE VERIFICATION TIME (MHRS)

---THIS DATA ITEM IS NOT CURRENTLY USED IN ANY MODEL AT THIS LEVEL. IT
---IS INCLUDED HERE TO PROVIDE CONSISTENCY. IT WOULD REPRESENT THE RE-
---SOURCES REQUIRED TO PRECISELY DEFINE THE CONDITION OF THE SYSTEM.
---CURRENT MODELS INCORPORATE SUCH TIME IN OTHER MEASURES.

4 REMOVE,REPLACE,CHECKOUT,ON-EQUIP (MHRS)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--THIS DATA ITEM IS USED ONLY FOR ENGINE SYSTEMS AND IS EQUIVALENT TO LSC INPUT VARIABLE--ERMR,EXPECTED MANHOURS TO REMOVE/REPLACE ENG.

5 REPAIR TIME, ON EQUIP (MHRS))

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS EQUIVALENT TO INPUT VARIABLE RLS(1), AVERAGE MANHOURS PER IN-PLACE REPAIR OF THE SUBSYSTEM. AS SUCH, THE USER MAY INCLUDE INACTIVE REPAIR TIME IN THIS DATA ITEM.

6 MATERIAL COST PER ON-EQUIP REPAIR ($)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS EQUIVALENT TO INPUT VARIABLE RMS(1). AVERAGE COST OF MATERIALS CONSUMED PER IN-PLACE REPAIR. COSTS INCLUDED IN THIS DATA ITEM SHOULD BE OVER AND ABOVE COSTS OF PIECE PARTS AND MISCELLANEOUS MATERIAL INCLUDED IN DATA ITEMS 7,8 OF THIS SUBSECTION

7 MATERIAL COST/LABOR HOUR,BASE ($/HR)

8 MATERIAL COST/LABOR HOUR,DEPOT ($/HR)

APPLICABLE MODELS--LSC,LCC2
ITERATION VARIABLES IN--LSC,LCC2
LSC AND LCC2--THIS DATA ITEM IS USED TO ACCOUNT FOR MATERIALS CONSUMED DURING REPAIR WHICH ARE NOT SEPARATELY REPORTED. IN BOTH MODELS THE INPUT VARIABLE IS LABELED CONSUMABLE MATERIALS CONSUMPTION RATE PER MANHOUR OF LABOR.

SUBSECTION 4 (Level 1, Section 2, Subsection 4)

SUBSECTION NAME--SCHEDULED MAINTENANCE ACTIONS AND COSTS
DESCRIPTION--THIS SUBSECTION HAS 2 DATA ITEMS AT THESE LEVEL WHICH DEAL WITH PERIODIC AND OVERHAUL ACTIONS.
ASSOCIATED MODELS--LSC,GEMM

1 PERIODIC/PHASED MAINTENANCE TIME (MHRS)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS SMH, MANHOURS PER SCHEDULED ACTION.

2 OVERHAUL COST ($)

APPLICABLE MODELS--LSC,GEMM
ITERATION VARIABLE IN--LSC,GEMM
LSC--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE EOH, ENGINE OVERHAUL COST. THE MODEL USES THE FRACTION OF THE ENGINE ACQUISITION COST. THE COMPUTED RELATIONSHIP IS--EOH=(OVERHAUL COST)/(COST OF THE SYSTEM) WHERE THE DENOMINATOR IS DATA ITEM 3,LEVEL 1,SEC 1,SUB 3. THIS VARIABLE IS NOT USED FOR NON-ENGINE SYSTEMS.
GEMM--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.

SECTION 3 (Level 1, Section 3)

SECTION NAME--PERSONNEL-OPERATIONS,MAINTENANCE,AND TRAINING
DESCRIPTION--THIS SECTION HAS TWO SECTIONS WITH DATA ITEMS AT LEVEL 1. THEY ARE--(1)PERSONNEL REQUIREMENTS-WITH 17 DATA ITEMS, AND (2) PERSONNEL COSTS WITH 16 DATA ITEMS.
ASSOCIATED MODELS--LSC,LCC2,GEMM

SUBSECTION 1 (Level 1, Section 3, Subsection 1)

SUBSECTION NAME--PERSONNEL REQUIREMENTS
DESCRIPTION--THIS SUBSECTION HAS 17 DATA ITEMS AT LEVEL ONE. THESE RELATE TO SKILL TYPES AND AVAILABILITY.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 NUMBER OF 8 HR SHIFTS/DAY,FLT LINE (QTY

APPLICABLE MODEL--GEMM
GEMM--GEMM CONSIDERS THE TOTAL TIME REQUIRED TO REPAIR AND SHIP A FAILED COMPONENT. THEREFORE,THE NUMBER OF SHIFTS(1,2 OR 3) AT EACH LEVEL

OF MAINTENANCE IS AN INPUT VARIABLE.

2 NUMBER OF 8 HR SHIFTS/DAY,BASE (QTY)

APPLICABLE MODEL--GEMM
GEMM--GEMM CONSIDERS THE TOTAL TIME REQUIRED TO REPAIR AND SHIP A FAIL ED COMPONENT. THEREFORE,THE NUMBER OF SHIFTS(1,2 OR 3) AT EACH LEVEL OF MAINTENANCE IS AN INPUT VARIABLE.

3 NUMBER OF 8 HR SHIFTS/DAY,THEATRE (QTY)

APPLICABLE MODEL--GEMM
GEMM--GEMM CONSIDERS THE TOTAL TIME REQUIRED TO REPAIR AND SHIP A FAIL ED COMPONENT. THEREFORE,THE NUMBER OF SHIFTS(1,2 OR 3) AT EACH LEVEL OF MAINTENANCE IS AN INPUT VARIABLE.

4 NUMBER OF 8 HR SHIFTS/DAY,DEPOT (QTY)

APPLICABLE MODELS--LCC2,GEMM
ITERATION VARIABLE IN--LCC2
LCC2--TO ALLOW FOR INCREASED UTILIZATION OF DEPOT SUPPORT EQUIPMENT THIS MODEL ALLOWS FOR 1,2 OR 3 SHIFTS AT THE DEPOT LEVEL.
GEMM--GEMM CONSIDERS THE TOTAL TIME REQUIRED TO REPAIR AND SHIP A FAIL ED COMPONENT. THEREFORE, THE NUMBER OF SHIFTS(1,2 OR 3) AT EACH LEV- EL IS AN INPUT VARIABLE.

5 MNHRS/MO AVAILABLE,BASE LEVEL (QTY)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS LABEL OF BAA(BASE) OR DAA(DEPOT). THE STANDARD VALUE FOR BOTH IS 168 HOURS PER MONTH.

6 MNHRS/MO AVAILABLE,DEPOT LEVEL (QTY)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS LABEL OF BAA(BASE) OR DAA(DEPOT). THE STANDARD VALUE FOR BOTH IS 168 HOURS PER MONTH.

7 NUMBER OF MANPOWER SKILL TYPES (QTY)

APPLICABLE MODEL--GEMM
GEMM--THIS MODEL ALLOWS THE USER TO SPECIFY UP TO TEN DIFFERENT TYPES OF SKILLS USED IN REPAIR OF THE SUBSYSTEM-OR SUBASSEMBLIES THEREOF. ANY FOUR OF THE TEN MAY BE SPECIFIED FOR THE REPAIR OF A SPECIFIC ITEM. THIS DATA ITEM ESTABLISHES THE TOTAL NUMBER TO BE IDENTIFIED.

8 NUMBER OF DEDICATED MANPOWER TYPES (QTY)

APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--GEMM ALLOWS FOR THE USER TO IDENTIFY MANPOWER SKILL TYPES AS BEING DEDICATED OR NON-DEDICATED. IF A SKILL TYPE IS NON-DEDICATED,

PERSONNELL COSTS ARE ACCUMULATED ON A MAN-HOUR BASIS. IF THE SKILL TYPE IS CONSIDERED TO BE DEDICATED--THAT IS, THAT THE PERSONNEL IS NOT TO BE SHARED IN SUPPORT OF ANOTHER SUBSYSTEM--THE PERSONNEL COSTS ARE ACCUMULATED ON THE BASIS OF AN INTEGER MULTIPLICATIVE OF THE OF THE ANNUAL COST PER MAN. IF THERE ARE N TYPES SPECIFIED--SEE PREVIOUS DATA ITEM--AND K TYPES ARE DEDICATED, THEN THE INDEXES OF THE SKILL TYPES MUST BE ARRANGED SO THAT THE LAST K TYPES ARE THE DEDICATED ONES.

9 INDEX OF SKILL TYPE 1 USED TO CHECK SYS

APPLICABLE MODEL--GEMM
GEMM--UPTO FOUR SKILL TYPES MAY BE SPECIFIED AS BEING REQUIRED TO CHECKOUT THE SYSTEM. SPECIFICATION IS MADE BY INPUTTING THE INDEX OF A SKILL TYPE FOR DATA ITEMS 9 THRU 12. SIZE OF MAINTENANCE CREW CAN BE CONTROLLED USING THESE DATA ITEMS.

10 INDEX OF SKILL TYPE 2 USED TO CHECK SYS

APPLICABLE MODEL--GEMM
GEMM--UPTO FOUR SKILL TYPES MAY BE SPECIFIED AS BEING REQUIRED TO CHECKOUT THE SYSTEM. SPECIFICATION IS MADE BY INPUTTING THE INDEX OF A SKILL TYPE FOR DATA ITEMS 9 THRU 12. SIZE OF MAINTENANCE CREW CAN BE CONTROLLED USING THESE DATA ITEMS.

11 INDEX OF SKILL TYPE 3 USED TO CHECK SYS

APPLICABLE MODEL--GEMM
GEMM--UPTO FOUR SKILL TYPES MAY BE SPECIFIED AS BEING REQUIRED TO CHECKOUT THE SYSTEM. SPECIFICATION IS MADE BY INPUTTING THE INDEX OF A SKILL TYPE FOR DATA ITEMS 9 THRU 12. SIZE OF MAINTENANCE CREW CAN BE CONTROLLED USING THESE DATA ITEMS.

12 INDEX OF SKILL TYPE 4 USED TO CHECK SYS

APPLICABLE MODEL--GEMM
GEMM--UPTO FOUR SKILL TYPES MAY BE SPECIFIED AS BEING REQUIRED TO CHECKOUT THE SYSTEM. SPECIFICATION IS MADE BY INPUTTING THE INDEX OF A SKILL TYPE FOR DATA ITEMS 9 THRU 12. SIZE OF MAINTENANCE CREW CAN BE CONTROLLED USING THESE DATA ITEMS.

13 INDEX OF SKILL TYPE 1 USED TO REPAIR SYS

APPLICABLE MODEL--GEMM
GEMM--UP TO FOUR SKILL TYPES MAY BE SPECIFIED AS BEING REQUIRED TO REPAIR THE SYSTEM.

14 INDEX OF SKILL TYPE 2 USED TO REPAIR SYS

APPLICABLE MODEL--GEMM
GEMM--UP TO FOUR SKILL TYPES MAY BE SPECIFIED AS BEING REQUIRED TO REPAIR THE SYSTEM.

15 INDEX OF SKILL TYPE 3 USED TO REPAIR SYS

APPLICABLE MODEL--GEMM
GEMM--UP TO FOUR SKILL TYPES MAY BE SPECIFIED AS BEING REQUIRED TO REPAIR THE SYSTEM.

16 INDEX OF SKILL TYPE 4 USED TO REPAIR SYS

APPLICABLE MODEL--GEMM
GEMM--UP TO FOUR SKILL TYPES MAY BE SPECIFIED AS BEING REQUIRED TO REPAIR THE SYSTEM.

17 DEPOT MAINTENANCE FACTOR(REVERSE RATIO)

APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--THIS VARIABLE IS A MEASURE OF DEPOT LEVEL PRODUCTIVITY. IT REPRESENTS THE LEVEL OF RESOURCES REQUIRED RELATIVE TO THE INITIAL BASELINE. IMPROVEMENTS COULD BE RATIONALIZED ON THE BASIS OF LEARNING, AT THE DEPOT LEVEL, DERIVED FROM QUANTITY OF ACTIONS OR FROM AUTOMATIC TEST EQUIPMENT. A VALUE OF .7 MEANS THAT ONLY 70 PER CENT OF THE INPUT REPAIR TIME,PER COMPONENT, IS REQUIRED. THIS VARIABLE SHOULD PROBABLY BE SET AT A VALUE OF ONE AND THEN DECREASED THROUGH THE ITERATION FEATURE.

SUBSECTION 2 (Level 1, Section 3, Subsection 2)

SUBSECTION NAME--PERSONNEL COSTS
DESCRIPTION--THIS SUBSECTION HAS 16 DATA ITEMS AT LEVEL ONE. THESE ARE BASIC LABOR COSTS AND TRAINING COSTS.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 MAINTENANCE LABOR RATE,BASE LEVEL($/MHR)

APPLICABLE MODELS--LSC,LCC2,GEMM
ITERATION VARIABLE IN--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS BLR. STANDARD AFLC VALUE IS 12.44.
LCC2--EQUIVALENT INPUT VARIABLE IS BLS.
GEMM--THIS DATA ITEM IS USED TO COMPUTE THE ANNUAL COST PER MAN AT FLIGHT LINE AND BASE SHOP LEVELS. THE RELATIONSHIP IS--ANNUAL COST= 2080XCOST PER HOUR AT BASE LEVEL.

2 MAINTENANCE LABOR RATE,DEPOT ($/MHR)

APPLICABLE MODELS--LSC,LCC2,GEMM
ITERATION VARIABLE IN--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS DLR. STANDARD AFLC VALUE IS 18.56.
LCC2--EQUIVALENT INPUT VARIABLE IS DLS.
GEMM--THIS DATA ITEM IS USED TO COMPUTE THE ANNUAL COST PER MAN AT THEATRE AND DEPOT LEVELS. THE RELATIONSHIP IS--ANUAL COST PER MAN= 2080X COST PER HOUR AT DEPOT LEVEL.

3 TRAINING COST OF SKILL TYPE 1.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1,10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

4 TRAINING COST OF SKILL TYPE 2.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1,10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

5 TRAINING COST OF SKILL TYPE 3.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1,10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

6 TRAINING COST OF SKILL TYPE 4.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1,10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

7 TRAINING COST OF SKILL TYPE 5.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1,10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

8 TRAINING COST OF SKILL TYPE 6.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1,10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

9 TRAINING COST OF SKILL TYPE 7.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1.10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

10 TRAINING COST OF SKILL TYPE 8.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1.10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.
APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL. THIS REPRESENTS THE COST OF TRAINING FOR BASE LEVEL TECHNICIANS PROCURED FROM THE SUBSYSTEM CONTRACTOR AND IS PASSED DIRECTLY TO THE OUTPUT.

11 TRAINING COST OF SKILL TYPE 9.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1.10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

12 TRAINING COST OF SKILL TYPE 10.($/MAN)

TRAINING COST OF SKILL TYPE J (J=1.10) PER MAINTENANCE TECHNICIAN
APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TCOST. THE USER CAN USE THESE DATA ITEMS TO REFLECT THE ADDITIONAL TRAINING FOR TECHNICIANS AT THE DEPOT/THEATRE LEVEL.

13 TRNG COST OF BASE LEVEL SKILLS (TOTAL $)

14 TRNG COST OF DEPOT LEVEL SKILLS(TOTAL $)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL. THIS REPRESENTS THE COST OF TRAINING FOR DEPOT LEVEL TECHNICIANS PROCURED FROM THE SUBSYSTEM CONTRACTOR AND IS PASSED DIRECTLY TO THE OUTPUT.

15 TRNG COST OF BASE LEVEL SKILLS ($/MAN)

APPLICABLE MODEL--LSC
ITERATION VARIABLE HAS SAME LABEL. TOTAL TRAINING COST IS A FUNCTION OF THIS COST PER PERSON, THE TURNOVER OF PERSONNEL, AND THE COMPUTED NUMBER OF PERSONNEL REQUIRED.

16 TRNG COST OF DEPOT LEVEL SKILLS ($/MAN)

APPLICABLE MODEL--LSC
ITERATION VARIABLE HAS SAME LABEL. TOTAL TRAINING COST IS A FUNCTION OF THIS COST PER PERSON, THE TURNOVER OF PERSONNEL, AND THE COMPUTED NUMBER OF PERSONNEL REQUIRED.

SECTION 4 (Level 1, Section 4)

SECTION NAME--SPARES-ITITIAL AND REPLENISHMENT
DESCRIPTION--THIS SECTION CONTAINS TWO SUBSECTIONS AT LEVEL ONE. THESE ARE--(1)STOCKAGE OBJECTIVE FACTORS-WITH 4 DATA ITEMS, AND (2) COMPUTATIONAL TIME FACTORS-WITH 33 DATA ITEMS.
ASSOCIATED MODELS--LSC,LCC2,GEMM

SUBSECTION 1 (Level 1, Section 4, Subsection 1)

SUBSECTION NAME--STOCKAGE OBJECTIVE FACTORS
DESCRIPTION--THIS SUBSECTION CONTAINS 4 DATA ITEMS AT LEVEL ONE. THESE RELATE TO DIFFERENT LEVELS OF HARDWARE INDENTURE.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 SPARES OBJECTIVE,HDW LEVEL 2 ITEMS (FRAC

APPLICABLE MODELS--LSC,LCC2,GEMM
ITERATION VARIABLE IN--LCC2,GEMM
LSC--THIS MODEL ALLOWS INPUT OF PECULIAR STOCKAGE OBJECTIVES FOR PROPULSION SYSTEMS ONLY. THE EQUIVALENT INPUT VARIABLE LABEL IS'CONF'. FOR ALL OTHER ITEMS THE EXPECTED BACKORDER LEVEL(EBO) CONTROLS THE SPARES ANALYSIS. REFER TO LEVEL 0,SEC 4, SUBSECTION 1, DATA ITEM 1.
LCC2--THIS MODEL ALLOWS THE STOCKAGE OBJECTIVES TO DIFFER BETWEEN INDENTURE LEVELS. THEREFORE,THIS DATA ITEM IS EQUIVALENT TO INPUT VARIABLE A01.
GEMM--THIS MODEL ALLOWS THE STOCKAGE OBJECTIVES TO DIFFER BETWEEN INDENTURE LEVELS. THIS DATA ITEM IS EQUIVALENT TO INPUT VARIABLE TK(3) AND IS THE CONFIDENCE LEVEL FOR STOCKAGE OF LRU LEVEL ITEMS.

2 SPARES OBJECTIVE,HDW LEVEL 3 ITEMS (FRAC

APPLICABLE MODELS--LCC2,GEMM
ITERATION VARIABLE IN--LCC2,GEMM
LCC2--THIS DATA ITEM IS EQUIVALENT TO THE INPUT VARIABLE A02 AND IS THE STOCKAGE OBJECTIVE FOR SRU LEVEL ITEMS.
GEMM--THIS DATA ITEM IS EQUIVALENT TO THE INPUT VARIABLE TK(2). IT IS THE STOCKAGE OBJECTIVE FOR SRU LEVEL ITEMS.

3 SPARES OBJECTIVE,HDW LEVEL 4 ITEMS (FRAC

APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS TK(1),STOCKAGE OBJECTIVE FOR PARTS.

4 DEPOT SAFETY STOCK OBJECTIVE (FRAC)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS DSSF. THIS VALUE IS USED IN COMPUTING LRU AND SRU DEPOT STOCKS. THE UNITS FOR THIS FACTOR IS IN STANDARD DEVIATIONS FROM THE MEAN DEMAND (EXAMPLE,FACTOR=1.65,95 PERCENT CONFIDENT OF NO-STOCK-OUT).

SUBSECTION 2 (Level 1, Section 4, Subsection 2)

SUBSECTION NAME--COMPUTATIONAL TIME FACTORS
DESCRIPTION--THIS SUBSECTION CONTAINS 33 DATA ITEMS AT LEVEL ONE. THEY RELATE TO THE MANY REPAIR CYCLE AND TRANSPORTATION TIME FACTORS
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 BASE REPAIR CYCLE TIME (DAYS)

APPLICABLE MODELS--LSC,LCC2,GEMM
ITERATION VARIABLE--LSC,LCC2
LSC--THIS DATA ITEM IS DIVIDED BY 30 TO COMPUTE INPUT VARIABLE BRCT. WHICH HAS THE SAME LABEL BUT IS IN UNITS OF MONTHS.
LCC2--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VALUE FOR BASE TURNAROUND TIME, TAT, WITH UNITS OF HOURS.
GEMM--THIS DATA ITEM IS DIVIDED BY 15 TO COMPUTE TURNAROUND TIME FOR LRU'S AND SRU'S IN UNITS OF 15 DAY STOCKAGE PERIODS. FOR THE SAVE SYSTEM THE FOLLOWING GEMM TERMS WERE SET EQUAL TO THE COMPUTED VALUE OF BASE REPAIR CYCLE TIME--TURN1(1,1)=TURN1(1,2)=TURN1(2,2)=TURN2(1,1)=TURN2(1,2)=TURN2(2,2)

2 THEATRE REPAIR CYCLE TIME (DAYS)

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS DIVIDED BY 15 TO COMPUTE TURNAROUND TIME FOR LRU'S AND SRU'S TO THE THEATRE LEVEL DEPOT IN UNITS OF 15 DAY STOCK AGE PERIODS. FOR THE SAVE PROCESSOR, THE FOLLOWING GEMM TERMS ARE SET EQUAL TO THE COMPUTED VALUE--TURN1(1,3)=TURN1(2,3)=TURN1(3,3)=TURN2(1,3)=TURN2(2,3)=TURN2(3,3)

3 DEPOT REPAIR CYCLE TIME (DAYS)

APPLICABLE MODELS--LSC,LCC2,GEMM
ITERATION VARIABLE IN--LCC2
LSC--TWO COMPUTATIONS ARE MADE ON THIS ITEM WITH THE TYPE OF LEVEL 1 SYSTEM BEING DEFINED AS THE CONTROLLING VARIABLE. FOR THE PROPULSION SYSTEM-WUC BEGINS WITH 23-THIS DATA ITEM IS DIVIDED BY 30 TO COMPUTE INPUT VARIABLE DP. FOR OTHER SYSTEMS,THIS DATA ITEM IS USED WITH

BASE TO DEPOT SHIPPING TIMES TO COMPUTE A WEIGHTED AVERAGE DEPOT REPAIR CYCLE TIME. REFER TO TEACH MESSAGE FOR ITEM 11 OF THIS SUBSEC.
LCC2--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE DRC
GEMM--THIS DATA ITEM IS DIVIDED BY 15 TO COMPUTE TURNAROUND TIME FOR LRU'S AND SRU'S,TO THE DEPOT LEVEL. IN UNITS OF 15 DAY STOCKAGE PERIODS. THE FOLLOWING GEMM TERMS ARE SET EQUAL TO THE COMPUTED VALUE--
TURN1(1,4)=TURN1(2,4)=TURN1(3,4)=TURN1(4,4)=TURN2(1,4)=TURN2(2,4)
=TURN2(3,4)=TURN2(4,4)

4 DEPOT REPAIR CYCLE FOR RTS REPAIR(DAYS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS MULTIPLIED BY 24 TO BECOME INPUT VARIABLE DMC, DEPOT REPLACEMENT CYCLE TIME. LCC2 DEFINES TWO TYPES OF DEPOT LRU REPAIR. THIS ITEM ADDRESSES THOSE UNITS WHICH ARE REPAIRED BY REMOVING AND REPLACING SRU'S. DATA ITEM 3 OF THIS SUBSECTION ADDRESSES MORE EXTENSIVE REPAIRS.

5 CONTRACTOR REPAIR CYCLE TIME (DAYS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE CDMC WITH UNITS IN HOURS.

6 ORDER AND SHIPPING TIME,CONUS (DAYS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE RSTC,WHICH HAS LCC2 DOCUMENTATION LABEL-BASE RESUPPLY TIME,CONUS.
---NOTE,LSC HAS A SIMILAR DATA ITEM BUT IT IS CONSTANT FOR ALL ELE-
----MENTS OF A SYSTEM AND IS,THEREFORE INCLUDED AT LEVEL 0. SIMILARLY
---MOD-METRIC USES A ORDER AND SHIP ITEM WHICH IS CONNECTED TO EACH
----SPECIFIC BASE LOCATION(CONUS OR OVERSEAS).

7 ORDER AND SHIPPING TIME,OVERSEAS (DAYS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE RSTD,WHICH HAS LCC2 DOCUMENTATION LABEL-BASE RESUPPLY TIME OVERSEAS
----NOTE,LSC HAS A SIMILAR DATA ITEM BUT IT IS CONSTANT FOR ALL ELE-
----MENTS OF A SYSTEM AND IS,THEREFORE INCLUDED AT LEVEL 0. SIMILARLY
----MOD-METRIC USES A ORDER AND SHIP ITEM WHICH IS CONNECTED TO EACH
----SPECIFIC BASE LOCATION(CONUS OR OVERSEAS).

8 CONTRACTOR ORDER/SHIP TIME,CONUS (DAYS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE CRSC,WHICH HAS LCC2 DOCUMENTATION LABEL-CONTRACTOR BASE RESUPPLY

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    TIME,CONUS.

 9  CONTRACTOR ORDER/SHIP TIME,OVERSEAS(DAYS

    APPLICABLE MODEL--LCC2
    ITERATION VARIABLE IN--LCC2
    LCC2--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE
      CRSD,WHICH HAS LCC2 DOCUMENTATION LABEL-CONTRACTOR BASE RESUPPLY
      TIME,OVERSEAS.

10  PROCUREMENT LEAD TIME,CONSUMABLES(MNTHS)

    APPLICABLE MODEL--GEMM
    GEMM--EQUIVALENT INPUT VARIABLE IS ROP,REQUISITION OBJECTIVE PERIOD

11  TRANSPORT TIME,BASE-DEPOT,CONUS (DAYS)

    APPLICABLE MODELS--LSC,LCC2,GEMM
    ITERATION VARIABLE IN--LSC,LCC2
    LSC--THIS DATA ITEM IS USED IN THE COMPUTATION OF INPUT VARIABLE DRCTC
      THE RELATIONSHIP IS--DRCTC=(TRANSPORT TIME, BASE TO DEPOT, CONUS
      + DEPOT REPAIR CYCLE TIME, IN DAYS)/30 DAYS PER MONTH.
      DRCTC IS SUBSEQUENTLY USED INTERNALLY BY LSC TO COMPUTE DRCT, WEIGHT
      ED AVERAGE DEPOT REPAIR CYCLY TIME IN MONTHS.
    LCC2--THIS ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE BDSC.
    GEMM--THIS DATA ITEM IS USED WITH DATA ITEM 12 TO COMPUTE INPUT VARI-
      ABLES TRANS(4,2) AND TRANS(1,4). REFER TO TEACH MESSAGE FOR DATA
      ITEM 12 OF THIS SUBSECTION.

12  TRANSPORT TIME,BASE-DEPOT,OVERSEAS (DAYS)

    APPLICABLE MODELS--LSC,LCC2,GEMM
    ITERATION VARIABLE IN--LSC,LCC2
    LSC--THIS DATA ITEM IS USED IN THE COMPUTATION OF INPUT VARIABLE DRCTO
      THE RELATIONSHIP IS--DRCTO=(TRANSPORT TIME, BASE TO DEPOT, OVERSEAS
      + DEPOT REPAIR CYCLE TIME,IN DAYS)/30 DAYS PER MONTH. DRCTO IS USED
      INTERNALLY BY LSC TO COMPUTE DRCT,WEIGHTED AVERAGE DEPOT REPAIR TIME
    LCC2--THIS ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE BDSO.
    GEMM--THIS DATA ITEM IS USED WITH DATA ITEM 11 TO COMPUTE INPUT VARI-
      ABLES TRANS(4,2) AND (1,4).  THE RELATIONSHIP IS--
      TRANS(4,2)=TRANS(4,1)=(TRANSPORT TIME,BASE TO DEPOT,CONUS + TRANSPOR
      T TIME, BASE TO DEPOT, CONUS)* 24 HOURS PER DAY/2

13  TRANSPORT TIME,BASE-THEATRE (DAYS)

    APPLICABLE MODEL--GEMM
    GEMM--THIS DATA ITEM IS MULTIPLIED BY 24(HOURS PER DAY) TO COMPUTE
      INPUT VARIABLES TRANS(3,1)=TRANS(3,2)

14  TRANSPORT TIME,THEATRE-DEPOT,(DAYS)

    APPLICABLE MODEL--GEMM
    GEMM--THIS DATA ITEM IS MULTIPLIED BY 24(HOURS PER DAY) TO COMPUTE
      INPUT VARIABLE TRANS(4,3)
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15  ATTRITION FACTOR,HDW LEVEL 1-SYS (FRAC)

    APPLICABLE MODEL--GEMM
    GEMM--EQUIVALENT INPUT VARIABLE IS ATR(I) WHERE I IS THE HARDWARE LEV-
      EL. VARIABLE IS ESSENTIALLY A UNIVERSAL CONDEMNATION FRACTION.

16  ATTRITION FACTOR,HDW LEVEL 2-LRU (FRAC)

    APPLICABLE MODEL--GEMM
    GEMM--EQUIVALENT INPUT VARIABLE IS ATR(I) WHERE I IS THE HARDWARE LEV-
      EL. VARIABLE IS ESSENTIALLY A UNIVERSAL CONDEMNATION FRACTION.

17  ATTRITION FACTOR,HDW LEVEL 3-SRU (FRAC)

    APPLICABLE MODEL--GEMM
    GEMM--EQUIVALENT INPUT VARIABLE IS ATR(I) WHERE I IS THE HARDWARE LEV-
      EL. VARIABLE IS ESSENTIALLY A UNIVERSAL CONDEMNATION FRACTION.

18  ATTRITION FACTOR,HDW LEVEL 4-PART (FRAC)

    APPLICABLE MODEL--GEMM
    GEMM--EQUIVALENT INPUT VARIABLE IS ATR(I) WHERE I IS THE HARDWARE LEV-
      EL. VARIABLE IS ESSENTIALLY A UNIVERSAL CONDEMNATION FRACTION.

19  REQUISITION TIME,FLT LINE-DEPOT (DAYS)

    APPLICABLE MODEL--GEMM
    GEMM--THIS DATA ITEM IS DIVIDED BY 15 (DAYS PER STOCKAGE PERIOD) TO
      COMPUTE INPUT VARIABLES-REQPT(1,4)=REQMT(1,4)=REQCT(1,4)

20  REQUISITION TIME,BASE-DEPOT (DAYS)

    APPLICABLE MODEL--GEMM
    GEMM--THIS DATA ITEM IS DIVIDED BY 15 (DAYS PER STOCKAGE PERIOD) TO
      COMPUTE INPUT VARIABLES--REQPT(2,4)=REQMT(2,4)=REQCT(2,4)

21  REQUISITION TIME,THEATRE-DEPOT (DAYS)

    APPLICABLE MODEL--GEMM
    GEMM--THIS DATA ITEM IS DIVIDED BY 15 (DAYS PER STOCKAGE PERIOD) TO
      COMPUTE INPUT VARIABLES--REQPT(3,4)=REQMT(3,4)=REQCT(3,4)

22  REQUISITION TIME,INTRA-DEPOT (DAYS)

    APPLICABLE MODEL--GEMM
    GEMM--THIS DATA ITEM IS DIVIDED BY 15 (DAYS PER STOCKAGE PERIOD) TO
      COMPUTE INPUT VARIABLES--REQPT(4,4)=REQMT(4,4)=REQCT(4,4)

23  AWAITING MAINT TIME,FLT LINE (DAYS)

    APPLICABLE MODEL--GEMM
    GEMM--THIS DATA ITEM IS MULTIPLIED BY 24 TO.COMPUTE INPUT VARIABLE
      WAIT(L) WHERE L IS THE MAINTENANCE LEVEL (ORG=1, BASE=2, THEATRE=3,
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     DEPOT=4)

24   AWAITING MAINT TIME,BASE (DAYS)

     APPLICABLE MODEL--GEMM
     GEMM--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE
       WAIT(L) WHERE L IS THE MAINTENANCE LEVEL (ORG=1, BASE=2, THEATRE=3,
       DEPOT=4)

25   AWAITING MAINT TIME,THEATRE (DAYS)

     APPLICABLE MODEL--GEMM
     GEMM--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE
       WAIT(L) WHERE L IS THE MAINTENANCE LEVEL (ORG=1, BASE=2, THEATRE=3,
       DEPOT=4)

26   AWAITING MAINT TIME,DEPOT (DAYS)

     APPLICABLE MODEL--GEMM
     GEMM--THIS DATA ITEM IS MULTIPLIED BY 24 TO COMPUTE INPUT VARIABLE
       WAIT(L) WHERE L IS THE MAINTENANCE LEVEL (ORG=1, BASE=2, THEATRE=3,
       DEPOT=4)

27   STK OBJ PERIOD,CONSUMABLES,FLT LINE(DAYS

     APPLICABLE MODEL--GEMM
     ITERATION VARIABLE IN--GEMM
     GEMM--THIS DATA ITEM IS DIVIDED BY 15 (DAYS PER STOCKAGE PERIOD) TO
       COMPUTE INPUT VARIABLE B(I) WHERE I IS THE HARDWARE LEVEL.

28   STK OBJ PERIOD,CONSUMABLES,BASE (DAYS)

     APPLICABLE MODEL--GEMM
     ITERATION VARIABLE IN--GEMM
     GEMM--THIS DATA ITEM IS DIVIDED BY 15 (DAYS PER STOCKAGE PERIOD) TO
       COMPUTE INPUT VARIABLE B(I) WHERE I IS THE HARDWARE LEVEL.

29   STK OBJ PERIOD,CONSUMABLES,THEATRE (DAYS)

     APPLICABLE MODEL--GEMM
     ITERATION VARIABLE IN--GEMM
     GEMM--THIS DATA ITEM IS DIVIDED BY 15 (DAYS PER STOCKAGE PERIOD) TO
       COMPUTE INPUT VARIABLE B(I) WHERE I IS THE HARDWARE LEVEL.

30   STK OBJ PERIOD,CONSUMABLES,DEPOT (DAYS)

     APPLICABLE MODEL--GEMM
     ITERATION VARIABLE IN--GEMM
     GEMM--THIS DATA ITEM IS DIVIDED BY 15 (DAYS PER STOCKAGE PERIOD) TO
       COMPUTE INPUT VARIABLE B(I) WHERE I IS THE HARDWARE LEVEL.

31   SYS REQUISITION TIME FROM DEPOT (DAYS)

     APPLICABLE MODEL--GEMM
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ITERATION VARIABLE IN--GEMM
GEMM--THIS DATA ITEM IS MULTIPLIED BY 24 (HOURS PER DAY) TO COMPUTE INPUT VARIABLE REQET-TIME TO OBTAIN LEVEL 1 SYSTEM FROM DEPOT SUPPLY

32 SYS REQUISITION TIME FROM FLOAT (DAYS)

APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--THIS DATA ITEM IS MULTIPLIED BY 24 (HOURS PER DAY) TO COMPUTE INPUT VARIABLE REQ--TIME TO OBTAIN LEVEL 1 SYSTEM FROM BASE SUPPLY

33 ENGINE AUTOMATIC RESUPPLY TIME (DAYS)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--THIS DATA ITEM IS DIVIDED BY 30 TO COMPUTE INPUT VARIABLE ARBUT, AND IS APPROPRIATE FOR PROPULSION SYSTEMS ONLY.

SECTION 5 (Level 1, Section 5)

SECTION NAME--SUPPORT EQUIPMENT AND FACILITIES
DESCRIPTION--THIS SECTION CONTAINS TWO SUBSECTIONS AT LEVEL 1. THEY ARE (1)SUPPORT EQUIPMENT USAGE-WITH 5 DATA ITEMS,AND (2)SUPPORT EQUIPMENT COSTS-WITH 32 DATA ITEMS.
ASSOCIATED MODELS--LSC,LCC2,GEMM

SUBSECTION 1 (Level 1, Section 5, Subsection 1)

SUBSECTION NAME--SUPPORT EQUIPMENT USAGE
DESCRIPTION--THIS SUBSECTION HAS 5 DATA ITEMS AT LEVEL 1 WHICH RELATE SUPPORT EQUIPMENT TYPES USED IN THE GEMM MODEL.
ASSOCIATED MDOEL--GEMM

1 INDEX OF SE TYPE TO VERIFY STATE (1-10)

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS USED TO IDENTIFY THE TYPE OF SUPPORT EQUIPMENT VIA AN INDEX NUMBER WHICH IS USED TO CHECKOUT THE SYSTEM.

2 INDEX OF SE TYPE 1 USED IN REPAIR (1-10)

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS USED TO IDENTIFY A TYPE OF SUPPORT EQUIPMENT, VIA AN INDEX NUMBER, WHICH IS USED TO REPAIR THE LEVEL ONE SYSTEM.

3 INDEX OF SE TYPE 2 USED IN REPAIR (1-10)

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS USED TO IDENTIFY A TYPE OF SUPPORT EQUIPMENT, VIA AN INDEX NUMBER, WHICH IS USED TO REPAIR THE LEVEL ONE SYSTEM.

4 INDEX OF SE TYPE 3 USED IN REPAIR (1-10)

APPLICABLE MODEL--GEMM

GEMM--THIS DATA ITEM IS USED TO IDENTIFY A TYPE OF SUPPORT EQUIPMENT, VIA AN INDEX NUMBER, WHICH IS USED TO REPAIR THE LEVEL ONE SYSTEM.

5 INDEX OF SE TYPE 4 USED IN REPAIR (1-10)

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS USED TO IDENTIFY A TYPE OF SUPPORT EQUIPMENT, VIA AN INDEX NUMBER, WHICH IS USED TO REPAIR THE LEVEL ONE SYSTEM.

SUBSECTION 2 (Level 1, Section 5, Subsection 2)

SUBSECTION NAME--SUPPORT EQUIPMENT COSTS
DESCRIPTION--THIS SUBSECTION HAS 32 DATA ITEMS AT LEVEL 1. THESE RELATE PRIMARILY TO THE INITIAL AND ANNUAL RECURRING COSTS OF THE SE.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 NUMBER OF SE TYPES REQUIRED (QTY)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--UP TO TEN TYPES OF SUPPORT EQUIPMENT MAY BE DEFINED FOR USE IN FAULT ISOLATION AND REPAIR ACTIONS ON THE COMPONENTS OF EACH LEVEL ONE SYSTEM. UTILIZATION OF EACH TYPE IS ACCOUNTED FOR AT THE LEVEL TWO COMPONENTS.
LCC2--UP TO TEN TYPES OF SUPPORT EQUIPMENT MAY BE DEFINED FOR USE IN FAULT ISOLATION AND REPAIR ACTIONS ON THE COMPONENTS OF THE LEVEL ONE SYSTEM. UTILIZATION OF EACH TYPE IS ACCOUNTED FOR IN THE LEVEL TWO AND LEVEL THREE COMPONENTS.
GEMM--UP TO TEN TYPES OF SUPPORT EQUIPMENT MAY BE DEFINED. THIS DATA ITEM IS USED TO IDENTIFY THE TOTAL NUMBER OF SUPPORT EQUIPMENT TYPES WHICH SUPPORT THE FAULT ISOLATION AND REPAIR OF THE LEVEL 1 SYSTEM. SPECIFIC TYPES UTILIZED ARE IDENTIFIED AT LEVELS 1,2, AND 3 IN SEC FOUR, SUB 1.

2 NUMBER OF DEDICATED TYPES OF SE (QTY)

APPLICABLE MODEL--GEMM
ITERATION VARIABLE IN--GEMM
GEMM--THIS DATA ITEM IS USED TO SPECIFY THE NUMBER OF SUPPORT EQUIPMENT TYPES WHICH ARE DEDICATED TO THE SUPPORT OF THIS LEVEL ONE SYSTEM. IF THE SUPPORT EQUIPMENT TYPE J IS NOT DEDICATED, THE ANNUAL COST OF TYPE J IS PRORATIONED BASED ON THE UTILIZATION OF TYPE J BY THE SYSTEM. IF THE SUPPORT EQUIPMENT IS DEDICATED--THAT IS,USED ONLY IN SUPPORT OF THIS SYSTEM, ITS TOTAL ANNUAL COST IS ACCOUNTED FOR. THE LAST K TYPES ARE THE K DEDICATED TYPES. THE USER MUST OBSERVE
APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

3 COST/SET OF SE TYPE I ($)

4 ANNUAL COST,SE TYPE 1 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

5 COST/SET OF SE TYPE 2 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

6 ANNUAL COST,SE TYPE 2 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

7 COST/SET OF SE TYPE 3 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

8 ANNUAL COST,SE TYPE 3 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

9 COST/SET OF SE TYPE 4 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

10 ANNUAL COST,SE TYPE 4 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

11 COST/SET OF SE TYPE 5 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

12 ANNUAL COST,SE TYPE 5 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

13 COST/SET OF SE TYPE 6 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

14 ANNUAL COST,SE TYPE 6 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM

LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

15 COST/SET OF SE TYPE 7 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--
OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

16 ANNUAL COST,SE TYPE 7 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

17 COST/SET OF SE TYPE 8 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--
OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

18 ANNUAL COST,SE TYPE 8 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

19 COST/SET OF SE TYPE 9 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--

OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

20 ANNUAL COST,SE TYPE 9 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

21 COST/SET OF SE TYPE 10 ($)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT VARIABLE HAS SAME LABEL
LCC2--EQUIVALENT VARIABLE HAS SAME LABEL
GEMM--THIS DATA ITEM IS USED WITH ANNUAL COST OF SE TYPE J TO COMPUTE INPUT VARIABLE-OWNERSHIP COST OF SE TYPE J. THE RELATIONSHIP IS--
OWNERSHIP COST PER YEAR=(ACQUISITION COST*(1+(ANNUAL FRAC)* ECONOMIC LIFE OF SYSTEM)))/ECONOMIC LIFE.

22 ANNUAL COST,SE TYPE 10 (FRAC OF COST/SET)

APPLICABLE MODELS--LSC,LCC2,GEMM
LSC--EQUIVALENT INPUT VARIABLE IS COB OR COD. IT IS ASSUMED THAT FOR A GIVEN TYPE OF SUPPORT EQUIPMENT THE ANNUAL SUPPORT COST WOULD BE THE SAME FOR BASE OR DEPOT LEVEL USE.
LCC2--EQUIVALENT INPUT VARIABLE HAS SAME LABEL.
GEMM--THIS DATA ITEM IS USED WITH THE ACQUISITION COST OF SE TYPE J TO COMPUTE ANNUAL OWNERSHIP COST REFER TO TEACH MESSAGE FOR DATA ITEM 3

23 COST OF ADDED COMMON SE PER BASE ($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

24 COST OF ADDED COMMON SE PER DEPOT ($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

25 SYS LEVEL SE,NON-LRU RELATED,BASE ($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

26 SYS LEVEL SE,NON-LRU RELATED,DEPOT ($)

APPLICABLE MODEL--LSC

LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

27 COST OF FLIGHT LINE SE PER BASE ($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

28 SOFTWARE TO UTILIZE EXISTING ATE,($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

29 HARDWARE TO UTILIZE EXISTING ATE,($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

30 COST OF PECULIAR TRAINING EQUIPMENT ($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

31 COST OF UNIQUE FACILITIES/BASE ($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

32 COST OF UNIQUE DEPOT FACILITIES ($)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. THE VALUE OF THIS DATA ITEM IS PASSED DIRECTLY TO THE MODEL

SECTION 6 (Level 1, Section 6)

SECTION NAME--LOGISTICS OPERATIONS
DESCRIPTION--THIS SECTION HAS TWO SUBSECTIONS CONTAINING DATA AT LEVEL ONE. THESE ARE (1)SUPPLY MANAGEMENT FACTORS-WITH 2 DATA ITEMS, AND (3)TECHNICAL ORDERS-WITH 6 DATA ITEMS
ASSOCIATED MODELS--LSC,LCC2,GEMM

SUBSECTION 1 (Level 1, Section 6, Subsection 1)

SUBSECTION NAME--SUPPLY MANAGEMENT FACTORS
DESCRIPTION--THIS SUBSECTION HAS 2 ITEMS AT LEVEL 1 WHICH RELATE TO INVENTORY MANAGEMENT COSTS.
ASSOCIATED MODELS--LCC2,GEMM

1 NUMBER OF NEW INVENTORY ITEMS (QTY)

APPLICABLE MODEL--LCC2
LCC2--THIS MODEL REQUIRES THE TOTAL QUANTITY OF ITEMS IN THE LEVEL ONE SYSTEM AS INPUT AT THIS LEVEL. THIS QUANTITY SHOULD INCLUDE ALL SUB-ASSEMBLIES AND PIECE PARTS WHICH WILL BE NEW TO THE FEDERAL CATALOG.

2 INVENTORY MGT FACTOR(FRAC OF TOTAL COST)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE HAS SAME LABEL. INVENTORY COSTS ARE ASSUMED TO BE INCURRED IN DIRECT PROPORTION TO SUM OF OTHER COSTS.

SUBSECTION 3 (Level 1, Section 6, Subsection 3)

SUBSECTION NAME--TECHNICAL ORDERS
DESCRIPTION--THIS SUBSECTION CONTAINS 6 DATA ITEMS AT LEVEL 1 WHICH RELATE TO TECHNICAL DATA COSTS.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 BASE LEVEL DATA ACQUISITION COST ($)

2 DEPOT LEVEL DATA ACQUISITION COST ($)

3 OTHER DATA ACQUISITION COST ($)

4 PAGES OF BASE LEVEL DATA (QTY)

5 PAGES OF DEPOT LEVEL DATA (QTY)

6 PAGES OF OTHER DATA (QTY)

(LEVEL 2)

SECTION 1 (Level 2, Section 1)

SECTION NAME--WEAPON SYSTEM DEPLOYMENT,USAGE, AND CHARACTERISTICS
DESCRIPTION--THIS SECTION CONTAINS TWO SUBSECTIONS AT LEVEL 2. THESE ARE--(2)MISSION UTILIZATION-WITH ONE ITEM, AND(3)EQUIPMENT CHARACTERISTICS-WITH 3 ITEMS.
ASSOCIATED MODELS--LSC,LCC2,GEMM,MOD-METRIC

SUBSECTION 2 (Level 2, Section 1, Subsection 2)

SUBSECTION NAME--MISSION UTILIZATION
DESCRIPTION--THIS SUBSECTION'S ONE DATA ITEM AT LEVEL 2 CONVERTS FLYING TIME TO OPERATING TIME
ASSOCIATED MODELS--LSC,MOD-METRIC

1 ITEM OPERATING/SYSTEM OPER. TIME RATIO

APPLICABLE MODELS--LSC,MOD-METRIC
ITERATION VARIABLE IN--LSC
LSC--THIS DATA ITEM IS USED TO ALLOW THE USER TO VARY THE OPERATING TIME TO FLYING TIME RATIOS OF THE VARIOUS LINE REPLACEABLE UNITS.
MOD-METRIC--THIS DATA ITEM IS USED TO CALCULATE THE EFFECTIVE MTBF OF THE LRU"S. SEE TEACH MESSAGE FOR DATA ITEMS 1,2 OR 3,LEVEL 2,SEC 2, SUBSECTION 1.

SUBSECTION 3 (Level 2, Section 1, Subsection 3)

SUBSECTION NAME--EQUIPMENT CHARACTERISTICS
DESCRIPTION--THIS SUBSECTION HAS 3 DATA ITEMS AT LEVEL 2 WHICH RELATE TO THE COST, WEIGHT AND QUANTITY OF LEVEL TWO UNITS(LRU'S)
ASSOCIATED MODELS--LSC,LCC2,GEMM,MOD-METRIC

1 ITEM ACQUISITION COST,SPARES ($/UNIT)

APPLICABLE MODELS--LSC,LCC2,MOD-METRIC,GEMM
ITERATION VARIABLE IN LSC,LCC2,MOD-METRIC
EACH MODEL HAS INPUT VARIABLE WITH EQUIVALENT LABEL. THIS COST IS USED IN ESTIMATING THE COST OF SPARE LEVEL 2 UNITS.

2 ITEM WEIGHT (LBS)

APPLICABLE MODELS--LSC,LCC2,GEMM
ITERATION VARIABLE IN--LSC,LCC2
EACH MODEL HAS INPUT VARIABLE WITH EQUIVALENT LABEL. THIS DATA IS USED TO COMPUTE THE TRANSPORTATION AND SHIPPING COSTS.

3 QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY

APPLICABLE MODELS--LSC,LCC2,MOD-METRIC,GEMM
EACH MODEL HAS INPUT VARIABLE WITH EQUIVALENT LABEL. NO ASSUMPTION IS

MADE THAT REDUNDANCY IMPROVES MISSION SUCCESS PROBABILITY.

SECTION 2 (Level 2, Section 2)

SECTION NAME--MAINTENANCE RATES,ACTIVITIES,AND COSTS
DESCRIPTION--THIS SECTION CONTAINS FOUR SUBSECTIONS AT LEVEL 2. THESE ARE--(1)RELIABILITY AND MAINTENANCE RATE FACTORS-WITH 6 ITEMS,(2)LEVEL OF REPAIR-WITH 7 ITEMS,(3)CORRECTIVE ACTION ACTIVITIES AND COSTS-WITH 11 ITEMS, AND (4)SCHEDULED MAINTENANCE ACTIONS-WITH 1 ITEM.
ASSOCIATED MODELS--LSC,LCC2,GEMM,MOD-METRIC

SUBSECTION 1 (Level 2, Section 2, Subsection 1)

SUBSECTION NAME--RELIABILITY AND MAINTENANCE RATE FACTORS
DESCRIPTION--THIS SUBSECTION CONTAINS 6 ITEMS AT LEVEL 2 WHICH CORRESPOND TO THE DEFINITIONS OF USAF/LG LETTER DATED 21 OCT 76.
ASSOCIATED MODELS--LSC,LCC2,GEMM,MOD-METRIC

1 MEAN OP TIME BETWEEN PREV MAINT ACT(HRS)

MEAN OPERATING TIME,(IN HOURS) BETWEEN PREVENTIVE MAINTENANCE ACTIONS, FOR LEVEL 2(LRU)/LEVEL 3(SRU),AS DEFINED IN USAF/LG LETTER 21 OCT 76
APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--THIS MODEL FORECASTS SPARES REQUIREMENTS USING THE MEAN FLYING TIME BETWEEN DEMAND (MTBD) FOR EACH LRU AND SRU. SEVERAL DATA ITEMS ARE USED IN FORMULATING THE MTBD INPUT VALUE. THESE ARE DISCUSSED SEPARATELY BELOW AND THEN THE RELATIONSHIP IS STATED
(1)THE FLYING TIME OF THE SYSTEM IS CONVERTED TO THE OPERATING TIME OF THE LRU USING THE RATIO OF ITEM OPERATING TIME TO SYSTEM OPERATING TIME,DATA ITEM 1,SECTION 1,SUBSECTION 2, LEVEL 2.
(2)THREE TYPES OF MAINTENANCE ACTIONS MAY GENERATE DEMANDS. THESE ARE PREVENTIVE,CORRECTIVE, AND OVERHAUL. THE USER MAY INPUT THE MEAN OPERATING TIME BETWEEN EACH OF THESE TYPES. AT LEAST ONE MUST BE NON-ZERO. BOTH INDUCED AND INHERENT FAILURES APPLY.
(3)A DEMAND AN THE SUPPLY SYSTEM ONLY OCCURS WHEN AN ITEM IS REMOVED FROM THE NEXT HIGHER ASSEMBLY(NHA). THEREFORE, ITEM REMOVAL PERCENTAGES PER PREVENTIVE AND CORRECTIVE ACTIONS APPLY. AN OVERHAUL REQUIREMENT IS ASSUMED TO ALWAYS CAUSE A DEMAND.
THE RELATIONSHIP IS MTBD=1/(OPERATING TIME RATIO)*((ITEM REMOVALS PER PREVENTIVE ACTION/MEAN OPER TIME BETWEEN PREV ACTION)+((INHERENT FAILURE FRACTION + INDUCED FAILURE FRACTION)*(REMOVALS PER CORRECTIVE ACTION)/MEAN OPER TIME BETWEEN CORRECTIVE ACTION)+(1/MEAN OPER TIME BETWEEN OVERHAUL))

2 MEAN OP TIME BETWEEN CORR MAINT ACT(HRS)

MEAN OPERATING TIME (IN HOURS) BETWEEN CORRECTIVE MAINTENANCE ACTIONS, FOR LEVEL 2 (LRU),AS DEFINED IN USAF/LG LETTER 21 OCT 76.
APPLICABLE MODELS--LSC,LCC2,GEMM,MOD-METRIC
ITERATION VARIABLE IN--LSC,LCC2,MOD-METRIC
LSC--THIS MODEL USES A MEAN TIME BETWEEN FAILURE(MTBF) FACTOR. THIS DATA ITEM IS CONVERTED INTO THE INPUT VARIABLE'MTBF'USING THE FOLLOWING RELATIONSHIP--MTBF=(MEAN OPER TIME BETWEEN CORRECTIVE ACTIONS)/

(INHERENT FRACTION OF FAILURES + INDUCED FRACTION OF FAILURES)
LCC2--THIS MODEL ALSO USES A MEAN TIME BETWEEN FAILURE(MTBF) FACTOR. THE RELATIONSHIP USED TO CALCULATE THE INPUT VARIABLE 'MTBF(I)' IS THE SAME AS STATED ABOVE FOR LSC(FOR LEVEL 2 ONLY)
GEMM--THIS MODEL ALSO USES A SIMILAR MTBF FACTOR AND THE RELATIONSHIP USED TO CALCULATE THE'MTBF(I)' IS THE SAME AS STATED ABOVE FOR LSC. (FOR LEVEL 2 ONLY)
MOD-METRIC--THIS MODEL USES A MEAN TIME BETWEEN DEMAND FACTOR. REFER TO TEACH MESSAGE FOR DATA ITEM 1 OF THIS SUBSECTION(INPUT 1?)

3 MEAN OP TIME BETWEEN OVERHAUL (HRS)

MEAN OPERATING TIME(IN HOURS) BETWEEN OVERHAUL,FOR LEVEL 2 ITEMS, PER USAF/LG LETTER 21 OCT 76.
APPLICABLE MODELS--GEMM,MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
GEMM--THIS DATA ITEM IS TRANSFORMED TO THE TIME BETWEEN OVERHAUL IN YEARS FOR INPUT VARIABLE TBOC. THE RELATIONSHIP IS--TBOC(I)=MEAN OPERATING TIME (IN HOURS) BETWEEN OVERHAUL/(OPERATING HOURS PER DAY* NUMBER OF DAYS PER YEAR OF OPERATING) THE OPERATING HOURS PER DAY VARIABLE IS ITSELF COMPUTED FROM DATA ITEM 1,LEVEL 1,SEC 1, SUB 2.
MOD-METRIC--THIS MODEL OPERATES USING A MEAN TIME BETWEEN DEMAND(MTBD) FACTOR AND OVERHAULS GENERATE DEMANDS. REFER TO TEACH MESSAGE FOR DATA ITEM 1 OF THIS SECTION.

4 INHERENT FAILURE FRAC OF CORR MAINT ACTS

--IN ACCORDANCE WITH THE USAF/LG LETTER 21 OCT 76, THERE ARE THREE TYPES OF CORRECTIVE ACTIONS--THOSE DUE TO INHERENT RELIABILITY, THOSE INDUCED BY OTHER FAILURES(I.E. POWER SURGES),AND THOSE IN WHICH NO DEFECTS ARE FOUND. TYPICALLY,THE GOVERNMENT CAN ONLY HOLD VENDORS RESPONSIBLE FOR INHERENT FAILURES. HOWEVER, THE COST TO THE USAF OF A SUBSYSTEM INCLUDES LOGISTICS COSTS INCURRED ON THE OTHER TWO TYPES OF ACTIONS. USING THIS DATA ITEM,THE USER CAN TEST THE SENSITIVITY OF THE RESULTS TO THE FAILURE DEFINITION--
APPLICABLE MODELS--LSC,LCC2,GEMM,MOD-METRIC
ITERATION VARIABLE IN--LSC,LCC2,MOD-METRIC
LSC--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE'MTBF'. REFER TO THE TEACH MESSAGE FOR DATA ITEM 2 OF THIS SECTION.
LCC2--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBF(I)' FOR LRU'S. REFER TO TEACH MESSAGE FOR DATA ITEM 2 OF THIS SECTION.
GEMM--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBFC(I)' FOR LRU'S. REFER TO TEACH MESSAGE FOR DATA ITEM 2 OF THIS SECTION.
MOD-METRIC--THIS DATA ITEM IS USED WITH OTHER ITEMS TO COMPUTE THE MTBD. REFER TO TEACH MESSAGE FOR DATA ITEM 1 OF THIS SECTION.

5 INDUCED FAILURE FRAC OF CORR MAINT ACTS

--IN ACCORDANCE WITH THE USAF/LG LETTER 21 OCT 76, THERE ARE THREE TYPES OF CORRECTIVE ACTIONS--THOSE DUE TO INHERENT RELIABILITY, THOSE INDUCED BY OTHER FAILURES(I.E. POWER SURGES),AND THOSE IN WHICH NO DEFECTS ARE FOUND. TYPICALLY,THE GOVERNMENT CAN ONLY HOLD VENDORS RESPONSIBLE FOR INHERENT FAILURES. HOWEVER, THE COST TO THE USAF OF A SUBSYSTEM INCLUDES LOGISTICS COSTS INCURRED ON THE OTHER TWO TYPES OF ACTION

S. USING THIS DATA ITEM,THE USER CAN TEST THE SENSITIVITY OF THE RESULTS TO THE FAILURE DEFINITION--
APPLICABLE MODELS--LSC,LCC2,GEMM,MOD-METRIC
ITERATION VARIABLE IN--LSC,LCC2,MOD-METRIC
LSC--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBF'. REFER TO THE TEACH MESSAGE FOR DATA ITEM 2 OF THIS SECTION.
LCC2--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBF(I)' FOR LRU'S. REFER TO TEACH MESSAGE FOR DATA ITEM 2 OF THIS SECTION.
GEMM--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBFC(I)' FOR LRU'S. REFER TO TEACH MESSAGE FOR DATA ITEM 2 OF THIS SECTION.
MOD-METRIC--THIS DATA ITEM IS USED WITH OTHER ITEMS TO COMPUTE THE MTBD. REFER TO TEACH MESSAGE FOR DATA ITEM 1 OF THIS SECTION.

6 NO DEFECT FOUND FRAC OF CORR MAINT ACTS

--FRACTION OF LRU CORRECTIVE ACTIONS WHICH ARE FOUND TO BE NO DEFECT.
--NONE OF THE CURRENT MODELS HAVE THE CAPABILITY TO USE THIS DATA ITEM
--IT IS INCLUDED TO BE CONSISTENT WITH OTHER LEVELS AND FOR POSSIBLE
--USE BY OTHER MODELS.
----NOTE,THE LCC2 MODEL USES A VARIABLE WHICH IS SIMILAR TO THIS ITEM
----BUT IT IS MORE APPROPRIATELY PLACED WITH LEVEL OF REPAIR ITEMS.
----REFER TO DATA ITEM 7, SEC 2, SUB 2, LEVEL 2 OR 3.

SUBSECTION 2 (Level 2, Section 2, Subsection 2)

SUBSECTION NAME--LEVEL OF REPAIR
DESCRIPTION--THIS SUBSECTION CONTAINS 7 ITEMS AT LEVEL 2. THESE ADDRESS THE ACTIVITIES ON LRU LEVEL ITEMS.
ASSOCIATED MODELS--LSC,LCC2,GEMM,MOD-METRIC

1 ITEM REMOVALS PER PREV MAINT ACT (FRAC)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--THIS DATA IS USED WITH OTHER DATA ITEMS TO COMPUTE THE MTBD FOR AN LRU/SRU. REFER TO TEACH MESSAGE FOR DATA ITEM 1, SEC 2, SUBSEC 1, LEVEL 2 OR 3.

2 ITEM REMOVALS PER CORR MAINT ACT (FRAC)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--THIS DATA IS USED WITH OTHER DATA ITEMS TO COMPUTE THE MTBD FOR AN LRU/SRU. REFER TO TEACH MESSAGE FOR DATA ITEM 1, SEC 2, SUBSEC 1, LEVEL 2 OR 3.

3 LEVEL OF FAULT VERIFICATION (1 THRU 4)

APPLICABLE MODEL--LCC2
LCC2--THIS DATA ITEM IS TRANSFORMED TO INPUT VARIABLE 'LV(I)'. TO BE CONSISTENT WITH THE 4 MAINTENANCE LEVELS ADDRESSED BY GEMM, THE INPUT ITEMS FOR LCC2 ARE PLACED ON A RANGE OF 1 TO 4. FOR THE LCC2 MODEL THE FOLLOWING TRANSLATIONS ARE USED--INPUT=1,LV(I)=0
INPUT=2,LV(I)=1 INPUT=3OR4, LV(I)=2

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4 LEVEL OF REPAIR (0 THRU 4,0=CONDEMNED)

APPLICABLE MODEL--GEMM
GEMM--THIS MODEL ALLOWS REPAIR OF THE ITEM AT ANY ONE OF FOUR LEVELS OR DISCARD. IN AIR FORCE TERMINOLOGY, THE LEVEL OF REPAIR IS INPUT AS FOLLOWS--ON-EQUIPMENT=1,BASE SHOP=2, THEATRE LEVEL DEPOT=3, CONUS DEPOT=4, DISCARD=0.

5 ITEM REMOVALS NRTS (FRAC)

APPLICABLE MODELS--LSC,LCC2,MOD-METRIC
ITERATION VARIABLE IN--LCC2,MOD-METRIC
LSC--THIS DATA ITEM IS EQUIVALENT TO INPUT VARIABLE 'NRTS'. THIS ITEM IS USED BY LSC, WITH THE CONDEMNATION FACTOR,TO COMPUTE THE 'RTS' (REPAIR THIS STATION) FACTOR. THE ALGORITHM INTERNAL TO LSC IS--RTS=1-NRTS-COND
LCC2--EQUIVALENT INPUT VARIABLE IS LABELLED NRTS(I) FOR LRU I.
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS LABELLED YNRTS.

6 ITEM REMOVALS CONDEMNED (FRAC)

APPLICABLE MODELS--LSC,LCC2,MOD-METRIC
ITERATION VARIABLE IN--LCC2,MOD-METRIC
LSC--EQUIVALENT INPUT VARIABLE IS LABELLED COND. THIS VALUE IS USED INTERNALLY BY LSC, WITH THE NRTS VARIABLE, TO COMPUTE THE REPAIR THIS STATION VARIABLE(RTS). RELATIONSHIP IS--RTS=1-NRTS-COND
LCC2--EQUIVALENT INPUT VARIABLE IS LABELLED COND(I) FOR LRU I
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS LABELLED CONL.

7 ITEM REMOVALS RETEST OK (FRAC)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS 'UFP(I)', DEFINED AS THE PROBABILITY OF AN UNVERIFIED FAILURE OF THE ITEM WHICH WAS DETECTED AFTER REMOVAL FROM THE NEXT HIGHER ASSEMBLY.

SUBSECTION 3 (Level 2, Section 2, Subsection 3)

SUBSECTION NAME--CORRECTIVE ACTION ACTIVITIES AND COSTS
DESCRIPTION--THIS SUBSECTION CONTAINS 11 ITEMS AT LEVEL 2. THESE PRIMARILY DEAL WITH MAINTENANCE ACTION TIMES.
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 MEAN TIME TO REPAIR ITEM (HRS)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS MTTRC(I) FOR LRU I. THE DATA VALUE SHOULD REFLECT ONLY THE ACTIVE, HANDS-ON TIME.

2 ACCESS TIME, ON-EQUIP (MHRS)

APPLICABLE MODEL--LSC

ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS PAMH. REPRESENTS TIME TO REMOVE PANELS, DOORS, AND OTHER ITEMS TO GAIN ACCESS TO SUSPECTED FAILURE.

3 STATE VERIFICATION TIME, ON-EQUIP (MHRS)

---THIS DATA ITEM IS NOT CURRENTLY USED IN ANY MODEL AT THIS LEVEL. IT
---IS INCLUDED HERE TO PROVIDE CONSISTENCY. IT WOULD REPRESENT THE RE-
---SOURCES REQUIRED TO PRECISELY DEFINE THE CONDITION OF THE SYSTEM.
---CURRENT MODELS INCORPORATE SUCH TIME IN OTHER MEASURES.

4 REPAIR TIME, ON-EQUIP (MHRS)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS IMH.

5 REMOVE,REPLACE,CHECKOUT, ON-EQUIP (MHRS)

APPLICABLE MODELS--LSC, LCC2
ITERATION VARIABLE IN--LSC, LCC2
LSC--EQUIVALENT INPUT VARIABLE IS RMH, ON-EQUIPMENT REPAIR/REMOVAL
LCC2--EQUIVALENT INPUT VARIABLE IS RRS(I) FOR LRU I.

6 STATE VERIFICATION TIME, BENCH CHECK(MHRS

APPLICABLE MODELS--LSC, LCC2
ITERATION VARIABLE IN--LSC, LCC2
LSC--EQUIVALENT INPUT VARIABLE IS BCMH.
LCC2--EQUIVALENT INPUT VARIABLE IS FVS(I) FOR LRU I.

7 REPAIR TIME, OFF-EQUIPMENT (MHRS)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS BMH, BASE OFF-EQUIPMENT REPAIR HOURS
----NOTE--LCC2 REFLECTS LRU REPAIR AT THE SRU LEVEL, IE-LEVEL 3 OF SAVE
----UNLESS THE LRU IS REPAIRED AT THE DEPOT.

8 REPAIR TIME, DEPOT (MHRS)

APPLICABLE MODELS--LSC, LCC2
ITERATION VARIABLE IN--LSC, LCC2
LSC--EQUIVALENT INPUT VARIABLE IS DMH, DEPOT LEVEL REPAIR HOURS
LCC2--EQUIVALENT INPUT VARIABLE IS RLS(I), FOR DEPOT REPAIR OF LRU I.

9 MATERIAL COST/OFF-EQUIPMENT REPAIR ($)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS RMS(I)

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(Level 2, Section 2, Subsection 3 (Cont.))

10 REPAIR OF INDENTURED UNITS,BASE ($/ACT)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS BMC (FOR BASE LEVEL) AND DMC (FOR DEPOT). THESE ARE THE ONLY VARIABLES WHICH INTRODUCE THE COST OF REPAIR OF LOWER LEVEL ASSEMBLIES IN THE LSC MODEL.

11 REPAIR OF INDENTURED UNITS,DEPOT ($/ACT)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS BMC (FOR BASE LEVEL) AND DMC (FOR DEPOT). THESE ARE THE ONLY VARIABLES WHICH INTRODUCE THE COST OF REPAIR OF LOWER LEVEL ASSEMBLIES IN THE LSC MODEL.

SUBSECTION 4 (Level 2, Section 2, Subsection 4)

SUBSECTION NAME--SCHEDULED MAINTENANCE ACTIONS AND COSTS
DESCRIPTION--THIS SUBSECTION HAS ONE ITEM AT LEVEL 2-LRU OVERHAUL COST
ASSOCIATED MODEL--GEMM

1 OVERHAUL COST ($)

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS MULTIPLIED BY THE TOTAL NUMBER OF SYSTEMS TO DETERMINE THE OVERHAUL COST OF ALL LIKE ITEMS PER OVERHAUL CYCLE.

SECTION 3 (Level 2, Section 3)

SECTION NAME--PERSONNEL OPERATIONS, MAINTENANCE, AND TRAINING
DESCRIPTION--THIS SECTION HAS ONE SUBSECTION AT LEVEL 2--(1)PERSONNEL REQUIREMENTS-WITH FOUR DATA ITEMS
ASSOCIATED MODEL--GEMM

SUBSECTION 1 (Level 2, Section 3, Subsection 1)

SUBSECTION NAME--PERSONNEL REQUIREMENTS
DESCRIPTION--THIS SUBSECTION HAS ONLY 4 ITEMS AT LEVEL 2 FOR GEMM.
ASSOCIATED MODEL--GEMM

1 INDEX OF SKILL TYPE 1 FOR REPAIR OF ITEM

APPLICABLE MODEL--GEMM
GEMM--AT LEVEL ONE,TRAINING COSTS FOR UP TO TEN SKILLS WERE AVAILABLE. AT THIS LEVEL, USE OF THOSE SPECIAL SKILLS CAN BE DESIGNATED FOR USE IN REPAIR OF SPECIFIC ITEMS(LRU'S/SRU'S)

2 INDEX OF SKILL TYPE 2 FOR REPAIR OF ITEM

APPLICABLE MODEL--GEMM
GEMM--AT LEVEL ONE,TRAINING COSTS FOR UP TO TEN SKILLS WERE AVAILABLE. AT THIS LEVEL, USE OF THOSE SPECIAL SKILLS CAN BE DESIGNATED FOR USE

IN REPAIR OF SPECIFIC ITEMS(LRU'S/SRU'S)

3 INDEX OF SKILL TYPE 3 FOR REPAIR OF ITEM

APPLICABLE MODEL--GEMM
GEMM--AT LEVEL ONE, TRAINING COSTS FOR UP TO TEN SKILLS WERE AVAILABLE. AT THIS LEVEL, USE OF THOSE SPECIAL SKILLS CAN BE DESIGNATED FOR USE IN REPAIR OF SPECIFIC ITEMS(LRU'S/SRU'S)

4 INDEX OF SKILL TYPE 4 FOR REPAIR OF ITEM

APPLICABLE MODEL--GEMM
GEMM--AT LEVEL ONE, TRAINING COSTS FOR UP TO TEN SKILLS WERE AVAILABLE. AT THIS LEVEL, USE OF THOSE SPECIAL SKILLS CAN BE DESIGNATED FOR USE IN REPAIR OF SPECIFIC ITEMS(LRU'S/SRU'S)

SECTION 4 (Level 2, Section 4)

SECTION NAME--SPARES-INITIAL AND REPLENISHMENT
DESCRIPTION--THIS SECTION HAS ONLY ONE SUBSECTION AT LEVEL 2--(2) COMPUTATIONAL TIME FACTORS-WITH 3 DATA ITEMS
ASSOCIATED MODEL--MOD-METRIC

SUBSECTION 2 (Level 2, Section 4, Subsection 2)

SUBSECTION NAME--COMPUTATIONAL TIME FACTORS
DESCRIPTION--AT LEVEL 2. THIS SUBSECTION HAS 3 LRU TIME FACTORS
ASSOCIATED MODEL--MOD-METRIC

1 BASE REPAIR CYCLE TIME (DAYS)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE--MOD-METRIC
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS BRTLRU. REPAIR TIME INCLUDES TOTAL CLOCK TIME FOR FLOW TO, AND THROUGH, BASE SHOPS.

2 DEPOT REPAIR CYCLE TIME (DAYS)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE--MOD-METRIC
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS DRTLRU. TIME INCLUDES TRANSIT AND STORAGE TIME, REPAIR TIME, AND TRANSIT TO DEPOT SUPPLY.

3 PROCUREMENT LEAD TIME (MONTHS)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS PLT.

SECTION 5 (Level 2, Section 5)

SECTION NAME--SUPPORT EQUIPMENT AND FACILITIES
DESCRIPTION--THIS SECTION HAS ONE SUBSECTION AT LEVEL 2--(1)SUPPORT EQUIPMENT UTILIZATION-WITH 40 DATA ITEMS.

ASSOCIATED MODELS--LSC,LCC2,GEMM

SUBSECTION 1 (Level 2, Section 5, Subsection 1)

SUBSECTION NAME--SUPPORT EQUIPMENT USAGE
DESCRIPTION--THIS SUBSECTION HAS 40 DATA ITEMS AT LEVEL 2. THESE RELATE THE USAGE OF SE TYPES TO LRU REPAIR
ASSOCIATED MODELS--LSC,LCC2,GEMM

1 UTILIZATION RATE,SE TYPE 1,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

2 UTILIZATION RATE,SE TYPE 1,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

3 UTILIZATION RATE,SE TYPE 2,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

4 UTILIZATION RATE,SE TYPE 2,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

5 UTILIZATION RATE,SE TYPE 3,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

6 UTILIZATION RATE,SE TYPE 3,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

7 UTILIZATION RATE,SE TYPE 4,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

8 UTILIZATION RATE,SE TYPE 4,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

9 UTILIZATION RATE,SE TYPE 5,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

10 UTILIZATION RATE,SE TYPE 5,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

11 UTILIZATION RATE,SE TYPE 6,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

12 UTILIZATION RATE,SE TYPE 6,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

13 UTILIZATION RATE,SE TYPE 7,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

14 UTILIZATION RATE,SE TYPE 7,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

15 UTILIZATION RATE,SE TYPE 8,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

16 UTILIZATION RATE,SE TYPE 8,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

17 UTILIZATION RATE,SE TYPE 9,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

18 UTILIZATION RATE,SE TYPE 9,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

19 UTILIZATION RATE,SE TYPE 10,BASE LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

20 UTILIZATION RATE,SE TYPE 10,DEPOT LEVEL

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--AT LEVEL 1,UP TO TEN TYPES OF SUPPORT EQUIPMENT CAN BE IDENTIFIED PER LEVEL 1 SYSTEM. THIS DATA ITEM IS USED TO INDICATE THE USAGE OF SE TYPE 4,AT BASE OR DEPOT, FOR REPAIR OF THIS LRU. EXAMPLES--IF NOT USED, ITEM=0--IF USED THROUGHOUT REPAIR ACTION, ITEM VALUE=1.

21 DOWNTIME,SE TYPE 1 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS 'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

22 DOWNTIME,SE TYPE 2 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS 'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

23 DOWNTIME,SE TYPE 3 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS 'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

24 DOWNTIME,SE TYPE 4 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS 'DOWN'. ASSUMED THAT FOR A GIVEN SET

OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

25 DOWNTIME,SE TYPE 5 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

26 DOWNTIME,SE TYPE 6 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

27 DOWNTIME,SE TYPE 7 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

28 DOWNTIME,SE TYPE 8 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

29 DOWNTIME,SE TYPE 9 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

30 DOWNTIME,SE TYPE 10 (FRAC)

APPLICABLE MODEL--LSC
ITERATION VARIABLE IN--LSC
LSC--EQUIVALENT INPUT VARIABLE IS'DOWN'. ASSUMED THAT FOR A GIVEN SET OF SE, DOWNTIME WOULD BE THE SAME FOR BASE OR DEPOT.

31 INDEX OF SE TYPE TO VERIFY STATE (0-10)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS LSEV(I). ONE OF TEN SE TYPES IS TO BE IDENTIFIED,USING INDECES FROM LEVEL 1,FOR FAULT DIAGNOSTICS.

32 USAGE OF SE TO VERIFY STATE (HRS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2

LCC2--EQUIVALENT INPUT VARIABLE IS USEV(I), LENGTH OF TIME SE IS USED DURING FAULT ISOLATION

33 INDEX OF SE TYPE 1 USED IN REPAIR (0-10)

APPLICABLE MODELS--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE IS LSER(I,J)--USE OF JTH SE FOR LRU I
GEMM--INDEX,OF THE JTH TYPE OF SE, WHICH REFERS TO THE TEN TYPES AVAILABLE TO BE DEFINED AT LEVEL 1.

34 USAGE OF SE TYPE 1 TO REPAIR ITEM (HRS)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USER(I,J), JTH TYPE OF SE FOR USE IN REPAIRING LRUI IS USED FOR USER(I,J) HOURS.

35 INDEX OF SE TYPE 2 USED IN REPAIR (0-10)

APPLICABLE MODELS--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE IS LSER(I,J)--USE OF JTH SE FOR LRU I
GEMM--INDEX,OF THE JTH TYPE OF SE, WHICH REFERS TO THE TEN TYPES AVAILABLE TO BE DEFINED AT LEVEL 1.

36 USAGE OF SE TYPE 2 TO REPAIR ITEM (HRS)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USER(I,J), JTH TYPE OF SE FOR USE IN REPAIRING LRUI IS USED FOR USER(I,J) HOURS.

37 INDEX OF SE TYPE 3 USED IN REPAIR (0-10)

APPLICABLE MODELS--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE IS LSER(I,J)--USE OF JTH SE FOR LRU I
GEMM--INDEX,OF THE JTH TYPE OF SE, WHICH REFERS TO THE TEN TYPES AVAILABLE TO BE DEFINED AT LEVEL 1.

38 USAGE OF SE TYPE 3 TO REPAIR ITEM (HRS)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USER(I,J), JTH TYPE OF SE FOR USE IN REPAIRING LRUI IS USED FOR USER(I,J) HOURS.

39 INDEX OF SE TYPE 4 USED IN REPAIR (0-10)

APPLICABLE MODELS--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE IS LSER(I,J)--USE OF JTH SE FOR LRU I
GEMM--INDEX,OF THE JTH TYPE OF SE, WHICH REFERS TO THE TEN TYPES AVAILABLE TO BE DEFINED AT LEVEL 1.

40 USAGE OF SE TYPE 4 TO REPAIR ITEM (HRS)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USER(I,J), JTH TYPE OF SE FOR USE IN REPAIRING LRUI IS USED FOR USER(I,J) HOURS.

SECTION 6 (Level 2, Section 6)

SECTION NAME--LOGISTICS OPERATIONS
DESCRIPTION--THIS SECTION CONTAINS ONE SUBSECTION AT LEVEL 2--(1)SUPPLY MANAGEMENT FACTORS-WITH 3 DATA ITEMS.
ASSOCIATED MODEL--LSC

SUBSECTION 1 (Level 2, Section 6, Subsection 1)

SUBSECTION NAME--SUPPLY MANAGEMENT FACTORS
DESCRIPTION--THIS SUBSECTION HAS 3 DATA ITEMS AT LEVEL 2 FOR PARTS QTY
ASSOCIATED MODEL--LSC

1 NEW REPARABLE ASSEMBLIES IN ITEM (QTY)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE IS PA.

2 NEW CONSUMABLE PARTS IN ITEM (QTY)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE IS PP.

3 ADDITIONAL PARTS FOR BASE SUPPLY (QTY)

APPLICABLE MODEL--LSC
LSC--EQUIVALENT INPUT VARIABLE IS SD.

(LEVEL 3)

SECTION 1 (Level 3, Section 1)

SECTION NAME--WEAPON SYSTEM DEPLOYMENT, USAGE, AND CHARACTERISTICS
DESCRIPTION--THIS SECTION HAS ONLY ONE SUBSECTION AT LEVEL 3--(3)EQUIP MENT CHARACTERISTICS-WITH 3 DATA ITEMS.
ASSOCIATED MODELS--LCC2,GEMM,MOD-METRIC

SUBSECTION 3 (Level 3, Section 1, Subsection 3)

SUBSECTION NAME--EQUIPMENT CHARACTERISTICS
DESCRIPTION--THIS SUBSECTION HAS ONLY 3 ITEMS AT LEVEL 3. THEY RELATE TO THE COST,WEIGHT, AND QUANTITY OF SRU'S.
ASSOCIATED MODELS--LCC2,GEMM,MOD-METRIC

1 ITEM ACQUISITION COST, SPARES ($/UNIT)

APPLICABLE MODELS--LCC2,GEMM,MOD-METRIC
ITERATION VARIABLE IN--LCC2,MOD-METRIC
EACH MODEL HAS AN INPUT VARIABLE WITH EQUIVALENT LABEL AS FOLLOWS
LCC2--CRU(I) FOR SRU I
GEMM--CC(I,J) FOR SRU J OF SRU I
MOD-METRIC--CSRU(J) FOR SRU J

2 ITEM WEIGHT (LBS)

APPLICABLE MODELS--LCC2,GEMM
ITERATION VARIABLE IN--LCC2
EACH MODEL HAS AN INPUT VARIABLE WITH SAME LABEL.

3 QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY

APPLICABLE MODELS--LCC2,GEMM,MOD-METRIC
LCC2--EQUIVALENT INPUT VARIABLE IS NQ(I)
GEMM--THE SAVE PROCESSOR WILL USE THE VALUE OF THIS DATA ITEM IN PASSING INPUT TO THE GEMM MODEL. IF MORE THAN ONE SRU,OF EXACTLY THE SAME CHARACTERISTICS, IS IN A PARTICULAR LRU, THEN THIS DATA ITEM CAN BE USED TO INDICATE SO.
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS SAPP(J).

SECTION 2 (Level 3, Section 2)

SECTION NAME--MAINTENANCE RATES, ACTIVITIES, AND COSTS
DESCRIPTION--THIS SECTION CONTAINS 4 SUBSECTIONS AT LEVEL 3. THESE ARE --(1)RELIABILITY AND MAINTENANCE RATE FACTORS-WITH 6 DATA ITEMS,(2) LEVEL OF REPAIR-WITH 7 DATA ITEMS,(3)CORRECTIVE ACTION ACTIVITIES AND COSTS-WITH 5 ITEMS, AND (6)SCHEDULED ACTIONS-WITH ONE ITEM.
ASSOCIATED MODELS--LCC2,GEMM,MOD-METRIC

SUBSECTION 1 (Level 3, Section 2, Subsection 1)

SUBSECTION NAME--RELIABILITY AND MAINTENANCE RATE FACTORS
DESCRIPTION--THIS SSUBSECTION HAS THE 6 BASIC ITEMS AT LEVEL 3
ASSOCIATED MODELS--LCC2,GEMM,MOD-METRIC

1 MEAN OP TIME BETWEEN PREV MAINT ACT(HRS)

MEAN OPERATING TIME (IN HOURS) BETWEEN PREVENTIVE MAINTENANCE ACTIONS, FOR LEVEL 2(LRU)/LEVEL 3(SRU),AS DEFINED IN USAF/LG LETTER 21 OCT 76
APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--THIS MODEL FORECASTS SPARES REQUIREMENTS USING THE MEAN FLYING TIME BETWEEN DEMAND (MTBD) FOR EACH LRU AND SRU. SEVERAL DATA ITEMS ARE USED IN FORMULATING THE MTBD INPUT VALUE. THESE ARE DISCUSSED SEPARATELY BELOW AND THEN THE RELATIONSHIP IS STATED
(1)THE FLYING TIME OF THE SYSTEM IS CONVERTED TO THE OPERATING TIME OF THE LRU USING THE RATIO OF ITEM OPERATING TIME TO SYSTEM OPERATING TIME,DATA ITEM 1,SECTION 1,SUBSECTION 2, LEVEL 2.
(2)THREE TYPES OF MAINTENANCE ACTIONS MAY GENERATE DEMANDS. THESE ARE PREVENTIVE,CORRECTIVE, AND OVERHAUL. THE USER MAY INPUT THE MEAN OPERATING TIME BETWEEN EACH OF THESE TYPES. AT LEAST ONE MUST BE NON-ZERO. BOTH INDUCED AND INHERENT FAILURES APPLY.
(3)A DEMAND AN THE SUPPLY SYSTEM ONLY OCCURS WHEN AN ITEM IS REMOVED FROM THE NEXT HIGHER ASSEMBLY(NHA). THEREFORE, ITEM REMOVAL PERCENTAGES PER PREVENTIVE AND CORRECTIVE ACTIONS APPLY. AN OVERHAUL REQUIREMENT IS ASSUMED TO ALWAYS CAUSE A DEMAND.
THE RELATIONSHIP IS MTBD=1/(OPERATING TIME RATIO)*((ITEM REMOVALS PER PREVENTIVE ACTION/MEAN OPER TIME BETWEEN PREV ACTION)+((INHERENT FAILURE FRACTION + INDUCED FAILURE FRACTION)*(REMOVALS PER CORRECTIVE ACTION)/MEAN OPER TIME BETWEEN CORRECTIVE ACTION)+(1/MEAN OPER TIME BETWEEN OVERHAUL))

2 MEAN OP TIME BETWEEN CORR MAINT ACT(HRS)

APPLICABLE MODELS--LCC2,GEMM,MOD-METRIC
ITERATION VARIABLE IN--LCC2,MOD-METRIC
LCC2--THIS MODEL USES A MEAN TIME BETWEEN FAILURE (MTBF) FACTOR FOR USE IN FORECASTING THE NUMBER OF FAILURES DURING A GIVEN PERIOD. THIS DATA ITEM IS USED WITH OTHER ITEMS TO COMPUTE THE MTBF INPUT. THE RELATIONSHIP IS--MTBF=(MEAN OPERATING TIME BETWEEN CORRECTIVE ACTIONS)/(INHERENT FRACTION OF FAILURES + INDUCED FRACTION OF FAILURES)
GEMM--THIS MODEL ALSO USES AN MTBF FACTOR AND 'MTBFM(I)' IS CALCULATED IN THE SAME MANNER MTBF IS DEVELOPED FOR LCC2 INPUT.
MOD-METRIC--THIS MODEL USES A MEAN TIME BETWEEN DEMAND FACTOR. REFER TO TEACH MESSAGE FOR ITEM 1 OF THIS SUBSECTION.

3 MEAN OP TIME BETWEEN OVERHAUL (HRS)

APPLICABLE MODELS--GEMM,MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
GEMM--THIS DATA ITEM IS TRANSFORMED TO THE TIME BETWEEN OVERHAUL IN

YEARS FOR INPUT VARIABLE TBOM. THE RELATIONSHIP IS--TBOM=(MEAN OPER ATING TIME IN HOURS BETWEEN OVERHAUL)/(OPERATING HOURS PER DAY * NUMBER OF DAYS PER YEAR OF OPERATION). THE OPERATING HOURS PER DAY VARIABLE IS DERIVED FROM DATA ITEM 1,LEVEL 1,SEC 1, SUB 1.
MOD-METRIC--THIS MODEL A MTBD FACTOR. REFER TO TEACH MESSAGE FOR DATA ITEM 1 OF THIS SUBSECTION.

4 INHERENT FAILURE FRAC OF CORR MAINT ACTS

--IN ACCORDANCE WITH THE USAF/LG LETTER 21 OCT 76, THERE ARE THREE TYPES OF CORRECTIVE ACTIONS--THOSE DUE TO INHERENT RELIABILITY, THOSE INDUCED BY OTHER FAILURES(I.E. POWER SURGES),AND THOSE IN WHICH NO DEFECTS ARE FOUND. TYPICALLY,THE GOVERNMENT CAN ONLY HOLD VENDORS RESPONSIBLE FOR INHERENT FAILURES. HOWEVER, THE COST TO THE USAF OF A SUBSYSTEM INCLUDES LOGISTICS COSTS INCURRED ON THE OTHER TWO TYPES OF ACTIONS. USING THIS DATA ITEM,THE USER CAN TEST THE SENSITIVITY OF THE RESULTS TO THE FAILURE DEFINITION--
APPLICABLE MODELS--LCC2,GEMM,MOD-METRIC
ITERATION VARIABLE IN--LCC2,MOD-METRIC
LCC2--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBF(I)' FOR SRU'S. REFER TO TEACH MESSAGE FOR DATA ITEM 2,THIS SUBSECTION
GEMM--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBFM' FOR SRU'S. REFER TO TEACH MESSAGE FOR DATA ITEM 1,THIS SUBSECTION
MOD-METRIC--THIS DATA ITEM IS USED WITH OTHER ITEMS TO COMPUTE THE MTBD FACTOR. REFER TO TEACH MESSAGE FOR DATA ITEM 1,THIS SUBSECTION.

5 INDUCED FAILURE FRAC OF CORR MAINT ACTS

--IN ACCORDANCE WITH THE USAF/LG LETTER 21 OCT 76, THERE ARE THREE TYPES OF CORRECTIVE ACTIONS--THOSE DUE TO INHERENT RELIABILITY, THOSE INDUCED BY OTHER FAILURES(I.E. POWER SURGES),AND THOSE IN WHICH NO DEFECTS ARE FOUND. TYPICALLY,THE GOVERNMENT CAN ONLY HOLD VENDORS RESPONSIBLE FOR INHERENT FAILURES. HOWEVER, THE COST TO THE USAF OF A SUBSYSTEM INCLUDES LOGISTICS COSTS INCURRED ON THE OTHER TWO TYPES OF ACTIONS. USING THIS DATA ITEM,THE USER CAN TEST THE SENSITIVITY OF THE RESULTS TO THE FAILURE DEFINITION--
APPLICABLE MODELS--LCC2,GEMM,MOD-METRIC
ITERATION VARIABLE IN--LCC2,MOD-METRIC
LCC2--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBF(I)' FOR SRU'S. REFER TO TEACH MESSAGE FOR DATA ITEM 2,THIS SUBSECTION
GEMM--THIS DATA ITEM IS USED TO COMPUTE THE INPUT VARIABLE 'MTBFM' FOR SRU'S. REFER TO TEACH MESSAGE FOR DATA ITEM 1,THIS SUBSECTION
MOD-METRIC--THIS DATA ITEM IS USED WITH OTHER ITEMS TO COMPUTE THE MTBD FACTOR. REFER TO TEACH MESSAGE FOR DATA ITEM 1,THIS SUBSECTION.

6 NO DEFECT FOUND FRAC OF CORR MAINT ACTS

--FRACTION OF LRU CORRECTIVE ACTIONS WHICH ARE FOUND TO BE NO DEFECT.
--NONE OF THE CURRENT MODELS HAVE THE CAPABILITY TO USE THIS DATA ITEM
--IT IS INCLUDED TO BE CONSISTENT WITH OTHER LEVELS AND FOR POSSIBLE
--USE BY OTHER MODELS.
----NOTE,THE LCC2 MODEL USES A VARIABLE WHICH IS SIMILAR TO THIS ITEM
----BUT IT IS MORE APPROPRIATELY PLACED WITH LEVEL OF REPAIR ITEMS.
----REFER TO DATA ITEM 7, SEC 2, SUB 2, LEVEL 2 OR 3.

SUBSECTION 2 (Level 3, Section 2, Subsection 2)

SUBSECTION NAME--LEVEL OF REPAIR
DESCRIPTION--THIS SUBSECTION HAS 7 ITEMS AT LEVEL 3 ADDRESSING SRU LOR
ASSOCIATED MODELS--LCC2,GEMM,MOD-METRIC

1 ITEM REMOVALS PER PREV MAINT ACT (FRAC)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--THIS DATA IS USED WITH OTHER DATA ITEMS TO COMPUTE THE MTBD FOR AN LRU/SRU. REFER TO TEACH MESSAGE FOR DATA ITEM 1, SEC 2, SUBSEC 1, LEVEL 2 OR 3.

2 ITEM REMOVALS PER CORR MAINT ACT (FRAC)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--THIS DATA IS USED WITH OTHER DATA ITEMS TO COMPUTE THE MTBD FOR AN LRU/SRU. REFER TO TEACH MESSAGE FOR DATA ITEM 1, SEC 2, SUBSEC 1, LEVEL 2 OR 3.

3 LEVEL OF FAULT VERIFICATION (1 THRU 4)

APPLICABLE MODEL--LCC2
LCC2--THIS DATA ITEM IS TRANSFORMED TO INPUT VARIABLE'LV(I)', TO BE CONSISTENT WITH THE 4 MAINTENANCE LEVELS ADDRESSED BY GEMM, THE INPUT ITEMS FOR LCC2 ARE PLACED ON A RANGE OF 1 TO 4. FOR THE LCC2 MODEL THE FOLLOWING TRANSLATIONS ARE USED--INPUT=1,LV(I)=0
INPUT=2,LV(I)=1 INPUT=3OR4, LV(I)=2

4 LEVEL OF REPAIR (0 THRU 4,0=CONDEMNED)

APPLICABLE MODEL--GEMM
GEMM--THIS MODEL ALLOWS REPAIR OF THE ITEM AT ANY ONE OF FOUR LEVELS OR DISCARD. IN AIR FORCE TERMINOLOGY, THE LEVEL OF REPAIR IS INPUT AS FOLLOWS--ON-EQUIPMENT=1,BASE SHOP=2, THEATRE LEVEL DEPOT=3, CONUS DEPOT=4, DISCARD=0.

5 ITEM REMOVALS NRTS (FRAC)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS LABELLED XNRTS.
----NOTE,FOR LCC2, IT IS ASSUMED BY THE MODEL THAT ALL SRU'S ARE
----REPAIRED AT THE DEPOT, I.E.,NRTS FRAC=1.0 FOR SRU'S NOT CONDEMNED.

6 ITEM REMOVALS CONDEMNED (FRAC)

APPLICABLE MODELS--LCC2,MOD-METRIC
ITERATION VARIABLE IN--LCC2,MOD-METRIC
LCC2--EQUIVALENT INPUT VARIABLE IS LABELLED COND(I) FOR SRU I.
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS LABELLED CONS(J) FOR SRU J.

7 ITEM REMOVALS RETEST OK (FRAC)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS 'UFP(I)', DEFINED AS THE PROBABILITY OF AN UNVERIFIED FAILURE OF THE ITEM WHICH WAS DETECTED AFTER REMOVAL FROM THE NEXT HIGHER ASSEMBLY.

SUBSECTION 3 (Level 3, Section 2, Subsection 3)

SUBSECTION NAME--CORRECTIVE ACTION ACTIVITIES AND COSTS
DESCRIPTION--THIS SUBSECTION HAS 5 ITEMS AT LEVEL 3 ON SRU REPAIRS
ASSOCIATED MODELS--LCC2,GEMM

1 MEAN TIME TO REPAIR (HRS)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS MTTRM. THE DATA VALUE SHOULD REFLECT ONLY THE ACTIVE HANDS-ON TIME.

2 STATE VERIFICATION TIME,BENCH CHECK(MHRS

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS FVS(I) FOR SRU I.

3 REMOVE,REPLACE,CHECKOUT OF NHA (MHRS)

---THIS DATA ITEM IS NOT CURRENTLY USED IN ANY MODEL AT THIS LEVEL. IT
---IS INCLUDED HERE TO PROVIDE CONSISTENCY. IT WOULD REPRESENT THE RE-
---SOURCES REQUIRED TO PRECISELY DEFINE THE CONDITION OF THE SYSTEM.
---CURRENT MODELS INCORPORATE SUCH TIME IN OTHER MEASURES.
APPLICABLE MODEL--LCC2
ITERATION VARIABLE IS--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS RRS(I) FOR SRU I.

4 REPAIR TIME,OFF-EQUIPMENT OR DEPOT(MHRS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS RLS(I) FOR SRU I.

5 MATERIAL COST/OFF-EQUIPMENT REPAIR ($)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS RMS(I)

SUBSECTION 4 (Level 3, Section 2, Subsection 4)

SUBSECTION NAME--SCHEDULED MAINTENANCE ACTIONS AND COSTS
DESCRIPTION--THIS SUBSECTION HAS 1 ITEM AT LEVEL 3 FOR SRU OVERHAUL
ASSOCIATED MODEL--GEMM

(Level 3, Section 2, Subsection 4 (Cont.))

1 OVERHAUL COST ($)

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS MULTIPLIED BY THE TOTAL NUMBER OF SYSTEMS TO DETERMINE THE OVERHAUL COST OF ALL LIKE ITEMS PER OVERHAUL CYCLE.

SECTION 3 (Level 3, Section 3)

SUBSECTION 1 (Level 3, Section 3, Subsection 1)

1 INDEX OF SKILL TYPE 1 FOR REPAIR OF ITEM

APPLICABLE MODEL--GEMM
GEMM--AT LEVEL ONE, TRAINING COSTS FOR UP TO TEN SKILLS WERE AVAILABLE. AT THIS LEVEL, USE OF THOSE SPECIAL SKILLS CAN BE DESIGNATED FOR USE IN REPAIR OF SPECIFIC ITEMS(LRU'S/SRU'S)

2 INDEX OF SKILL TYPE 2 FOR REPAIR OF ITEM

APPLICABLE MODEL--GEMM
GEMM--AT LEVEL ONE, TRAINING COSTS FOR UP TO TEN SKILLS WERE AVAILABLE. AT THIS LEVEL, USE OF THOSE SPECIAL SKILLS CAN BE DESIGNATED FOR USE IN REPAIR OF SPECIFIC ITEMS(LRU'S/SRU'S)

3 INDEX OF SKILL TYPE 3 FOR REPAIR OF ITEM

APPLICABLE MODEL--GEMM
GEMM--AT LEVEL ONE, TRAINING COSTS FOR UP TO TEN SKILLS WERE AVAILABLE. AT THIS LEVEL, USE OF THOSE SPECIAL SKILLS CAN BE DESIGNATED FOR USE IN REPAIR OF SPECIFIC ITEMS(LRU'S/SRU'S)

4 INDEX OF SKILL TYPE 4 FOR REPAIR OF ITEM

APPLICABLE MODEL--GEMM
GEMM--AT LEVEL ONE, TRAINING COSTS FOR UP TO TEN SKILLS WERE AVAILABLE. AT THIS LEVEL, USE OF THOSE SPECIAL SKILLS CAN BE DESIGNATED FOR USE IN REPAIR OF SPECIFIC ITEMS(LRU'S/SRU'S)

SECTION 4 (Level 3, Section 4)

SECTION NAME--SPARES-INITIAL AND REPLENISHMENT
DESCRIPTION--THIS SECTION HAS ONE SUBSECTION AT LEVEL 3. IT IS (2)COMPUTATIONAL TIME FACTORS-WITH 3 DATA ITEMS.
ASSOCIATED MODEL--MOD-METRIC

SUBSECTION 2 (Level 3, Section 4, Subsection 2)

SUBSECTION NAME--COMPUTATIONAL TIME FACTORS
DESCRIPTION--THIS SUBSECTION CONTAINS 3 DATA ITEMS AT LEVEL 3 FOR SRU SPARES CALCULATIONS IN MOD-METRIC
ASSOCIATED MODEL--MOD-METRIC

(Level 3, Section 4, Subsection 2 (Cont.))

1 BASE REPAIR CYCLE TIME (DAYS)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS BRTSRU,WHERE TIME=TOTAL TIME.

2 DEPOT REPAIR CYCLE TIME (DAYS)

APPLICABLE MODEL--MOD-METRIC
ITERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS DRTSRU,WHERE TIME=TOTAL TIME.

3 PROCUREMENT LEAD TIME (MONTHS)

APPLICABLE MODEL--MOD-METRIC
IETERATION VARIABLE IN--MOD-METRIC
MOD-METRIC--EQUIVALENT INPUT VARIABLE IS SPLT.

SECTION 5 (Level 3, Section 5)

SECTION NAME--SUPPORT EQUIPMENT AND FACILITIES
DESCRIPTION--THIS SECTION HAS ONE SUBSECTION AT LEVEL 3--(1) SUPPORT EQUIPMENT USAGE-WITH 10 DATA ITEMS.
ASSOCIATED MODELS--LCC2,GEMM

SUBSECTION 1 (Level 3, Section 5, Subsection 1)

SUBSECTION NAME--SUPPORT EQUIPMENT USAGE
DESCRIPTION--THIS SUBSECTION CONTAINS 10 DATA ITEMS AT LEVEL 3 WHICH RELATE THE UAGE OF SE TYPES IN REPAIRS AT THE SRU LEVEL.
ASSOCIATED MODELS--LCC2,GEMM

1 INDEX OF SE TYPE TO VERIFY STATE (1-10)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS LSEV(I). ONE OF TEN SE TYPES IS TO BE IDENTIFIED,USING INDECES FROM LEVEL 1,FOR FAULT DIAGNOSTICS.

2 USAGE OF SE TO VERIFY STATE (HRS)

APPLICABLE MODEL--LCC2
ITERATION VARIABLE IN--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USEV(I), LENGTH OF TIME SE IS USED DURING FAULT ISOLATION

3 INDEX OF SE TYPE 1 USED IN REPAIR (1-10)

APPLICABLE MODELS--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE IS LSER(I,J)--USE OF JTH SE FOR LRU I
GEMM--INDEX,OF THE JTH TYPE OF SE, WHICH REFERS TO THE TEN TYPES AVAILABLE TO BE DEFINED AT LEVEL 1.

4 USAGE OF SE TYPE 1 TO REPAIR ITEM (HRS)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USER(I,J), JTH TYPE OF SE FOR USE IN REPAIRING LRUI IS USED FOR USER(I,J) HOURS.

5 INDEX OF SE TYPE 2 USED IN REPAIR (1-10)

APPLICABLE MODELS--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE IS LSER(I,J)--USE OF JTH SE FOR LRU I
GEMM--INDEX,OF THE JTH TYPE OF SE, WHICH REFERS TO THE TEN TYPES AVAILABLE TO BE DEFINED AT LEVEL 1.

6 USAGE OF SE TYPE 2 TO REPAIR ITEM (HRS)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USER(I,J), JTH TYPE OF SE FOR USE IN REPAIRING LRUI IS USED FOR USER(I,J) HOURS.

7 INDEX OF SE TYPE 3 USED IN REPAIR (1-10)

APPLICABLE MODELS--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE IS LSER(I,J)--USE OF JTH SE FOR LRU I
GEMM--INDEX,OF THE JTH TYPE OF SE, WHICH REFERS TO THE TEN TYPES AVAILABLE TO BE DEFINED AT LEVEL 1.

8 USAGE OF SE TYPE 3 TO REPAIR ITEM (HRS)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USER(I,J), JTH TYPE OF SE FOR USE IN REPAIRING LRUI IS USED FOR USER(I,J) HOURS.

9 INDEX OF SE TYPE 4 USED IN REPAIR (1-10)

APPLICABLE MODELS--LCC2,GEMM
LCC2--EQUIVALENT INPUT VARIABLE IS LSER(I,J)--USE OF JTH SE FOR LRU I
GEMM--INDEX,OF THE JTH TYPE OF SE, WHICH REFERS TO THE TEN TYPES AVAILABLE TO BE DEFINED AT LEVEL 1.

10 USAGE OF SE TYPE 4 TO REPAIR ITEM (HRS)

APPLICABLE MODEL--LCC2
LCC2--EQUIVALENT INPUT VARIABLE IS USER(I,J), JTH TYPE OF SE FOR USE IN REPAIRING LRUI IS USED FOR USER(I,J) HOURS.

(LEVEL 4)

SECTION 1 (Level 4, Section 1)

SECTION NAME--WEAPON SYSTEM DEPLOYMENT,USAGE,AND CHARACTERISTICS
DESCRIPTION--THIS SECTION CONTAINS ONE SUBSECTION AT LEVEL 4--(3)EQUIP MENT CHARACTERISTICS-WITH 3 DATA ITEMS.
ASSOCIATED MODEL--GEMM

SUBSECTION 3 (Level 4, Section 1, Subsection 3)

SUBSECTION NAME--EQUIPMENT CHARACTERISTICS
DESCRIPTION--THIS SUBSECTION HAS 3 DATA ITEMS WHICH DESCRIBE TO COST, WEIGHT AND QUANTITY OF SPECIFIC PART/PART CLASS.
ASSOCIATED MODEL--GEMM

1 ITEM ACQUISITION COST,SPARES ($/UNIT)

APPLICABLE MODEL--GEMM
GEMM--EQUIVALENT INPUT VARIABLE IS C, COST OF PART CLASS

2 ITEM WEIGHT (LBS)

---THIS DATA ITEM IS NOT CURRENTLY USED IN ANY MODEL AT THIS LEVEL. IT
---IS INCLUDED HERE TO PROVIDE CONSISTENCY. IT WOULD REPRESENT THE RE-
---SOURCES REQUIRED TO PRECISELY DEFINE THE CONDITION OF THE SYSTEM.
---CURRENT MODELS INCORPORATE SUCH TIME IN OTHER MEASURES.

3 QUANTITY OF ITEM/NEXT HIGHER ASSEMBLY

APPLICABLE MODEL--GEMM
GEMM--THE SAVE PROCESSOR WILL USE THE VALUE OF THIS DATA ITEM IN PREPARING INPUT FOR GEMM. IF MORE THAN ONE LEVEL 4 ITEM, OF EXACTLY THE SAME CHARACTERISTICS, IS USED IN A PARTICULAR LRU, THEN THIS DATA ITEM CAN BE USED TO INDICATE SO.

SECTION 2 (Level 4, Section 2)

SECTION NAME--MAINTENANCE RATES, ACTIVITIES AND COSTS
DESCRIPTION--THIS SECTION HAS ONE SUBSECTION AT LEVEL 4--(1)RELIABILITY AND MAINTENANCE RATE FACTORS-WITH 6 DATA ITEMS.
ASSOCIATED MODEL--GEMM

SUBSECTION 1 (Level 4, Section 2, Subsection 1)

SUBSECTION NAME--RELIABILITY AND MAINTENANCE RATE FACTORS
DESCRIPTION--THIS SUBSECTION CONTAINS 6 DATA ITEMS AT LEVEL 4. THESE ARE THE BASIC RELIABILITY TERMS FROM USAF/LG LETTER,21 OCT 76
ASSOCIATED MODEL--GEMM

1 MEAN OP TIME BETWEEN PREV MAINT ACT(HRS)

---THIS DATA ITEM IS NOT CURRENTLY USED IN ANY MODEL AT THIS LEVEL. IT
---IS INCLUDED HERE TO PROVIDE CONSISTENCY. IT WOULD REPRESENT THE RE-
---SOURCES REQUIRED TO PRECISELY DEFINE THE CONDITION OF THE SYSTEM.
---CURRENT MODELS INCORPORATE SUCH TIME IN OTHER MEASURES.

2 MEAN OP TIME BETWEEN CORR MAINT ACT(HRS)

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM IS USED WITH TWO OTHER DATA ITEMS TO COMPUTE
INPUT VARIABLE MTBFP. THE RELATIONSHIP IS--MTBFP=MEAN OPERATING TIME
BETWEEN CORRECTIVE ACTIONS/(INHERENT FAIL FRACTION + INDUCED FAILURE
FRACTION).

3 MEAN OP TIME BETWEEN OVERHAUL (HRS)

---THIS DATA ITEM IS NOT CURRENTLY USED IN ANY MODEL AT THIS LEVEL.
---IS INCLUDED HERE TO PROVIDE CONSISTENCY. IT WOULD REPRESENT THE RE-
---SOURCES REQUIRED TO PRECISELY DEFINE THE CONDITION OF THE SYSTEM.
---CURRENT MODELS INCORPORATE SUCH TIME IN OTHER MEASURES.

4 INHERENT FAILURE FRAC OF CORR MAINT ACTS

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM
GEMM--THIS DATA ITEM IS USED TO ADJUST THE MTBFP VARIABLE AS DESCRIBED
IN THE TEACH MESSAGE FOR ITEM 2 OF THIS SUBSECTION.

5 INDUCED FAILURE FRAC OF CORR MAINT ACTS

APPLICABLE MODEL--GEMM
GEMM--THIS DATA ITEM
GEMM--THIS DATA ITEM IS USED TO ADJUST THE MTBFP VARIABLE AS DESCRIBED
IN THE TEACH MESSAGE FOR ITEM 2 OF THIS SUBSECTION.

6 NO DEFECT FOUND FRAC OF CORR MAINT ACTS

---THIS DATA ITEM IS NOT CURRENTLY USED IN ANY MODEL AT THIS LEVEL. IT
---IS INCLUDED HERE TO PROVIDE CONSISTENCY. IT WOULD REPRESENT THE RE-
---SOURCES REQUIRED TO PRECISELY DEFINE THE CONDITION OF THE SYSTEM.
---CURRENT MODELS INCORPORATE SUCH TIME IN OTHER MEASURES.

MOD-METRIC PARAMETERS

PARAMETER 1

MOD-METRIC DEFAULT PARAMETER 1--NUMBER OF BISECTIONS
NOMINAL DEFAULT VALUE IS 5
--THIS IS THE NUMBER OF BISECTIONS WHICH THE PROGRAM WILL PERFORM IN
--SEARCHING FOR THE 'PROPER' LAGRANGIAN MULTIPLIER AT EACH BUDGET
--INCREMENT

PARAMETER 2

MOD-METRIC DEFAULT PARAMETER 2--DISTRIBUTION PARAMETER
NOMINAL DEFAULT VALUE IS 3
--THIS IS THE PARAMETER USED TO DETERMINE THE VARIANCE-TO-MEAN RATIO
--IN THE COMPOUND POISSON DEMAND DISTRIBUTION

PARAMETER 3

MOD-METRIC DEFAULT PARAMETER 3--STARTING BUDGET FACTOR
NOMINAL DEFAULT VALUE IS 1
--THIS FACTOR IS MULTIPLIED TIMES THE COST OF THE EXPECTED PIPELINE
--COST TO DETERMINE THE STARTING BUDGET. THE 'EXPECTED PIPELINE COST'
--IS INTERNALLY CALCULATED AS ONE OF EACH LRU AND SRU.

PARAMETER 4

MOD-METRIC DEFAULT PARAMETER 4--BUY SUPPORT OBJECTIVE
NOMINAL DEFAULT VALUE IS 15
--THIS IS THE REDUCTION IN BACKORDERS, PER ADDITIONAL MILLION DOLLARS
--INVESTED, AT WHICH COMPUTATIONS WILL BE STOPPED.

PARAMETER 5

MOD-METRIC DEFAULT PARAMETER 5--CONDEMNATION FACTOR
NOMINAL DEFAULT PARAMETER IS ZERO.
--THIS IS A GENERALIZED CONDEMNATION PERCENTAGE ACROSS ALL LRUS/SRUS

PARAMETER 6

MOD-METRIC DEFAULT PARAMETER 6--PRELIMINARY BUDGET INCREMENT FACTOR
NOMINAL DEFAULT VALUE IS .25
--THIS IS USED TO COMPUTE THE BUDGET INCREMENT TO BE ADDED AT EACH
--STEP, AROUND THE NEW BUDGET VALUE, THE LAGRANGIAN MULTIPLIER METHOD
--IS USED TO SEARCH FOR AN IMPROVED BACKORDER POSITION

OUTPUT COST CATEGORIES

CATEGORY 1
OUTPUT CATEGORY 1--RESEARCH AND DEVELOPMENT
ADDRESSED BY--GEMM
GEMM--THIS CATEGORY INCLUDES THE GEMM OUTPUT RESULT LABELLED RESEARCH AND DEVELOPMENT.

CATEGORY 2
OUTPUT CATEGORY 2--HARDWARE-PRODUCTION AND INSTALLATION
ADDRESSED BY--LCC2,GEMM
LCC2--THIS CATEGORY IS THE SUM OF LCC2 PRESENT VALUE RESULTS UNDER THE FOLLOWING LABELS--PRIME HARDWARE, INSTALLATION. NOTE--FOR NON-DIS COUNTED RESULTS, SET DISCOUNT FACTOR TO ZERO(LEVEL 1,SEC1,SUB3,ITEM6
GEMM--THIS CATEGORY IS THE GEMM OUTPUT RESULT LABELLED PRODUCTION COST

CATEGORY 3
OUTPUT CATEGORY 3--CONTRACTOR WARRANTY
ADDRESSED BY--LCC2
LCC2--THIS CATEGORY INCLUDES THE LCC2 OUTPUT RESULT LABELLED WARRANTY. NOTE--FOR NON-DISCOUNTED RESULTS, SET DISCOUNT FACTOR TO ZERO(LEVEL 1,SEC 1,SUB 3, ITEM 6)

CATEGORY 4

CATEGORY 5
OUTPUT CATEGORY 5--OPERATING COSTS-PERSONNEL
ADDRESSED BY--CACE
CACE--THIS CATEGORY INCLUDES THE SUBTOTAL CACE RESULT LABELLED PAY AND ALLOWANCES

CATEGORY 6
OUTPUT CATEGORY 6--PERSONNEL SUPPORT-TRAINING,MEDICAL,AND OTHER
ADDRESSED BY--CACE,LSC,LCC2,GEMM
CACE--THIS CATEGORY IS THW SUM OF SEVERAL CACE RESULTS. THESE INCLUDE BOS/RPM SUBTOTAL+MEDICAL SUPPORT SUBTOTAL+PCS SUBTOTAL + PIPELINE COSTS SUBTOTAL+ VEHICULAR EQUIPMENT
LSC--THIS CATEGORY INCLUDES THE WEAPON SYSTEM LEVEL RESULT FOR EQUATION C-6,COST OF PERSONNEL TRAINING
LCC2--THIS CATEGORY IS THE DISCOUNTED LCC2 RESULT FOR INITIAL TRAINING NOTE--IF NON-DISCOUNTED RESULTS ARE WANTED SET DISCOUNT FACTOR TO 0.
GEMM--THIS CATEGORY IS THE GEMM RESULT LABELLED TRAINING COST.

CATEGORY 7
OUTPUT CATEGORY 7--MAINTENANCE-PERSONNEL AND MATERIAL

```
   ADDRESSED BY--CACE,LSC,LCC2,GEMM
   CACE--THIS CATEGORY IS THE SUM OF 3 CACE RESULTS--AIRCRAFT MAINTENANCE
     BASE LEVEL + AIRCRAFT MAINTENANCE,DEPOT LEVE +MODIFICATION,CLASS-IV
   LSC--THIS CATEGORY IS THE SUM OF WEAPON SYSTEM LEVEL RESULTS FOR EQUA-
     TIONS C-2,ON-EQUIPMENT MAINTENANCE,AND C-3,OFF-EQUIPMENT MAINTENANCE
   LCC2--THIS CATEGORY IS THE DISCOUNTED SUM OF LCC2 RESULTS LABELLED--
     FLIGHT LINE MAINT. +BASE LEVEL MAINT. +DEPOT LEVEL MAINT.
     NOTE--IF NON-DISCOUNTED RESULTS ARE WANTED,SET DISCOUNT FACTOR TO 0.
   GEMM--THIS CATEGORY INCLUDES THE TWO GEMM OUTPUT RESULTS LABELLED
     MANPOWER(MAINT) AND OVERHAUL COST.

CATEGORY  8
   OUTPUT CATEGORY 8--SPARES-INITIAL AND REPLENISHMENT
   ADDRESSED BY--LSC,LCC2,GEMM
   LSC--THIS CATEGORY IS THE SUM OF WEAPON SYSTEM LEVEL RESULTS FOR EQUA-
     TIONS C-1,COST OF FLU SPARES, AND C-2,COST OF SPARE ENGINES.
   LCC2--THIS CATEGORY INCLUDES THE LCC2 OUTPUT RESULT INITIAL SPARES
   GEMM--THIS CATEGORY INCLUDES THE GEMM OUTPUT RESULT TOTAL STOCK

CATEGORY  9
   OUTPUT CATEGORY 9--SUPPORT EQUIPMENT AND FACILITIES
   ADDRESSED BY--CACE,LSC,LCC2,GEMM
   CACE--THE CATEGORY INCLUDES THE CACE RESULT LABELLED COMMON AGE.
   LSC--THIS CATEGORY INCLUDES THE WEAPON SYSTEM LEVEL RESULTS FOR EQUA-
     TIONS C-5,COST OF SUPPORT EQUIPMENT, AND C-8,COST OF FACILITIES
   LCC2--THIS CATEGORY INCLUDES THE LCC2 OUTPUT RESULTS SUPPORT EQUIPMENT
     AND SUPPORT EQUIPMENT MAINTENANCE. SET DISCOUNT FACTOR=0 FOR UNDIS-
     COUNTED RESULTS.
   GEMM--THIS CATEGORY INCLUDES THE OUTPUT RESULT LABELLED TEST EQUIPMENT

CATEGORY 10
   OUTPUT CATEGORY 10--LOGISTICS OPERATIONS
   ADDRESSED BY--LSC,LCC2,GEMM
   LSC--THIS CATEGORY INCLUDES THE SUM OF WEAPON SYSTEM LEVEL RESULTS FOR
     EQUATIONS C-4,INVENTORY MANAGEMENT COST,AND C-7,COST OF MANAGEMENT
     AND TECHNICAL DATA
   LCC2--THIS CATEGORY IS THE SUM OF LCC2 OUTPUT RESULTS LABELLED--ITEM
     MANAGEMENT, DATA MANAGEMENT, AND PACKING AND SHIPPING
   GEMM--THIS CATEGORY INCLUDES GEMM OUTPUT RESULTS LABELLED PUBLICATION
     COSTS, INVENTORY COSTS, AND TRANSPORTATION(MAINT).

CATEGORY 11
   OUTPUT CATEGORY 11--TOTAL
   ADDRESSED BY--CACE,LSC,LCC2,GEMM
   --FOR ALL MODELS,THE SUM OF THE APPROPRIATE CATEGORIES ARE ADDED. THE
   --TOTAL SHOWN ON THE TERMINAL SHOULD AGREE WITH THE SUMMARY TOTAL OF
   --EACH MODEL AS SEEN ON THE OFF-LINE PRINTED OUTPUT RESULTS.
   --NOTE LCC2 RESULTS WILL BE DISCOUNTED. IF NON-DISCOUNTED RESULTS ARE
   --WANTED, SET DISCOUNT FACTOR TO ZERO(LEVEL 1,SEC 1,SUB 3, DATA ITEM 6
```

APPENDIX C

APPENDIX C

SAMPLE DATA FILE, EXECUTION RECORDS AND OUTPUT RECORDS

In order to display the combined features of the LIBRARY, EXECUTION and OUTPUT sections of the SAVE system, this appendix presents three computer generated sets of information.

(1) The first listing, C-1, is the result of the PRINT, CAND command, issued at an interactive terminal, and operating on a data file labelled MODEL TEST. The reader should note that there are five candidates at the Level 0 node.

(2) The second set of information contains the results of the SHOW, REC for each of five execution records - one for each model. These records include selected nodes and candidates from the LIBRARY. Once again, these listings were generated at the interactive terminal.

(3) The third set of information presents the results of each of the five models executing on the five previously listed execution records. This set includes the standard interactive terminal output of each model as well as the off-line results produced by each individual model program.

For the second and third sets of information, the listings are organized by model in the following order: CAGE, LSC, LCC2, GEMM, and Mod-Metric.

The labels for the nodes and candidates presented in this appendix, and the data values used to create the results, are fictitious and do not correspond to any existing aircraft/avionics system.

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FIGURE C-1. LISTING OF NODES/CANDIDATES IN FILE NAMED "MODEL TEST"*

```
NODES/CANDIDATES FOR FILE
MODEL TEST
   * 1 TEST CAND FOR CACE
   * 2 TEST CAND FOR LSC
   * 3 TEST CAND FOR LCC2
   * 4 TEST CAND FOR MOD-METRIC
   * 5 TEST CAND FOR GEMM

 1-PROPULSION
   * 1 LSC PROPULSION

    1-PROPULSION LRU NUMBER 1
    2-PROPULSION LRU NUMBER 2
 2-RADIO COMMUNICATION
   * 1 LSC RADIO
   * 2 LCC2 RADIO

    1-RECEIVER
      * 1 LSC RECEIVER
      * 2 LCC2 RECEIVER

       1-MAIN
         * 1 LCC2 MAIN

       2-GUARD
         * 1 LCC2 GUARD

    2-TRANSMITTER
      * 1 LSC TRANSMITTER
      * 2 LCC2 TRANSMITTER

       1-VCO
         * 1 LCC2 VCO

       2-FILTER
         * 1 LCC2 FILTER

    3-POWER SUPPLY
      * 1 LSC POWER SUPPLY
      * 2 LCC2 POWER SUPPLY

 3-DUMMY MODMETRIC NODE
    1-LRU-A
      * 1 LRU-A CAND

       1-SRU1-A
         * 1 SRU-1A CAND

       2-SRU-2A
         * 1 SRU-2A CAND

       3-SRU-3A
         * 1 SRU-3A CAND

 4-GEMM END ITEM
   * 1 END ITEM

    1-GEMM COMPONENT 1
      * 1 COMPONENT 1

       1-GEMM MODULE 1-1
         * 1 MODULE 1-1

          1-GEMM PART 1-1-1 (5)
            * 1 PART 1-1-1(5)

       2-GEMM MODULE 1-2
         * 1 MODULE 1-2

          1-GEMM PART 1-2-1 (1)
            * 1 PART 1-2-1(1)

          2-GEMM PART 1-2-2 (2)
            * 1 PART 1-2-2(2)

          3-GEMM PART 1-2-3 (3)
            * 1 PART 1-2-3(3)

       3-GEMM MODULE 1-3
         * 1 MODULE 1-3

          1-GEMM PART 1-3-1 (3)
            * 1 PART 1-3-1(3)

          2-GEMM PART 1-3-2 (4)
            * 1 PART 1-3-2(4)

          3-GEMM PART 1-3-3 (5)
            * 1 PART 1-3-3(5)

    2-GEMM COMPONENT 2
      * 1 COMPONENT 2

       1-GEMM MODULE 2-1
         * 1 MODULE 2-1

          1-GEMM PART 2-1-1 (1)
            * 1 PART 2-1-1(1)

          2-GEMM PART 2-1-2 (2)
            * 1 PART 2-1-2(2)

       2-GEMM MODULE 2-2
         * 1 MODULE 2-2

          1-GEMM PART 2-2-1 (2)
            * 1 PART 2-2-1(2)

          2-GEMM PART 2-2-2 (3)
            * 1 PART 2-2-2(3)

          3-GEMM PART 2-2-3 (4)
            * 1 PART 2-2-3(4)
```


* This listing is normally in a single column.

FIGURE C-2. EXECUTION RECORD AND BASIC TERMINAL OUTPUT FOR CACE EXAMPLE

```
RECORD -10 CACE EXAMPLE
SYSTEM -MODEL TEST
         * 1 TEST CAND FOR CACE
LEVEL 0 XEQ COMMAND
--
```

```
10  CACE EXAMPLE
    MODEL--CACE

COST CATEGORY                                                    DOLLARS
 4 OPERATING COSTS-CONSUMABLES                                 6314112.00
 5 OPERATING COSTS-PERSONNEL                                   4318285.00
 6 PERSONNEL SUPPORT-TRAINING, MEDICAL AND OTHER               1088781.23
 7 MAINTENANCE-PERSONNEL AND MATERIAL                          3901200.00
 9 SUPPORT EQUIPMENT AND FACILITIES                             160000.00
                                                              --------------
11 TOTAL                                                      15782378.23
OUTPUT COMMAND
--
```

FIGURE C-3. OUTPUT FOR CACE EXAMPLE FROM OFF-LINE PRINTER

```
RUN RESULTS:

RECURRING INVESTMENT & MISCELLANEOUS LOGISTICS
  COMMON AGE (INCL. SPARES).....                160,000.00
  FUEL.....                                   6,314,112.00
  AIRCRAFT MAINTENANCE, BASE LEVEL (MATERIAL ONLY).....   1,123,200.00
  AIRCRAFT MAINTENANCE, DEPOT LEVEL.....      1,973,392.00
  MODIFICATION, CLASS IV (INCL. INITIAL SPARES.....         804,608.00
  MUNITIONS, TRAINING.....                          0.00
  REPLENISHMENT SPARES.....                         0.00
  VEHICULAR EQUIPMENT.....                     16,720.00
  SUBTOTAL.....                             10,392,032.00

PAY & ALLOWANCES
  MILITARY PAY AND ALLOWANCES.....            4,173,096.00
  CIVILIAN PAY AND ALLOWANCES.....              145,189.00
  SUBTOTAL.....                               4,318,285.00

MFP - BOS/RPM SUPPORT OF
  PPE MANPOWER.....                            98,235.00
  BOS/RPM MANPOWER.....                        17,110.00
  SUBTOTAL.....                               115,345.00

MEDICAL (MFP VIII) SUPPORT OF
  MEDICAL OFFICERS.....                        35,520.00
  MEDICAL AIRMEN.....                         151,680.00
  SUBTOTAL.....                               187,200.00

PERSONNEL SUPPORT
  PERMANENT CHANGE OFF STATION - OFFICERS.....     48,384.00
  PERMANENT CHANGE OF STATION - AIRMEN.....       125,136.00
  SUBTOTAL.....                               173,520.00

PIPELINE   COSTS
  OFFICER ACQUISITION - PILOTS.....            26,652.37
  OFFICER ACQUISTIO N - NONPILOT AIRCREW.....       0.00
  OFFICER ACQUISITION - NONAIRCREW.....        13,245.75
  AIRMEN ACQUISITION.....                     101,625.60
  OFFICER TRAINING - PILOTS.....              272,187.22
  OFFICER TRAINING - OTHER AIRCREW.....             0.00
  OFFICER TRAINING - NONAIRCREW.....           5,760.32
  AIRMEN TRAINING - BASE LEVEL AIRCRAFT MAINTENANCE.....   141,370.00
  AIRMEN TRAINING - OTHER.....                 55,175.00
  SUBTOTAL.....                               595,996.25

TOTAL ANNUAL COST ESTIMATE . . . . . 15,782,378.25
```

FIGURE C-4. EXECUTION RECORD AND BASIC TERMINAL OUTPUT FOR LSC EXAMPLE

```
RECORD - 2 LSC EXAMPLE
SYSTEM -MODEL TEST
         * 2 TEST CAND FOR LSC
SUBSYS - 1 PROPULSION
         * 1 LSC PROPULSION

SUBSYS - 2 RADIO COMMUNICATION
         * 1 LSC RADIO

  1  RECEIVER
     * 1  LSC RECEIVER
  2  TRANSMITTER
     * 1  LSC TRANSMITTER
  3  POWER SUPPLY
     * 1  LSC POWER SUPPLY
LEVEL 0 XEQ COMMAND
--
```

```
  8  LSC EXAMPLE
     MODEL--LSC

 COST CATEGORY                                                  DOLLARS
  4 OPERATING COSTS-CONSUMABLES                              1800000.00
  6 PERSONNEL SUPPORT-TRAINING, MEDICAL AND OTHER                  0.00
  7 MAINTENANCE-PERSONNEL AND MATERIAL                    4365702957.77
  8 SPARES-INITIAL AND REPLENISHMENT                        19094000.00
  9 SUPPORT EQUIPMENT AND FACILITIES                         1155000.00
 10 LOGISTICS OPERATIONS                                          0.00
                                                          --------------
 11 TOTAL                                                 4387751957.77
```

FIGURE C-5. SUMMARY OUTPUT FOR LSC EXAMPLE FROM OFF-LINE PRINTER*

LSC MODEL RUN OF 10/25/77 10.41.44.

TOTAL LSC = $ 4.39 BILLION (4387751955.)

TOTAL LSC BREAKOUT BY EQUATION

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
274000.	375350.	4365228608.	0.	1125000.	0.	0.	0.	1000000.	10000000.

SYSTEMS RANKED BY COST

SYSTEM	COST(IN MILLIONS)	PCT OF TOTAL LSC
6300	4277.15	.97
2500	110.60	.03
	4387.75	1.00

WEAPON SYSTEM EXCLUSIVE COST = 0.

*The standard output for LSC is more than is presented here. The entire output is available from SAVE in the off-line print model.

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FIGURE C-6. EXECUTION RECORD AND BASIC TERMINAL OUTPUT FOR LCC2 EXAMPLE

```
RECORD - 1 LCC2 EXAMPLE
SYSTEM -MODEL TEST
         * 3 TEST CAND FOR LCC2
SUBSYS - 2 RADIO COMMUNICATION
         * 2 LCC2 RADIO

  1  RECEIVER
     * 2  LCC2 RECEIVER
     1  MAIN
        * 1  LCC2 MAIN
     2  GUARD
        * 1  LCC2 GUARD
  2  TRANSMITTER
     * 2  LCC2 TRANSMITTER
     1  VCO
        * 1  LCC2 VCO
     2  FILTER
        * 1  LCC2 FILTER
  3  POWER SUPPLY
     * 2  LCC2 POWER SUPPLY



 6  LCC2 EXAMPLE
    MODEL--LCC2

COST CATEGORY                                                  DOLLARS
 2 HARDWARE-PRODUCTION AND INSTALLATION                     500000.00
 3 CONTRACTOR WARRANTY                                           0.00
 6 PERSONNEL SUPPORT-TRAINING, MEDICAL AND OTHER                 0.00
 7 MAINTENANCE-PERSONNEL AND MATERIAL                       856793.03
 8 SPARES-INITIAL AND REPLENISHMENT                         482900.00
 9 SUPPORT EQUIPMENT AND FACILITIES                         280000.00
10 LOGISTICS OPERATIONS                                      39235.54
                                                           ----------
11 TOTAL                                                   2158928.57
```

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FIGURE C-7. SUMMARY OUTPUT FOR LCC2 EXAMPLE FROM OFF-LINE PRINTER*

TOTAL COST SUMMARY (BY CATEGORY)

	UNDISCOUNTED COST	PRESENT VALUE COST
INITIAL TRAINING	0.	0.
DATA ACQUISITION	0.	0.
ITEM ENTRY	0.	0.
DATA MANAGEMENT	0.	0.
PRIME HARDWARE	500,000.	500,000.
SUPPORT EQUIPMENT	160,000.	160,000.
INITIAL SPARES	482,900.	482,900.
INSTALLATION	0.	0.
TOTAL ACQUISITION COST	1,142,900.	1,142,900.
FLIGHT LINE MAINT.	175,498.	175,498.
BASE LEVEL MAINT.	353,247.	353,247.
DEPOT LEVEL MAINT.	328,047.	328,047.
ITEM MANAGEMENT	0.	0.
DATA MANAGEMENT	0.	0.
PACKING & SHIPPING	39,236.	39,236.
S.E.MAINTENANCE	120,000.	120,000.
TOTAL O&M COST	1,016,029.	1,016,029.
TOTAL LIFE CYCLE COST	2,158,929.	2,158,929.

* The standard output for LCC2 is more than is presented here. The entire output is available from SAVE in the off-line print model

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FIGURE C-7. SUMMARY OUTPUT FOR LCC2 EXAMPLE FROM OFF-LINE PRINTER*
(Continued)

TOTAL COST SUMMARY (BY YEAR)

SYSTEM OPERATIONAL LIFE = 15 YEARS

YEAR OF PROGRAM	UNDISCOUNTED COST	PRESENT VALUE COST
1	1,210,635.	1,210,635.
2	67,735.	67,735.
3	67,735.	67,735.
4	67,735.	67,735.
5	67,735.	67,735.
6	67,735.	67,735.
7	67,735.	67,735.
8	67,735.	67,735.
9	67,735.	67,735.
10	67,735.	67,735.
11	67,735.	67,735.
12	67,735.	67,735.
13	67,735.	67,735.
14	67,735.	67,735.
15	67,735.	67,735.
TOTAL	2,158,929.	2,158,929.

* The standard output for LCC2 is more than is presented here. The entire output is available from SAVE in the off-line print mode.

FIGURE C-8. EXECUTION RECORD FOR GEMM EXAMPLE

```
RECORD - 4 GEMM EXAMPLE
SYSTEM -MODEL TEST
          * 5 TEST CAND FOR GEMM
SUBSYS - 4 GEMM END ITEM
          * 1 END ITEM

  1  GEMM COMPONENT 1
     * 1  COMPONENT 1
     1  GEMM MODULE 1-1
        * 1  MODULE 1-1
        1  GEMM PART 1-1-1 (5)
           * 1  PART 1-1-1(5)
     2  GEMM MODULE 1-2
        * 1  MODULE 1-2
        1  GEMM PART 1-2-1 (1)
           * 1  PART 1-2-1(1)
        2  GEMM PART 1-2-2 (2)
           * 1  PART 1-2-2(2)
        3  GEMM PART 1-2-3 (3)
           * 1  PART 1-2-3(3)
     3  GEMM MODULE 1-3
        * 1  MODULE 1-3
        1  GEMM PART 1-3-1 (3)
           * 1  PART 1-3-1(3)
        2  GEMM PART 1-3-2 (4)
           * 1  PART 1-3-2(4)
        3  GEMM PART 1-3-3 (5)
           * 1  PART 1-3-3(5)
  2  GEMM COMPONENT 2
     * 1  COMPONENT 2
     1  GEMM MODULE 2-1
        * 1  MODULE 2-1
        1  GEMM PART 2-1-1 (1)
           * 1  PART 2-1-1(1)
        2  GEMM PART 2-1-2 (2)
           * 1  PART 2-1-2(2)
     2  GEMM MODULE 2-2
        * 1  MODULE 2-2
        1  GEMM PART 2-2-1 (2)
           * 1  PART 2-2-1(2)
        2  GEMM PART 2-2-2 (3)
           * 1  PART 2-2-2(3)
        3  GEMM PART 2-2-3 (4)
           * 1  PART 2-2-3(4)
```

FIGURE C-9. BASIC TERMINAL OUTPUT FOR GEMM EXAMPLE

```
 9  GEMM EXAMPLE
    MODEL--GEMM

COST CATEGORY                                                    DOLLARS
 1 RESEARCH AND DEVELOPMENT                                         0.00
 2 HARDWARE-PRODUCTION AND INSTALLATION                  32000000000.00
 6 PERSONNEL SUPPORT-TRAINING, MEDICAL AND OTHER             2160000.00
 7 MAINTENANCE-PERSONNEL AND MATERIAL                        3658137.85
 8 SPARES-INITIAL AND REPLENISHMENT                         65479962.36
 9 SUPPORT EQUIPMENT AND FACILITIES                         31262246.78
10 LOGISTICS OPERATIONS                                       720868.87
                                                          --------------
11 TOTAL                                                32103281215.85
```

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FIGURE C-10. SUMMARY OUTPUT FOR GEMM MODEL FROM OFF-LINE PRINTER*

LIFE CYCLE COSTS ($)

RESEARCH & DEVELOPMENT		0.00
PRODUCTION COST		32000000000.00
TEST EQUIPMENT		31262246.78
PUBLICATION COST		5250.00
STOCKAGE		
INITIAL	4056598.86	
REORDER	61413363.50	
TOTAL STOCK		65479962.36
INVENTORY COST		713726.70
TRAINING COST		2160000.00
MANPOWER(MAINT)		3658137.85
TRANSPORTATION(MAINT)		1892.16
OVERHAUL COST		0.00
TOTAL LIFE CYCLE COST		32103281215.85

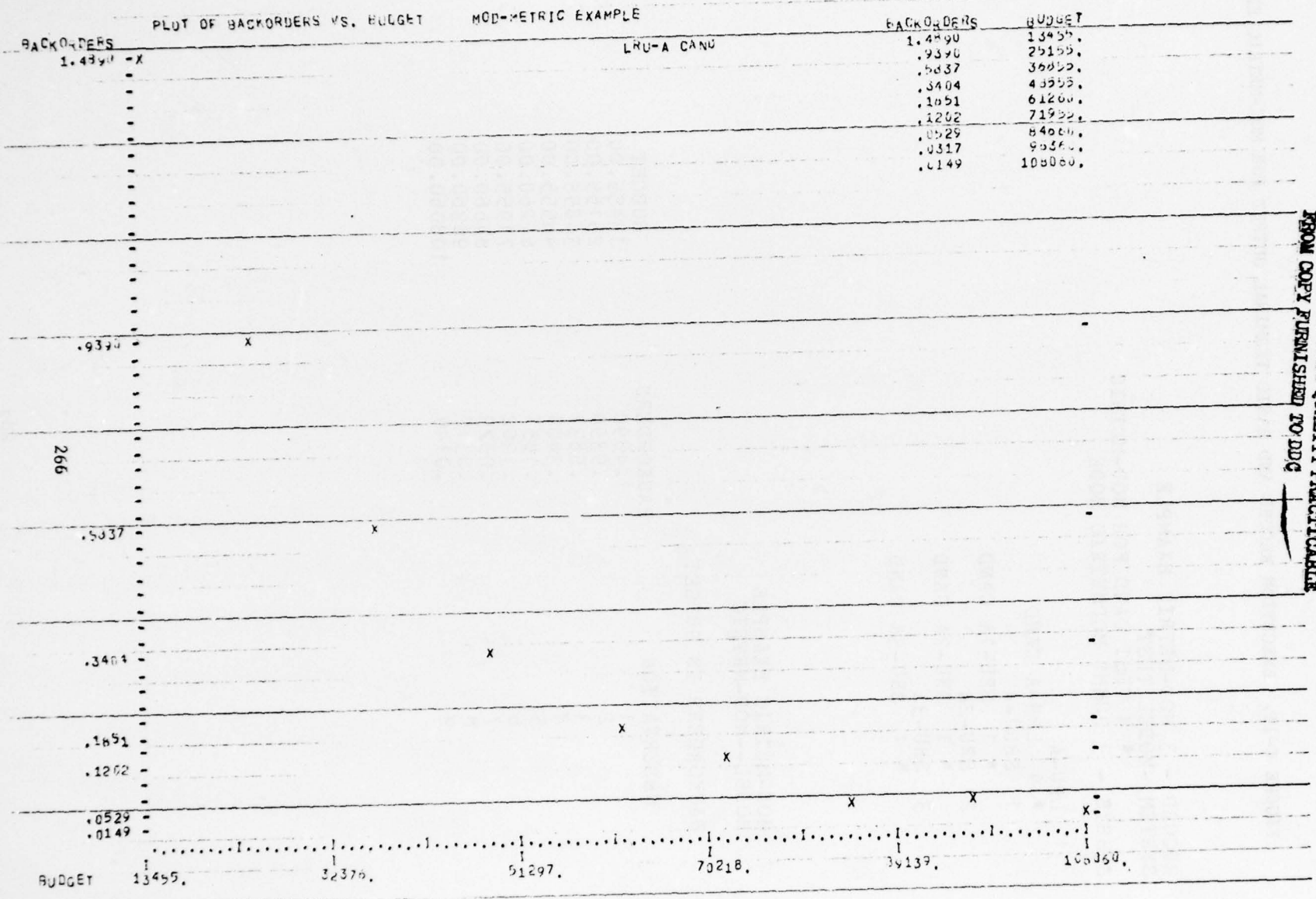
OPERATIONAL AVAILABILITY	.9752
MEAN DOWN TIME (HOURS)	24.193

* The standard GEMM output is more extensive than what is presented here but this summary does identify the cost categories addressed by GEMM.

FIGURE C-11. EXECUTION RECORD AND BASIC TERMINAL OUTPUT FOR MOD-METRIC EXAMPLE

```
RECORD - 3 MOD-METRIC EXAMPLE
SYSTEM -MODEL TEST
         * 4 TEST CAND FOR MOD-METRIC
SUBSYS - 3 DUMMY MODMETRIC NODE

  1  LRU-A
     * 1  LRU-A CAND
     1  SRU1-A
        * 1  SRU-1A CAND
     2  SRU-2A
        * 1  SRU-2A CAND
     3  SRU-3A
        * 1  SRU-3A CAND



 7  MOD-METRIC EXAMPLE
    MODEL--MOD-METRIC

    BACKORDERS VS BUDGET

      OBSERVATION          BACKORDERS          BUDGET
            1                1.4890          13455.00
            2                 .9390          25155.00
            3                 .5837          36855.00
            4                 .3404          48555.00
            5                 .1851          61260.00
            6                 .1202          71955.00
            7                 .0529          84660.00
            8                 .0317          96360.00
            9                 .0149         108060.00
```

FIGURE C-12. GRAPHICAL SUMMARY OUTPUT FOR MOD-METRIC EXAMPLE FROM OFF-LINE PRINTER



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APPENDIX D

APPENDIX D

PROGRAMMERS GUIDE

The purpose of this appendix is to provide a description of the Systems Avionics Value Estimation (SAVE) computer code. Figure D-1 shows the SAVE program organization. Because of the extreme complexity of the loading procedure, this chart shows only the major program elements. Beneath the executive control routines there are four major segments which overlay each other during execution. The first segment performs initialization functions and attaches the necessary permanent files (INIT segment). The second segment contains all routines to store, modify, and retrieve data from the users data base (LIB segment). The third contains all routines to create an execution record and execute the models (XEQ segment). The fourth contains all routines to display the output from the models (OUT segment). In addition, the last two segments are further broken down into subsegments which perform specific tasks of the major segment's function.

Table D-1 contains a brief description of each of the program subroutines and where it occurs. Table D-2 contains a brief description of all library routines and utility programs used by the SAVE system. Table D-3 lists all common blocks and where they occur in the interactive processor. Finally, Table D-4 lists the files used by the SAVE interactive processor, the access method and the contents of each file.

It should also be noted that much of the documentation resides in the program itself. At the beginning of each routine is a description of the purpose of the routine. In addition, all common variables are described in the routines where they are used.

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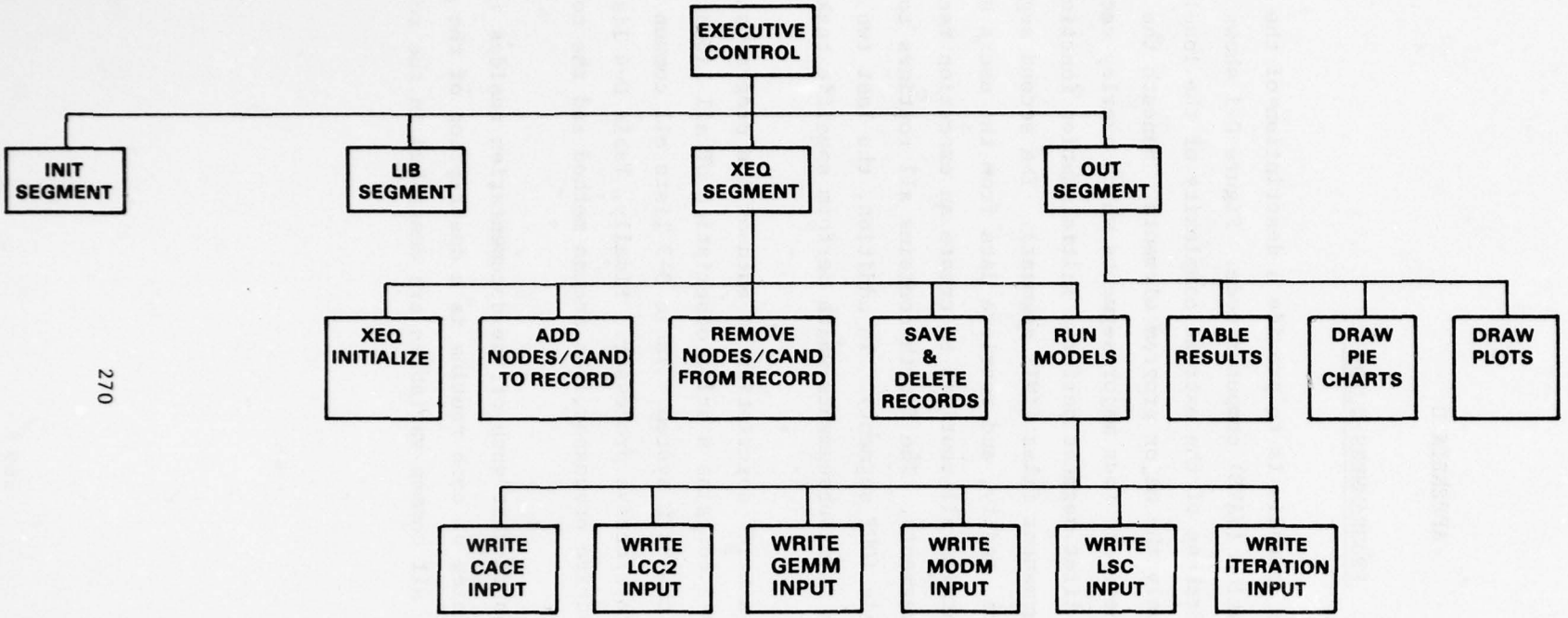

FIGURE D-1. SAVE PROGRAM ORGANIZATION

TABLE D-1. DESCRIPTION OF SAVE INTERACTIVE ROUTINES

Name	Location	Purpose
SCLXEC	EXECUTIVE CONTROL	Main entry to program
LIBDAT	EXECUTIVE CONTROL	Set program control variables
MAIN	EXECUTIVE CONTROL	Executive command processor
TEACH	EXECUTIVE CONTROL	Find and display teach and manual messages
INDATA	EXECUTIVE CONTROL	Process user input
TRACE	EXECUTIVE CONTROL	Maintain pointers for trace file
SCALIT	INIT	Initialize and attach files
SCALDT	LIB	Process LIBRARY commands
SCLST	LIB	List nodes, candidates, section and subsections
SCSEL	LIB	Select nodes, candidates, sections and subsections
SCNAM	LIB	Name candidates and nodes
SCSAV	LIB	Save candidates and nodes
SCDEL	LIB	Delete candidates and nodes
SCSHW	LIB	Show candidates and nodes
SCDAT	LIB	Accept data values and check against limits
SCSTS	LIB	Display information about current selections
SCTXT	LIB	Process text commands
SCPRT	LIB	Print nodes and candidates in file
SCRNG	LIB	Display data items and their limits
SETTR	LIB	Process SHOWCAND command
SCALEX	XEQ	Process EXECUTE commands
CHKITR	XEQ	Check for valid completion of ADDITER command
XEQDAT	XEQ	Set program controls in EXECUTE segment
VERFY	XEQ	Verify nodes in stored record are still in data file
SRSEL	XEQ	Select nodes, candidates, section and subsections
SRLST	XEQ	List nodes, candidates, section and subsections
SRADD	XEQ	Add nodes and candidates to execution record
SRSHW	XEQ	Show nodes, record and iterations
SRNAM	XEQ	Name execution record
SRSAV	XEQ	Save execution record
SRDEL	XEQ	Delete execution record

TABLE D-1. DESCRIPTION OF SAVE INTERACTIVE ROUTINES
(Continued)

Name	Location	Purpose
SRREM	XEQ	Remove nodes candidates and iterations from record
SRDAT	XEQ	Show candidate data
SRSTS	XEQ	Display information about current selections
SRRNG	XEQ	Display iteration data items and their limits
SRITR	XEQ	Add iterations to record
SRRUN	XEQ	Process RUN commands
CLOAD	XEQ	Routine to load a candidate from file
FLUNUM	XEQ	Determine number of nodes beneath a given mode in the execution record
GET1	XEQ	Permit user to select one node for a given level
ISUBS	XEQ	Associate a data item with a program input variable
SRINT	XEQ	Write control cards to execute a model
SRCAC	XEQ	Write CACE input file
CACBLK	XEQ	Provide data for CACE control variables
SRLSC	XEQ	Write LSC input file
LSCBLK	XEQ	Provide data for LSC control variables
SEGET	XEQ	Determine number of support equipment items used by a candidate
SECHK	XEQ	Store data for each support equipment item
GETPRO	XEQ	Find propulsion candidate
SRLCC	XEQ	Write LCC2 input file
LCCBLK	XEQ	Provide data for LCC2 control variables
SRMOD	XEQ	Write MOD-METRIC input file
MODBLK	XEQ	Provide data for MOD-METRIC control variables
GETPARM	XEQ	Permit User to modify MOD-METRIC default parameter values
SRGEM	XEQ	Write GEMM input file control routine
GEMBLK	XEQ	Provide data for GEMM control variables
G1	XEQ	Verify valid record structure for GEMM
G1A	XEQ	Write GEMM card types 1 to 15
G2	XEQ	Write GEMM card types 16 to 30
G3	XEQ	Write GEMM card types 31 to 44

TABLE D-1. DESCRIPTION OF SAVE INTERACTIVE ROUTINES
(Continued)

Name	Location	Purpose
G4	XEQ	Write GEMM card types 45 to 60
ITRSTR	XEQ	Control routine for writing iterations
ITRVAL	XEQ	Control routine to calculate program iteration values
FNDITR	XEQ	Identify valid iterations for model being run
ITRBLK	XEQ	Provide data for iteration control variables
PCKITR	XEQ	Read SAVEITERFILE and pack pointers
ITRCAC	XEQ	Calculate CACE iteration inputs
ITRLCC	XEQ	Calculate LCC2 iteration inputs
ITRLSC	XEQ	Calculate LSC iteration inputs
ITRMOD	XEQ	Calculate MOD-METRIC iteration inputs
ITRGEM	XEQ	Calculate GEMM iteration inputs
SCALOT	OUT	Process output commands
OUTDAT	OUT	Provide data for output control variables
SOSHW	OUT	Show execution record and iterations
SODEL	OUT	Delete output records
SOTBL	OUT	Display output in tabular form
SOPIE	OUT	Draw pie chart
SOPLT	OUT	Control routine for drawing plots
AXIS	OUT	Draw and label axes
ANNOT	OUT	Annotate a curve
PLOT	OUT	Draw a curve
ICONX	OUT	Scale X values
ICONY	OUT	Scale Y values
STSCAL	OUT	Determine scale factors

TABKE D-2. DESCRIPTION OF LIBRARY ROUTINES AND UTILITY PROGRAMS

Name	Type	Purpose
BKDATA	BLOCK DATA	Provide data values for I/O control variables
CONVRT	SUBROUTINE	Convert real number to bed in F8.3 format
RTOBCD	SUBROUTINE	Convert real number to BCD in variable format
GETDIG	SUBROUTINE	Convert an integer number to an array of BCD numbers
FIND	SUBROUTINE	Searches a variable dimension table for a specified element
MOVE	SUBROUTINE	Transfers a variable number of characters to a new storage location
REALF	FUNCTION	Converts a BCD number to a real number
INTGER	FUNCTION	Converts a BCD number to an integer number
ITYPE	FUNCTION	Determine if user input is numeric or alphabetic
KOMPAR	FUNCTION	Perform character comparison of variable length items
MESAGE	SUBROUTINE	Display a message to interactive user
GETINP	SUBROUTINE	Request input from user
PAGE	SUBROUTINE	Maintain line count on screen and request new page
ENDJOB	SUBROUTINE	Mode error processing routine
CTLCRD	SUBROUTINE	Execute a list of intercom commands
TRAPS	SUBROUTINE	Returns user to last input request if a mode error occurs
REQQFD	SUBROUTINE	Request a file on a queue device
PFSUBR	FUNCTION	Manipulate perm files from within program
ROUTE	SUBROUTINE	Request disposition of a file on a queue device (i.e. to input, printer etc.)
DCLOSE	SUBROUTINE	Return files
CLSFLE	SUBROUTINE	Empty buffers and close index sequential files
NEWFLE	SUBROUTINE	Open index sequential file and assign buffer
READDK	SUBROUTINE	Perform index sequential read request in 64 word blocks
WRITDK	SUBROUTINE	Perform index sequential write request in 64 word blocks

TABLE D-2. DESCRIPTION OF LIBRARY ROUTINES AND UTILITY PROGRAMS (Continued)

Name	Type	Purpose
READ	SUBROUTINE	Perform index sequential read request for variable number of words
WRITE	SUBROUTINE	Perform index sequential write request for variable number of words
INDXSEQ	SUBROUTINE	Read and write index sequential file
RECOUR	SUBROUTINE	Perform recovery from mode error
HOLD	SUBROUTINE	Control routine for interactive dump
DMP	SUBROUTINE	Provide interactive selective dump
DMPX	SUBROUTINE	Provide interactive short form dump
DMP,CRK	SUBROUTINE	Provide interactive selective dump
LD,ST	SUBROUTINE	Provide interactive short form dump
SAVEIT	PROGRAM	Create SAVEITERFILE
COPYCD	PROGRAM	Copy sequential model output into user's data file
COSTFL	PROGRAM	Create COSTDATALABELS file
DATAFL	PROGRAM	Create empty user data file
STCHFL	PROGRAM	Create TEACH file
SCPCK	PROGRAM	Pack users data file to free imbedded unused space
SEL	SUBROUTINE	Used by SCPCK
SAV	SUBROUTINE	Used by SCPCK

TABLE D-3. COMMON BLOCKS IN INTERACTIVE PROCESSOR

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Common Block	Routines Using Block									
CHNG	MAIN	SCALIT	SRRUN							
FILENM	CLOAD	GET1	G1A	G1	G2	G3	G4	ITRSTR	SCALDT	SCALEX
	SCALOT	SCDEL	SCLST	SCLXEC	SCPRT	SCSAV	SCSEL	SCSHW	SECHK	SODEL
	SOPIE	SOPLT	SOSHW	SOTBL	SRADD	SRCAC	SRDAT	SRDEL	SRLCC	SRLSC
	SRLST	SRMOD	SRREM	SRRUN	SRSAV	SRSEL	SRSHW	VERFY		
FILES	CLOAD	GETPARM	GET1	G1A	G1	G2	G3	G4	INDATA	ISUBS
	ITRCAC	ITRGEM	ITRLCC	ITRLSC	ITRMOD	ITRSTR	MAIN	SCALDT	SCALEX	SCALIT
	SCALOT	SCDAT	SCDEL	SCLST	SCNAM	SCPRT	SCRNG	SCSAV	SCSEL	SCSHW
	SCSTS	SCTXT	SETTR	SODEL	SOPIE	SOPLT	SOSHW	SOTBL	SRADD	SRCAC
	SRDAT	SRDEL	SRINT	SRITR	SRLCC	SRLSC	SRLST	SRMOD	SRNAM	SRREM
	SRRNG	SRRUN	SRSAV	SRSEL	SRSHW	SRSTS	TEACH	VERFY		
ICTL	CACBLK	GEMBLK	ISUBS	ITRBLK	ITRVAL	LCCBLK	LSCBLK	MODBLK	PCKITR	
IFTR	CLOAD	GETPARM	GET1	G1A	G1	G2	G3	G4	INDATA	ISUBS
	ITRCAC	ITRGEM	ITRLCC	ITRLSC	ITRMOD	ITRSTR	MAIN	SCALDT	SCALEX	SCALIT
	SCALOT	SCDAT	SCDEL	SCLST	SCNAM	SCPRT	SCRNG	SCSAV	SCSEL	SCSHW
	SCSTS	SCTXT	SETTR	SODEL	SOPIE	SOPLT	SOSHW	SOTBL	SRADD	SRCAC
	SRDAT	SRDEL	SRINT	SRITR	SRLCC	SRLSC	SRLST	SRMOD	SRNAM	SRREM
	SRRNG	SRRUN	SRSAV	SRSEL	SRSHW	SRSTS	TEACH	VERFY		
INPUT	CLOAD	GETPARM	GET1	G1A	G1	G2	G3	G4	INDATA	ISUBS
	ITRCAC	ITRGEM	ITRLCC	ITRLSC	ITRMOD	ITRSTR	MAIN	SCALDT	SCALEX	SCALIT
	SCALOT	SCDAT	SCDEL	SCLST	SCNAM	SCPRT	SCRNG	SCSAV	SCSEL	SCSHW
	SCSTS	SCTXT	SETTR	SODEL	SOPIE	SOPLT	SOSHW	SOTBL	SRADD	SRCAC
	SRDAT	SRDEL	SRINT	SRITR	SRLCC	SRLSC	SRLST	SRMOD	SRNAM	SRREM
	SRRNG	SRRUN	SRSAV	SRSEL	SRSHW	SRSTS	TEACH	VERFY		
IOWD	GETPARM	INDATA	LIBDAT	SCALDT	SCALEX	SCALOT	SCNAM	SCSEL	SRSEL	XEQDAT
IUSER	MAIN	SCRIT								
LABELS	CLOAD	ISUBS	ITRCAC	ITRGEM	ITRLCC	ITRLSC	ITRMOD	ITRSTR	ITRVAL	LIBDAT
	SCALDT	SCALEX	SCDAT	SCDEL	SCLST	SCNAM	SCRNG	SCSAV	SCSEL	SCSHW
	SCSTS	SRCAC	SRDAT	SRITR	SRLST	SRRNG	SRRUN	SRSEL	SRSTS	XEQDAT
LCAND	CLOAD	GETPRO	G1A	G1	G2	G3	G4	ISUBS	ITRCAC	ITRGEM
	ITRLCC	ITRLSC	ITRMOD	ITRVAL	LIBDAT	SCALDT	SCDAT	SCDEL	SCLST	SCNAM
	SCPRT	SCSAV	SCSEL	SCSHW	SCSTS	SCTXT	SECHK	SEGET	SETTR	SRADD
	SRCAC	SRDAT	SRLCC	SRLSC	SRLST	SRMOD	SRREM	SRSEL	SRSTS	XEQDAT
LFILE	CLOAD	GET1	G1A	G1	G2	G3	G4	ISUBS	ITRSTR	LIBDAT
	SCALDT	SCALEX	SCDAT	SCDEL	SCLST	SCNAM	SCPRT	SCRNG	SCSAV	SCSEL
	SCSHW	SECHK	SETTR	SOSHW	SRADD	SRCAC	SRDAT	SRITR	SRLCC	SRLSC
	SRLST	SRMOD	SRREM	SRRNG	SRRUN	SRSEL	SRSHW	VERFY	XEQDAT	
LINDX	CLOAD	LIBDAT	SCALDT	SCALEX	SCDEL	SCLST	SCPRT	SCSAV	SCSEL	SCSHW
	SOSHW	SRADD	SRCAC	SRLST	SRSEL	SRSHW				
LNODE	LIBDAT	SCALDT	SCALEX	SCDEL	SCLST	SCNAM	SCPRT	SCSAV	SCSEL	SCSHW
	SCSTS	SCSHW	SRADD	SRITR	SRLST	SRREM	SRSEL	SRSHW	SRSTS	XEQDAT
LSTAT	LIBDAT	SCALDT	SCALEX	SCDAT	SCDEL	SCLST	SCNAM	SCPRT	SCRNG	SCSAV
	SCSEL	SCSHW	SCSTS	SCTXT	SETTR	SOSHW	SRADD	SRDAT	SRINT	SRITR
	SRLST	SRREM	SRRNG	SRRUN	SRSAV	SRSEL	SRSHW	SRSTS	XEQDAT	
MANUAL	SCLXEC									

TABLE D-4. SAVE FILES

Name	Access	Contents
AEPUSERNAMES	SEQUENTIAL	List of valid users with associated account numbers
COSTDATAFILE	RANDOM	Users data files (one for each user) 4 SUBFILES: 1. User defined hardware configuration 2. Candidate index, names and data 3. Execution records 4. Output records
SAVETEACHFILE	RANDOM	Teach messages and on-line user's manual
COSTDATALABELS	RANDOM	Program labels 6 SUBFILES: 1. Level 0 sections, subsections, items 2. Level 1 sections, subsections, items 3. Level 2 sections, subsections, items 4. Level 3 sections, subsections, items 5. Level 4 sections, subsections, items 6. Output cost categories and chart labels
SAVEITERFILE	SEQUENTIAL	Iteration variable pointers 5 SUBFILES: 1. Iteration pointers for interactive program 2. Pointers to associate interactive data items with CACE variables 3. Data items with LCC2 variables 4. Data items with GEMM variables 5. Data items with LSC variables

REFERENCES

(1) Brown, R. A., "Avionics Evaluation Program: Multiple Aircraft, Multiple Sorties and Cost Accumulation", AFAL-TR-76-196, Prepared by Battelle's Columbus Laboratories, November 1976.

(2) Cork, T. R., and Welp, D. W., "Definition of a Systematic Cost- and Logistics-Effectiveness (SCALE) Procedure", Battelle's Columbus Laboratories, prepared for Headquarters Air Force Logistics Command (AFLC), Wright-Patterson AFB, Ohio, January 12, 1976.

(3) Air Force Regulation AFR 173-10, "USAF Cost and Planning Factors(U)", Volume 1, Department of the Air Force, 6 February 1975, as amended.

(4) "Logistics Support Cost Model User's Handbook", AFLC/ALD, Wright-Patterson AFB, Ohio, August, 1976.

(5) Gates, Robert K., et al, "Program LCC Documentation Version 2", prepared by The Analytic Sciences Corporation (TASC) for the Aeronautical Systems Division (ASD/AEAN), 28 April 1976.

(6) Tyburski, D. A. and White R. D., "Generalized Electronics Maintenance Model (GEMM)", U. S. Army Electronics Command, Ft. Monmouth, NJ, ECOM-3502, November 1971.

(7) "Recoverable Inventory Control Using MOD-METRIC", AFLCP 57-13, AFLC Headquarters, Wright-Patterson AFB, Ohio, February 28, 1975.

(8) AFLCP 800-3, "Logistics Performance Factors in Integrated Logistics Support", AFLC Headquarters, Wright-Patterson AFB, OH, 19 April 1973.

(9) USAF/LG Letter, "Air Force Standard Reliability and Maintainability (R&M) Terminology", Headquarters USAF, 21 October 1976.

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