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AIR FORCE HUMAN RESOURCES LABORATORY

HISTORICAL ANALYSIS OF C-130E RESOURCES

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

This report presents the results of the collection and analysis of 15 years of C-130E Historical Resource Utilization data. The purpose of this study was to determine the type, quality and availability of resource utilization data for a specific weapon system. The information collected covers both human and material resource requirements. This type of information provides the baseline for planning for new weapon systems. It also establishes those areas of high utilization which may be reduced in the new system by possibly modifying some design parameter.

A major problem encountered in this type of analysis is that the current Air Force management systems are not developed for historical evaluation. Frequently, the critical data are not available or in a form that makes it too

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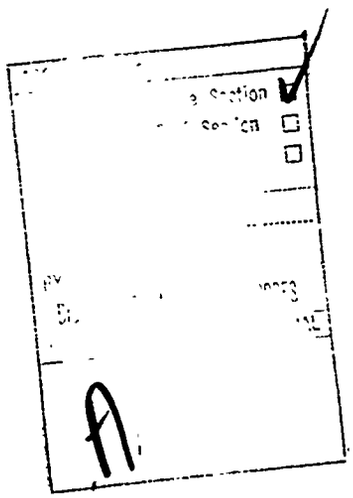
costly to obtain. The resulting data bank was developed from existing Air Force data samples. Where only partial data was located, statistical methods were developed and applied to generate the missing data.

Analyses were accomplished against seven (7) basic data categories, namely: (a) operations, (b) maintenance, (c) reliability, (d) safety, (e) human resources, (f) material resources, and (g) cost data. All data categories addressed, whenever possible, the 15 year period or life cycle of the C-130E weapon system (1962 through 1976).

This document is the second of a series of five Boeing Technical Reports emanating from this study, namely:

AFHRL-TR-77-40	C-130E Hercules Aircraft: Review of Published Literature and Structured Interviews (Available to U.S. Government Agencies only.)
AFHRL-TR-77-48	Historical Analysis of C-130E Resources
AFHRL-TR-77-46	Life Cycle Cost of C-130E Weapon System
AFHRL-TR-77-64(I)	Historical Analysis Methodology Resource Utilization
AFHRL-TR-77-64(II)	Historical Task Analysis of C-130E Personnel



SUMMARY

Resources are expended to operate and support a weapon system. To be able to analyze the resources used, data must be gathered from diverse sources. Once the resource utilization is known, actions can be taken to reduce the resource requirements through modification of the system, the mission or the operating policy.

This report describes an analysis of available Air Force data on the utilization of resources for the C-130E Hercules aircraft. This report is the second of a series of four which will document this research study. This study is Phase I of a four-phase project. The project, "Advanced System for Human Resources Support of Weapon System Development," is designed to demonstrate the technical feasibility of a method of reducing the cost of ownership of a new weapon system to the Air Force.

PROBLEM

To analyze the resource utilization of a weapon system requires the establishment of a massive data base. The information necessary to complete the data base must be acquired from many different sources. The problem addressed was to establish a methodology for collecting resource utlization data for an operational weapon system.

APPROACH

The approach involved two tasks. The first was to search, locate, acquire, screen, and evaluate all Air Force data concerning the utilization of resources by the C-130E Hercules aircraft during the past fifteen years (1962 through 1976). The second task was to collate and analyze the data.

Both human and material resources were considered. Human resources include the people required to perform support functions. The people are described according to Air Force specialty code (AFSC), experience level, and rank. Material resources include, for example, spares, ground support equipment and fuel.

Every known Air Force agency (including operational units) that might have C-130E historical data was identified and contacted. Special data source summary forms were developed and completed for each organization. The data were computerized along with the documentation (published literature) that was collected during an earlier task (reference AFHRL-TR-77-40).

All data acquired for the study were indexed and analyzed into seven major categories; i.e.: a) operations, b) maintenance, c) reliability, d) safety, e) human resources, f) material resources, and g) cost. Where total data were not available, statistical normalizing techniques were applied to the available data slices as the means of filling in missing years. This method was especially needed in estimating human resources, material resources and costs.

DIFFICULTIES ENCOUNTERED

Special difficulties encountered in conducting this study will be stated because they impact on future efforts. Such difficulties were:

1. Some input data were fragmented and/or discountinuous. This forced the formulation of scattered, discountinuous analytical results.

2. In some cases, data requested early in the program either were not made available or arrived late. This precluded quantitative compilation of meaningful, accurate historical profiles in some areas.

3. Conflicting data (e.g., number of possessed C-130E aircraft per year from 1962 through 1976), obviated or attenuated analytical progress. In some cases these conflicts could not be satisfactorily resolved.

4. The general policy of USAF agencies to retain historical data files, for short time periods, as well as not having a single weapon system data repository had a profound effect on analytical results. Extrapolative and interpolative analytical results are always "second best" when attempting to evolve quantitative weapon system histories.

Most of the difficulties encountered were resolved through extensive conference telephone conversations with key personnel or by engineering judgment. Data not available through a principal data agency(ies) were acquired through other sources. This did not always represent a fully satisfactory solution, but did significantly aid in filling large data voids. No solution was provided concerning the USAF need to maintain at least one centralized data repository.

RESULTS

The magnitude of findings emanating from this study precludes issuance of a complete summary of key findings. Some of the more salient outcomes include:

1. Fifteen year profiles of C-130E organizational and intermediate troubleshooting maintenance manhours per 1,000 flight hours encompassing 29 flight subsystems were quantified.

2. Corrective maintenance task numbers and proportional task distributions encompassing the 29 C-130E flight subsystems were plotted for each year of the 1962 through 1976 reporting period.

3. Organizational and intermediate tasks per sortie encompassing the periods of 1965 through 1976 (12 years) were derived.

4. Corrective organizational and intermediate maintenance hours and proportional distribution patterns per 1,000 flight hours (1962 through 1976) were analyzed and derived.

5. Proportional distributions were developed of organizational and intermediate maintenance troubleshooting manhours (1962 through 1976).

6. A determination was made of the numbers of organizational and intermediate "repair only" tasks per 1,000 flight hours and the associated proportional distributions within the 29 subsystems (1962 through 1976).

7. Organizational maintenance remove and install tasks per 1,000 flight hours profiles were specified.

8. C-130E flight and maintenance personnel manpower estimates encompassing 15 years were prepared. This includes profiles of maintenance personnel assigned to 64 work centers contained within the Deputy Commander for maintenance organizations, Organizational Maintenance Squadrons, Field Maintenance Squadrons and Avionics Maintenance Squadrons.

9. Near term Field Training Detachment (FTD) histories (27 months) of numbers of graduates per month as well as training hours per month per FTD were defined. This enabled development of estimated FTD training histories for the period of 1962 through 1976.

10. Complete 15 year historical profiles were developed of Time Compliance Technical Order (TCTO) kits installed into 308 C-130E aircraft. This included total number of kits per aircraft at the intermediate and depot maintenance echelons as well as total hour expended per year when installing kits at the two maintenance echelons. Composite frequency polygon distributions encompassing intermediate and depot TCTO kits and expended hours depict retrofit patterns.

Other results include the development of discrete (quantitative) 15 year profiles of educational levels achieved by three officer AFS's and 30 enlisted AFS's. Achieved educational trends observed during data analyses enabled formulation of the following conclusions:

1. Achieved educational levels of officer and enlisted personnel climbed dramatically between the years of 1962 through 1976.

2. No non-high school graduate Air Force personnel are shown as officer rated (AFS 4016,4024, and 4096) as of June 1976.

3. More officers and enlisted personnel entered college during each ensuing year between 1962 through 1976.

4. Achieved educational levels of officers are significantly greater than for enlisted personnel.

5. Selective criteria implemented by USAF recruiting centers appear to be responsible for marked reductions in enlisted personnel not having high school diplomas or equivalent.

CONCLUSION

In spite of the obstacles, a comprehensive 15 year data base for the C-130E has been obtained, organized, and analyzed. Of future use are both the date base and the methodology used for its development. The data base establishes a reasonable baseline of information that could be used in the initial planning of a new weapon system of this type. The information indicates the high resource requirements and possible design changes that could reduce these requirements.

The basic methodology can be used to provide such a historical baseline for any weapon system. It indicates the type and sources of available information, the type of analyses that can be made, and the type of useful information that can be formulated.

PREFACE

This report was prepared by the Boeing Aerospace Company Logistics Support and Services (ILS), Seattle, Washington, under USAF Contract F33615-76-C-0062. This contract was initiated under work unit 19590001. Work was accomplished under the direction of the Advanced Systems Division of the Air Force Human Resources Laboratory, Air Force Systems Command with Major Duncan L. Dieterly as the project engineer.

Data emanating from this contract, "Historical Analysis of C-130E Life Cycle Costs", will be reported in a series of four AFHRL technical reports. The total study provides a unique body of data, which for the first time, attempts to document the actual life cycle cost of a weapon system.

Boeing Aerospace program technical leader was George R. Herrold. Principal program analysts were Frank D. Brown, Donald E. Griswold, Donald K. Hindes, Gary A. Walker and David H. Wilson. Boeing's contract report number is D180-19797-4. This approved technical report (TR) includes work performed from 29 June 1976 through 20 May 1977.

The Boeing Aerospace Company wishes to express their appreciation for the technical assistance and data provided by: a) USAF Headquarters, Washington, D.C., b) Air Force Systems Command (AFSC), Andrews AFB, Maryland, c) AFLC Headquarters, and Aeronautical Systems Division, Wright-Patterson AFB, Ohio, d) Military Airlift Command, Scott AFB, Illinois, e) all CONUS Aircraft Air Logistics Centers (e.g., San Antonio ALC, Warner-Robins ALC, et al.), f) Air Training Command Headquarters, Randolph AFB, Texas, g) Air Training Command, Sheppard AFB, Texas, h) USAF Occupational Measurement Center, Lackland AFB, Texas, i) Air Force Inspection and Safety Center, Norton AFB, California, j) 62nd MAW Wing, McChord AFB, Washington, k) 314th TAW, Little Rock AFB, Arkansas, and l) 317th TAW, Pope AFB, North Carolina.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

LIST OF ILLUSTRATIONS

LIST OF TABLES

I - INTRODUCTION

PURPOSE:

The Air Force must be able to meet its specified mission requirements. To meet these requirements a spectrum of weapon systems must be designed, produced, and maintained. As the cost of sophisticated technology spirals upward, the Air Force planner must be able to maximize performance while minimizing cost. The crucial limiting parameter placed upon the weapon system spectrum is cost. Currently, it is popular to advocate different methods for controlling cost; such as cost of ownership and life cycle cost (LCC). All costing technologies have three aspects in common: The value of a weapon system is measured in dollars; the computation of the value is at a fixed point in time; and the function of costing the system is dependent upon the definition of variables to be included in the cost.

All too frequently, after a discrete set of variables has been agreed upon, as those that will generate the desired cost, it is determined that no information is available upon which to establish the dollar value of a variable; therefore, the variable is excluded or treated as a constant. This is especially evident in those areas not directly associated with weapon system acquisition. This dilemma severely hampers the computation of the desired cost and reduces the probability of making the optimum decision. In order to redress the deficiency, the Advanced Systems Division of AFHRL has attempted to identify, develop and demonstrate a series of methods to allow for the inclusion of these variables in cost computations.

Through initial research efforts it had been established that these variables could be quantified and included in cost analysis. During the same time frame it was realized that the final cost of a weapon system was dependent upon five major interacting factors: (See Figure 1) a) system design, b) human resources, c) material resources, d) performance required and e) operation of the system. In order to impact the cost of a system, a change would be necessary in one of the factors. However, a change in any factor will have some impact on the others. To adequately analyze the cost of a weapon system, a capability to model or simulate all five factors is necessary. As can be seen in the diagram, the life cycle cost of any weapon system is dependent upon the state of not only the design but the other factors. Any change in a factor will result in a new state and resultant LCC estimate. State "A" will result in a different LCC than state "B". Project 1959 "Advanced System for Human Resources Support of Weapon System Development," is the first effort to integrate these factors in a single analysis technique that could be used to evaluate the full ramifications of weapon system design, human resources, material resources, performance, and operations.

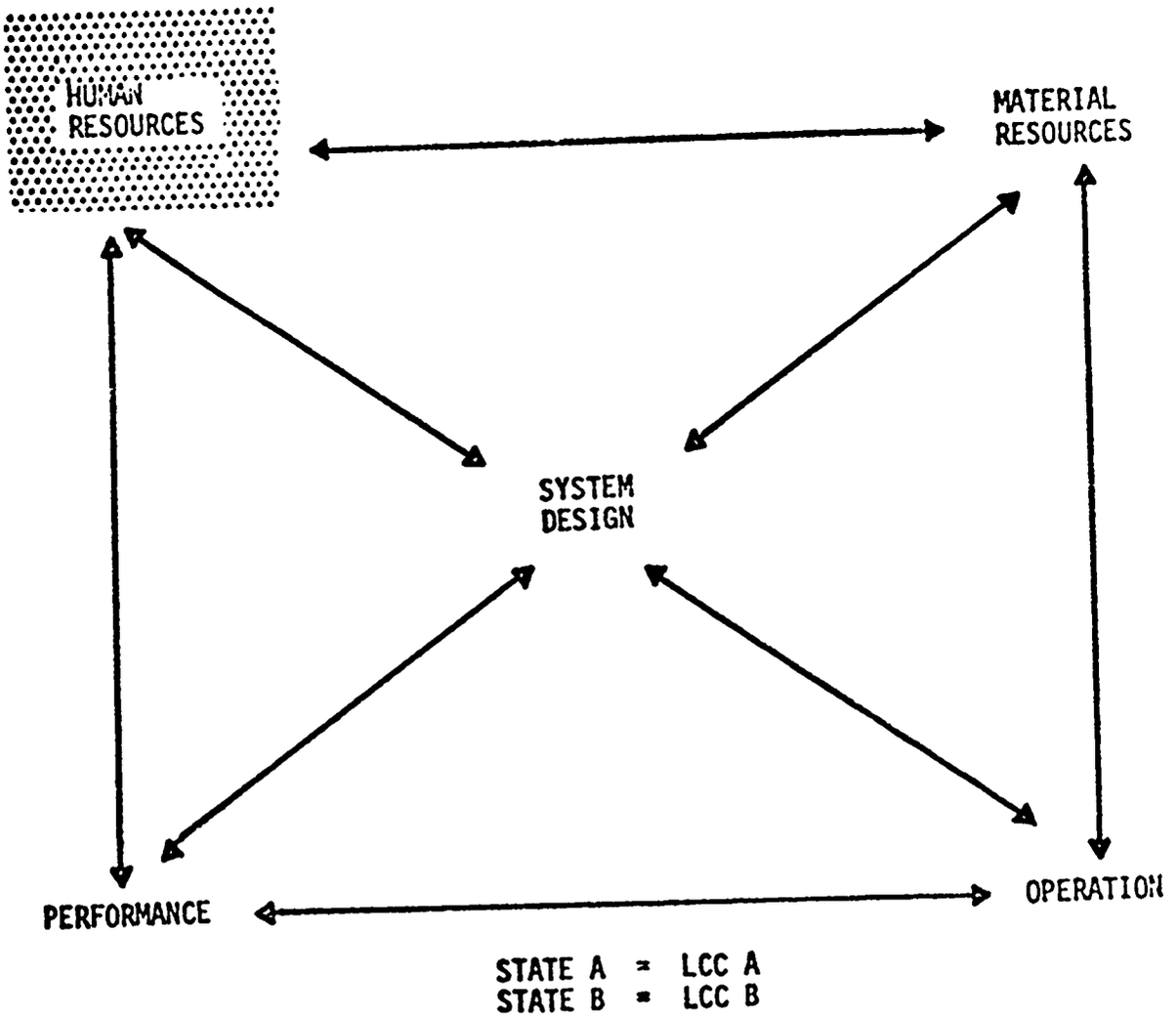


Figure 1 MAJOR INTERACTING FACTORS

PROJECT 1959 - PURPOSE AND GOALS:

The purpose of Project 1959 is to demonstrate the technical feasibility of a method for reducing the cost of ownership to the Air Force of new weapon systems. The cost expended to maintain certain human resource configurations is a major contributor to operations and support costs. Consequently, programs aimed at the reduction of human resource parameter costs can have a significant impact on the Air Force budget.

In Project 1959 the advanced medium STOL transport (AMST) being developed by the Air Force will be the test case. Existing state-of-the-art technology in training, technical data, and manpower simulation

techniques to reduce the human resource support cost of the system will be applied. This project will provide for the inclusion of human resources parameter costs in engineering design studies, forecasting and controlling manpower requirements through the application of systems analysis and computer modeling techniques, improved technical data for maintenance personnel and early identification of training requirements and advanced training techniques appropriate for the new system. These techniques will be modified as required and integrated to provide a comprehensive approach to the development of a cost effective personnel support system for a new weapon system. The project will be completed in four phases.

This project is directed at reducing the personnel support cost of new systems. Research efforts under the project will demonstrate a technology for controlling the personnel, training, and manpower requirements of new systems without adversely affecting either operational readiness or system effectiveness. Application of this technology will lead to significant reductions in life cycle costs of new systems.

Although this effort will utilize a particular weapon system to demonstrate the technology for controlling personnel costs, this technology could be generalized to a wide spectrum of new systems being developed in the Air Force and other military services. In general, the technology may be used for any type of new equipment being designed and developed for whatever purpose: military, government, or industrial.

PHASE I, PROJECT 1959 - HISTORICAL ANALYSIS OF C-130E LIFE CYCLE COSTS:

The purpose of this effort is to establish a historical analysis of resource utilization of the C-130E Hercules. The analysis will include both human and material resource utilization as indicated from available records. In accomplishing this analysis a methodology will be established to allow for analysis of other weapon systems. This methodology will include type of information, possible sources, credibility of data, difficulty in reducing data and cost of obtaining the data. It is anticipated that most historical data is lost through the demand for current data to solve operational problems. In addition, large amounts of data may be available in such a form as to be prohibitive to collect and process for a computerized system.

Traditionally, when a weapon system is developing through the acquisition process, estimates are made as to the resources necessary to support that weapon system. After the system enters the Air Force inventory, the control of the human and material resources crosses several functions and commands. Seldom are the initial estimates verified for all resources controlled by one level of management. For example, the provisioning of spares becomes a prime concern of Air Force Logistics Command, while the manpower requirements are a major concern of the using Command. Therefore, once a weapon system is operational, no single point manager is responsible for the human and material support of that system. Multiple management generates a

considerable amount of information and information systems to track and manage aspects of the weapon system. These sources of information are dispersed and in various configurations. To attempt to evaluate a system in terms of life cycle utilization or reduce that to a life cycle cost is a complex task. This phase of Project 1959 is designed to address this problem. This phase has been planned to be accomplished in six tasks.

DESCRIPTION OF TASKS

The sequence of the six major tasks are interrelated as shown by the arrows in Figure 2. Where appropriate, the tasks are performed in parallel.

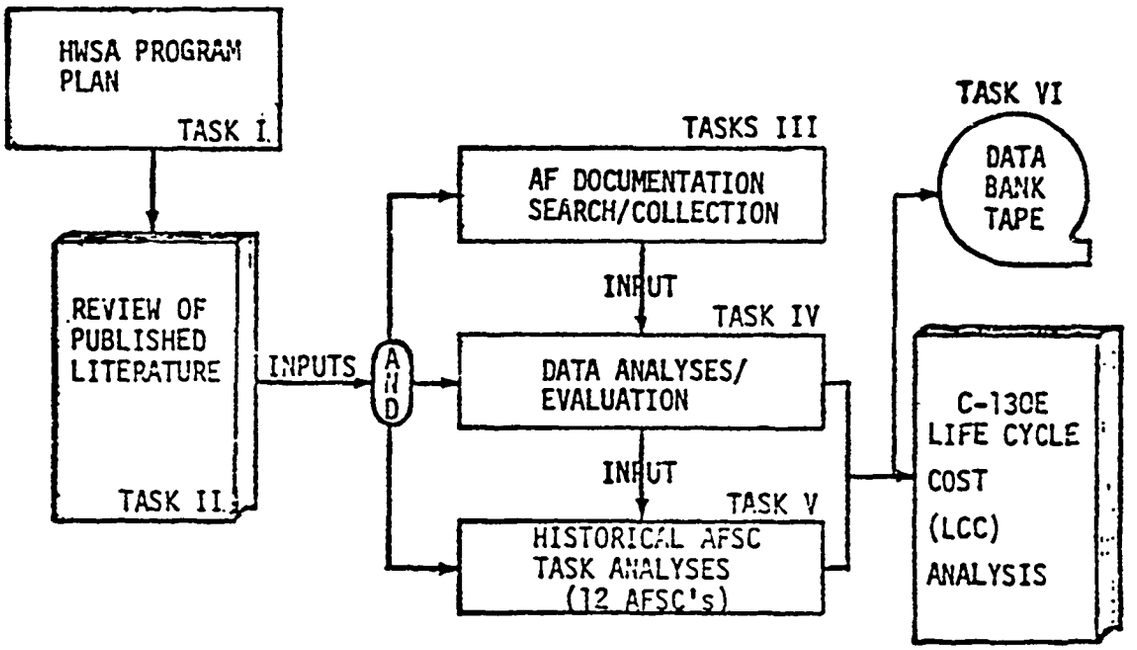


Figure 2 HISTORICAL WEAPON SYSTEMS ANALYSIS (HWSA) TASK FLOW DIAGRAM

Following is a brief overview of the actual work required by each of the six major tasks:

Task I Develop Contract Performance Plan
- Identify Data Sources and Agencies to be Contacted.
- Prepare Study Schedule and Milestones.
- Complete Contract Performance Plan.
- Kickoff Meeting.

Task II Historical Data Review
- Identify, Obtain, and Analyze C-130 (C-130E Subset where possible) Research and Descriptive Studies Documentation.
- Conduct Structured Interviews.
- Publish Formal Technical Report.

Task III Air Force Documentation Search and Collection
- Identify and Screen Available C-130E Data Files.
- Obtain Applicable Experience Data.
- Catalogue Data Files.

Task IV Data Analysis
- Evaluate Data.
- Develop Descriptive Statistical Summaries.
- Publish Formal Technical Report.

Task V Historical Task Analysis
- Select Skills
- Identify Tasks for Each Skill.
- Develop Task Parameters.

Task VI Life-Cycle Cost Analysis
- Coordinate LCC Model Structure and Elements.
- Perform LCC Analysis.
- Generalize LCC Approach.
- Publish Formal Technical Report (Final).
- Develop General Data Bank Computer Tape.

Tasks III and IV were completed in April 1977 and are reported in this document. The final technical report contains a complete review of the entire study.

SCOPE

The scope of Tasks III and IV (as shown above) was focused on the C-130E Hercules aircraft. The study was further limited to Air Force data collection systems/documentation within the calendar years of 1962 through 1976 (15 years). Figure 2 provides an illustrative relationship of these two tasks to other tasks being accomplished under this contract.

GENERALIZED DATA COLLECTION AND ANALYSES METHODOLOGY

Data Search and Collection Methodology

Data search and acquisition techniques, utilized by investigators of this study are summarized in Figure 3. Subsequent to definition of the seven data categories defined in Figure 3, a thorough review/assessment of C-130E data histories present within extant historical repositories was completed. Profiles of adequacy and completeness of historical data were developed. Concomitant data weaknesses

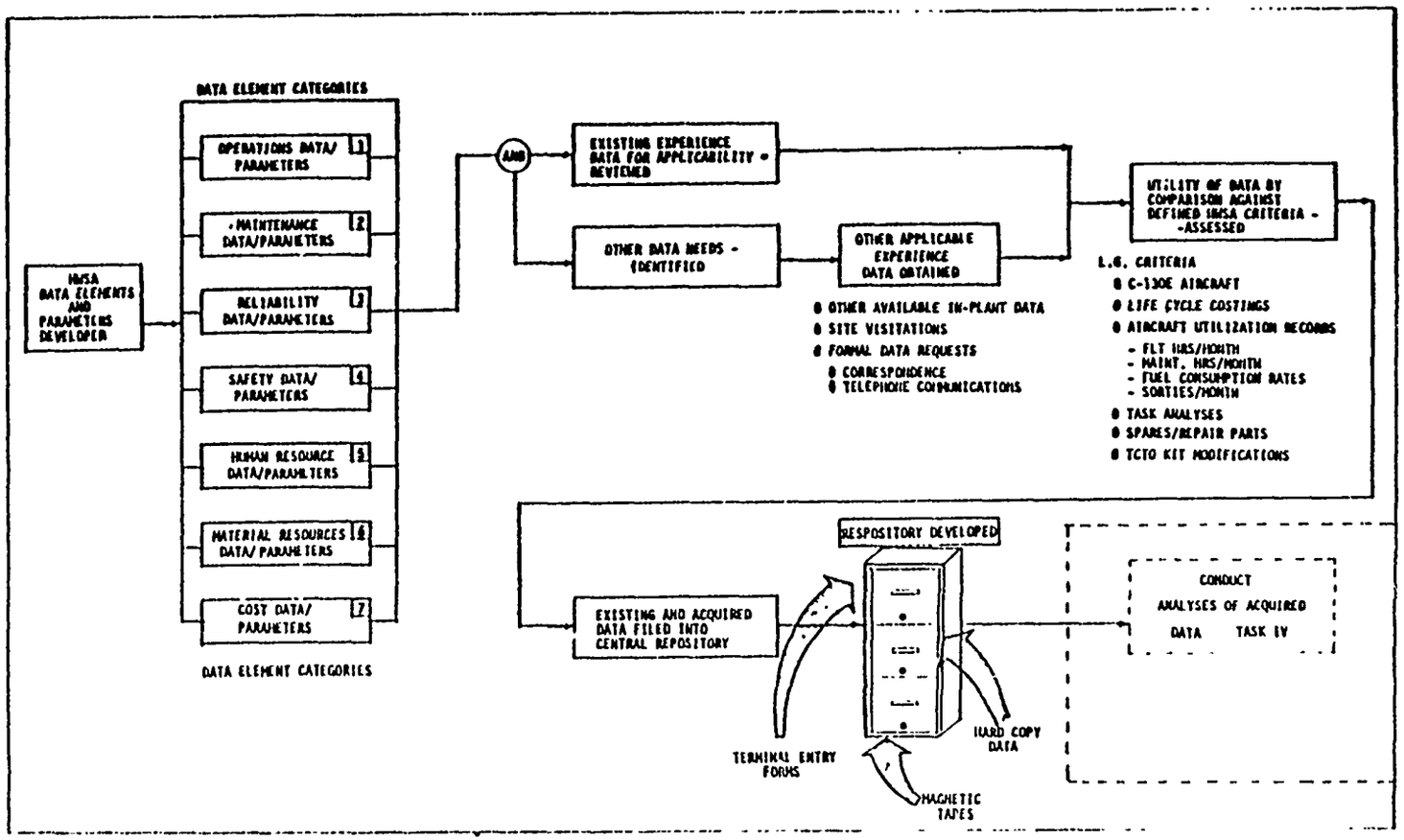


FIGURE 3 TASK III - AIR FORCE DOCUMENTATION SEARCH AND COLLECTION METHODOLOGY (IES)

and/or additional data needs were then tabulated. Then action was initiated whereby additional C-130E historical data were acquired. This was accomplished via: a) search for data within extant Boeing Libraries and other data centers, b) submittal of formal correspondence to appropriate USAF agencies, and c) site visitations to various Air Force Commands and bases. The relative merit or applicability of existing and newly acquired data was assessed by all investigators, against a set of predefined criteria. This included, but was not limited to, such selection questions as: a) Do the data apply to the C-130E weapon system?, b) Are the data derived from direct C-130 operations and maintenance reporting systems?, c) Are they continuous data?, d) Do they cover the seven data element categories delineated in Figure 3?, e) Are the data quantitative or qualitative in nature?, and f) Will the data enable costing for the "Life Cycle Cost Analyses," to be accomplished later? Data selected for application to this study were logged and filed into a central repository. This repository included the filing of all hard copy data as well as those data contained on microfiche, magnetic tape and slide film. The resulting data contained within the central repository served as the "data pool" for the conduct of the Data Analyses (Task IV).

Data Analyses Methodology(ies)

Figure 4 provides an illustrative compendium of the six basic analytical progressions followed, when analyzing the C-130E historical data contained within the central data repository. Initial analysis required the separation and collation of data into qualitative (subjective) and quantitative categories. This was accomplished for each of the seven data categories (e.g., operations data, human resource data, maintenance, etc.) itemized under blocks 2 and 3 of Figure 4. Subsequent to this mechanical sorting procedure, data matrices were prepared against each data element. Data summary texts were prepared in series with ten discrete evaluative steps taken during the block 4 analytical phase. Descriptive and statistical summaries of each of the seven data elements were then prepared and compiled. These data banks, i.e., data compilations, matrices, tables, and figures for each data element (step 6), served as the basis upon which-this report was written.

SUMMARY

This report is the second of a series of four reports to be completed under this study. It describes the work accomplished during Tasks III and IV of a six task study to historically analyze the resource utilization of the C-130E Hercules aircraft.

The approach to Task III was to identify, contact, and where possible, collect applicable data from every Air Force agency that conceivably might have current and/or historical data files/data repositories, that could contribute to determining the human and material resources utilized in direct support of the Air Force C-130E Hercules aircraft during the aircraft's operational years (1962 through 1976).

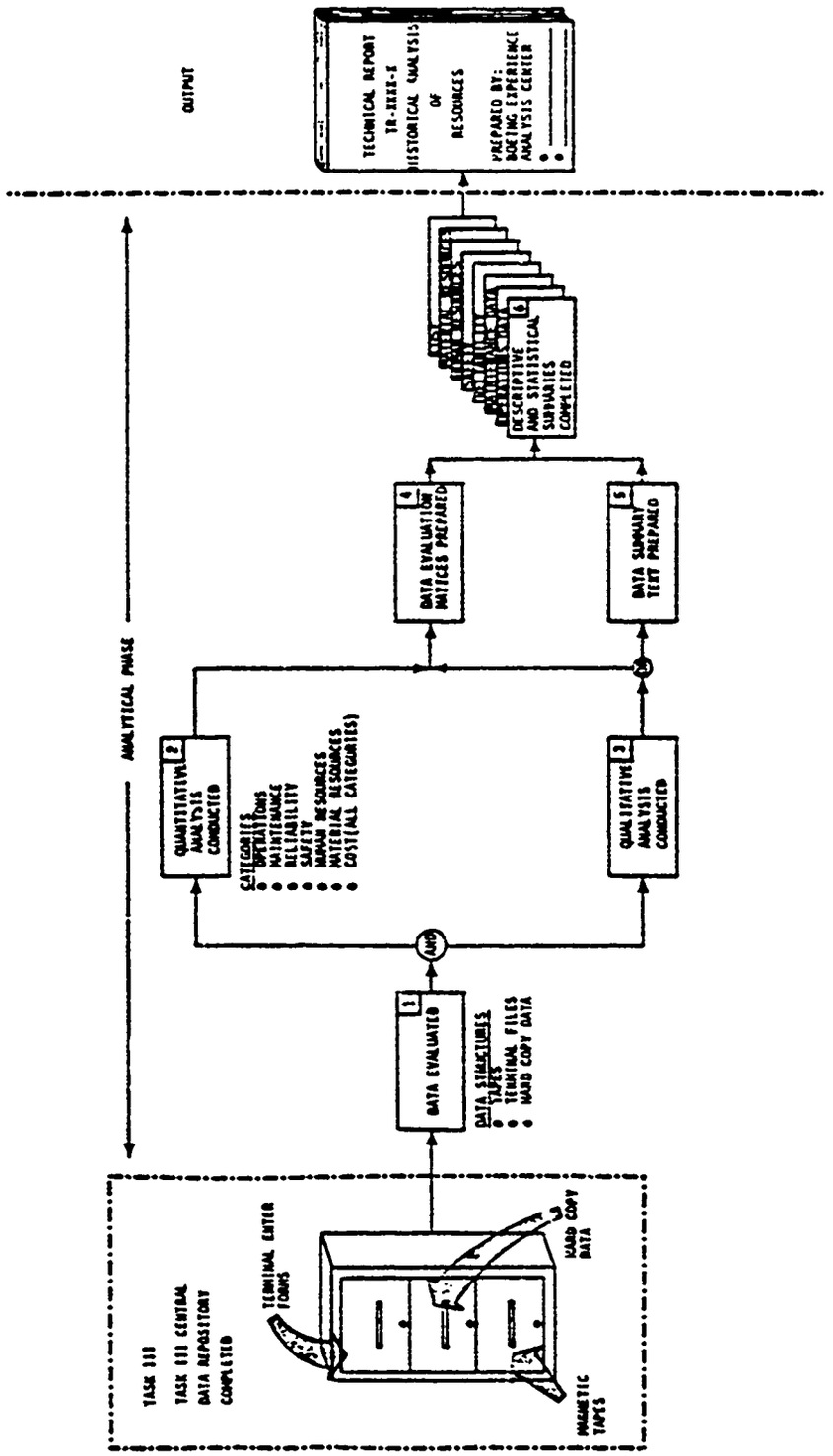


FIGURE 4 TASK IV - HISTORICAL WEAPON SYSTEMS DATA ANALYSES METHODOLOGY(IES)

The approach in Task IV was to collate, analyze and prepare historical data (when data histories permitted) into chronological queues. Development of quantitatively derived results, when placed in queues, enabled investigators to formulate conclusions, trends and problem statements about the C-130E weapon system. Historical data voids were made apparent via this analytical technique.

Results acquired during this task serve as the quantitative foundation upon which discrete life cycle costing (Task VI - of this study) of C-130E weapon system operations will be accomplished. Quantitative data baselines were formulated in the following data categories: a) operations, b) maintenance, c) reliability, d) safety, e) human resources, f) material resources, and g) cost.

II - AIR FORCE DOCUMENTATION SEARCH AND COLLECTION

A thorough search and screening for usable data within existing Air Force data files was conducted. The identification of existing Air Force C-130E data files was accomplished basically following the steps as shown in Figure 5.

An initial list of data elements and parameters were developed along with the potential data source and location. The initial list of data elements and parameters contained the baseline information required to backfill 15 years of Air Force C-130E historical resources utilization data. This initial set of data elements/parameters was then screened and their locations were established. Detail descriptions of the data sources and interfaces can be found in references [1] and [2] This list was expanded as other data sources were identified that could contribute to the overall study objectives as discussed below.

OBTAIN APPLICABLE EXPERIENCE DATA

The data collection process for this study required screening and processing of products from many sources. Three basic approaches were used to gather the data.

First, available in-house, previously obtained C-130E data from applicable Air Force data files was screened;

Second, a formal request letter was forwarded to organizations that were known to be data repositories of applicable data files/ information; and,

Third, during scheduled site visits, specific offices were visited and knowledgeable individuals were interviewed to identify. additional data files/information.

Table A-1, Appendix A, contains a list of the actual sources and agencies that were contacted and the type of applicable information that was obtained and screened. Reflected in the table are agency, location, office symbol(s) function, type, and quantity of data obtained. The type of data column identifies: a) published literature that was used on a prior task which is discussed in detail in AFHRL-TR-77-40, and b) Air Force data systems and files which feed later efforts.

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[1] AFLC/AFSC Pamphlet 400-11, "Reliability and Maintainability Data Sources."

[2] AFLC Pamphlet 171-79, "Data Systems Assignments, Status, and Interface."

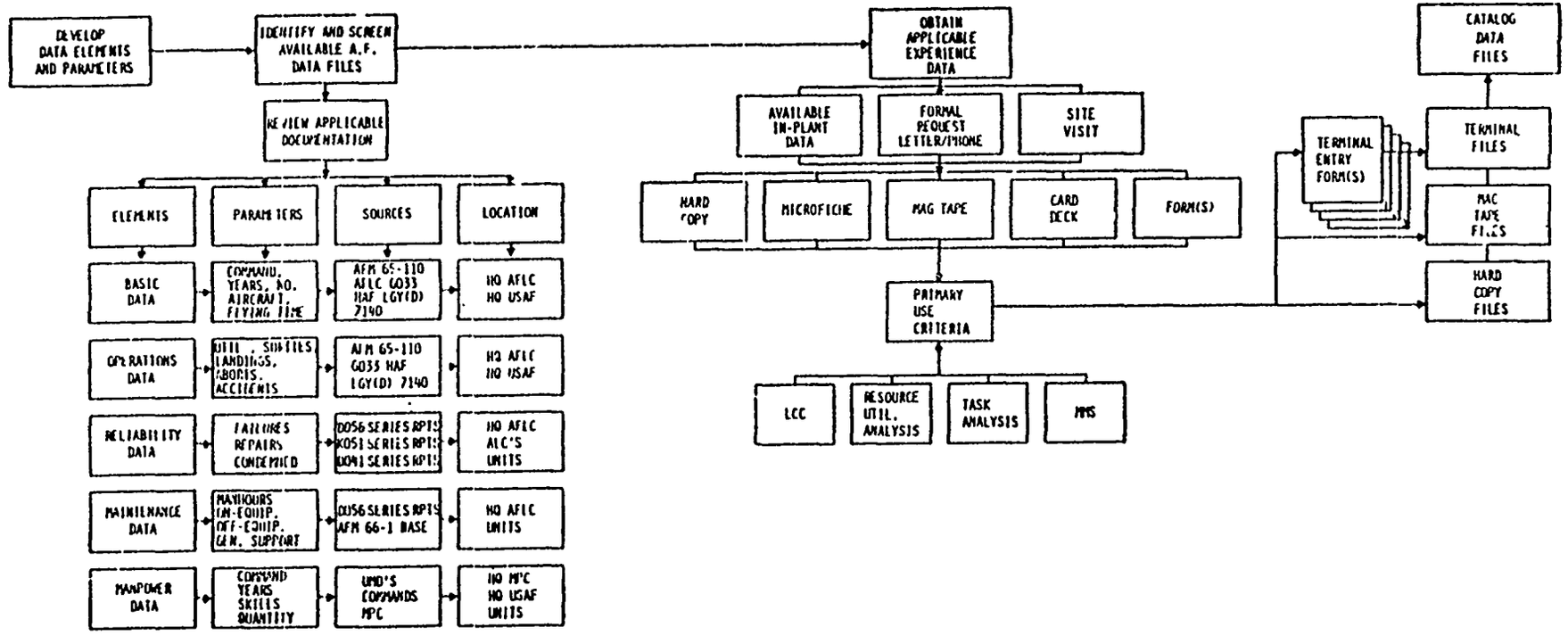

FIGURE 5 AIR FORCE DOCUMENTATION SEARCH AND COLLECTION FLOW DIAGRAM

The "quantity obtained" columns in Table A-1, Appendix A, show the number of reports or records, if the data is computer oriented, and the years covered by the data obtained.

The actual analysis of the information obtained is described later in detail. However, in attempting to accumulate the C-130E historical data, the following problems were significant enough to warrant being highlighted here to assist in the planning of future efforts. They are similar to many of the problems encountered in acquiring the published literature for the earlier tasks.

(1) There is no one data repository/system that provides visibility into weapon system historical documentation.

(2) It becomes necessary to first identify all of the various repositories and then to select, collect, and piece together the information from each for the specific weapon system and/or data element.

(3) Information that must be ordered from some data repositories requires extremely long lead time prior to actual information delivery. In some cases, even after repeated requests for the data, the data were not furnished thereby leaving gaps and inconsistencies which required normalization to obtain acceptable study results.

(4) Some data repositories do not have large mechanized systems and have only one document on file (usually hard copy). This results in a time-consuming effort for review and reproduction or frequently reduces or eliminates the possibility of acquiring needed information.

(5) Data repositories may have copious documents, listings, or reports that can be borrowed. They require either laborious data extraction, or disassembly - reproduction - assembly and return to the home office which requires significant manhours for accomplishment.

(6) Obtaining need-to-know and/or proper management level attention can be very time-consuming, particularly in-situations where organizations or individuals, with needed information, will not release the information without "proper" management approval although "need-to-know" has been established.

(7) The predominate USAF policy of retaining historical data for only short durations (6 to 24 months) or as in most cases (6 to 12 months) prior to purge, has had a profound effect on the ability to get continuous historical information beyond near term periods.

(8) Changes in reporting systems as to format, deletion of key data elements, or in some cases the total elimination of the reporting system causes inconsistencies and data gaps for this type of study. This problem has added emphasis if the data were computer generated or are to be processed by a computer. To compensate, programs must be written to accommodate various input/output record styles, which is time-consuming and difficult, but necessary to maintain consistency.

(9) Computerized data on magnetic tape, the most desirable form for large quantities or years of data, can cause long delays and excessive computer time when intended data elements that are agreed to are not on the tape when received. Also, allowance must be made for computerized data sets which do not track the documented technical order format or which are not compatible with the processing equipment of the organization doing the analysis. This requires recoordination and reprocessing of the information.

(10) The variance in data systems and repositories queried, to obtain the many types of data required for the study, presented a unique situation. Depending on the data system or repository, each has its own "in-house peculiar language" that must be used when discussing and/or retrieving the information in that system. This peculiar language barrier varied from systems that could be queried by weapon system, to systems that could only be queried by specific national stock number (NSN) for a given type of equipment or location. Subsequently, it becomes extremely time-consuming to track status and consumption of specific items.

DATA CATALOGING:

The data was obtained from many different sources as described above and was received in five different forms:

Form of Data Received	Percent
1. Hard copy (listings/documents)	20%
2. Microfiche	20%
3. Magnetic tape	50%
4. Card deck	5%
5. Air Force report forms	5%

The historical data acquired were screened for cataloging, utilizing the "yes-no" decision gates (criteria) as depicted in Figure B-1, Appendix B. The Historical Weapon System Analysis (HWSA) Terminal Entry Form as shown in Figure B-2, Appendix B, was completed on all data. The data were then cataloged into a HWSA master file via a computer terminal system. These entries were used as input to existing Boeing-developed computer programs that were modified to meet the criteria for this study. These modified programs, in turn, provided various outputs or sorts of the information that allowed the investigators to screen the data by particular area of interest during the data analysis task.

SUMMARY

This section describes the process utilized to search and collect Air Force documentation pertaining to the C-130E Hercules aircraft resources utilization (human and material) historically over the past 15 years (1962-1976). It describes: a) Available data files/ information identification and screening process, b) applicable data

sources and agencies, c) data collection and review methodology, d) data cataloging for analysis, and e) results of the overall Air Force documentation search and collection effort, including problems encountered during performance of the task.

Most of the difficulties encountered during this study were resolved through extensive planning of trip schedules, developing pre-trip focal points at intended target agencies, and the submittal of pre-trip letters of introduction and justification prior to initiating field trips.

Problems encountered because of fragmented or non-existent historical data beyond 6 or 24 months could not be resolved. The general USAF policy concerning retention of historical data should be re-examined in the light of today's technology with microfilm and microfiche. The current practice of purging entire histories of data, without maintaining some centralized data area/locus precludes total acquisition of actual life cycle profile data (i.e., cost, engineering, supply support, etc.). As a result, the information identification and collection process becomes extremely awkward and time-consuming in both manpower and elapsed time, and requires estimating techniques (such as a data normalizing procedure) to fill the gaps. The long lead time to acquire data should also be considered when planning future similar efforts.

III - DATA ANALYSIS

The information identified and collected in Task II (published literature) and Task III (Air Force documentation) was edited and screened for the analysis and evaluation process. The evaluation consisted of three steps: a) development of a data evaluation matrix that identifies the various information source(s) and evaluates the type of information available, b) development of applicable techniques and actual computer processing of the data collected, and c) statistical analysis and presentation of the applicable information. These steps are depicted in Figure 6.

DATA EVALUATION MATRIX

The initial step was to develop a data evaluation matrix by analyzing and screening the data by elements, into seven major categories; i.e., a) operations, b) maintenance, c) reliability, d) safety; e) human resources, f) material resources, and g) cost. A pedigree for each element within the major categories was then formed consisting of source/agency, location, type of data/data files, and data quantity/quality as shown in the data evaluation matrix, Table 1. In addition to the identification/availability of the various data sources and elements, the matrix serves as an index of the major categories/elements of data collected and used in performing the tasks of this study program.

COMPUTER PROCESSING

To effectively and efficiently screen, analyze and portray the vast amounts of data records/elements collected, large scale computers and on-line remote terminal processing was utilized. Where practical, existing software was modified to meet the study requirements as opposed to total program development. The computer/remote terminal processing of data was divided into one of three major areas depending on type of data or analysis function. The areas are: 1) Logistics Management Data, 2) Time Compliance Technical Orders, and 3) Depot Data. The characteristics of each area are described below.

AREA I - LOGISTICS MANAGEMENT DATA

AFM 66-1/AFM 65-110 (Maintenance/Reliability/Operations Data)

This area was the largest, not only in terms of total records handled (over 5.9 million), but in statistical outputs for analysis. The data was extracted from the Standard Logistic Management System. Results of these analyses are covered in the various categories of the statistical summary section of this report. Figure C-1, Appendix C, indicates the steps taken from initial receipt of the data from AFLC through final processing. The figure also indicates the major output elements generated from each step in the flow. This allows the reader to track the processing and output elements without being totally cognizant of the software.

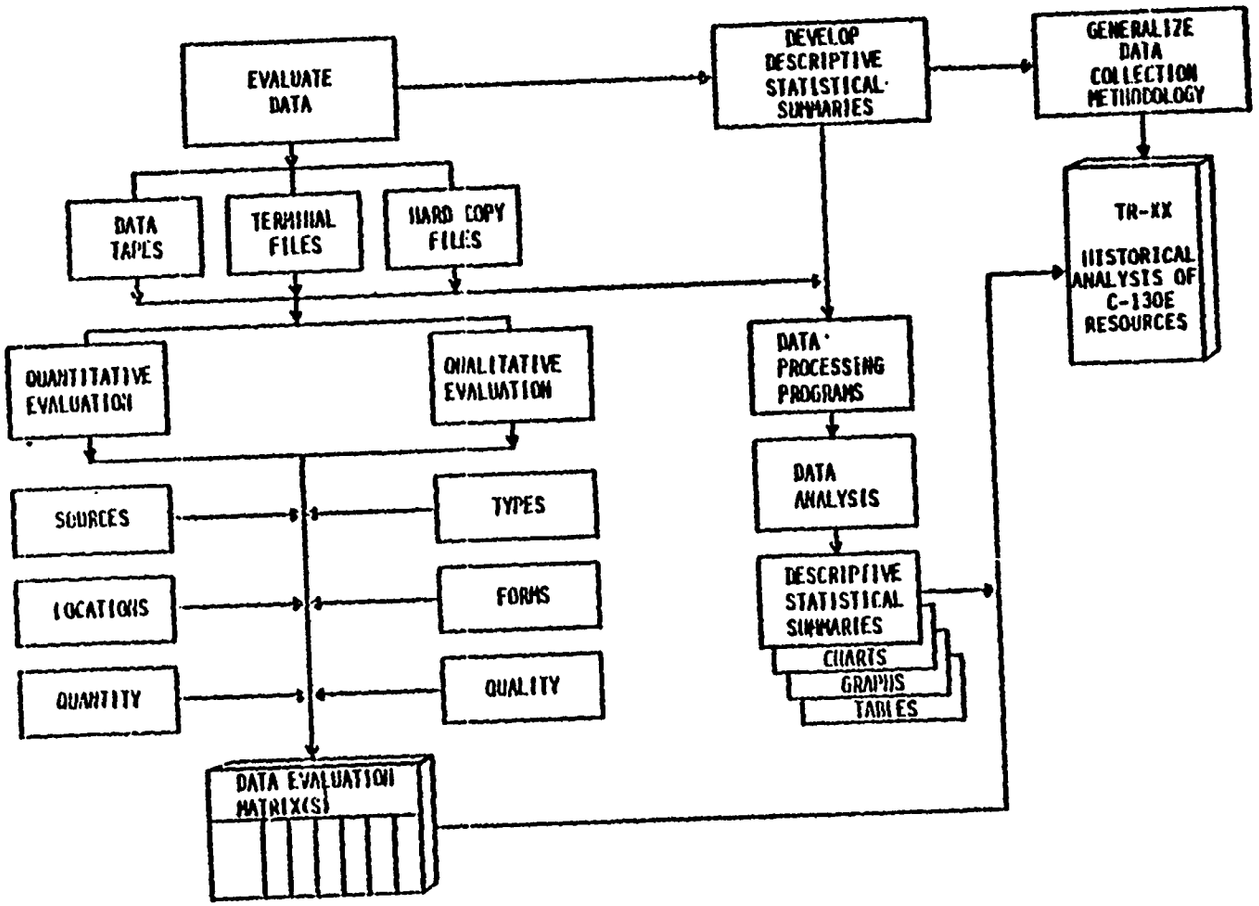

FIGURE 6 DATA ANALYSIS FLOW DIAGRAM TASK IV

TABLE 1 DATA EVALUATION MATRIX

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	DATA QUANTITY/QUALITY			
				FORM(S)	RECORDS	YEARS	REMARKS
1. OPERATIONS DATA:							
AIRCRAFT UTILIZATION DATA AS FOLLOWS:	AFLC/HO	WPAFB, OHIO	AFM 65-110 (1-HAF-A1-110-12)	HARD COPY	1700	1962-1969	95 MONTHLY REPORTS CONTAINING ALL USAF AIRCRAFT REQUIRED MANUAL EXTRACTION
- NO. OF AIRCRAFT	AFLC/LOAC	WPAFB, OHIO	AFM 65-110 (1-HAF-A1-110-12)	HARD COPY	1900	1970-TO-DATE	84 MONTHLY REPORTS CONTAINING ALL USAF AIRCRAFT REQUIRED MANUAL EXTRACTION
- TOTAL FLIGHT TIME (BY MDS/MONTH)							"
- AIRCRAFT UTILIZATION (FH/ACFT/MO)							"
- TOTAL SORTIES							"
- AVERAGE MISSION LENGTH							"
- TOTAL LANDINGS							"
- NORM RATE							"
- MORS RATE							"
- OR RATE							"
AIRCRAFT ABORTS:							
- OPERATIONS	-	-		-	-	-	NOT OBTAINED
- MAINTENANCE	AFLC/ACVHP	WPAFB, OHIO	D056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA NEEDS TO BE REFINED TO ELIMINATE DUPLICATE ABORTS REPORTED BY WORK UNIT CODE
- OTHER	-	-	-	-	-	-	NOT OBTAINED
TURN AROUND TIME	-	-	-	-	-	-	NOT OBTAINED
2. MAINTENANCE DATA:							
SYSTEM-MAINTENANCE MANHOURS (ORGANIZATIONAL/INTERMEDIATE) BY YEAR	AFLC/ACVHP	WPAFB, OHIO	D056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WAS PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED USE OF IN-HOUSE PROGRAMS PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
GENERAL SUPPORT MAINTENANCE MANHOURS WORK UNIT CODES 01 THRU 09	C-130E UNITS						
	62 MAW	MCCHORD AFB, WA	AFM 66-1 MDC/BLIS	LISTING	-	1976	COMPLETE GENERAL SUPPORT DATA
	314 TAW	LITTLE ROCK AFB, AR	AFM 66-1 MDC/BLIS	LISTING	-	1976	MUST BE OBTAINED FROM EACH INDIVIDUAL UNIT AND THE UNITS CURRENTLY MAINTAIN 12 MONTHS OF HISTORY
	317 TAW	POPE AFB, NC	AFM 66-1 MDC/BLIS	LISTING	-	1976	

TABLE 1 DATA EVALUATION MATRIX (CONT.)

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	DATA QUANTITY/QUALITY			
				FORM(S)	RECORDS	YEARS	REMARKS
ICTO MAINTENANCE MAN-HOURS	WRALC/MMMSS	WARNER ROBINS AFB GA	D047 SERIES REPORTS	LISTING	21,000	1962-1976	DATA WERE PROVIDED IN BASIC RECORD FORMAT BY AIRCRAFT TAIL NUMBER AND REQUIRED DEVELOPMENT OF IN-HOUSE PROGRAMS TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
PERCENT MAINTENANCE MANHOURS FOR: SCHEDULED MAINT. UNSCHEDULED MAINT. SERVICING BENCH CHECK TROUBLESHOOTING OTHER	AFLC/ACVMP	WPAFB, OHIO	D056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WERE PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED IN-HOUSE PROGRAMS/ PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
SYSTEM MAINTENANCE TASKS (ORGANIZATIONAL/INTERMEDIATE) BY YEAR	AFLC/ACVMP	WPAFB, OHIO	D056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WERE PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED USE OF IN-HOUSE PROGRAMS PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
3. RELIABILITY DATA:							
TOTAL FAILURES BY SYSTEM BY YEAR	AFLC/ACVMP	WPAFB, OHIO	D056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WERE PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED USE OF IN-HOUSE PROGRAMS PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
PERCENT FAILURES a. BEFORE FLIGHT b. IN-FLIGHT c. BETWEEN FLIGHT d. DURING INSPECTION	AFLC/ACVMP	WPAFB, OHIO	D056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WERE PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED USE OF IN-HOUSE PROGRAMS PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
REPAIR DATA (BASE) a. ORGANIZATIONAL b. INTERMEDIATE - BENCH CHECK - NRTS - CONDEMNED							
REPAIR DATA (DEPOT)	AFLC/ACVRC	WPAFB, OHIO	D041 CREATE DATA H036B DMIF PROD. COST D097 I&S GROUPING DATA	TAPE	125,000	FY 1975-1976	DATA FROM EACH DATA SYSTEM WERE PROVIDED ON INDIVIDUAL TAPES AND REQUIRED USE OF IN HOUSE PROGRAMS/PROCESSING.
4 SAFETY DATA - ACCIDENTS MAJOR MINOR - INCIDENTS	AIR FORCE SAFETY CENTER (IG/SER)	NORTON AFB, CA	ACCIDENT/INCIDENT REPORTS	LISTINGS	-	1962-1976	ACCIDENT SUMMARY REPORTS FOR 1962-1976 AND INCIDENT REPORTS FOR 1976 WERE PROVIDED.

TABLE 1 DATA EVALUATION MATRIX (CONT.)

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	DATA QUANTITY/QUALITY			
				FORM(S)	RECORDS	YEARS	REMARKS
5. HUMAN RESOURCES DATA: MANPOWER AUTHORIZED VS ASSIGNED BY AFSC - AFSC LEVEL GRADE - YEARS EXPERIENCE - TRAINING REQUIREMENTS EXPERIENCE - EDUCATION	C-130E UNITS 62 MAW 314 TAW 317 TAW	MCCHORD AFB, WA LITTLE ROCK AFB, AR POPE AFB, NC	AUTHORIZED: UNIT DETAIL LISTINGS	LISTING	-	CURRENT	CURRENT UDL'S PROVIDED THE AUTHORIZED MANPOWER BY FUNCTIONAL AREA
			ASSIGNED: MAINTENANCE: MONTHLY MAINTENANCE DIGESTS-RCS: MAC-LGX (M)7103	DOCUMENT		1976	THE MONTHLY/MAINTENANCE DIGESTS PROVIDED ASSIGNED MAINTENANCE MANPOWER BY WORK CENTER FOR THE MAINTENANCE ORGANIZATIONS
			OPERATIONS	-	-	CURRENT	CREW RATIO PER UE WAS OBTAINED FROM OPERATIONS
			OTHER	-	-	-	NOT OBTAINED
	MILITARY PERSONNEL CENTER (MPC)/XPMRT	RANDOLPH AFB, TX	MANPOWER ASSIGNED BY: COMMAND/AFSC/GRADE YEARS EXPERIENCE TRAINING EXPERIENCE EDUCATION	- - - -	- - - -	- - - -	THE MILITARY PERSONNEL CENTER HAS A HISTORY FILE OF THIS TYPE DATA COVERING (1971-CURRENT). HOWEVER THE DATA WERE NOT PROVIDED FOR THIS RESEARCH TASK BECAUSE EDP PROCESSING WAS COST PROHIBITIVE
	HQ USAF/ACMCA	WASHINGTON, D.C.	ESTIMATING AND PLANNING FACTORS/AFR 173-10	DOCUMENT	-	CURRENT	PROVIDES OPERATING AND SUPPORT COST ESTIMATING AND PLANNING FACTORS FOR USAF WEAPON SYSTEMS, TO INCLUDE VARIOUS HUMAN RESOURCE DATA/FACTORS
6. MATERIAL RESOURCES: - MATERIAL CONSUMPTION - GROUND SUPPORT EQUIPMENT - TRAINING EQUIPMENT - OTHER	HQ USAF/ACMCA	WASHINGTON, D.C.	ESTIMATING AND PLANNING FACTORS/AFR 173-10	DOCUMENT	-	CURRENT	PROVIDES OPERATING AND SUPPORT COSTS ESTIMATING AND PLANNING FACTORS FOR USAF WEAPON SYSTEMS TO INCLUDE AGE, POL, MAINTENANCE-AIRCRAFT (BASE AND DEPOT LEVEL), AND CLASS IV (INCL. INITIAL SPARES), REPLENISHMENT SPARES AND VEHICULAR EQUIPMENT COSTS

TABLE 1 DATA EVALUATION MATRIX (CONT.)

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	DATA QUANTITY/QUALITY			
				FORM(S)	RECORDS	YEARS	REMARKS
6. MATERIAL RESOURCES (CONT.	HQ USAF/ACMCA	WASHINGTON, D.C.	OPERATING AND SUPPORT COST REPORT (OSCR)	LISTING	-	FY 1975	PROVIDES C-130E OPERATING AND SUPPORT COST BY VARIOUS COST CATEGORIES. THIS SYSTEM WAS IMPLEMENTED WITH FY 1975. FY 76 INFORMATION NOT RELEASED AS OF THE PRINTING OF THIS DOCUMENT
	C-130E UNITS 62 MAW 314 TAW 317 TAW	MCCHORD AFB, WA LITTLE ROCK, AR POPE AFB, NC	MAINTENANCE COST SYSTEM (MCS) EXECUTIVE MANAGEMENT SUMMARIES (REF AFM 177-380)	MONTHLY REPORTS	-	JUL'75-DEC'76	PROVIDES WEAPON SYSTEM DIRECT AND INDIRECT MATERIAL COSTS BY MONTH AT BASE LEVEL. IDENTIFIES VALUE OF MATERIAL CONSUMED WITHIN WBS WITHIN MDS/NON MDS BY MONTH. MDS CATEGORIES INCLUDE AIRCRAFT, AIRFRAME, ENGINE, ACCESSORIES, ELECTRONICS, NON MDS INCLUDES SUPPLY SUPPORT, CEM, AGE AND OTHER CATEGORIES
	FUEL OFFICES C-130E UNITS 62 MAW 314 TAW 317 TAW	 MCCHORD AFB, WA LITTLE ROCK AFB, AR POPE AFB, NC	POL (FUEL) CONSUMPTION DATA	-	-	1976	PROVIDED NUMBER OF GALLONS OF FUEL C-130's CONSUMED EACH MONTH OF 1976
7. COST DATA: - RDT&E - PROCUREMENT - OPERATIONS & SUPPORT	HQ USAF/ACMCA	WASHINGTON, D.C.	ESTIMATING AND PLANNING FACTORS/AFR 173-10	DOCUMENT	-	CURRENT	PROVIDES OPERATIONS AND SUPPORT COST ESTIMATING AND PLANNING FACTORS FOR USAF WEAPON SYSTEMS
	HQ USAF/ACMCA	WASHINGTON, D.C.	OPERATING AND SUPPORT COST REPORT (OSCR)	LISTING	-	FY 1975	PROVIDES C-130E OPERATIONS AND SUPPORT COST BY VARIOUS COST CATEGORIES.THIS SYSTEM WAS IMPLEMENTED WITH FY 1975. FY 1976 INFORMATION WAS NOT RELEASED AS OF THE PRINTING OF THIS DOCUMENT.
	AFLC/ACH	WPAFB, OHIO	UNIT COSTS OF AIRCRAFT T.O. 00-25-30	TECHNICAL ORDER	-	CURRENT	PROVIDES AVERAGE AIRCRAFT UNIT FLYAWAY COST, BASED ON FUNDING APPROPRIATIONS.

TABLE 1 DATA EVALUATION MATRIX (CONT.)

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	DATA QUANTITY/QUALITY			
				FORM(S)	RECORDS	YEARS	REMARKS
7. COST DATA (CONT)	FROST AND SULLIVAN INC.	NEW YORK, NY	DEFENSE CONTRACTS/ COST INFORMATION	LISTING		1962-1975	PROVIDES HISTORICAL VISIBILITY INTO INDIVIDUAL CONTRACTS BY PRODUCT CATEGORIES AGAINST THE C-130 AIRCRAFT. SOME CONTRACTS REFLECT SPECIFIC AIR FORCE C-130E APPLICATION. INDIVIDUAL CONTRACT DOLLAR VALUE IS REFLECTED FOR MOST CONTRACTS LISTED.
	C-130E UNITS						
	62 MAW	MCCHORD AFB, WA	MAINTENANCE COST SYSTEM (MCS) EXECUTIVE MANAGEMENT SUMMARIES AFR 177-380	MONTHLY REPORTS		JUL'75-DEC-76	PROVIDES WEAPON SYSTEM COSTS DIRECT AND INDIRECT BY EACH INDIVIDUAL UNIT. INFORMATION OBTAINED WAS ONLY FROM THE 3 UNITS LISTED.
	314 TAW	LITTLE ROCK AFB AR					
	317 TAW	POPE AFB, NC					
	AFLC/LOLMA, SCALC/ACDCH	WPAFB, OH MCCLELLAN AFB, CA	LOGISTICS SUPPORT COST RANKING (IROS/K051) SYSTEM	QUARTERLY REPORTS		1973-1976	THE LOGISTIC SUPPORT COST RANKING (IROS/K051) REPORTS ARE DESIGNED TO PROVIDE AN ESTIMATE OF COST TO REPAIR, MAINTAIN, AND SUPPLY A SPECIFIC ITEM (WUC) FOR A GIVEN PERIOD. IT PROVIDES FIELD MANHOUR COSTS, SPECIALIZED REPAIR ACTIVITY COST, SPARES/MATERIAL COST AND PACKAGING/SHIPPING COST. IT ALSO CONTAINS OTHER DATA SUCH AS SAFETY AND AVAILABILITY. COSTS NOT INCLUDED ARE: GROUND SUPPORT EQUIPMENT, MODIFICATION HARDWARE, AND SELECTED SPARES. THE K051 COSTS DATA WAS USED IN THIS STUDY TO DETERMINE THE TOP 10 WUC LSC RANKING. IT WILL NOT BE USED FOR LCC BECAUSE IT WAS NOT DESIGNED TO CAPTURE TOTAL COSTS OF ALL SYSTEMS ON AIRCRAFT.

A detailed description of the processing and other manuals/technical orders used for data interpretation are contained in references 3 through 8. Derivation of, and combination of codes covered in the above references for the respective data elements and rates are explained in later sections.

AREA II - TIME COMPLIANCE TECHNICAL ORDERS (TCTO's)

Fleet Applicability Reports of TCTO modification kits, installed on 308 C-130E aircraft between 1962 and 1976 were evaluated. The magnitude of historical data extant within the Fleet Applicable Reports, necessitated the use of a computer system. A total of 956 computer printout pages of historical data, encompassing 308 C-130E Hercules aircraft required the recompilation and printout of selected TCTO histories, namely: a) accomplished intermediate level-installed TCTO's by aircraft tail numbers, b) installation accomplished at depot level, c) accumulated intermediate and depot TCTO installation hours by year (1962 through 1976), and d) composites of intermediate and depot kits installed by year and tail number. Figure C-2, Appendix C, provides the single thread sequential logic flow followed.

AREA III - DEPOT DATA

Acquisition of "Depot Type" data was the most difficult. After visits to the various depots, it became apparent that the data were not weapon system oriented. Also, data that might be beneficial were contained in several different data collection systems, each designed to serve its own function. To compensate for this fragmented data and in some cases no data at all, it was necessary to rely on depot data acquired and processed for other studies being conducted within Boeing. This approach appeared to be the most fruitful within the constraints of the study as to manpower effort, data format and completeness, flow time, and computer processing, development, and execution. In addition, the results of these studies would be applicable and allow additional concentration in other data acquisition and analysis areas.

The depot data utilized were acquired from various government agencies responsible for the respective data system. These systems are described in Reference (2).

Figure C-3, Appendix C, illustrates the complex interaction and merging of these data systems to produce appropriate results for C-130E depot information. These results are portrayed in the maintenance, cost, and summary paragraphs of this section.

As previously stated, depot maintenance data are not weapon system oriented, they are keyed to a component national stock number (NSN) with desired data elements in several data systems. To overcome this diversion and bring the data elements together under a weapon system concept, application data were used to select NSN's applicable to the C-130E, which were then correlated with the "NSN/WUC Dictionary" for component work unit code (WUC) and nomenclature, and then screened

to obtain interchangeable and substitute NSN's. If additional information is desired, detail description of the programs and processing methodology are covered in Reference [9].

DATA NORMALIZATION

Air Force data and records are retained, and disposed of periodically, in accordance with Standard Air Force Procedures. As could be expected, the historical support resource data for the C-130E is incomplete over the 15 year operational period of this study. Typically, six or more years' data are found to be unavailable for each data set. Therefore, to overcome this deficiency, a missing data estimation process was developed to fill the voids. The process is based on simple, least squares regression analysis of the known data and is dependent on three basic assumptions:

a. Expenditure of support resources can be related to operational parameters (where a full 15 years' data set is available) on a cause-effect basis. These relationships can take the primary form of -- Operational Parameter - causes - Support Parameter 1 -- or the secondary form of -- Operational Parameter - causes - Support Parameter 1 - causes - Support Parameter 2.

b. The relationships detected can be represented by straightline functions.

c. The missing data years are within the relevant range of the straightline functions representing the data.

A general description of the process for estimating the missing data, based on the foregoing assumptions, is provided in Appendix C.

DATA DEVELOPMENT

The vastness of data acquired and the various types and categories of data presented a unique situation in data handling and management. These data consisted of over 900 published documents/reports/listings/ indexes/ and 6.1 million records which required approximately 36,000 separate computations to develop statistical analysis and summations.

To effectively and efficiently handle the data and ensuing computations, a remote terminal computer system was employed to complete three major functions:

a. Historical Weapon System Data Bank Category Extraction;
b. Normalization Distribution, and
c. Data tape development and compilation.

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[9] Boeing Document, D745-10042-1, "Depot Maintenance Data Processing Definition."

Appendix C illustrates this procedural flow and provides a step by step explanation. A data tape of the pertinent information of all tasks was developed.

STATISTICAL SUMMARIES

C-130E BACKGROUND

It seems appropriate at this point of the study to present a brief history and description of the C-130E aircraft. Limited by the scope of this task and the extensive time period under examination, a comprehensive treatment of all significant aspects of the aircraft is not within the scope of this study.

Although this study is devoted to the "E" series of the C-130 family, the following significant milestones and hereditary tree will bring the "E" into a proper perspective.

Major Initial Milestones

Development contract:	1952
Prototype flights:	1954
First C-130A deliveries:	1956
First C-130B deliveries:	1958
First C-130E deliveries:	April 1962

Series Distinctions

YC-130: Prototype model, two of which were built.

YC-130A: The initial production version with 3,750 shp Allison T56-A-1A or -9 turboprops. Some 231 were built before production ended, including 12 for the Royal Australian Air Force. Developments and modifications to the basic C-130A include the following:

AC-130A: Gunship configuration. Weapons include four 20mm Vulcan cannons and four 7.62 mm miniguns, all Gatling-type guns with a combined rate of fire of 34,000 rounds per minute.

DC-130A: Similar to C-130A, except capable of controlling a drone aircraft or missile. Crew of four. The Navy has two.

RC-130A: AC-130A modified to perform electronic aerial geodetic surveying and mapping.

C-130D: A small group of C-130As modified for USAF service in the Antarctic with combination wheel/ski landing gear.

RC-130S: Modified to carry the Battlefield Illumination Airborne System (BIAS).

C-130B: A modification of the C-130A with increased fuel capacity, more powerful T56-A-7 engines and heavier landing gear. Deliveries were made to Indonesia, Canada, Pakistan, South Africa, and the US. Developments and modifications of the basic C-130B include the following:

HC-130B: A Coast Guard version with special equipment for search and rescue.

JC-130B: Modified C-130Bs equipped for Discoverer satellite recovery.

NC-130B: An experimental boundary layer control test bed for USAF, with T56-A-6 turbojet engines mounted under the wings. One-of-a-kind.

WC-130B: A C-130B modified for Air Weather Service.

C-130F: A Navy utility transport, formerly GV-1U.

KC-130F: Marine Corps aerial tanker with crew of seven.

LC-130F: A Navy ski-equipped cargo/personnel transport for Antarctic service.

C-130G: Similar to C-130 except for changes in certain electric and electronic areas.

EC-130Q: ECM version, used primarily by the Marines.

C-130E: Similar to C-130B but with increased fuel, weight and load carrying capacity. It is capable of carrying 92 troops, 65 paratroops, or 74 litters with two attendants. Ten of these, equipped with AN/USC-15 command and control capsules, are used for the Airborne Command and Control (ABCC) role. The C-130E is in the inventories of Argentina, Brazil, Chile, Iran, Australia, Canada, Chile, Peru, Saudi Arabia, Sweden, USAF and U.S. Coast Guard. Developments and modifications of the basic C-130E include:

AC-130E: An improved gunship variation with "Suprise Package" avionics including Low Level Light Television (LLLTV), infrared and night observation devices. Weapons carried include twin 40 mm Bofors cannons, two 20 mm Vulcan cannons and two 7.62 mm miniguns.

DC-130E: A drone control version for the Air Force.

EC-130E: A special version for the Coast Guard, used for electronic calibration of LORAN equipment.

HC-130E: Specially equipped for search and rescue missions. Formerly designated SC-130F.

LC-130R: Has Naval avionics, T52-A-16 engines, cold weather modifications and skis.

WC-130E: Modified for Air Weather service.

C-130M: A C-130E with C-130B forward cargo door installed and some C-130B avionics. A MAP aircraft.

C-130H: A C-130E airframe equipped with more powerful T56-A-15 engines and improved avionics. Developments and modifications to the basic C-130H include:

HC-130H: Similar to HC-130E, except for more powerful T56-A-15 engines. Has greater range due to increased fuel capacity in the fuselage and carries the Fulton surface-to-air recovery system with nose-mounted yoke. The HC-130H is primarily used for search, rescue, surface-to-air recovery of downed crews, and air-to-air retrieval missions.

C-130K: Basically a C-130H, modified for use by the Royal Air Force, with primarily British avionics. Sixty-six were delivered to RAF Air Support Command.

The C-130 was designed and constructed as an assault transport by the Lockheed-Georgia Company, Marietta,Georgia, yet it is used to perform several different missions, as indicated:

C-130A/B/D/E/H	Logistics (Air Land/Air Drop of Cargo and Troops)
AC-130A/H	Gunship Operations
DC-130A/E	Control Aircraft for Drone
RC-130A	Photomapping
HC-130H/N/P	Search and Rescue
JC-130B	Missile Tracker
WC-130B/E/H	Weather Recon

The number of C-130E aircraft (as of fiscal year 1977) and the percent to which the fleet is utilized is shown in Figure 7 and 8.

Configuration	Inventory
AC-130A/H	23
C-130A/D	153
C-130B	101
→ C-130E	329
C-130H	39
HC-130H	30
HC-130N	15
HC-130P	18
WC-130H	11
Total	719

FIGURE 7 C-130 INVENTORY BY CONFIGURATION

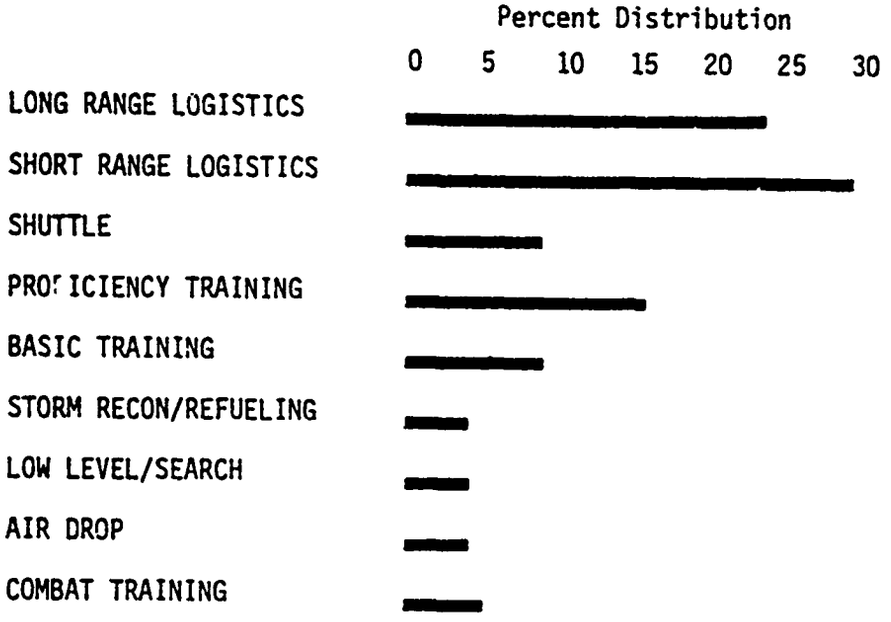

FIGURE 8 C-130 MISSION UTILIZATION

As a prelude to the statistical system summaries and respective trends, and for a better understanding of the aircraft and its various systems makeup, Figures C-4 through C-9, Appendix C, reflect the aircraft's major dimensions, specifications, characteristics, and the highlights pertaining to each system.

CATEGORIES OF DATA

Seven major categories of data were developed to logically and systematically portray the data acquired and aid computer processing

and analyses: 1) operations, 2) maintenance, 3) reliability, 4) safety, 5) human resources, 6) material resources, and 7) cost. Each of these are discussed separately in detail in the form of charts, tables, figures, and results/findings to portray a historical 15 year footprint from the first year of introduction into Air Force service (1962) through present (1976).

OPERATIONS DATA

To set the stage for this category and the ensuing six, it is appropriate to iterate that this section of the document will be primarily devoted to the analysis and statistical presentation of 15 years worth of C-130E data. To acquaint the reader with the events in history that took place prior to and during the study time period in which the C-130 played a major role and thus the generation of these data, one must start with the Congo Airlift. Between 1960 and 1964, the U.S. Air Force flew more than 2,000 missions in history's longest airlift (up to that point in time), reaching 5,000 miles from Europe around Africa's coast to the Congo. Next came the October 1962 Cuban Crisis where ammunition for TAC composite air strike forces was rapidly airlifted to Florida, and U.S. Marines to Guantanamo Bay, Cuba. The C-130E's were also heavily involved in the airlift operations to Vietnam which began in the early 1960's and accounted for the surges or peakes in the statistics so evident in the other categories. During this same peak period, 1965 through 1966, the Dominican Republic crisis also required heavy airlift support. Since these major incidents and with the introduction of the C-141 into the inventory, there has been a general reduction in C-130E utilization.

Statistics

The commonly referenced aircraft operational parameters are shown in Table 2. Definitions and derivations of these parameters are covered in the Glossary of Terms. Table 3 is a summary of the aircraft procurement and Table 4 the individual aircraft serial numbers. In Table 3 the aircraft attrited and active aircraft columns are for aircraft of that serial number year and should not be interpreted as for that calendar year.

Data source for Table 2 was AFM 65-110 (1-HAF-A1-110-12) and for Table 3 and 4 was WRALC (MMSRBA) C-130E Serial Chart/ER-70-70M.

MAINTENANCE DATA

The maintenance of most weapon systems constitutes the major portion of resources and effort and this statistical presentation and analysis is no exception. To systematically portray the information, the data were divided into divisions, mainly manhours, tasks, TCTO, and other. These divisions are depicted in Figure 9. The other category consisted of those areas where although they would appear to be subsets of the other three, the data appeared to dictate a separate division.

TABLE 2 C-130E OPERATIONS STATISTICS

OPERATIONAL PARAMETERS	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE/ TOTAL
POSSESSED AIRCRAFT (AVERAGE)	11	83	226	315	295	291	279	289	304	323	298	293	295	296	297	260
AIRCRAFT FLIGHT HOURS TOTAL	*18,800	*82,274	231,069	347,008	444,283	366,609	310,185	256,373	245,153	246,979	220,070	190,734	169,867	170,360	164,553	3,463,317
AVERAGE UTILIZATION (FLT. HRS./ACFT./MO.)	* 190	* 83	85	92	126	105	93	74	67	64	61.5	54.2	48.0	48.0	46.2	75.2
AVERAGE MISSION LENGTH (FLIGHT HOURS)	-	-	-	4.33	4.11	2.89	1.89	1.89	1.94	2.19	2.78	2.58	2.91	2.82	2.57	2.63
AVERAGE LANDINGS/FLIGHT HOUR	-	0.86	0.64	0.55		1.7	0.7	0.9	1.0	1.1	1.1	1.0	1.2	1.1	1.1	1.00
PERCENT OPERATIONAL READY	85.9	80.7	74.9	72.9	69.5	74.3	74.3	73.2	68.0	68.7	69.3	68.2	69.0	63.9	61.1	69.9
PERCENT NOT OPERATIONAL READY SUPPLY	3.7	6.7	7.9	5.3	6.4	2.4	1.7	2.0	3.5	3.4	3.3	4.4	3.7	4.3	4.0	4.0
PERCENT NOT OPERATIONAL READY SUPPLY-FLYABLE	-	-	-	-	-	1.4	2.2	0.8	1.4	1.7	5.0	7.0	8.0	6.6	6.4	[illegible]
PERCENT NOT OPERATIONAL READY SUPPLY-GROUNDED	-	-	-	-	-	2.0	1.6	2.0	3.5	3.4	3.3	3.7	3.7	4.3	4.0	[illegible]
PERCENT NOT OPERATIONAL READY MAINTENANCE	10.4	12.6	17.2	21.8	24.1	23.3	24.0	24.8	28.5	27.9	27.4	27.4	27.3	31.8	34.9	26.1
PERCENT NOT OPERATIONAL READY MAINTENANCE - FLYABLE	-	-	-	-	-	-	-	-	-	-	-	5.0	4.9	6.2	8.3	[illegible]
PERCENT NOT OPERATIONAL READY MAINTENANCE - GROUNDED	-	-	-	-	-	-	-	-	-	-	-	22.4	22.4	25.6	26.1	[illegible]
PERCENT NOT OPERATIONAL READY MAINTENANCE - TCTO	0.2	0.6	0.7	0.6	0.7	0.9	1.0	0.1	0.6	0.1	0.1	Not Reported	Not Reported	Not Reported	Not Reported	[illegible]

[illegible] — INCONSISTANT REPORTING

* ESTIMATED

TABLE 3 C-130E AIRCRAFT PROCUREMENT SUMMARY BY AIRCRAFT SERIAL NUMBER YEAR

Serial Number Year	Aircraft Count	Aircraft Attrited	Active Aircraft	Aircraft Age in Years*
1961	15	--	15	15
1962	83	16	67	14
1963	143	12	131	13
1964	96	11	85	12
1968	17	--	17	8
1969	19	2	17	7
1970	18	--	18	6
1972	12	--	12	4
TOTAL	403	41	362	11.9

* Assumes aircraft was produced in that serial number year.

TABLE 4 USAF C-130E AIRCRAFT (BY YEAR/SERIAL NUMBER)

1961	1962	1963	1964	1968	1969	1970	1972
61- 2358	62- 1784 1832	63- 7765 7813 7851	64- 0495 0543	68- 10935	69- 6565	70- 1259	72- 01284
2359	*1785 1833	7766 7814 7862	0496 0544	10936	6566	1260	01285
2360	1786 1834	7767 7815 7863	0497 *0545	10937	6567	1261	01286
2361	1787 1835	7768 7816 7864	0498 0546	10938	6568	1262	01291
2362	1788 1836	7769 7817 7865	0499 *0547	10939	6569	1263	01292
2363	1789 1837	7770 7818 7866	0500 *0548	10940	6570	1264	01293
2364	1790 1838	7771 7819 7867	0501 0549	10941	*6571	1265	01294
2365	1791 1839	*7772 7820 7868	0502 0550	10942	6572	1266	01295
2367	1792 *1840	7773 7821 7869	0503 0551	10943	6573	1267	01296
2368	1793 *1841	7774 7822 7870	0504 0552	10944	6574	1268	01297
2369	1794 1842	*7775 7823 7871	*0505 0553	10945	6575	1269	01298
2370	1795 1843	7776 7824 7872	0506 0554	10946	6576	1270	01299
2371	1796 1844	7777 7825 7873	0507 0555	10947	6577	1271	
2372	*1797 *1845	7778 7826 *7874	*0508 0556	10948	*6578	1272	
2373	1798 1846	7779 *7827 7875	0509 0557	10949	6579	1273	
	1799 1847	*7780 7828 7876	0510 *0558	10950	6580	1274	
	1800 1848	7781 7829 7877	*0511 0559	10951	6581	1275	
	1801 1849	7782 7830 *7878	0512 0560		6582	1276	
	*1802 1850	7783 7831 7879	0513 0561		6583		
	1803 1851	7784 7832 7880	0514 0562				
	1804 1852	7785 7833 7881	0515 *0563				
	*1805 *1853	7786 78.. 7882	0516 0564				
	1806 *1854	7787 7835 7883	0517 0565				
	1807 1855	7788 7836 7884	0518 0566				
	1808 1856	*7789 7837 7885	0519 0567				
	1809 1857	7790 7838 *7886	0520 0568				
	1810 1858	7791 7839 7887	0521 0569				
	1811 1859	7792 7840 7888	*0522 0570				
	1812 1860	7793 7841 7889	0523 0571				
	*1813 *1861	7794 7842 7890	0524 0572				
	*1814 1862	7795 7843 7891	0525 17624				
	*1815 1863	7796 7844 7892	0526 17625				
	1816 1864	*7797 7845 7893	0527 17626				
	1817 *1865	*7798 7846 7894	0528 17627				
	1818 1866	7799 7847 7895	0529 *17628				
	1819	7800 7848 7896	0530 17629				
	1820	*7801 7849 7897	0531 17630				
	1821	*7802 7850 7898	0532 17631				
	1822	7803 7851 7899	0533 17632				
	1823	7804 7852 9810	0534 17633				
	1824	7805 7853 9811	0535 17634				
	1825	7806 7854 9812	*0536 17635				
	1826	7807 7855 9813	0537 17636				
	1827	7808 7856 9814	0538 17637				
	1828	7809 7857 9815	0539 17638				
	1829	7810 7858 9816	0540 17639				
	1830	7811 7859 9817	0541 17680				
	*1831	7812 7860	0542 17681				
1961 TOTAL 15	1962 TOTAL 83 CUM TOTAL 98	1963 TOTAL 143 CUM TOTAL 241	1964 TOTAL 96 CUM TOTAL 337	1968 TOTAL 17 CUM TOTAL 354	1969 TOTAL 19 CUM TOTAL 373	1970 TOTAL 18 CUM TOTAL 391	1972 TOTAL 12 CUM TOTAL 403

* Aircraft attrited

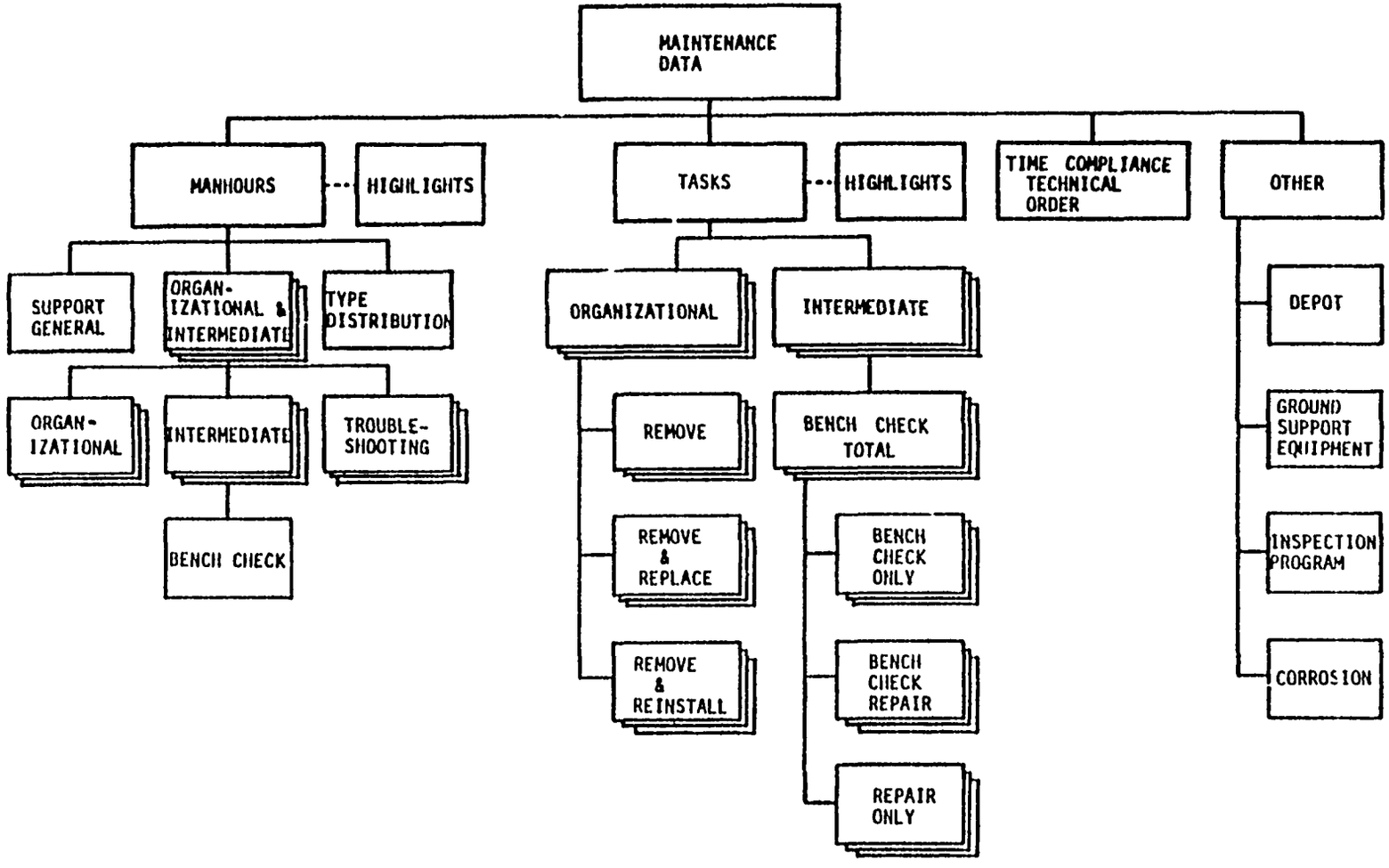

FIGURE 9 C-130E MAINTENANCE DATA BREAKDOWN

In general, each minor division is further sub-divided into three areas of presentation: a) per 1000 flight hours, b) percent distribution, and c) per sortie. In these presentations the following features are highlighted for ease in interpretation and understanding. Each year of normalized data is indicated with an asterisk (*), all others are actual acquired data. Generally, if a given data element value is zero, data were available but after computing, the result was insignificant. If a dash (-) appears, it signifies no data were acquired or recorded/reported. Variations in decimal presentations resulted from using previously determined values and computer generated values.

Tables D-1 through D-47 are provided in Appendix D. They are self-explanatory, only those that require additional explanation or contain significant anomalies will be discussed.

SUPPORT GENERAL - TABLE D-1

This table depicts the support general manhours expended on the C-130E aircraft during the 15 years under consideration. It is significant to note that only four years of actual data are displayed, with the remaining being derived from the normalization process. This is a departure from the majority of the data tables in that eight years of actual data are normally shown. The lack of data is caused by Air Force policy in that only 03 and 04 support general data are forwarded to AFLC from operational bases. Total data are retained by the bases for one year and (outside of data on hand at Boeing), only the current year was acquired.

TYPE DISTRIBUTION - TABLE D-5

This table shows the percent distribution of organizational and intermediate (combined) manhours by servicing (SV), scheduled (SC), unscheduled (UN) and other (OT). The distribution covers each aircraft system and for only the years 1971 through 1976. This type of percent distribution data does not, for obvious reasons, lend itself to meaningful normalization results. If a manhour distribution were desired for a given year, prior to 1971, the six year percentage averages of actual data could be applied to determine the spread.

The type maintenance codes used in each of the four divisions are covered in the definition section of this report.

ORGANIZATION MANHOURS - TABLE D-9

The significant anomalies noted for this breakout of manhours fell into systems 64 and 65 for 1971 and systems 12, 14, and 41 for 1974. It should be noted that in order to determine the reason for this irregularity, actual data are required and preferably on both sides of the year in question. Also, this in itself is limited to the quantitative aspect and brief malfunction coding of the data. Qualitative data would be required from the using organizations which was beyond the scope and resources of this study. Even then, for older problems, it would be difficult if not impossible to obtain. Therefore, only what can be gleaned from the data, historical reports, and most probable causes are indicated.

Cockpit and Fuselage Compartment (12) - Table D-9

During 1974 the organizational manhour expenditures increased 58% over 1973. The dual rail cargo kit, aft cargo, and forward cargo furnishings accounted for 53% of this increase with each increasing 95, 99, and 78 percent respectively. The dual rail cargo kit's primary malfunction mode was "no defect," with 82% of the actions being to remove and install.

In the aft cargo subsystem the primary manhour contributors were the cargo securing equipment, general furnishings, and equipment stowage. Each increased 185, 215, and 90 percent, respectively. Loose or missing bolts-nuts-screws were the primary malfunction modes.

For the forward cargo furnishings, the general furnishings, cargo securing equipment, and floor panels were the major contributors. Each increased 704, 399, and 93 percent, respectively. Similar to aft cargo, the same malfunction modes prevailed with a pronounced increase in "no defect" remove and install actions.

Equipment modifications or increased familiarity with the system appears probable as the manhour expenditures reduced in 1975 to almost a pre-1974 level.

Flight Controls (14) - Table D-9

A second area of significant organizational manhour (Table D-9) expenditure increase, up 42%, was in flight controls. The mechanical components in the wing flap, elevator tab, and elevator assembly accounted for 70% of this increase with each increasing 47, 187, and 68 percent respectively. Within the wing flap system, the housing assembly, jackscrew and center flap assembly each increased 371, 71, and 36 percent respectively. The primary modes were loose or missing nuts-bolts, etc., cracked, and dirty. In the elevator tab assembly, the flexible shaft and tab itself exhibited 534 and 62 percent increases respectively. "No defect" time change mode accounted for this departure. The access plate, cable assembly, and elevator torque tube increased 359, 188, and 157 percent respectively within the elevator assembly. The same modes prevailed here as in the tab. This inspection and replacement effort was completed in 1974 and the manhour expenditure reduced to a pre-1974 level in 1975.

Air Conditioning, Pressurization, and Anti-Ice (41) - Table D-9

The system manhour expenditure increased 38 percent with the water separator, refrigeration unit, and anti-ice radome accounting for 25 percent. Remaining increase components were scattered throughout the system. In general, components within these subsystems were being removed as "no defect" in compliance with scheduled maintenance and technical order incorporation.

Interphone (64) - Table D-9

Systems within the aircraft did not always increase the manhours but decreased as was the case in the interphone from 1971 to 1972. Although the decrease was not as significant, only 16 percent, as the previously discussed increases, it does show improvements to the aircraft. Analysis of the data malfunction modes did not indicate a probable cause for this improvement.

IFF (65) - Table D-9

This system also fell into the improvement category with a significant decrease in manhour expeditures of 72 percent between 1971 and 1972. In this instance, the reduction was attributable to the replacement of the AN/APX-25 with the AN/APX-72 (AIMS) system.

INTERMEDIATE MANHOURS - TABLE D-12

In this category of manhour expeditures four systems are worthy of mention: systems 12, 42, 47, and 65 (the first two for the 1976 year the last for the 1971 period).

Cockpit and Fuselage Compartment (12) - Table D-12

Following the pattern of system 12 organizational manhours the intermediate manhours increased 150 percent, but for a totally different reason. In this case the furnishings for the center cargo, flight deck, and forward cargo increased 317, 210, and 150 percent, respectively, representing 79 percent of the total increase. Analysis of the data showed that the cargo compartment insulation blankets, crew seats and seat cushion repairs were the major contributors. It would appear that a general housekeeping improvement effort was undertaken.

Electrical Power (42) - Table D-12

This system increased 60 percent in manhour expeditures with the battery accounting for almost 90 percent. Examination of the data did not indicate a plausible reason for this change.

Oxygen (47) - Table D-12

A reduction in manhours for this system of 55 percent was primarily attributed to the GCU-171A converter and CRU-471A regulator, which decreased 60 to 30 percent, respectively. Analysis of the malfunction modes indicates that the previously reported leakage problem has been corrected. This was probably due to improved sealing or procedural changes.

IFF (65) - Table D-12

As discussed in the previous organizational manhour section, the change from AN/APX-25 to AN/APX-72 also provided a 79 percent reduction in intermediate manhour expeditures.

MAINTENANCE TASKS - TABLE D-18

It is apparent in a weapon system that has been in the inventory for many years like the C-130E, an increase or decrease in organizational or intermediate manhours will generally have the same effect on tasks. Yet, the increase or decrease may be more evident in one category than the other. Therefore, in the analysis of task variance, only systems with anomalies not previously covered will be discussed in this section.

Airframe (11) - Table D-18

The organizational airframe tasks increased 86 percent in 1974 over 1973 with the cargo section and wing inboard increasing 107 and 80 percent, respectively. The wheel well assembly area and associated access plate, wing trailing edge area and inboard panel were the primary task contributors with loose or missing rivets, screws, or fasteners. These types of malfunction repairs would account for a task count increase.

Lighting System (44) - Table D-18

This system experienced a 100 percent increase in organizational tasks between 1973 and 1974. The predominate component was the bulb used in the cargo dome lights, formation lights, and instrument panel lights. The data did not indicate the reason for this mass replacement; However, the following year the task rate was back to normal.

TIME COMPLIANCE TECHNICAL ORDER (TCTO's)

Time Compliance Technical Orders (TCTO), used as the contract vehicle for modification of the C-130 weapon system were collected, and analyzed. The data acquired from Warner Robins Air Logistics Center (WRALC), Robins Air Force Base, Georgia (RAFB, GA), included C-130E Fleet Applicability Report TCTO histories of 308 C-130E aircraft. The file covered the period of 1962 through 1976. TCTO data acquired from these reports provided a comprehensive compendia of TCTO's installed at the field/intermediate/depot level denoting the following data fields by C-130E aircraft:

1) TCTO number(s).
2) Date, code number.
3) Technical Order date.
4) Rescission date.
5) Status completion date.
6) Reported manhours required to install each TCTO kit.

The manner in which these data were compiled, formatted and analyzed in delivering TCTO results annotated below, was summarized in Figure C-2 (appendix C). C-130E Fleet Applicability Data, are displayed in tabular form or frequency polygons below.

TCTO Installation Histories (Intermediate and Depot Levels)

Data synthesized/compiled and printed out via computer, were manually plotted into frequency polygons. These polygons as reflected in Figures 10 and 11 depict: a) Accumulated numbers of TCTO kits installed at the intermediate maintenance level during the calendar years of 1962 through 1976, b) accumulated numbers of TCTO kits installed at the depot maintenance level during 1962 through 1976, c) composites of intermediate and depot level TCTO kits installed during each year of the fifteen year period, d) hours expended to install TCTO kits at the intermediate maintenance level during each of the 15 years, e) hours expended to install TCTO kits at the depot during the 1962-1976, and f) a composite of total hours expended to install TCTO's at the intermediate and depot maintenance levels. These figures provide comprehensive compendia of TCTO installation numbers, and hours accrued by 308 C-130E aircraft.

Installed TCTO Kits (Intermediate and Depot Level)

It becomes apparent by inspection of Figure 10 that modifications at the intermediate level were sporadic. This is principally due to contracting methods employed by the Systems Program Office (SPO) as well as phasing/scheduling of kit production line. The multi-modal frequencies noted during 1966, 1968, 1971 and 1974 reflect the manufacturer's production line surges and resultant batch installations that occur. These multi-modal distributions as depicted in Figure 10 have been observed in other weapon systems such as the B-52's, and Minuteman.

Accumulated TCTO kits installed at the depot during the 15 year period reflect some characteristics of a normal distribution with a truncated number of kits installed during 1971. Apparent within this figure is the obviously smaller number of kits installed at the depot as compared to that experienced at the intermediate maintenance level. However, this can not be used as an indicator of concomitant TCTO hour accumulations that one might expect in the area of intermediate maintenance. Although most TCTO kits are installed at the intermediate maintenance level, the average installation hours per TCTO is one order of magnitude less than that experienced at the depot. Less than 900 TCTO kits were installed at the depot (1972) as compared to 4060 kits installed at the intermediate level during the peak year of 1966. It is suspected that the marked reductions of depot installed kits (apparent during the 1973 through 1976 time period) merely represent an intermission or interlude and that a rise in depot installed TCTO kits or modifications can be expected in the future. Further, apparent from the acquired data is the fact that TCTO kits to be installed into designated aircraft at the depot, accumulate or are queued, scheduled and implemented on a more consistant basis than that experienced at the intermediate level.

CALENDAR YEAR	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
DEPOT TCTO'S	0	0	127	227	384	667	838	890	896	701	899	448	309	184	14
INT. LEVEL TCTO'S	5	493	986	1745	4060	2379	3650	1628	2250	3362	1969	1333	2897	1737	278
TOTAL TCTO'S	5	502	1113	1972	4444	3046	4485	2478	3146	4063	2868	1781	3206	1921	292

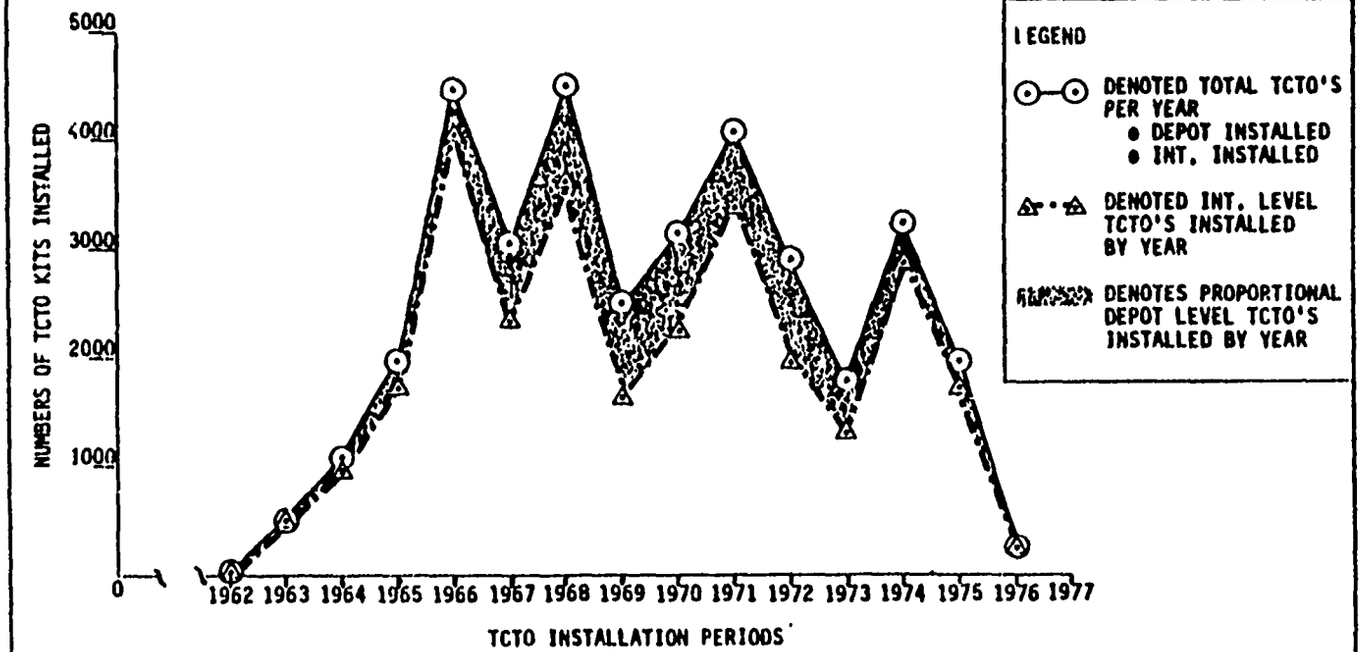

Figure 10 C-130E TCTO'S INSTALLED - INTERMEDIATE AND DEPOT LEVELS

Figure 10 provides a composite overview of all TCTO kits installed between 1962 and 1976. This figure provides an excellent illustration of the relative proportional differences of numbers of intermediate and depot level kits installed during any given year between 1962-1976. The table on this figure provides a numerical summary of numbers of kits installed by maintenance level during each of the 15-year intervals.

TCTO Installation Hours

The multi-modal distribution of accumulated hours to install kits at the intermediate level and depicted in Figure 11, parallel somewhat the same multi-modal distributions found in Figure 10. Peaks of 81,570 and 85,814 hours occurring during 1966 and 1968 respectively, represent the highest installation/manhours profiles that have occurred throughout the reporting period. Significant reductions in TCTO installation hours per year occurring from 1969 through 1976 follow the general downward trend of numbers of kits installed during the same reporting period. The relatively low numbers of accumulated installation hours per year, when compared with the high number of TCTO kits installed per year clearly demonstrate that modifications accomplished at the intermediate level are limited to those kits requiring less than 25 installation hours per kit.

Annual profiles of hours expended to install depot controlled kits reflect an inverse relationship to numbers of kits installed per annum. Significantly greater numbers of hours are expended at the depot than at the intermediate level. This is in spite of the fact, that fewer kits are installed at this maintenance echelon. Figure 11 clearly demonstrates that major modifications, planned and scheduled on the C-130E weapon system, are conducted under the auspices and control of AFLC depot repair sites. Further, it is apparent, that a latency in modification needs occurred with the C-130E aircraft. Dramatic increases in accumulated TCTO installation hours did not occur until after 1967 whereas intermediate installation hours reflect a more general or diffuse distribution earlier in the lifetime of the C-130E aircraft. This is as would be expected as the Aircraft Structural Integrity Program (ASIP), resulting in major modifications to the outer wings, center wing, empennage and fuselage did not occur until 1968. Furthermore, continued high depot consumption hours per year subsequent to 1968 reflect the on-going needs of depot modifications due to aircraft aging. Figure 11 provides a composite distribution of accumulated TCTO kit installation hours at both the intermediate and depot maintenance echelons.

A total of 4,253,582 kit installation hours were recorded against the 308 C-130E aircraft between 1962 and 1976. Depot accounts for 91% (3,888,374 hours) of all accountable installation hours.

CALENDAR YEAR	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	TOTAL
DEPOT TCTO HOURS	0	4,671	116,627	118,709	24,572	86,377	236,883	646,632	634,615	558,655	546,44[illegible]	529,753	395,191	97,862	2,379	3,888,374
INT. TCTO HOURS	30	4,468	7,896	20,009	81,520	30,489	85,814	17,599	29,924	29,420	7,674	17,248	17,038	11,970	4,109	365,208
TOTAL TCTO HOURS	30	9,139	123,523	138,718	106,092	126,866	322,697	664,231	644,539	588,075	554,122	547,001	412,229	109,832	6,488	4,253,582

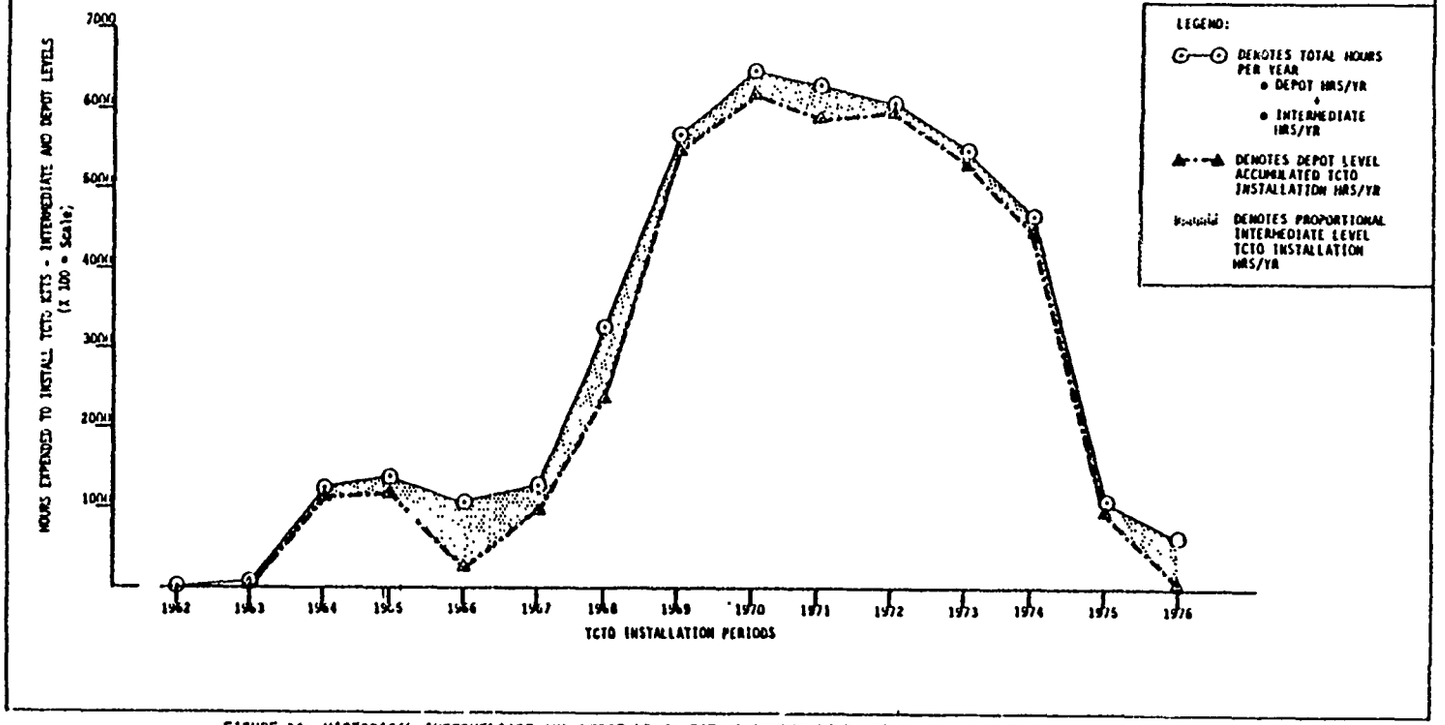

FIGURE 11 HISTORICAL INTERMEDIATE AND DEPOT LEVEL TCTO EXPENDITURE PROFILES (ACCUMULATED HOURS) - 1962 THROUGH 1976

DEPOT MAINTENANCE ACTIONS

As previously discussed in the computer processing section on depot data, two primary data categories were assembled: maintenance actions (tasks) and cost per flying hour. The cost results are covered in the applicable section and the maintenance actions (tasks) per 1000 flight hours and percent each system contributed to the total is shown in Table 5.

GROUND SUPPORT EQUIPMENT

Historical data on ground support equipment specifically dedicated to the C-130E were integrated within the total used. As in other areas of data uncovered within this study the cost in resources to acquire, process, and analyze data was prohibitive to the overall objectives.

To provide some insight into the type and quantity of equipment assigned, operating time, and cost, Table 6, is a composite of ground support equipment (GSE) information acquired during the base visits.

INSPECTION PROGRAM

During the time period of this study the maintenance inspections employed on the aircraft have been both fixed, such as preflight, basic postflight, etc., and variable covering the hourly postflight, periodic, phase, and isochronal concepts. Figure 12 shows the current maintenance and inspection programs. These programs provide a complete spectrum of review and each program contains inspections of some critical area peculiar to the program. The respective inspection task and flying hour interval at which each task will be accomplished is reflected in the Figure. The programmed depot maintenance (PDM) covers those areas that must be accomplished at the depot due to equipment, skills, tools, facilities, and/or economy. A majority of the fleet is on a 36 month PDM interval. A portion of the C-130E's are on a 24 month interval due to more severe operating environment/ mission profiles. The analytical condition inspection (ACI) requirements are accomplished in conjunction with the PDM.

CORROSION

The C-130E Appendix C - Strengths, Weaknesses and Problem Area (1962-1976) of Reference [10] contains discussions on corrosion as they occurred chronologically starting with 1962 through the present. Since these data were narrative in nature and not statistical, D056E (AFM 66-1) was analyzed for additional information. Immediately it become obvious that statistically all corrosion actions and manhours

[10] AFHRL-TR-77-40, C-130E Hercules Aircraft: Review of Published Literature and Structured Interviews.

TABLE 5 C-130E DEPOT MAINTENANCE REPAIR TASKS BY SYSTEM (EXCLUDES ENGINES)

SYS. NO.	SYSTEM NAME	FY 1975-1976	
		MAINTENANCE ACTIONS/ 1000 FH	SYSTEM % OF TOTAL
11	AIRFRAME	2.128	0.36
12	COCKPIT AND FUSELAGE	4.135	0.71
13	LANDING GEAR	24.503	4.20
14	FLIGHT CONTROLS	7.566	1.20
22	TURBO PROP POWER PLANT	-	-
24	AUXILIARY POWER PLANT	7.014	1.20
32	HYDRAULIC PROPELLER	18.379	3.15
41	AIR CONDITIONING, PRESSURIZATION	22.466	3.85
42	ELECTRICAL POWER SUPPLY	6.459	1.11
44	LIGHTING SYSTEM	-	-
45	HYDRAULIC AND PNEUMATIC	11.126	1.91
46	FUEL	22.842	3.91
47	OXYGEN	7.716	1.32
49	MISCELLANEOUS UTILITIES	4.511	0.78
51	INSTRUMENT	13.171	2.26
52	AUTOPILOT	17.004	2.91
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-
61	HF COMMUNICATIONS	4.507	0.77
62	VHF COMMUNICATIONS	0.538	-
63	UHF COMMUNICATIONS	5.114	0.88
64	INTERPHONE	1.454	0.25
65	IFF	2.361	0.40
66	EMERGENCY COMMUNICATIONS	3.026	0.52
69	MISC. COMMUNICATIONS	-	-
71	RADIO NAVIGATION	14.062	2.40
72	RADAR NAVIGATION	32.094	5.50
91	EMERGENCY EQUIPMENT	-	-
96	PERSONNEL EQUIPMENT	-	-
97	EXPLOSIVE DEVICES	-	-
*99	MISC.	351.951	60.25
	TOTAL	584.127	-

*NOTE: MISC. INCLUDES ITEMS FROM ALL SYSTEMS WHERE NO MATCH COULD BE MADE BETWEEN NSN/WUC

TABLE 5 C-130E GROUND SUPPORT EQUIPMENT (TYPICAL UNIT)

NOMENCLATURE	QUANTITY ASSIGNED	ESTIMATED OPERATING HOURS PER MONTH	UNIT COST
MD-3	36	225	$12,000.00
NF-2 Light	17	50	2,730.00
MC-1A Airc	6	25	4,032.00
MC-2A Airc	9	50	2,964.00
MA-1A GTC	6	3	24,308.00
H-1 Heater	36	250 Oct-Mar 0 Apr-Sep	2,542.00
MJ-1 Hyd Test St	1	1	11,774.00
AF/M27M-1 Jacking Manifold	2	30	6,677.00
HDU/13M Heater	2	120 Summer 0 Winter	3,796.00
MA-8 Air Cond	1	300 Summer	14,258.00
MC-7 Air Comp	1	5	5,376.00
MD-4 Mtr Gen	4	250 AMS	- -
MB-8 Air Comp	1	720	3,262.00
AM24T-8	2	60	11,794.00

LEVEL	INSPECTION	INTERVAL
ORGANIZATIONAL	PREFLIGHT	BEFORE FIRST FLIGHT OF THE DAY
	THRUFLIGHT	BETWEEN FLIGHTS WHEN FLIGHT IS TO BE CONTINUED AND BASIC POSTFLIGHT IS NOT REQUIRED
	BASIC POSTFLIGHT	AFTER THE LAST FLIGHT OF THE FLYING PERIOD
	PHASE/ISOCHRONAL	300 HOURS (ANG)/ISOCHRONAL BASED ON UTILIZATION
	SPECIAL INSPECTIONS	ACCOMPLISHED AT ACCRUAL OF SPECIFIED NUMBER OF FLYING HOURS OR LAPSE OF CALENDAR TIME
DEPOT	PROGRAMMED DEPOT MAINT (PDM)	24 AND 36 MONTHS
ORGANIZATIONAL	CONTROLLED INTERVAL EXTENSION (CIE)	42 AND 48 MONTHS
DEPOT	ANALYTICAL CONDITION INSP (ACI)	IN CONJUNCTION WITH PDM

FIGURE 12 C-130E MAINTENANCE AND INSPECTION PROGRAMS

were not discernible as some became part of other tasks. For a recent time period of C-130E data, only 1.21% of the total organizational tasks were identifiable as corrosion which in turn represented only .85% of the total aircraft system maintenance manhours.

The data system does allow for the identification of corrosion tasks and manhours but accurate reporting requires time and effort to separate and record the corrosion part of any repair task.

RELIABILITY DATA

Reliability as defined in AFM 11-1, Volume I [11] is: "The probability that a system, subsystem, or equipment will perform a required function under specified conditions, without failure for a specified period of time." This section of the report covers the statistical results via various parameters of components that did not meet that criteria.

The resultant analysis of processed AFM 66-1 data, both actual and normalized, has been divided into five major categories: a) organizational and intermediate failures, b) components repaired off base or NRTS, c) components condemned, d) material mission aborts, and e) percent of failures via when discovered. The first three categories are shown by system via three breakouts: a) per 1,000 flight hours, b) percent distribution, and c) per sortie. The fourth category has these same breakouts with an additional display of aborts via ground and flight per 1000 flight hours.

The fifth category required the grouping of both organizational and intermediate failures into four separate"when discovered"divisions: a) before flight, b) in-flight, c) between flight, and d) during an inspection. As with all categories/divisions within this report the definition of terms explicitly defines the respective makeup of codes used to arrive at the term.

Since specialized processing was required for this fifth category distribution and the normalization process would not lend meaningful results only the most current year was analyzed. Table E-1, Appendix E, displays the results by system.

Tables E-2 through E-4 display the failure statistics; E-5 through E-7 the components repaired off base or NRTS, E-8 through E-10 the condemned components; and E-11 through E-14 the material mission aborts.

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[11] AFM 11-1, Volume I, USAF Glossary of Standardized Terms.

Following the same pattern as in the maintenance section, only those tables that require additional explanation or contain significant anomalies will be discussed.

Failures - Airframe (11)

During 1974, the failures in this system had a very significant increase over 1973, slightly over 100%, as indicated in Table E-2. Four major areas: cargo, wing in-board, nacelles, and doors (paratroop, main landing gear, crew) accounted for almost 54% of this increase. The primary malfunction modes were loose or missing bolts-nuts-screws and cracks. These types of malfunctions are indicative of wear out, as the C-130E was 13 years old in 1974. Although the rate did drop 28% the following year (1975), the rate is holding higher than the 15-year average value.

Failures - Air Conditioning, Pressurization (41)

The failure rate in this system for 1974 increased almost 95% over 1973, as shown in Table E-2. The major areas: engine anti-ice, bleed air, and cargo and flight compartments air conditioning controls accounted for 40% of the increase. Specifically, the ice detector probe, bleed air valves and filter, thermostat, blower motor, and temperature control box in the compartment air conditioning were the primary failure components. The significant feature with these failures, was that all had the same basic malfunction modes of broken or dirty. The resultant fix, which is not discernible from the data, was effective as the rate decreased the following year to a pre-1974 value.

Condemned Components

Components condemned are those that no longer perform their intended function and are either throw aways or are not presently economical to repair. Three systems: cockpit and fuselage (12), turbo prop power plants (22), and miscellaneous utilities (49), surfaced as the major change systems in Table E-8. Respectively, these systems increased 459% (1974 to 1975), 220% (1973 to 1974), and 114% (1973 to 1974). Further analysis of the data revealed that troop seats, cargo securing equipment, thermocouple and harnesses, and sun visors were the major contributors. Considering the previous years of operation and resultant use, these types of replacements would be expected. In all systems, the condemned value decreased significantly the following year.

Components Repaired Off Base

Components that are repaired off base result from one of several reasons: specifically prohibited, lack of parts or trained technicians or technical data, excess to base requirements, backlog, etc. Analysis of Table E-5, Appendix E, does show some fluctuation from one year to the next within a given system but no major anomalies. This semi-stable condition is probably the result of policy changes, revised manning, or supply fulfillment that corrects the problem.

SAFETY DATA

C-130E aircraft safety data were obtained from the Air Force Inspection and Safety Center (AFISC/SER) Norton AFB, California. The AFISC Computerized Aircraft Accident/Incident File contains detailed accident reports including narrative descriptions back to 1962 on all USAF aircraft accidents. In addition, AFISC has other historical safety records in various configurations.

The Air Force Safety Center provided complete C-130E accident information that covered the entire 1962 through 1976 time period. The information was provided in computer listing format including the narrative descriptions. The accident data provided was analyzed and three summary tables were developed: (1) Table 7 reflects the C-13CE flight accidents and rates per 100,000 flying hours for 1962-1976; major/minor/total accidents; fatal accidents; and aircraft damage categories of destroyed/major/minor are reflected. (2) Table 8 shows the C-130E flight accidents by type, and includes a distribution of the various types of accidents for 1962-1976. (3) Table 9 contains the C-130E flight accidents by phase and includes a distribution of the total accidents by the various phases of flight for 1962-1976.

The safety aspect of this study was limited to C-130E flight accidents and not the other areas normally associated with the term safety, such as policy, procedures, etc. During the 15 years being studied, the total C-130E accidents numbered 70 for a 2.0 per 100,000 flying hour (FH) rate. Coincidentally, this was split 50-50 between major and minor. A total of 21 aircraft were destroyed for a rate of 0.6 per 100,000 FH, 15 sustained major damage, .43 rate, and 35 with minor damage, 1.0 rate. This sum is one greater than the number of accidents as one C-130E was destroyed that was not counted as an accident, because it was the second aircraft and the principle aircraft was charged with the accident.

A distribution of the type of accidents revealed collision (all kinds) for 39 percent and landing (all kinds) 28 percent as the two major contributors. For phase of operation, landing, as would be expected, accounted for 59 percent alone.

TABLE 7 C-130E FLIGHT ACCIDENTS SUMMARY AND RATES PER 100,000 FLYING HOURS

		1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	TOTAL 15 YEARS
MAJOR ACCIDENTS:	NUMBER	0	1	2	2	6	6	4	4	2	1	4	1	4	0	0	36
	RATE	-	1.2	0.9	0.6	1.1	1.4	1.3	1.6	0.8	0.4	1.8	0.5	2.4	-	-	1.0
MINOR ACCIDENTS:	NUMBER	0	-	1	6	5	5	3	2	3	2	3	3	1	0	1	36
	RATE	-	-	0.4	1.7	1.1	1.4	1.0	0.8	1.2	0.8	1.4	1.6	0.6	-	0.6	1.0
ALL ACCIDENTS. (MAJOR AND MINOR)	NUMBER	0	1	3	8	10	10	7	6	5	3	7	4	5	0	1	70
	RATE	-	1.2	1.3	2.3	2.2	2.8	2.3	2.4	2.0	1.2	3.2	2.1	3.0	-	0.6	2.0
FATAL ACCIDENTS:	NUMBER	0	0	0	1	2	1	1	2	2	1	3	1	1	0	0	15
	RATE	-	-	-	0.3	0.5	0.3	0.3	0.8	0.8	0.4	1.4	0.5	0.6	-	-	0.3
AIRCRAFT DAMAGED/ DESTROYED AIRCRAFT:	NUMBER	0	1	0	1	2	3	2	2	2	1	*1	1	2	0	0	21
	RATE	-	1.2	-	0.3	0.5	0.8	0.7	0.8	0.8	0.4	1.8	0.5	1.2	-	-	0.6
MAJOR DAMAGE:	NUMBER	0	0	2	1	3	2	2	2	0	0	1	0	2	0	0	15
	RATE	-	-	0.9	0.3	0.7	0.6	0.7	0.8	-	-	0.5	-	1.2	-	-	0.43
MINOR DAMAGE:	NUMBER	0	0	1	6	5	5	3	2	3	2	3	3	1	0	1	36
	RATE	-	-	0.4	1.7	1.1	*1.4	1.0	0.8	1.2	0.8	1.4	1.6	0.6	-	0.6	1.0

*1 ACFT DESTROYED WAS A SECOND ACFT IN A MID AIR COLL. AND WAS NOT CHARGED WITH AN ACCIDENT.

TABLE 8 C-130E FLIGHT ACCIDENTS SUMMARY BY TYPE OF ACCIDENT

TYPE ACCIDENT	1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		TOTAL 15 YEARS	
	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%	NR	%
LOSS OF DIRECTIONAL CONTROL (GROUND)							1	11	1	10	3	30			1	14	1	13			1	13			1	14					9	11
WHEELS UP LANDING					1	25															1	33									2	3
HARD LANDING					1	25	1	11	1	10	1	10	2	29									2	40	2	29					10	17
LANDING GEAR COLLAPSE OR RETRACT									1	10															1	14					2	3
UNINTENTIONAL					2	50	2	22							1	14			1	33											6	7
COLLISION WITH GROUND OR WATER									2	20	3	30	1	14			2	25	1	33	1	13	3	60	2	29			1	100	16	20
AIRCRAFT COLLISION IN THE AIR																					1	13									1	1
OTHER COLLISION			1	100			2	22	2	20	1	10	1	14	3	43	1	13			2	25			1	14					14	18
FIRE OR EXPLOSION (GROUND)							1	11	3	30	2	20	1	14			2	25													9	11
FIRE OR EXPLOSION (IN FLIGHT)													1	14					1	33	1	13									3	4
SPIN OR STALL							1	11							1	14	1	13													3	4
AIRFRAME FAILURE																	1	13			1	13									2	3
OTHER							1	11					1	14	1	14															3	4

NOTE: THERE CAN BE UP TO THREE DIFFERENT TYPE ACCIDENTS CODED INTO EACH ACCIDENT RECORD THEREFORE TOTALS OF TYPE ACCIDENT CATEGORIES BY YEAR CAN BE GREATER THAN THE TOTAL NUMBER OF ACCIDENTS.

TABLE 9 C-130E FLIGHT ACCIDENTS BY PHASE OF OPERATION

PHASE OF FLIGHT	1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		TOTAL 15 YEARS	
	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S	AR	S
ENGINES RUNNING NOT TAXIING							1	13			1	10					1	20													3	4
TAXIING			1	100					2	20	1	10									1	14			1	20					6	9
TO TAKEOFF			1	100					1	10											1	14			1	20					4	6
FROM LANDING									1	10	1	10																			2	3
OTHER																																
TAKEOFF											1	10	1	14	1				1	33					1	20					5	7
ROLL													1	14	1																2	3
INITIAL CLIMB																			1	33					1	20					2	3
DISCONTINUED											1	10																			1	1
INFLIGHT							1	13	2	20			1	14	1		2	40			2	29	2	50	1	20					12	17
NORMAL							1	13	1	10							2	40			2	29									6	9
LOW LEVEL FLIGHT									1	10					1								2	50	1	20					5	7
DESCENT													1	14																	1	1
LANDING					3	100	6	75	5	50	7	70	6	71	4		2	40	2	67	2	29	2	50	2	40			1	100	41	59
APPROACH											1	10	1	14	2				1	33	2	29									7	10
FLAREOUT					3	100	4	50	2	20	4	40	3	43	1				1	33			1	25	1	20			1	100	21	30
ROLL							2	25	3	30	2	20	1	14	1		2	40					1	25	1	20					13	19
GO AROUND									1	10											2	29									3	4
PREMEDITATED (TOUCH & GO)									1	10											2	29									3	4
UNPREMEDITATED (FULL STOP INTENDED)																																

HUMAN RESOURCES

SCOPE OF DATA AND INFORMATION SEARCH

Data search and acquisition of historical C-130E human resource data encompassed: a) Operations and maintenance manpower profiles (officers, enlisted, and civilian personnel), b) extant USAF Air Force Specialty Code (AFSC) and skill level distribution patterns, c) distributions of assigned C-130E maintenance personnel profiles within all C-130 Military Tactical Airlift Wing work centers (e.g., Organizational, Field, and Avionics Maintenance Squadrons), d) USAF C-130E training histories, e) C-130E operational flight crew and maintenance manloading ratios per unit of equipment (UE), and f) attained formal educational profiles of Air Force officer and enlisted personnel.

Resident/technical training profiles and costs, germane to the C-130 weapon system were not acquired. Archival data contained in the Military Personnel Center (MPC), (Randolf AFB, Texas), automated repositories, were not acquired due to prohibitive data assemblage and printing costs. Further, additional data not acquired for the reason stated above included: a) Lists of total active federal military service times of C-130 officer and enlisted personnel, and b) governmental courses of record completed by AFSC category.

Attempts were made to acquire these historical data via other sources during field trips to operational Military and Tactical Airlift Wings within CONUS, viz: a) 62nd Military Airlift Wing, McChord AFB, Washington, b) 314th Tactical Airlift Wing, Little Rock AFB, Arkansas, and c) 317th Tactical Airlift Wing, Pope AFB, North Carolina.

Extensive data were acquired from the 3785th Field Training Group, USAF School of Applied Aerospace Sciences, Sheppard AFB, Texas. This included C-130A/H FTD training production reports (up to 27 months) encompassing monthly summaries of students graduated per month and numbers of training hours completed.

C-130E OPERATIONS AND MAINTENANCE MANPOWER

Operations and maintenance manpower data of assigned personnel were collected via field trips to: a) McChord AFB, Washington, b) Little Rock AFB, Arkansas, and c) Pope AFB, North Carolina. This included acquisition of the numbers of flight officers and enlisted personnel assigned per C-130E aircraft as well as numbers of officers, enlisted and civilian personnel assigned under the local Deputy Commander for Maintenance (DCM). Maintenance manpower assigned under the DCM were acquired, collated, and analyzed by work center from monthly Maintenance Digest reports (RCS-MAC-LGX-M 7103) emanating from the 314th

Tactical Airlift Wing, Little Rock AFB, Arkansas, and the 317th Tactical Airlift Wing, Pope AFB, North Carolina. Figure 13 provides an illustrative compendium of how these Maintenance Digest reports were used in establishing assigned manpower factors per C-130E aircraft, hereafter referred to as Unit of Equipment or UE. The collection and statistical protocol utilized throughout this phase of analyses is shown in Appendix F.

Manloading constants derived from the 11 months of Little Rock and Pope AFB Maintenance Digest reports (RCS-MAC-LGX-M 7103), served as the basis for developing projected manpower profiles based upon numbers of possessed C-130E aircraft during the years of 1962 through 1976. Projected annual maintenance manpower results for officers, enlisted (all skill levels) and civilian personnel are contained in Table 10. Personnel weight factors (constants) per UE are also reflected in this table.

Estimated numbers of flight crews encompassing Pilots (AFSC 1055B), Co-pilots (AFSC 1053B); Navigators (AFSC 1545G), Flight Engineers (AFSC 113X0A), and Loadmasters (AFSC 114X0), were developed via actual aircraft flying hours accrued per day during the entire 15 year period (1962-1976). Operational flight crew compositions and numbers were predicated on the following:

Condition	Crew Ratio/UE
1. C-130E Flying Hour Rate per day - - - Less than 4.0 hours/day.	2.0
2. C-130E Flying Hour Rate per day - - - 4.0 to 4.9 hours/day.	2.5
3. C-130E Flying Hour Rate per day - - - 5.0 hours plus per day.	3.0

Table 11 and Figures 14 and 15 depict operational flight crew numbers, total personnel numbers and numbers of personnel by AFSC during the 1962-1976 time period.

C-130 FIELD TRAINING DETACHMENT (FTD) PRODUCTIONS

Data acquired from the 3785th Field Training Group, USAF School of Applied Aerospace Sciences, Sheppard AFB, Texas provided the only Air Force training data baseline defined during this study phase. Field Training Detachment Production data (ATC Form 396A) encompassing six C-130 FTD's and three Mobile Training Teams (MTT's) were collated, analyzed, and entered into table format as depicted in Table 12.

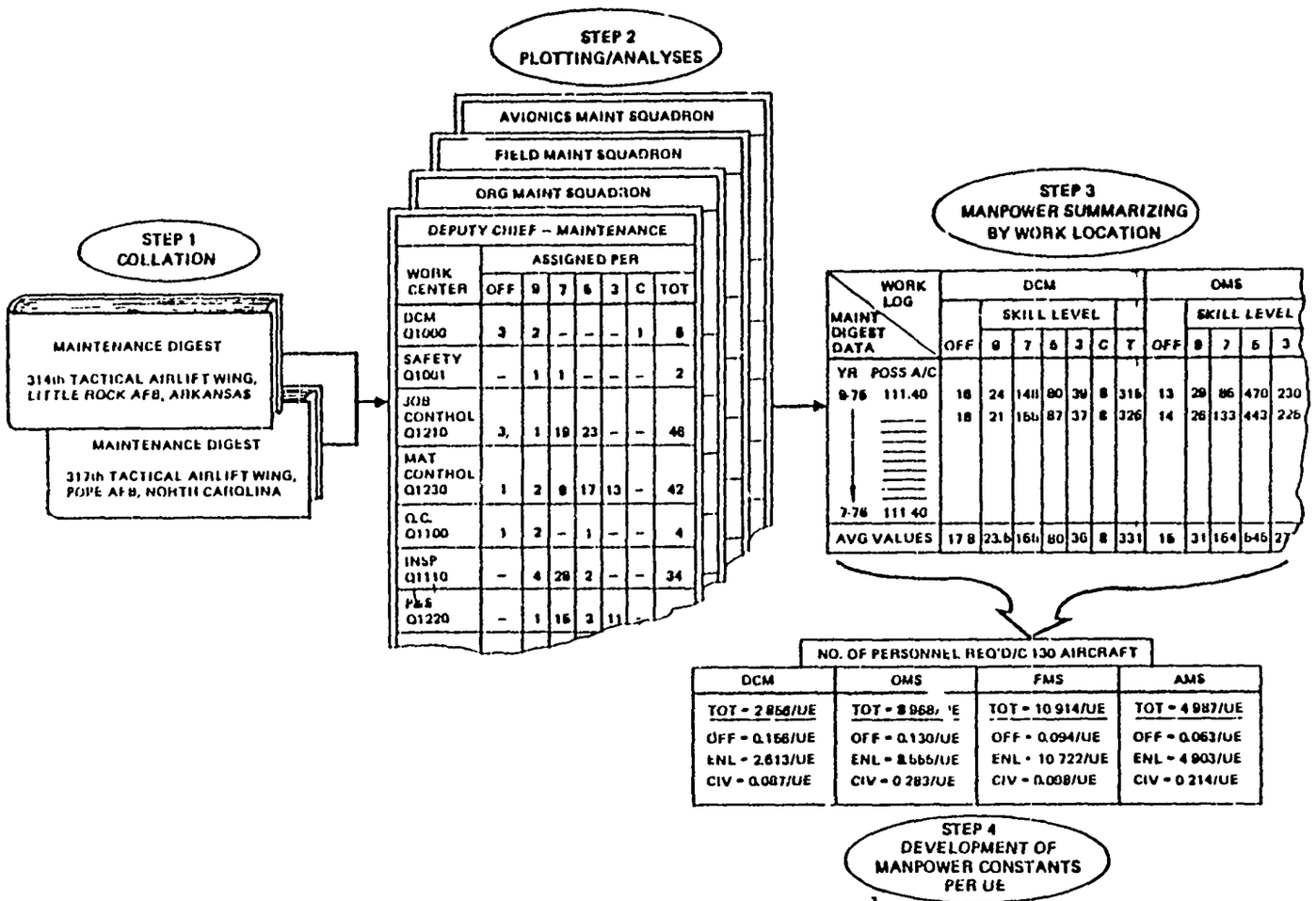

FIGURE 13 C-130E MAINTENANCE MANPOWER DATA ACQUISITION AND ANLAYSES METHODOLOGY

TABLE 10 C-130E ASSIGNED MAINTENANCE MANPOWER PROFILES - (LITTLE ROCK AFB, ARKANSAS AND POPE AFB, NORTH CAROLINA)

LRAFB, ARK & PAFB, N.C.

MAINT. DIGEST REPORT DATE / WORK CENTER LOCATION	AIRCRAFT POSSESSED	1000 D C M								2000 O M S								3000 P M S								4000 A M S								WORK CENTER TOTALS	UE FACTOR * (FLEET WIDE)
		OFFICER	9 LEVEL	7 LEVEL	5 LEVEL	3 LEVEL	CIVILIAN	TOTAL	TOTAL W/O OFFICER/CIV	OFFICER	9 LEVEL	7 LEVEL	5 LEVEL	3 LEVEL	CIVILIAN	TOTAL	TOTAL W/O OFFICER/CIV	OFFICER	9 LEVEL	7 LEVEL	5 LEVEL	3 LEVEL	CIVILIAN	TOTAL	TOTAL W/O OFFICER/CIV	OFFICER	9 LEVEL	7 LEVEL	5 LEVEL	3 LEVEL	CIVILIAN	TOTAL	TOTAL W/O OFFICER/CIV		
1975 SEPTEMBER	111.40	16	24	148	80	39	8	315	291	13	29	86	470	230	30	858	815	11	24	184	670	304	12	1208	1182	7	15	97	298	145	0	555	548	2933	26.33
OCTOBER	108.90	18	21	155	87	37	8	326	308	14	26	133	443	225	38	879	827	10	24	179	699	305	10	1227	1207	3	16	88	292	143	1	543	539	2975	27.31
NOVEMBER	116.00	18	19	159	85	37	8	326	308	16	23	139	470	248	29	925	878	10	19	174	703	284	10	1200	1180	6	23	110	309	138	0	586	580	3037	26.18
DECEMBER	115.70	19	20	159	89	37	8	332	305	16	27	137	476	278	30	964	918	10	20	183	751	268	10	1242	1222	7	22	101	300	132	0	569	562	3107	26.85
1976 JANUARY	102.90	17	19	171	91	40	8	346	321	14	28	151	555	196	29	973	930	10	29	203	768	250	9	1269	1250	8	22	105	309	122	0	566	558	3154	30.65
FEBRUARY	112.10	18	20	156	75	43	8	336	290	15	32	159	639	200	29	1074	1030	12	31	142	807	253	8	1303	1283	8	21	108	334	96	2	569	559	3262	29.09
MARCH	121.40	16	21	162	90	43	8	340	316	15	32	157	656	202	29	1091	1047	12	30	175	767	232	8	1224	1204	8	21	108	340	93	0	570	562	3325	26.66
APRIL	110.60	19	24	162	102	36	8	351	324	15	32	152	642	232	30	1103	1058	10	30	184	789	249	8	1270	1252	7	21	104	324	107	0	563	556	3287	29.72
MAY	117.20	19	25	162	83	36	8	333	306	15	32	154	627	252	29	1109	1065	11	28	185	766	252	5	1247	1231	7	22	99	321	107	3	556	549	3213	27.67
JUNE	124.60	19	12	194	50	24	8	327	300	15	41	274	503	233	29	1095	1051	11	41	298	577	187	8	1222	1203	8	24	148	331	76	0	567	559	3211	25.77
JULY	111.10	17	11	196	55	24	8	333	308	15	40	268	523	260	29	1135	1091	11	41	306	687	174	8	1227	1208	9	25	140	313	89	0	576	566	3271	29.44
	X VALUES	17.8	21.5	165.6	80.6	35.8	7.8	331.2	309.5	14.8	31.1	164.5	645.8	232.4	30.1	1018.7	973.6	10.7	28.8	205.7	734.9	250.7	8.7	1239.6	1220.2	7.1	21.1	110.8	313.1	113.5	0.27	565.5	558.0	3155.0	27.72
		X UE Factor DCH = 297.4 / 111.80 = 2.613								X UE Factor DMS = 973.6 / 113.80 = 8.555								X UE Factor FMS = 1220.2 / 113.80 = 10.722								X UE Factor AMS = 558.0 / 113.80 = 1.903									
	Enlisted Personnel	2.613 DCH Enlisted Personnel per Aircraft								8.555 DMS Enlisted Personnel per Aircraft								10.722 FMS Enlisted Personnel per Aircraft								4.903 AMS Enlisted Personnel per Aircraft									
	Officer Personnel	0.156 Officers per Aircraft								0.130 Officers per Aircraft								0.094 Officers per Aircraft								0.063 Officers per Aircraft									
	Civilian Personnel	0.087 Civilians per Aircraft								0.283 Civilians per Aircraft								0.098 Civilians per Aircraft								0.0214 Civilians per Aircraft									
		Total UE Ratio = 2.856								Total UE Ratio = 8.968								Total UE Ratio = 10.914								Total UE Ratio = 4.987									
*Derivation = Total Personnel By Mx. / No. of C-130 Possessed		2.856 Per./UE								8.968 Per./UE								10.914 Per./UE								4.987 Per./UE									

Σ = 27.725 Personnel per UE

Σ = 27.725 Maintenance Personnel per UE

TABLE 11 PREDICTED C-130E OPERATIONAL FLIGHT CREW PERSONNEL PROFILES - 1962-1976

YEAR	NO. OF UE POSSESSED	UTE RATE		CREW RATIO	NO. OF CREWS	TOTAL NO. OF PERSONNEL	CREW COMPOSITION (BY AFSC)				
		HRS/ MO.	HRS/ DAY				1055B	1053B	1545G	113X0A	114X0
1962	11	190	6.333	3.0	33	165	33	33	33	33	33
1963	83	83	2.766	2.0	166	830	166	166	166	166	166
1964	226	85	2.833	2.0	452	2260	452	452	452	452	452
1965	315	92	3.066	2.0	630	3150	630	630	630	630	630
1966	295	126	4.200	2.5	737.5	3687	738	738	737	737	737
1967	291	105	3.500	2.0	582	2910	582	582	582	582	582
1968	279	93	3.100	2.0	558	2790	558	558	558	558	558
1969	289	74	2.466	2.0	578	2890	578	578	578	578	578
1970	304	67	2.233	2.0	608	3040	608	608	608	608	608
1971	323	64	2.133	2.0	646	3230	646	646	646	646	646
1972	298	61.5	2.050	2.0	596	2980	596	596	596	596	596
1973	293	54.2	1.806	2.0	586	2930	586	586	586	586	586
1974	295	48.0	1.600	2.0	590	2950	590	590	590	590	590
1975											
1976	297	46.2	1.540	2.0	594	2970	594	594	594	594	594

1. Crew ratio of 2.0 crews per aircraft:
   a) UTE rate of less than 4.0 hours per day per aircraft - crew ratio = 2.0
2. Crew ratio of 2.5 crews per aircraft:
   a) UTE rate of no greater than 4.9 hours per day per aircraft nor less than 4.0 hours per day per aircraft
3. Crew ratio of 3.0 crews per aircraft:
   a) UTE rate of equal to or greater than 5.0 hours per day per aircraft

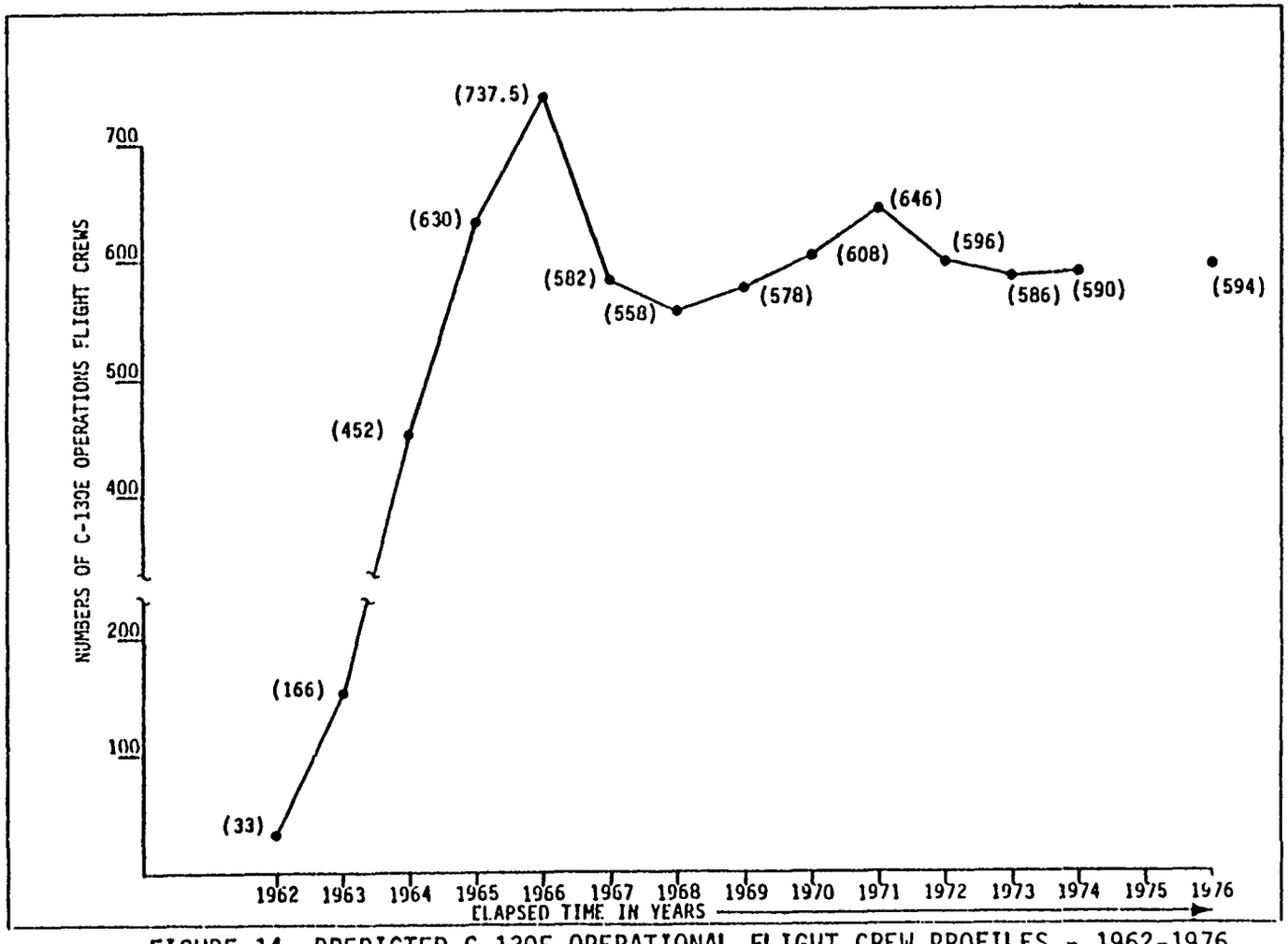

FIGURE 14 PREDICTED C-130E OPERATIONAL FLIGHT CREW PROFILES - 1962-1976

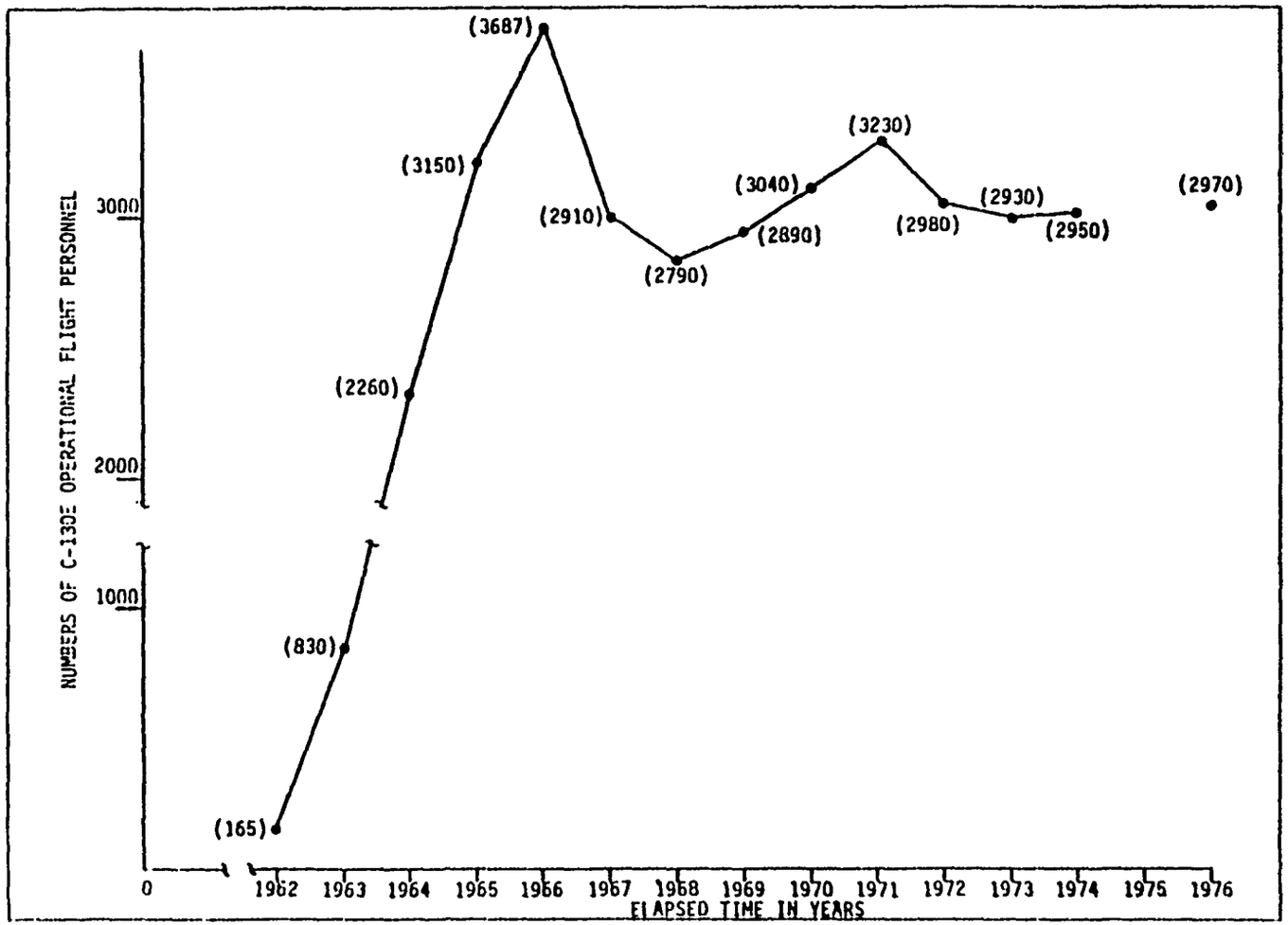

FIGURE 15 PREDICTED C-130E OPERATIONAL FLIGHT CREW PERSONNEL PROFILES - 1962 - 1976

TABLE 12 NEAR TERM FTD TRAINING HISTORIES

FTD TRAINING PROD. / YEAR AND MONTH		1 001 MOBILE TRAINING TEAM		2 002-MOBILE TRAINING TEAM		3 009 MOBILE TRAINING TEAM		4 201 LANGLEY AFB, VIRGINIA		5 215 POPE AFB, NORTH CAROLINA		6 310-ERAFB ARKANSAS		7 327-EGLIN AFB AUX #9, FLORIDA		8 417-DYESS AFB, TEXAS		9 425 ELLINGTON AFB, TEXAS		
		GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS/ MO. HRS/ MO.
1	JUL							99	3355	158	5232	86	3433	88	3235	77	5965	37	2014	90.8/3872
9	AUG	134	7330	93	5177			111	3536	113	4056	106	2712	135	4741	63	1828	19	971	96.7/3869
7	SEP	84	5119	69	3466			101	3042	103	4190	135	3049	39	2201	28	846	12	386	71.4/3016
4	OCT	43	2122	60	3558			88	3414	117	4397	150	5261	53	1663	55	2362	32	1562	75.5/3029
	NOV	25	1566					140	4452	135	4826	46	3069	99	2182	24	733	39	1688	73.1/2645
	DEC							119	4102	111	4876	89	4050	55	2300	66	2514	37	1246	79.5/3181
	JAN							93	3200	104	3442	141	6822	92	2385	62	2366	35	1572	88.0/3498
	FEB							89	3048	139	4174	63	3636	124	4324	93	3200	70	3182	96.3/3594
	MAR							112	3986	81	3558	72	3986	37	2808	66	4194	63	2405	75.1/3489
	APR					23	1371	82	3314	130	5954	117	6041	42	2148	115	6043	78	3128	83.9/4000
1	MAY					13	1002	54	1864	135	6032	132	6684	53	2190	88	4595	66	2066	75.9/3490
9	JUN					16	1014	45	2324	107	5196	100	4481	64	2803	47	1910	44	2269	63.1/2832
7	JUL																	22	1230	22.0/1230
6	AUG																	81	4050	81 0/4050
	SEP									63	3306							27	1050	45 0/2178
	OCT									66	4042	109	6824	166	5916	81	2482	60	2844	96.4/4401
	NOV									45	2452	87	3626	84	3331	45	1409	60	2557	68.2/2715
	DEC									103	5206	99	6018	83	4096	75	4024	43	1962	60.6/4277
	JAN									117	5404	98	3556	105	3813	108	3380	26	919	90 8/3414
	FEB									188	5281	125	6507	106	3479	120	3002	61	2536	118.0/4161
	MAR									151	5106	182	7307	118	6056	111	3251			140.5/5200
1	APR									103	5074	173	7225	199	7016	107	5229			145.5/6148
9	MAY									124	5411	155	7108	132	4444	83	2869			123 5/4953
7	JUN									90	5096	75	2261	74	2873	69	2335			77.0/4406
6	JUL									73	3465	152	2705	56	1034	77	3675			89.0/4195
	AUG									58	4320	146	6728	62	2214	24	1042			67.5/4286
	SEP			98	3908							133	6313	59	2210	104	3375			98.5/3952

0.288 Graduates/UE/Month (297 A/C for 1976)
12.48 Training Hrs/UE/Month

GRDS 85 65/ 3707 HRS.

0.288 Graduates/ Month per C 1311 UE = 2.40 HRS/UE/ Month

X Graduates per Class/FTD = 85.65/Month or 1,027/Yr.

Y Hrs. expended per month = 3,707 Hrs. over a 27 month period (per FTD location) (44,484 Hrs/Yr)

Historical data depicting numbers of graduates and total student hours per month were plotted against each of the aforementioned FTD/MTT designated areas. Mean values of numbers of airman graduates and student hours per month were established for the periods of July 1974 through September 1976. Resultants values, viz, average numbers of student graduates per month, coupled with average numbers of student hours expended per month were used to estimate FTD training profiles for the years of 1962 through 1976.

MAINTENANCE MANPOWER RESOURCES

Discrete numbers of officer, enlisted and civilian personnel assigned to the C-130E operational weapon system were derived on a Unit Equipment (UE) basis. Table 10, depicts the numbers of officers, enlisted and civilians contained within each major work location (viz: DCM, OMS, etc.). It further illustrates the mean numbers of maintenance personnel within each major location during the period of September 1975 through July 1976. Resultant calculations show that an average of 27.72 maintenance personnel were required per possessed aircraft (merging of Little Rock and Pope AFB data). The numbers of maintenance personnel per C-130E aircraft was further defined into those proportional values of personnel required at the DCM, OMS, FMS and AMS work locations, namely: 1) DCM factor 2.856 personnel/UE; 2) OMS - 8.968 personnel/UE; 3) FMS - 10.914 personnel/UE; and 4) AMS - 4.987 personnel/UE. (Total = 27.72 personnel/UE.)

The relative participating grade-in-rank (officer, enlisted and civilian personnel) constituting each of the maintenance personnel/UE factors noted above are annotated below:

Officer/Enlisted/Civilian Personnel Category	Personnel Weight Factor Per C-130E Aircraft
o Officer Personnel-All Work Centers------	0.442 Personnel/UE
o Enlisted Personnel	
Skill Level 9-All Work Centers -------	0.918 Personnel/UE
Skill Level 7-All Work Centers -------	5.679 Personnel/UE
Skill Level 5-All Work Centers -------	14.714 Personnel/UE
Skill Level 3-All Work Centers -------	5.557 Personnel/UE
o Civilian Personnel-All Work Centers ----	0.412 Personnel/UE
Total =	27.722 Maintenance Personnel/UE

These personnel weight constants above, enabled the development of estimates of total maintenance personnel required by year (1962-1976) based upon the numbers of C-130E aircraft possessed during each of the 15 year period. Table 13 and Figure 16 provide synopses of estimated numbers of maintenance personnel required to maintain and control the C-130E weapon system. These numbers derived via this methodology then served as the basis for developing officer, enlisted and civilian pay and allowances per each of the 15 years (1962-1976). Those results are reflected in Task VI - Life Cycle Cost Analysis.

OPERATIONS MANPOWER RESOURCES

Manpower resource estimates/profiles of C-130E flight crews consisting of five AFSC's per crew were derived. This included: a) Pilot - AFS 1055B, b) Co-pilot - AFS 1053B, c) Navigator - AFS 1545G, d) Flight Engineer - AFSC 113X0A, and e) Loadmaster - AFSC 114X0. Refer to Table II and Figures 14 and 15 for estimated numbers of operational flight crews and concomitant numbers of officer and enlisted personnel profiles extant within the C-130E weapon system during the 1962 through 1976 time period. An average crew ratio of 2.0 per C-130E aircraft was used to determine operation crew manpower loading with the following exceptions. Crew ratios of 3.0 and 2.5 were used during the years of 1962 and 1966, respectively, as the utilization rate, i.e., flying hours per day exceeded 4.0. C-130E weapon system utilization rates previously depicted (Table 11) were derived from AFM 65-110, "Standard Aerospace Vehicle and Equipment Investory, Status, and Utilization Reporting." Back in Figures 14 and 15 are the obvious by-modal points of 1966 and 1971. The former modal point is largely due to the high C-130E utilization rate of 4.2 hours/aircraft per day at an estimated crew ratio of 2.5 per aircraft. The 1971 modal point is due solely to the large numbers of possessed C-130E aircraft during this period (namely 323) at the standard crew ratio of 2.0 per aircraft.

Analyses of these data indicate a general leveling off of flight crew Air Force Specialty Codes (AFSC's) between 1973 and 1976. The numbers of C-130 flight crews and resultant total numbers of AFSC's were reduced by approximately 8.0% (260 personnel - 52 crews) since 1971. An associated aircraft flight utilization rate per day during this same period has undergone a 27.80% reduction. The reported daily flight utilization rate of 4.2 hours/day during the 1966 time period reflects the resultant operations manpower profile buildups during 1966. A total of 444,283 C-130E flying hours were logged in 1966 with an averaged possessed level of 295 C-130E aircraft. More flying hours/UE were logged at this time than any years prior to or subsequent to this time period.

TABLE 13 C-130E ESTIMATED MAINTENANCE MANPOWER PROFILES (OFFICERS ENLISTED AND CIVILIAN PERSONNEL) (1962-1976)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	E'
	POSSESSED AIRCRAFT = 11	POSSESSED AIRCRAFT = 83	POSSESSED AIRCRAFT = 226	POSSESSED AIRCRAFT = 316	POSSESSED AIRCRAFT = 296	POSSESSED AIRCRAFT = 291	POSSESSED AIRCRAFT = 270	POSSESSED AIRCRAFT = 291	POSSESSED AIRCRAFT = 304	POSSESSED AIRCRAFT = 323	POSSESSED AIRCRAFT = 296	POSSESSED AIRCRAFT = 298	POSSESSED AIRCRAFT = 293	POSSESSED AIRCRAFT = 296	POSSESSED AIRCRAFT = 296	POSSESSED AIRCRAFT = 297	PERSONNEL WT. FACTOR PER AC
0 OFFICERS	4.84	36.666	99.09	130.23	130.20	128.42	123.12	127.74	134.37	142.77	131.71	131.71	129.606	130.30	130.832	131.27	0.442
0 ENLISTED PERSONNEL																	
0 SKILL LEVEL 9	10.890	76.194	207.630	289.170	270.810	267.130	256.122	265.362	279.072	296.814	273.564	273.564	268.178	270.810	271.730	272.646	0.918
0 SKILL LEVEL 7	62.469	431.367	1,182.484	1,700 686	1,675.304	1,662.589	1,564,441	1,641.831	1,726.416	1,834.317	1,692.342	1,692.342	1,663.847	1,675.306	1,680.984	1,686.663	5.679
0 SKILL LEVEL 6	181.854	1,221.262	3,326.364	4,634.81	4,340.630	4,281.774	4,106.266	4,282.346	4,473.864	4,752.622	4,364.772	4,364.772	4,311.282	4,340.630	4,365.344	4,370.058	14.714
0 SKILL LEVEL 3	81.127	461.231	1,256.88	1,710.416	1,630.318	1,617.067	1,550.483	1,606.973	1,680.328	1,796.911	1,646.986	1,646.986	1,630.801	1,630.316	1,644.072	1,650.429	6.557
0 CIVILIAN PERSONNEL	6.832	34.196	93.112	179.760	121.540	119.092	116.940	119.068	125.248	133.076	122.776	122.776	120.716	121.640	121.962	122.364	0.412
	306	2,303	6,265	8,732	8,178	8,068	7,733	8,011	8,426	8,965	8,262	8,262	8,118	8,178	8,206	8,233	27.722 Per-sonnel/ AC

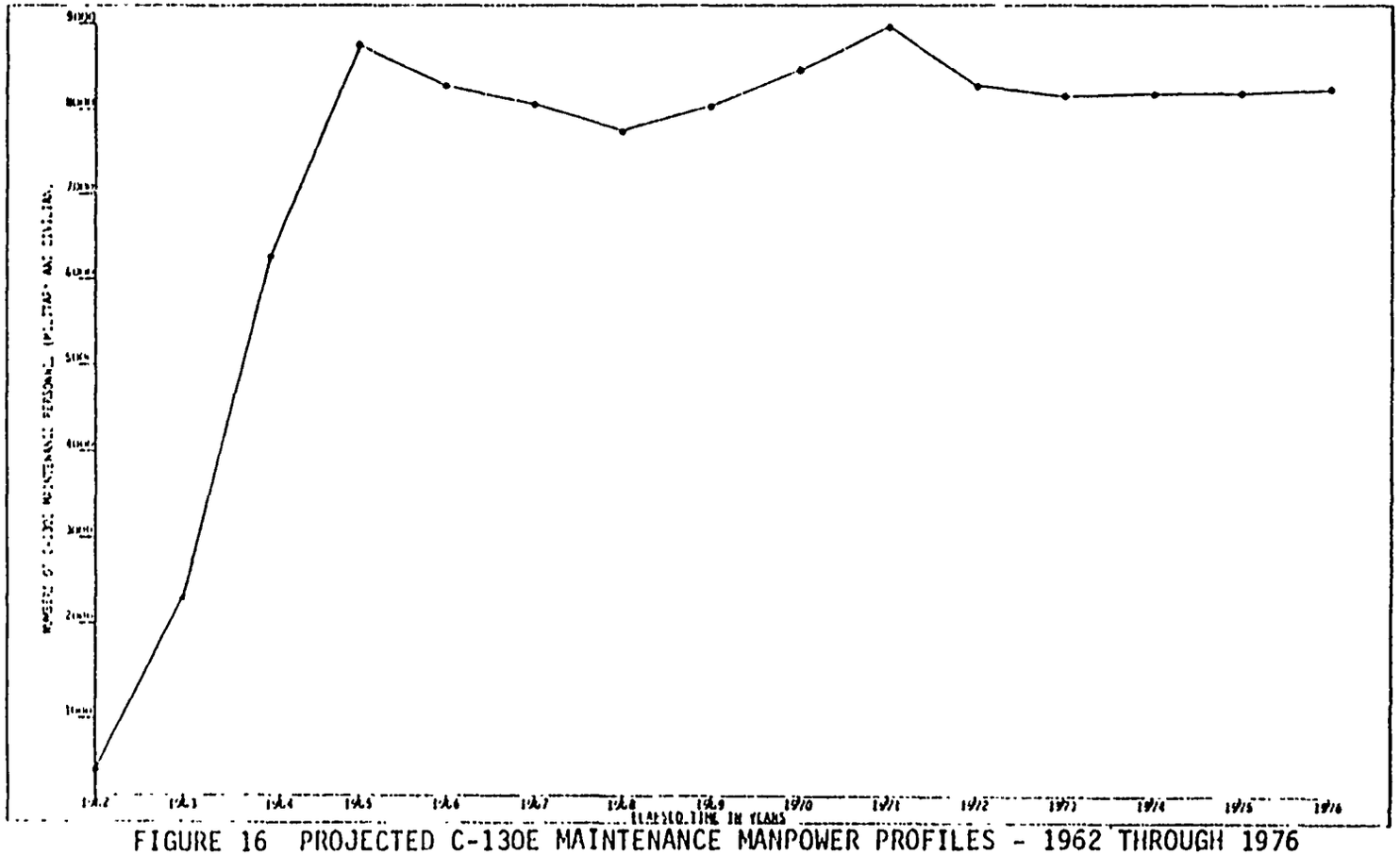

FIGURE 16 PROJECTED C-130E MAINTENANCE MANPOWER PROFILES - 1962 THROUGH 1976

Training (Field Training Detachments) - C-130

Analytical results from the FTD histories, were previously discussed (Table 12). Data acquired within the periods of July 1974 through September 1976 demonstrated that six C-130 FTS's and three Mobile Training Teams (MTT's) experienced an overall average of 85.65 enlisted graduates per month (each FTD/MTT), at an average monthly expenditure rate of 3707 trainee hours. These factors, used as parametric (constant) values, served as the statistical baseline for determining historical monthly and yearly C-130 FTD trainee and hour profiles during the 1962-1976 time period. These experience data enable definition of the following estimates:

TABLE 14 C-130 FIELD TRAINING DETACHMENT GRADUATES/ TRAINEE HOUR ESTIMATES

ITEM/NOMENCLATURE	MONTHLY VALUES	YEARLY VALUES
1. Trainee Graduates/FTD	85.65 Trainees	1 028 Trainees
2. Trainee Hrs/FTD	3,707 Hrs.	44,484 Hrs.
3. CONUS FTD's Profiles		
• CONUS FTD GRD's	513.90 Trainees (FTD GRDS/Mo) X (6)	6,167 Trainees (FTD GRDS/Mo) X(6)X (12)
• CONUS FTD Trainee Hrs.	22,242 Hrs. (Trainee Hrs/FTD) X (6)	266,904 Hrs. (Trainee Hrs/FTD) X (6) X (12)
Where: 6 = No. of C-130 FTD's within CONUS 12 = No. of Months per Year		

The estimated expenditure of 266,904 FTD trainee hours (all C-130 models) is the equivalent to 142.576 man years. (1872 hrs = 1 man year.) The C-130E fleet of 297 aircraft in 1976 constitutes 45 percent of the total C-130 weapon system (models AC-130A/H through WC-130H). This proportional value (0.45) when applied to the estimated annual FTD trainee factor of 266,904 trainee hours reduces the C-130E 1976 FTD trainee value to 120,107 trainee hours expended to graduate 2,775 C-130E maintenance and support personnel at an average rate of 231 graduates/ month.

Educational Background

Data provided to the Boeing Experience Analysis Center (EAC) by the Computational Sciences Division, Air Force Human Resources Laboratory, Air Force Systems Command (Lackland AFB, Texas), were used to establish the raw score/proportional distributions of 13 educational levels achieved by maintenance officers classified within three Air Force Specialty (AFS) categories and enlisted personnel classified under 30 AFS categories. The following summarizes the officer and enlisted AFS personnel wherein USAF world wide educational background data were acquired.

AFSC	NOMENCLATURE
- Officer Personnel	
1. 4016/4036/4616	Aircraft Maint. Staff Officer
2. 4024/4044	Aircraft Maint. Officer
3. 4096	Deputy Commander for Maintenance
- Enlisted Personnel	
1. 324X0	Precision Measuring Equipment Specialist/Technician
2. 325X0	Automatic Flight Control Systems Specialist/Technician
3. 325X1	Avionics Instruments Systems Specialist/Technician
4. 32591	Auto Flight Control/Avionics Instruments Systems Superintendent
5. 328X0	Avionics Communications, Systems Specialist/Technician
6. 328X1	Avionics Navigations System Specialist/Technician
7. 328X4	Avionics Inertial and Radar Navigation Systems Specialist/ Technician
8. 32894	Avionics Communications-Navigation Systems Superintendent
9. 341X3	Trainers, Simulator, Analog Flight
10. 341X4	Trainers, Simulator, Digital Flight
11. 341X6	Digital Navigation/Tactics Training Devices
12. 34198	Trainers, Superintendent
13. 423X0	Aircraft Electrical Repairman/ Technician
14. 423X1	Aircraft Environmental Systems Specialist/Technician
15. 423X2	Air Crew Egress Systems

AFSC	NOMENCLATURE
- Enlisted Personnel (cont'd)	
16. 423X3	Aircraft Fuel Systems Specialist/ Technician
17. 423X4	Aircraft Pneudraulic Systems
18. 423X5	Aerospace Ground Equipment
19. 42395	In-Flight Refueling Systems Superintendent
20. 426X0	Aircraft Propeller Systems Specialist/Technician
21. 426X2	Jet Engine Specialist/Mechanic/ Technician
22. 42692	Jet Engine Superintendent
23. 431X1F	Aircraft Maintenance Specialist/ Repairman/Technician (Turbo-Prop Aircraft)
24. 43191	Aircraft Maintenance Superintendent
25. 531X0	Machinist
26. 531X1	Metals Processing Specialist/ Technician
27. 531X3	Airframe Repair Specialist/ Technician
28. 531X4	Corrosion Control Specialist/ Technician
29. 531X5	Non-Destructive Inspection Specialist/Technician
30. 53195	Metal Working Superintendent

Education histories of the 30 enlisted AFSC personnel encompassed 11 years (June 1966 through June 1976). Educational levels achieved by three officer AFSC's encompassed the 15 year reporting period June 1962 through June 1976. (Reference Tables 15, 16, and 17.)

Educational Backgrounds - Officer Personnel

Data contained in Tables 15 and 16 reflect the following:

1. 34.4% more maintenance officer personnel presently hold bachelor degrees than existed in 1962.

   a. 1962 Bachelors' Degree = 26.229%
   b. 1976 Bachelors' Degree = 60.637%

2. 20.03% more maintenance officer personnel presently hold master's degree's than existed in 1962.

   a. 1962 Masters' Degree = 2.247%
   b. 1976 Masters' Degree = 22.278%

TABLE 15 OFFICER PERSONNEL - RAW SCORE DISTRIBUTIONS

REPORT PERIOD \ ACADEMIC LEVELS	NON-U.S. GRAD.	U.S. GRAD.	U.S. GRAD WITH LESS 1 YR COL.	1 YR COL.	2 YR COL.	3 YR COL.	4 YR COL.	ASSOC. DEGREE	BACH. DEGREE	POST GRAD. WORK	MASTERS DEGREE	MASTERS & POST GRAD.	DOCTORIAL DEGREE	TOTAL PERSONNEL	AFSC's
June - 1962	45	2383	--	745	1097	604	--		1809	65	155	--	4	6897	4016, 4024, 4096
June - 1963	29	2175	--	638	995	564			2075	68	137	--	2	6683	4016, 4024, 4096
June - 1964	21	1919	--	631	949	572			2721	177	165	--	6	7161	4016, 4024, 4096
June - 1965	19	1594	--	580	818	483			2930	132	195	1	6	6758	4016, 4024, 4096
June - 1966	22	1355	--	517	705	403	60		3247	109	231	3	3	6645	4016, 4024, 4096
June - 1967	3	1102	--	446	618	344	60		3843	125	240	10	1	6792	4016, 4024, 4096
June - 1968	3	948	--	387	539	279	89		4095	214	297	10	2	6863	4016, 4024, 4096
June - 1969	1	784	23	335	478	237	81		4022	189	334	9	4	6497	4016, 4024, 4096
June - 1970	1	559	21	265	366	170	55		3975	173	375	6	6	5972	4016, 4024, 4096
June - 1971	2	349	27	182	245	118	31		3599	180	386	2	1	5122	4016, 4024, 4096
June - 1972	1	284	13	167	223	101	27		3087	170	438	2	1	4519	4016, 4024, 4096
June - 1973	--	211	20	146	184	77	25		2711	194	472	1	4	4045	4016, 4024, 4096
June - 1974	--	156	19	116	143	58	30	2	2494	166	511	5	3	3703	4016, 4024, 4096
June - 1975	--	117	14	77	109	53	21	5	2328	221	624	8	1	3578	4016, 4024, 4096
June - 1976	--	84	16	61	86	46	12	7	2055	267	755	4	6	3389	4016, 4024, 4096

* No degree achieved after completing 4th college year.

TABLE 16 PROPORTIONAL DISTRIBUTIONS - USAF OFFICER PERSONNEL EDUCATION BACKGROUNDS

REPORT PERIOD \ ACADEMIC LEVEL	NON H.S. GRAD.	H.S. GRAD.	H.S. GRAD. WITH LESS 1 YR COL.	1 YR COL.	2 YR COL.	3 YR COL.	* 4 YR COL.	ASSOC. DEGREE	BACH. DEGREE	POST GRAD. WORK	MASTERS DEGREE	MASTERS & POST GRAD.	DOCTORIAL DEGREE	TOTAL PROP.	POPULATION SIZE
JUNE - 1962	.00652	.34551	-----	.10802	.15905	.08757	-----	-----	.26229	.00797	.02247	------	.00058	100%	6897
June - 1963	.00434	.32645	-----	.09547	.14889	.08439	-----	-----	.31049	.01018	.02050	------	.00030	100%	6683
June - 1964	.00293	.26798	-----	.08812	.13252	.07988	-----	-----	.37997	.02472	.02304	------	.00084	100%	7161
June - 1965	.00281	.23587	-----	.08582	.12104	.07147	-----	-----	.43356	.01953	.02885	.00015	.00089	100%	6758
June - 1966	.00331	.20391	-----	.07780	.10609	.06065	.00752	-----	.48864	.01640	.03476	.00045	.00045	100%	6645
June - 1967	.00044	.16225	-----	.06567	.09099	.05065	.00883	-----	.56581	.01840	.03534	.00147	.00015	100%	6792
June - 1968	.00044	.13813	-----	.05639	.07854	.04065	.01297	-----	.59668	.03118	.04328	.00146	.00029	100%	6863
June - 1969	.00015	.12067	.00354	.05155	.07357	.03648	.01247	-----	.61905	.02909	.05141	.00139	.00062	100%	6497
June - 1970	.00017	.09360	.00352	.04437	.05129	.02847	.00921	-----	.66561	.02897	.06279	.00100	.00100	100%	5972
June - 1971	.00039	.06814	.00527	.03553	.04783	.02304	.00605	-----	.70266	.03514	.07536	.00039	.00020	100%	5122
June - 1972	.00022	.06285	.00398	.03696	.04935	.02235	.00597	-----	.68312	.03762	.09692	.00044	.00022	100%	4519
June - 1973	-----	.05216	.00494	.03609	.04549	.01904	.00618	-----	.67021	.04796	.11669	.00025	.00099	100%	4045
June - 1974	-----	.04213	.00513	.03133	.03862	.01566	.00810	.00054	.67351	.04483	.13800	.00135	.00081	100%	3703
June - 1975	-----	.03270	.00391	.03270	.03046	.01481	.00587	.00140	.65064	.06177	.17440	.00224	.00028	100%	3578
June - 1976	-----	.02479	.00531	.01505	.02538	.01357	.00354	.00207	.60637	.07878	.22278	.00118	.00177	100%	3389
Trend(s)	↓	↓	→	↓	↓	↓	↓	—	↑	↑	↑	→	↗		↓

* No degree achieved after completing 4th college year.

3. Educational levels achieved by maintenance officer personnel as of 1976 have dramatically increased when compared to June 1962.

4. Significantly fewer high school graduates hold officer commissions in the USAF than was the case throughout the 1960's and early 1970's.

5. USAF policy changes and/or extant practices clearly demonstrate a dramatic shift toward college matriculated personnel as resources for future maintenance officer positions.

Table 16 provides a compendium of reported data acquired between the periods of 1962 through 1976. This table provides a more comprehensive summary of educational trends as reported in proportional values. Arrows (➘ ▲) contained in Table 16 (bottom page) reflect the general 15 year educational trends apparent within data provided by the Computational Sciences Division, Air Force Human Resources Laboratory, Air Force Systems Command. The nature/types of degrees earned by these officer personnel are not known.

In summary, definite increases in achieved academic levels have occurred between 1962 and 1976. However, caution must be taken when correlating increased academic levels of achievement with skills. Further, dichotomous entries reflecting achieved academic levels can not be used to reflect improvements in abilities to communicate, calculate, analyze, etc. as the explicit natures of educational training were not known.

Educational Backgrounds - Enlisted Personnel

Enlisted personnel educational histories protrayed in Table 17 enable formulation of the following possible assumptions:

1. Selective enlistment of AF cadres has reduced the numbers of non-high school graduates that are accepted into the USAF.

2. Proportional numbers of high school graduates accepted into the USAF in 1976 is comparable to that observed in 1965.

3. Proportionately larger numbers of enlisted personnel are receiving some undergraduate training (1976) than were reported in 1966. (1 through 4 years of college training.)

4. Proportionately more enlisted personnel are matriculating with bachelor degrees than in previous years.

NOTE: The type/nature of degrees is not known.

TABLE 17 EDUCATIONAL LEVELS - ENLISTED PERSONNEL (33 AFSC'S)

EDUCATION LEVELS / REPORTING PERIOD	NON H.S. GRADS	H.S. GRADS	H.S. GRADS W/LESS 1 COL.Y	UNDER GRAD. EDUCATION				ASSOC. DEGREE	BACH. DEGREE	POST GRAD WORK	MASTERS DEGREE	MASTERS & POST GRAD WORK	DOCTORAL DEGREE	TOTALS
				1 YR.	2 YRS.	3 YRS.	4 YRS.							
June - 1965	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June - 1966	5,311	83,174	-	3,725	1,695	385	196	-	196	1	4	-	53	94,740
June - 1967	4,324	91,760	-	5,255	2,386	589	282	-	282	7	7	-	11	104,903
June - 1968	3,177	92,155	-	5,190	2,234	627	452	-	452	16	8	-	13	104,524
June - 1969	2,850	87,582	202	4,939	2,506	659	683	-	595	28	6	1	12	100,063 (99,975)*
June - 1970	2,324	79,515	657	4,268	2,306	578	804	-	699	23	14	2	11	91,204 (91,099)*
June - 1971	2,340	71,337	891	3,621	2,163	514	909	-	779	23	28	3	3	82,611 (82,481)*
June - 1972	2,491	67,494	1,166	3,291	2,012	495	855	-	712	19	30	-	-	78,565 (78,422)*
June - 1973	2,487	61,692	1,198	2,752	1,678	397	665	-	531	13	17	-	-	71,430 (71,296)*
June - 1974	1,490	58,123	1,377	2,592	1,461	356	516	27	391	15	19	1	-	66,368 (66,243)*
June - 1975	1,205	54,984	2,042	2,668	1,449	391	546	52	428	14	22	-	-	63,001 (63,683)*
June - 1976	908	50,932	1,684	3,036	1,551	394	552	184	457	34	22	7	6	59,767 (59,672)*

RANGES OF ENLISTED PERSONNEL (1966-1976) - 59,672 - 104,524
*Values in parenthesis denote total enlisted personnel minus (-) difference between number of personnel that completed 4 years of college and those receiving bachelors degrees.

Although data show that achieved educational levels of enlisted personnel are on the increase, analysts are unable to make a concomitant conclusion that abilities to communicate, problem solve, read, analyze, and correct have also increased.

MATERIAL RESOURCES DATA

Material resource consumption is an extremely large contributor to the life cycle costs of USAF weapon systems. Data collected and analyzed as part of this study identify the types of material resources utilization data available for review and study on the C-130E aircraft.

Information Search

A thorough search for material resource consumption data was conducted. This included visits to various Air Force headquarters, Air Logistic Centers, and bases assigned C-130E aircraft; a review of all published literature such as documents, descriptive studies and reports that could be obtained; and a screening of Air Force data collection systems. Historical data searched covered C-130E actual or validated material resources utilization for the period of 1962 through 1976. During the search and screening for usable data and/or statistics, it became abundantly clear that little C-130E identified material resource consumption data were available and desired information would be difficult to obtain. It was also discovered that the Air Force did not have a system that, for the years of this study, provided C-130E total base level and depot level material resources expenditures. The data that were available appeared in cost format thus compounding the requirement that cost structures, categories, elements and accounts be thoroughly understood and identified. Identity to the C-130E weapon system, ensuring total cost/expenditure involvement and providing a basis for historical analysis of consumption of C-130E related material resources are major problems. Therefore, only fragments of data were available from Air Force Management Systems that could be used. Comments and discussions are made on each of these categories in subsequent paragraphs.

USAF Operating and Support Cost Reporting (OSCR) System

Table 18 provides a thorough breakdown of the $123M expended for material resources during FY-1975. Both base and depot level expenditures of supplies, contractual, and other costs are shown. Of the $640 per FH indicated, $442 per FH (includes $300 for POL) was expended at base level and $197 per FH was required for depot level operations. The three greatest expenditure areas within the depot level operations were AFLC Depot Maintenance Accessory Costs ($82 per FH), airframe costs to include PDM ($42 per FH) and the depot operations recurring investment costs ($41 per FH). Since this is a relatively new system this type of data is only available for FY 75 and later. (Refer to Appendix "G" for detail discussion of the OSCR system.)

TABLE 18 C-130E FY75 OPERATING AND SUPPORT COSTS (LESS PERSONNEL AND TRAINING)

	SUPPLIES		CONTRACT		OTHER		TOTAL	
	FY75 TOTAL COST ($)	COST ($) PER FH	FY75 TOTAL COST ($)	COST ($) PER FH	FY75 TOTAL COST ($)	COST ($) PER FH	FY75 TOTAL COST ($)	COST ($) PER FH
BASE LEVEL OPERATIONS								
FLYING OPERATIONS	60,871,953	315.98	-	-	-	-	60,871,953	315.98
WEAPON SYS. MAINT.	12,512,427	64.95	-	-	-	-	12,512,427	64.95
BASE LEVEL DOS	5,656,880	29.36	2,956,841	15.35	3,252,450	16.88	11,866,171	61.60
TOTAL BASE LEVEL	79,041,260	410.29	2,956,841	15.35	3,252,450	16.88	85,250,551	442.52
DEPOT LEVEL OPERATIONS								
AFLC DEPOT MAINT.								
AIRFRAME (INCL.PDM)	223,625	1.16	4,629,656	24.03	3,298,727	17.12	8,152,008	42.32
ENGINES	677,025	3.51	-	-	972,205	5.05	1,649,230	8.56
ASSESSORIES	7,803,711	40.92	1,440,054	7.48	6,398,446	33.21	15,722,211	81.61
ELECT. & COMM.	1,301,338	6.76	126,991	0.66	992,811	5.15	2,421,140	12.57
ARMAMENT	309	0.002	-	-	602	0.00	911	0.005
GROUND SPT	-	-	21,944	0.11	-	-	21,944	0.11
TOTAL AFLC DPT. MT.	10,006,008	52.35	6,218,645	32.28	11,662,791	60.54	27,967,444	145.17
DEPOT OPERATIONS								
RECURRING INVEST.	-	-	-	-	7,921,192	41.12	7,921,192	41.12
AFC DOS	339,961	1.76	812,840	4.22	154,801	0.80	1,307,602	6.79
AFC DIRECTORIES	-	-	-	-	460,165	2.39	460,165	2.39
SECOND BEST TRANS.	-	-	-	-	471,449	2.45	471,449	2.45
TOTAL DPT OPS	339,961	1.76	812,840	4.22	9,007,607	46.76	10,160,408	52.74
TOTAL DPT LEVEL	10,425,969	54.12	7,031,485	36.50	20,670,398	107.30	38,127,852	197.92
TOTAL BASE LEVEL AND DPT LEVEL OPS COSTS (LESS PERS & TRNG)	89,467,229	464.41	9,988,326	51.85	23,922,848	124.18	123,378,403	640.44

USAF Standard Base Level Maintenance Cost System (MCS)

The Executive Management Summary Report as outlined in AFM 177-380 [12] and as described in Appendix "H" provides a current month and cumulative to date capsule of labor, material and other miscellaneous cost data by various cost categories for organizational and intermediate maintenance levels. During the search for material resources data, the 317th TAW's Pope Air Force Base Executive Management Summary Reports for July 1975 through December 1976 were obtained. Throughout the period covered by the above reports, the C-130E was the prime aircraft assigned at Pope Air Force Base. Therefore, it is assumed that the data reflects C-130E utilization.

Table 19, reflects data extracted from portions of the material section of the reports. The table shows a monthly comparison of: a) Material costs both direct and indirect, and b) total dollar value of material consumed broken down by WBS. By using the monthly flying hours, the material cost and dollar value of material consumed per flying hour for each month can also be compared. Readjustments were made to purge data not belonging in the various reports of the system and to adjust the costs within the WBS (Work Breakdown Structure) for MDS (Mission, Design, Series) as well as Non MDS. This is reflected in the Oct., Nov. and Dec. 1976 cost figures of Table 19.

The comparative cost data contained in Table 19, provide the basis for factors used in developing a comparison of estimated yearly material costs and consumption values from 1962 through 1976 for base level. By using data contained in the Oct. through Dec. 1976 reports, factors per flying hour were developed and applied to the number of flying hours each year. This in turn provided an estimated yearly comparison of material costs and dollar values broken down by WBS for base level C-130E material costs. Using these same elements and type costs the C-130E Material Costs and Material Consumption By WBS (1962 through 1976) are displayed in Table 20. No attempt was made at this time to deflate the 1976 cost figures used. The average yearly material costs amounted to $93M with the years 1965 through 1968 accounting for considerably more than the average. The dollar value of material consumed by WBS averaged $77M yearly of which $71M was MDS costs. The dollar value of material consumed by WBS does not include any contractor maintenance costs.

It is planned that in the future the maintenance cost system as described in AFM 177-380 [12] will be interfaced with the operating and support cost reporting (OSCR) system to provide this type of data after FY-1977.

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[12] AFM 177-380, USAF Standard Base Level Maintenance Cost System, 20 July 1976.

TABLE 19 C-130E MATERIAL CONSUMPTION AND COSTS - 317th TAW POPE AFB
(BASE LEVEL MAINTENANCE COST SYSTEM)

	1975						1976												JUL'75-SEP'76 MONTHLY AVERAGE	OCT-DEC'76 MONTHLY AVERAGE	REMARKS
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
FLYING HOURS	1,550	1,677	2,022	1,689	1,103	1,570	1,461.8	1,496.8	2,488.3	1,730.7	1,765.4	2,392.9	1,753.5	1,846.6	1,932.6	1,761.1	1,575.4	1,963.7	1,760.99	1,767.73	USED OCT-DEC 1976
POSSED AIRCRAFT (AVG)	59.8	46.0	44.1	41.6	34.8	36.7	32.9	32	46.5	41.2	35.9	45.3	35.6	32.9	45.1	41.9	35.3	44.7	40.83	40.63	AVERAGE COST PER FH AS
																					FACTOR IN DEVELOPING
MATERIAL COST ($)																					TABLE C-130E
DIRECT MATERIAL	393,996	417,577	429,193	315,934	316,549	348,902	383,146	124,103	433,607	452,104	363,487	559,580	455,974	472,231	607,575	476,112	612,977	629,044	298,191	38,777.6	MATERIAL COSTS AND
INDIRECT MATERIAL	46,735	55,665	70,369	71,869	53,771	70,832	68,412	29,597	56,713	57,795	58,663	107,087	63,818	77,150	94,748	93,371	96,498	98,809	65,548	96,126.3	MATERIAL CONSUMPTION
TOTAL MATERIAL COST	440,731	473,242	499,562	387,803	369,320	419,734	451,558	153,700	490,220	509,899	422,150	666,667	519,792	602,323	567,383	667,383	609,475	727,853	463,239	34,903.6	BY WBS (1962-1976)
MATERIAL COST PER FH ($)																					SOURCE, ORG. AND
DIRECT MATERIAL	254.19	264.48	212.26	187.05	286.74	222.23	262.11	82.91	174.27	261.23	205.87	233.85	260.04	255.73	262.64	268.87	325.62	320.34	227.04	304.94	INTERMEDIATE MAINT.,
INDIRECT MATERIAL	30.15	35.30	34.80	42.55	45.45	45.16	46.80	19.77	22.79	33.39	33.23	44.76	36.39	41.78	49.03	52.76	61.25	50.32	37.42	54.78	EXECUTIVE MANAGEMENT
TOTAL MATERIAL COST PER FH	284.34	300.09	247.06	229.61	312.19	267.35	308.97	102.69	197.01	294.62	239.10	278.60	296.43	297.51	311.67	321.63	386.87	370.66	264.46	359.72	SUMMARY, 317th TAW
																					POPE AFB, NC.
MATERIAL CONSUMED (BY WBS)																					
WBS																					
AIRCRAFT																					
TOTAL $ VALUE	266,616	291,357	242,070	188,572	198,814	239,237	257,055	69,545	271,906	285,550	218,216	373,830	225,447	261,823	263,737	94,518	70,321	100,668	242,918	48,501.0	
$ VALUE PER FH	172.01	187.97	119.72	111.65	168.06	152.38	175.85	39.78	109.27	164.99	123.59	156.22	128.57	141.79	136.47	5.68	44.64	51.26	139.22	49.8	
AIRFRAME																					
TOTAL $ VALUE	18,011	6,017	10,974	8,867	13,728	7,187	14,630	3,892	16,785	11,478	11,696	12,949	10,608	12,758	15,231	18,724	11,774	19,265	11,640.4	16,587.6	
$ VALUE PER FH	11.62	3.62	5.43	5.25	11.60	4.58	10.01	2.47	6.75	6.63	6.62	5.41	6.05	6.91	7.88	11.63	7.47	9.81	6.74	9.3	
ENGINE																					
TOTAL $ VALUE	3,501	1,934	2,380	10,173	8,160	3,841	10,461	3,090	15,670	6,611	6,466	7,234	3,782	2,721	9,376	59,398	49,324	138,636	6,586.66	42,455.7	
$ VALUE PER FH	2.25	1.13	1.18	6.02	6.90	2.45	7.43	2.06	6.30	3.82	3.66	3.02	2.16	1.47	4.85	33.67	31.31	70.60	3.74	45.1	
ACCESSORIES																					
TOTAL $ VALUE	48,962	60,742	120,445	48,030	41,729	35,196	49,727	23,010	50,770	70,277	50,969	67,255	113,982	120,382	98,161	72,361	118,096	144,935	6,641.80	11,812.6	
$ VALUE PER FH	31.58	30.52	59.57	28.44	35.27	22.42	33.68	15.37	20.40	40.61	28.87	28.32	65.00	65.19	50.79	41.02	74.96	73.81	37.64	61.6	

TABLE 19 C-130E MATERIAL CONSUMPTION AND COSTS - 317th TAW POPE AFB (BASE LEVEL MAINTENANCE COST SYSTEM) (CONT.)

	1975						1976													JUL '75-SEP '76 MONTHLY AVERAGE	OCT-DEC '76 MONTHLY AVERAGE
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
ELECTRONICS																					
TOTAL $ VALUE	31,198	22,647	30,863	34,065	24,226	47,522	38,864	8,566	61,279	27,683	39,621	60 802	47,834	42,063	47,112	192,621	210,884	163,299		[illegible].66	88,934.6
$ VALUE PER FH	20.26	16.36	15.26	20.37	20.48	30.27	26.89	5.71	24.63	15.98	22.44	25.41	27.28	22.79	24.44	109.19	133.86	83 16		21 0	108.4
AGE																					
TOTAL $ VALUE	692	24	-	-	283	126	83	-	7	70	-	3	732	130	-	-	-	-		141.73	-
$ VALUE PER FH	0.45	0.02	-	-	0.24	0.08	0.04	-	0.003	0.04	-	-	0.42	0.07	-	-	-	-		0.09	-
NON-MDS																					
SUPPLY SUPPORT																					
TOTAL $ VALUE	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	854	26,738	6,854		-	11,382 0
$ VALUE PER FH	-	-	-	-	-	-	-	-	-	-	-	-	-	0.006	-	0.31	16.97	3 49		-	6 4
CEM																					
TOTAL $ VALUE	223	866	824	112	76	61	7	4	-	3	-	-	114	-	-	20,309	18,175	6,654		145.9	15,046 0
$ VALUE PER FH	0.14	0.65	0.41	0.07	0.06	0.03	5	0 003	-	0.002	-	-	0.07	-	-	11.51	11.54	3 39		0 09	8 5
AGE																					
TOTAL $ VALUE	9,698	9,689	8,614	7,987	6,525	6,581	6,069	7,167	14,518	14,331	10,650	14,964	6,898	7,734	10,173	9,795	5,339	7,114		10,012 1	7,429 3
$ VALUE PER FH	6.26	6.14	4.26	6.73	5.52	4.19	4.15	4.79	5.83	8.28	6.03	6.25	3.93	4.19	9 16	5.55	3.41	3 62		5 60	4 2
OTHER																					
TOTAL $ VALUE	14,461	16,010	11,945	15,698	21,990	8,074	6,491	10,846	1,867	33,497	3,246	5,292	20,999	1,757	31,114	3,653	-	16,981		11,006 6	6,878 0
$ VALUE PER FH	9.33	10.15	5.91	9.29	18.59	5.11	3.73	12.59	0.75	19.35	1.84	2.21	11.94	0.95	16 05	2 07	-	8 65		6 5	3.6

TABLE 20 C-130E MATERIAL COSTS AND MATERIAL CONSUMPTION BY MDS (1962-1976) (1)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	AVERAGE (2)
FLYING HOURS	18,800 (5)	82,27((5)	231,069	347,008	444,283	366,609	310,609	255,373	245,153	246,9'9	220,070	190,734	169,867	170,360	164,653	258,667
MATERIAL COSTS ($) (3)																
DIRECT MATERIAL	5,732,872	25,088,634	70,462,181	105,816,620	135,479,650	111,793,748	94,717,108	77,873,443	74,756,956	75,313,776	67,168,146	58,162,426	51,799,843	51,948,878	50,178,792	78,877,821
INDIRECT MATERIAL	1,029,864	4,506,970	12,657,960	19,009,098	24,337,823	20,082,841	17,015,161	13,989,333	13,429,481	13,529,810	12,055,435	10,448,409	9,305,314	9,332,321	9,014,213	14,169,762
TOTAL MATERIAL COST	6,762,734	29,595,604	83,120,141	124,825,718	159,817,481	131,876,589	111,732,269	91,862,776	88,186,437	88,843,586	79,163,581	68,610,835	61,104,157	61,281,899	59,193,005	93,047,583
MATERIAL CONSUMED BY MDS (TOTAL $ VALUE) (3)																
MDS																
AIRCRAFT	836,804	4,099,713	11,614,168	17,291,409	22,138,622	18,268,126	15,477,646	12,725,237	12,215,874	12,306,964	10,966,088	9,504,275	8,464,473	8,489,039	8,199,676	15,189,361
AIRFRAME	376,840	765,168	2,148,942	3,227,174	4,131,832	3,409,464	2,880,664	2,376,969	2,279,923	2,296,906	2,046,661	1,773,826	1,579,763	1,584,348	1,530,343	2,406,600
ENGINE	849,572	3,717,962	10,482,008	15,681,292	20,077,149	16,567,061	14,036,421	11,540,306	11,078,464	11,160,981	9,946,963	8,619,269	7,676,290	7,698,568	7,436,160	11,689,148
ACCESSORIES	1,189,286	5,204,653	14,677,425	21,951,726	28,106,343	23,191,685	19,649,125	16,154,896	15,508,379	15,623,892	13,921,628	12,065,833	10,745,786	10,776,974	10,409,823	16,365,256
ELECTRONICS	2,044,312	8,946,475	25,226,483	37,733,660	48,311,333	39,845,063	33,776,623	27,769,260	26,657,937	26,856,496	23,930,412	20,740,415	18,471,338	18,524,946	17,893,493	28,127,416
MDS TOTAL	5,194,814	22,733,951	64,148,986	96,886,251	122,764,279	101,301,399	85,827,479	70,566,668	67,740,677	68,245,238	60,809,742	52,703,618	46,937,650	48,073,875	45,469,585	71,474,780
NON MDS																
SUPPLY SUPPORT	121,872	529,845	1,486,084	2,234,732	2,861,183	2,360,962	2,000,322	1,644,602	1,578,785	1,590,645	1,417,261	1,228,327	1,093,943	1,097,118	1,059,721	1,665,813
CEM	159,988	700,..2	1,966,397	2,953,038	3,780,848	3,119,843	2,643,283	2,173,224	2,086,252	2,101,791	1,872,796	1,623,146	1,445,568	1,449,764	1,400,346	2,278,177
AGE	78,960	345,651	976,458	1,467,434	1,865,989	1,539,758	1,304,558	1,072,887	1,029,643	1,037,312	924,..94	801,083	713,441	715,612	691,123	1,031,554
OTHER	73,132	320,846	898,858	1,349,865	1,728,261	1,426,109	1,208,269	993,401	953,645	960,748	856,172	741,955	660,783	662,700	640,111	1,006,214
NON-MDS TOTAL	433,152	1,895,694	5,323,629	7,995,069	10,236,281	8,446,672	7,156,432	5,883,794	5,648,325	5,690,394	5,070,..13	4,396,611	3,913,735	3,925,094	3,791,301	5,981,758
TOTAL MATERIAL CONSUMED BY MDS	5,627,968	24,629,545	69,172,8'	180,320	133,000,560	109,748,071	92,983,911	76,448,462	73,389,002	73,935,634	65,880,155	57,098,129	50,851,385	51,998,969	49,260,586	77,456,538

(1) UTILIZES COST PER FH FACTOR FR.. ..E 6
C-130E MATERIAL CONSUMPTION AND L .. - 317th TAW POPE AFB

(2) YEARLY AVERAGE DOES NOT INCLUDE 1962 and 1963 DATA

(3) USED 1976 $ CONSTANTS WITH NO ATTEMPT TO DEFLATE TO "THEN YEAR" $.

Depot Maintenance Material Resource Costs

One of the most difficult problems in trying to capture and compare material resource consumption and/or data at depot level is the lack of identity to a specific weapon system. Possibly the most accurate or complete data are prepared by Headquarters AFLC/ACRL in accordance with AFR 173-4 [13] (RCS: HAF-ACM(A) 7109). However, due to the cost accounting system used at depot maintenance level, not all costs are collected by weapon system. Some are allocated to a weapon system using cost and quantity averaging methods. Thus, the actual costs indicated are not always true in nature.

Depot maintenance data generated for the C-130E aircraft and identified in Boeing's AMST Cost Effectiveness Analysis (LCC) [9] study was used as a basis in developing data shown in Table 21. This table shows costs of material consumed, in FY75 constant dollars, for five categories from 1969 to 1975. Using the C-130E possessed aircraft, flying hours for each year, and the ratio of labor to material contained in the RCS: HAF-ACM(A)7109 Report, the yearly dollar value, cost per aircraft and cost per flying hour for material consumed for each category by year is reflected. The dollar figures within the table include all direct and indirect expense material but do not contain non XD (Expendable Depot) items bought under replacement spares funding. Further, the Depot Maintenance Production Cost System, G072A, which provides the dollar data, is a system employed at the stock class material management aggregate code level. Therefore, the above table does provide good comparative information but does not represent the actual depot maintenance material resource costs for the C-130E aircraft.

When analyzing the data contained in Table 21, it appears that during the Southeast Asia conflict (1969-1972 time period), depot maintenance material costs were higher per aircraft than in years after the conflict. However, possibly due to less flying hours per year or deferred maintenance, the cost per flying hour increased after the conflict (1972-1976) even though total dollars spent per aircraft decreased. Further, the dollars spent for material at depot level for aircraft repair and engine overhaul were higher during the conflict and cost of materials for all types of accessory repair were highest after the Southeast Asia commitments.

USAF Cost and Planning Factors

As a result of not being able to obtain actual and/or validated material resource consumption data that could be plott d and compared through the study period time frame, it was necessary to use the factors

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[13] AFR 173-4, USAF Aircraft and Missile Depot Maintenance Cost Factors, October 1972.

TABLE 21 C-130E DEPOT-MAINTENANCE MATERIAL RESOURCE COSTS

	1969	1970	1971	1972	1973	1974	1975	7 YEAR AVERAGE
POSSESSED AIRCRAFT	289	304	323	298	293	295	296	299.71
FLEET FLYING HOURS	255,373	245,153	246,979	220,070	190,734	169,867	170,360	214,076.57
AIRCRAFT REPAIR $	4,652,984.60	7,317,817.73	6,166,401.52	5,168,866.00	3,996,347.57	3,721,755.72	2,256,735.25	4,754,415.49
COST PER A/C	16,100.29	24,071.77	19,091.03	17,345.19	13,639.41	12,616.12	7,624.11	15,863.16
COST PER F/H	18.22	29.85	24.97	23.49	20.95	21.91	13.25	22.21
ENGINE OVERHAUL $	6,918,211.17	7,081,245.24	7,616,002.56	5,613,860.01	2,857,562.54	2,714,615.80	1,957,641.79	4,965,591.30
COST PER A/C	23,938.45	23,293.57	23,578.96	18,838.46	9,752.77	9,202.09	6,547.30	16,567.75
COST PER F/H	27.09	28.89	30.84	25.51	14.98	16.98	11.49	23.20
AVIONIC ACCESSORY $	3,406,277.44	3,814,523.83	3,215,166.23	3,071,452.72	4,264,481.03	3,520,585.18	3,056,671.53	3,478,436.85
COST PER A/C	11,786.43	12,547.78	9,954.08	10,306.89	14,554.54	11,934.19	10,326.26	11,605.84
COST PER F/H	13.34	15.56	13.02	13.96	22.36	20.73	17.94	16.25
OTHER A/C ACCESSORY $	5,761,042.47	4,609,148.22	4,856,559.99	6,997,368.45	6,099,807.37	3,516,174.72	3,402,623.72	5,034,673.56
COST PER A/C	19,934.40	15,161.67	15,035.79	23,481.07	20,818.46	11,919.24	11,495.35	16,738.24
COST PER F/H	22.56	18.80	19.66	31.80	31.98	20.70	19.97	23.52
ENGINE ACCESSORY $	2,618,062.92	2,673,850.39	3,062,094.05	2,651,486.89	3,606,137.99	4,010,357.20	3,852,999.17	3,210,712.66
COST PER A/C	9,059.04	8,795.56	9,480.17	8,897.61	12,307.64	13,594.43	13,016.89	10,712.58
COST PER F/H	10.25	10.91	12.40	12.05	18.91	23.61	22.62	15.00
TOTAL MATERIAL COST $	23,356,578.60	25,496,585.41	24,916,224.35	23,503,024.07	20,824,336.50	17,483,488.62	14,526,571.46	21,443,829.86
COST PER A/C	80,818.61	83,870.35	77,140.01	78,869.21	71,072.82	59,266.06	49,076.25	71,548.59
COST PER F/H	91.4	104.00	100.88	106.80	109.18	102.92	85.27	100.17

and formulas from AFR 173-10, USAF Cost and Planning Factors. Applying the flying hours, number of aircraft, and the utilization rates for each of the years 1962 through 1976, Table 22 was developed. The table provides comparative information and identifies the total estimated costs for each year and the cost per flying hour for GSE, POL, Maintenance (Base and Depot Level), Modifications (Class IV), Replenishment Spares and Vehicle Equipment Costs. Factors and formulas from AFR 173-10 followed the Cost Analysis Cost Estimating (CACE) model. The only exception to using the aforementioned factors and formulas for computing the various costs indicated within the table was the POL expenditures for 1975 and 1976. Data from the Operating and Support Cost (OSCR) Report for FY75 were used for developing the gallons per hour and cost per hour figures for 1975. The cost figures for 1976 were based on the gallons of fuel consumed per hour and cost of that fuel consumed per flight hour using actual 1976 comsumption data for Pope AFB, Little Rock AFB and McChord AFB as reflected in Table 23. Fiscal year 1976 dollar values were used. No attempt to deflate the figures into then year dollars were made.

TABLE 22 C-130E RECURRING INVESTMENT AND MISCELLANEOUS LOGISTIC COST BREAKDOWN

ELEMENTS	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971 (1)	1972	1973	1974	1975	1976
AGE COSTS (2)															
REPLACEMENT COMMON SPT (SE) COST	63,459	478,827	1,303,794	1,817,235	1,701,855	1,678,279	1,609,651	1,647,241	1,753,776	1,862,387	1,719,162	1,690,317	1,701,855	1,707,624	1,713,393
SPARES COST	2,662	20,086	54,692	76,230	71,390	70,422	67,518	69,038	73,568	78,166	72,116	70,906	71,390	71,632	71,874
COMMON AGE (INCL. SPARES) REPL. COSTS	66,121	498,913	1,358,486	1,893,465	1,773,245	1,748,701	1,677,169	1,716,279	1,827,344	1,940,553	1,791,278	1,761,223	1,773,245	1,779,256	1,785,266
COST/FH	3.52	6.06	5.68	5.46	3.99	4.77	5.40	6.80	7.45	7.86	8.14	9.23	10.44	10.44	10 85
FOL COSTS (2)															
FUEL (JP4) CONSUMPTION, GALLONS	14,758,000	64,585,090	181,389,165	272,401,284	248,762,155	287,788,065	241,495,225	200,467,805	192,445,105	193,878 [illegible]	[illegible] 784,950	149,226,190	133,345,595	138,877,472	130,605,710
FUEL (JP4) CONSUMPTION, GAL/FH	785	785	785	785	785	785	785	785	785	[illegible]	785	785	785	815.2	793.7
FUEL (JP4) TOTAL COST	6,433,200	23,777,186	66,778,941	100,285,312	128,397,787	105,950,001	89,643,465	73,802,297	70,849,217	71,378,441	61,600,230	55,122,126	49,091,564	51,104,910	48,062,904
FUEL (JP4) COST/FH	289	289	289	289	289	289	289	289	289	289	289	289	289	300 00	292.08
OIL TOTAL COST	77,260	119,297	335,050	503,362	644,210	531,583	449,768	370,291	355,472	358,129	319,102	276,564	246,307	247,022	238,607
OIL COST/FH	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1 45	1.45	1.45	1 45
TOTAL FOL COSTS	6,460,460	23,896,483	67,113,991	100,788,674	129,041,997	106,481,584	90,093,233	74,172,588	71,204,689	71,736,051	61,919,332	55,398,690	49,337,870	51,351,932	48,301,506
MAINTENANCE AIRCRAFT COSTS (2)															
ORG LEVEL (MATERIAL ONLY) COST	1,166,220	5,125,416	14,292,240	21,661,320	27,654,480	27,737,920	19,304,568	15,911,184	15,163,792	15,379,968	11,635,284	11,815,164	10,535,040	10,570 752	10,208,721
DEPOT LEVEL (MATERIAL ONLY) COST	3,544,662	17,819,730	48,835,911	72,109,170	88,066,250	73,606,122	64,381,734	56,544,000	55,546,272	57,227,202	6 421,092	46,605,615	43,543,776	43,691 376	42,951,138
AIR CREW (MATERIAL ONLY)	62 03	62 30	61 85	62.13	62 25	62 01	62 24	62.21	61 81	62.27	61 96	61 95	62 02	6 .05	62 05
GROUND CREW (MATERIAL ONLY)	158.55	214 16	211 24	207 80	193 72	200.76	207 57	230,65	226.56	231.71	233.61	244.35	264 34	25 47	240.41
TOTAL ORG & DEPOT COST/FH	250 58	276.46	273.09	269 93	255.97	262 77	269 81	292,86	288 19	293.98	295 62	306 30	318 36	31 52	302 47
MODIFICATION,CLASS IV(INCL INITIAL SPARES (2)															
TOTAL COST	147,313.3	1,111,645.9	3,026,619.1	4,218,417.8	3,950,675.4	3,897,104.9	3,736,401.4	3,870,122.6	4,071,204.4	4,325,654.7	3,990,851.7	3,923,891 3	3,950,675.4	3,964 100	3,977,459 6
COST/FH	7.84	13.51	13.10	12.16	8 87	10.63	12.05	16.16	16 61	17 51	18.13	20 57	23 26	24,27	24 17
REFURBISHMENT SPARES COSTS (2)															
TOTAL COST	1,391,910	6,117,432	17,058,480	25,734,240	33,006,960	27,132,840	23,040,936	18,990,768	18,086,784	18,359,736	16,274,376	16,101,972	12,574,080	12,616 704	2,184,603
COST/FH	74 04	74.35	73.82	74.16	74.29	74.01	74.20	74,36	73.78	74 33	73.95	73 94	74 02	74 04	74 02
VEHICLE EQUIPMENT COSTS (2)															
TOTAL COST	20,090	151,651.38	412,830.25	625,545.30	539,001.88	531,693.38	509,767 08	528,039.13	555,446.00	590,161.38	544,683.25	535,347 63	539,001 88	540,359.00	542,655.89
COST/FH	1.01	1.84	1.79	1.66	1.21	1.45	1.64	2.06	2.27	2.39	2.47	2.81	3.17	3.17	3.30

(1) USED AFM 173-10 FACTORS IN COMPUTING VARIOUS COSTS EXCEPT FOR POL EXPENDITURES 1975-76

(2) USED FY 76 $ CONSTANTS - NO ATTEMPT WAS MADE TO DEFLATE TO "THEN YEAR" $.

TABLE 23 C-130 POL FUEL CONSUMPTION 1976

MONTH	FLYING HOURS				GALLONS CONSUMED				GALLONS PER		COST($) PER	
	LITTLE ROCK	POPE	MCCHORD	TOTAL	LITTLE ROCK	POPE	MCCHORD	TOTAL	FH	1000 FH	FH	1000 FH
JAN	3,853	1,461.8	580	5,894.8	2,493,672	1,358,004	423,463	4,275,139	725.2	725,239		
FEB	4,513	1,496.8	565	6,574.8	2,730,673	2,269,807	429,831	5,430,311	825.9	825,927		
MAR	4,932	2,488.3	664	8,084.3	2,964,401	2,031,048	500,113	5,495,562	679.8	679,782		
APR	4,276	1,730.7	671	6,677.7	3,334,227	1,513,769	439,119	5,287,115	791.8	791,756		
MAY	4,346	1,765.6	583	6,694.6	2,586,964	3,572,465	385,823	6,545,252	894.7	894,661		
JUN	4,329	2,392.9	594	7,315.9	2,628,215	2,285,330	411,059	5,324,604	727.8	727,815		
JUL	4,488	1,753.5	568	6,809.5	3,259,246	1,331,194	383,266	4,973,706	730.4	730,406		
AUG	4,540	1,846.6	545	6,931.6	2,558,393	2,600,261	390,544	5,549,198	800.6	800,565		
SEP	4,140	1,932.2	554	6,626.2	2,354,055	2,303,209	323,516	4,980,780	751.7	751,679		
OCT	3,777	1,784.1	826	6,367.1	3,265,648	2,831,588	335,533	6,432,769	1010.3	1010,313		
NOV	4,433	1,575.4	517	6,525.4	2,550,974	2,463,558	264,011	5,279,343	809.0	809,045		
DEC	3,510	1,963.7	464	5,937.7	2,596,413	1,391 969	282,182	4,270,564	719.2	719,228		
TOTAL	51,132	22,171.6	7,131	80,434.6	33,322,081	25,952,202	4,569,260	63,844,343	791.7	79 742	292.08	292,081
											.368¢/GAL. (BULK FUEL COST)	

COST DATA

A thorough search for USAF C-130E aircraft acquisition, and operations and support (O&S) cost data was conducted covering the 15 years (1962-1976) of this study. During the data search, it became very clear that actual historical cost data have not been collected and maintained over the life cycle history of Air Force weapon systems. There is no single data source that collects and maintains historical cost data. However, there are some data systems and repositories that can provide various pieces of the types of cost data that were sought for this study program. These data repositories/systems/files are discussed in the following paragraphs of this section.

ACQUISITION COST DATA

Table 24, reflects the Research, Development, Test and Evaluation, Aircraft Procurement, and other procurement categories of costs information collected duing this study, including the sources.

RDT&E Cost - Research, Development, Test, and Evaluation costs for the C-130E aircraft was non-existent within the applicable data repositories searched. The only C-130 RDT&E documented cost information available was located in T.O. 00-25-30 [14] including revisions back through the 1972 issue. T.O. 00-25-30 reflects prorated R&D costs for the C-130A, B, and D models only. The T.O. does not contain any R&D costs against the C-130E in the specific or prorated areas, and it is stated in the T.O. that: "Certain older systems may not include R&D costs due to non-availability of information." In addition, most of the C-130 RDT&E expenditures were completed early in the C-130 development program, which was prior to the 1962 time period of this study. Subsequently the R&D unit cost per aircraft of $5600 reflected in Table 24 is the prorated R&D costs for C-130A, B, and D models.

Aircraft Procurement Cost - Procurement Costs for the C-130E as shown in Table 24 were obtained from two different sources: 1) ASD cost histories maintained at ASD/CSEH/HO, Wright-Patterson Air Force Base contained some documented procurement costs on the C-130E aircraft for the early initial production years (1961 through 1964), and 2) aircraft procurement costs for later years (1968, 1969, 1970, and 1972) production aircraft were obtained from T.O. 00-25-30 using applicable revisions for each specific year. The number of production aircraft by year shown in Table 24 was determined by assuming the aircraft serial number to be the production year, and all air craft with 1961 through 1964 serial numbers were reflected in the 1962 through 1965 time period because the first USAF C-130E possessed

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[14] T.O. 00-25-30, Unit Costs of Aircraft, Guided Missiles, and Engines.

TABLE 24 USAF C-130E AIRCRAFT RDT&E AND PROCUREMENT COSTS

DOLLARS IN MILLIONS

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	15 YR. AVG.
NOTE: RAD (UNIT COST PER ACFT)	-	-	-	-	-	-	-	-	-	-	(2) .0056	(2) .0056	(2) .0056	(2) .0056	-	(2) .0056**
T&E (UNIT COST PER ACFT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AIRCRAFT PROCUREMENT: *TOTAL	(1) 3.84	(1) 2.06	(1) 1.90	(1) 1.80	-	-	(2) 2.40	(2) 1.94	(2) 1.58	-	(2) 2.02	-	-	-	-	(1) 2.0
(AVG. UNIT COST PER ACFT)																
AIRFRAME	(1) 2.29	(1) 1.00	(1) 1.22	(1) 1.21	-	-	(2) 1.18	(2) 1.31	(2) 1.35	-	(2) 1.60	-	-	-	-	(1) 1.31
(AVG. UNIT COST PER ACFT)																
PROPULSION	(1) .36	(1) .63	(1) .47	(1) .46	-	-	(2) .65	(2) .43	(2) .43	-	(2) .41	-	-	-	-	(1) .48
(AVG. UNIT COST PER ACFT)																
OTHER SYSTEMS	(1) .39	(1) .13	(1) .21	(1) .21	-	-	(2) .57	(2) .20	(2) .20	-	(2) .10	-	-	-	-	(1) .21
(AVG. UNIT COST PER ACFT)																
OTHER PROCUREMENT: PECULIAR SUPPORT EQUIPMENT	(1) .11	(1) .03	(1) .04	(1) .01	-	-	-	-	-	-	-	-	-	-	-	(1) .03
(AVG. UNIT COST PER ACFT)																
TRAINING DEVICES	(1) .42	(1) .06	(1) .04	(1) .02	-	-	-	-	-	-	-	-	-	-	-	(1) .05
(AVG. UNIT COST PER ACFT)																
CLASS V MOD'S											.93	.58	.66	.67	-	(2) N/A
(AVG. UNIT COST PER ACFT)																
***TOTAL R & PROCUREMENT																2.00
TOTAL (AVG. UNIT FLY AWAY COST)																
NO. OF AIRCRAFT PRODUCTION BY SERIAL NO. YEAR	16	83	103	96	-	-	17	19	18	-	12	-	-	-	-	

SOURCE: (1) AF/ASD COST HISTORIES (NOTE: 1961 THRU 1964 PROCUREMENTS WERE PICKED UP IN 1962 THRU 1966 FOR START PURPOSES)
(2) AF T.O. 00-25-30 ADM REVISIONS

* INCLUDES INITIAL SPARES
** RAD COST PRORATED AGAINST THE C-130A THRU D MODELS ONLY
*** EXCLUDING CLASS V MODIFICATIONS

inventory aircraft was in 1962 and first flight of the C-130E was in April of 1962. The follow-on production aircraft were reflected in the actual year of the aircraft serial numbers. The C-130E average unit cost per aircraft over the 15 year time period (8 years of production aircraft) reflected $2.0 million and is broken down in the detail available as follows:

Average Unit Cost per Aircraft	1962-1972 $ In Millions
Airframe	1.31
Propulsion	.48
Other Systems	.21
TOTAL AIRCRAFT	$2.0

Other Procurement Cost

The ASD cost histories contained some C-130E peculiar support equipment and training devices costs as reflected in Table 24 for the 1962 through 1964 time period. In addition, the only other C-130E procurement cost that could be located was the class V modification costs as outlined in T.O. 00-25-30 starting with the 1972 issue as shown in Table 24.

C-130 Aircraft Contract Costs

Frost and Sullivan Inc. maintain a "Defense Market Measures System" that tracks and summarizes (to the extent possible) the Department of Defense marketing system. C-130 contracts cost data were requested from the Frost and Sullivan system for the 1962 through 1976 time period. Information provided covered the Defense Market Measures System C-130 (all models) aircraft contracts captured during the January 1962-December 1975 time period. Over 1,500 contracts were listed in the computer printout provided. The following information was included: recorded date, record contractor, awarding agency, contract dollars, phase/project, Frost and Sullivan product categories, and a very brief description of the contract. Specific C-130E contracts could not be separated, as most of the contracts showed a product of C-130 only. In some cases the brief description would specify various models but this was the exception rather than the rule. Table 25 contains a summary of 1,450 contracts extracted that could be identified against USAF C-130 aircraft. These 1,450 contracts covered the 1962 through 1975 time period and accounted for $1,889,417,000 expended against the various contract categories. The information was against the total C-130 (all series) aircraft and the costs could not be applied to the C-130E model only. However, it does show the variety of procurements and illustrates the difficulty in tracking these costs for a specific model, such as the C-130E, within a basic aircraft MDS.

TABLE 25 SUMMARY OF C-130 (ALL SERIES) AIRCRAFT CONTRACT DOLLARS BY SYSTEM PRODUCT CATEGORIES 1962-1975

CATEGORY IDENTIFIER	CATEGORY DESCRIPTION	C-130 M-D-S	YEARS	NO. OF CONTRACTS	$ IN 1000	PERCENT OF GRAND TOTAL	REMARKS
AC	AIRCRAFT TOTAL	C-130	62-75	1,247	1,298,694	99.20	
AC 1100	ATTACK AIRCRAFT	AC-130	71-72	1	294	.02	RETRO FIT KITS/AGE SPARES/DATA
AC 1300	RECONNAISSANCE SURVEILLANCE AND ASW	C-130	66-70	2	148	.01	SPARES
AC 1400	AIRCRAFT GENERAL	C-130	62-75	280	1,452,026	76.85	ACFT PROD, AGE PROD/SPARES, GSE
							PROD/SPARES, POWER PLANT, PROD. FLT. TEST,
							FATIGUE TEST, PECULIAR SPARES, REPLEN.
							SPARES, IRAN, MODS, PDM, ETC.
AC 1600	STOL/VTOL AIRCRAFT	C-130	72-73	2	4,929	.26	LONG LEAD TIME EFFORT FOR C-130H A/C AND
							SPARES FOR C-130 A/C.
AC 1800	AIRCRAFT TESTING	C-130	62-74	10	14,704	.78	TEST SETS/TEST STANDS PROD, PROP TESTING,
							DATA, SPARES, AGE
AC 1900	UNSPECIFIED AIRCRAFT PARTS	C-130	62-64	5	368	.02	SPARE PARTS
AC 2200	AIRCRAFT PROPELLERS	C-130	62-75	67	14,491	.77	PROCUREMENT, SPARE PARTS/KITS, UPDATE
							T.O.'s, OVERHAUL, MODS, TEST EQUIPMENT
							PROD
AC 2300	AIRCRAFT JET/TURBIN ENGINES	C-130	62-75	35	126,095	6.67	ENG PROD, ENG CONF, ENG, SPARE PARTS/KITS,
							MODS/KITS
AC 3000	AIRCRAFT FLIGHT CONTROL SYSTEMS	C-130	62-74	30	17,296	.92	COMPONENT PROD, MOD KITS, TECH MANUALS,
							SPARES, REPAIRS, DEVELOPMENT
AC 4000	AIRCRAFT INSTRUMENTATION SYSTEMS	C-130	62-75	44	6,852	.36	SPARES/KITS, AGE, DATA, SYS DEV/PROD
AC 5000	AIRCRAFT TRAINING AND SIMULATION SYSTEMS	C-130	62-75	17	8,757	.46	FLT. SIMULATORS/TRAINERS PROD SPARES, DATA,
							R&U/DATA CHANGES, MODS/KITS
AC 6000	AIRCRAFT GROUND HANDLING AND SERVICES SYSTEMS	C-130	62-74	43	12,740	.67	CARGO HANDLING EQUIP PROD, SPARES, MODS/KITS
AC 7100	AIRCRAFT WHEEL/TIRE AND BRAKE SYSTEMS	C-130	62-75	197	39,931	2.11	DEVELOPMENT, PRODUCTION, TESTS, ENG. SUPPORT
							REPLEN SPARES
AC 7200	AIRCRAFT FUEL SYSTEMS	C-130	62-75	36	15,094	.80	SPARES, MOD'S/KITS
AC 7300	AIRCRAFT PERSONNEL EQUIPMENT	C-130	63-75	22	6,027	.32	SPARES, MOD'S/KITS
AC 7400	AIRCRAFT FIRE CONTROL SYSTEM	C-130	69-74	11	6,993	.37	DEVELOPMENT, TESTS, REPLEN SPARES, REPAIR
							KITS
AC 7500	AIR DROP DELIVERY SYSTEM	C-130	65-75	12	17,240	.91	SPARES, MODS, TESTS
AC 7900	AIRCRAFT MISC. SUBSYSTEMS	C-130	62-75	481	52,750	2.79	SPARES, MODS/KITS, TESTS, OVERHAUL
AC 9100	AIRBORNE INTEGRATED AVIONICS SYSTEMS	C-130	69-71	2	1,975	.11	DESIGN, DEVELOP, INTEGRATE

TABLE 25 SUMMARY OF C-130 (ALL SERIES) AIRCRAFT CONTRACT DOLLARS BY SYSTEM PRODUCT CATEGORIES 1962-1975 (CONT'D)

CATEGORY IDENTIFIER	CATEGORY DESCRIPTION	C-130 H-D-S	YEARS	NO. OF CONTRACTS	$ IN 1000	PERCENT OF GRAND TOTAL	REMARKS
CO	COMMUNICATIONS TOTAL			33	9,272	.49	
CO 1600	INTERCOMMUNICATIONS SYSTEMS	C-130	63-73	6	423	.02	SPARES
CO 4100	AIRCRAFT RADIO TRANSCEIVING SYSTEMS	C-130	62-75	21	7,671	.40	SPARES, MOD/KITS
CO 4110	AIRBORNE CNT AND COMM NAV SYSTEMS	C-130	64-66	3	643	.03	SPARES
CO 4120	AIRBORNE COMMAND AND CONTROL SYSTEMS	C-130	73	1	26	-	SPARES
CO 4530	RADIO/RADAR/ANTENNA AND RADOMES SYSTEMS	C-130	62-63	2	609	.03	SPARES
DP 1000	DATA PROCESSING: GENERAL PURPOSE AND UNASSOCIATED ANALOG AND DIGITAL COMPUTERS	C-130	64-75	10	768	.04	SPARES, TESTS, MOD/KITS
EW	ELECTRONIC WARFARE TOTAL			31	40,687	2.15	
EW 0000	ELECTRONIC WARFARE SYSTEMS GENERAL	C-130	66-75	7	8,317	.44	SPARES, TEST, MOD/KITS
EW 1000	MAPPING SURVEILLANCE AND RECONNAISSANCE SYSTEMS	C-130	65	1	150	.01	TESTS
EW 1100	AIRBORNE OPTICAL CAMERA RECONNAISSANCE SYSTEM	AC-130E	72	1	32	-	SPARES
EW 1200	AIRBORNE INFRARED RECONNAISSANCE & MAPPING SYS	AC-130	72-75	7	6,860	.36	TESTS, SPARES, MOD
EW 1500	AIRBORNE INFLIGHT PROCESSING AND DATA LINK SYS	AC-130A	72	1	90	.01	FABRICATION
EW 1700	AIRBORNE PHOTOGRAPHIC ILLUMINATION SYSTEM	AC-130	71-76	9	22,853	1.71	SPARES, DESIGN, DEVELOP, FABRICATE, MOD
EW 2000	PASSIVE ELECTRONIC RECONNAISSANCE SYSTEM	C-130	64-76	3	1,287	.07	SPARES, MOD, GROUND EQUIP.
EW 3300	IFF CODING AND DECODING SYSTEMS	HC-130H	65	1	885	.05	SPARES
EW 4000	COUNTERMEASURES SYSTEMS	C-130	65	1	213	.01	MOD
MS	MISSILES AND SPACE TOTAL			3	1,298	.07	
MS 1320	COMMAND GUIDANCE SYSTEMS	DC-130A	72	1	1,206	.06	MOD
MS 1551	VEHICLE CONTAINED TELEMETRY SYSTEMS	C-130B	69	2	92	.01	TELEMETRY DATA SUBSYSTEM
NA	NAVIGATION TOTAL			61	35,323	1.87	
NA 1210	LONG DISTANCE RADIO NAV RECEIVING SYSTEMS	C-130	63-66	8	4,072	.22	SPARES, MOD/KITS
NA 1330	NON-DIRECTIONAL BEACONS	JC-130	65	1	163	.01	PROC-DIRECTIONAL FINDING SYS
NA 1410	SHORT DISTANCE AIRBORNE RADAR NAV SYSTEM	C-130	64-70	10	2,431	.13	SPARES
NA 1440	AIRBORNE INSTRUMENT LANDING SYSTEM	C-130E	63-67	2	209	.01	PROC-RADIO RECEIVERS/DATA
NA 2112	AIRBORNE RADAR BEACONS AND TRANSPONDERS	C-130	70-73	2	2,656	.14	PROC-RADIO EQUIPMENT/SPARES
NA 2220	AIRBORNE RADAR ALTIMETER AND TERRAIN AVOIDANCE SYSTEM	C-130	63-76	13	5,958	.32	PROC-RADAR EQUIPMENT/SPARES, AGE
NA 2260	NAVIGATION AND WEAPON DELIVERY	C-130	71-76	6	14,199	.76	PROC-NAV/WEAPON DELIVERY EQUIP, SPARES, MOD, AGE
NA 3200	DOPPLER RADAR NAVIGATION SYSTEM	C-130	62-76	10	1,663	.09	SPARES
NA 3310	INERTIAL NAVIGATION SYSTEM	C-130	71	1	71	-	SPARES

TABLE 25 SUMMARY OF C-130 (ALL SERIES) AIRCRAFT CONTRACT DOLLARS BY SYSTEM PRODUCT CATEGORIES 1962-1975 (CONT'D)

CATEGORY IDENTIFIER	CATEGORY DESCRIPTION	C-130 M-D-S	YEARS	NO. OF CONTRACTS	$ IN 1000	PERCENT OF GRAND TOTAL	REMARKS
MA 6100	NAVIGATION TEST SYSTEMS	C-130	71	1	1,130	.06	AGE
MA 9100	STATION KEEPING FORMATION CONTROL SYSTEMS	C-130	72-75	7	2,771	.15	PROC-ELECTRONIC EQUIP. MODS. SPARES
RE	BASIC RESEARCH	C-130	63&70	2	621	.03	ENG. SERVICES - TESTS
SE	UNSPECIFIED TECHNICAL & PROFESSIONAL SERVICES	C-130	69-72	3	358	.02	ANALYSIS, DATA, PRINTING MANUALS
VS	SMALL ARMS/MUNITIONS/ARTILLARY	AC-130	70-73	10	2,396	.13	PROC-SMALL ARMS, SPARES AGE
GRAND TOTAL	CAPTURED C-130 CONTRACTED DOLLARS	ALL MODELS/ SERIES	62-75	1,450	1,889,417	100.00	

OPERATIONS AND SUPPORT COSTS DATA

The following subparagraphs discuss the C-130E operations and support cost information that was available and obtained during this study effort. Information that was included in the human resources data and material resources data paragraphs above has not been reiterated in this paragraph.

The Operating and Support Cost Reporting (OSCR) system, as described in Appendix "G", provided the FY-1975 operating and support total costs, cost per flying hour and percentage of total costs. Table 26 identifies the above costs by personnel, training and TDY costs versus supplies, contract and other (minus training and other personnel support) costs. Further identified is the impact of base level versus depot level costs. Of the $348M expended in FY75 for base and depot level operating and support costs for the C-130E, $225M or $1,170 per flying hour was personnel related costs. Thus, 65% of the expenditures were for human resources type items and 35% were expended for material resources. Of the $123M or $640 per flying hour expended for material resource costs, $47M or $300 per flying hour was for POL. Thus, personnel and POL were by far the greatest contributors to FY75 C-130E Operating and Support (O&S) costs.

TABLE 26 C-130E FY75 OPERATING AND SUPPORT COST RECAP

ELEMENTS	FY75 TOTAL COST ($)	FY75 COSTS ($) PER FH	PERCENT
PERSONNEL, TRAINING & TDY COSTS			
BASE LEVEL OPS	210,487,435	1,092.61	60.34
DEPOT LEVEL OPS	14,982,789	77.77	4.29
SUB-TOTAL	225,470,224	1,170.38	64.63
SUPPLY, CONTRACT & OTHER COSTS			
BASE LEVEL OPS (1)	85,250,551	442.52	24.44
DEPOT LEVEL OPS	38,127,852	197.92	10.93
SUB-TOTAL	123,378,403	640.44	35.37
TOTAL BASE & DEPOT LEVEL SUPPORT & OPERATIONS COSTS	348,848,627	1,810.82	100.00

SOURCE: OSCR, FY75, DTD 3 AUG. 1976

NOTE: (1) INCL. POL COST OF $57,794,100

When comparing the impact of costs associated with personnel versus material, each level should be reviewed separately and then compared with each other. Table 27, Base Level O&S Costs, identifies the costs for personnel, training and TDY versus the material resources costs. Of the $295M or $1,535 per FH spent at the base level, 71% was for human resources and 29% for material resources. However, when comparing the same information for the depot level costs, Table 28, the data reflects that of the $53M or $276 per FH spent, 72% was for material resources and 28% for human resource elements. When analyzing both tables and data contained within, it is easy to see that the greatest expenditures for operating and support costs for the C-130E are incurred at base level for human resources.

TABLE 27 FY75 BASE LEVEL OPERATING AND SUPPORT COSTS - C-130E

ELEMENTS	FY75 BASE LEVEL COST ($)	FY75 BL COST ($) PER FH	PERCENT
PERSONNEL, TRAINING & TDY COSTS	210,487,435	1,092.61	71.17
SUPPLIES, CONTRACT AND OTHER COSTS(1)	85,250,551	442.52	28.83
TOTAL BASE LEVEL OPERATIONS COST	295,737,986	1,535.13	100.00

NOTE: (1) INCL. POL COST OF $57,794,100 OR 19.54% OF TOTAL BASE LEVEL OPS COST.

TABLE 28 FY75 DEPOT LEVEL OPERATING AND SUPPORT COSTS - C-130E

ELEMENTS	FY75 SPT LEVEL COST ($)	FY75 SPT LEVEL COST ($) PER FH	PERCENT
PERSONNEL, TRAINING & TDY COSTS	14,982,789	77.77	28.21
SUPPLIES, CONTRACT AND OTHER COSTS	38,127,852	197.92	71.79
TOTAL SUPPORT LEVEL OPERATIONS COSTS	53,110,641	275.69	100.00

Depot Maintenance Repair Action Costs

The C-130E depot maintenance repair action costs/FH by system for repair cycle assets are shown in Table 29. The information was summarized at the system level and reflects costs per flying hour of C-130E items processed through depot maintenance (excluding engines and complete airframes) during FY 1975-1976. (Refer to, Section III "Data Analysis, Area III - Depot Data," for the detailed description of the depot data sources and computer processing utilized to obtain depot repair action costs in the study program.)

TABLE 29 C-130E DEPOT MAINTENANCE REPAIR ACTION COSTS/FH BY SYSTEM (ITEM PROCESSED THRU DEPOT MAINTENANCE EXCLUDING ENGINES)

SYS. NO.	SYSTEM NAME	FY 1975 AND FY 1976	
		COST/FH (IN $)	SYSTEM % OF TOTAL
11	AIRFRAME	3.36	3.04
12	COCKPIT AND FUSELAGE	1.21	1.09
13	LANDING GEAR	5.64	5.09
14	FLIGHT CONTROLS	2.84	2.57
22	TURBO PROP POWER PLANT	-	-
24	AUXILIARY POWER PLANT	7.45	6.73
32	HYDRAULIC PROPELLER	15.91	14.37
41	AIR CONDITIONING, PRESSURIZATION	6.73	5.75
42	ELECTRICAL POWER SUPPLY	2.03	1.83
44	LIGHTING SYSTEM	-	-
45	HYDRAULIC AND PNEUMATIC	3.63	3.28
46	FUEL	4.06	3.67
47	OXYGEN	1.66	1.50
49	MISCELLANEOUS UTILITIES	0.48	0.43
51	INSTRUMENTS	1.98	1.79
52	AUTOPILOT	4.67	4.22
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-
61	HF COMMUNICATIONS	1.38	1.25
62	VHF COMMUNICATIONS	0.18	0.16
63	UHF COMMUNICATIONS	1.88	1.70
64	INTERPHONE	0.27	0.24
65	IFF	0.68	0.61
66	EMERGENCY COMMUNICATIONS	0.89	0.80
69	MISC. COMMUNICATIONS	-	-
71	RADIO NAVIGATION	3.99	3.60
72	RADAR NAVIGATION	20.83	18.81
91	EMERGENCY EQUIPMENT	-	-
96	PERSONNEL EQUIPMENT	-	-
97	EXPLOSIVE DEVICES	-	-
*99	MISC.	18.97	17.13
	TOTAL	110.72	-

*NOTE: MISC. INCLUDES ITEMS FROM ALL SYSTEMS WHERE NO MATCH COULD BE MADE BETWEEN NSN/MUC

SUMMARY

This data analysis task was twofold in accomplishment: a) it accumulated the effort from the prior tasks; and b) set the stage for the following two tasks; Historical Task Analysis - V and Life Cycle Cost Analysis - VI.

Extensive analytical results contained in this data analysis section provides comprehensive quantitative spectra encompassing 15 years (1962-1976) of real time data. This includes historical data for seven basic categories: a) operations, b) maintainance, c) reliability, d) safety, e) human resources, f) material resources, and g) cost. This study, included the acquisition, analyses, and development of quantitative data on the C-130E weapon system during three reasonably distinct eras, namely; a) Pre-Southeast Asian involvement, b) Southeast Asian involvement, and c) post war period. Subsequent to the Gulf of Tonkin Incident (August 1964), a rapid build-up in Southeast Asia occurred. This included the airlifting of men and materials into the theater of operations (main operating bases - MOB) beginning in November 1964, that included the assignment of C-130 aircraft to various MOB's for forward logistical support purposes. The massive historical data acquired and analyzed covering the three eras were indexed into the seven data categories as described above and are presented and decribed in detail in this section.

A data matrix (Table 1) was developed to categorize the acquired 6.1 million records and over 900 documents/reports into seven major divisions and elements. The source, quality, quantity, and significant remarks for each data element are displayed. This matrix will enable future analysis to rapidly assess data availability and sources for application to any study or need.

Large scale computers, remote terminal on-line operations, and applicable software were utilized to effectively and efficiently manipulate the data into listings, summations, and easily readable formats, thus, enabling a more thorough, comprehensive review by the analysts.

In general, excellent weapon system data in the operational category was obtained and presented for the 15 year history. The maintenance reliability and safety data categories are well documented. Scarcity of complete historical data are noted in the human resources, material resources, and cost data categories. This data spectra provides the only existent resources utilization history of the C-130E weapon system for a fifteen year period. It establishes a much needed baseline for this type of weapon system historical data and is a necessary key to also establishing the life cycle cost. It provides a plan of action for future research efforts and establishes the type and quantity of information that can be expected to be obtained from available sources on other weapon systems.

IV. GENERAL DISCUSSION

The following paragraphs attempt to bring into focus statistical summaries and trends that may be detected from the massive amount of information collected and analyzed within the major categories.

OPERATIONS

A total of 403 C-130E aircraft had been procured by the Air Force with 41 no longer in service. Of these procured aircraft, the average 15 year possessed aircraft count equaled 260. These in-turn flew, during the 15 years, 3,463,317 hours for an average utilization of 75.2 hours per month per aircraft. A 2.63 flight hour average mission length resulted and the aircraft had an average of 1 landing (full stop or touch and go) per flight hour. The operational ready percent was 69.9 with a not operational ready supply and maintenance of 4.0 and 26.1, respectively. Figure 17, derived from the curvilinear regression formula, $\log \lambda = a + b \log x$, illustrates the relationship between varying sortie lengths to utilization and system maintenance manhours per flight hour.

The average utilization rate, i.e., flight hours per C-130E aircraft per month increased dramatically between the period of 1963 and 1966 with a general decline in utilization occurring subsequent to 1966 to a current level in 1976 of 46.2 flying hours per month per aircraft. Figure 18, depicts several key operations trends extant within the 1962-1976 period.

Apparent within Figure 18 is the steady downward trend of operationally ready (OR) aircraft. Etiologies of this trend were not discretely quantified. The general downward trend of C-130 flying hours subsequent to 1967 is due largely to the introduction of the Lockhead C-141 Starlifter which was used to supplement the C-130E. Fatique/aircraft structural problems encountered in Southeast Asia, particularly the model B and E involving center wing cracking resulted in the need to lower the operational use of the C-130 weapon system.

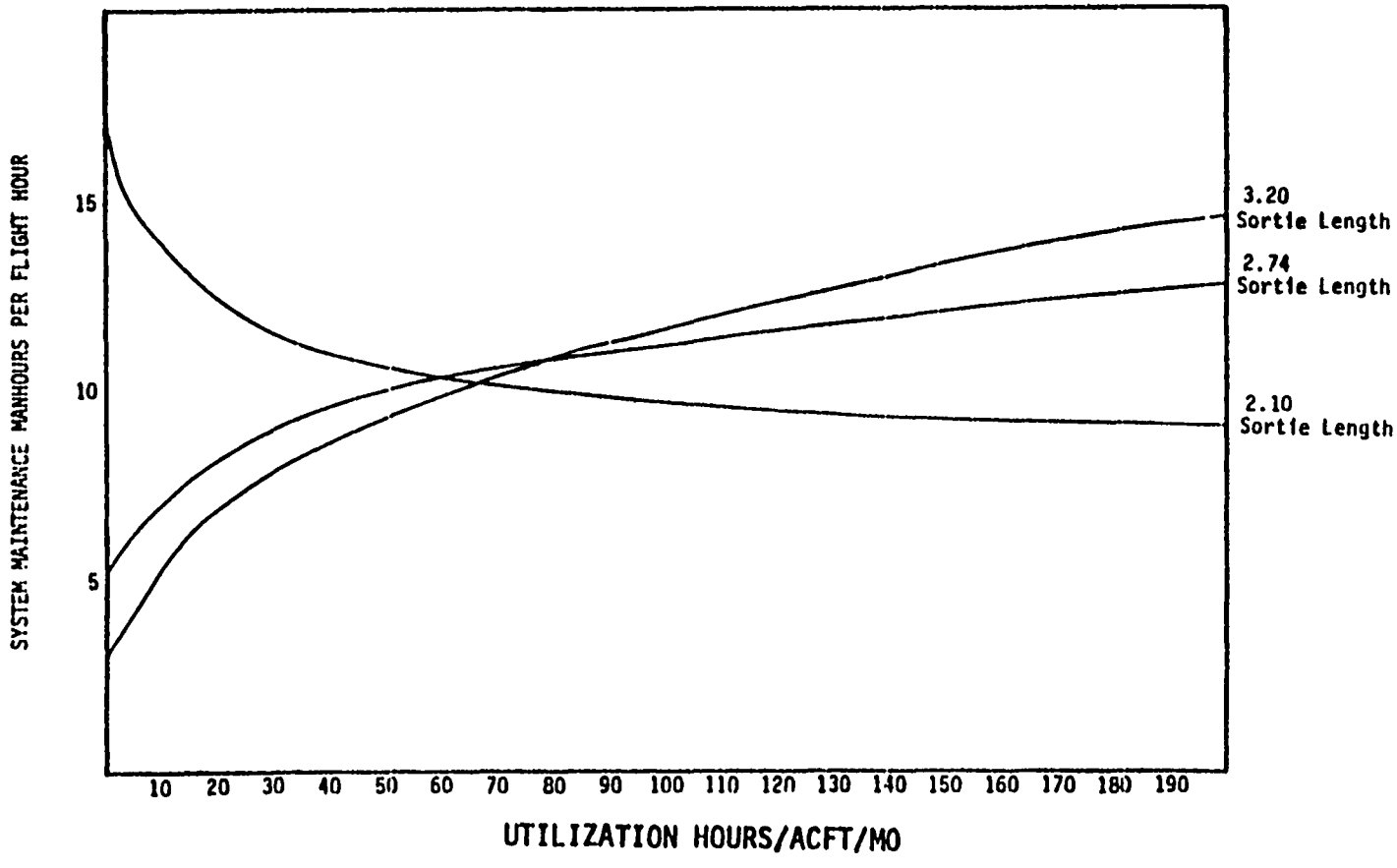

FIGURE 17 C-130E MMH/FH VERSUS SORTIE LENGTH AND UTILIZATION

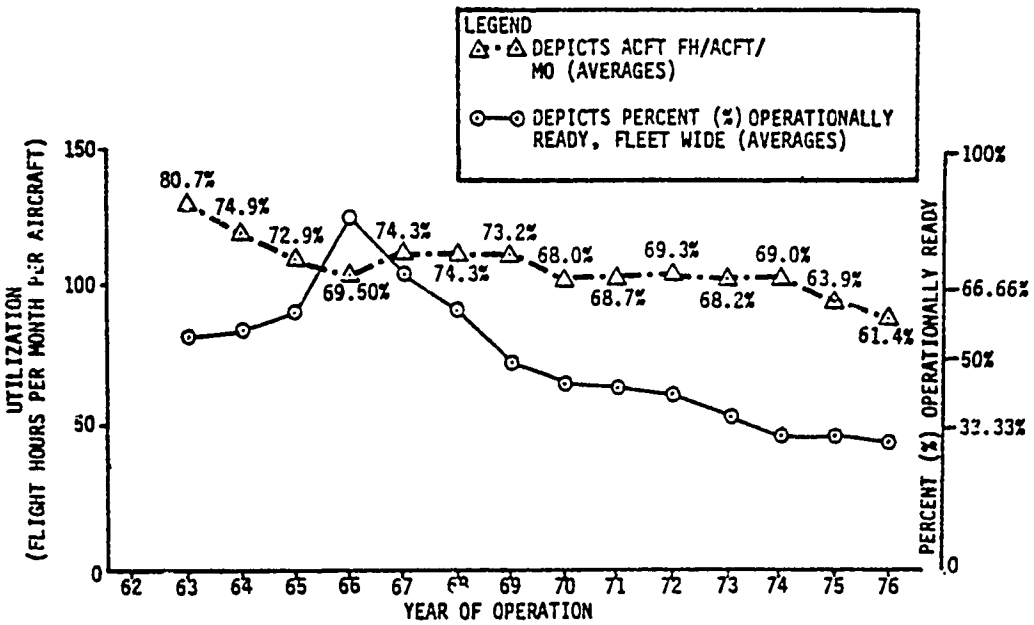

FIGURE 18 C-130E UTILIZATION AND PERCENT OPERATIONAL READY VS YEAR OF OPERATION

MAINTENANCE

Analysis of the statistical maintenance data showed an average 15 year maintenance manhour per flight hour (MMH/FH) of 21.98 broken into support general 10.10 organizational 7.80, intermediate 2.86, and TCTO 1.22 (depot 1.12 and base .10). Table 30 presents a breakout of the maintenance manhours by aircraft system along with troubleshooting MMH/FH, 6.82 and maintenance tasks, 34.22/FH. Of the twenty-nine systems in the aircraft, 6 (turboprop power plant, airframe, fuel, hydraulic propeller, radar navigations, and landing gear) accounted for 59.31 percent of the total systems maintenance manhours. Figure 19 presents a manhour percentage distribution for the systems.

Organizational and intermediate system troubleshooting maintenance manhours accounted for 6.39 percent of the systems maintenance. Three systems, fuel, turboprop power plant, air conditioning, and pressurization accounted for slightly over 41 percent of the troubleshooting

TABLE 30 C-130E MAINTENANCE - RELIABILITY STATISTICAL SUMMARY
(ALL VALUES ARE 15 YEAR (1962-1976) AVERAGES PER 1000 FLIGHT HOURS)

SYS NO.	SYSTEM NAME	ORG. & INT. TASKS	ORG. & INT. MAINT. MMH	FAILURES	ORG. REMOVALS	TROUBLE-SHOOTING MMH	ABORTS		COMPTS REPAIR-ED OFF BASE	COND CON-DEMNED ITEMS
							GROUND	FLIGHT		
11	AIRFRAME	362.6	1357.0	330.02	35.4	10.2	.08	.16	0.83	0.88
12	COCKPIT AND FUSELAGE	248.8	470.3	134.89	32.7	3.8	.12	.03	0.48	2.31
13	LANDING GEAR	236.1	735.7	127.65	43.9	29.9	.38	.53	29.68	3.86
14	FLIGHT CONTROLS	136.4	468.4	99.14	13.0	15.9	.24	.30	2.65	0.28
22	TURBO PROP POWER PLANT	519.5	1406.5	245.33	87.5	83.9	2.00	1.24	27.76	5.53
24	AUXILIARY POWER PLANT	57.2	194.7	21.57	8.4	21.0	.10	.01	2.40	0.18
32	HYDRAULIC PROPELLER	218.7	913.1	87.92	46.9	23.4	1.15	1.09	3.96	0.47
41	AIR CONDITIONING, PRESSURIZATION	124.7	414.5	67.18	24.9	70.3	.28	.32	11.67	1.73
42	ELECTRICAL POWER SUPPLY	84.3	241.0	30.97	15.7	20.4	.26	.28	2.50	0.91
44	LIGHTING SYSTEM	103.2	172.5	102.79	17.3	12.9	.02	.04	0.14	[illegible]
45	HYDRAULIC AND PNEUMATIC	120.4	335.8	77.26	16.1	14.1	.23	.29	7.14	0.66
46	FUEL	195.4	959.6	63.81	25.5	127.0	.19	.14	5.11	0.24
47	OXYGEN	30.0	72.1	11.94	6.1	9.8	.06	.09	3.67	0.14
49	MISC. UTILITIES	43.6	125.7	23.42	5.9	16.4	.17	.22	1.71	1.20
51	INSTRUMENTS	124.1	376.5	70.48	31.3	53.7	.12	.13	34.36	0.12
52	AUTOPILOT	80.8	232.9	35.86	18.7	45.2	.12	.10	8.62	0.0
56	INDICATING AND RECORDING EQUIP.	0.3	1.3	0.05	0.1	0.0	-	-	0.02	0.0
61	HF COMMUNICATIONS	26.9	154.4	17.68	6.2	7.0	.00	.01	0.42	0.15
62	VHF COMMUNICATIONS	15.4	55.5	8.58	3.6	2.4	.02	.03	0.16	0.04
63	UHF COMMUNICATIONS	63.3	231.4	30.34	14.7	9.5	.02	.02	1.07	0.53
64	INTERPHONE	58.2	112.9	38.96	16.6	6.5	.02	.04	0.24	0.27
65	IFF	33.9	110.5	15.12	8.9	4.7	.04	.04	0.96	0.35
66	EMERGENCY COMMUNICATIONS	33.4	44.7	6.31	8.2	4.3	.0	.02	0.80	0.12
69	MISC. COMMUNICATIONS	10.2	12.5	18.90	1.7	0.2	.0	.0	0.06	0.12
71	RADIO NAVIGATION	191.4	410.1	66.75	45.7	29.5	.0	.02	3.82	0.70
72	RADAR NAVIGATION	270.5	873.4	115.94	64.9	60.6	.07	.09	9.79	0.91
91	EMERGENCY EQUIPMENT	29.6	78.6	5.38	14.2	0.0	.0	.0	0.05	0.32
96	PERSONNEL EQUIPMENT	0.5	1.2	0.06	0.0	0.0	.0	.0	0.0	0.0
97	EXPLOSIVE DEVICES	2.2	2.8	0.11	1.7	0.0	.0	.01	0.0	0.0
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	TOTALS	3421.6	10667.2	1874.31	635.8	681.9	5.69	5.27	160.01	23.38

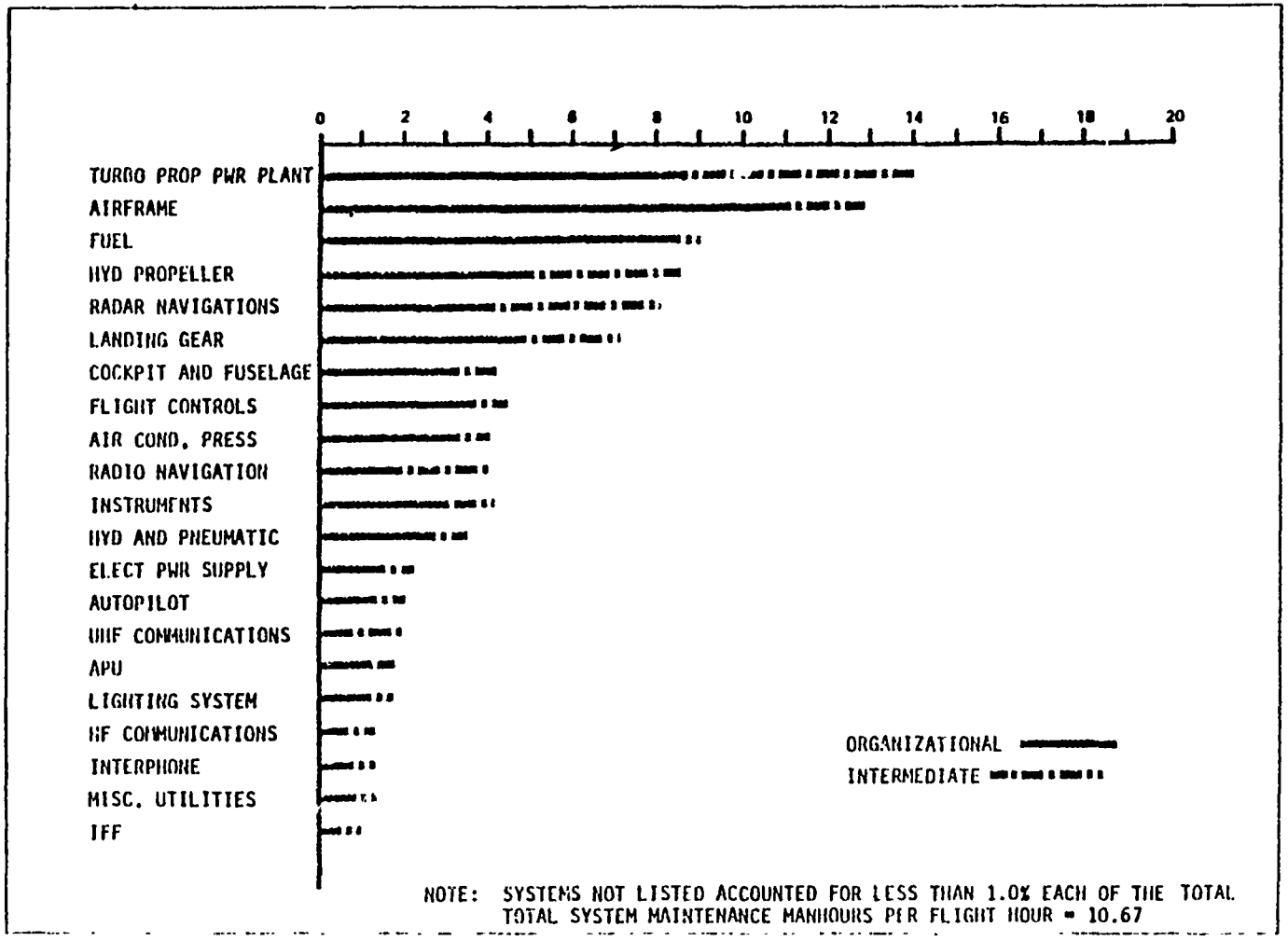

FIGURE 19 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS

manhours indicating difficulty in isolating causes of malfunctions in these systems. Figure 20 presents a troubleshooting manhour percentage distribution for the systems.

A percent distribution of organizational and intermediate tasks is shown in Figure 21. Organizational tasks accounted for slightly more than 82 percent of the 342.6 tasks per 1000 flight hours. Two systems, turboprop power plant and airframe were responsible for over 25 percent of the total. Organizational removal tasks, illustrated in Figure 22, accounted for slightly more than 18 percent of these total tasks.

Also, C-130E maintenance trends encompassing the 1962-1976 time period were established. The top 10 (by rank order assigned) component manhour consumer encompassing 18 work unit codes (WUC's) were established for the period of 1971-1976. Table 31 provides a rank order synopsis of each of the top ten contenders. Generally, these top ten manhour consumers ranked in 1971 continued to be major consumers of manhours throughout 1972 through 1976. The rank order positions of those top ten manhour consumers/component in 1971 show the customary departures during 1972-1976. However, at least 6 of the 1971 top ten components continue to remain as top ten manhour consumers during 1972 through 1976.

Figure 23 reflects the organizational removal tasks and depicts the 1962 through 1976 trend. A line of estimated "best fit" has been plotted for visual display purposes. It is apparent that there has been and most probably will continue to be, a general increase in the number of organizational removal tasks per 1000 flight hour as the weapon system continues to age. The majority of these removal tasks involve engine assembly, propeller assembly, fuel tanks fuel indicator and control subsystems.

Figure 24 depicts a composite of Organizational, Field and Avionics Maintenance Squadron tasks per 1000 flight hours. Again, an estimated line of "best fit" for both maintenance echelons was plotted as a means of reflecting historical as well as projected trends. A positive, upward trend in intermediate and organization maintenance tasks can be expected in the future. Although the aircraft utilization rate, i.e., flying hours per aircraft per month, shows a downward trend, the maintenance tasks show an inverse relationship. The argument is frequently stated that "maintenance goes up when flying rates go down merely because the aircraft is available." This argument, although having some merit to it, still serves as a deserving simplistic apporach to maintenance. Aging of aircraft flight hardware, plus the relatively low availability of replacement parts is one significant factor contributing to the general upward trend of maintenance tasks per 1000 flight hours.

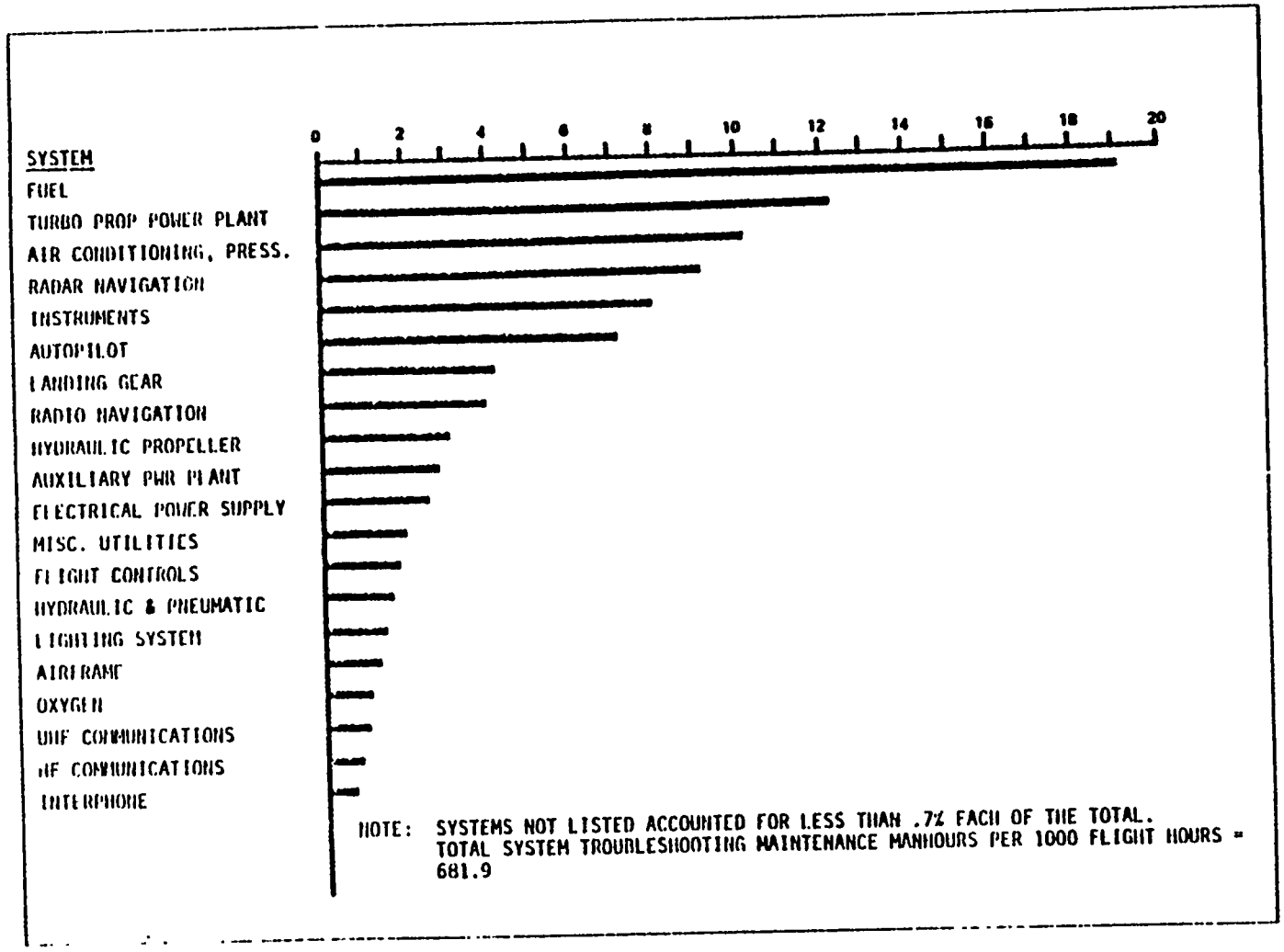

FIGURE 20 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM TROUBLESHOOTING MAINTENANCE MANHOURS (15 YEAR AVERAGE 1962-1976)

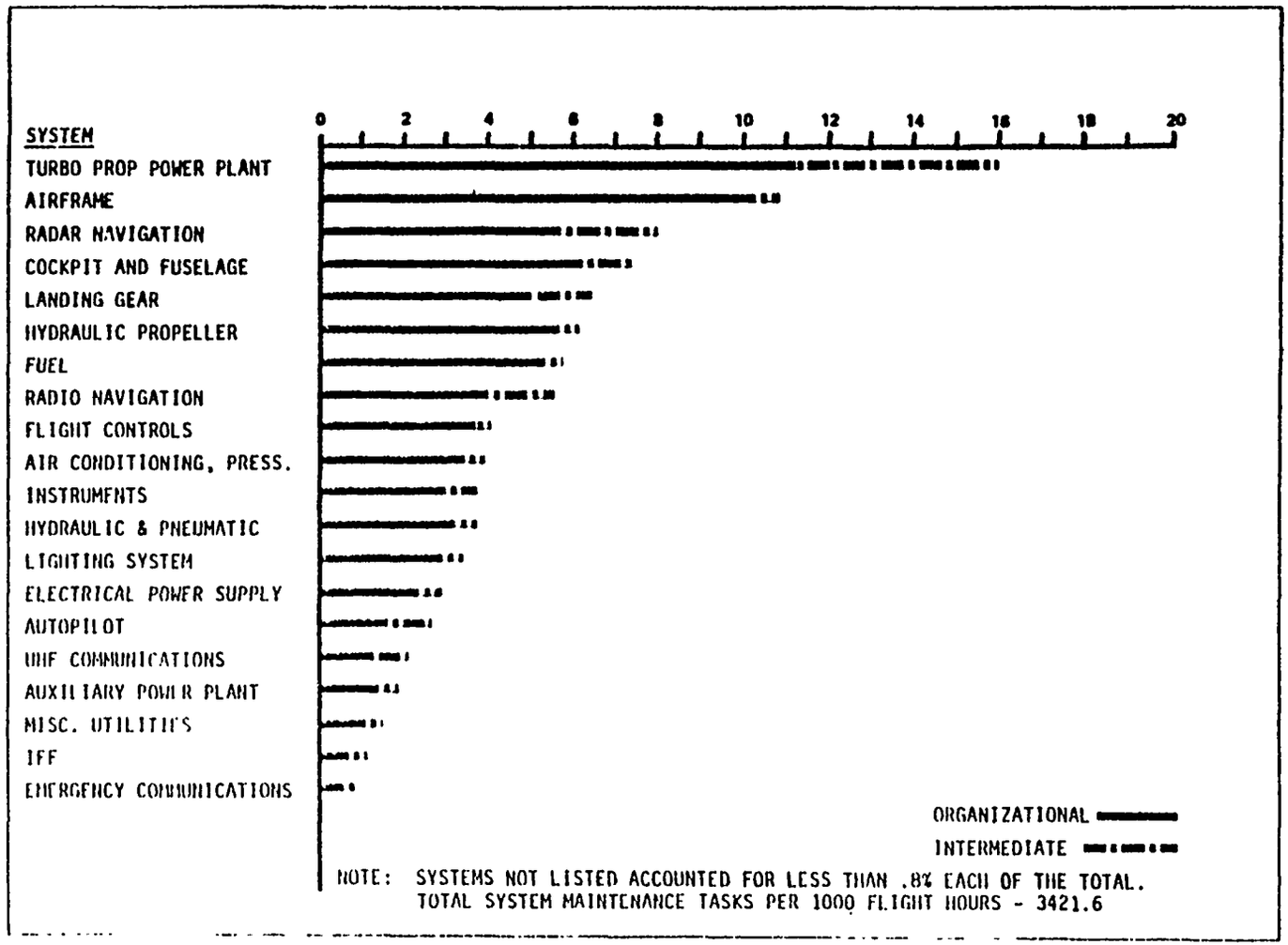

FIGURE 21 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS (15 YEAR AVERAGE 1962-1976)

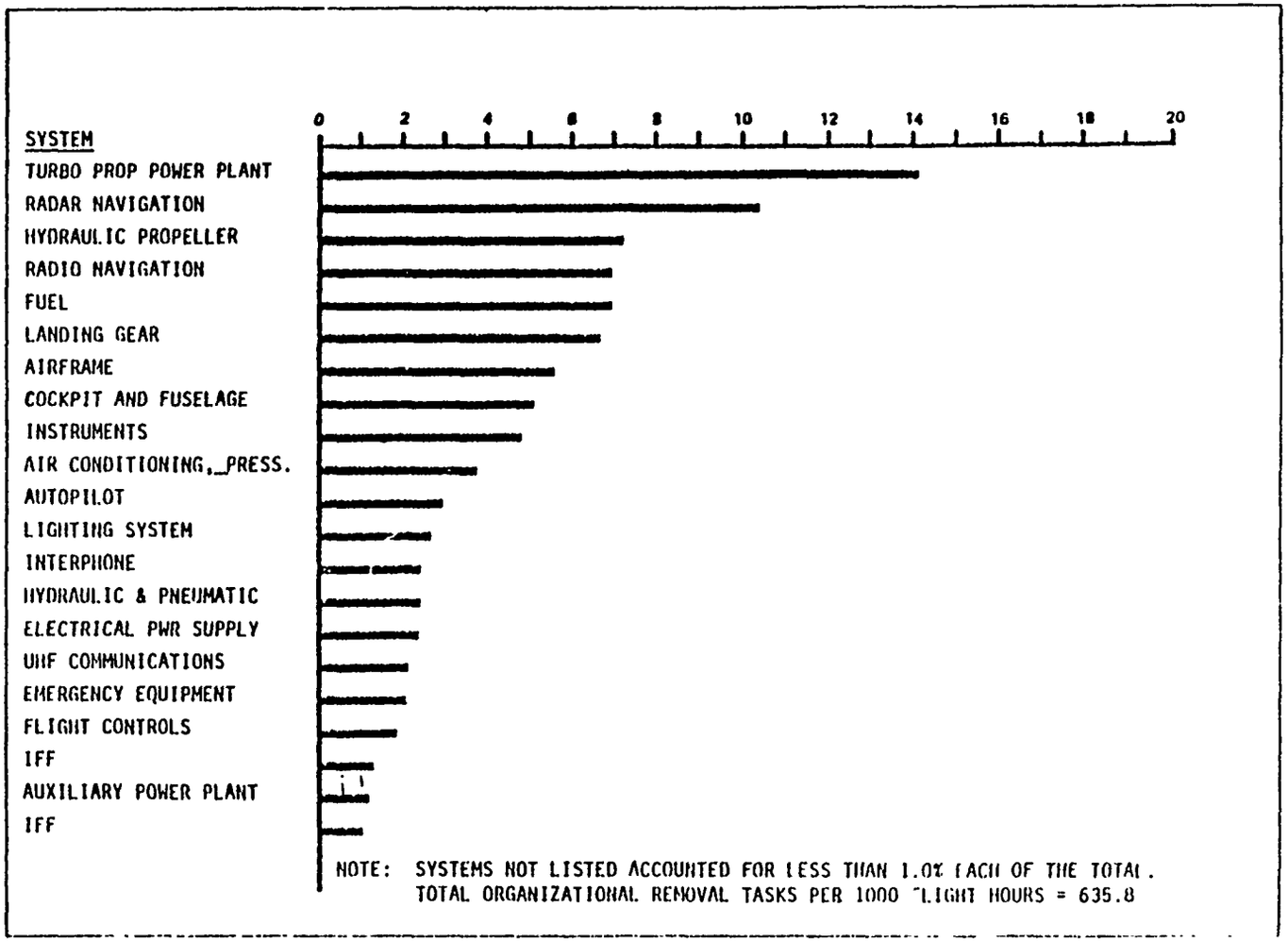

FIGURE 22 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL REMOVAL TASKS
(15 YEAR AVERAGE 1962-1976)

TABLE 31 C-130E TOP TEN COMPONENT MANHOUR CONSUMER

MUC	NOMENCLATURE	1971		1972		1973		1974		1975		1976	
		RANK	% OF SUBSYS	RANK	% OF SUBSYS	RANK	% OF SUBSYS	RANK	% OF SUBSYS	RANK	% OF SUBSYS	RANK	% OF SUBSYS
32511	PROPELLER ASSY-COMPLETE (TCI)	1	38.35	1	36.78	2	30.18	2	34.09	1	27.99	3	25.00
46110	INTEGRAL (MAIN) TANKS	2	33.71	2	32.16	1	31.13	1	31.13	3	17.27	4	14.69
71310	REC/TRANS, AN/ARN 21, TACAN SYS	3	34.01	4	31.68	7	30.04	6	30.67	5	26.84	6	25.70
32525	VALVE HOUSING ASSY (TCI)	4	19.04	5	15.78	4	16.01	10	14.45	10	12.36	9	11.97
72773	FREQUENCY, TRACKER, CV-1181	5	8.95	8	9.45	-	-	-	-	-	-	-	-
22691	UNIT ASSY, REDUCTION GEAR (TCI)	6	7.29	-	-	-	-	7	7.66	-	-	-	-
71417	RECEIVER	7	21.16	9	19.35	-	-	-	-	9	18.70	8	21.46
222AC	ENGINE AND QEC ASSY	8	6.77	3	14.74	3	12.97	3	13.93	-	-	-	-
222AA	QEC KIT W/O BASIC ENGINE	9	6.60	7	8.68	5	9.68	4	12.56	2	12.68	1	19.87
72124	RECEIVER-TRANS RT 2098	10	7.58	-	-	0	-	-	-	-	-	-	-
13721	TIRES, MAIN			6	13.64	10	14.74	-	-	-	-	-	-
46620	FUEL QUANTITY INDICATION			10	9.36	8	8.33	8	8.87	6	12.98	5	12.86
46115	DOOR, INTEGRAL (MAIN) TANKS					6	11.00	5	10.66	-	-	-	-
12810	CONVEYOR ASSY (SECT 1-24)					9	16.08	-	-	-	-	-	-
12000	DUAL RAIL CARGO HANDLING KIT							9	17.83	-	-	-	-
22200	ENGINE AND QEC SYSTEM									4	11.49	2	14.29
72RG0	RECEIVER-TRANS RT 289C									7	9.53	7	10.56
3252E	PUMP HOUSING ASSY (TCI)									8	12.77	10	11.10
	TOP TEN COMPONENT MANHOUR CONSUMERS												
	TO TOTAL C-130E WEAPON SYSTEM (%)	15.60		16.60		14.97		15.75		13.27		14.77	

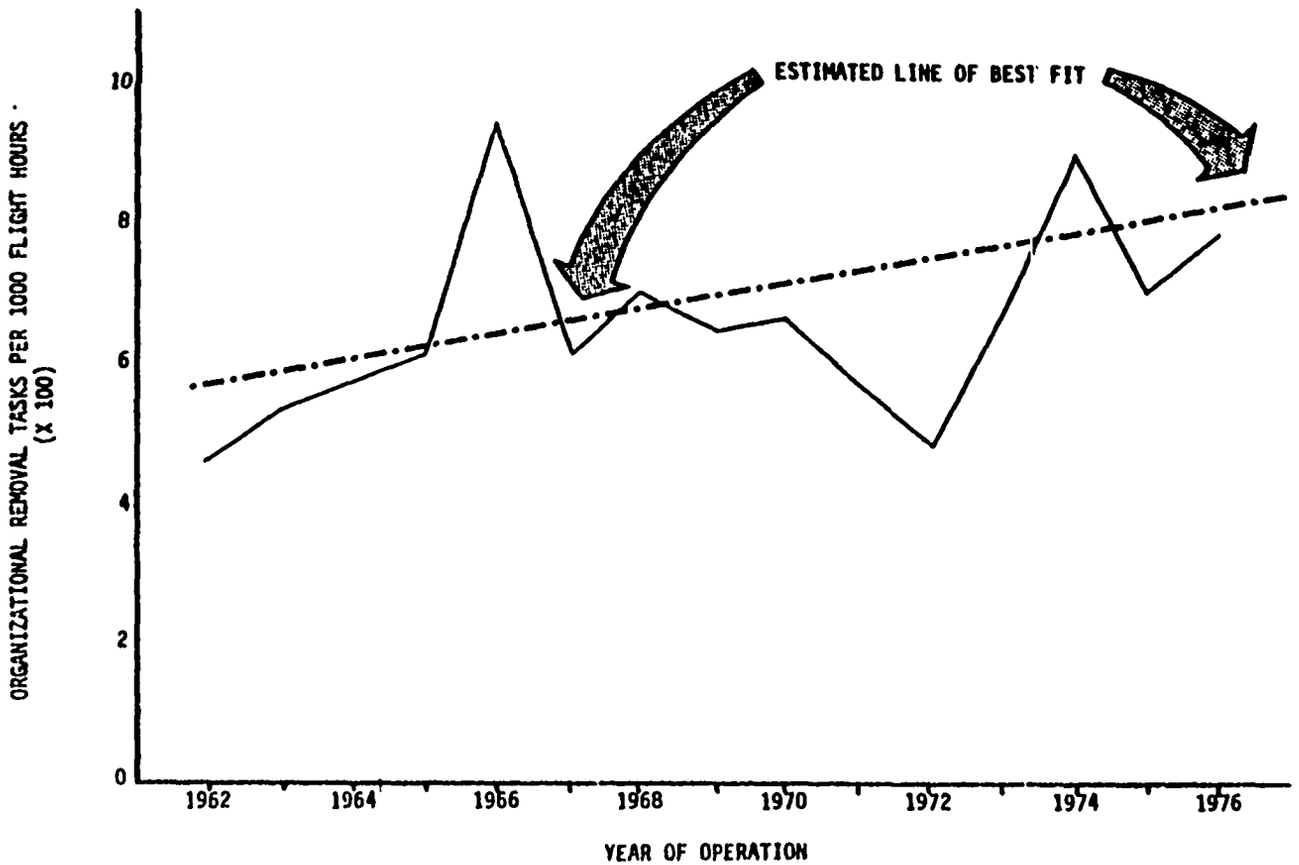

FIGURE 23 C-130E ORGANIZATION REMOVAL TASKS VS YEARS OF OPERATION

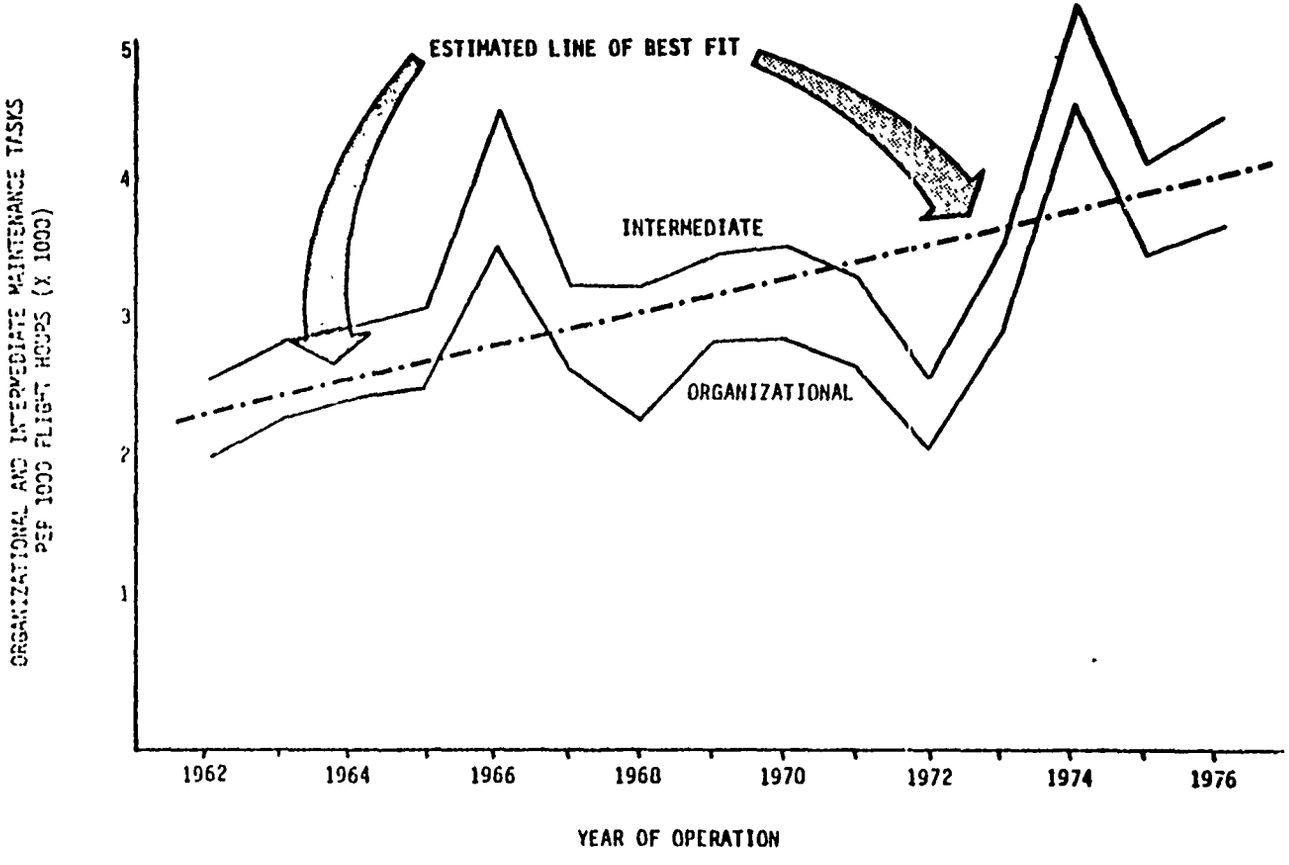

FIGURE 24 C-130E ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS VS YEARS OF OPERATION

A general upward trend in support general, organizational, and intermediate maintenance manhours can be seen in Figure 25. A high maintenance manhour profile is apparent during the high Southeast Asian utilization period of 1965 through 1968 with a downward profile occurring until 1972 followed by another upward maintenance surge through 1976. Not apparent in this figure is the fact that the flying rate per month per aircraft has dropped significantly since the Southeast Asian involvement. It appears that a continued upward trend can be forecast re: maintenance hour rates. TCTO installation hours reflect a dramatic drop in recent years. This is supported by the relatively small proportional contribution in maintenance hours since 1974.

RELIABILITY

From a reliability viewpoint, six systems - airframe, cockpit and fuselage, landing gear, turbo prop power plant, lighting, and radar navigation - accounted for 57.4 percent of the total system failures, 1874.31 per 1000 flight hours. Four of these - airframe, landing gear, turboprop power plant, and radar navigation - were also in the high maintenance manhour category. The remaining two systems - cockpit and fuselage, and lighting - ranked 7th and 17th respectively in maintenance. A failure is charged to a component whenever maintenance is necessary to restore it to a satisfactory operating condition. This definition includes actions/tasks such as adjustments, calibration, and repair or replacement of attaching parts. Figure I-1, Appendix I, displays a percent distribution of the 15-year average failures by system.

It is apparent from Figure I-2, Appendix I, that the generally upward slope of failure rate is indicative of an aging aircraft.

A percent distribution of components repair off base by system is shown in Figure I-3, Appendix I. Four systems - instruments, landing gear, turboprop power plant, and air conditioning-pressurization, accounted for 64.6 percent of the total 160.01 components repaired off base per 1000 flight hours. This grouping of systems would be expected for a cargo type aircraft as the components, sealed instruments, fire recap, and engine parts, are typically not repaired at the intermediate level. In general, a downward trend is being experienced in this area, Figure I-4, Appendix I, indicating greater base self-sufficiency.

The percent distribution of components condemned, Figure I-5, Appendix I, indicates that four systems out of the 29 accounted for 57.4 percent of the total 23.38 per 1000 flight hours condemn value. In order of significance, these systems are turboprop power plant, landing gear, cockpit and fuselage, and air conditioning, pressurization. Figure I-6, Appendix I, illustrates a decided drop in components condemned during the 15-year life of the aircraft, 1962 through 1976. The highest reported value was 50.15 per 1000 flight hours for 1962 and a low of 9.15 for 1972.

Only material aborts are covered in this report. Other types of aborts such as weather, higher headquarters, etc. were not acquired. Figure I-7, Appendix I, presents a percentage distribution by system of aborts divided into a ground or flight type. The aborts split almost equal with ground accounting for 51.9 percent and flight 48.1 percent.

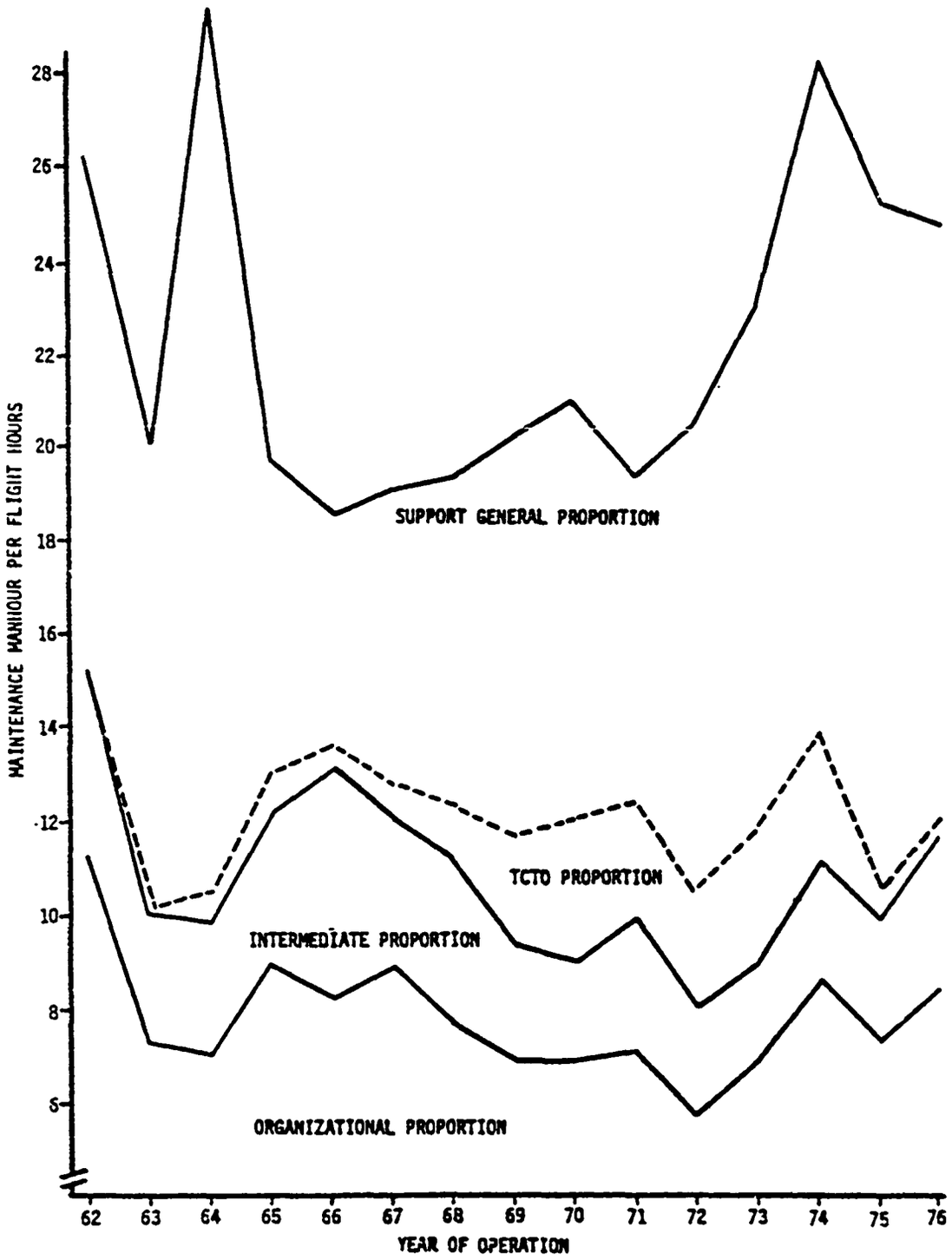

FIGURE 25 C-130E ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS AND TCTO (BASE AND DEPOT) MAINTENANCE MANHOURS PER FLIGHT HOUR VS YEAR OF OPERATION

Two systems, turboprop power plant and hydraulic propellers, accounted for exactly 50 percent of all aircraft aborts. Ground type aborts were in turn responsible for 57.5 percent of the aborts in the two systems.

Figure I-8, Appendix I, portrays the yearly abort rate (ground and flight) for the 15 study years. Although peaks occurred in 1966, 1971, and 1974 as a result of extensive aircraft operational involvement, the general trend was relatively stable.

The rank order of the top 10 component failures impacting organizational and intermediate maintenance for years 1971-1976 are depicted in Table 32. The top 10 ranked during 1971 reflect a wide range of variances apparent during each succeeding year, namely, 1972-1976. These rank order distributions encompassed 27 individual work unit codes (WUCs) **(Reference Table 32).** Current items reflecting highest failure rates include: **a)** blade assembly, **b)** wheel well assembly, **c)** floor panel assembly. **d)** B-nut. P/O hydraulic pneumatic valve, **e)** cooling, and **f)** center cargo insulation blanket. Also indicated, but not succinctly stated is the fact that components failing during particular year(s), when replaced or fixed by corrective action, precluded continued failure during subsequent years. Component items that initially showed high failures, continued to rank in the top 10 most failed list until corrective action was taken to resolve failure etiologies. Implied is the obvious fact that many components not failed and not scheduled for repair action accumulate "a time to fail profile." This is borne out by the listing of new and/or different failed components in 1972 when compared to 1971, 1973 when compared to 1972, 1974 when compared to 1973 and so on through 1976.

The depot repair tasks per 1000 flight hours is shown in Figure I-9. Excluding the miscellaneous "system," radar navigation, landing gear, fuel, and air conditioning/pressurization accounted for almost 44 percent of the total 584.127 depot actions per 1000 flight hours. Figure I-10, presents the percent distribution of all C-130E identified depot repair tasks by system.

TABLE 32 C-130E TOP TEN ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES

WUC	NOMENCLATURE	1971		1972		1973		1974		1975		1976	
		RANK	% OF SUBSYS	RANK	% OF SUBSYS	RANK	% OF SUBSYS	RANK	% OF SUBSYS	RANK	% OF SUBSYS	RANK	% OF SUBSYS
46110	INTEGRAL (MAIN) TANKS	1	37.22	1	37.66	1	48.37	1	33.98	10	2.80	-	-
22136	FILTER ASSEMBLY	2	8.68	8	6.95	-	-	-	-	-	-	-	-
11541	COWLING	3	6.46	3	7.18	4	7.47	3	6.15	3	4.83	5	4.45
22603	FILTER ASSEMBLY	4	8.15	-	-	10	5.61	-	-	-	-	-	-
11430	WHEEL WELL ASSEMBLY	5	6.32	4	6.66	5	6.48	2	6.80	1	7.42	2	6.74
32528	FILTER ASSEMBLY	6	23.31	6	14.60	6	17.35	-	-	-	-	10	13.18
452AP	B-NUT	7	24.96	5	26.49	7	26.82	4	29.42	4	31.34	4	33.40
32525	VALVE HOUSING ASSY (TCI)	8	19.79	7	16.76	9	14.32	10	17.90	-	-	-	-
71310	REC/TRANS, AN/ARN-21, TACAN SYS	9	25.29	-	-	-	-	-	-	-	-	-	-
22010	AMPLIFIER - T.D.	10	6.81	10	6.69	-	-	8	5.65	6	5.77	7	6.73
13721	TIRES, MAIN			2	22.69	-	-	-	-	-	-	-	-
12070	DETENT LATCH ASSY, LEFT			9	9.47	-	-	-	-	-	-	-	-
12010	CONVEYOR ASSY (SECT 1-24)					2	14.98	-	-	-	-	-	-
12014	ROLLER ASSEMBLY					3	13.86	-	-	-	-	-	-
12010	DETENT LATCH ASSY, RIGHT					8	7.21	-	-	-	-	-	-
44271	LIGHT ASSY, PANEL							5	13.53	-	-	-	-
12313	TROOP SEAT							6	9.58	-	-	-	-
44165	LIGHT ASSEMBLY, FORMATION							7	13.15	-	-	-	-
44217	LIGHT ASSY, DOME, CARGO COMP.							9	10.08	-	-	-	-
22203	ENGINE AND QEC SYSTEM									2	9.47	-	-
32511	BLADE ASSEMBLY									5	21.27	1	28.61
1161	LEADING EDGE									7	3.33	-	-
1141	FLOOR PANEL ASSEMBLY									8	2.94	3	5.06
1152Q	TRAILING EDGE									9	2.83	-	-
12411	INSULATION BLANKET, CENTER CARGO											6	10.14
1231K	INSULATION BLANKET, FORWARD CARGO											8	8.30
1162C	LEADING EDGE											9	3.38
	TOP TEN COMPONENT FAILURES												
	TO TOTAL C-130E WEAPON SYSTEM (%)	11.43		11.31		12.82		10.87		9.71		10.26	

SAFETY

Analyses of recorded unplanned events (accidents) during the 1962-1976 time period reflect the following trends, namely: a) the occurrence of unplanned events (major and minor accidents) began an upward trend in 1964 with a peak occurring in 1967, and b) a downward trend is apparent between 1967 through 1971 with a slight bi-modal increase noted in 1972 and 1974. The numbers of total unplanned events per year reflect a positive correlation to flight hours logged per year. Figure 26 provides a graphic scenario of major, minor, and total numbers of accidents that occurred since 1962. To date, a general downward trend of unplanned events (both major and minor accidents) is evident since 1972. It is expected that this level, attained in 1976, should remain at its present stage, if the numbers of flight hours, hence exposure level, remain steady state. This presumes that no major or cumulative fault side operations and/or maintenance practices are allowed to creep into current practices.

Figure 27, provides a graphic display of ratios of major and minor damaged aircraft and fatal accidents that have occurred per each 100,000 flight hours logged. A general upward trend in major and minor accident rates is apparent during the years of 1962 through 1967 followed by a downward profile in the ensuing years of 1968 through 1971. The highest ratios of accidents per 100,000 flight hours occurred in 1972 and 1974 with a dramatic drop thereafter. An upward trend in fatal accidents is evident from 1964 through 1972 with a subsequent downward trend recorded during the near term periods of 1973 through 1976. Extant within Figure 27 is a tabulation of the rates (ratios) of C-130E aircraft destroyed per 100,000 flight hours. For example, in 1963, there were 1.2 aircraft accidents per 100,000 flight hours with a concurrent destroyed aircraft ratio also of 1.2. In 1964, the accident ratio was 1.3 with a destroyed aircraft ratio of 0.00.

Further analyses of data concerning the flight or operating phases of the aircraft most likely to result in accidents has evolved the following historical profiles, viz:

1. Most unplanned events can be expected to occur during landing. An average of 59% of all unplanned events occur during the landing phase, with the majority of these occurring during flareout (30%), followed by roll (19%) and approach (10%).

2. Unplanned events occurring inflight, ranks as the second highest accident category with a 15 year historical profile of 17%. The majority of these occur during normal flight (9%), followed by low level flight (7%) and descent (1%).

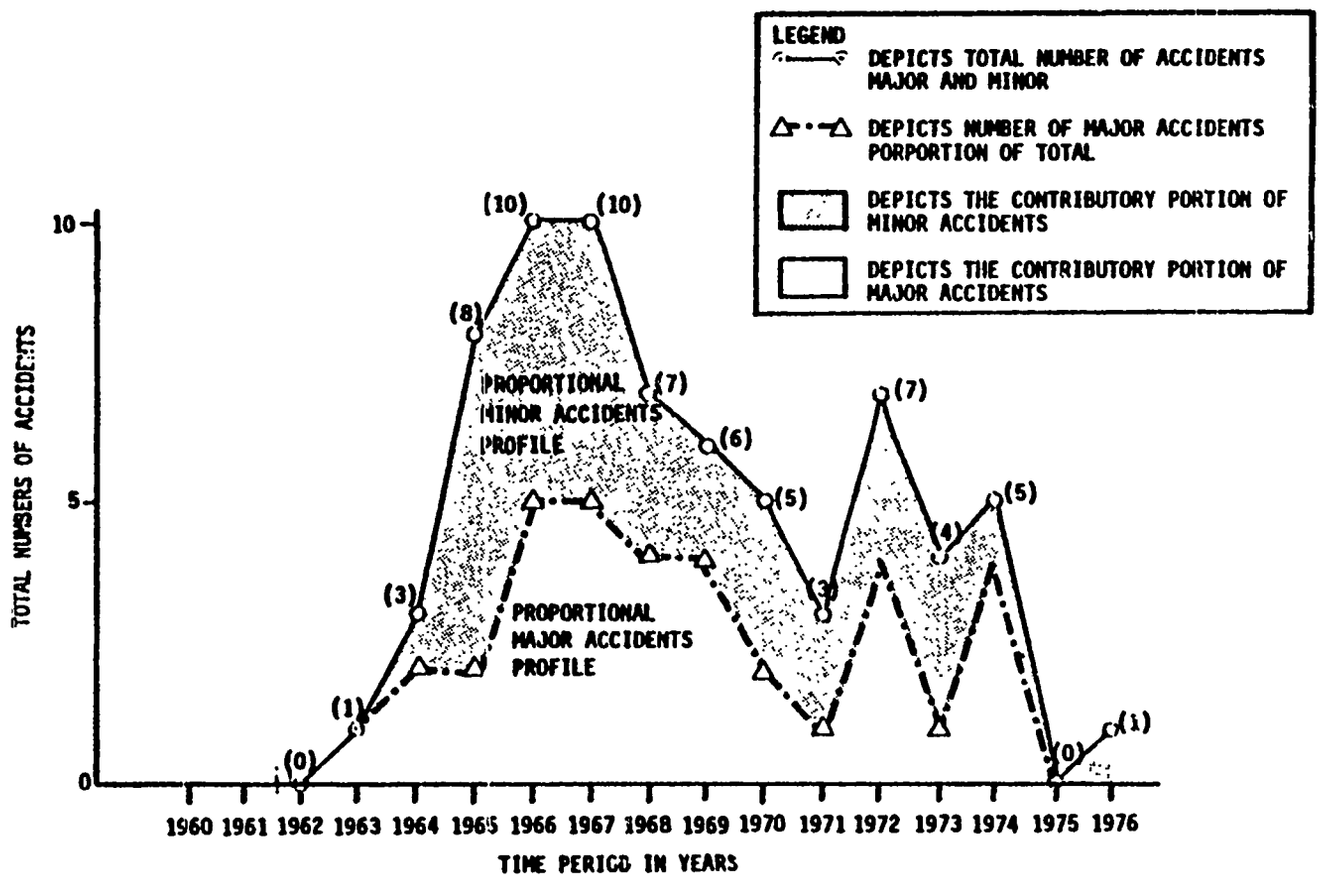

FIGURE 26 C-130E FLIGHT ACCIDENT SUMMARY - 1962 THROUGH 1976

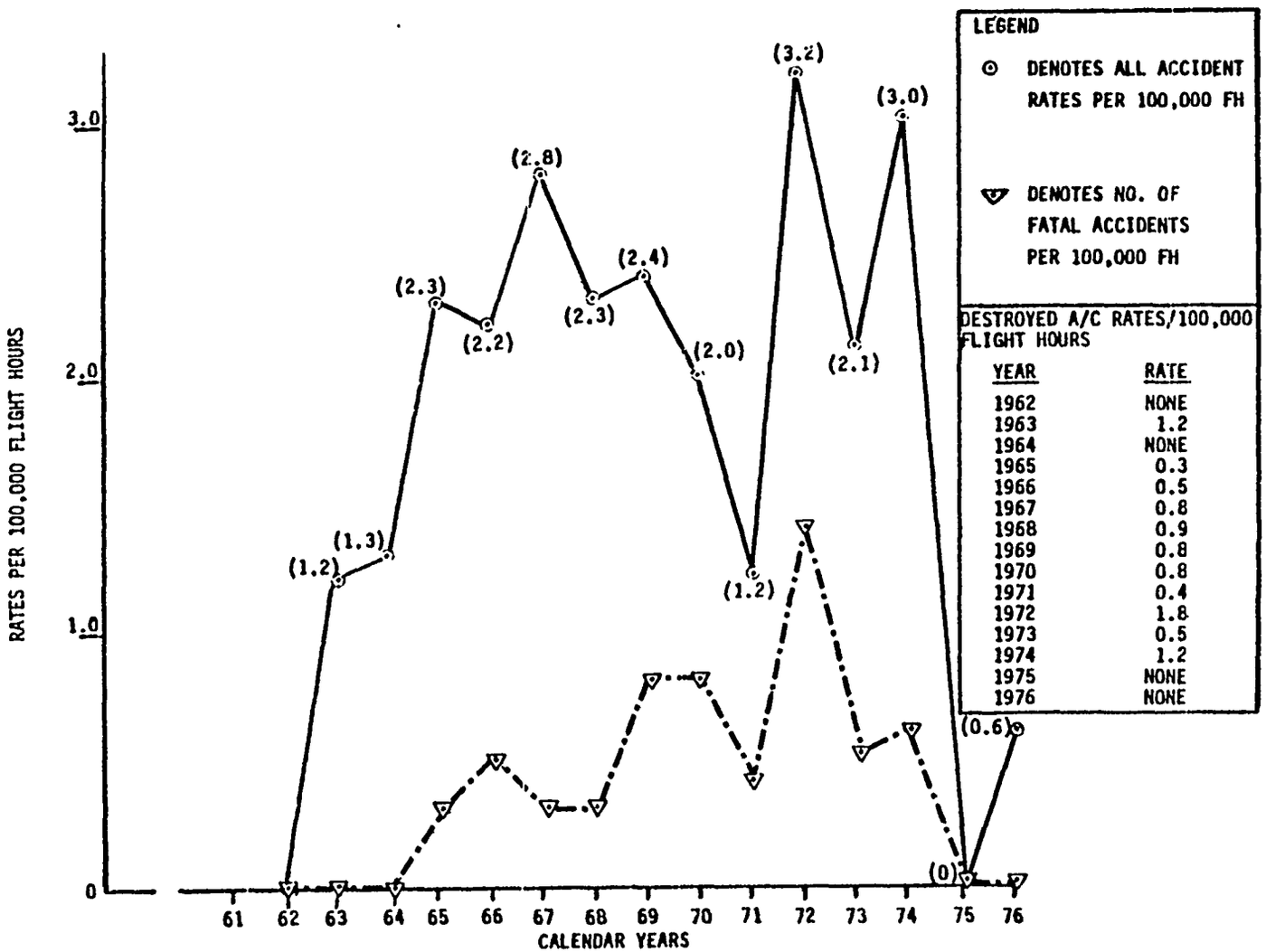

FIGURE 27 C-130E ALL ACCIDENT AND FATALITY RATES PER 100,000 FLIGHT HOURS

3. Nine percent (9%) of all unplanned events occurred during taxiing (6% to takeoff and 3% taxiing from landing).

4. Seven percent (7%) of all unplanned events occurred during takeoff. Three percent (3%) occurred during roll, three percent (3%) occurred during initial climb and one percent (1%) occurred as a result of discontinued takeoff.

5. The remaining unplanned event phases of flight operations that contribute to this proportional non-safety mosaic are:

   a. Four percent (4%) occur during flight go-around and premeditated touch-and-go exercises.

   b. Four percent (4%) occur while the engines are running but the aircraft is not taxiing.

HUMAN RESOURCES

Maintenance Manpower

Present maintenance manpower resource levels indicate an existing maintenance manpower profile of almost 28 personnel (officers, enlisted and civilian) per C-130E aircraft. Reference Section III above for detailed information. A definite downward trend in Air Force personnel has occurred subsequent to 1972 due to planned reductions in force. However these reductions have not been apparent concerning the C-130 weapon system subsequent to the reductions that occurred in 1972. Table 33 below provides a summary of the numbers of officers, enlisted and civilian personnel totals from 1962 through 1976.

TABLE 33 -C-130E PERSONNEL AND POSSESSED AIRCRAFT BY YEAR

YEAR	TOTAL PERSONNEL	POSSESSED AIRCRAFT
1962	305	11
1963	2303	83
1964	6265	226
1965	8732	315
1966	8178	295
1967	8068	291
1968	7733	279
1969	8011	291
1970	8426	304
1971	8953	323
1972	8262	298
1973	8118	293
1974	8178	295
1975	8206	296
1976	8233	297

The accrual of personnel during the years of 1962 through 1965 is due to the large influx of delivered C-130 aircraft during these years. Although waveform fluctuations in total personnel occurred subsequent to 1965, a definite historical trend upward or downward is not evident except for 1971. Analyses of assigned manpower profiles by work center show that the majority of the C-130 maintenance personnel are located within the Field Maintenance Squadrons, followed by the Organizational Maintenance Squadrons, Avionics Maintenance Squadrons and Deputy Commander for Maintenance areas. The relative proportional weights of personnel per Unit of Equipment (UE) at these respective locations are: 1) FMS = 39.369%; 2) OMS = 32.350%; 3) AMS = 17.989; and 4) DCM = 10.305%. It is presumed that these percentiles expressed above will continue during the ensuing years, irrespective of the numbers of possessed C-130 aircraft.

Operations Manpower

Operations manpower profiles (i.e., pilots, co-pilots, navigators, flight engineers, and loadmasters) are expected to remain at a steady state, providing the aircraft utilization rates remain essentially unchanged. At present, crew ratio of 2.0 per aircraft is in effect. Crew profiles, as discussed in Section III above, indicate a leveling off since 1971. Future trends in flight crew numbers are difficult to project as they are sensitive to aircraft utilization demands. These demands, such as movement toward a war readiness posture induce a surge that can only be accommodated by increased crews providing utilization rates exceed 4.0 flying hours per day per aircraft.

Field Training

Current trends of Field Training Detachment workloads are expected to remain at a steady level of about 1,027 graduates per year per C-130 FTD at a rate of 44,400 annual trainee hours per FTD. Again, this is subject to dramatic upward shifts if C-130 logistics support rates increase due to extended surge demands.

Educational Backgrounds - Officer Personnel

Historical records, acquired from the Computational Sciences Division, Air Force Human Resources Laboratory, Lackland AFB, Texas, clearly show the upward trend of achieved academic status. In brief, 1962 through 1976 data reflect the following educational historical profiles of maintenance officer personnel:

1. Non-high school graduate personnel are not officer rated.

2. Significant drops in numbers of high school graduates holding officer ratings have occurred over the past 15 years (from 2383 in 1962 to 84 in 1976).

3. Few officer rated personnel attend college without graduating.

4. More officer rated personnel successfully matriculate (Bachelor degrees) in today's environment that existed in the early and late 1960's.

5. More officer rated personnel receive advanced degrees (Master's and above) than in previous years. This is particularly true since June 1972.

6. The numbers (stated in proportional values) of officer rated personnel attending post-graduate courses subsequent to receipt of Master's degree certification is essentially unchanged.

7. A slight proportional increase in the numbers of Doctorial certified officers has occurred.

These trends are expected to continue as advanced Air Force technologies are introduced into future systems.

Educational Backgrounds - Enlisted Personnel

In general the trends summarized for officer personnel above also apply to enlisted personnel. Fewer enlisted personnel are non-high school graduates in 1976 compared to numbers recorded in previous years. Proportionately more enlisted personnel are attending college and/or matriculating with bachelor's degrees than in previous years. These trends are expected to continue.

MATERIAL RESOURCES AND COST DATA

These two areas, although extensively discussed as separate identities within this report, are combined at this point for two reasons: a) both are dollar oriented, and b) a common-theme was evident. This theme or message was that no actual historical material or cost data had been collected or maintained over the life cycle of the weapon system and that no single data source exists that collects and maintains total historical cost data.

Within Material Resources and Cost Data, various data collection systems are discussed as to their respective purposes and results presented, however fragmentary, as they applied to this study. It is suggested the reader carefully review the limitations and intent of the system in question prior to the application of values shown.

V CONCLUSION

SYNOPSIS

This report describes the work accomplished under Task III and IV of a six task study to "Historically Analyze the Resource Utilization Profiles of C-130E." The purpose of Task III was to identify, locate, collect and analyze all available C-130E data in Air Force data files, archives and data systems. This data, coupled with the published literature acquired and evaluated during Task II (Ref. 10), became the imput to Task IV.

The objectives of Task IV were: a) to develop a data matrix that evaluates the various data sources, b) to develop techniques and computer process the data collected, and c) to statistically analyze and package the data for presentation and use in this report. Detailed analysis of what the data may reveal about the C-130E aircraft and its design, operation and maintenance was not within the scope of this study.

Results of the work accomplished during Task III and IV included in this report are: a) development of an extensive collection of C-130E historical data elements (Section II), b) development of a data evaluation matrix (Section II), c) a data sources and agencies table (Appendix A), and d) extensive tables and graphs (Section III) depicting the fifteen year historical profile of the C-130E Hercules aircraft including:

- Quantified organizational and intermediate and corrective maintenance manhours by sub-system, per 1000 flight hours.
- Distribution of corrective maintenance tasks by sub-system.
- Organizational and intermediate tasks by sortie.
- Organizational remove and install tasks per 1000 flight hours and component failures by system per 1000 flight hours and per sortie.
- Maintenance manpower estimates.
- Flight training histories.
- Time compliance technical order kits installed at base and at depot, including numbers and manhours.
- RDT&E, acquisition and O&S cost data.
- Educational levels of selected officer and enlisted Air Force skill codes.
- The C-130 MDS milestones, family tree and the C-130E system description.

All data acquired for the study were indexed into seven basic categories, i.e.; a) operations, b) maintenance, c) reliability, d) safety, e) human resources, f) material resources, and g) cost. In general, excellent weapon system data in the operational category was obtained for the 15 years of history. The maintenance, reliability and safety data categories were well documented. Scarcity of complete historical data were noted in the human resources, material resources and cost data categories. Therefore, statistical normalizing techniques were applied to the available data slices as the means of filling in missing years for selected data elements.

Despite some misgivings in some areas relative to the use of data from Air Force data systems for study purposes, this study has shown that one can derive a meaningful historical data base for others to use in predicting resource requirements for new, similar systems.

PROBLEMS

Some of the more significant problems were:

- A massive amount of data (6.1 million records and 900 reports, papers, articles, etc.) was collected and evaluated. Packaging and evaluating this data for logical presentation in a relatively few pages was a formidable task. There are any number of combinations in which the data could be packaged and displayed. The available time and study resources allocated did not permit investigation into the best displays of most practical approach. The contractor overcame this problem by the use of skilled personnel methods, techniques, computer programs and displays previously developed during twenty years of acquiring data from Air Force data systems/sources and applying the analyzed results to numerous Air Force programs.

- Much difficulty was encountered in sorting C-130E data from gross data on the C-130 MDS. This was especially true in the cost category and in the depot area.

- The general policy of USAF agencies to minimize historical data files, retaining data for short time periods only, as well as not having a central weapon system data repository had a profound affect on analytical results. Extrapolative and interpolative analytical results are always "second best" when attempting to evolve quantitative weapon system histories.

- In some cases, data requested were either not delivered or made available or sometimes arrived too late for analysis. This precluded quantitative compilation of meaningful, accurate historical profiles in some areas.

- Conflicting sources of data (e.g., number of possessed C-130E aircraft per year from 1962-1976), obviated or attenuated analytical progress. In some cases these conflicts could not be satisfactorily resolved.

- Compilation of fragmented and/or discontinuous data resulted in formulation of some scattered, discontinuous analytical results.

Most of the difficulties encountered were resolved through extensive conference telephone conversations with key personnel located within the multitude of USAF agencies visited by Boeing investigators. Data source summaries, compiled during field trips, served as an excellant "yellow page" directory for additional follow-up when conflicts or other difficulties were encountered. Conflicting data problems were primarily resolved via engineering judgment or by direct contact with the originating USAF agency(ies).

RECOMMENDATIONS

The following recommendations are made:

- The Air Force should develop and implement an integrated historical data center to accumulate and maintain the seven categories of data developed in this study, by weapon system (MDS). This would allow Air Force agencies and their contractors to use a common data base in making trade studies and in responding to proposals for new weapon systems and equipment.

- Meanwhile, additional historical data bases on selected Air Force systems should be developed as delineated in this study. It is recommended that each study extend for 18 months to 24 months to allow adequate time for data acquisition and analysis.

- Similar studies should cover a weapon system (MDS) family rather then a single selected model. Family differences could be accounted for in equipment and configuration differences.

- A study of Air Force data systems should be made to identify data deficient areas and the means for accumulating actual data for missing elements. Much of this could be done by sampling.

- The data evaluation pointed to many obvious areas for future investigation such as; why is fuel consumption at one base, twice that at another? Why are maintenance manhours so high on the system interface items such as wiring, plumbing, connections and fasteners? Is the planned training versus the actual task performance compatable? Why are so many after the fact modifications required and are they all necessary? What is the relationship between make work modification cost and RDT&E cost?

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GLOSSARY OF TERMS

ABORT MATERIAL — Premature termination of a flight because of mission essential equipment failure.

ACCIDENT — An unplanned event that does damage to persons or property, exclusive of damage caused by action of an enemy or hostile force, see AFR 127-4 for exact definitions of different accident classes.

AEROSPACE VEHICLE — For the purposes of this manual, an aerospace vehicle includes all USAF owned aircraft and selected missiles (ADM, AGM-28, AQM, BQM, CIM, CGM, LGM, HGM, LV, and SLV).

AIRCRAFT ATTRITED — Aircraft lost from the inventory because of attrition.

AIRCRAFT MODIFICATION — Class IV modifications are defined (AFR 57-4) as those retrofit changes required to insure safety of personnel, systems, or equipment by eliminating operational, nuclear, or physical hazard, necessary to correct a deficiency including one that effects reliability, maintainability, electro-magnetic compatibility, or communications security; or required for logistics support purposes. Class V modifications are defined (T.O. 00-25-30) as changes to the physical configuration or in the functional characteristics of a system or equipment. Class V modifications improve system operational capabilities and are often associated with changes in assigned mission. Aircraft modification provides for:

a. Class IV and V modifications of:

   (1) in-service aircraft

   (2) direct ground support equipment

   (3) training equipment (aircraft)

   (4) components

b. Procuring, under HQ USAF approved and directed modernization/maintenance programs:

   (1) modification kits and special tools

(2) concurrent replacement of equipment taken from stock

(3) peculiar ground support equipment

(4) revised technical data and handbooks

c. Modifying in-inventory components.

AIRCRAFT PROCUREMENT — (Appr. 3010). This appropriation provides for fabricating and procuring aircraft weapon systems, modifications, direct ground support equipment, aircraft industrial facilities, spares and repair parts, war consumables, miscellaneous aircraft requirements, and first destination transportation. It includes procuring of Air Force Stock Fund items (except from the Stock Fund), base procurement (see AFR 67-3), contract technical services (see AFR 66-18), engineering data, installing prototype modification under HQ USAF approved and directed modernization/maintenance programs, and labor required for Class IV and V modifications when the aircraft are a part of the scheduled modernization program for example B-52 for FY 1967 Program.

AIRCRAFT REPLENISHMENT SPARES AND REPAIR PARTS — Are those required to support aircraft in the inventory, the modification and modernization program, war readiness material, and related support equipment, that is, AGE. Aircraft replenishment spares are those investment type items (recoverable and replacement) which are normally repaired and returned to stock. Investment type items are defined as repairable assemblies, spares and repair parts which are centrally managed. The cost of aircraft replenishment spares is funded out of Air Force Appropriation 3010, Aircraft Procurement.

AIRCRAFT SAMPLED — The number of aircraft included in the data sample - may not include all aircraft of a given model.

AIRCREW — The full complement of officers and airmen designated to man an aircraft in flight.

AIRCREW PERSONNEL — Personnel whose primary duty is to occupy aircrew positions.

AIR FORCE SPECIALTY CODE (AFSC)	A numerical designation of an Air Force Specialty. The meaning of the codes is specified in AFR 35-1, Military Personnel Classification Policy Manual.
AIRFRAME TIME	The average number of flight hours accumulated on the airframe of the fleet of aircraft sampled.
ATTACHING PARTS	This includes items such as seals, gaskets, electrical connections, fittings, etc. MDC action taken code "G".
AUTHORIZED ACTIVE INVENTORY (AAI)	The sum of UE authorized (to include the force UE plus UE required to train replacement crews) plus an allowance for not operationally available (NOA) (10% for force aircraft) plus those aircraft in test category for the purpose of improving the capabilities of the MDS concerned. This term refers to authorizations only and does not include physical assets.
AVERAGE FLIGHT LENGTH	The total flying hours divided by the number of sorties yields the average flight length.
AVERAGE UTILIZATION	The average number of hours flown by one aircraft in one month.
BASE MAINTENANCE	a. Base maintenance is that maintenance performed at base level by designated maintenance organizations. It generally consists of three types of maintenance: organizational or flight-line, field and periodic. b. The base maintenance cost factors include costs for military and civilian labor and expense material purchased from the Systems Support Division and the General Support Division of the Air Force Stock Fund. Military labor cost is funded out of Air Force Appropriation 3500, Military Personnel, while civilian labor and material costs are funded out of Air Force Appropriation 3400, Operations and Maintenance (O&M).
BENCH CHECK	Maintenance action to determine condition of an item entering intermediate (shop) maintenance. MDC action taken codes A through D and 1 through 9.

BENCH CHECK AND REPAIR	Item bench checked and performance of concurrent repair action. MDC action taken code "A".
BENCH CHECK (ONLY)	Item bench checked and no subsequent action. MDC action taken codes "B", "C", "D".
BENCH CHECK SERVICEABLE	Item found serviceable after bench check. MDC action taken code "B".
COMMAND OPERATING	The Air Force Command and geographical area which possess the aircraft under study.
COMPONENTS REPAIRED OFF BASE	See NRTS.
CONDEMNED	Items that cannot be repaired and are processed for condemnation, reclamation, or salvage, MDC action taken code 9.
CREW COMPOSITION	The number of pilots, navigators, electronic warfare officers, and airmen authorized as aircrew for a particular weapon system by Air Force Specialty Code (AFSC). It should be noted that crew composition is frequently varied by mission.
CREW RATIO (CR)	The aircrew-to-aircraft ratio reflecting the number of aircrews for each UE aircraft in the squadron.
DATA TIME PERIOD	Beginning and ending dates of the time period of the data sample; selected as representative because of consistency in operations and data reporting.
DEPOT MAINTENANCE	That maintenance performed on material requiring major overhaul or a complete rebuild of parts, assemblies, subassemblies and end items including the manufacture of parts, modifications, testing, and reclamation as required.
FAILURE	Any item that requires maintenance to restore to a satisfactory operating condition, including repair/replacement of attaching parts. Normal service is not included. MDC failure count is obtained from AFTO Form 349 subject to the following criteria:

Units of work having the following MDC How Malfunction codes were omitted:

793 - No Defect - TCTO Kits Received by Base Supply

796 - No Defect - Removed for Reliability Assessment

797 - No Defect - Technical Order Previously Complied With

798 - No Defect - Technical Order Not Applicable - Equipment to be Replace, Modified or Not Installed

799 - No Defect

800 - No Defect - Component Removed and/or Reinstalled to Facilitate Other Maintenance

801 - No Defect - Technical Order Compliance

802 - No Defect - Partial Technical Order Compliance

803 - No Defect - Removed For Time Change

804 - No Defect - Removed for Schedule Maintenance

805 - No Defect - Not Otherwise Coded

811 - No Defect - Class 1 Modification

812 - No Defect - Associated Equipment Malfunction

911 - Engine TCTO Correction Code

948 - No Defect - Operator Error

If the data were taken from an On-Equipment Form, failures were defined by the following "Action Taken" Codes:

F - Repair

G - Repair and/or Replacement of Attaching Parts

K - Calibrated - Adjustment Required

L - Adjust

V - Clean

Z - Corrosion Treatment

If the data were taken from a shop form, failures were defined by the following Action Taken Codes:

1 - Bench Checked - NRTS (Not Repairable This Station) - Repair Not Authorized

2 - Bench Checked - NRTS - Lack of Equipment, Tools, or Facilities

3 - Bench Checked - NRTS - Lack of Technical Skills

4 - Bench Checked - NRTS - Lack of Parts

5 - Bench Checked - NRTS - Shop Backlog

6 - Bench Checked - NRTS - Lack of Technical Data

7 - Bench Checked - NRTS - Excess to Base Requirements

8 - Bench Checked - Returned to Depot Facilities by Direction of System Manager or Item Manager

9 - Bench Checked - Condemned

A - Bench Checked and Repaired

D - Bench Checked - Transferred to Another Base

F - Repair

G - Repair and/or Replacement of Attaching Parts

K - Calibrated - Adjustment Required

L - Adjust

V - Clean

Z - Corrosion Treatment

FAILURE MODE	Key word(s) describing the equipment failure within the limits of the MDC "How Malfunction" listing in the Work Unit Code book.
FLIGHT ABORT	The premature termination of a flight because of mission essential equipment failure - MDC When Discovered Code "C".
FLIGHT TIME	Hours of operation recorded from brake release to engine shutdown.
FLYAWAY COST	Flyaway cost for aircraft includes the cost of the following airborne and installed equipment: airframe, propulsion equipment, electronics, armament, and other installed government furnished equipment.
FULL STOP LANDING	The action of bringing an airplane down after having descended to a point fifty feet above the surface, of making contact with the surface and of completing the landing roll.
GENERAL SUPPORT MATERIAL	Material purchased from the General Support Division which is decentrally managed expense type items including aircraft, electronic and communications repair parts. and base consumables.
GROUND ABORT	The cancellation or postponement of an aircraft scheduled for flight because of substandard performance of mission essential equipment - MDC When Discovered Code "A".
GROUND HANDLING AND SERVICE	Includes manhours expended positioning, parking, moving, fueling and other servicing functions on an aircraft and coded under the 01XXX work unit code series.
HUMAN RESOURCES	For purposes of this study, includes: people required to perform support functions broken out along various dimensions such as AFSC, experience level, training, and rank.
INTERMEDIATE MAINTENANCE	Maintenance expended on removed engines or components in the shop during repair or preventive maintenance.
LANDINGS PER FLIGHT HOUR	$\frac{\text{Total Landings including "Touch and Go"}}{\text{Total Flight Time}}$

LOGISTICS	For purposes of this study includes: The science of planning and carrying out the acquisition, distribution, maintenance, and dispersal of weapon systems and support equipment; the movement and support of military forces, and the acquisition or furnishing of services.
MAIN OPERATING BASE (MOB)	An MOB is an active USAF air base having assigned theater forces or rotational tactical forces or a major active flying support mission in peacetime. It is capable of supporting such forces in sustained wartime operations, depending upon the assigned mission. It has field maintenance, base supply, munitions, security, billeting and messing, transportation, communications, navaids, weather, and operational support facilities. It is capable, with prepositioned WRM, of receiving, servicing, and initially launching augmentation forces deployed with direct mission support personnel and it can sustain such operations under emergency conditions for 30 days.
MAINTENANCE MANHOURS PER FLIGHT HOUR	The total direct maintenance manhours expended per aircraft flying hour. This rate is calculated for total flight line tasks, total shop tasks, and total flight line and shop tasks.
MAINTENANCE MANNING CAPABILITY	The maximum number of flying hours per aircraft per unit of time that the maintenance function of an organization is manned to support. In certain units that are manned for surge contingencies, maintenance manning capability may exceed the maintenance manning requirements needed to support a peacetime flying hour rate.
MAINTENANCE ON SERVICEABLE ITEMS	On-equipment and shop maintenance which is performed to gain access to other components is coded with "How Malfunctioned" Code 800 (No Defect - Component Removed/Reinstalled to Facilitate Other Maintenance). If a component is removed, bench checked and found serviceable, the shop maintenance action is coded with "Action Taken" Code B (Bench Checked - Serviceable). The same component may be reinstalled, or a new component may have been installed in its place when the original was removed.

MAINTENANCE	See Base Maintenance
MAINTENANCE TASKS	Manhours spent on each unit of work produced and the number of units of work performed in 1000 flying hours were calculated for the following tasks: Flight Line Removals Flight Line Remove and Replace Flight Line Remove and Reinstall Flight Line Attaching Parts Flight Line Checks OK Flight Line Other Flight Line Total Shop Bench Check Shop Bench Check and Repair Shop Bench Check - NRTS Shop Checks OK Shop Repair Shop Attaching Parts Shop Other Shop Total
MATERIAL RESOURCES	For purpose of this study, includes: spares, GSE, training equipment, and fuel.
MISSION-DESIGN-SERIES (MDS)	An alpha-numeric code used to identify a specific type of aircraft. The mission symbol, "a letter", is used to denote the primary function or capability of an aircraft, for example, "C" in C-130, for cargo. The design number denotes different aircraft within the same function, for example, "130" in C-130 as opposed to "135" in C-135. The series symbol, a letter, is used to denote that significant differences exist between related aircraft because of follow-on production or major modification, for example, "E" in C-130E as opposed to "D" in C-130D. In certain cases

	another letter can precede the MDS designation. This letter is used to indicate that the particular aircraft no longer has the same characteristics as others of the same MDS, for example, "A" in AC-130E as opposed to C-130E. This application is termed "Modified Mission Symbol".
MISSION LENGTH	See Sortie Length.
NOT OPERATIONAL READY MAINTENANCE (NORM)	The aerospace vehicle is not capable of performing all of its assigned mission(s) due to required maintenance actions.
NOT OPERATIONAL READY MAINTENANCE (NORM) (F) (FLYABLE)	Same as above.
NOT OPERATIONAL READY MAINTENANCE (NORM) (G) (GROUNDED)	Same as above.
NOT OPERATIONAL READY MAINTENANCE (NORM) (T) (TCTO)	Same as above.
NOT OPERATIONAL READY SUPPLY (NORS)	The aerospace vehicle is not capable of performing all of its assigned mission(s) due to parts required from supply.
NOT OPERATIONAL READY SUPPLY (NORS) (F) (FLYABLE)	Same as above.
NOT OPERATIONAL READY SUPPLY (NORS) (G) (GROUNDED)	Same as above.
NRTS	Not Repairable This Station. Items that are shipped from the base for repair or overhaul and meet one of the following criteria: 1 - Bench Check Maintenance/NRTS - Repair Not Authorized 2 - Bench Check Maintenance/NRTS - Lack of Equipment, Tools, or Facilities 3 - Bench Check Maintenance/NRTS - Lack of Technical Skills 4 - Bench Check Maintenance/NRTS - Lack of Parts

	5 - Bench Check Maintenance/NRTS - Shop Backlog
	6 - Bench Check Maintenance/NRTS - Lack of Technical Data
	7 - Bench Check Maintenance/NRTS - Excess to Base Requirements
	8 - Bench Check Maintenance/NRTS - Directed Return to Depot Facility
OFF-EQUIPMENT MAINTENANCE	See Intermediate Maintenance
ON-EQUIPMENT	See Organizational Maintenance
OR - OPERATIONALLY READY	The aerospace vehicle is capable of performing all of its assigned missions. (Preflight, post flight, thru flight and home station check inspections or functional check flights are considered as OR conditions.)
ORGANIZATIONAL MAINTENANCE	Maintenance in which the airplane is the end item.
PERCENT FAILURE MODE	Percent of total failures reported against specific MDC "How Malfunction" key words.
PHASE OF OPERATION	Phases of flight such as: Takeoff, inflight, landing, taxiing, etc.
POSSESSED AIRCRAFT	The actual ownership of and responsibility for an aerospace vehicle.
QPA (QUANTITY PER AIRCRAFT)	The quantity per aircraft indicates the total number of a particular component installed on one aircraft.
REMOVALS	Maintenance action to remove an item from the aircraft. MDC Action Taken Codes "P" and "R".
REMOVE AND REINSTALL	Maintenance action to remove an item and install the same item - most often to gain access to other areas. MDC Action Taken Code "S".
REMOVE AND REPLACE	Maintenance action to remove an item from the aircraft and install a like item in its place. MDC Action Taken Code "R".

REPAIR	Repair action performed separately from Bench Checks. Includes total repair hours of cleaning, disassembly, inspection, adjustment, reassembly and lubrication.
SCHEDULED MAINTENANCE	Includes maintenance manhours expended on the following:

a. Look Phase of all inspections - the accomplishment of requirements listed on the inspection work card deck for the particular inspection, i.e., preflight (PR), basic postflight (BPO), hourly postflight (HPO), periodic or phase (PE), all of which are listed under the 03XXX work unit codes.

b. Fix Phase of all inspections - the correction of discrepancies discovered during the "look" phase of an inspection.

c. Special Inspections - these inspections are listed under the 04XXX work unit code series and include numerous items listed for special inspections such as test flights, hard landings, hot starts, etc.

d. Scheduled Shop Support - the performance of planned repetitive maintenance tasks in the shops such as engine teardown and/or buildup; wheel and tire buildup or teardown; parachute packing; fabrication, etc., and are coded under the 09XXX work unit code series.

e. TCTO - the compliance with Time Compliance Technical Orders (except Immediate Action TCTO's) on aircraft and engine systems and/or components.

f. Aircraft Washing and Cleaning - aircraft washing, cleaning, vacuuming, polishing, and the removal of ice and frost from aircraft. It does not include the treatment of corroded parts which should be charged to the applicable work unit code of the affected part. Work unit code series 02XXX apply to washing and cleaning.

SERVICEABLE ITEM MAINTENANCE	See Maintenance on Serviceable Items.
SORTIE LENGTH	A sortie is measured from the start of the takeoff run until one of the following occur: 1. Aircraft is on the ground for five minutes. 2. Engines are shut down. 3. Crews are changed.
SYSTEM	A functionally related group of components and parts; defined in military coding systems by a two digit number, e.g.; 45 = hydraulics, 13 = landing gear and 74 = fire control.
SYSTEM MAINTENANCE	Maintenance expended on the aircraft in the repair or preventative maintenance of systems, subsystems and components.
SYSTEMS SUPPORT MATERIAL	Material purchased from the Systems Support Division for the maintenance of aircraft and missiles which is centrally procured expense type items such as nonreparable spares and repair parts, including peculiar spares.
TACTICAL UNIT	A unit designated for combat operations or a unit which directly supports combat operations.
TASKS PER 1000 FLIGHT HOURS	The rate obtained by dividing the total occurrences of a particular task by the flight hours expressed in thousands.
TCTO - TIME COMPLIANCE TECHNICAL ORDER	An Air Force publication that gives specific technical directions and information with respect to the modification, inspection, storage, operation or maintenance of equipment, requiring compliance within a specified time period.
TOTAL MAINTENANCE	Total maintenance consists of all actions taken to retain material in a serviceable condition or to restore it to serviceability. It includes inspection, testing, servicing, classification as to serviceability, repair rebuilding, and reclamation.
TOUCH AND GO LANDING	The action of bringing an airplane down after having descended to a point fifty feet above the surface, or making contact with the surface, but continuing with another takeoff without coming to a stop.

TROUBLESHOOTING	Maintenance time expended in locating a suspected discrepancy. MDC Action Taken code "Y". Normally of sufficient length as to be reported separately from the repair action.
TROUBLESHOOTING MANHOURS	Maintenance manhours expended on the airplane in fault isolation. Usually those cases where troubleshooting time is expended separately from the repair.
TYPE OF ACCIDENT	Different types of aircraft accidents, such as: loss of directional control on the ground; spin or stall; fire or explosion; abandoned aircraft; etc.
UNIT EQUIPMENT (UE)	The number of aircraft which are authorized for operational (flying) missions. The UE authorization forms the basis for authorization of operating resources (manpower, support equipment, and flying hour funds).
UTILIZATION	Total Flight Time (Months Flown) X (No. of Aircraft Operating)
UTILIZATION RATE (UR)	The average number of flying hours per aircraft per specified unit of time. It is estimated as the quotient of programmed squadron flying hours divided by squadron UE.
WHEN DISCOVERED	Identifies when the need for maintenance was detected. BF - Before Flight, When Discovered codes A, B, G, N IF - In Flight, When Discovered codes C, D, P BTF - Between Flights, When Discovered codes E, F INS - Inspection, all other When Discovered codes
WORK UNIT CODE	A five digit number designating a system, subsystem, component or part on an aircraft. Total work unit codes per aircraft range from 2,000 to 10,000 depending on complexity.

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

AAI	AUTHORIZED ACTIVE INVENTORY
ABCC	AIRBORNE COMMAND AND CONTROL
AC	ALTERNATING CURRENT
A/C	AIRCRAFT
ACFT	AIRCRAFT
ADI	ATTITUDE DIRECTIONAL INDICATOR
ADM	AIR (A) LAUNCH ENVIRONMENT, DECOY (D) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
AF	AIR FORCE
AFAFC	AIR FORCE ACCOUNTING AND FINANCE CENTER
AFB	AIR FORCE BASE
AFHRL	AIR FORCE HUMAN RESOURCES LABORATORY
AFISC	AIR FORCE INSPECTION AND SAFETY CENTER
AFLC	AIR FORCE LOGISTICS COMMAND
AFM	AIR FORCE MANUAL
AFR	AIR FORCE REGULATION
AFS	AIR FORCE SPECIALITY
AFSC	AIR FORCE SPECIALITY CODE
AFSC	AIR FORCE SYSTEMS COMMAND
AGE	AEROSPACE GROUND EQUIPMENT
AGM	AIR (A) LAUNCH ENVIRONMENT, SURFACE ATTACK (G) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
ALC	AIR LOGISTICS CENTER
ALTER	ALTERATION
AMS	AVIONICS MAINTENANCE SQUADRON
AMST	ADVANCED MEDIUM STOL TRANSPORT
AN	ARMY/NAVY
ANAL	ANALYSIS
APLN	AIRPLANE
APPR	APPROPRIATION
AQM	AIR (A) LAUNCH ENVIRONMENT, DRONE (Q) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
ARA	AIRBORNE RADAR APPROACH
ASD	AERONAUTICAL SYSTEMS DIVISION
ASIP	AIRCRAFT STRUCTURAL INTEGRITY PROGRAM
ASW	ANTI SUBMARINE WARFARE
ATC	AIR TRAINING COMMAND
AVG	AVERAGE
ATM	AIR TURBINE MOTOR
AVGAS	AVIATION GAS
BAC(IL&S)	BOEING AEROSPACE COMPANY, LOGISTICS SUPPORT AND SERVICES
BF	BEFORE FLIGHT
BIAS	BATTLEFIELD ILLUMINATION AIRBORNE SYSTEM
BL	BASE LEVEL
BLIS	BASE LEVEL INQUIRY SYSTEM
BOS	BASE OPERATING SUPPORT
BPO	BASIC POST FLIGHT
BQM	MULTIPLE (B) LAUNCH ENVIRONMENT, DRONE (Q) MISSION, GUIDED MISSILE (M) VEHICLE TYPE

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (Cont.)

CACE	COST ANALYSIS COST ESTIMATING
CAMMIS	COMMAND AIRCRAFT MAINTENANCE MANPOWER INFORMATION SYSTEM
CEM	COMMUNICATION ELECTRONIC METEROROLOGICAL
CGM	COFFIN (C) LAUNCH ENVIRONMENT, SURFACE ATTACK (G) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
CHG	CHANGE
CIM	COFFIN (C) LAUNCH ENVIRONMENT, INTERCEPT-AERIAL (I) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
CIV	CIVILIAN
CNT	CONTROL
COCESS	CONTRACTOR OPERATED CIVIL ENGINEER SUPPLY STORE
COMM	COMMUNICATIONS
COND	CONDITIONING
CONF	CONFIGURATION
CONUS	CONTINENTAL UNITED STATES
COPARS	CONTRACTOR OPERATED PARTS STORE
DC	DIRECT CURRENT
DCM	DEPUTY COMMANDER FOR MAINTENANCE
DEPT	DEPARTMENT
DEV	DEVELOPMENT
DI	DATA ITEM
DL	DEPOT LEVEL
DPT	DEPOT
ECM	ELECTRONIC COUNTERMEASURES
ELECT	ELECTRONICS
ENG	ENGINE
ENL	ENLISTED
EQUIP	EQUIPMENT
ETA	EXCEPTION TIME ACCOUNTING
EXT	EXTERNAL
FH	FLYING HOUR
FLT	FLIGHT
FMS	FIELD MAINTENANCE SQUADRON
FTD	FIELD TRAINING DETACHMENT
FY	FISCAL YEAR
GAL	GALLON
GEN	GENERAL
GFM	GOVERNMENT FURNISHED MATERIAL
GND	GROUND
GPM	GALLONS PER MINUTE
GRND	GROUND
GRDS	GRADUATES
GSE	GROUND SUPPORT EQUIPMENT

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (Cont.)

HF	HIGH FREQUENCY
HGM	SILO STORED (H) LAUNCH ENVIRONMENT, SURFACE ATTACK (G) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
HPO	HOURLY POST FLIGHT
HQ	HEADQUARTERS
HRS	HOURS
HSI	HORIZONTAL SITUATION INDICATOR
HWSA	HISTORICAL WEAPON SYSTEM ANALYSIS
HYD	HYDRAULIC
I&L	INSTALLATIONS AND LOGISTICS
I&S	INTERCHANGEABILITY AND SUBSTITUTION
INC	INCORPORATED
IF	IN FLIGHT
IFF	IDENTIFICATION, FRIEND OR FOE
INCL	INCLUDE
IND	INDICATED
INS	INSPECTION
INST	INSTRUMENTS
INSP	INSPECTION
IRAN	INSPECT AND REPAIR AS NECESSARY
IROS	INCREASED RELIABILITY OF OPERATIONAL SYSTEMS
INT	INTERMEDIATE
INVEST	INVESTMENT
LBS	POUNDS
LCC	LIFE CYCLE COST
LFT	LEFT
LGM	SILO LAUNCH ENVIRONMENT, SURFACE ATTACK (G) MISSION GUIDED MISSILE (M) VEHICLE TYPE
LLLTV	LOW LEVEL LIGHT TELEVISION
LORAN	LONG RANGE NAVIGATION
M	MILLION
MAC	MILITARY AIRLIFT COMMAND
MAINT	MAINTENANCE
MAP	MILITARY ASSISTANCE PROGRAM
MAT	MATERIEL
MAW	MILITARY AIRLIFT WING
MAX	MAXIMUM
MBO	MAIN OPERATING BASE
MCS	MAINTENANCE COST SYSTEM
MDC	MAINTENANCE DATA COLLECTION
MDCS	MAINTENANCE DATA COLLECTION SYSTEM
MDS	MODEL/DESIGN/SERIES
MIS	MANAGEMENT INFORMATION SYSTEM
MISC	MISCELLANEOUS
MMH	MAINTENANCE MANHOURS
M/MHR	MAINTENANCE PER MANHOURS
MMICS	MAINTENANCE MANAGEMENT INFORMATION CONTROL SYSTEM
MO	MONTH
MODS	MODIFICATIONS

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (Cont.)

MPD	MILITARY PERSONNEL CENTER
MT	MAINTENANCE
MTT	MOBILE TRAINING TEAM
NAV	NAVIGATIONS
NO.	NUMBER
NOA	NON OPERATIONAL ACTIVE
NOM	NOMENCLATURE
NON XD	NON EXPENDABLE DEPOT
NORM	NOT OPERATIONAL READY MAINTENANCE
NORS	NOT OPERATIONAL READY SUPPLY
NRTS	NOT REPAIRABLE THIS STATION
NSC	NATIONAL STOCK CLASS
NSN	NATIONAL STOCK NUMBER
O&S	OPERATING AND SUPPORT
OASD	OFFICE ASSISTANT SECRETARY OF DEFENSE
OFF	OFFICERS
OMS	ORGANIZATIONAL MAINTENANCE SQUADRON
OPS	OPERATIONS
OR	OPERATIONAL READY
ORG	ORGANIZATIONAL
OSCR	OPERATING AND SUPPORT COST REPORT
OT	OTHER
P&S	PLANS AND SCHEDULES
PDM	PROGRAMMED DEPOT MAINTENANCE
PEC	PROGRAM ELEMENT CODE
PERS	PERSONNEL
POL	PETROLEUM, OILS AND LUBRICANTS
POSS	POSSESSED
PROC	PROCUREMENT
PROD	PRODUCTION
PROP	PROPELLER
PRESS	PRESSURE
PRESS	PRESSURIZATION
PSI	POUNDS SQUARE INCH
PWR	POWER
QC	QUALITY CONTROL
QEC	QUICK ENGINE CHANGE
QPA	QUANTITY PER AIRCRAFT
QTY	QUANTITY
RAF	ROYAL AIR FORCE
R&D	RESEARCH AND DEVELOPMENT
R&M	RELIABILITY AND MAINTAINABILITY
RCS	REPORT CONTROL SYMBOL
REC	RECEIVER
REF	REFERENCE
REL	RELIABILITY
REPL	REPLACEMENT
REPLEN	REPLENISHMENT
RPM	REVOLUTIONS PER MINUTE
RT	RECEIVER TRANSMITTER

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (Cont.)

SBSS	STANDARD BASE LEVEL SUPPLY SYSTEM
SC	SCHEDULED
SE	SUPPORT EQUIPMENT
SEC	SECTION
SECT	SECTION
SERV	SERVICING
SKE	STATION KEEPING EQUIPMENT
SPO	SYSTEMS PROGRAM OFFICE
SPT	SUPPORT
STOL	SHORT TAKEOFF AND LANDING
SYS	SYSTEM
SV	SERVICING
SUBSYS	SUBSYSTEM
TAC	TACTICAL AIR COMMAND
TAW	TACTICAL AIRLIFT WING
T&E	TEST AND EVALUATION
TCI	TIME COMPLIANCE ITEM
TCTO	TIME COMPLIANCE TECHNICAL ORDER
TDY	TEMPORARY DUTY
TECH	TECHNICAL
TO'S	TECHNICAL ORDERS
TOT	TOTAL
TR	TECHNICAL REPORT
TRANS	TRANSCEIVER
TRNG	TRAINING
UDL	UNIT DETAIL LISTING
UE	UNIT OF EQUIPMENT
UHF	ULTRA HIGH FREQUENCY
UMD	UNIT MANNING DOCUMENT
UN	UNSCHEDULED
USAF	UNITED STATES AIR FORCE
UTE	UTILIZATION
UTIL	UTILIZATION
VHF	VERY HIGH FREQUENCY
VTOL	VERTICAL TAKEOFF AND LANDING
WAC	WORK ACCOMPLISHMENT CODE
WBS	WORK BREAKDOWN STRUCTURE
W/O	WITHOUT
WPAFB	WRIGHT PATTERSON AIR FORCE BASE
WRALC	WARNER ROBINS AIR LOGISTICS CENTER
WRM	WAR READINESS MATERIAL
W/S	WEAPON SYSTEM
WT	WEIGHT
WUC	WORK UNIT CODE
YR	YEAR

APPENDIX A

DATA SOURCES AND AGENCIES

TABLE A-1 DATA SOURCES AND AGENCIES

AGENCY	LOCATION	OFFICE SYMBOL(S)/FUNCTION	TYPES OF LITERATURE/ DATA FILES	QUANTITY OBTAINED		
				PUBLISHED INFORMATION	RECORDS	YEARS
Acquisition Logistics Division	Wright-Patterson AFB, OH	RAXA - Studies and Analysis Branch	- -	- -	- -	- -
Aeronautical Systems Division	Wright-Patterson AFB, OH	HO - History Office	Documents	7	- -	- -
		ACC - Cost Analysis	Documents, Backfill Reports	- -	- -	- -
		ACL - Joint AFLC/AFLC LCC Working Group	LCC Studies	- -	- -	- -
Aerospace Daily Ziff-Davis Publishing Co.	Washington, D.C.	- -	Aerospace Daily Articles	130 articles	- -	- -
Air Force Logistics Command	Wright-Patterson AFB, OH	PRPL - Program Requirements	1-HAF-A1-110-12	84 monthly reports	1700	1970-1976
		ACVMP - Inventory, Status and Performance Branch	D056E	- -	5,985,175	1971-1976
			G033B	- -	1485	1971 & 1973-1976
			B-4	- -	9318	- -
			C-4	- -	72000	- -
		HO - History Office	Index, Documents, 1-HAF-A1-110-12	95 monthly reports	1900	1962-1959
		ACRC - Cost Analysis	- -	- -		
		ACVRC - Depot Usage	D041	- -	- -	- -
			H036B	- -	- -	- -
		LOLMF - Data Collection Requirements	- -	- -	- -	- -
		LOLMA - Data Requirements	K051	- -	- -	- -
		LOAP - Material Support Division	PDM Brochure	- -	- -	- -
Air Force Systems Command	Andrews AFB, MD	HO - Historical Office	Articles	5	- -	- -
		ACCH - Cost Analysis Division	Authorization for AFM 66-1, 65-110 and 400-1	- -	- -	- -
Air Force Inspection and Safety Center	Norton AFB, CA	SEFB - C-130 Safety Project Office	Articles	4	- -	- -
		SER - Accident/Incident Reporting and Data Collection	Accidents/Incidents Listings	2	- -	1962-1976
		SEDA - Education Office	Safety Magazine Articles	75	- -	- -

TABLE A-1 DATA SOURCES AND AGENCIES (CONT'D)

AGENCY	LOCATION	OFFICE SYMBOL(S)/FUNCTION	TYPES OF LITERATURE/ DATA FILES	QUANTITY OBTAINED		
				PUBLISHED INFORMATION	RECORDS	YEARS
Air Training Command	Sheppard AFB, TX	TFTO - 3785 Field Training Group	UDL	5 Listings	- -	1972-1976
			CTS	29 Reports	- -	Current
			POI	29 Documents	- -	Current
			TOT	1	- -	1974
		LGMET - Configuration Management	Config. Records	29 Listings	- -	Current
		TTME - Training Equip. and Design	- -	- -	- -	- -
		TTP - Training Programs Management	Training Course Data File	- -	- -	- -
		TTA - Systems/Resident Training	- -	- -	- -	- -
		TTAB - Technical/Training Resident	- -	- -	- -	- -
		ACMFB - Finance Office	AFM-177-388 Data	- -	- -	- -
Air University - Air Command and Staff College	Maxwell AFB, AL	Air University Library (Index to Military Periodicals)	Articles from 69 Different Military and Aeronautical Periodicals	Index (100 + articles)	- -	1956-1976
Aviation Week and Space Technology	New York, NY	Aviation Week and Space Technology Reference Library	Index of Published Articles	1 Index 54 articles	- -	1960-1976
Congressional Information Service Inc.	Washington, D.C.	- -	Working Papers of the U.S. Congress	- -	- -	- -
Defense Market System (DMS) Inc	Greenwich, CT	- -	Defense Marketing Information	6 Listings	- -	- -
Defense Supply Agency (DSA)	Alexandria, VA	DDC (Defense Documentation Center) Referral Data Bank	Data Search Index/Documents	2 Indexes 76 Documents	- -	1962-1976
Engineering Index Inc.	New York, NY		File Indexes of Citations and Abstracts From Engineering Journals and Selected Government Documents	Index	- -	- -
Frost & Sullivan Inc.	New York, NY		Defense Contracts/ Cost Information	1 Listing	- -	1960-1975

TABLE A-1 DATA SOURCES AND AGENCIES (CONT'D)

AGENCY	LOCATION	OFFICE SYMBOL(S)/FUNCTION	TYPES OF LITERATURE/ DATA FILES	QUANTITY OBTAINED		
				PUBLISHED INFORMATION	RECORDS	YEARS
Headquarters USAF	Washington, D.C.	ACHCA - Cost Analysis Division	OSCR C-130E Report	1 Report	- -	FY 1975
H. W. Wilson Company	Bronx, NY	Applied Science and Technology Periodicals	Index of Published Periodicals	1 Index	- -	- -
Logistics Management Institute (LMI)	Washington, D.C.	Research Agency	LMI Studies Index and Documents	1 Index 4 Reports	- - - -	- - - -
Military Airlift Command	Scott AFB, IL	ACHF - Economical Analysis and Cost ACHFB - Alternative Costing Branch LGXA - Logistics Analysis Division	Training Costs Training Costs Monthly Maint. Digest, MACR 57-2, 65-5, Aborts	- - - - 66 Mo/Reports 8 Listings	- - - - - -	- - - - Sept. 1975 - June 1976
Military Personnel Center	Randolph AFB, TX	XPMRT - Manpower Division DPMDQ - Division Executive - Requirements DPMYP - Research Division DPMDQYS - Requirements Analyst	Manpower Standards, UDL, Field Training Manpower Plans Survey Research Requirement Manpower Profile Training Records	- - - - - - - -	- - - - - - - -	- - - - - - - -
National Aeronautics and Space Administration (NASA)	Washington, D.C.	NASA/Scientific and Technical Information Office NASA/Directory of Aerospace Safety Specialized Information Sources	Data Search Index and Documents Data Search Index and Documents	1 Index 1 Index	- - - -	- - - -
National Technical Information Service	Springfield, VA		Government Research Contract Information	1 Index 1 Document	- -	- -
Occupational Measurements Branch (AFHRL)	Lackland AFB, TX	OMY - Occupational Survey Branch OMYA - Occupational Analyst	Survey Reports Survey Task	12 Reports 9 Inventories	- - - -	Current Current
Computational Sciences Div. (AFHRL)	Lackland AFB, TX	CSD/AFHRL-SM	Officer Educational Background Summaries			

TABLE A-1 DATA SOURCES AND AGENCIES (CONT'D)

AGENCY	LOCATION	OFFICE SYMBOL(S)/FUNCTION	TYPES OF LITERATURE/ DATA FILES	QUANTITY OBTAINED		
				PUBLISHED INFORMATION	RECORDS	YEARS
Oklahoma Air Logistics Center	Tinker AFB, OK	MMEAM - Material Analysis Branch	D041 Fetch	- -	1065	1975-1976
		MMIRA - Engineering & Analysis Branch	D041..F91A	- -	- -	- -
		MMII - Investment & Replacement Branch	D041	- -	- -	- -
Rand Corporation	Santa Monica, CA	- -	Technical Reports	4 Reports	- -	- -
Rome Air Development Center	Griffiss AFB, NY	RADC/Reliability Analysis Center	Reliability Studies/Analysis Information	- -	- -	- -
Sacramento Air Logistics Center	McClellan AFB, CA	MMII - Investment & Replacement Branch	D041	- -	- -	- -
		ACDCN - Logistics Systems Section	K051	18 Reports	- -	1973-1976
		ACDCG - Commodity Stock Control and Distribution Section	D049	- -	- -	- -
San Antonio Air Logistics Center	Kelly AFB, TX	MMEAI - Quality Improvement Section	G095	- -	- -	- -
		MMMR - Requirements Branch	D041	- -	- -	- -
			D062	- -	- -	- -
		MMECD - Operational Flight Program Section	G098	- -	- -	- -
		HO - History Office	Engine Data	1 Report	- -	- -
U.S. Army Logistics Management Center	Fort Lee, VA	DLSIE (Defense Logistics Studies Information Center) Referral Data Bank	Data Search Index and Documents	1 Index 3 Reports	- -	- -
Warner-Robins Air Logistics Center	Warner-Robins AFB, GA	MMEAA - Maintenance Data Analysis	K261/K262	8 Reports	- -	Oct.'73-Jul.'76
		MMSIDA - Engineering & Reliability	D047 (TCTO Data)	- -	11,500	1962-1976
		MMSSS - Material Support Branch	NORS Data	- -	435	1968
		HO - History Office	D20 Reports	63 Reports	- -	Nov.'62-Jan.'68
		MMSCA - Material Support - Data Processing and Control Section	D041	- -	- -	- -
			D032	- -	- -	- -
		MAJB - C-130 System Program Office	AGE TA's	7 Reports	- -	- -
		MADGPA - Depot Planning Maintenance	G037	3 Reports	- -	- -
			G004	3 Reports	- -	- -

APPENDIX B

DATA REVIEW AND TERMINAL ENTRY

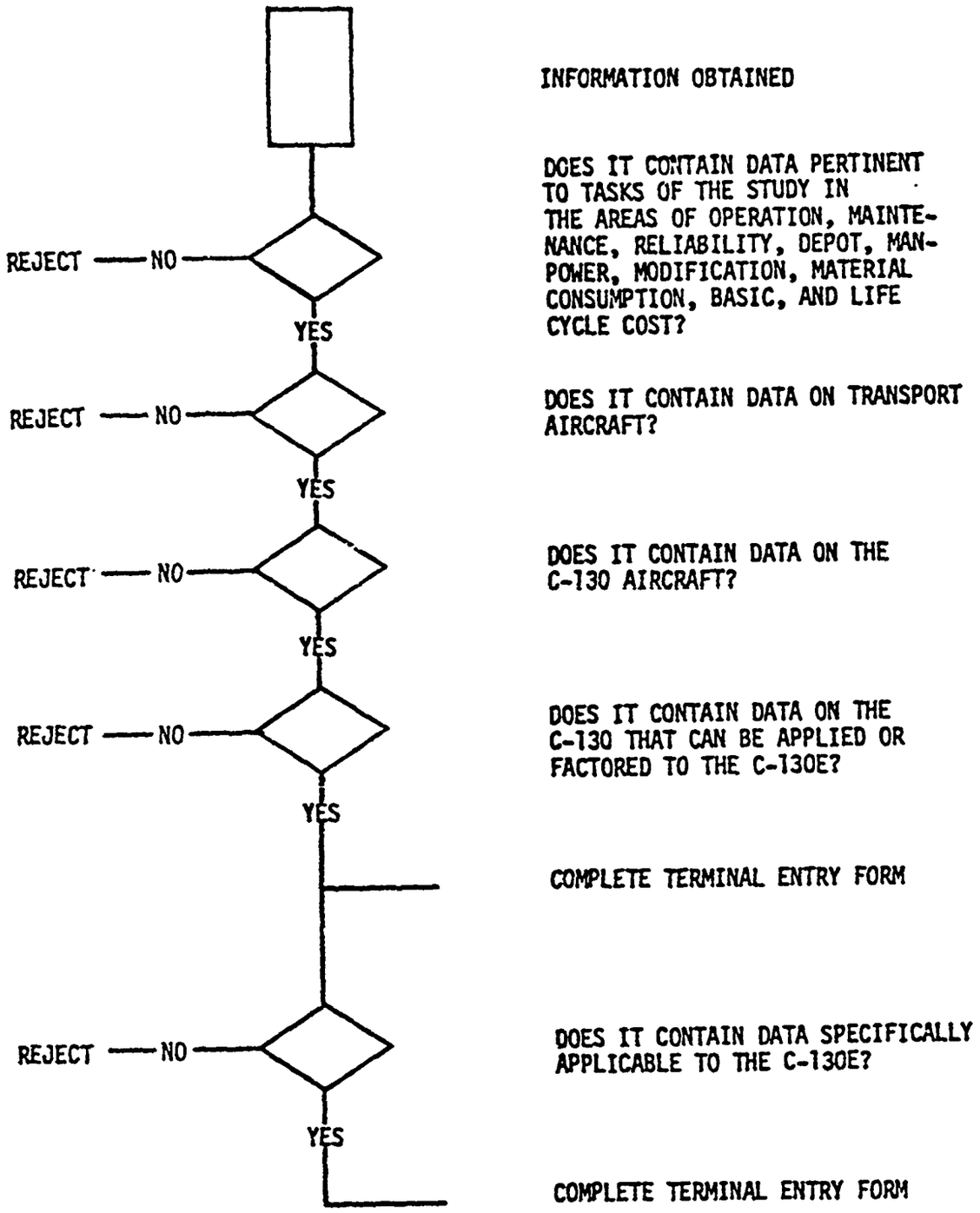


Figure 8-1 DATA REVIEW "YES-NO" DECISION PROCESS FLOW

C-130E HISTORY CODE

*/DOC $HIST _____ (1)

*$T (Title) 2

$PA (Personal Author) 3

$DN (Document Number) 4

*$F FORM (5)

Forms
Tech. Reports
Documents
Briefs/Papers
News Release
Magazine
Computer Tape
List
Card Deck
Microfiche
Brochure
Tech. Data
Book
Logs
Summary

*$L (Source) 6

$S TYPE OF DATA 7

Human Resources
Manpower
Skill Level
Experience
Training
Costs
Task Analysis

Material Resources
Spares
Consumable Materiels
AGE
Training Equipment
Test Equipment
POL
Modifications/TCTO/
Kits
Costs

Operations Data
Utilization
Sorties
Landings
Inventory/(No.Acft.)
Turn Around
Aborts
Availability
Dependability

Maintenance Data
Organizational Level
Intermediate Level
Depot Level
Vendor
Manhours
Task Analysis
Modifications/TCTO

Reliability Data
Failure Rates
Failure Distribution
Failure Modes
Cost

Safety Data
Accidents/Incidents
Cost

Cost Data
Human Resources
Material Resources
Actuals
Estimates

$P PHASE 8

Conceptual
Validation
Development
Production
Operation

$NR (Number Reports) _____ (9)

$AD (Order Date) _____ 10

$ED (Received Date) _____ 11

$CD (Received Date Pseudo) _____ 12

$B FILED 13

NWS Master File
BAC MECCA
BAC Kent Library
BCAC Renton Library
BAC Military Publications

$B FILED (Cont'd)

*$Q QUALITY OF DATA (14)

Source Listing
Screened Documents
Useable
Not Used

$X Address 15

*$D Published 16

Figure B-2 NWSA TERMINAL ENTRY FORM

APPENDIX C

DATA PROCESSING FLOWS AND C-130E CHARACTERISTICS/SPECIFICATIONS

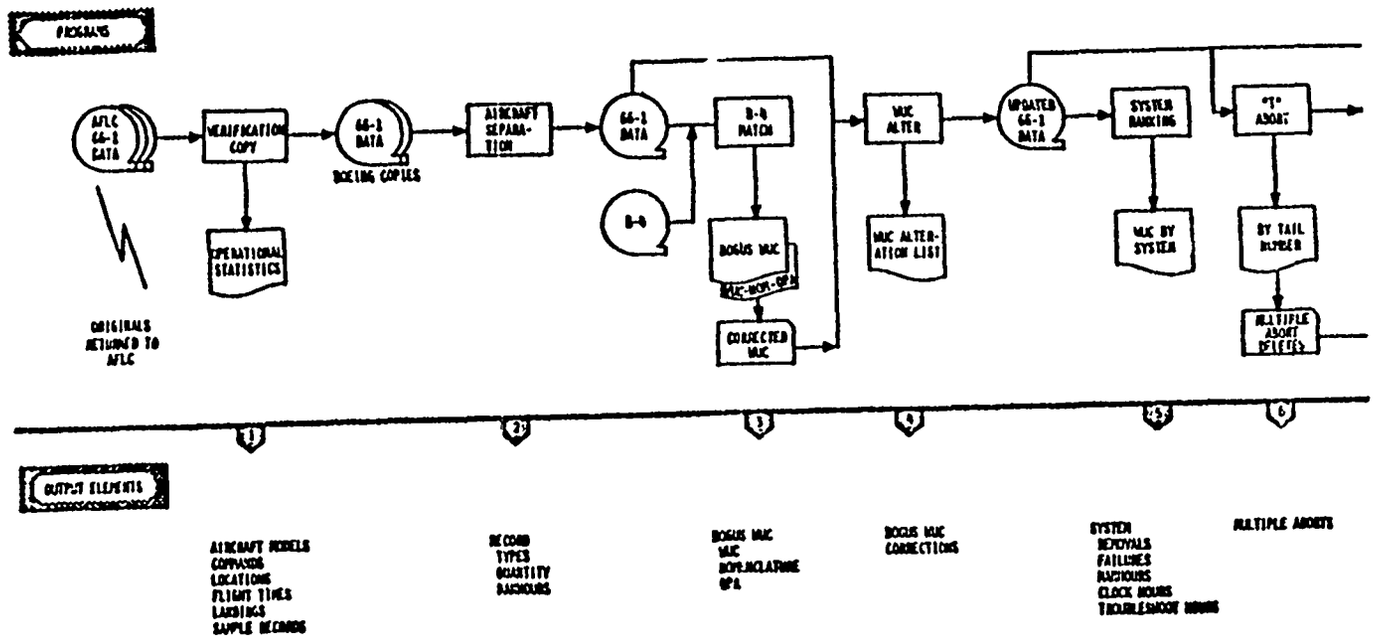


FIGURE C-1 ELECTRONIC DATA PROCESSING PROGRAMS AND OUTPUT ELEMENTS FLOW DIAGRAM (PART 1)

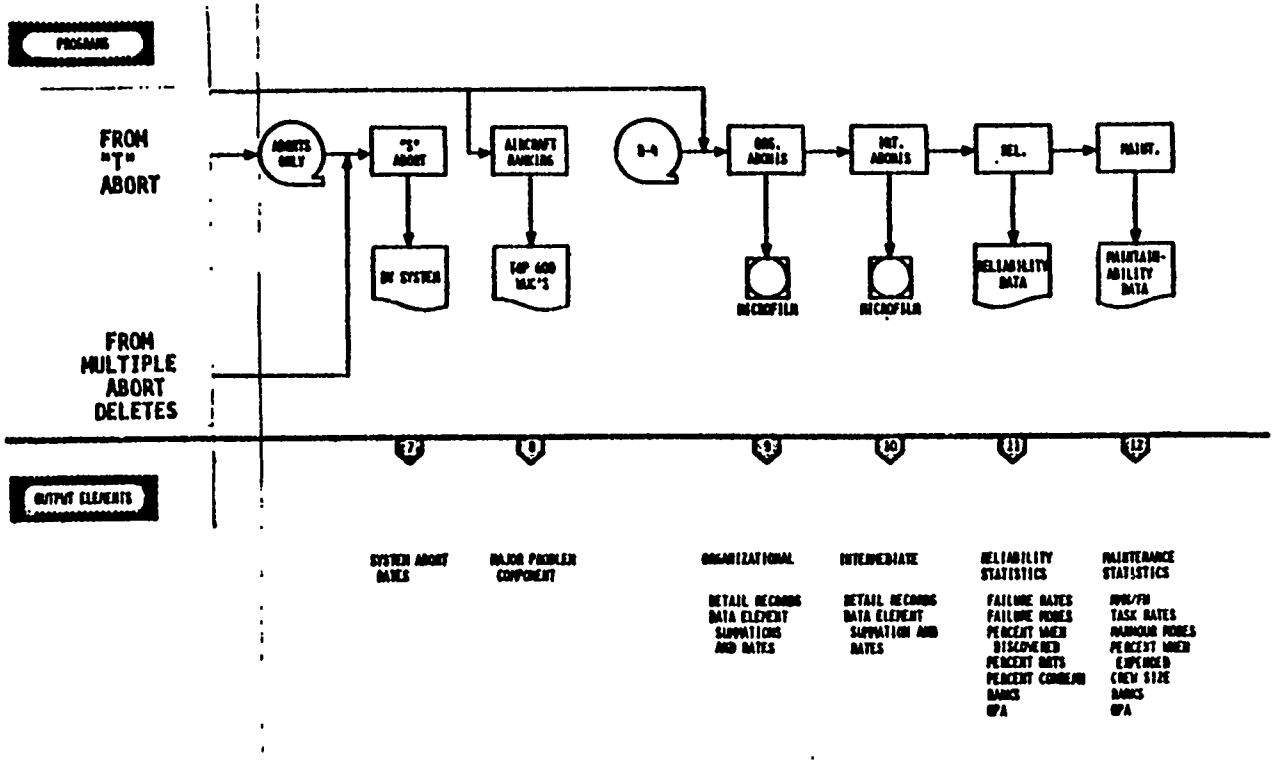


FIGURE C-1 ELECTRONIC DATA PROCESSING PROGRAMS AND OUTPUT ELEMENTS FLOW DIAGRAM (PART 2)

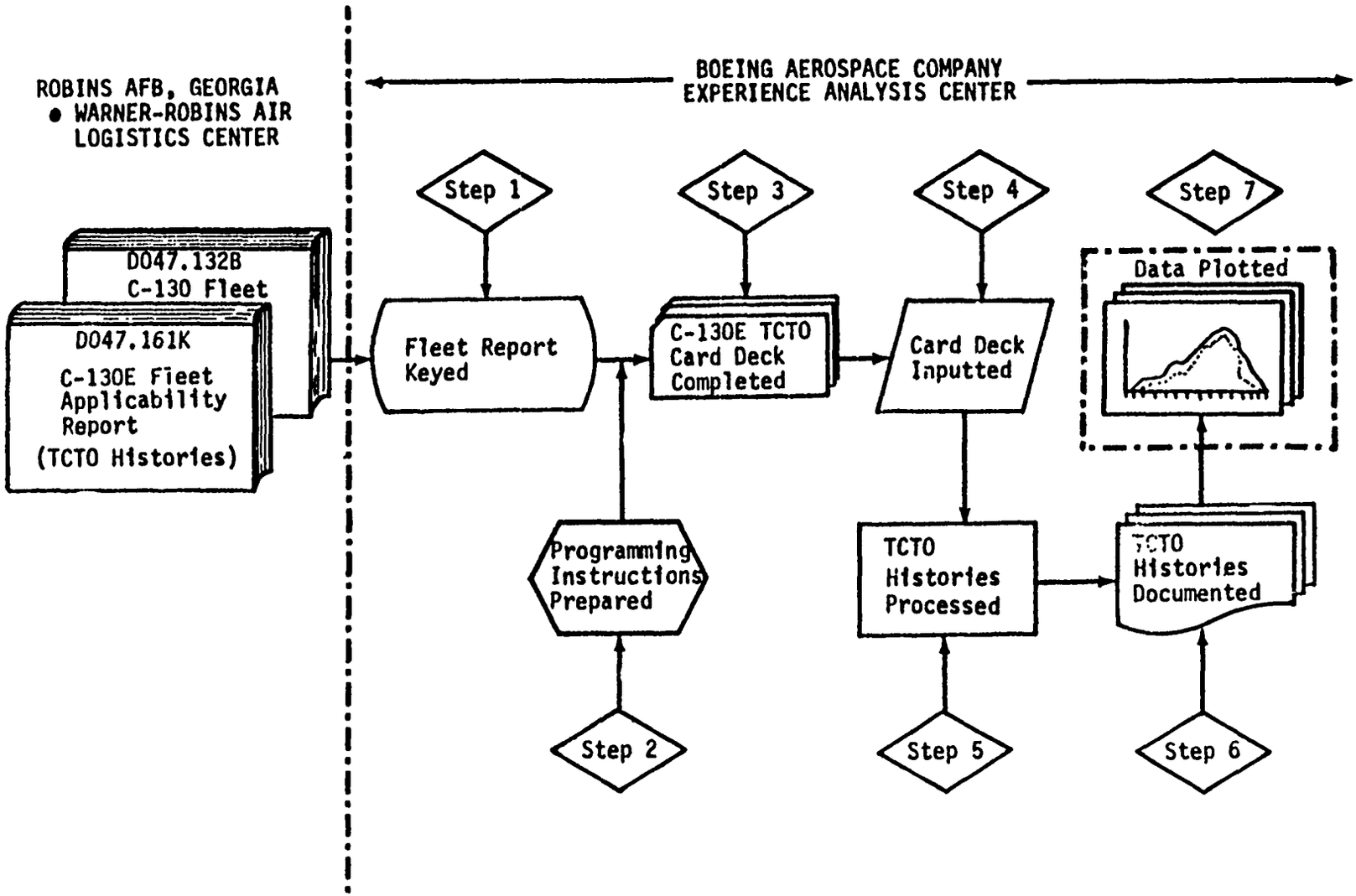


FIGURE C-2 MECHANIZED TCTO EVALUATION LOGIC FLOW

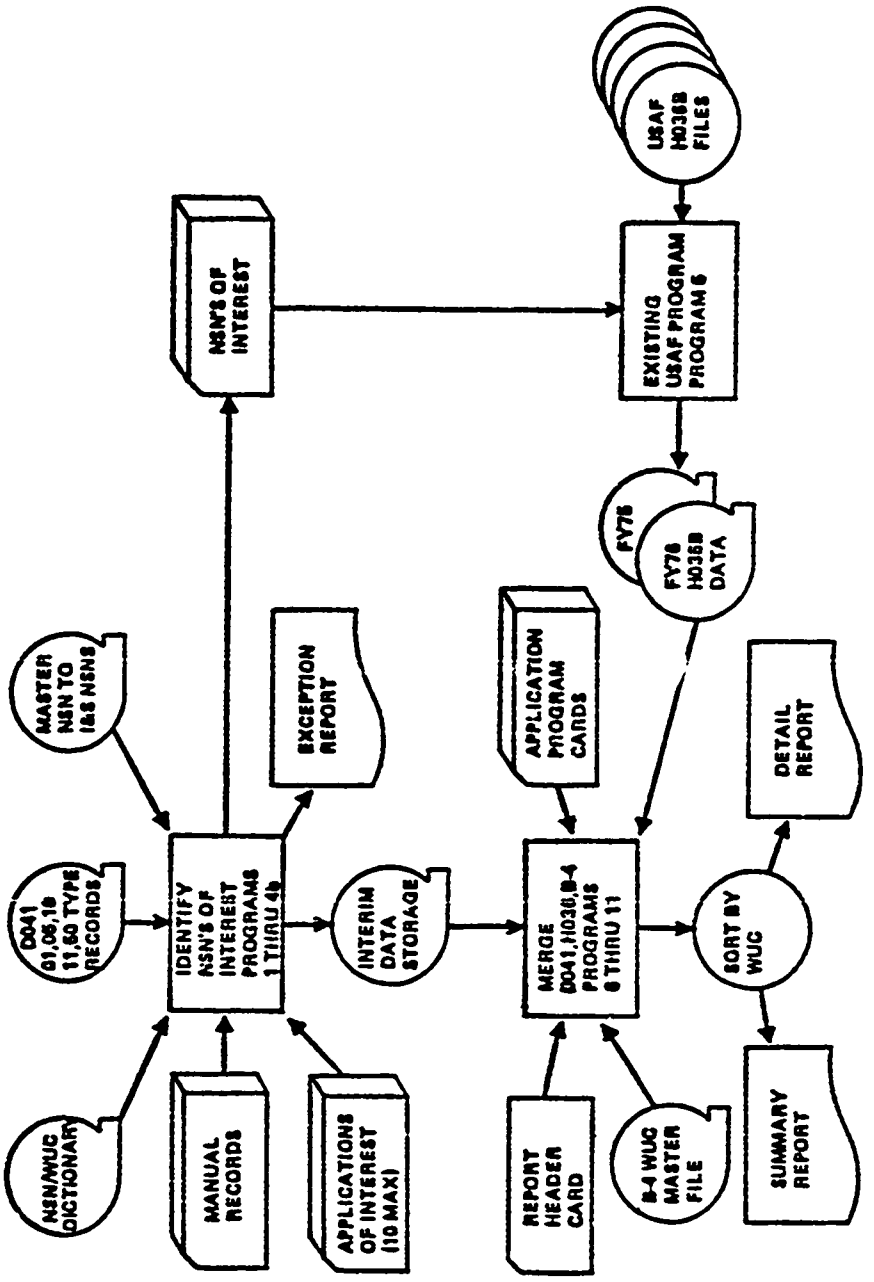


FIGURE C-3 C-130E DEPOT DATA COMPUTER PROCESSING FLOW

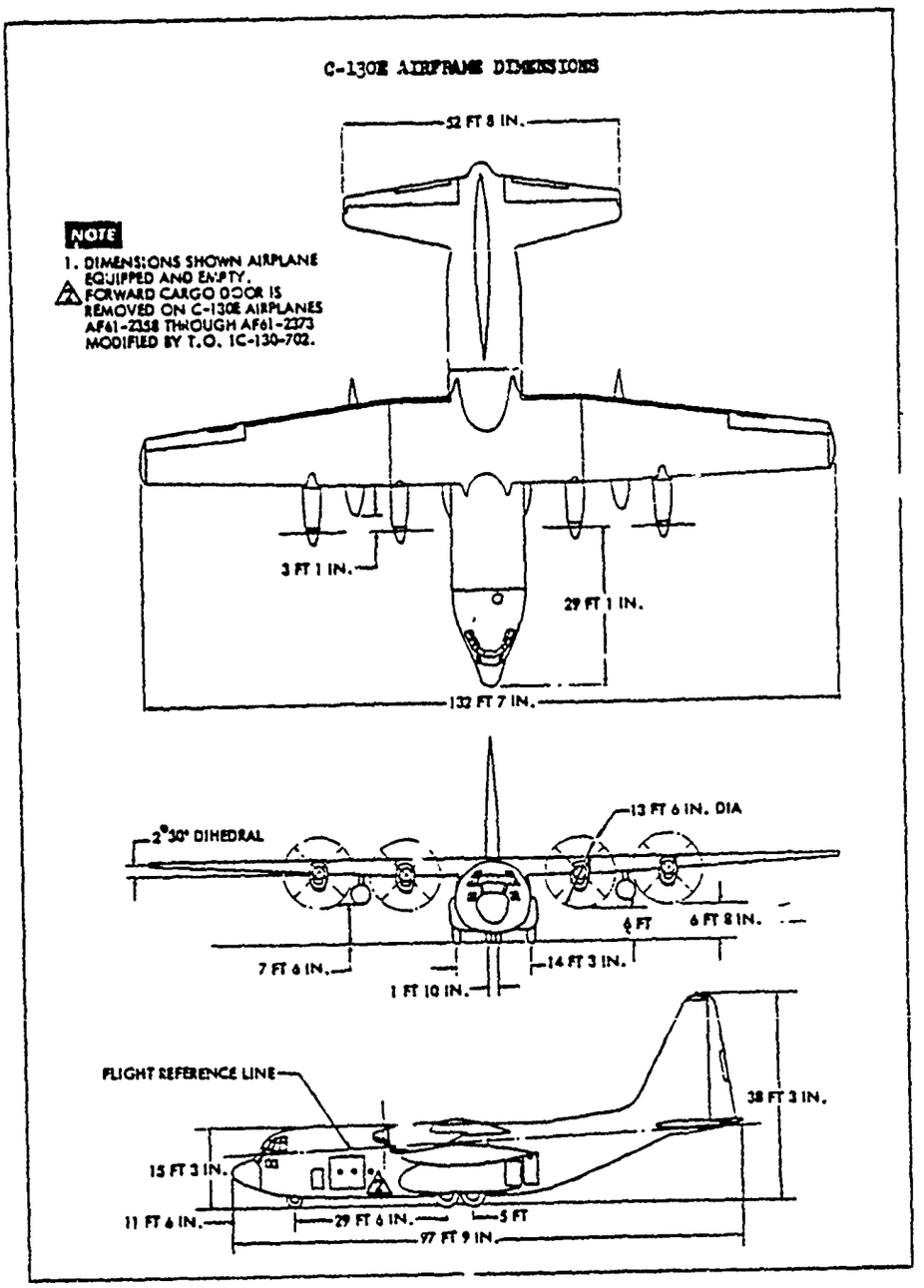


FIGURE C-4 C-130E THREE VIEW AIRFRAME DIMENSIONS

CHARACTERISTICS

PERFORMANCE

TAKE-OFF (Std. Day, SL, No Wind, No Bleed, 50% Flaps, Max. Pwr., Max. Effort)

Maximum Weight Recommended	155,000 lb.
Ground Roll	
With Jato	2,300 ft.
No Jato	2,800 ft.

MAXIMUM SPEED Approx. 324 Knots

SERVICE CEILING (100 f.p.m.) 23,000 ft.

RANGE 2-3,000 mi.

LANDING (Prop. Reverse & Max. Wheel Brakes)

Typical Weight	76,000 lb.
Ground Roll/from 50'	1,280/2,270
Touchdown Speed	103 Knots

Source Unclassified SAC Charts

FLIGHT SURFACES

AREAS (sq. ft.)

Wings	1,745
Flaps	342
Vert. Fin	300
Horiz. Stab.	545
Rudder/Elevator	75/158

CHORD LENGTHS (inches)

Wing Root	192
Wing Tip	100
Stab. Root	144*
Stab. Tip	60*

WING DATA

Angle of Incidence	0°-3°
Angle of Sweep	0°
Angle of Dihedral	2.5°
Aspect Ratio	10.09

PRODUCTION

COST Average unit flyaway per aircraft 2.0 million

DATE OF INTRODUCTION April 1962

NO. MANUFACTURED 403

MANUFACTURER Lockheed
Other C-130 Models Still In Production

*Estimated From Drawings

SPECIFICATIONS

WEIGHT

Maximum Gross T.O.	155,000 lb.
Empty	71,500 lb.
Emergency War Planning (EWP)	175,000 lb.

FUEL CAPACITY

Max. Internal	7,000 gal.
Max. External	2,800 gal.

PROPULSION

Four T-56-A-7 Allison Turboprops with Prop Reverse
Maximum 4,300 SHP ea.

ELECTRICAL POWER

No. Generators	4/1
Rating (KVA) ea.	40/20
Drive	Engine/ATM
Emergency	Battery

HYDRAULIC POWER

No. Pumps	4/1
Drive	Engine/Elect.
Rating (gpm) ea.	30/Unk.

AVIONICS

AN/AIC- 13	INTERCOM, PUBLIC ADDRESS
AN/AIC- 18A	INTERCOM
AN/APN- 22	RADAR ALTIMETER (SOME A/C)
AN/APN- 59B	RADAR, SEARCH
AN/APN- 70/70B	RADAR, LORAN NAV.
AN/APN-133	RADAR ALTIMETER (OR SCR/718)
AN/APN-147	RADAR, DOPPLER NAV.
AN/APN-150	RADAR ALTIMETER (SOME A/C)
AN/APN-159A	STATIONKEEPER, INTRAFORMATION POSITIONING SET (SOME A/C)
AN/APN-171	RADAR ALTIMETER (SOME A/C)
AN/APX- 72	IFF SYSTEM, AIMS
AN/ARA- 25	NAVIGATION, ADF (TAC ONLY)
AN/ARC- 34	RADIO, UHF COMM.
AN/ARN- 6	NAVIGATION, RADIO COMPASS
AN/ARN- 14	NAVIGATION, OMNI
AN/ARN- 21	NAVIGATION, TACAN
AN/ARN- 67	NAVIGATION, GLIDE SLOPE
AN/ARN- 97	NAVIGATION, ILS TALAR
AN/ART- 31	RADIO, EMERGENCY (OR AN/CRT-3)
AN/ASN- 35	COMPUTER, DOPPLER
AN/ASQ- 14	PRESSURIZATION SYS, RADAR
AN/CRT- 3	RADIO, EMERGENCY(OR AN/ART-31)
AN/URC- 10	PERSONNEL LOCATOR BEACON (SOME A/C)
AN/URT- 21	RADIO, EMERGENCY
AN/URT- 26(V)	RADIO, EMERGENCY (CPI)
COLLINS 51V-4	GLIDE SLOPE RECEIVER(SOME A/C)
E- 4	AUTOPILOT
FM-622A	VHF-FM RADIO (SOME A/C)
HF-1CZ	RADIO, HF COMM.
SCR-718	RADAR ALTIMETER(OR AN/APN-133)
STD AF FDS	FLIGHT DIRECTOR SYSTEM
VHF-101	RADIO, VHF COMM.
51Z- 3/4	NAV. MARKER CN.

FIGURE C-5 C-130E CHARACTERISTICS

AIRFRAME SYSTEM 11

MAJOR SKIN MATERIALS	AL TI FG
MAJOR STRUCTURAL MATERIALS	AL SS TI
NO. OF ENTRY AND ACCESS DOORS OR PANELS	487
NO. OF CANOPIES	0
NO. OF WINDSHIELD PIECES	3
NO. OF OTHER WINDOWS	26
CARGO DOORS	PRESSURIZED CARGO
A/C AGE OLDEST 10S (FH)	3,710 11,786
AVERAGE (FH)	9,633
NEWEST 10S (FH)	930 3,170

COCKPIT & FUSE. COMPARTMENTS SYSTEM 12

FUSELAGE	
WIDTH (MAX)	16' 8"
HEIGHT (MAX)	13' 3"
LENGTH	91' 9"
CREW ENTRANCE DOOR	30X45"
HEIGHT ABOVE GRND	3' 4½"
PARATROOP DOORS	36X72"
RAMP & DOOR OPENING	120X108"
HEIGHT ABOVE GRND	3' 4½"
PARATROOP DOORS	3' 4½"
RAMP	AFT CENTER FORWARD
STOWAGE SPACE (CARGO)	4,150 cu.ft.
ABOVE CARGO FLOOR	3,680 cu.ft.
ABOVE RAMP	470 cu.ft.
CARGO COMPARTMENT	
HEIGHT	41' 9"
WIDTH	10'
AIRDROP SYSTEM	DUAL RAIL CARGO HANDLING KIT

LANDING GEAR SYSTEM 13

NO. MAIN WHEELS	4
NO. NOSE WHEELS	2
MAIN GEAR SIZE	20 X 26
MAIN GEAR PLY	22
MAIN GEAR PRESS.	95
TAKEOFF SPEED	116
LANDING SPEED	115
TAKEOFF WEIGHT	155,000
LANDING WEIGHT	130,000
NOSE GEAR SIZE	12.5 X 16
NOSE GEAR PRESS.	60

FLIGHT CONTROLS SYSTEM 14

RUDDER	HYD/MAN
ELEVATORS	HYD/MAN
AILERONS	HYD/MAN
FLAPS LE/TE	NONE/HYD
EMERGENCY FLAPS	MANUAL
TRIM	ELECT
SPEED BRAKES	NONE
SPOILERS	NONE

POWER PLANT SYSTEM 22

NO. ENGINES	4
ENGINE TYPE	TURBOPROP
MODEL	T56-A-7
MANUFACTURER	ALLISON
MAXIMUM THRUST (LB)	4,050 (ESHP)
AFTERBURNER	NO
STARTING SYSTEM	4 PN
OTHER FEATURES	CONSTANT SPEED ENGINE PROP REVERSE

HYDRAULIC PROPELLER SYSTEM 32

MANUFACTURER	HAMILTON STANDARD
MODEL	54H60-91
NO. OF PROPELLERS	4
NO. OF BLADES/PROP	4
PROPELLER DIAM (TIP TO TIP)	13' 6"
GROUND CLEARANCE	INBOARD - 6' OUTBOARD - 6' 8"
PITCH CONTROL	AUTO/HYD
FEATHERING	MECH/ELECT
OTHER FEATURES	REVERSIBLE PITCH CONSTANT SPEED ABOVE FLIGHT IDLE

AIR CONDITIONING SYSTEM 41

CABIN HEATING	ENGINE BLEED GTC (GND)
CABIN COOLING	AIR CYCLE UNIT
ELECTRONIC COOLING	CABIN AIR BLOWER
REFRIGERATION UNITS	2
HEAT EXCHANGERS	2
ANTI-ICE	BLEED AIR

ELECTRICAL POWER SYSTEM 42

NO. OF GENERATORS	4/1
GENERATOR MANUFACTURER	WESTINGHOUSE OR G.E.
KVA EACH GENERATOR	40/20
GENERATOR DRIVE	ENG/ATM
MAIN SYSTEM VOLTAGE	120/208
PHASE/FREQUENCY	3/380-420
QTY./AMP OF TR'S	4/200
CSD MANUFACTURER	N/A
GENERATOR RPM	6,000/8,000
EMERGENCY POWER	BATTERY LEAD/ACID

FIGURE C-6 C-130E SYSTEMS 11 THROUGH 42 SPECIFICATIONS

LIGHTING SYSTEM 44

EXTERIOR LIGHTS	
LOCATION	NUMBER
TAXI	2
ANTI-COLLISION	2
LANDING	2
NAVIGATION	6
FORMATION	9
LEADING EDGE	2
POWER SOURCE (BUS)	ESSENTIAL DC MAIN DC
INTERIOR LIGHTS	
LOCATION	PILOT COPILOT NAVIGATOR FLT ENGINEER CARGO COMP. MISC.
POWER SOURCE (BUS)	
-PILOT & COPILOT INSTRU. LIGHTS	ESSENTIAL AC
-ENGINE INSTRU.LTS.	ESSENTIAL AC
-COPILOT SEC. LTS.	ISOLATED DC
-PILOTS & ENG. SEC.	ESSENTIAL DC
-ALL OTHER INT. LTS.	MAIN DC

HYDRAULIC/PNEUMATIC SYSTEM 45

SYSTEM I DESIGNATION	BOOSTER
NO. PUMPS/CAPACITY (GPM)	2/30
PUMP DRIVE	ENGINE ELECT
OPERATING PRESS (PSI)	3,000
SYSTEM II DESIGNATION	UTILITY
NO. PUMPS/CAPACITY	2/30 1/UNK
PUMP DRIVE	ENG. ELECT
OPERATING PRESS (PSI)	3,000
OTHER SYSTEMS INCLUDED IN RATES	AUX. ELECT. PUMP&HAND PUMP
OPERATING PRESS (PSI)	3,000

FUEL SYSTEM 46

MAX. INT. FUEL (GAL)	7,000
MAX. EXT. FUEL (GAL)	2,000
NO. BOOST PUMPS	
PUMP CAPACITY (LP HR)	6,000 Int. 27,400 Ext.
PUMP DRIVE	ELECT
PUMP PRESSURE	16-24 Int. 28-40 Ext.
OTHER PUMPS	SCAVENGE (4)
PUMP CAPACITY (LB/HR)	5,000
DRIVE/PRESSURE (PSI)	ELECT/5

OXYGEN SYSTEM 47

LOX CAPACITY (LITERS)	25 L.
OPERATING PRESSURE (PSI)	300
DURATION (HR) AT 25,000 FT. NORMAL, MASK ONLY	19
AUXILIARY OXYGEN SUPPLY	4 BOTTLES

MISCELLANEOUS UTILITIES SYSTEM 49

GALLEY	
LOCATION	LEFT SIDE FLT. DECK
TOILET FACILITIES	
CHEMICAL TOILETS	2 EA.
URINALS	4 EA.
FIRE EXTINGUISHER SYS	
PORTABLE	
PURPOSE	INT. FIRES
TYPE	A-20 CO
NUMBER	4
LOCATION	1 FLT STAT. 3 CARGO COMP.
NON-PORTABLE (BUILT IN)	
SYSTEM	2 SHOT CO
NUMBER OF BOTTLES	?
CONNECTED TO	4 ENG. NACELLES GTC/APU COMP.
AGENT	19 LB/BOTTLE
PSI	600

MISCELLANEOUS UTILITIES SYSTEM 49 (CONT)

ASSISTED TAKEOFF SYS	
NO. OF UNITS	8
LOCATED	(4 TO A SIDE) MOUNTED EXT. ON AIR DEFLECTORS
THRUST	1000 LBS EACH
CONTROL	ELECTRICAL
OPERATED FROM	ATO CONTROL PANEL
FIRED	SIMULTANEOUS
JETTISON CAPABILITY	YES
WINDSHIELD WIPERS	
NUMBER	2
OPERATED	ELECTRICAL
LOCATION	PILOT & COPILOT WINDSHIELD
POWER SOURCE (BUS)	MAIN DC

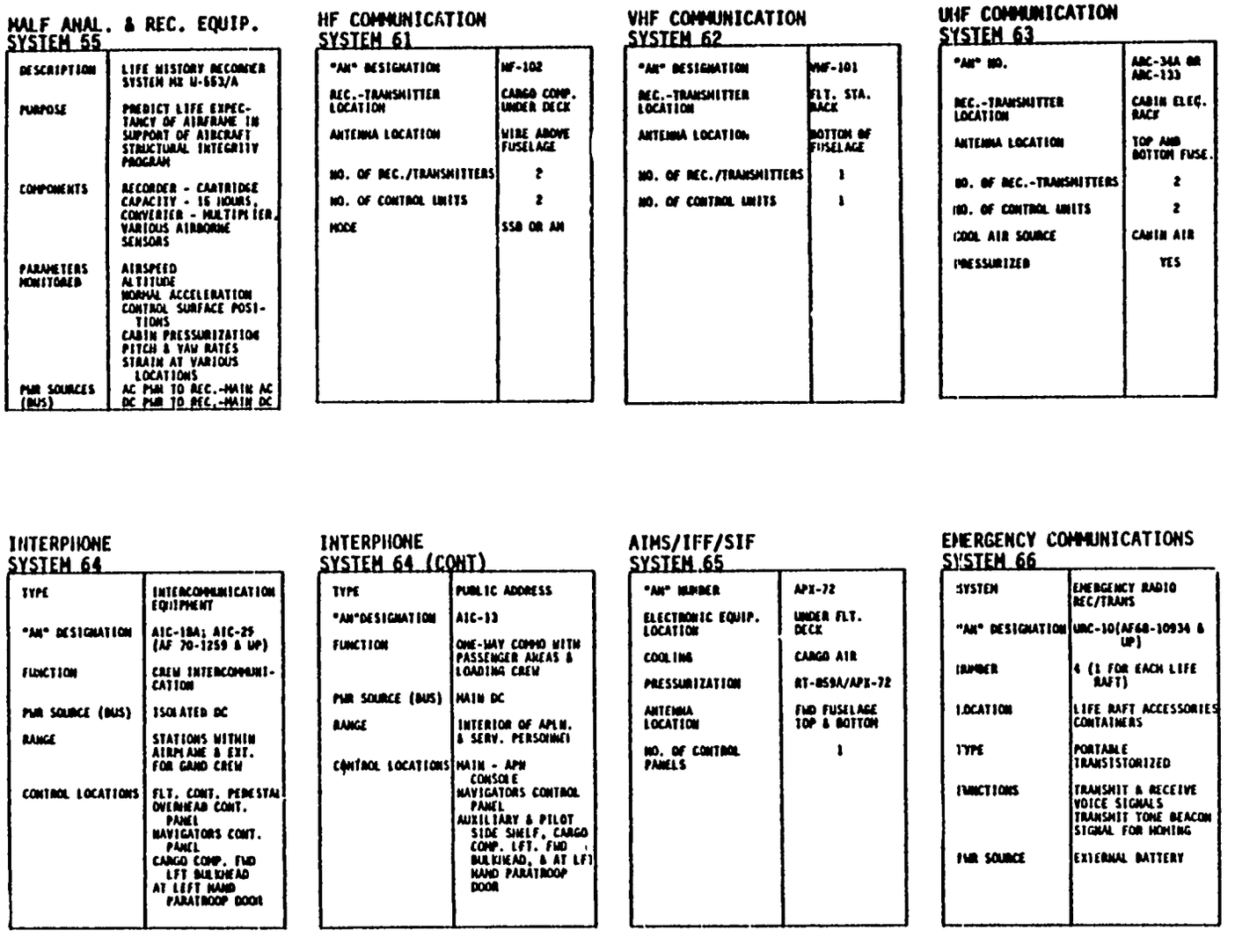
INSTRUMENTS SYSTEM 51

ANGLE OF ATTACK IND.	2
HORIZONTAL SITUATION IND. (HSI)	2
ATTITUDE IND./(ADI)	2
HEADING IND. GYRO/MAGN.	0/1
AIRSPEED/MACH IND.	3/0
ALTIMETER (BAROMETRIC)	3
VERTICAL VELOCITY IND.	2
ACCELEROMETER	1
TURN & SLIP IND.	IN ADI
CENTRAL AIR DATA COMPUTER	2
CLOCK/OTHERS	3/SEXTANT
AF STANDARD FLT. DIRECTOR SYSTEM	2 UNDER

AUTOPILOT SYSTEM 52

SYSTEM DESIGNATION	E-4
ELECTRONICS EQUIPMENT LOCATION	CABIN
OTHER FEATURES	PITCH DAMPER
SYSTEMS INCLUDED IN RATES	N-1 AND N-2 COMPASS
INTERCONNECTS	RADIO NAV.

FIGURE C-7 C-130E SYSTEMS 44 THROUGH 52 SPECIFICATIONS



MALF ANAL. & REC. EQUIP. SYSTEM 55

DESCRIPTION	LIFE HISTORY RECORDER SYSTEM MX U-663/A
PURPOSE	PREDICT LIFE EXPECTANCY OF AIRFRAME IN SUPPORT OF AIRCRAFT STRUCTURAL INTEGRITY PROGRAM
COMPONENTS	RECORDER - CARTRIDGE CAPACITY - 15 HOURS, CONVERTER - MULTIPLIER, VARIOUS AIRBORNE SENSORS
PARAMETERS MONITORED	AIRSPEED ALTITUDE NORMAL ACCELERATION CONTROL SURFACE POSITIONS CABIN PRESSURIZATION PITCH & YAW RATES STRAIN AT VARIOUS LOCATIONS
PWR SOURCES (BUS)	AC PWR TO REC.-MAIN AC DC PWR TO REC.-MAIN DC

HF COMMUNICATION SYSTEM 61

"AN" DESIGNATION	MF-102
REC.-TRANSMITTER LOCATION	CARGO COMP. UNDER DECK
ANTENNA LOCATION	WIRE ABOVE FUSELAGE
NO. OF REC./TRANSMITTERS	2
NO. OF CONTROL UNITS	2
MODE	SSB OR AM

VHF COMMUNICATION SYSTEM 62

"AN" DESIGNATION	VHF-101
REC.-TRANSMITTER LOCATION	FLT. STA. RACK
ANTENNA LOCATION	BOTTOM OF FUSELAGE
NO. OF REC./TRANSMITTERS	1
NO. OF CONTROL UNITS	1

UHF COMMUNICATION SYSTEM 63

"AN" NO.	ARC-34A OR ARC-133
REC.-TRANSMITTER LOCATION	CABIN ELEC. RACK
ANTENNA LOCATION	TOP AND BOTTOM FUSE.
NO. OF REC.-TRANSMITTERS	2
NO. OF CONTROL UNITS	2
COOL AIR SOURCE	CABIN AIR
PRESSURIZED	YES

INTERPHONE SYSTEM 64

TYPE	INTERCOMMUNICATION EQUIPMENT
"AN" DESIGNATION	AIC-18A; AIC-25 (AF 70-1259 & UP)
FUNCTION	CREW INTERCOMMUNICATION
PWR SOURCE (BUS)	ISOLATED DC
RANGE	STATIONS WITHIN AIRPLANE & EXT. FOR GRND CREW
CONTROL LOCATIONS	FLT. CONT. PEDESTAL OVERHEAD CONT. PANEL NAVIGATORS CONT. PANEL CARGO COMP. FWD LFT BULKHEAD AT LEFT NAMD PARATROOP DOOR

INTERPHONE SYSTEM 64 (CONT)

TYPE	PUBLIC ADDRESS
"AN"DESIGNATION	AIC-13
FUNCTION	ONE-WAY COMMO WITH PASSENGER AREAS & LOADING CREW
PWR SOURCE (BUS)	MAIN DC
RANGE	INTERIOR OF APLN. & SERV. PERSONNEL
CONTROL LOCATIONS	MAIN - APN CONSOLE NAVIGATORS CONTROL PANEL AUXILIARY & PILOT SIDE SHELF, CARGO COMP. LFT. FWD BULKHEAD, & AT LFT HAND PARATROOP DOOR

AIMS/IFF/SIF SYSTEM 65

"AN" NUMBER	APX-72
ELECTRONIC EQUIP. LOCATION	UNDER FLT. DECK
COOLING	CARGO AIR
PRESSURIZATION	RT-859A/APX-72
ANTENNA LOCATION	FWD FUSELAGE TOP & BOTTOM
NO. OF CONTROL PANELS	1

EMERGENCY COMMUNICATIONS SYSTEM 66

SYSTEM	EMERGENCY RADIO REC/TRANS
"AN" DESIGNATION	URC-10(AF68-10934 & UP)
NUMBER	4 (1 FOR EACH LIFE RAFT)
LOCATION	LIFE RAFT ACCESSORIES CONTAINERS
TYPE	PORTABLE TRANSISTORIZED
FUNCTIONS	TRANSMIT & RECEIVE VOICE SIGNALS TRANSMIT TONE BEACON SIGNAL FOR HOMING
PWR SOURCE	EXTERNAL BATTERY

FIGURE C-8 C-130E SYSTEMS 55 THROUGH 66 SPECIFICATIONS

EMERGENCY COMMUNICATIONS SYSTEM 66 (CONT)

SYSTEM	CRASH POSITION INDICATOR (CPI)
"AN" DESIGNATION	URT-26(V)
LOCATION	TOP PORTION OF TAIL CONE
ACTIVATED BY FRACTURING ANY OF:	SWITCH AT CPI PAN. FRANGIBLE SWITCHES 2 EA.-NOSE WHEEL WELL FAIRING 2 EA.-MLG WHEEL WELL FAIRINGS 2 EA.-EACH WING TIP HYDROSTATIC SWITCH FOR WATER IMMERS.
TRANSMISSION	OMNI-DIRECTIONAL RADIO BEACON DISTRESS SIGNAL
TRANSMISSION LENGTH POWER	MIN. 48 HRS; 2 EA. CHARGEABLE BATTERIES

MISC. COMMUNICATIONS EQUIP. SYSTEM 69

TYPE	DIRECTION FINDER
"AN" DESIGNATION	ARA-25 (TO AF68-10934) ARA-50 (AF68-10934 SUP)
FUNCTION	HOMING ON UHF TRANSMITTER
POWER SOURCE (BUS)	ARA-25 - MAIN DC ARA-50 - MAIN DC - MAIN DC
RANGE	LINE OF SIGHT
LOCATION OF CONTROL	FLIGHT CONTROL PEDESTAL

RADIO NAVIGATION SYSTEM 71

TACAN SYSTEM	ARN-21 CABIN UNDER FLIGHT DECK
DIRECTION FINDER	ARN-6 MLG WHEEL WELL
OMNI-RANGE	ARN-14 AFT FUSELAGE
GLIDE SLOPE	ARN-67 CABIN OR 61V4
MARKER BEACON	512-2 MLG WHEEL WELL
ILS TALAR	ARN-97 NOSE RADOME

RADAR NAVIGATION SYSTEM 72

SEARCH RADAR	APN-59B OR APQ-122 LOWER NOSE OR MLG WHEEL WELL
DOPPLER RADAR	APN-147 ASN-35 FWD FUSELAGE
RADIO/RADAR ALTIMETER, LOW RANGE	APN-150 OR APN-171 MID FUSELAGE
RADAR BEACON	NONE
STATION KEEPING (SKE)	APN-169
OTHER	APN-70/70B LORAN CABIN
HIGH RANGE ALTIMETER	SCR-718 OR AN/APN-133 UNDER FLT.DECK

EMERGENCY EQUIPMENT SYSTEM 91

FIRST AID KITS LOCATION	23 EACH 2 M. FLIGHT STATION 21 M. CARGO COMP.
HAND AXES	2 EACH
LIFE RAFTS CAPACITY LOCATION	4 EACH 20 MAN TOP CENTER WING TRAILING EDGE AREA
ACCESSORY KITS CONTENTS	1 EA. LIFE RAFT 1 EA. EMERG. RADIO 4 EA. DISTRESS SIG. 5 EA. SURVIVAL FOOD PACKETS 1 EA. DISTRESS MARKER
PYROTECHNICAL PISTOL	1 EACH
STOWAGE PROVISION:	10 LIFE VESTS 6 ANTI-EXPOSURE SUITS

PERSONNEL & MISC. EQUIP. SYSTEM 96

OXYGEN	MASKS
COMMUNICATIONS	HELMET HEADSET OXYGEN MASK MICROPHONE

EXPLOSIVE DEVICES & COMPONENTS SYSTEM 97

SYSTEM	FLARE SET
"AN" DESIGNATION CONTENTS	ALA-17 - 16 FLARES - FLARE ARMAMENT PANEL - ALE 20 CONTROLS PANEL - 7 EA. HAND HELD FIRING PANEL RELEASE SWITCHES - 2 EA. FIXED POS. RELEASE SWITCHES
POWER SOURCE (BUS)	ESSENTIAL DC

FIGURE C-9 C-130E SYSTEMS 66 (CONT) THROUGH 97 SPECIFICATIONS

DATA NORMALIZATION

The process for estimating the missing data, based on the foregoing assumptions, was as follows:

a. A data manipulation computer program was used to generate scattergrams of each variable in a data-set of interest (such as expenditure of maintenance manhours by aircraft WUC) as a function of every other variable in the data-set and as a function of six key operational parameters for which a complete 15 year history was available. Approximately 7,000 scattergram plots were generated and reviewed for this analysis.

b. The scattergrams were examined and all possible straight line relationships retained for further analysis.

c. These candidate variable combinations were then tested by regression analysis to determine their strengths of correlation and the equations for their least squares regression lines.

d. For each variable in the data-set being analyzed, a "best" relationship was chosen based on the following priority criteria:

   (1) Strongest correlation with a primary relationship to one of the key operational parameters.

   (2) If no reasonable primary relationship could be found, then the most highly correlated secondary relationship to some other support resource parameter which did have a strong primary relationship with an operational parameter.

   (3) If neither of the above criteria could be met, then the best tertiary relationship was selected. This was necessary in only a few of the data cases examined and it was not necessary to go to higher order relationships.

e. After the "best" relationship was selected for each variable of interest, its regression line was plotted as a function of the appropriate independent variable (operational parameter or related support resource parameter) and the missing years' values estimated by entering the regression with the independent variable values corresponding to the missing years and picking off the estimated dependent values.

f. The estimated dependent values of the various support resource parameters were then used to fill the appropriate data voids in the historical record.

Figure C-10 illustrates the above process through the data tables and graphs used at successive stages.

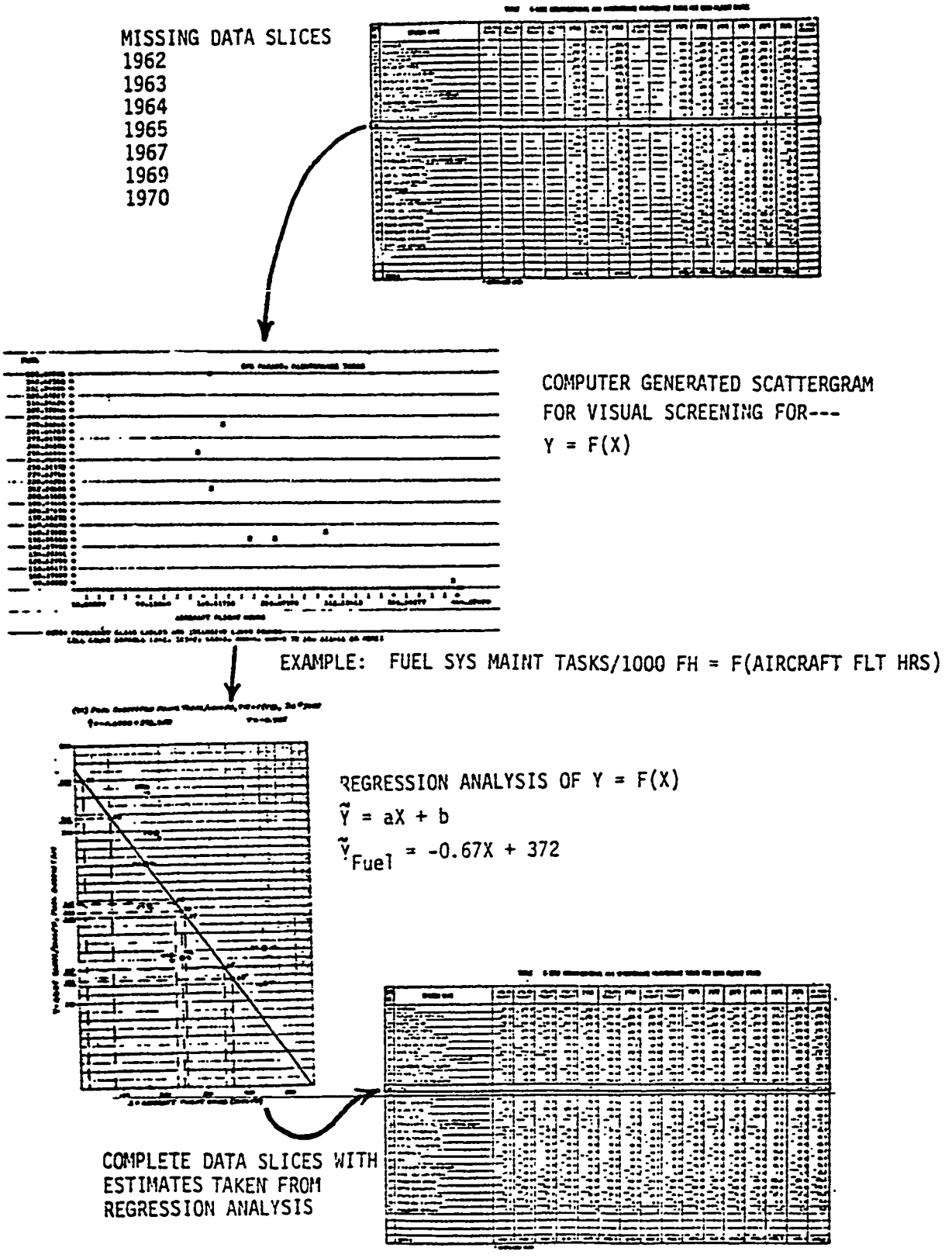


Figure C-10 DATA NORMALIZATION PROCESS FLOW

APPENDIX D

MAINTENANCE STATISTICS

TABLE B-1 C-130E ORGANIZATIONAL AND INTERMEDIATE SUPPORT GENERAL MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME		1962*	1963*	1964	1965*	1966	1967*	1968*	1969*	1970*	1971	1972*	1973*	1974*	1975*	1976	14 YEAR AVERAGE
01	GROUND HANDLING SERVICING & RELATED TASKS	DATA NOT DETERMINABLE		2498.4	6780.1	2017.6	926.9	1496.6	1979.9	3110.1	3499.6	3191.7	4241.2	6104.8	5926.9	5926.8	5687.1	3632.6
02	AIRCRAFT CLEANING			-	1333.1	469.2	434.8	423.3	468.9	682.8	656.1	474.1	728.5	963.3	1025.4	1025.4	947.3	679.4
03	LOOK PHASE OF SCHEDULED INSPECTION		7445.0	6052.8	3949.0	3512.3	4220.7	4406.7	4281.7	4019.2	2571.0	4112.2	5189.8	4158.2	4143.2	3553.2	4362.7	
04	SPECIAL INSPECTIONS		620.9	422.3	340.6	321.9	293.3	188.4	209.4	266.2	319.9	487.2	651.5	851.6	1087.5	1320.4	436.1	
05	PRESERVATION, DEPRESERVATION, & STORAGE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	-
06	ARMING AND DISARMING		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07	PREPARATION & MAINTENANCE OF RECORDS		102.1	266.6	80.4	33.7	56.9	78.3	129.7	156.3	130.6	180.9	219.7	259.1	259.1	274.8	151.1	
08	NOT APPLICABLE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09	SHOP SUPPORT GENERAL		49.5	4520.0	29.6	6.1	16.9	28.1	95.2	179 0	220.6	375.0	850.0	2043 8	2043.8	1147.1	833.2	
	TOTALS		10715.9	19374.9	6884.2	5232.8	6417.7	7137.3	8378.3	8974.4	6904.7	10128 7	11879.1	14314.4	14534.8	12982.1	10095.1	

TABLE C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SUPPORT GENERAL MAINTENANCE MANHOURS (14 YEAR)

SYS NO.	SYSTEM NAME		1962*	1963*	1964	1965*	1966	1967*	1968*	1969*	1970*	1971	1972*	1973*	1974*	1975*	1976	14 YEAR AVERAGE
01	GROUND HANDLING SERVICING & RELATED TASKS	DATA NOT DETERMINABLE		23.31	34.99	29.30	17.66	23.32	27.61	37.12	41.22	46.21	41.91	42.97	41.75	41 11	43.81	35.98
02	AIRCRAFT CLEANING			-	6.88	6.81	8.31	6.60	6.51	6.95	7.29	6.86	7.19	7.27	7.16	7.05	7.29	6.73
03	LOOK PHASE OF SCHEDULED INSPECTION		69.48	31.24	57.35	67.12	65.77	61.74	40.74	44.78	37.22	40.60	35.27	29.05	28 05	27.37	43.22	
04	SPECIAL INSPECTIONS		5.79	2.18	4.94	6.15	3.17	2.64	2.50	2.97	4.63	4.111	5.48	5.95	7.48	10.56	4.32	
05	PRESERVATION, DEPRESERVATION, & STORAGE		-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	
06	ARMING AND DISARMING		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
07	PREPARATION & MAINTENANCE OF RECORDS		0.95	1.38	1.17	0.64	0.89	1.11	1.55	1.74	1.89	1.79	1.85	1.81	1.78	2.12	1.50	
08	NOT APPLICABLE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
09	SHOP SUPPORT GENERAL		0.46	23.33	0.43	0.12	0.26	0.39	1.14	1.99	3.19	3.70	7.16	14.28	14 06	8 83	8.25	
	TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	

TABLE C-130E ORGANIZATIONAL AND INTERMEDIATE SUPPORT GENERAL MAINTENANCE MANHOURS PER SORTIE (12 YEAR)

SYS NO.	SYSTEM NAME		1962*	1963*	1964	1965*	1966	1967*	1968*	1969*	1970*	1971	1972*	1973*	1974*	1975*	1976	12 YEAR AVERAGE
01	GROUND HANDLING SERVICING & RELATED TASKS	DATA NOT DETERMINABLE				8.74	4.7	4.32	3.72	5.80	7.18	9.1	11.80	13.17	17.39	16.85	21.0	8.73
02	AIRCRAFT CLEANING					2.03	2.2	1.22	0.88	1.10	1.27	1.4	2.02	2.23	2.98	2.89	3.6	1.74
03	LOOK PHASE OF SCHEDULED INSPECTION					17.10	17.9	12.20	8.33	8.04	7.80	7.3	11.43	10.81	12.10	11.68	13 1	10.99
04	SPECIAL INSPECTIONS					1.47	1.6	0.69	0.36	0.40	0.62	0.9	1.34	1.68	2.48	3.97	6.1	1.29
05	PRESERVATION, DEPRESERVATION, & STORAGE					-	-	-	-	-	-	-	-	-	-	-	0.01	0.0
06	ARMING AND DISARMING					-	-	-	-	-	-	-	-	-	-	-	-	-
07	PREPARATION & MAINTENANCE OF RECORDS					0.35	0.2	0.16	0.15	0.24	0.30	0.4	0.56	0.67	0.75	0.73	1.1	0.38
08	NOT APPLICABLE					-	-	-	-	-	-	-	-	-	-	-	-	-
09	SHOP SUPPORT GENERAL					0.13	0.03	0.05	0.05	0.18	0.35	0.6	1.04	2.19	6.95	6.76	4.2	1.16
	TOTALS					29.82	26.63	18.64	13.49	15.84	17.42	19.7	28.14	30.65	41.65	40.98	48.01	24.28

* NORMALIZED

TABLE D-2 C-130E ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	1250.0	1205.0	1438.0	2090.0	1948.2	1390.0	938.2	880.0	880.0	976.9	841.2	1231.8	1685.5	1511.2	1762.8	1357.0
12	COCKPIT AND FUSELAGE	615.0	460.0	347.6	650.0	458.2	480.0	390.1	260.0	260.0	350.6	291.7	612.2	656.8	480.6	697.2	470.3
13	LANDING GEAR	1406.0	765.0	755.7	820.0	978.2	900.0	943.0	716.0	670.0	681.2	594.3	555.1	685.9	630.8	622.8	735.7
14	FLIGHT CONTROLS	670.0	470.0	394.2	710.0	716.6	500.0	395.5	355.0	355.0	431.1	356.5	413.4	670.2	495.9	433.6	468.4
22	TURBO PROP POWER PLANT	1900.0	1460.0	1590.6	2000.0	1594.3	1520.0	1436.8	1200.0	1200.0	1615.4	1078.2	1229.5	1588.0	1455.9	1741.2	1486.6
24	AUXILIARY POWER PLANT	364.0	200.0	205.6	214.0	206.2	234.0	200.6	186.0	174.0	140.6	115.4	166.7	203.7	180.3	189.3	194.7
32	HYDRAULIC PROPELLER	1640.0	940.0	949.8	1000.0	1178.7	1090.0	1105.7	880.0	830.0	812.7	715.8	814.7	684.8	715.7	939.6	913.1
41	AIR CONDITIONING, PRESSURIZATION	638.0	417.0	378.9	428.0	366.3	443.0	518.0	412.0	404.0	420.3	349.4	371.9	493.9	390.6	418.9	414.5
42	ELECTRICAL POWER SUPPLY	420.0	238.0	343.9	254.0	291.1	276.0	237.2	224.0	212.0	182.2	132.2	182.9	215.0	221.3	264.3	241.0
44	LIGHTING SYSTEM	246.0	177.0	134.7	184.0	182.4	193.0	218.7	172.0	168.0	151.2	120.5	161.3	222.9	168.0	212.0	172.5
45	HYDRAULIC AND PNEUMATIC	455.0	342.0	281.1	353.0	349.8	368.0	459.0	335.0	327.0	325.1	245.1	309.6	407.3	328.4	343.7	335.8
46	FUEL	1460.0	870.0	468.7	645.0	872.6	1470.0	1077.5	900.0	970.0	916.7	797.6	1030.0	1340.4	985.1	1230.0	959.6
47	OXYGEN	109.0	74.0	38.2	78.0	49.3	82.5	137.1	72.0	69.5	87.8	55.9	63.6	81.0	69.9	89.8	74.4
49	MISC. UTILITIES	200.5	125.5	130.9	132.0	131.6	141.5	112.2	120.0	115.0	89.5	79.6	114.4	152.4	129.6	167.7	125.7
51	INSTRUMENTS	992.0	392.0	632.4	445.0	697.3	517.0	219.6	342.0	305.0	180.5	191.6	213.4	225.6	192.2	192.0	376.5
52	AUTOPILOT	296.0	225.0	164.6	198.0	314.1	297.0	259.3	229.0	237.0	237.1	206.9	246.9	265.1	232.0	215.2	232.9
55	DETECTING, CONTROL, & RECORDING EQUIP.	0.0	0.0	-	0.0	.1	0.7	1.4	1.5	1.8	-	-	-	-	1.7	3.4	0.6
61	HF COMMUNICATIONS	309.0	174.0	144.8	188.0	296.0	195.0	163.9	162.0	154.0	94.6	88.5	91.2	110.9	122.4	136.0	154.4
62	VHF COMMUNICATIONS	120.0	57.7	58.5	63.0	83.6	70.8	65.5	52.6	48.5	48.7	38.7	34.8	44.4	60.2	39.1	55.5
63	UHF COMMUNICATIONS	405.0	245.0	170.8	259.0	271.2	278.0	306.6	232.0	222.0	236.7	183.5	198.9	211.2	201.0	215.9	231.4
64	INTERPHONE	56.0	76.5	123.2	164.0	208.4	170.5	139.1	134.0	130.5	134.0	113.5	110.7	106.4	85.5	89.2	132.9
65	IFF	0.0	0.0	75.8	177.5	241.8	192.5	185.2	112.0	102.5	143.2	34.7	29.6	45.4	61.0	60.0	110.5
66	EMERGENCY COMMUNICATIONS	0.0	0.0	13.6	12.2	22.6	30.6	35.8	49.4	57.5	55.3	70.2	79.0	95.8	82.4	112.0	44.7
69	MISC. COMMUNICATIONS	39.0	13.3	18.1	15.4	23.9	18.6	13.9	11.1	9.4	7.7	8.4	7.1	5.8	3.9	3.4	12.5
71	RADIO NAVIGATION	323.0	340.0	323.0	375.0	545.5	408.0	481.8	443.0	462.0	487.1	394.6	304.1	443.7	481.0	661.2	410.1
72	RADAR NAVIGATION	640.0	685.0	697.1	775.0	851.1	860.0	1054.3	955.0	995.0	1263.6	842.0	603.1	957.6	1037.6	1199.8	873.4
91	EMERGENCY EQUIPMENT	160.0	83.5	81.7	90.0	51.9	99.2	100.3	77.3	72.5	61.9	51.4	62.9	69.4	67.8	56.2	78.6
96	PASSENGER EQUIPMENT	0.1	0.1	9.4	0.2	.6	0.2	.4	0.3	0.3	0.2	0.2	0.1	1.0	0.2	-	1.2
97	EXPLOSIVE DEVICES	0.9	1.2	1.4	1.7	1.6	2.2	13.4	2.8	3.0	4.6	3.1	3.5	4.8	2.8	4.2	2.8
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTALS	15,314.4	10,136.6	9975.3	12,322.0	13,014.2	12228.3	11,210.6	9609.8	9535.5	10,036.5	8,103.2	9,142.6	11,476.4	10,155.4	12,329.8	10667.2

* NORMALIZED DATA

TABLE D-3 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	12.73	12.87	14.4	16.96	15.0	11.37	8.4	9.16	9.22	9.7	10.4	12.6	14.2	14.89	14.7	12.72
12	COCKPIT AND FUSELAGE	4.02	4.64	3.5	5.28	3.5	3.93	3.5	3.75	3.78	3.5	4.9	5.6	5.2	4.23	5.8	4.41
13	LANDING GEAR	9.10	7.55	7.6	6.65	7.5	7.36	8.4	7.44	7.01	6.8	7.3	6.1	5.1	5.23	6.2	6.90
14	FLIGHT CONTROLS	4.37	4.64	4.9	5.76	6.5	4.09	3.6	3.69	2.76	5.3	4.4	4.5	4.9	3.89	3.6	4.39
22	TURBO PROP POWER PLANT	12.41	14.40	15.9	16.23	12.2	12.43	12.8	12.43	12.58	15.1	11.3	13.4	13.8	14.34	14.5	13.94
24	AUXILIARY POWER PLANT	2.38	1.97	2.1	1.74	2.2	1.91	1.8	1.94	1.82	1.4	1.4	1.8	1.8	1.78	1.6	1.83
32	HYDRAULIC PROPELLER	10.71	9.27	9.5	8.12	9.1	8.91	9.9	9.16	8.70	9.1	8.8	8.9	8.0	7.05	7.8	8.56
41	AIR CONDITIONING, PRESSURIZATION	3.51	4.11	3.8	3.47	2.8	3.62	4.6	4.29	4.21	4.2	4.3	4.1	4.3	3.85	3.8	3.89
42	ELECTRICAL POWER SUPPLY	2.74	2.35	3.4	2.06	2.2	2.26	2.0	2.33	2.22	1.6	1.6	2.0	1.9	2.18	2.4	2.26
44	LIGHTING SYSTEM	1.61	1.75	1.4	1.49	1.4	1.58	2.0	1.79	1.76	1.5	1.5	1.8	1.9	1.56	1.6	1.62
45	HYDRAULIC AND PNEUMATIC	2.97	3.37	2.8	2.86	2.7	3.01	4.1	3.49	3.53	3.2	3.0	3.4	3.5	3.23	2.9	3.15
46	FUEL	9.53	8.58	4.7	5.23	6.7	12.02	9.4	9.37	10.17	9.1	9.8	11.3	11.7	9.70	10.2	9.00
47	OXYGEN	0.71	0.73	0.4	0.63	0.4	0.67	1.3	0.76	0.73	0.9	0.7	0.7	0.7	0.69	0.7	0.70
49	MISC. UTILITIES	1.31	1.24	1.3	1.07	1.0	1.16	1.0	1.25	1.21	0.9	1.0	1.2	1.3	1.26	1.4	1.18
51	INSTRUMENTS	4.48	3.87	4.3	3.61	5.4	4.23	2.0	3.56	3.20	1.8	2.4	2.3	2.0	1.89	1.6	3.53
52	AUTOPILOT	1.93	2.22	1.7	1.61	2.4	2.43	2.3	2.38	2.49	2.4	2.5	2.2	2.3	2.28	1.8	2.18
55	NAVIGATION (VOR, & RECORDING EQUIP	0.00	0.00	-	0.00	0.0	0.01	0.0	0.02	0.02	-	-	-	-	0.02	0.0	0.01
61	HF COMMUNICATIONS	2.02	1.72	1.4	1.53	2.3	1.59	1.5	1.69	1.62	0.9	1.1	1.0	1.0	1.21	1.1	1.45
62	VHF COMMUNICATIONS	0.76	0.57	0.6	0.61	0.6	0.58	0.6	0.55	0.51	0.5	0.5	0.4	0.4	0.49	0.3	0.52
63	UHF COMMUNICATIONS	2.64	2.42	1.7	2.10	2.1	2.27	2.7	2.41	2.33	2.4	2.3	2.2	1.8	1.98	1.7	2.17
64	INTERPHONE	0.37	0.75	1.2	1.33	1.6	1.39	1.2	1.39	1.37	1.3	1.4	1.2	0.9	0.84	0.7	1.25
65	IFF	0.00	0.00	0.8	1.44	1.9	1.57	1.7	1.17	1.07	1.4	0.4	0.3	0.4	0.50	0.5	1.04
66	EMERGENCY COMMUNICATIONS	0.00	0.00	0.1	0.10	0.2	0.25	0.3	0.51	0.60	0.5	0.9	0.9	0.8	0.81	0.9	0.42
69	MISC. COMMUNICATIONS	0.26	0.13	0.2	0.12	0.2	0.15	0.1	0.12	0.10	0.1	0.1	0.1	0.1	0.04	0.0	0.12
71	RADIO NAVIGATION	2.11	3.35	3.2	3.04	4.2	3.34	4.3	4.61	4.85	4.9	4.9	3.3	3.9	4.74	4.6	3.84
72	RADAR NAVIGATION	4.10	6.76	7.0	6.29	6.5	7.03	9.4	9.89	10.44	12.6	10.4	6.6	8.3	10.22	9.9	8.19
91	EMERGENCY EQUIPMENT	1.04	0.82	0.8	0.73	0.4	0.81	0.9	0.80	0.76	0.6	0.6	0.7	0.6	0.57	0.5	0.74
96	PERSONNEL EQUIPMENT	0.00	0.00	0.1	0.00	0.0	0.00	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	-	0.01
97	EXPLOSIVE DEVICES	0.01	0.01	0.0	0.01	0.0	0.02	0.1	0.03	0.03	0.1	0.1	0.0	0.1	0.03	0.0	0.03
	TOTALS	100.00	100.00	100.0	100.00	100.0	100.00	100.0	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.00

* NORMALIZED DATA

TABLE D-4 C-130E ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				9.0497	8.0	6.0171	1.8	1.6632	1.7072	2.1	2.3	3.2	4.9	4.2630	4.5683	3.6369
12	COCKPIT AND FUSELAGE				2.8145	1.9	1.3872	0.7	0.6804	0.6984	0.8	1.1	1.3	1.9	1.3550	1.7936	1.2468
13	LANDING GEAR				3.5506	4.0	2.6010	1.9	1.3513	1.2998	1.5	1.7	1.4	1.7	1.4969	1.6249	2.0096
14	FLIGHT CONTROLS				3.0741	3.0	1.4450	0.8	0.6709	0.6887	0.9	1.0	1.1	1.7	1.1164	1.1187	1.3143
22	TURBO PROP POWER PLANT				8.6600	6.6	4.3928	2.7	2.2660	2.3280	3.3	3.0	3.2	4.6	4.1056	4.4923	3.9170
24	AUXILIARY POWER PLANT				0.9266	1.2	0.6763	0.4	0.3515	0.3376	0.3	0.3	0.4	0.6	0.5084	0.4884	0.5295
32	HYDRAULIC PROPELLER				4.3300	4.9	3.1501	2.1	1.6632	1.6102	1.8	1.9	2.1	2.0	2.0183	2.4242	2.4817
41	AIR CONDITIONING, PRESSURIZATION				1.8532	1.5	1.2803	1.0	0.7787	0.7838	0.9	1.0	1.0	1.4	1.1015	1.0808	1.1044
42	ELECTRICAL POWER SUPPLY				1.0998	1.2	0.7976	0.5	0.4234	0.4113	0.6	0.6	0.5	0.6	0.6241	0.7335	0.6253
44	LIGHTING SYSTEM				0.7967	0.8	0.5578	0.4	0.3251	0.3259	0.3	0.3	0.4	0.6	0.4456	0.5470	0.4674
45	HYDRAULIC AND PNEUMATIC				1.6265	1.4	1.0635	0.9	0.6333	0.6344	0.7	0.7	0.8	1.2	0.9261	0.8971	0.9241
46	FUEL				2.7929	3.6	4.2483	2.0	1.7010	1.8816	2.0	2.2	2.7	3.9	2.7780	3.1734	2.6448
47	OXYGEN				0.3377	0.2	0.2384	0.3	0.1361	0.1340	0.2	0.2	0.2	0.2	0.1971	0.2317	0.2145
49	MISC. UTILITIES				0.5716	0.5	0.4089	0.2	0.2268	0.2231	0.2	0.2	0.3	0.4	0.3655	0.4327	0.3166
51	INSTRUMENTS				1.9269	2.9	1.4941	0.4	0.6464	0.5917	0.4	0.5	0.6	0.7	0.5420	0.4954	0.9414
52	AUTOPILOT				0.0573	1.3	0.8583	0.5	0.4326	0.4598	0.5	0.6	0.6	0.8	0.6542	0.5552	0.6015
55	PHOTOGRAPHIC, & RECORDING EQUIP.	DATA NOT EXTENDABLE	DATA NOT EXTENDABLE	DATA NOT EXTENDABLE	0.0000	-	0.0021	-	0.0026	0.0035	-	-	-	-	0.0048	0.0009	0.0012
61	UHF COMMUNICATIONS				0.8140	1.2	0.5615	0.3	0.3062	0.2984	0.2	0.2	0.2	0.3	0.3452	0.0080	0.4094
62	VHF COMMUNICATIONS				0.2728	0.3	0.2046	0.1	0.0992	0.0941	0.1	0.1	0.1	0.1	0.1416	0.3509	0.1559
63	HF COMMUNICATIONS				1.1215	1.1	0.8034	0.6	0.4385	0.4307	0.5	0.5	0.5	0.6	0.5668	0.1014	0.6151
64	INTERPHONE				0.7101	0.9	0.4927	0.3	0.2531	0.2532	0.3	0.3	0.3	0.3	0.2411	0.5570	0.4033
65	IFF				0.7686	1.0	0.5563	0.4	0.2117	0.1988	0.3	0.3	0.3	0.3	0.1438	0.2301	0.3683
66	EMERGENCY COMMUNICATIONS				0.0528	0.1	0.0084	0.1	0.0934	0.1115	0.1	0.2	0.2	0.3	0.2324	0.1548	0.1284
69	MISC. COMMUNICATIONS				0.0667	0.1	0.0538	-	0.0210	0.0182	-	-	-	-	0.0110	0.2890	0.0997
71	RADIO NAVIGATION				1.6237	2.2	1.1791	0.9	0.8373	0.8963	1.1	1.1	0.8	1.3	1.3564	0.0088	1.1102
72	RADAR NAVIGATION				3.3558	3.5	2.4854	2.0	1.7955	1.9303	2.8	2.3	1.6	2.8	2.9260	1.4479	2.3766
93	EMERGENCY EQUIPMENT				0.3897	0.2	0.2867	0.2	0.1461	0.1406	0.1	0.1	0.2	0.2	0.1630	3.0955	0.3477
96	PERSONNEL EQUIPMENT				0.0007	-	0.0006	-	0.0005	0.0006	-	-	-	-	0.0006	0.1450	0.0060
97	EXPLOSIVE DEVICES				0.0074	-	0.0064	-	0.0053	0.0055	-	-	-	-	0.0079	0.0100	0.0034
	TOTALS				63.3541	53.6	35.3397	21.4	18.1627	19.4989	21.8	22.3	23.8	33.2	28.6383	31.0381	29.003

* NORMALIZED DATA

TABLE D-5 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS BY SERVICING (SV) - SCHEDULED (SC) - UNSCHEDULED (UN) - OTHER (OT)

SYS. NO.	SYSTEM NAME	1971				1972				1973				1974				1975				1976				6 YEAR AVERAGE			
		SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT
11	AIRFRAME	0.3	44.1	54.1	0.4	0.4	48.6	50.5	0.3	0.3	51.5	48.0	0.2	0.1	51.3	48.4	0.1	1.7	49.0	48.4	0.3	1.0	54.6	43.7	0.6	0.7	50.1	48.7	0.3
12	COCKPIT AND FUSELAGE	0.7	33.4	65.3	0.6	1.2	29.2	69.4	0.2	0.6	26.4	72.4	0.6	0.4	32.4	67.2	0.1	2.1	31.0	66.7	0.2	1.6	43.3	54.8	0.4	1.1	33.8	66.9	0.2
13	LANDING GEAR	0.4	14.7	83.5	1.4	0.4	15.5	83.6	0.5	0.3	21.0	78.5	0.1	0.1	23.6	75.8	0.6	0.1	23.4	75.7	0.6	0.2	22.8	76.6	0.7	0.3	19.8	79.4	0.6
14	FLIGHT CONTROLS	0.1	30.5	68.1	1.3	0.1	39.7	59.8	0.3	0.0	36.0	64.0	0.4	0.0	44.4	55.2	0.4	0.0	41.2	58.2	0.5	0.1	41.1	58.3	0.6	0.0	39.1	60.3	0.6
15	TURBO PROP POWER PLANT	1.0	18.4	79.6	1.0	1.2	16.3	82.4	0.4	0.8	18.8	79.8	0.6	0.7	17.8	81.1	0.4	0.3	18.4	80.3	1.0	0.4	16.2	81.2	2.1	0.7	17.7	80.8	1.0
16	AUXILIARY POWER PLANT	0.1	9.3	87.7	2.3	0.0	14.0	85.5	0.5	0.1	14.7	85.1	0.1	0.1	15.7	83.5	0.3	0.1	15.4	81.8	1.5	0.1	16.3	81.0	2.6	0.1	14.9	84.1	0.9
17	HYDRAULIC PROPELLER	0.3	18.1	80.1	1.6	0.2	10.8	85.6	23.4	0.4	43.8	55.2	0.6	0.1	38.4	60.3	1.2	0.1	38.6	60.1	1.2	0.1	40.7	57.5	1.6	0.2	30.9	62.6	6.3
18	AIR CONDITIONING, PRESSURIZATION	0.1	11.3	86.7	2.0	0.1	20.4	78.5	0.9	0.0	22.4	77.2	0.4	0.1	27.5	71.5	0.5	0.0	24.7	74.6	1.1	0.1	24.6	73.3	1.9	0.1	22.5	76.6	1.0
19	ELECTRICAL POWER SUPPLY	0.1	20.6	77.9	1.4	0.4	24.4	74.0	1.1	0.1	27.5	71.3	1.0	0.9	24.2	73.1	1.8	1.9	26.8	70.7	0.6	2.9	23.8	72.4	0.9	1.1	25.0	72.0	1.1
44	LIGHTING SYSTEM	0.4	11.7	86.7	1.4	0.1	35.5	64.1	0.3	0.1	38.5	61.4	0.2	0.0	35.0	64.6	0.3	0.0	31.0	68.4	0.6	0.0	34.5	65.0	0.5	0.1	35.9	63.6	0.4
45	HYDRAULIC AND PNEUMATIC	0.1	15.5	79.9	0.4	0.2	24.6	74.8	0.4	0.2	22.1	76.7	0.9	0.1	22.0	76.1	0.8	0.0	31.4	66.6	1.8	0.1	31.0	67.3	1.6	0.1	26.9	72.4	1.1
46	FUEL	0.0	3.3	94.5	2.1	0.0	8.7	90.8	0.4	0.0	6.3	93.5	0.2	0.0	6.4	93.2	0.4	0.1	7.5	91.9	0.5	0.1	9.1	90.4	0.5	0.0	7.0	92.4	0.6
47	OXYGEN	0.7	11.1	86.0	2.2	0.2	10.3	88.7	0.9	0.0	15.8	83.7	0.4	0.4	21.6	77.4	0.6	0.0	22.9	77.1	0.7	0.2	24.4	74.8	0.6	0.2	17.5	81.6	0.9
48	MISC. UTILITIES	0.1	21.2	74.8	3.8	0.1	26.3	72.8	1.2	0.4	32.6	66.1	0.9	0.1	35.4	64.1	0.4	0.1	32.4	65.2	1.9	0.2	32.6	65.1	1.6	0.2	33.2	67.1	1.5
51	INSTRUMENTS	0.0	4.0	91.9	4.0	0.1	4.7	94.4	0.8	0.1	6.4	93.2	0.3	0.1	9.1	90.6	0.8	0.1	8.2	90.1	1.2	0.0	8.7	89.9	1.4	0.1	6.9	91.9	1.1
52	AUTOPILOT	0.3	3.5	91.8	4.4	0.3	8.4	90.6	1.2	0.3	14.5	84.2	1.0	0.3	9.5	88.7	1.6	0.4	10.3	86.8	2.1	0.3	8.9	88.6	2.2	0.3	9.4	88.5	1.9
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	19.9	77.1	0.0	-	1.5	98.5	-	1.7	11.1	87.2	0.0
61	HF COMMUNICATIONS	0.1	3.3	91.6	4.9	0.4	9.3	89.8	0.6	0.1	13.9	85.6	0.4	0.6	9.4	88.4	1.6	2.0	10.5	82.3	5.2	0.8	12.0	84.3	2.8	0.8	10.0	86.7	2.5
62	VHF COMMUNICATIONS	0.1	3.0	88.6	8.4	0.4	7.0	90.4	1.3	-	8.4	89.6	2.0	0.4	6.7	91.4	1.4	0.2	4.3	90.7	5.0	0.0	14.7	81.5	4.2	0.2	6.7	89.6	3.5
63	UHF COMMUNICATIONS	0.1	1.4	93.5	5.3	0.1	4.6	93.5	1.8	0.0	5.5	92.5	2.0	0.0	3.7	95.2	1.0	2.3	2.8	93.4	1.5	2.7	2.7	91.9	2.7	0.7	3.6	93.4	2.3
64	INTERPHONE	0.4	5.2	91.6	2.3	0.1	12.4	87.1	0.5	0.6	15.3	83.5	0.6	0.1	13.1	86.3	0.5	0.1	12.7	85.6	1.6	0.0	11.6	86.8	1.6	0.2	12.6	86.7	1.1
65	IFF	0.1	2.6	87.2	10.1	0.0	7.2	87.9	4.9	0.1	5.6	93.3	1.7	-	6.0	92.5	1.5	0.0	12.1	84.3	3.6	-	13.5	83.2	3.3	0.0	6.2	87.8	5.5
66	EMERGENCY COMMUNICATIONS	0.4	7.6	77.3	0.7	0.4	30.5	68.5	0.2	0.3	40.4	59.1	0.2	0.2	51.4	48.1	0.3	1.0	57.0	41.6	0.4	1.0	52.2	46.3	0.5	0.5	44.4	54.9	0.4
69	MISC. COMMUNICATIONS	-	50.7	49.3	-	0.1	60.1	39.8	-	0.2	61.8	38.0	-	-	50.1	47.7	2.2	0.0	80.6	19.4	0.3	-	57.5	41.7	0.8	0.1	57.5	42.1	0.3
71	RADIO NAVIGATION	0.2	2.1	94.6	3.6	0.2	3.0	94.9	1.1	0.1	3.2	95.5	1.2	0.0	4.4	95.1	0.6	0.5	9.1	89.1	2.1	0.8	9.1	88.4	1.7	0.3	5.4	92.7	1.6
72	RADAR NAVIGATION	0.1	1.4	92.9	5.6	0.2	3.4	94.3	1.7	0.2	4.0	91.4	4.4	0.1	3.4	93.6	2.9	0.7	5.1	90.3	3.9	0.6	6.5	90.4	3.4	0.3	3.1	92.4	3.5
91	EMERGENCY EQUIPMENT	4.2	44.5	51.0	0.3	3.4	58.4	38.4	-	2.0	54.1	43.7	0.2	0.8	32.8	66.3	0.0	2.3	41.8	54.6	1.3	0.2	40.0	59.3	0.5	2.2	46.1	51.3	0.4
29	PERSONNEL EQUIPMENT	-	40.0	59.4	-	-	59.1	39.4	1.5	-	93.1	6.5	-	-	93.4	6.6	-	0.0	24.6	75.4	0.0	-	-	-	-	0.0	76.4	23.4	0.3
97	EXPLOSIVE DEVICES	4.2	43.0	52.8	-	8.0	38.9	52.7	0.4	0.8	56.9	40.8	1.4	1.3	32.7	66.0	-	2.6	35.1	49.0	3.1	3.8	57.0	38.8	0.4	3.4	44.1	51.6	0.9
	TOTAL	0.4	14.1	82.9	2.5	0.4	18.4	78.5	2.7	0.3	24.0	74.5	0.8	0.2	24.4	74.7	0.7	0.7	24.4	73.5	1.4	0.6	25.8	72.1	1.5	0.4	22.8	76.0	1.6

TABLE D-6 C-130E ORGANIZATIONAL AND INTERMEDIATE TROUBLESHOOTING SYSTEM MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	14.4	9.6	10.6	15.6	3.2	10.3	3.1	6.6	6.6	7.8	6.3	8.4	18.9	14.6	12.1	10.2
12	COCKPIT AND FUSELAGE	5.0	3.7	2.8	5.3	2.0	3.9	0.6	2.9	2.9	3.0	3.1	4.1	5.5	4.8	4.4	3.8
13	LANDING GEAR	54.4	29.6	29.2	31.7	18.9	34.8	20.7	27.7	25.9	42.5	27.6	22.7	30.1	28.2	32.2	29.9
14	FLIGHT CONTROLS	22.3	15.6	13.1	23.6	8.9	16.6	2.3	11.8	11	16.5	14.5	15.8	21.6	15.4	18.0	15.9
22	TURBO PROP POWER PLANT	104.9	80.6	87.8	110.4	33.9	83.9	45.4	66.2	66.2	9.0	64.9	81.6	111.0	96.0	101.2	83.9
24	AUXILIARY POWER PLANT	37.6	20.6	21.2	22.1	15.5	24.1	12.2	19.2	18..	21.6	12.5	22.3	27.6	22.0	19.7	21.0
32	HYDRAULIC PROPELLER	40.3	23.1	23.4	24.8	26.4	26.8	12.7	21.6	20.6	20.6	21.1	23.6	23.3	25.3	24.4	23.4
41	AIR CONDITIONING & PRESSURIZATION	90.6	70.2	63.8	72.1	27.5	74.6	70.4	69.4	68.0	61.9	61.1	63.6	94.2	73.5	81.9	73.3
42	ELECTRICAL POWER SUPPLY	33.6	19.1	27.5	20.3	13.9	22.1	14.1	17.9	17.0	20.7	14.1	17.7	21.9	23.2	28.6	23.4
44	LIGHTING SYSTEM	18.2	13.1	10.0	13.6	6.9	14.3	8.6	12.8	12.5	11.5	9.9	14.3	14.8	13.8	19.7	12.9
45	HYDRAULIC AND PNEUMATIC	18.0	13.5	11.1	14.0	11.1	14.6	7.0	13.3	12.9	14.3	9.6	14.3	15.4	15.2	18.4	13.4
46	FUEL	197.4	117.6	63.4	87.2	14.6	198.7	88.0	121.7	131.1	131.8	115.6	122.8	170 3	135.9	172.0	127.0
47	OXYGEN	14.8	10.0	5.2	10.6	2.1	11.2	9.5	9.8	9.4	6.4	8.9	10.0	11.0	10.6	14.8	9.8
49	MISC. UTILITIES	25.5	16.0	16.7	16.8	9.5	18.0	9.0	15 3	14.6	13.9	12.5	17.6	19.8	17.6	21.9	16.4
51	INSTRUMENTS	124.4	49.2	79.3	55.8	69.0	64.8	27.7	42.9	38.2	40.9	48.3	50.7	53.7	43.6	44.4	53.7
52	AUTOPILOT	58.0	44.0	32.2	38.0	17.6	58.2	35.2	44.8	46.4	49.5	40.3	47.3	58.6	46.9	43.6	45.2
55	VIBRATION ANAL. & RECORDING EQUIP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	0.0	-	-	-	0.6	1.6	0.0
61	HF COMMUNICATIONS	13.0	7.3	6.1	7.9	6.3	8.2	11.7	6.8	6.5	8.2	6.2	6.4	7.4	6.6	4.5	7.0
62	VHF COMMUNICATIONS	5.0	2.4	2.4	2.6	0.7	2.9	4.6	2.2	2.0	4.2	2.7	1.9	2.3	1.3	0.5	2.4
63	UHF COMMUNICATIONS	16.1	9.8	6.8	10.3	3.8	11.1	27.9	9.2	8.8	13.3	9.3	3.0	7.4	6.5	5.0	9.5
64	INTERPHONE	2.6	3.6	5.7	7.6	1.4	7.9	3.1	6.2	6.1	9.5	6.6	6.3	7.1	5.8	3.7	6.6
65	IFF	0.0	0.0	2.9	6.7	5.4	7.3	17.0	4.2	3.9	10.2	1.4	0.8	2.6	4.3	4.4	4.7
66	EMERGENCY COMMUNICATIONS	0.0	0.0	1.7	1.6	0.4	3.8	0.2	6.2	7.2	3.8	6.4	5.0	5.8	6.2	12.6	4.3
69	MISC COMMUNICATIONS	0.6	0.2	0.3	0.2	0.1	0.3	0.0	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2
71	RADIO NAVIGATION	23.7	25.0	23.7	27.5	16.6	29.9	40.4	32.5	33.9	36.9	28.4	24.3	37.1	26.0	31.0	29.6
72	RADAR NAVIGATION	45.6	48.8	49.6	55.2	17.4	61.2	58.0	67.6	70.8	132.0	64.7	42.4	69.6	47.4	45.7	60.6
91	EMERGENCY EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
	TOTALS	966.0	632.6	596.5	681.1	332.2	809.5	540.1	638.9	641.2	761.4	693.5	633.1	837.3	689.4	766.6	681.9

* NORMALIZED DATA

TABLE D-7 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM TROUBLESHOOTING MAINTENANCE MANHOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	1.49	1.52	1.78	2.28	1.0	1.27	0.6	1.02	1.01	1.0	0.9	1.3	2.3	2.10	1.6	1.60
12	COCKPIT AND FUSELAGE	0.52	0.59	0.47	0.78	0.6	0.48	0.1	0.45	0.45	0.4	0.5	0.6	0.7	0.70	0.6	0.56
13	LANDING GEAR	5.63	4.68	4.90	4.65	5.7	4.30	3.8	4.34	4.04	5.6	4.6	3.6	3.6	4.08	4.2	4.38
14	FLIGHT CONTROLS	2.31	2.47	2.20	3.46	2.7	2.06	1.4	1.85	1.84	1.9	2.4	2.5	2.6	2.23	1.3	2.33
22	TURBO PROP POWER PLANT	10.86	12.74	14.72	16.21	10.2	10.36	8.4	10.36	10.32	10.3	10.8	12.8	13.3	13.93	13.2	12.30
24	AUXILIARY POWER PLANT	3.89	3.26	3.56	3.24	4.7	2.98	3.3	3.01	2.81	2.8	2.1	3.5	3.3	3.19	2.6	3.08
32	HYDRAULIC PROPELLER	4.17	3.65	3.92	3.61	8.0	3.31	2.3	3.38	3.18	2.7	3.6	3.7	2.8	3.67	3.2	3.43
41	AIR CONDITIONING, PRESSURIZATION	9.38	11.10	10.20	10.59	8.3	9.22	13.0	10.86	10.61	8.1	10.3	10.1	11.2	10.66	10.2	10.31
42	ELECTRICAL POWER SUPPLY	3.48	3.02	4.61	2.98	4.2	2.73	2.6	2.80	2.65	2.7	2.4	2.8	2.6	3.37	3.7	2.99
44	LIGHTING SYSTEM	1.84	2.07	1.68	2.00	1.8	1.77	1.6	2.00	1.95	1.5	1.7	2.3	1.8	2.00	2.6	1.89
45	HYDRAULIC AND PNEUMATIC	1.86	2.13	1.86	2.06	3.3	1.80	1.3	2.08	2.01	1.9	1.6	2.3	1.8	2.20	2.4	1.97
46	FUEL	20.43	18.59	10.63	12.80	4.4	24.55	16.3	19.06	20.45	17.3	14.5	19.4	20.3	19.71	22.4	18.62
47	OXYGEN	1.53	1.58	0.87	1.56	0.6	1.38	1.8	1.53	1.47	1.4	1.5	1.6	1.3	1.64	1.9	1.44
49	MISC. UTILITIES	2.64	2.53	2.80	2.47	2.9	2.22	1.7	2.39	2.28	1.8	2.1	2.8	2.4	2.55	2.8	2.41
51	INSTRUMENTS	12.88	7.78	13.29	8.19	20.8	8.00	6.1	6.71	6.96	6.4	8.1	8.0	6.4	6.32	5.8	7.88
52	AUTOPILOT	6.00	6.96	5.40	5.58	6.3	7.19	6.5	7.01	7.24	6.5	6.8	7.5	7.0	6.80	6.7	6.63
55	MALFUNCTION ANAL. & RECORDING EQUIP.	0.00	0.00	0.00	0.00	0.0	0.00	0.0	-	-	0.0	-	-	-	0.09	0.2	0.00
61	HF COMMUNICATIONS	1.35	1.16	1.02	1.16	1.9	1.01	2.2	1.06	1.01	1.1	0.9	1.0	0.9	0.81	0.6	1.03
62	VHF COMMUNICATIONS	0.52	0.38	0.40	0.38	0.2	0.36	0.9	0.34	0.31	0.6	0.5	0.3	0.3	0.19	0.1	0.35
63	UHF COMMUNICATIONS	1.67	1.55	1.14	1.61	1.1	1.37	6.2	1.44	1.37	1.8	1.5	1.4	0.9	0.80	0.7	1.39
64	INTERPHONE	0.27	0.57	0.96	1.12	0.4	0.98	0.6	0.97	0.95	1.2	1.1	1.0	0.8	0.84	0.5	0.95
65	IFF	0.00	0.00	0.49	0.98	1.6	0.90	3.1	0.66	0.61	1.3	0.2	0.1	0.3	0.62	0 6	0.69
66	EMERGENCY COMMUNICATIONS	0.00	0.00	0.28	0.22	0.1	0.47	0.0	0.97	1.12	0.5	1.1	0.8	0.7	0.90	1 6	0.63
69	MISC. COMMUNICATIONS	0.06	0.03	0.05	0.03	0.0	0.04	0.0	0.03	0.03	0.0	0.0	0.0	0.0	0.03	0.0	0.03
71	RADIO NAVIGATION	2.45	3.95	3.97	4.04	5.0	3.69	7.6	5.09	5.29	4.9	4.9	3.8	4.4	3.77	4.0	4.33
72	RADAR NAVIGATION	4.72	7.71	8.32	8.10	6.2	7.56	10.7	10.58	11.04	12.3	10.9	6.7	8.3	6.88	6.0	8.89
91	EMERGENCY EQUIPMENT	0.00	0.00	0.00	0.00	0.0	0.00	0.0	0.00	0.00	0.0	0.0	0.0	0.0	-	0.0	0.00
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	0.0	0.00	0.0	0.00	0.00	0.0	0.0	0.0	0.0	-	0.0	0.00
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	-	0.00	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.00
	TOTALS	100.00	100.00	100.00	100.00	100.0	100.00	100.0	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.00

* NORMALIZED DATA

TABLE D-8 C-130E ORGANIZATIONAL AND INTERMEDIATE SYSTEM TROUBLESHOOTING MANHOURS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.0471	.014	0.0298	.006	0.0123	0.0126	.017	.015	.022	.055	0.0409	0.0312	0 0230
12	COCKPIT AND FUSELAGE				0.0229	.008	0.0113	.002	0.0055	0.0056	.007	.009	.011	.016	0.0135	0.0114	0 0090
13	LANDING GEAR				0.1373	.078	0.1006	.039	0.0524	0.0502	.093	.077	.059	.088	0.0795	0.0831	0 0742
14	FLIGHT CONTROLS				0.1022	.037	0.0480	.014	0.0223	0.0229	.032	.040	.041	.063	0.0434	0.0464	0 0383
-	TURBO PROP POWER PLANT				0.4780	.139	0.2425	.086	0.1251	0.1284	.174	.178	.233	.323	0.2707	0.2611	0 1952
24	AUXILIARY POWER PLANT				0.0957	.061	0.0696	.034	0.0363	0.0343	.047	.035	.058	.080	0.0620	0.0508	0 0523
32	HYDRAULIC PROPELLER				0.1065	.109	0.0775	.024	0.0408	0.0396	.045	.059	.061	.068	0.0713	0.0630	0 0598
41	AIR CONDITIONING, PRESSURIZATION				0.3322	.113	0.2156	.133	0.1312	0.1319	.136	.170	.164	.274	0.2073	0.2113	0 1713
42	ELECTRICAL POWER SUPPLY				0 0879	.057	0.0639	.027	0.0338	0.0330	.045	.039	.046	.064	0.0654	0.0738	0 0491
44	LIGHTING SYSTEM				0.0589	.024	0.0413	.016	0.0242	0.0243	.025	.028	.037	.043	0.0389	0.0508	0 0314
45	HYDRAULIC AND PNEUMATIC				0.0606	.046	0 0422	.013	0.0251	0.0250	.031	.026	.037	.045	0 0429	0 0475	0 0340
46	FUEL				0.3776	.060	0.5742	.166	0.2300	0 2543	.289	.321	.317	.496	0.3832	0.4438	0 3043
47	OXYGEN				0.0459	.009	0 0324	.018	0.0185	0.0182	.023	.025	.026	.032	0.0299	0.0382	0 0245
49	MISC. UTILITIES				0.0727	.039	0 0520	.017	0 0289	0.0283	.030	.035	.045	.058	0.0496	0.0565	0 0390
51	INSTRUMENTS				0.2416	.283	0.1873	.052	0.0811	0.0741	.090	.134	.131	.156	0.1230	0.1146	0 1319
52	AUTOPILOT				0 1645	.072	0.1682	.067	0.0843	0.0900	.108	.112	.122	.171	0.1323	0.1125	0 1108
55	MALFUNCTION ANAL. & RECORDING EQUIP.				0.0000	-	0 0000	-	-	-	-	-	-	-	0.0017	0 0041	0 0000
61	UF COMMUNICATIONS				0.0342	.026	0.0233	.022	0.0129	0.0126	.018	.015	.017	.022	0.0158	0.0116	0 0193
62	VHF COMMUNICATIONS				0.0113	(03)	0 0084	.009	0.0042	0.0039	.009	.008	.005	.007	0.0037	0.0013	0 0064
63	UHF COMMUNICATIONS				0.0446	.016	0.0321	.052	0.0174	0.0171	.029	.026	.023	.022	0.0155	0.0129	0 0272
64	INTERPHONE				0.0329	.006	0.0228	.006	0 0117	0.0118	.021	.018	.016	.021	0.0164	0.0095	0 0152
65	IFF				0.0290	.022	0 0211	.032	0.0079	0.0076	.022	.004	.002	.008	0.0121	0 0114	0 0164
66	EMERGENCY COMMUNICATIONS				0.0065	.002	0 0110	-	0.0117	0.0140	.008	.016	.013	.017	0.0175	0 0325	0 0108
69	MISC. COMMUNICATIONS				0.0009	-	0 0009	-	0.0004	0.0004	-	.001	-	-	0.0006	0.0005	0 0004
71	RADIO NAVIGATION				0.1191	.068	0 0864	.076	0.0614	0.0658	.081	.080	.063	.108	0.0733	0 0800	0 0781
72	RADAR NAVIGATION				0.2390	.072	0.1769	.110	0.1278	0.1374	.289	.180	.109	.203	0.1337	0.1179	0 1551
91	EMERGENCY EQUIPMENT				0.0000	-	0 0000	-	0.0000	0.0000	-	-	-	-	-	0 0050	0 0000
96	PERSONNEL EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	0 0000	0.0000
97	EXPLOSIVE DEVICES				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0003	0.0000
	TOTALS				2.9492	1.370	2.3394	1.020	1.2076	1.2439	1.670	1.650	1.640	2.440	1.9441	1.9778	1 6766

DATA NOT DETERMINABLE

* NORMALIZED DATA

TABLE D-9 C-130E ORGANIZATIONAL SYSTEM MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	1218.9	1160.4	1267.6	1042.3	1256.0	1225.3	842.5	775.7	775.7	859.2	712.2	1086.6	1544.6	1367.7	1519.8	1196.2
12	COCKPIT AND FUSELAGE	490.3	366.8	277.1	518.2	356.1	382.7	310.3	287.0	287.0	283.6	318.0	370.4	585.8	794.1	4[illegible]3.2	375.0
13	LANDING GEAR	1070.4	682.4	675.3	624.3	681.9	685.2	656.2	644.3	610.1	622.8	416.9	627.3	492.8	426.7	640.8	560.1
14	FLIGHT CONTROLS	544.7	410.2	344.0	619.6	358.2	436.4	354.1	309.8	309.8	388.0	312.8	363.2	516.7	362.0	3[illegible]4.9	408.8
22	TURBO PROP POWER PLANT	1131.6	869.6	947.4	1191.2	981.9	905.3	876.0	734.7	716.7	901.6	632.2	737.7	922.3	900.8	9[illegible]8.1	885.3
24	AUXILIARY POWER PLANT	287.7	158.1	162.5	169.1	166.5	184.9	166.5	147.0	137.5	113.3	96.0	130.8	161.7	142.3	1[illegible]4.0	153.9
32	HYDRAULIC PROPELLER	1037.8	594.8	601.0	632.8	707.3	689.8	690.4	656.9	625.2	474.6	437.3	607.4	446.9	491.9	6[illegible]1.4	577.8
41	AIR CONDITIONING, PRESSURIZATION	485.4	376.2	341.9	386.2	284.6	399.7	454.8	371.7	364.9	354.8	304.8	340.0	468.5	362.0	3[illegible]3.5	374.0
42	ELECTRICAL POWER SUPPLY	291.3	165.0	238.6	176.1	182.0	191.4	132.8	155.3	147.0	128.2	92.9	119.1	162.0	164.1	1[illegible]2.8	167.1
44	LIGHTING SYSTEM	217.5	166.6	119.1	162.7	165.7	170.6	190.6	162.1	148.6	126.6	100.7	139.2	203.7	145.2	1[illegible]8.1	152.3
45	HYDRAULIC AND PNEUMATIC	376.3	282.9	232.5	292.0	296.0	304.4	354.6	277.1	270.5	237.5	195.1	266.0	352.7	296.4	3[illegible]3.2	279.2
46	FUEL	1438.2	857.0	461.7	635.4	856.3	1448.1	1038.4	886.6	955.6	902.0	784.4	1019.6	1324.8	970.6	12[illegible]5.4	945.3
47	OXYGEN	90.0	61.1	31.6	64.4	42.3	68.1	94.3	59.4	57.4	57.4	42.3	56.6	74.8	64.1	[illegible]2.4	61.8
49	MISC. UTILITIES	129.1	112.1	116.9	117.8	113.3	126.4	85.8	107.2	102.7	76.7	69.8	103.2	139.1	119.5	1[illegible]5.1	112.3
51	INSTRUMENTS	784.0	309.8	499.8	351.7	480.9	408.6	152.3	270.1	241.0	142.4	157.1	175.7	183.1	154.9	1[illegible]2.8	297.6
52	AUTOPILOT	189.2	143.8	105.2	126.6	129.8	189.9	147.3	146.4	151.6	138.1	135.5	156.7	178.8	160.2	1[illegible]1.2	148.9
55	MALFUNCTION ANAL. & RECORDING EQUIP.	0.0	0.0	0.0	0.0	-	0.0	1.1	0.0	0.0	-	-	-	-	1.3	2.8	0.5
61	HF COMMUNICATIONS	142.6	80.3	66.8	86.8	61.6	90.0	71.7	74.8	71.1	48.5	49.5	64.3	63.6	49.0	5[illegible]5.6	71.3
62	VHF COMMUNICATIONS	55.8	26.8	27.2	29.3	30.7	32.9	29.5	24.4	22.6	25.4	20.5	17.9	21.2	19.7	15.8	25.8
63	UHF COMMUNICATIONS	153.7	93.0	64.8	98.3	218.4	105.5	96.5	88.0	84.2	88.8	73.0	82.9	78.1	58.5	[illegible]4.1	87.8
64	INTERPHONE	43.6	57.3	95.9	127.6	91.0	132.7	103.7	104.3	101.6	112.0	93.7	87.8	85.9	66.9	1[illegible]9.7	103.3
65	IFF	0.0	0.0	59.0	91.2	74.7	98.9	88.0	57.6	52.7	64.0	18.2	19.6	29.7	32.9	1[illegible]4.1	56.8
66	EMERGENCY COMMUNICATIONS	0.0	0.0	7.8	7.0	3.3	17.6	8.4	28.4	33.0	27.0	45.7	45.7	58.6	47.9	[illegible]0.1	25.7
69	MISC. COMMUNICATIONS	29.5	16.1	13.7	11.7	20.4	14.1	11.3	8.4	7.1	7.1	7.1	6.7	6.4	3.3	3.0	9.8
71	RADIO NAVIGATION	162.2	170.8	162.2	188.4	259.7	204.9	243.5	222.5	232.1	226.5	206.8	164.1	231.6	234.6	2[illegible]1.5	206.0
72	RADAR NAVIGATION	316.8	358.4	364.7	408.6	436.9	450.0	635.1	497.0	520.6	671.6	458.5	337.6	622.8	632.0	5[illegible]3.1	456.9
91	EMERGENCY EQUIPMENT	120.1	62.6	61.6	67.6	51.5	74.4	74.0	58.8	54.4	45.9	35.2	40.3	69.6	42.9	[illegible]8.8	59.0
96	PERSONNEL EQUIPMENT	0.8	0.1	9.4	0.2	0.6	0.2	0.4	0.3	0.3	0.2	0.2	0.1	1.0	0.2	-	1.2
97	EXPLOSIVE DEVICES	0.9	1.2	1.4	1.7	1.6	2.2	13.4	2.8	3.0	4.6	3.1	3.5	4.8	2.7	4.2	2.8
	TOTALS	11415.7	7452.3	7238.5	9025.7	8407.2	9040.2	7819.4	6928.8	6881.2	7028.1	5819.0	6859.8	8809.5	7599.4	8757.6	7802.4

* NORMALIZED DATA

TABLE D-10 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL SYSTEM MAINTENANCE MANHOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	16.06	16.3	17.62	20.41	16.13	13.55	10.77	11.20	11.27	12.23	12.25	16.84	17.34	18.00	18.26	15.23
12	COCKPIT AND FUSELAGE	4.29	4.92	3.83	5.74	4.21	4.23	3.97	4.14	4.17	4.04	5.46	6.40	6.57	5.19	5.47	4.81
13	LANDING GEAR	9.38	7.81	7.95	6.92	8.11	7.68	8.37	7.86	7.41	7.44	7.15	6.23	6.53	5.61	6.72	7.18
14	FLIGHT CONTROLS	5.12	6.50	4.75	6.86	4.26	4.83	4.63	4.47	4.50	5.52	5.30	5.29	6.80	4.26	1.51	6.24
22	TURBO PROP POWER PLANT	9.91	11.66	13.09	13.20	11.68	10.01	11.19	10.32	10.39	12.83	10.86	10.75	10.35	11.85	11.40	11.35
24	AUXILIARY POWER PLANT	2.52	2.12	2.24	1.87	1.98	2.06	2.13	2.12	2.00	1.61	1.65	1.91	1.81	1.91	1.66	1 97
32	HYDRAULIC PROPELLER	9.09	7.98	8.30	7.01	8.41	7.63	8.83	8.04	7.63	6.75	7.5.	7.40	6.02	6.47	7.10	7 41
41	AIR CONDITIONING, PRESSURIZATION	4.25	5.04	4.72	4.28	3.39	4.42	5.82	5.37	5.30	5.05	5.24	4.96	6.26	4.76	4.38	4.79
42	ELECTRICAL POWER SUPPLY	2.56	2.21	3.29	1.95	2.16	2.12	1.70	2.24	2.14	1.82	1.60	1.74	1.82	2 16	1.20	2.14
44	LIGHTING SYSTEM	1.91	2.10	1.65	1.80	1.97	1.89	2.44	2.20	2.16	1.80	1.73	2.03	2.28	1.93	1.26	1.95
45	HYDRAULIC AND PNEUMATIC	3.30	3.79	3.21	3.24	3.62	3.37	4.53	4.00	3.93	3.38	3.35	3.84	3.96	3.90	4.58	3.58
46	FUEL	12.60	11.49	6.38	7.04	10.19	16.02	13.28	12.80	13.89	12.84	13.40	14.66	14.07	12.7	1 .88	12.12
47	OXYGEN	0.79	0.82	0.44	0.71	0.50	0.25	1.21	0.86	0.83	0.82	0.73	0.83	0.8?	0.84	1.94	0.79
49	MISC. UTILITIES	1.57	1.50	1.61	1.31	1.35	1.40	1.10	1.56	1.49	1.09	1.20	1.50	1.56	1.57	1.77	1.44
51	INSTRUMENTS	6.8.	4.15	6.90	3.90	5.72	4.52	1.95	3.90	3.50	2.03	2.70	2.56	2.06	2.04	1 74	3.81
52	AUTOPILOT	1.66	1.93	1.45	1.40	1.64	2.10	1.88	2.11	2.20	1.96	2.33	2.28	2.01	2.11	1.71	1.91
55	MAINTENANCE ANAL. & RECORDING EQUIP.	0.00	0.00	0.00	0.00	-	0.00	0.01	0.00	0.00	-	-	-	-	0.02	0.03	0.01
61	HF COMMUNICATIONS	1.25	1.08	0.92	0.96	0.73	1.00	0.92	1.08	1.03	0.69	0.85	0.79	0.60	0.64	0.63	0.91
62	VHF COMMUNICATIONS	0.49	0.36	0.38	0.32	0.37	0.36	0.38	0.36	0.31	0.36	0.35	0.26	0.24	0.26	0.18	0 33
63	UHF COMMUNICATIONS	1.35	1.25	0.90	1.09	2.60	1.37	1.22	1.27	1.22	1.26	1.25	1.21	0.88	0.77	0.73	1.13
64	INTERPHONE	0.38	0.77	1.32	1.41	1.08	1.47	1.33	1.51	1.48	1.59	1.61	1.28	0.96	0.88	0.80	1.32
65	IFF	0.00	0.00	0.54	1.01	0.89	1.09	1.13	0.83	0.77	0.91	0.31	0.28	0.33	0.43	0.39	0.73
66	EMERGENCY COMMUNICATIONS	0.00	0.00	0.11	0.08	0.04	0.19	0.11	0.41	0.48	0.38	0.79	0.67	0.66	0.63	0.69	0.33
69	MISC. COMMUNICATIONS	0.26	0.14	0.19	0.13	0.24	0.16	0.14	0.12	0.10	0.10	0.12	0.10	0.04	0.04	0 03	0.13
71	RADIO NAVIGATION	1.47	2.29	2.24	2.09	3.09	2.27	3.11	3.21	3.37	3.22	3.55	2.39	2.60	3.09	2 99	2.64
72	RADAR NAVIGATION	2.93	4.81	5.04	4.49	5.20	4.98	6.84	7.17	7.57	9.56	7.80	4.92	5.87	6.74	6 35	6.86
91	EMERGENCY EQUIPMENT	1.05	0.84	0.88	0.75	0.61	0.82	0.95	0.84	0.79	0.65	0.60	0.59	0.67	0.56	0 56	0.76
96	PERSONNEL EQUIPMENT	0.00	0.00	0.11	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	-	0.02
97	EXPLOSIVE DEVICES	0.01	0 02	0.02	0.02	0.02	0.02	0.17	0.04	0.04	0.07	0.05	0.05	0.05	0.04	0 05	0.04
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	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-11 C-130E ORGANIZATIONAL SYSTEM MAINTENANCE MANHOURS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				7.9772	6.6	3.6411	1.6	1.4661	1.5049	1.9	2.8	2.8	4.5	3.8569	4.1241	3.0883
12	COCKPIT AND FUSELAGE				2.2438	1.6	1.1060	0.6	0.6424	0.6564	0.6	0.9	0.9	1.1	1.1114	1.2361	0.8802
13	LANDING GEAR				2.7032	2.8	1.9802	1.2	1.0287	0.9896	1.2	1.2	1.1	1.4	1.2033	1.282	1.4969
14	FLIGHT CONTROLS				2.6829	1.6	1.2612	0.7	0.6855	0.6010	0.9	0.9	0.9	1.5	1.0208	1.0181	1.0601
22	TURBO PROP POWER PLANT				5.1579	4.0	2.6163	1.7	1.3508	1.3865	2.0	1.8	1.9	2.7	2.5403	2.5751	2.3532
24	AUXILIARY POWER PLANT				0.7322	0.7	0.6344	0.3	0.2778	0.2667	0.3	0.3	0.3	0.5	0.4154	0.3711	0.4040
32	HYDRAULIC PROPELLER				2.7600	2.9	1.9935	1.3	1.0525	1.0189	1.0	1.2	1.3	1.3	1.3872	1.6031	1.5441
41	AIR CONDITIONING, PRESSURIZATION				1.6722	1.2	1.1551	0.9	0.7026	0.7071	0.8	0.9	0.9	1.4	1.0208	0.9891	0.9987
42	ELECTRICAL POWER SUPPLY				0.7625	0.7	0.5531	0.3	0.2935	0.2852	0.3	0.3	0.3	0.6	0.4628	0.4971	0.4209
44	LIGHTING SYSTEM				0.7045	0.7	0.4930	0.4	0.2875	0.2881	0.3	0.3	0.4	0.6	0.4095	0.6111	0.4332
45	HYDRAULIC AND PNEUMATIC				1.2644	1.2	0.8797	0.7	0.5237	0.5248	0.5	0.5	0.7	1.0	0.8358	0.8081	0.7597
46	FUEL				2.7513	3.5	4.1850	2.0	1.6757	1.8537	2.0	2.2	2.6	3.9	2.7371	3.1357	2.6099
47	OXYGEN				0.2789	0.2	0.1968	0.2	0.1123	0.1114	0.2	0.1	0.1	0.2	0.1808	0.2126	0.1724
49	MISC. UTILITIES	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.5105	0.5	0.3653	0.2	0.2026	0.1992	0.2	0.2	0.3	0.4	0.3370	0.4002	0.2863
51	INSTRUMENTS				1.5229	2.0	1.1809	0.3	0.6109	0.4675	0.3	0.4	0.6	0.6	0.4368	0.3942	0.7136
62	AUTOPILOT				0.5482	0.6	0.5488	0.3	0.2767	0.2939	0.3	0.4	0.4	0.5	0.4518	0.3901	0.3934
5x	MALFUNCTION ANAL. & RECORDING EQUIP.				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0037	0.0072	-
61	HF COMMUNICATIONS				0.3758	0.3	0.2601	0.2	0.1414	0.1379	0.1	0.1	0.1	0.2	0.1382	0.1434	0.1856
62	VHF COMMUNICATIONS				0.1269	0.1	0.0951	0.1	0.0461	0.0437	0.1	0.1	-	0.1	0.0556	0.0408	0.0775
63	UHF COMMUNICATIONS				0.4256	0.9	0.3049	0.2	0.1663	0.1633	0.2	0.2	0.2	0.2	0.1650	0.1654	0.2786
64	INTERPHONE				0.5525	0.4	0.3835	0.2	0.1971	0.1971	0.3	0.2	0.2	0.2	0.1887	0.1798	0.2687
65	IFF				0.3949	0.3	0.2858	0.2	0.1089	0.1022	0.1	0.1	0.1	0.1	0.0928	0.0800	0.1719
66	EMERGENCY COMMUNICATIONS				0.0303	-	0.0509	-	0.0537	0.0640	0.1	0.1	0.1	0.2	0.1351	0.1551	0.0677
69	MISC. COMMUNICATIONS				0.0507	0.1	0.0407	-	0.0159	0.0138	-	-	-	-	0.0093	0.0077	0.0210
71	RADIO NAVIGATION				0.8158	1.1	0.5922	0.5	0.4205	0.4503	0.5	0.6	0.6	0.7	0.6616	0.6747	0.5992
72	RADAR NAVIGATION				1.7558	1.8	1.3005	1.0	0.9393	1.0100	1.6	1.3	0.9	1.6	1.4438	1.4347	1.2815
91	EMERGENCY EQUIPMENT				0.2923	0.2	0.2150	0.1	0.1096	0.1055	0.1	0.1	0.1	0.2	0.1210	0.1259	0.1434
96	PERSONNEL EQUIPMENT				0.0009	-	0.0006	-	0.0006	0.0006	-	-	-	-	0.0006	-	0.0003
97	EXPLOSIVE DEVICES				0.0074	-	0.0064	-	0.0053	0.0058	-	-	-	-	0.0076	0.0108	0.0034
	TOTALS				38.4515	34.6	26.1261	15.2	13.0939	13.3495	15.8	16.4	17.5	26.0	21.4307	22.5942	20.8212

* NORMALIZED DATA

TABLE D-12 C-130E INTERMEDIATE SYSTEM MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	231.1	164.6	170.4	247.7	592.3	164.2	96.2	104.3	104.3	112.7	129.0	146.3	140.9	144.0	164.1	160.8
12	COCKPIT AND FUSELAGE	124.7	93.2	70.6	131.8	104.1	97.3	78.8	73.0	73.0	62.0	71.7	141.8	71.0	86.4	216.0	95.3
13	LANDING GEAR	1 335.6	182.6	180.4	195.7	296.3	214.8	288.8	170.7	159.9	158.4	178.4	128.8	92.6	104.1	129.0	175.6
14	FLIGHT CONTROLS	85.3	59.8	50.2	90.4	358.4	63.6	41.4	45.2	45.2	43.1	43.7	60.2	53.6	33.9	38.7	59.6
22	TURBO PROP POWER PLANT	768.4	590.4	643.2	838.8	612.4	614.7	561.8	485.3	485.3	613.8	446.0	491.8	668.7	555.1	743.1	601.2
24	AUXILIARY POWER PLANT	76.3	41.9	43.1	54.9	119.7	49.1	34.1	39.0	36.5	27.6	19.4	35.9	42.0	33.0	46.3	40.8
32	HYDRAULIC PROPELLER	602.2	345.2	348.8	367.2	471.4	400.2	415.3	321.1	304.8	318.2	278.5	307.3	237.9	223.8	318.2	335.3
41	AIR CONDITIONING, PRESSURIZATION	52.6	40.8	37.0	41.8	81.7	43.3	63.2	40.3	39.5	65.5	44.6	31.9	25.4	23.6	35.4	40.5
42	ELECTRICAL POWER SUPPLY	128.7	73.0	105.4	77.9	109.1	84.6	104.4	68.7	65.0	54.0	39.3	63.8	53.0	57.2	91.5	73.9
44	LIGHTING SYSTEM	28.5	20.5	15.6	21.3	16.2	22.4	28.2	19.9	19.5	24.6	19.8	22.1	20.2	12.8	13.9	20.2
45	HYDRAULIC AND PNEUMATIC	78.3	59.1	48.6	61.0	53.8	63.6	106.4	67.8	56.5	87.6	50.0	43.6	54.6	32.0	34.6	66.6
46	FUEL	21.8	13.0	7.0	9.6	16.3	21.9	39.1	13.4	14.5	14.7	13.2	10.6	15.6	14.5	14.6	14.3
47	OXYGEN	19.0	12.9	6.7	13.6	7.0	14.4	42.8	12.6	12.1	30.4	13.6	6.9	8.2	5.8	7.4	12.6
49	MISC. UTILITIES	21.4	13.4	14.0	14.1	18.3	15.1	26.4	12.8	12.3	12.8	9.8	11.2	13.3	10.3	12.6	13.4
51	INSTRUMENTS	208.0	82.2	132.6	93.3	216.4	108.4	67.3	71.7	64.0	38.1	34.5	37.7	42.5	37.3	39.2	79.0
52	AUTOPILOT	106.8	81.2	59.4	71.4	184.3	107.1	112.0	82.6	85.5	99.0	71.4	90.2	86.3	71.8	64.0	84.0
55	NAVIGATION AIDS, & RECORDING EQUIP.	0.0	00.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	-	-	-	-	0.4	0.6	0.1
61	UHF COMMUNICATIONS	166.4	93.7	78.0	101.9	234.4	105.0	92.2	87.2	82.9	46.1	35.0	36.9	57.4	73.4	60.4	83.1
62	VHF COMMUNICATIONS	64.2	30.9	31.3	33.7	62.9	37.9	36.0	28.1	26.0	23.3	18.2	16.9	23.2	30.5	23.6	29.7
63	HF COMMUNICATIONS	251.3	152.0	106.0	160.7	52.8	172.5	211.1	144.0	137.8	147.9	111.6	116.0	133.1	142.6	151.8	143.6
64	INTERPHONE	12.4	19.2	27.3	36.4	117.4	37.8	35.4	29.7	28.9	22.0	15.8	22.9	20.5	18.6	19.5	29.6
65	IFF	0 0.0	0.0	36.9	86.3	167.1	93.6	97.2	54.4	49.8	79.2	18.5	10.1	16.7	18.1	25.5	63.7
66	EMERGENCY COMMUNICATIONS	0.0	0.0	6.8	6.2	19.2	11.0	27.4	21.0	24.5	28.3	24.5	33.3	37.2	34.5	61.9	19.0
69	MISC. COMMUNICATIONS	9.5	3.2	4.4	3.7	3.5	4.5	2.6	2.7	2.3	0.6	1.3	0.4	0.4	0.6	0.4	2.7
71	RADIO NAVIGATION	160.8	169.2	160.8	186.6	285.8	203.1	238.3	220.5	229.9	260.6	187.8	140.0	212.1	246.4	299.1	204.1
72	RADAR NAVIGATION	305.2	326.6	332.4	369.5	414.2	410.0	519.2	453.0	474.4	592.0	383.5	265.5	434.8	625.6	643.1	416.5
91	EMERGENCY EQUIPMENT	35.8	20.8	21.1	22.6	9.4	24.8	26.3	19.3	18.1	16.0	16.2	22.6	9.8	14.9	7.4	19.6
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	0.1	-	-
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	TOTALS	3898.8	2679.5	2736.8	3296.3	4607.0	3187.4	3391.2	2600.4	2852.5	3008.4	2284.2	2282.8	2566.9	2556.0	3272.3	2864.8

* NORMALIZED DATA

TABLE D-13 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE SYSTEM MAINTENANCE MANHOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	6.93	6.72	6.23	7.61	12.88	6.17	2.84	3.89	3.93	3.91	5.65	6.36	5.13	5.63	5.01	6.61
12	COCKPIT AND FUSELAGE	3.20	3.48	2.68	4.00	2.26	3.05	2.36	2.72	2.76	2.83	3.31	6.21	2.27	3.38	6.50	3.33
13	LANDING GEAR	8.61	6.81	6.59	5.94	6.43	6.74	8.52	6.27	6.03	5.27	7.81	5.61	3.61	4.07	3.94	6.13
14	FLIGHT CONTROLS	2.19	2.23	1.83	2.74	7.78	2.00	1.22	1.69	1.70	1.43	1 91	2.20	2.08	1.33	1.18	2.08
22	TURBO PROP POWER PLANT	19.71	22.03	23.50	24.54	13.29	19.29	16.57	13.11	18 30	20.40	19 53	21.54	25.93	1.72	22.71	20.99
24	AUXILIARY POWER PLANT	1.96	1.56	1.67	1.36	2.60	1.54	1.01	1.46	1.38	0.91	0 85	1 52	1.64	1.29	1.36	1.42
32	HYDRAULIC PROPELLER	15.45	12.88	12.74	11.14	10.23	12.56	12.25	12.05	11.49	11.24	12 19	13.46	[illegible]	8.76	9.72	11.70
41	AIR CONDITIONING, PRESSURIZATION	1.35	1.52	1.35	1.27	1.73	1.36	1.86	1.50	1.49	2.18	1 95	1.40	0.5	1.12	1.04	1.41
42	ELECTRICAL POWER SUPPLY	3.30	2.72	3.85	2.36	2.37	4.65	3.08	2.56	2.45	1.79	1 72	2.79	2.06	22.23	2.86	2.68
44	LIGHTING SYSTEM	0.73	0.77	0.57	0.65	0.36	0.70	0.83	0.74	0.74	0.82	0 87	0.97	0.79	0.50	0.41	0.71
45	HYDRAULIC AND PNEUMATIC	2.02	2.21	1.78	1.85	1.17	2.00	3.08	2.16	2.13	2.91	2 19	1.91	2.13	1.25	1.04	1.98
46	FUEL	0.56	0.49	0.26	0.29	0.35	0.69	1.15	0.50	0.55	0.49	0.58	0.46	0.61	0.57	0.49	0.60
47	OXYGEN	0.49	0.48	0 24	0.41	0.15	0.45	1.26	0.47	0.46	1.01	0.60	0.30	0.32	0.23	0.21	0.44
49	MISC. UTILITIES	0.55	0.50	0.51	0.43	0.40	0.47	0.78	0.48	0.46	0.43	0.43	0.49	0.52	0.40	0.31	0.47
51	INSTRUMENTS	5.33	3.07	4.85	2.83	4.70	3.40	1.98	2.67	2.41	1.27	1.61	1.65	1.66	1.46	1.21	2.76
52	AUTOPILOT	2.74	3.03	2.17	2.17	4.00	3.36	3.30	3.08	3.22	3.29	3.13	3.95	3.36	2.81	1.95	2.93
55	MALFUNCTION ANAL. & RECORDING EQUIP.	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	-	-	-	-	0.02	0.02	0.00
61	HF COMMUNICATIONS	4.27	3.50	2.85	3.07	5.09	3.29	2.72	3.25	3.13	1.53	3.71	1.62	2.24	2.87	2.46	2.90
62	VHF COMMUNICATIONS	1.65	1.15	1.14	1.02	1.15	1.19	1.06	1.05	0.98	0.77	0.80	0.74	0.90	1.19	0.72	1.04
63	UHF COMMUNICATIONS	6.45	5.67	3.87	4.88	1.15	5.41	6.22	5.37	5.20	4.92	4.84	5.08	5.19	5.58	4.44	5.01
64	INTERPHONE	0.32	0.72	1.00	1.10	2.55	1.19	1.04	1.11	1.09	0.73	0.87	1.00	0.80	0.73	0.10	1.03
65	IFF	0.00	0.00	1.34	2.62	3.63	2.96	2.87	2.03	1.88	2.63	3.72	0.44	0.61	0.71	0. 9	1.87
66	EMERGENCY COMMUNICATIONS	0.00	0.00	0.21	0.16	0.47	0.41	0.81	0.78	0.92	0.94	1.07	1.46	1.45	1.35	1.09	0.66
69	MISC. COMMUNICATIONS	0.24	0.12	0.16	0.11	0.08	0.14	0.08	10.10	0.09	0.02	5.06	0.02	0.02	0.02	0.01	0.09
71	RADIO NAVIGATION	4.12	6.31	5.86	5.66	6.20	6.37	7.03	8.23	8.67	8.66	8.22	6.13	8.26	9.64	9.16	7.12
72	RADAR NAVIGATION	7.83	12.19	12.15	11.21	8.99	12.66	15.31	16.90	17.88	19.68	16.79	11.63	16.94	20.56	19.07	14.64
91	EMERGENCY EQUIPMENT	1.02	0.78	0.77	0.68	0.01	0.78	0.78	0.72	0.68	0.53	0.71	0.99	0.38	0.68	0.13	0.68
96	PERSONNEL EQUIPMENT	0.00	0.00	0	0.00	-	0.00	-	0.00	0.00	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0 00	-	0.00	-	0.00	0.00	-	-	-	-	0.00	-	-
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	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.10	100.00

* NORMALIZED DATA

TABLE D-14 C-130E INTERMEDIATE SYSTEM MAINTENANCE MANHOURS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	1.0725	2.4	0.4760	0.2	0.1971	0.2023	0.3	0.4	0.4	0.4	0.4234	0.4061	0.5556
12	COCKPIT AND FUSELAGE				0.5707	.04	0.2812	0.2	0.1380	0.1416	0.2	0.2	0.4	0.2	0.5573	0.2436	0.2388
13	LANDING GEAR				0.8476	1.2	0.6208	0.6	0.3226	0.3102	0.4	0.5	0.3	0.3	0.3328	0.2936	0.5221
14	FLIGHT CONTROLS				0.3914	1.6	0.1838	0.1	0.0854	0.0877	0.1	0.1	0.1	0.2	0.0998	0.0956	0.2576
22	TURBO PROP POWER PLANT				3.5021	2.6	1.7765	1.1	0.9172	0.9416	1.3	1.2	1.3	1.9	1.9172	1.5654	1.5676
24	AUXILIARY POWER PLANT				0.1944	0.6	0.1419	0.1	0.0737	0.0708	0.1	0.1	0.1	0.1	0.1169	0.0931	0.1416
32	HYDRAULIC PROPELLER				1.5900	1.9	1.1566	0.8	0.6107	0.5913	0.7	0.8	0.8	0.7	0.8210	0.6311	0.9252
41	AIR CONDITIONING, PRESSURIZATION				0.1810	0.3	0.1251	0.1	0.0762	0.0766	0.1	0.1	0.1	0.1	0.0913	0.0807	0.1196
42	ELECTRICAL POWER SUPPLY				0.3373	0.6	0.2445	0.2	0.1298	0.1261	0.1	0.1	0.2	0.2	0.2361	0.1613	0.2090
44	LIGHTING SYSTEM				0.0922	0.1	0.0647	0.1	0.0376	0.0378	0.1	0.1	0.1	0.1	0.0359	0.0361	0.0753
45	HYDRAULIC AND PNEUMATIC				0.2641	0.2	0.1838	0.2	0.1094	0.1096	0.2	0.1	0.1	0.2	0.0890	0.0902	0.1583
46	FUEL				0.0416	0.1	0.0633	0.1	0.0253	0.0281	-	-	-	-	0.0377	0.0409	0.0424
47	OXYGEN				0.0589	-	0.0416	0.1	0.0238	0.0235	0.1	-	-	-	0.0191	0.0164	0.0367
49	MISC. UTILITIES				0.0611	0.1	0.0436	0.1	0.0242	0.0239	-	-	-	-	0.0325	0.0285	0.0401
51	INSTRUMENTS				0.4040	0.9	0.3133	0.1	0.1356	0.1242	0.1	0.1	0.1	0.1	0.1011	0.1052	0.2229
52	AUTOPILOT				0.3092	0.8	0.3095	0.2	0.1561	0.1659	0.2	0.2	0.2	0.3	0.1651	0.2025	0.2682
55	MALFUNCTION ANAL. & RECORDING EQUIP.				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0015	0.0011	-
61	HF COMMUNICATIONS				0.4382	1.0	0.3034	0.2	0.1648	0.1608	0.1	0.1	0.1	0.2	0.2074	0.2070	0.2700
62	VHF COMMUNICATIONS				0.1459	0.2	0.1095	0.1	0.0531	0.0504	0.1	0.1	-	0.1	0.0606	0.0860	0.0936
63	UHF COMMUNICATIONS				0.6958	0.2	0.4985	0.4	0.2722	0.2673	0.3	0.3	0.3	0.4	0.3916	0.4018	0.3610
64	INTERPHONE				0.1576	0.6	0.1092	0.1	0.0561	0.0561	0.1	0.1	0.1	0.1	0.0503	0.0525	0.1265
65	IFF				0.3737	0.7	0.2705	0.2	0.1028	0.0966	0.2	-	-	0.1	0.0668	0.0510	0.1972
66	EMERGENCY COMMUNICATIONS				0.0225	0.1	0.0376	0.1	0.0397	0.0475	0.1	0.1	0.1	0.1	0.1339	0.0973	0.0772
69	MISC. COMMUNICATIONS				0.0160	-	0.0130	-	0.0051	0.0045	-	-	-	-	0.0010	0.0017	0.0037
71	RADIO NAVIGATION				0.0000	1.2	0.5870	0.5	0.4167	0.4460	0.6	0.6	0.6	0.6	0.7732	0.6948	0.6110
72	RADAR NAVIGATION				1.5999	1.7	1.1849	1.0	0.8562	0.9203	1.3	1.1	0.7	1.3	1.6607	1.4822	1.1897
91	EMERGENCY EQUIPMENT				0.0974	-	0.0717	0.1	0.0365	0.0351	-	-	0.1	-	0.0191	0.5420	0.0433
96	PERSONNEL EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	8.3003	-
...																	
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	TOTALS				14.2729	18.64	9.2115	7.0	5.0658	5.1457	6.8	6.3	6.0	7.7	8.4423	7.:080	8.3561

* NORMALIZED DATA

TABLE D-15 C-130E INTERMEDIATE BENCH CHECK SYSTEM MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	197x	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	167.9	112.4	123.8	180.0	434.41	119.7	63.24	75.7	75.8	96.77	100.57	131.02	21.22	125.1	147.03	116.9
12	COCKPIT AND FUSELAGE	90.7	67.8	91.3	95.9	96.22	70.8	69.86	53.1	53.1	48.95	52.74	121.43	32.46	58.0	116.24	69.4
13	LANDING GEAR	228.4	124.3	122.8	133.2	266.63	146.2	193.97	116.2	108.8	127.68	153.03	91.96	28.77	49.2	49.22	119.5
14	FLIGHT CONTROLS	73.6	51.6	43.3	78.8	350.00	54.9	31.54	39.0	39.0	35.16	38.81	45.17	33.43	31.5	36.88	51.4
22	TURBO PROP POWER PLANT	152.1	116.8	127.3	160.1	183.93	121.6	210.41	96.0	96.0	240.66	152.20	81.88	19.68	68.2	46.06	119.0
24	AUXILIARY POWER PLANT	23.1	12.7	13.0	13.6	59.67	14.8	15.96	11.8	11.8	11.32	7.54	6.99	10.95	7.2	8.01	12.6
32	HYDRAULIC PROPELLER	370.8	212.5	214.8	226.1	193.39	246.4	187.85	198.9	187.7	206.88	190.98	210.25	67.93	170.8	216.37	206.5
41	AIR CONDITIONING, PRESSURIZATION	44.6	34.6	31.4	36.5	50.39	36.8	52.14	34.2	33.5	59.98	30.07	28.97	14.02	25.2	29.18	34.4
42	ELECTRICAL POWER SUPPLY	99.5	66.4	81.5	60.2	37.37	65.4	64.97	53.1	58.2	46.31	31.06	59.77	30.73	50.8	66.69	57.8
44	LIGHTING SYSTEM	24.7	17.8	13.5	18.5	11.16	19.4	20.33	17.2	16.9	22.39	17.01	20.15	19.12	10.6	11.91	17.1
45	HYDRAULIC AND PNEUMATIC	59.2	44.5	36.6	45.9	39.53	47.9	67.61	43.6	42.5	72.01	39.91	36.39	27.66	28.6	30.64	42.6
46	FUEL	19.6	11.7	6.3	8.6	16.86	19.7	34.62	12.1	13.1	13.69	11.20	9.80	13.19	13.6	13.66	12.9
47	OXYGEN	18.4	12.5	6.5	13.2	6.73	14.0	34.85	12.2	11.7	25.32	13.01	6.69	13.77	6.7	7.24	12.2
49	MISC. UTILITIES	18.1	11.4	11.9	12.0	14.72	12.8	18.22	10.9	10.4	9.20	7.33	9.67	15.54	9.8	10.82	11.4
51	INSTRUMENTS	174.5	69.0	111.3	78.3	187.90	91.8	63.69	60.2	53.7	36.52	32.89	34.53	16.42	33.7	36.41	66.3
52	AUTOPILOT	75.9	57.7	42.2	50.8	169.37	76.1	90.35	60.9	60.8	73.54	55.99	67.62	24.19	56.4	64.29	68.0
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.56	0.0
61	HF COMMUNICATIONS	83.1	46.8	38.9	50.6	122.00	52.4	32.28	43.5	41.4	29.20	29.90	21.82	17.19	32.0	37.74	41.6
62	VHF COMMUNICATIONS	38.2	18.4	18.6	20.1	30.76	22.6	23.93	16.7	15.5	13.67	11.49	10.26	14.88	16.0	12.86	17.6
63	UHF COMMUNICATIONS	123.0	74.4	61.9	78.6	167.80	84.4	118.13	70.6	67.4	95.84	66.28	64.25	16.78	68.4	64.18	70.3
64	INTERPHONE	9.1	14.1	20.1	26.7	116.26	27.8	29.36	21.8	21.2	17.39	13.36	17.34	7.91	13.3	13.36	21.7
65	IFF	-	-	26.3	61.6	163.87	66.8	59.79	38.8	35.6	56.85	11.25	6.86	13.82	30.3	12.68	38.4
66	EMERGENCY COMMUNICATIONS	-	-	3.8	2.9	7.25	7.1	7.03	11.5	13.5	11.71	17.08	18.34	18.34	19.3	34.96	10.5
69	MISC. COMMUNICATIONS	3.9	1.3	1.8	1.5	2.70	1.8	2.38	1.1	0.9	0.55	0.67	0.36	10.71	0.2	0.41	1.7
71	RADIO NAVIGATION	82.1	86.4	82.1	95.3	246.45	101.7	146.60	112.6	117.4	186.64	120.61	88.61	18.47	107.3	125.72	104.2
72	RADAR NAVIGATION	170.4	182.4	186.6	206.3	366.19	228.9	343.26	253.0	264.9	436.87	262.97	186.80	19.55	292.4	332.92	232.4
91	EMERGENCY EQUIPMENT	6.2	2.7	2.7	2.9	0.43	3.2	3.04	2.5	2.4	1.32	0.58	0.21	6.34	3.8	-	2.5
96	PERSONNEL EQUIPMENT	-	-	-	-	-	-	-	-	-	-	-	-	1.60	-	5.48	0.3
97	EXPLOSIVE DEVICES	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	0.0
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	TOTALS	2166.3	1448.1	1468.7	1766.2	3338.88	1756.3	1976.41	1467.2	1444.5	1974.42	1657.66	1376.36	524.62	1207.4	1479.62	1550.6

* NORMALIZED DATA

TABLE D-16 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE BENCH CHECK SYSTEM MAINTENANCE MANHOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	7.79	7.80	8.43	10.25	13.04	6.81	3.20	6.16	6.25	4.90	6.90	9.63	4.04	9.72	8.81	7.64
12	COCKPIT AND FUSELAGE	4.21	4.71	3.49	5.46	2.89	4.03	3.58	3.62	3.68	2.43	3.62	8.83	6.18	4.51	9.24	4.47
13	LANDING GEAR	10.59	8.63	8.36	7.58	8.00	8.32	9.82	7.22	7.63	6.46	10.50	6.69	6.48	3.82	2.93	7.71
14	FLIGHT CONTROLS	3.41	3.58	2.95	4.44	10.51	3.12	1.60	2.66	2.20	1.78	2.61	3.28	6.37	2.45	2.14	3.32
22	TURBO PROP POWER PLANT	7.05	8.11	8.67	9.11	5.52	6.93	10.65	6.55	6.65	12.19	10.44	5.96	3.75	4.68	3.93	7.67
24	AUXILIARY POWER PLANT	1.07	0.88	0.89	0.77	1.79	0.84	0.81	0.80	0.76	0.52	0.52	0.51	2.09	0.56	0.48	0.81
32	HYDRAULIC PROPELLER	17.19	14.76	14.62	12.87	5.81	14.03	9.51	13.56	12.99	10.48	13.10	15.29	11.04	13.20	17.65	13.32
41	AIR CONDITIONING, PRESSURIZATION	2.07	2.41	2.14	2.02	1.51	2.09	2.64	2.33	2.32	3.04	2.68	2.11	2.67	1.96	1.74	2.22
42	ELECTRICAL POWER SUPPLY	4.61	3.92	5.55	3.43	1.12	3.72	2.78	3.62	3.48	2.35	2.13	4.35	6.86	3.95	5.16	3.68
44	LIGHTING SYSTEM	1.15	1.23	0.92	1.05	0.34	1.11	1.03	1.18	1.17	1.13	1.17	1.47	3.64	0.82	0.71	1.12
45	HYDRAULIC AND PNEUMATIC	2.75	3.09	2.49	2.61	1.19	2.73	3.42	2.97	2.94	3.65	2.74	2.57	5.27	2.22	1.82	2.75
46	FUEL	0.91	0.81	0.43	0.49	0.48	1.12	1.75	0.82	0.90	0.69	0.77	0.71	2.51	1.06	0.81	0.83
47	OXYGEN	0.65	0.87	0.44	0.75	0.20	0.79	1.76	0.83	0.81	1.28	0.89	0.49	2.62	0.44	0.43	0.79
49	MISC. UTILITIES	0.84	0.79	0.81	0.66	0.44	0.73	0.92	0.74	0.72	0.47	0.50	0.70	2.96	0.70	0.60	0.73
51	INSTRUMENTS	8.09	4.79	7.58	4.46	5.64	5.18	3.22	4.10	3.72	1.80	2.76	2.51	3.13	2.62	2.11	4.27
52	AUTOPILOT	3.52	4.01	2.88	2.89	5.08	4.34	4.57	4.16	4.21	3.72	3.84	4.92	4.61	4.38	3.23	3.87
55	NAVIGATION AIDS & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.03	0.00
61	HF COMMUNICATIONS	3.85	3.25	2.65	2.88	3.66	2.98	1.63	2.97	2.86	1.48	1.43	1.53	3.28	2.49	2.25	2.68
62	VHF COMMUNICATIONS	1.77	1.28	1.27	1.14	0.92	1.28	1.21	1.14	1.07	0.69	0.79	0.75	2.84	1.24	0.77	1.14
63	UHF COMMUNICATIONS	5.70	6.17	3.53	4.48	5.04	4.81	5.98	4.80	4.67	4.85	3.86	4.67	3.20	4.54	3.82	4.53
64	INTERPHONE	0.42	0.98	1.37	1.52	3.49	1.58	1.49	1.49	1.47	0.88	0.92	1.26	1.51	1.03	0.80	1.40
65	ITT	-	-	1.79	3.51	4.62	3.80	3.03	2.65	2.46	2.88	0.77	0.80	2.63	0.80	0.75	2.47
66	EMERGENCY COMMUNICATIONS	-	-	0.22	0.16	0.22	0.41	0.36	0.79	0.93	0.59	1.17	1.33	3.50	1.50	2.08	0.68
69	MISC. COMMUNICATIONS	0.18	0.09	0.12	0.09	0.08	0.10	0.12	0.07	0.07	0.03	0.05	0.03	2.04	0.02	0.02	0.11
71	RADIO NAVIGATION	3.81	6.00	5.59	5.43	7.40	5.90	7.42	7.67	8.13	9.45	8.27	6.44	3.52	8.33	7.49	6.72
72	RADAR NAVIGATION	7.90	12.66	12.64	11.75	10.99	11.04	17.38	17.24	18.34	22.13	18.04	13.58	3.73	22.71	9.82	14.99
91	EMERGENCY EQUIPMENT	0.24	0.19	0.19	0.17	0.01	0.18	0.15	0.17	0.16	0.07	0.03	0.02	1.21	0.23	-	0.16
96	PERSONNEL EQUIPMENT	-	-	-	-	-	-	-	-	-	-	-	-	0.30	-	0.39	0 02
97	EXPLOSIVE DEVICES	-	-	-	-	-	-	-	-	-	-	-	-	-	3.00	-	0.00
	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-17 C-130E INTERMEDIATE BENCH CHECK SYSTEM MAINTENANCE MANHOURS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.7794	1.7654	0.3459	0.1195	0.1432	0.1470	0.2119	0.2796	0.2380	0.0618	0.3528	0.3816	0.4613
12	COCKPIT AND FUSELAGE				0.4152	0.3955	0.2046	0.1329	0.1004	0.1030	0.1052	0.1466	0.3133	0.0943	0.1636	0.4064	0.2000
13	LANDING GEAR				0.8767	1.0954	0.4225	0.3666	0.2186	0.2111	0.2795	0.4254	0.2373	0.0837	0.1387	0.1219	0.3690
14	FLIGHT CONTROLS				0.3377	1.4385	0.1586	0.0596	0.0737	0.0757	0.0770	0.1057	0.1168	0.0973	0.0888	0.0916	0.2309
22	TURBO PROP POWER PLANT				0.6931	0.7660	0.3516	0.3977	0.1815	0.1863	0.5270	0.4231	0.2113	0.0573	0.1698	0.1705	0.3601
24	AUXILIARY POWER PLANT				0.0588	0.2418	0.0429	0.0302	0.0223	0.0214	0.0248	0.0210	0.0180	0.0319	0.0203	0.0216	0.0483
32	HYDRAULIC PROPELLER				0.9790	0.7948	0.7121	0.3550	0.3760	0.3641	0.4531	0.5309	0.6424	0.1686	0.4794	0.7647	0.5303
41	AIR CONDITIONING, PRESSURIZATION				0.1536	0.2071	0.1062	0.0985	0.0647	0.0650	0.1314	0.1086	0.0747	0.0408	0.0711	0.0713	0.1024
42	ELECTRICAL POWER SUPPLY				0.2408	0.1536	0.1890	0.1039	0.1004	0.0975	0.1014	0.0863	0.1542	0.0894	0.1433	0.2217	0.1364
44	LIGHTING SYSTEM				0.0799	0.0459	0.0561	0.0384	0.0326	0.0328	0.0490	0.0473	0.0520	0.0556	0.0299	0.0317	0.0450
45	HYDRAULIC AND PNEUMATIC				0.1988	0.1625	0.1384	0.1278	0.0824	0.0825	0.1577	0.1109	0.0913	0.0805	0.0807	0.0719	0.1190
46	FUEL				0.0375	0.0652	0.0570	0.0654	0.0228	0.0254	0.0300	0.0311	0.0253	0.0384	0.0384	0.0341	0.0410
47	OXYGEN				0.0571	0.0277	0.0403	0.0659	0.0231	0.0228	0.0555	0.0362	0.0173	0.0401	0.0161	0.0116	0.0373
49	MISC. UTILITIES				0.0518	0.0605	0.0370	0.0344	0.0205	0.0202	0.0201	0.0204	0.0249	0.0482	0.0254	0.0218	0.0319
51	INSTRUMENTS				0.3390	0.7723	0.2629	0.1204	0.1137	0.1062	0.0778	0.0914	0.0891	0.0478	0.0950	0.0913	0.1928
52	AUTOPILOT				0.2198	0.6961	0.2201	0.1708	0.1160	0.1179	0.1611	0.1557	0.1745	0.0704	0.1590	0.1401	0.2063
55	MALFUNCTION ANAL. & RECORDING EQUIP.				-	-	-	-	-	-	-	-	-	-	0.0011	0.0015	0.0001
61	HF COMMUNICATIONS				0.2188	0.5014	0.1515	0.0610	0.0823	0.0803	0.0639	0.0581	0.0542	0.0500	0.0902	0.0973	0.1283
62	VHF COMMUNICATIONS				0.0868	0.1264	0.0652	0.0452	0.0316	0.0300	0.0299	0.0319	0.0265	0.0433	0.0451	0.0313	0.0501
63	UHF COMMUNICATIONS				0.3404	0.6897	0.2440	0.2233	0.1332	0.1304	0.2099	0.1565	0.1658	0.0488	0.1647	0.1656	0.2318
64	INTERPHONE				0.1158	0.4778	0.0803	0.0555	0.0413	0.0412	0.0381	0.0371	0.0447	0.0230	0.0375	0.0316	0.0903
65	IFF				0.2667	0.6324	0.1931	0.1130	0.0734	0.0690	0.1245	0.0313	0.0177	0.0402	0.0290	0.0328	0.1475
66	EMERGENCY COMMUNICATIONS				0.0124	0.0298	0.0207	0.0133	0.0218	0.0261	0.0256	0.0475	0.0473	0.0534	0.0544	0.0923	0.0316
69	MISC. COMMUNICATIONS				0.0065	0.0111	0.0053	0.0045	0.0021	0.0018	0.0012	0.0019	0.0009	0.0312	0.0006	0.0010	0.0050
71	RADIO NAVIGATION				0.4126	1.0129	0.2997	0.2771	0.2128	0.2277	0.4087	0.3253	0.2286	0.0537	0.3026	0.3203	0.3492
72	RADAR NAVIGATION				0.8934	1.5050	0.6616	0.6488	0.4781	0.5139	0.9567	0.7311	0.4819	0.0669	0.8246	0.0589	0.6833
91	EMERGENCY EQUIPMENT				0.0126	0.0018	0.0093	0.0057	0.0047	0.0046	0.0029	0.0014	0.0006	0.0184	0.0085	-	0.0055
96	PERSONNEL EQUIPMENT				-	-	-	-	-	-	-	-	-	0.0047	-	0.0158	0.0011
97	EXPLOSIVE DEVICES				-	-	-	-	-	-	-	-	-	-	0.0000	-	0.0000
	TOTALS				7.6044	13.6096	5.0758	3.7336	2.7730	2.8024	4.3249	4.0523	3.5484	1.1266	3.6306	4.3334	4.7758

* NORMALIZED DATA

TABLE D-18 C-130E ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	19/6 *	16 YEAR AVERAGE
11	AIRFRAME	86.0	125.0	165.0	206.0	459.6	288.0	364.4	367.0	407.0	408.0	322.0	491.4	897.0	649.7	615.5	362.0
12	COCKPIT AND FUSELAGE	364.0	335.0	266.0	214.0	298.9	294.0	168.1	255.0	259.0	165.2	180.4	326.5	362.4	256.3	252.0	254.0
13	LANDING GEAR	172.0	190.0	230.0	261.0	324.7	266.0	226.0	236.0	234.0	194.0	167.1	206.2	288.0	226.0	216.5	236.1
14	FLIGHT CONTROLS	104.0	108.0	113.0	117.0	169.6	126.0	112.0	126.0	140.0	139.0	114.9	159.0	242.7	168.9	153.4	136.4
22	TURBO PROP POWER PLANT	392.0	427.0	607.0	670.0	703.5	680.0	426.1	529.0	617.0	504.5	240.5	467.4	619.7	606.7	600.4	619.5
24	AUXILIARY POWER PLANT	43.3	44.7	47.0	49.0	76.4	53.2	52.2	57.5	59.5	46.2	43.2	64.3	95.5	82.9	79.8	57.2
32	HYDRAULIC PROPELLER	297.0	273.0	228.0	193.0	213.4	186.0	204.0	221.0	223.0	177.0	185.4	265.9	260.1	243.1	305.1	218.7
41	AIR CONDITIONING, PRESSURIZATION	64.0	72.0	81.0	90.0	137.0	108.0	122.4	125.0	133.0	127.6	126.8	166.0	250.4	182.9	181.3	124.7
42	ELECTRICAL POWER SUPPLY	63.0	61.0	78.5	93.0	115.7	94.6	76.6	81.5	80.5	151.8	48.2	62.2	91.4	86.6	9..8	84.3
44	LIGHTING SYSTEM	55.0	62.0	69.5	76.0	163.6	91.0	122.5	105.5	113.0	109.0	77.1	112.0	218.4	133.3	14 .0	103.2
45	HYDRAULIC AND PNEUMATIC	71.0	78.0	86.0	93.0	168.1	108.0	131.2	122.0	130.0	136.0	98.9	134.3	232.9	167.2	161.3	120.4
46	FUEL	359.0	316.0	216.0	139.0	99.5	126.0	160.8	200.0	206.0	152.4	153.3	298.1	351.1	213.7	261.8	153.4
47	OXYGEN	19.0	20.7	22.5	24.3	32.1	28.0	34.3	31.5	33.2	31.3	20.6	30.6	48.6	42.3	54.6	30.0
49	MISC. UTILITIES	19.0	22.7	26.0	29.7	78.4	37.0	45.5	42.0	47.6	46.8	37.7	55.6	89.6	67.6	74.9	43.6
51	INSTRUMENTS	80.	14.0	106.0	177.0	298.2	190.0	74.6	121.0	115.0	77.3	76.1	93.2	121.6	95.0	100.1	124.1
52	AUTOPILOT	23.8	24.7	25.7	26.7	93.1	29.0	82.2	81.2	82.3	77.7	21.6	77.7	100.0	92.2	91.6	80.8
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	0.6	0.6	0.6	0.0	-	-	-	0.6	1.3	0.3
61	HF COMMUNICATIONS	16.3	17.0	18.0	20.5	45.1	24.0	41.1	27.4	29.1	28.1	24.0	29.1	36.9	39.5	45 5	26.9
62	VHF COMMUNICATIONS	15.4	15.4	15.4	15.4	27.7	15.4	17.3	15.4	15.4	1	11.7	12.0	18.9	17.8	14 4	15.4
63	UHF COMMUNICATIONS	45.6	60.6	61.7	70.5	76.8	72.0	65.2	63.6	62.7	.8	43.4	69.0	74.1	55.8	60 0	63.3
64	INTERPHONE	58.7	58.7	58.7	58.7	84.3	58.7	67.1	58.7	58.7	69.5	45.6	53.1	69.2	66.6	67 0	58.2
65	IFF	18.5	23.0	33.5	41.5	66.7	43.0	59.2	35.2	34.6	46.0	12.7	14.4	25.4	27.6	29 0	33.9
66	EMERGENCY COMMUNICATIONS	17.7	19.5	21.8	24.0	23.6	28.5	20.3	33.2	35.5	28.2	23.8	47.2	79.0	55.9	55 6	33.4
69	MISC. COMMUNICATIONS	17.8	18.1	10.2	10.7	44.2	11.7	11.5	9.5	8.9	6.8	7.4	10.6	9.2	7.8	6 7	10.2
71	RADIO NAVIGATION	91.0	118.0	182.0	233.0	195.0	241.0	165.0	193.0	189.0	152.0	176.0	114.8	195.8	201.8	221 9	191.4
72	RADAR NAVIGATION	0.0	252.5	244.3	235.8	334.9	162.8	294.3	280.2	317.7	358.0	242.6	240.5	430.4	424.6	470 8	276.5
91	EMERGENCY EQUIPMENT	13.0	17.6	27.8	36.0	50.8	37.6	39.3	29.8	28.6	23.2	12.6	25.0	37.9	28.3	21 6	29.6
94	PERSONNEL EQUIPMENT	0.6	0.8	0.4	0.9	0.9	1.0	0.2	0.6	0.6	0.1	0.1	0.1	0.1	0.8	0.4	0.6
97	EXPLOSIVE DEVICES	3.3	3.0	2.3	1.7	2.4	1.6	1.9	2.2	2.2	2.4	2.3	2.2	4.6	1.8	2.6	2.2
	TOTALS	2462.3	2809.1	2994.1	3136.4	4470.1	3262.8	3215.6	3462.2	3663.4	3323.1	2635.6	3690.6	5260.7	4162.3	4466.9	3421.6

* NORMALIZED DATA

TABLE D-19 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	3.45	5.45	5.81	6.64	10.3	8.82	11.9	10.99	11.42	12.3	12.3	13.7	17.1	16.13	16.3	10.60
12	COCKPIT AND FUSELAGE	14.78	11.92	8.88	6.82	6.3	6.25	5.2	7.37	7.27	5.9	7.2	9.1	6.9	6.17	7.9	7.27
13	LANDING GEAR	5.99	6.76	7.68	8.32	7.3	8.15	7.1	6.82	6.97	5.8	6.3	5.7	5.6	5.46	6.1	6.90
14	FLIGHT CONTROLS	4.22	3.84	3.22	3.23	3.7	3.66	3.8	3.83	3.93	4.2	4.4	4.4	4.7	4.87	3.4	3.99
22	TURBO PROP POWER PLANT	15.92	15.20	16.93	18.17	15.7	17.78	14.0	15.82	14.51	15.2	12.9	13.0	11.8	12.28	11.2	15.18
24	AUXILIARY POWER PLANT	1.76	1.59	1.67	1.56	1.7	1.63	1.6	1.66	1.67	1.4	1.6	1.8	1.8	2.00	1.8	1.67
32	HYDRAULIC PROPELLER	11.06	9.22	7.61	6.15	7.0	5.70	6.4	6.20	6.26	6.4	7.0	7.1	4.9	5.85	6.8	6.39
41	AIR CONDITIONING, PRESSURIZATION	2.60	2.66	3.21	2.87	3.1	3.21	4.0	3.61	3.73	3.8	4.8	4.3	4.8	4.40	4.2	3.64
42	ELECTRICAL POWER SUPPLY	2.16	2.17	2.62	2.97	2.6	2.90	2.4	2.35	2.26	4.5	1.8	1.7	1.7	2.09	2.1	2.46
46	LIGHTING SYSTEM	2.23	2.21	2.32	2.42	3.6	2.79	3.8	3.06	3.17	3.3	2.9	3.1	4.2	3.21	3.3	3.02
45	HYDRAULIC AND PNEUMATIC	2.88	2.78	2.87	2.97	3.8	3.31	4.1	3.62	3.65	4.1	3.8	3.7	4.4	4.03	3.7	3.52
46	FUEL	14.58	11.25	7.21	4.43	2.2	3.86	5.0	5.78	5.78	4.6	5.8	8.3	6.7	5.15	5.9	6.71
47	OXYGEN	0.77	0.74	0.75	0.77	0.7	0.86	1.1	0.91	0.93	0.9	0.8	0.9	0.9	1.02	1.2	0.88
49	MISC. UTILITIES	0.77	0.81	0.87	0.95	1.7	1.13	1.4	1.27	1.33	1.4	1.4	1.6	1.7	1.63	1.7	1.27
61	INSTRUMENTS	0.00	0.50	3.54	5.64	6.7	5.82	2.3	3.49	3.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
62	AUTOPILOT	3.00	2.66	2.63	2.45	2.1	2.42	2.6	2.35	2.31	2.3	2.7	2.2	1.9	2.34	2.1	2.36
64	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	0.02	0.02	0.0	-	-	-	0.01	0.0	0.01
65	RF EQUIPMENTS	0.62	0.61	0.63	0.65	1.0	0.74	0.8	0.79	0.82	0.8	0.9	0.8	0.7	0.95	1.0	0.79
62	VHF COMMUNICATIONS	0.63	0.55	0.51	0.49	0.6	0.47	1.3	0.44	0.43	0.5	0.4	0.3	0.4	0.43	0.3	0.45
63	UHF COMMUNICATIONS	1.85	1.80	2.06	2.25	1.7	2.21	0.5	1.83	1.76	1.7	1.7	1.6	1.4	1.34	1.4	1.65
64	INTERPHONE	2.36	2.09	1.96	1.87	1.0	1.80	2.0	1.70	1.65	1.8	1.7	1.5	1.3	1.36	1.3	1.70
65	IFF	0.75	0.82	1.19	1.32	1.6	1.32	1.9	1.02	0.97	1.4	0.5	0.4	0.6	0.66	0.7	0.99
66	EMERGENCY COMMUNICATIONS	0.72	0.69	0.73	0.77	0.5	0.87	1.9	0.96	1.00	0.8	0.9	1.3	1.5	1.36	1.2	0.98
69	MISC. COMMUNICATIONS	0.72	0.36	0.34	0.34	1.0	0.36	0.6	0.27	0.25	0.2	0.3	0.3	0.2	0.19	0.1	0.30
71	RADIO NAVIGATION	3.70	4.20	6.08	7.43	4.4	7.39	8.4	6.87	5.30	4.6	4.8	3.2	3.7	4.84	5.0	5.69
72	RADAR NAVIGATION	8.00	8.99	8.16	6.88	7.5	4.99	4.8	8.35	8.92	10.8	9.6	6.7	8.2	10.25	10.6	7.91
91	EMERGENCY EQUIPMENT	0.63	0.63	0.93	1.15	1.1	1.15	9.1	0.86	0.80	0.7	0.5	0.7	0.7	0.64	0.5	0.87
96	PERSONNEL EQUIPMENT	0.00	0.00	0.01	0.03	0.9	0.03	1.2	0.01	0.01	0.0	0.0	0.0	0.0	0.02	0.0	0.01
97	EXPLOSIVE DEVICES	0.13	0.11	0.08	0.06	0.1	0.06	0.0	0.04	0.06	0.1	0.1	0.1	0.1	0.04	0.1	0.06

---	TOTALS	100.00	100.00	100.00	100.00	100.0	100.00	100.0	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.0	100.00

* NORMALIZED DATA

TABLE D-20 C-130E ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.8877	1.9	0.8323	0.7	0.6936	0.7096	0.9	0.9	1.3	2.6	1.0086	1.7693	1.3251
12	COCKPIT AND FUSELAGE				0.9266	1.2	0.5896	0.3	0.4819	0.5025	0.4	0.6	0.8	1.1	0.7228	0.8102	0.6445
13	LANDING GEAR				1.1301	1.3	0.7687	0.4	0.4460	0.4540	0.4	0.5	0.5	0.8	0.6399	0.5846	0.6359
14	FLIGHT CONTROLS				0.5066	0.7	0.3641	0.2	0.2570	0.2716	0.3	0.3	0.4	0.7	0.4763	0.3958	0.3764
22	TURBO PROP POWER PLANT				2.4681	2.9	1.6762	0.9	0.9826	1.0030	1.1	0.9	1.2	1.8	1.4289	1.2910	1.4203
24	AUXILIARY POWER PLANT				0.2122	0.3	0.1637	0.1	0.1047	0.1154	0.1	0.1	0.2	0.3	0.2338	0.2059	0.1626
32	HYDRAULIC PROPELLER				0.8357	1.3	0.5375	0.4	0.4177	0.4326	0.4	0.5	0.7	0.8	0.6855	0.7872	0.6115
41	AIR CONDITIONING, PRESSURIZATION				0.3897	0.6	0.3121	0.2	0.2362	0.2580	0.3	0.4	0.4	0.7	0.5158	0.4884	0.3227
42	ELECTRICAL POWER SUPPLY				0.4027	0.6	0.2731	0.2	0.1540	0.1562	0.1	0.1	0.2	0.3	0.2442	0.2394	0.2509
44	LIGHTING SYSTEM				0.3291	0.7	0.2630	0.2	0.1994	0.2192	0.2	0.2	0.3	0.6	0.3759	0.3793	0.3072
45	HYDRAULIC AND PNEUMATIC				0.4027	0.7	0.3121	0.3	0.2306	0.2522	0.3	0.3	0.4	0.7	0.4715	0.4265	0.3730
46	FUEL				0.6019	0.4	0.3641	0.3	0.3780	0.3996	0.3	0.4	0.8	1.0	0.6026	0.6756	0.4633
47	OXYGEN				0.1052	0.1	0.0809	0.1	0.0595	0.0644	0.1	0.1	0.1	0.1	0.1193	0.1409	0.0931
49	MISC. UTILITIES	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.1286	0.3	0.1069	0.1	0.0828	0.0923	0.1	0.1	0.1	0.3	0.1903	0.1932	0.1374
51	INSTRUMENTS				0.7664	1.2	0.5491	0.1	0.2287	0.2231	0.2	0.2	0.2	0.4	0.2679	0.2681	0.3746
52	AUTOPILOT				0.3321	0.4	0.2283	0.2	0.1535	0.1597	0.2	0.2	0.2	0.3	0.2741	0.2363	0.2312
55	MALFUNCTION ANAL. & RECORDING EQUIP.				-	-	-	-	0.0011	0.0012	-	-	-	-	0.0017	0.0014	0.0005
61	HF COMMUNICATIONS				0.0888	0.2	0.0694	0.1	0.0518	0.0565	0.1	0.1	0.1	0.1	0.1114	0.1182	0.0965
62	VHF COMMUNICATIONS				0.0667	0.1	0.0445	-	0.0291	0.0299	-	-	-	0.1	0.0502	0.0372	0.0343
63	UHF COMMUNICATIONS				0.3053	0.3	0.2081	0.1	0.1200	0.1216	0.1	0.1	0.2	0.2	0.1574	0.1548	0.1651
64	INTERPHONE				0.2542	0.3	0.1696	0.1	0.1109	0.1139	0.1	0.1	0.1	0.2	0.1596	0.1471	0.1492
65	IFF				0.1797	0.3	0.1243	0.1	0.0665	0.0669	0.1	-	-	0.1	0.0778	0.0748	0.1035
66	EMERGENCY COMMUNICATIONS				0.1039	0.1	0.0826	-	0.0627	0.0689	0.1	0.1	0.1	0.2	0.1576	0.1432	0.0872
69	MISC. COMMUNICATIONS				0.0463	0.2	0.0339	-	0.0180	0.0173	-	-	-	-	0.0220	0.0147	0.0370
71	RADIO NAVIGATION				1.0089	0.8	0.6965	0.3	0.3648	0.3667	0.3	0.4	0.3	0.6	0.5668	0.5725	0.4996
72	RADAR NAVIGATION				0.9344	1.4	0.4705	0.5	0.5466	0.6163	0.6	0.7	0.6	1.3	1.1974	1.2147	0.8005
91	EMERGENCY EQUIPMENT				0.1559	0.2	0.1087	0.1	0.0563	0.0555	0.1	0.5	0.1	0.1	0.0629	0.0557	0.1264
96	PERSONNEL EQUIPMENT				0.0039	-	0.0029	-	0.0009	0.0010	-	-	-	-	0.0023	0.0010	0.0009
97	EXPLOSIVE DEVICES				0.0074	1	0.0046	-	0.0042	0.0043	-	-	-	-	0.0051	0.0067	0.0025
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	TOTALS				13.5808	18.4	9.4270	6.1	6.5433	6.9132	7.3	7.7	9.3	15.4	11.7095	11.6243	9.6319

* NORMALIZED DATA

TABLE D-21 C-130E ORGANIZATIONAL TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	81.0	120.2	158.7	197.2	421.4	277.1	329.0	363.0	391.5	396.0	304.9	478.1	874.7	648.2	662.1	348.7
12	COCKPIT AND FUSELAGE	319.2	293.8	233.3	187.7	191.6	178.9	124.6	223.6	227.1	135.2	158.3	222.8	331.6	221.7	276.9	212.2
13	LANDING GEAR	128.5	141.9	171.8	195.8	220.3	198.7	148.6	176.3	174.8	156.7	125.1	158.8	229.2	166.8	160.4	176.4
14	FLIGHT CONTROLS	99.3	103.1	107.9	111.7	155.8	120.3	101.1	129.9	133.7	129.5	109.1	152.4	241.5	163.3	147.6	130.2
22	TURBO PROP POWER PLANT	293.6	319.8	379.7	426.9	555.2	434.4	316.5	389.5	387.2	343.6	245.8	347.5	499.4	386.9	385.4	380.8
24	AUXILIARY POWER PLANT	38.0	39.2	41.3	43.0	62.2	46.7	41.1	50.5	52.2	40.3	29.1	56.2	85.3	73.4	69.6	50.2
32	HYDRAULIC PROPELLER	230.4	215.4	179.9	152.3	245.6	146.8	140.6	174.4	175.9	114.8	137.8	203.2	217.4	206.8	257.6	172.5
41	AIR CONDITIONING, PRESSURIZATION	56.9	64.8	72.8	80.8	108.3	96.8	104.5	111.1	118.2	107.9	111.2	137.8	231.7	164.4	169.8	118.8
42	ELECTRICAL POWER SUPPLY	44.7	61.4	66.2	78.4	88.1	79.7	58.6	68.7	67.9	139.7	39.8	61.1	78.8	75.1	74.4	71.8
44	LIGHTING SYSTEM	52.8	59.5	66.7	72.9	166.3	87.3	115.2	101.2	108.4	102.2	72.8	106.7	213.4	129.4	142.4	97.8
45	HYDRAULIC AND PNEUMATIC	64.6	71.0	78.3	84.6	148.6	98.3	108.7	111.8	118.3	113.3	87.4	123.7	216.6	158.3	156.1	109.6
46	FUEL	346.1	304.6	208.2	134.0	93.8	121.5	147.9	192.8	198.6	145.1	147.8	291.8	339.6	204.9	253.8	188.4
47	OXYGEN	16.4	17.8	19.4	21.0	26.6	24.1	26.2	30.4	28.6	25.6	17.8	26.6	42.6	37.8	49.1	26.2
49	MISC. UTILITIES	37.4	20.8	23.8	27.2	68.2	33.9	37.1	40.1	43.6	41.2	34.4	61.2	83.8	63.8	69.6	39.9
51	INSTRUMENTS	0.0	11.3	85.5	142.8	223.4	153.3	62.8	97.6	92.8	56.6	59.2	70.3	91.6	72.9	76.6	100.1
52	AUTOPILOT	53.0	53.6	54.3	55.1	64.4	56.7	53.7	58.3	59.1	51.5	52.8	64.8	71.9	72.9	69.5	58.8
55	MALFUNCTION ANAL. & RECORDING EQUIP.	0.0	-	-	-	-	-	0.4	0.6	0.6	-	-	-	-	0.4	0.8	0.2
61	HF COMMUNICATIONS	11.3	12.6	13.9	15.2	30.6	17.8	25.2	20.3	21.6	21.6	19.8	23.1	28.9	28.9	34.2	19.9
62	VHF COMMUNICATIONS	11.0	11.0	11.0	11.0	18.1	11.0	11.0	11.0	11.0	12.0	8.8	8.7	13.2	12.5	10.4	11.0
63	UHF COMMUNICATIONS	30.4	35.7	41.1	47.8	56.6	48.0	38.0	42.4	41.8	40.0	29.6	40.6	49.4	36.3	39.0	42.2
64	INTERPHONE	49.8	49.8	49.8	49.8	71.8	49.8	46.5	49.8	49.8	52.5	39.2	44.8	58.5	47.9	49.5	49.4
65	IFF	13.2	16.5	24.0	29.7	44.4	30.8	35.0	25.2	24.7	31.6	9.0	10.7	18.8	22.0	22.6	24.2
66	EMERGENCY COMMUNICATIONS	9.9	10.9	12.2	13.4	5.8	16.0	3.9	18.6	19.9	13.6	16.9	24.2	50.3	28.2	33.6	18.7
69	MISC. COMMUNICATIONS	14.3	8.1	8.2	8.6	42.4	9.4	10.2	7.6	7.1	6.4	-	10.3	9.8	7.6	5.6	8.2
71	RADIO NAVIGATION	66.2	85.8	132.3	169.4	130.9	175.2	94.1	140.3	137.4	108.5	92.4	80.1	141.2	155.4	170.6	130.2
72	RADAR NAVIGATION	0.0	180.3	174.4	154.1	220.1	116.2	181.2	206.5	226.9	260.6	184.8	171.6	308.6	307.8	315.4	193.1
91	EMERGENCY EQUIPMENT	11.4	15.4	24.4	31.6	50.7	33.0	26.9	26.1	25.1	19.5	14.8	20.7	35.3	17.9	18.6	25.9
96	PERSONNEL EQUIPMENT	0.0	0.0	0.4	0.5	0.9	1.0	0.2	0.5	0.5	0.1	0.1	0.1	0.1	0.8	0.4	0.6
97	EXPLOSIVE DEVICES	3.1	3.0	2.3	1.7	2.4	1.6	0.9	2.2	2.2	2.4	2.3	2.2	0.5	1.7	2.6	2.2
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	TOTALS	2063.5	2314.5	2461.0	2542.2	3501.4	2663.6	2374.7	2859.5	2946.3	2666.1	2157.8	2958.7	4561.8	3612.4	3742.3	2815.7

* NORMALIZED DATA

TABLE D-22 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	3.96	5.19	6.50	7.76	12.04	10.40	13.86	12.34	13.29	14.82	14.14	16.99	19.17	18.45	17.69	12.38
12	COCKPIT AND FUSELAGE	15.47	12.69	9.56	7.38	5.47	6.72	5.25	7.82	7.71	6.07	7.34	7.50	7.27	6.31	7.10	7.54
13	LANDING GEAR	6.23	6.13	7.04	7.67	6.28	7.46	6.26	6.17	6.93	6.88	6.80	6.34	4.91	4.76	4.28	6.26
14	FLIGHT CONTROLS	4.81	4.45	4.42	4.39	4.43	4.52	4.26	4.64	4.54	4.86	5.06	5.15	5.29	4.65	3.84	4.62
22	TURBO PROP POWER PLANT	14.23	13.82	15.56	16.29	16.86	16.31	13.29	13.62	13.14	12.89	11.36	11.75	10.96	11.02	10.30	13.82
24	AUXILIARY POWER PLANT	1.84	1.69	1.69	1.69	1.78	1.75	1.73	1.77	1.77	1.51	1.81	1.90	1.87	2.09	1.86	1.78
32	HYDRAULIC PROPELLER	11.17	9.31	7.37	5.99	7.01	5.61	5.92	6.10	5.97	4.28	6.39	6.87	4.77	5.86	6.88	6.13
41	AIR CONDITIONING, PRESSURIZATION	2.76	2.77	2.95	3.15	3.09	3.60	4.40	3.89	4.01	4.05	5.16	4.66	5.08	4.68	4.52	3.94
42	ELECTRICAL POWER SUPPLY	2.17	2.22	2.71	3.08	2.62	2.99	2.13	2.40	2.30	5.24	1.85	1.73	1.73	2.14	1.99	2.52
44	LIGHTING SYSTEM	2.56	2.57	2.73	2.87	4.46	3.28	4.85	3.54	3.68	3.83	3.34	3.61	4.68	3.68	3.81	3.47
45	HYDRAULIC AND PNEUMATIC	3.13	3.07	3.21	3.33	4.24	3.69	4.58	3.88	4.02	4.25	4.05	4.18	4.75	4.61	4.17	3.89
46	FUEL	16.77	13.16	8.53	5.27	2.68	4.56	6.23	6.74	6.74	5.44	6.85	9.84	7.44	8.83	6.76	6.69
47	OXYGEN	0.79	0.77	0.79	0.83	0.76	0.90	1.10	1.06	0.97	0.96	0.79	0.90	0.93	1.08	1.31	0.93
49	MISC. UTILITIES	0.84	0.90	0.98	1.07	1.95	1.27	1.56	1.40	1.48	1.55	1.59	1.73	1.84	1.79	1.86	1.42
51	INSTRUMENTS	0.00	0.49	3.60	5.62	6.38	5.76	2.22	3.41	3.15	2.12	2.74	2.38	2.01	2.08	2.04	3.56
52	AUTOPILOT	2.57	2.32	2.22	2.17	1.84	2.13	2.26	2.04	2.01	1.93	2.45	1.83	1.68	2.04	1.86	2.06
55	MALFUNCTION ANAL. & RECORDING EQUIP.	0.00	-	-	-	-	-	0.02	0.02	0.02	-	-	-	-	0.01	0.02	0.01
61	HF COMMUNICATIONS	0.65	0.54	0.57	0.60	0.87	0.67	1.06	0.71	0.73	0.21	0.88	0.78	0.63	0.82	0.91	0.71
62	VHF COMMUNICATIONS	0.53	0.48	0.45	0.43	0.52	0.41	0.46	0.38	0.37	0.45	0.41	0.29	0.29	0.36	0.28	0.39
63	UHF COMMUNICATIONS	1.47	1.46	1.68	1.85	1.56	1.80	1.60	1.48	1.42	1.50	1.37	1.38	1.08	1.01	1.04	1.50
64	INTERPHONE	2.41	2.15	2.04	1.96	2.05	1.87	1.96	1.74	1.69	1.97	1.82	1.61	1.24	1.36	1.32	1.75
65	IFF	0.64	0.71	0.98	1.17	1.27	1.16	1.47	0.88	0.84	1.19	0.42	0.36	0.41	0.63	0.60	0.86
66	EMERGENCY COMMUNICATIONS	0.48	0.47	0.58	0.63	0.17	0.60	0.16	0.65	0.68	0.61	0.78	0.82	1.10	0 80	0.90	0.66
69	MISC. COMMUNICATIONS	0.69	0.35	0.34	0.34	1.21	0.35	0.43	0.27	0.24	0.24	-	0.35	0.20	0.22	0.15	0.29
71	RADIO NAVIGATION	3.21	3.71	5.42	6.66	3.74	6.58	3.96	4.91	4.66	4.07	4.28	2.71	3.10	4.42	4.56	4.94
72	RADAR NAVIGATION	0.00	7.79	7.14	6.06	6.29	4.36	7.63	7.22	7.70	9.77	8.57	6.80	6.76	8.76	8.96	6.86
91	EMERGENCY EQUIPMENT	0.65	0.67	1.00	1.24	1.45	1.24	1.13	0.91	0.85	0.73	0.65	0.70	0.77	0.51	0.49	0.92
96	PERSONNEL EQUIPMENT	0.00	0.00	0.02	0.04	0.03	0.04	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.02	0.01	0.02
97	EXPLOSIVE DEVICES	0.16	0.13	0.09	0.07	0.07	0.06	0.21	0.08	0.07	0.09	0.11	0.07	0.10	0.05	0 07	0.08
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	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-23 C-130E ORGANIZATIONAL TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.0539	1.7	0.0008	0.6	0.6672	0.7595	0.9	0.9	1.2	2.6	1.8279	1.7082	1.0677
12	COCKPIT AND FUSELAGE				0.0127	0.8	0.5170	0.2	0.4226	0.4406	0.3	0.4	0.6	1.0	0.6252	0.7141	0.5166
13	LANDING GEAR				0.0444	0.9	0.5747	0.3	0.3332	0.3391	0.3	0.3	0.4	0.7	0.4704	0.4138	0.4590
14	FLIGHT CONTROLS				0.4837	0.6	0.3:77	0.2	0.2456	0.2594	0.3	0.3	0.4	0.7	0.4606	0.3808	0.3588
22	TURBO PROP POWER PLANT				1.8485	2.3	1.2554	0.6	0.7362	0.7512	0.8	0.7	0.9	1.6	1.0911	0.9943	1.0747
24	AUXILIARY POWER PLANT				0.1862	0.3	0.1350	0.1	0.0954	0.1013	0.1	0.1	0.2	0.2	0.2070	0.1796	0.1482
32	HYDRAULIC PROPELLER				0.6595	1.0	0.4243	0.3	0.3296	0.3412	0.3	0.4	0.6	0.6	0.5809	0.6646	0.4765
41	AIR CONDITIONING, PRESSURIZATION				0.3464	0.6	0.2774	0.2	0.2100	0.2293	0.2	0.3	0.4	0.7	0.4636	0.4360	0.3193
42	ELECTRICAL POWER SUPPLY				0.3395	0.4	0.2303	0.1	0.1298	0.1317	0.1	0.1	0.1	0.2	0.2118	0.1920	0.1986
44	LIGHTING SYSTEM				0.3167	0.6	0.2523	0.2	0.1913	0.2103	0.2	0.2	0.3	0.6	0.3649	0.3674	0.2930
45	HYDRAULIC AND PNEUMATIC				0.3663	0.6	0.2841	0.2	0.2098	0.2295	0.3	0.2	0.4	0.6	0.4464	0.4027	0.3257
46	FUEL				0.5802	0.4	0.3511	0.3	0.3644	0.3653	0.3	0.4	0.8	1.0	0.5778	0.6527	0.4549
47	OXYGEN				0.0909	0.1	0.0696	0.1	0.0575	0.0555	0.1	0.1	0.1	0.1	0.1066	0.1267	0.0884
49	MISC. UTILITIES				0.1178	0.3	0.0980	0.1	0.0788	0.0844	0.1	0.1	0.1	0.2	0.1777	0.1793	0.1279
51	INSTRUMENTS				0.6183	0.9	0.4430	0.1	0.1845	0.1800	0.1	0.2	0.2	0.3	0.2056	0.1974	0.2956
52	AUTOPILOT				0.2386	0.3	0.1639	0.1	0.1102	0.1147	0.1	0.2	0.1	0.2	0.2056	0.1793	0.1582
55	INTERCOMM. & RECORDING EQUIP.				-	-	-	-	0.0011	0.0012	-	-	-	-	0.0011	0.0021	0.0004
61	HF COMMUNICATIONS				0.0658	0.1	0.0514	0.1	0.0384	0.0419	0.1	0.1	0.1	0.1	0.0815	0.0862	0.0778
62	VHF COMMUNICATIONS				0.0478	0.1	0.0318	-	0.0208	0.0213	-	-	-	-	0.0353	0.0268	0.0236
63	UHF COMMUNICATIONS				0.2035	0.2	0.1387	0.1	0.0801	0.0811	0.1	0.1	0.1	0.1	0.1024	0.1006	0.1161
64	INTERPHONE				0.2156	0.3	0.1439	0.1	0.0941	0.0966	0.1	0.1	0.1	0.2	0.1351	0.1277	0.1378
65	IFF				0.1286	0.2	0.0890	0.1	0.0476	0.0479	0.1	-	-	0.1	0.0620	0.0583	0.0813
66	EMERGENCY COMMUNICATIONS				0.0580	-	0.0462	-	0.0352	0.0386	-	0.1	0.1	0.2	0.0795	0.0867	0.0483
69	MISC. COMMUNICATIONS				0.0372	0.2	0.0272	-	0.0144	0.0138	-	-	-	-	0.0214	0.0144	0.0286
71	RADIO NAVIGATION				0.7335	0.6	0.5063	0.2	0.2652	0.2666	0.2	0.3	0.2	0.4	0.4382	0.4401	0.3519
72	RADAR NAVIGATION				0.6673	0.9	0.3358	0.3	0.3903	0.4402	0.6	0.6	0.6	0.9	0.8680	0.8653	0.5449
81	EMERGENCY EQUIPMENT				0.1368	0.2	0.0954	0.1	0.0493	0.0487	-	-	0.1	0.1	0.0505	0.0477	0.0784
96	PERSONNEL EQUIPMENT				0.0039	-	0.0029	-	0.0009	0.0010	-	-	-	-	0.0023	0.0010	0.0010
97	EXPLOSIVE DEVICES				0.0074	0.1	0.0046	-	0.0042	0.0043	-	-	-	-	0.0048	0.0067	0.0116
	TOTALS				11.0877	16.6	7.6975	4.7	5.4044	5.7160	5.9	6.1	7.8	13.3	9.9060	9.6551	7.8748

* NORMALIZED DATA

TABLE D-24 C-130E ORGANIZATIONAL REMOVAL TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	8.3	12.2	16.1	20.0	19.0	20.1	41.0	26.0	20.2	32.6	32.3	82.6	75.6	66.3	27.1	26.4
12	COCKPIT AND FUSELAGE	49.2	45.2	25.2	28.2	32.4	22.6	25.0	34.4	25.0	35.0	21.6	32.6	51.2	28.8	48.9	32.7
13	LANDING GEAR	32.0	35.4	42.0	48.6	83.6	42.5	60.8	43.9	41.4	40.6	34.1	82.6	43.0	32.2	34.0	42.0
14	FLIGHT CONTROLS	10.0	10.1	10.8	11.2	21.9	12.0	13.2	13.0	13.4	15.6	12.0	13.7	20.6	14.8	16.4	13.0
22	TURBO PROP POWER PLANT	66.0	71.9	85.4	96.0	166.0	97.6	113.7	87.6	87.0	87.8	62.1	74.4	97.7	70.1	75.5	87.6
24	AUXILIARY POWER PLANT	6.4	6.6	6.9	7.2	16.4	7.8	11.2	8.4	8.7	7.5	7.4	9.8	12.6	9.7	10.8	8.4
32	HYDRAULIC PROPELLER	42.6	58.5	48.9	41.4	62.9	39.9	48.2	47.4	47.8	22.5	37.1	50.9	60.0	60.8	38.6	46.9
41	AIR CONDITIONING, PRESSURIZATION	12.8	14.4	16.2	18.0	32.9	21.6	28.6	25.8	26.6	25.9	23.3	32.8	46.7	37.4	39.4	24.9
42	ELECTRICAL POWER SUPPLY	9.9	11.4	14.6	17.4	31.0	17.6	17.4	16.2	15.8	43.7	9.1	9.8	13.2	11.2	11.8	15.7
44	LIGHTING SYSTEM	9.3	10.5	11.8	12.9	22.6	15.4	15.8	17.9	18.1	18.1	14.1	18.3	32.0	24.4	31.7	17.3
45	HYDRAULIC AND PNEUMATIC	9.5	10.4	11.5	12.4	26.3	14.4	20.8	16.3	17.4	20.3	14.4	18.7	25.8	20.9	23.6	16.1
46	FUEL	83.7	73.6	60.3	32.4	23.8	29.4	42.1	46.6	48.8	19.0	26.8	100.6	86.8	41.4	48.4	45.6
47	OXYGEN	3.8	4.1	4.5	4.9	7.2	5.8	8.8	7.1	6.7	6.4	4.2	6.5	9.1	7.9	12.1	6.1
49	MISC. UTILITIES	2.6	3.1	3.5	4.0	13.7	6.0	7.5	6.8	6.4	6.5	5.8	7.8	11.0	8.4	10.3	5.9
51	INSTRUMENTS	0.0	3.5	26.8	46.7	74.7	48.0	24.8	30.5	29.0	18.8	19.1	21.7	27.6	21.2	22.2	31.3
52	AUTOPILOT	17.0	17.2	17.4	17.7	19.9	18.2	22.3	19.0	19.0	17.7	16.6	18.8	22.2	21.7	21.8	18.7
55	MALFUNCTION PANEL & RECORDING EQUIP.	-	-	-	-	0.0	-	0.1	0.3	0.3	0.0	-	-	-	0.7	0.1	0.1
61	HF COMMUNICATIONS	3.5	3.9	4.3	4.7	9.6	5.5	9.1	6.3	6.7	5.8	5.9	7.1	9.1	9.1	10.7	6.2
62	VHF COMMUNICATIONS	3.6	3.6	3.6	3.6	7.4	3.6	6.3	3.6	3.6	3.1	2.7	2.8	4.4	4.4	3.6	3.6
63	UHF COMMUNICATIONS	10.6	11.7	14.3	16.3	18.1	16.7	14.3	14.7	14.5	12.9	9.7	14.6	17.6	13.2	13.5	14.7
64	INTERPHONE	16.7	16.7	16.7	16.7	18.2	16.7	10.6	16.7	16.7	13.9	12.1	14.3	22.5	19.2	20.1	16.6
65	IFF	4.8	6.0	8.8	10.9	20.4	11.3	18.2	9.2	9.0	12.4	3.6	4.6	6.3	6.7	5.2	8.9
66	EMERGENCY COMMUNICATIONS	4.4	4.8	5.4	5.9	8.4	7.0	3.0	8.2	8.8	5.0	6.3	10.0	23.7	14.8	12.3	8.2
69	MISC. COMMUNICATIONS	3.0	1.7	1.7	1.8	4.4	2.0	3.3	1.6	1.5	1.5	1.6	1.6	1.4	1.0	1.0	1.7
71	RADIO NAVIGATION	23.8	28.2	43.5	55.6	53.3	57.6	42.3	46.1	45.1	34.1	32.2	31.8	48.4	42.9	41.7	45.7
72	RADAR NAVIGATION	0.0	60.6	68.6	51.8	87.0	39.0	78.7	69.4	76.2	81.2	59.3	62.1	104.3	100.0	106.4	64.9
91	EMERGENCY EQUIPMENT	6.0	8.2	12.9	16.7	35.1	17.5	17.4	13.8	13.3	11.4	8.4	11.9	22.3	8.4	9.9	14.2
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	00.0	0.0	0.0
97	EXPLOSIVE DEVICES	2.4	2.2	1.7	1.3	1.8	1.2	1.5	1.6	1.6	1.9	2.0	1.7	3.6	1.4	2.1	1.7

	TOTALS	459.9	536.9	574.9	603.0	943.0	615.8	780.9	645.5	659.6	670.1	483.9	678.6	898.4	706.0	789.9	636.8

* NORMALIZED DATA

TABLE D-25 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL REMOVAL TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	1.80	2.28	2.80	3.32	5.8	4.56	6.9	5.55	6.02	4.1	6.7	8.6	8.4	9.39	9.8	5.87
12	COCKPIT AND FUSELAGE	10.78	8.43	6.24	4.79	3.6	4.48	3.6	5.33	5.31	2.5	4.4	4.8	5.7	5.41	6.2	5.15
13	LANDING GEAR	5.94	6.61	7.44	8.06	8.9	8.04	8.7	6.80	6.59	7.1	7.2	6.3	4.8	4.96	4.4	6.99
14	FLIGHT CONTROLS	2.17	1.92	1.84	1.86	2.1	1.95	1.9	2.01	2.03	2.7	2.5	2.9	2.3	2.10	2.1	2.04
22	TURBO PROP POWER PLANT	14.35	13.42	14.85	15.92	17.6	15.85	16.2	13.67	13.19	15.4	12.8	11.5	10.8	9.93	9.5	13.76
24	AUXILIARY POWER PLANT	1.39	1.23	1.20	1.19	1.8	1.27	1.6	1.30	1.32	1.3	1.5	1.4	1.4	1.37	1.4	1.32
32	HYDRAULIC PROPELLER	11.61	10.92	8.51	6.87	5.7	6.48	6.9	7.34	7.26	6.0	7.7	7.5	6.7	8.68	9.9	7.38
41	AIR CONDITIONING, PRESSURIZATION	2.78	2.69	2.82	2.99	3.5	3.51	4.1	3.87	4.03	4.5	4.8	4.8	5.2	5.30	5.0	3.92
42	ELECTRICAL POWER SUPPLY	2.15	2.13	2.54	2.89	3.3	2.86	2.5	2.36	2.27	7.7	1.9	1.6	1.6	1.69	1.5	2.47
44	LIGHTING SYSTEM	2.02	1.96	2.05	2.14	2.0	2.50	2.2	2.77	2.90	3.4	2.9	2.7	3.6	3.46	4.0	2.72
45	HYDRAULIC AND PNEUMATIC	2.07	1.94	2.00	2.06	2.8	2.34	3.0	2.53	2.64	3.6	3.0	2.8	2.9	2.96	3.0	2.63
46	FUEL	18.20	13.73	8.76	5.37	2.5	4.77	6.0	7.22	7.28	3.3	5.3	14.8	9.7	6.86	6.1	7.16
47	OXYGEN	0.83	0.77	0.78	0.81	0.8	0.91	1.2	1.10	1.02	0.9	0.9	1.0	1.0	1.12	1.5	0.96
49	MISC. UTILITIES	0.57	0.58	0.61	0.66	1.5	0.81	1.1	0.91	0.97	1.0	1.2	1.1	1.2	1.19	1.3	0.93
51	INSTRUMENTS	0.00	0.65	4.66	7.41	7.9	7.79	3.0	4.73	4.40	3.3	4.0	3.2	3.0	3.00	2.8	4.92
52	AUTOPILOT	3.70	3.21	3.03	2.94	2.1	2.96	3.2	2.94	2.88	3.1	3.4	2.8	2.5	3.07	2.7	2.94
56	INSTRUMENTAL PANEL & RECORDING EQUIP.	-	-	-	-	0.0	-	0.0	0.06	0.06	0.0	-	-		0.01	0.0	0.02
61	HF COMMUNICATIONS	0.76	0.73	0.75	0.78	1.0	0.89	1.3	0.93	1.02	1.0	1.2	1.0	1.0	1.29	1.4	0.98
62	VHF COMMUNICATIONS	0.78	0.67	0.63	0.60	0.8	0.58	0.6	0.56	0.55	0.6	0.6	0.4	0.5	0.62	0.5	0.67
63	UHF COMMUNICATIONS	2.30	2.18	2.49	2.70	1.9	2.71	2.0	2.28	2.20	2.3	2.0	2.1	1.9	1.87	1.7	2.31
64	INTERPHONE	3.63	3.12	2.90	2.77	1.9	2.71	1.6	2.59	2.53	2.4	2.6	2.1	2.6	2.72	2.6	2.61
65	IFF	1.04	1.12	1.53	1.81	2.1	1.84	2.6	1.43	1.36	2.2	0.7	0.7	0.7	0.81	0.7	1.40
66	EMERGENCY COMMUNICATIONS	0.96	0.90	0.94	0.98	0.0	1.14	0.4	1.27	1.33	0.9	1.3	1.5	2.6	2.10	1.6	1.29
69	MISC. COMMUNICATIONS	0.65	0.32	0.30	0.30	0.5	0.32	0.5	0.25	0.23	0.3	0.3	0.2	0.2	0.14	0.3	0.27
71	RADIO NAVIGATION	4.74	5.26	7.67	9.22	5.7	9.35	6.0	7.14	6.84	6.0	6.7	4.7	5.4	6.08	6.3	7.19
72	RADAR NAVIGATION	0.00	11.31	10.19	8.59	9.2	6.33	11.2	10.76	11.65	14.2	12.3	9.2	11.6	14.16	13.6	10.21
91	EMERGENCY EQUIPMENT	1.30	1.53	2.24	2.77	3.7	2.86	2.6	2.14	2.02	2.0	1.8	1.8	2.6	1.19	1.2	2.23
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	0.0	0.00	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.00
97	EXPLOSIVE DEVICES	0.52	0.41	0.30	0.22	0.2	0.19	0.2	0.25	0.24	0.3	0.4	0.3	0.4	0.20	0.3	0.27
	TOTALS	100.00	100.00	100.00	100.00	100.0	100.00	100.0	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.00

*NORMALIZED DATA

TABLE D-26 C-130E ORGANIZATIONAL REMOVAL TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.0866	.22	0.0817	.08	0.0677	0.0770	.05	.09	.15	.22	0.1870	0.1989	0.1124
12	COCKPIT AND FUSELAGE				0.1251	.14	0.0798	.05	0.0650	0.0679	.03	.06	.08	.15	0.1077	0.1262	0.0826
13	LANDING GEAR				0.2104	.24	0.1431	.11	0.0830	0.0844	.09	.10	.11	.13	0.0908	0.0898	0.1218
14	FLIGHT CONTROLS				0.0485	.09	0.0347	.03	0.0246	0.0260	.03	.03	.04	.06	0.0417	0.0423	0.0395
22	TURBO PROP POWER PLANT				0.4157	.68	0.2821	.21	0.1656	0.1688	.19	.17	.19	.28	0.1977	0.1948	0.2610
24	AUXILIARY POWER PLANT				0.0312	.06	0.0225	.02	0.0159	0.0169	.02	.02	.03	.04	0.0274	0.0279	0.0266
32	HYDRAULIC PROPELLER				0.1793	.22	0.1163	.09	0.0896	0.0927	.05	.10	.13	.17	0.1692	0.2025	0.1241
41	AIR CONDITIONING, PRESSURIZATION				0.0779	.14	0.0624	.05	0.0472	0.0516	.06	.06	.08	.14	0.1055	0.1017	0.0747
42	ELECTRICAL POWER SUPPLY				0.0763	.11	0.0509	.03	0.0287	0.0291	.10	.02	.03	.04	0.0316	0.0304	0.0507
44	LIGHTING SYSTEM				0.0559	.11	0.0445	.03	0.0338	0.0371	.04	.04	.05	.09	0.0688	0.0818	0.0523
45	HYDRAULIC AND PNEUMATIC				0.0537	.11	0.0416	.04	0.0308	0.0338	.05	.04	.05	.08	0.0589	0.0609	0.0514
46	FUEL				0.1403	.10	0.0850	.08	0.0881	0.0931	.04	.07	.26	.26	0.1167	0.1249	0.1080
47	OXYGEN				0.0212	.03	0.0162	.02	0.0134	0.0130	.01	.01	.02	.03	0.0223	0.0312	0.0187
49	MISC. UTILITIES				0.0173	.04	0.0144	.01	0.0112	0.0124	.01	.02	.02	.03	0.0237	0.0266	0.0198
51	INSTRUMENTS				0.1936	.31	0.1387	.04	0.0576	0.0563	.04	.05	.06	.08	0.0598	0.0573	0.0950
52	AUTOPILOT				0.0766	.08	0.0526	.04	0.0359	0.0369	.04	.05	.05	.07	0.0612	0.0562	0.0514
85	MALFUNCTION ANAL. & RECORDING EQUIP.				-	-	-	-	0.0006	0.0006	-	-	-	-	0.0003	0.0003	0.0002
61	HF COMMUNICATIONS				0.0204	.04	0.0159	.02	0.0119	0.0130	.01	.02	.02	.03	0.0257	0.0276	0.0200
62	VHF COMMUNICATIONS				0.0156	.03	0.0104	.01	0.0068	0.0070	.01	.01	.01	.01	0.0124	0.0093	0.0116
63	UHF COMMUNICATIONS				0.0706	.07	0.0483	.03	0.0278	0.0281	.03	.03	.04	.05	0.0372	0.0348	0.0401
64	INTERPHONE				0.0723	.07	0.0481	.02	0.0316	0.0324	.03	.03	.04	.03	0.0561	0.0519	0.0427
65	IFF				0.0472	.08	0.0327	.03	0.0174	0.0175	.03	.01	.01	.02	0.0161	0.0134	0.0286
66	EMERGENCY COMMUNICATIONS				0.0255	-	0.0202	.01	0.0155	0.0171	.01	.02	.03	.07	0.0417	0.0317	0.0202
69	MISC. COMMUNICATIONS				0.0078	.02	0.0058	.01	0.0030	0.0029	-	.01	-	-	0.0028	0.0026	0.0059
71	RADIO NAVIGATION				0.2407	.22	0.1665	.08	0.0871	0.0875	.07	.09	.08	.14	0.1210	0.1076	0.1206
72	RADAR NAVIGATION				0.2243	.36	0.1127	.15	0.1312	0.1478	.17	.17	.16	.30	0.2820	0.2745	0.1924
91	EMERGENCY EQUIPMENT				0.0723	.14	0.0506	.03	0.0261	0.0258	.02	.03	.03	.07	0.0237	0.0255	0.0439
96	PERSONNEL EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
92	EXPLOSIVE DEVICES				0.0056	.01	0.0035	-	0.0030	0.0031	-	.01	-	.01	0.0039	0.0054	0.0040

	TOTALS				2.6118	3.88	1.7797	1.32	1.2200	1.2796	1.25	1.34	1.77	2.63	1.9909	2.0379	1.8302

* NORMALIZED DATA

TABLE D-27 C-130E, ORGANIZATIONAL REMOVE AND REPLACE TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	10.2	2.7	3.8	4.4	20.6	6.2	9.2	7.9	8.7	9.8	7.1	10.0	15.6	13.2	15.0	7.8
12	COCKPIT AND FUSELAGE	23.1	21.2	16.9	13.6	14.8	12.9	13.8	16.2	15.4	9.9	11.2	17.7	19.1	15.9	27.6	15.4
13	LANDING GEAR	23.6	26.1	31.8	28.9	20.8	36.5	62.6	32.4	32.2	35.6	23.9	21.3	20.6	21.2	21.5	32.4
14	FLIGHT CONTROLS	5.3	5.8	5.2	5.9	13.8	6.4	9.4	6.9	7.1	11.5	6.3	6.6	10.6	6.8	6.9	6.9
22	TURBO PROP POWER PLANT	45.5	49.6	58.8	66.1	70.6	67.3	87.7	60.3	60.8	32.1	61.8	63.3	67.6	55.1	64.7	60.3
24	AUXILIARY POWER PLANT	4.6	4.8	5.0	5.9	11.6	5.7	7.7	6.1	6.3	6.9	6.8	7.1	8.9	6.6	5.6	6.1
32	HYDRAULIC PROPELLER	22.0	20.6	17.2	14.6	21.4	14.8	25.7	16.7	16.8	14.2	15.3	16.3	18.8	18.3	22.9	16.5
41	AIR CONDITIONING, PRESSURIZATION	9.9	11.2	12.6	14.8	76.2	16.7	24.6	19.4	20.6	23.3	18.9	25.7	36.7	26.8	26.3	19.3
42	ELECTRICAL POWER SUPPLY	7.1	8.2	10.6	12.5	13.9	12.7	11.8	11.8	10.8	40.3	6.2	6.2	8.8	7.6	8.6	11.4
44	LIGHTING SYSTEM	8.9	10.1	11.3	12.3	25.5	14.8	16.2	17.1	18.3	18.8	13.6	17.6	30.4	23.4	30.4	16.6
45	HYDRAULIC AND PNEUMATIC	7.8	8.6	9.6	10.3	22.8	11.9	18.4	13.5	14.4	17.9	12.5	15.3	20.8	17.2	18.8	13.3
46	FUEL	21.4	20.6	14.0	9.0	6.3	8.2	15.7	13.8	13.4	13.6	11.3	12.8	18.3	16.7	18.5	12.6
47	OXYGEN	3.1	3.4	3.7	4.0	6.8	4.6	6.8	5.8	5.4	5.1	3.9	5.6	8.2	5.8	7.3	5.8
49	MISC. UTILITIES	1.9	2.3	2.6	3.8	9.8	3.8	6.8	4.5	4.8	4.6	4.1	5.3	8.7	6.3	7.8	4.4
51	INSTRUMENTS	0.0	3.2	24.2	40.5	61.8	43.5	19.1	27.7	26.3	18.5	18.2	20.4	24.3	18.7	18.8	28.4
52	AUTOPILOT	11.1	11.2	11.4	11.6	10.0	11.9	15.9	12.2	12.4	14.7	13.4	12.8	14.0	11.3	10.8	12.2
55	DETECTION AVIS. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.1	0.00
61	HF COMMUNICATIONS	1.3	1.4	1.6	1.8	3.3	2.0	6.0	2.3	2.5	3.3	3.0	2.8	2.3	2.5	2.4	2.3
62	VHF COMMUNICATIONS	1.6	1.6	1.6	1.6	2.3	1.6	2.8	1.6	1.6	2.1	1.8	1.4	1.4	1.3	0.9	1.6
63	UHF COMMUNICATIONS	4.9	5.5	6.7	7.6	4.4	7.8	9.7	6.9	6.8	9.6	6.5	7.6	5.9	3.8	3.1	6.7
64	INTERPHONE	14.0	14.0	14.0	14.0	10.6	14.0	8.7	14.0	14.0	11.6	10.9	12.2	18.6	16.1	15.7	13.9
65	IFF	2.1	2.6	3.8	4.8	5.6	4.9	11.5	4.0	4.0	8.4	2.0	1.6	1.8	1.7	1.2	3.9
66	EMERGENCY COMMUNICATIONS	0.9	1.0	1.1	1.2	0.3	1.4	2.1	1.6	1.8	1.1	1.7	2.2	5.8	1.1	1.4	1.6
69	MISC. COMMUNICATIONS	2.8	1.6	1.6	1.7	3.9	1.8	2.2	1.5	1.4	1.4	1.5	1.4	1.2	1.6	0.9	1.6
71	RADIO NAVIGATION	8.2	10.7	16.5	21.1	12.9	21.8	24.3	17.5	17.1	19.6	18.5	16.7	12.4	8.6	4.9	17.3
72	RADAR NAVIGATION	0.0	14.7	14.2	12.6	16.2	9.5	30.7	16.8	18.5	39.1	21.4	13.7	16.5	14.4	10.2	15.8
91	EMERGENCY EQUIPMENT	4.6	6.3	9.9	12.8	33.7	13.4	14.7	10.6	10.2	10.4	6.6	10.3	7.8	6.8	7.8	10.5
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	0.2	-	-	0.0	0.0	0.0	0.1	0.0	-	0.0	-	0.0
97	EXPLOSIVE DEVICES	2.3	2.1	1.6	1.2	1.7	1.1	1.6	1.6	1.6	1.8	1.8	1.6	3.3	1.4	1.8	1.6
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-	-																
	TOTALS	258.2	270.7	311.2	343.3	508.5	356.4	460.8	349.1	353.4	385.1	299.6	335.4	415.9	327.4	368.1	345.6

* NORMALIZED DATA

TABLE D-28 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL REMOVE AND REPLACE TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	7.06	1.00	1.12	1.28	4.03	1.74	2.00	2.26	2.46	2.64	2.37	3.25	3.75	4.03	4.64	2.27
12	COCKPIT AND FUSELAGE	0.94	7.03	5.43	3.96	2.01	3.62	2.03	4.64	4.64	2.67	3.74	5.28	4.59	4.06	5.78	4.44
13	LANDING GEAR	9.14	9.64	10.16	10.46	13.92	10.24	11.43	9.28	9.11	9.24	7.98	9.33	7.33	6.48	6.19	9.30
14	FLIGHT CONTROLS	2.05	2.03	1.83	1.72	2.71	1.90	2.04	1.98	2.01	1.96	2.18	1.97	2.56	2.00	1.94	2.00
22	TURBO PROP POWER PLANT	17.62	18.29	18.09	19.25	15.65	18.88	19.07	17.17	16.98	8.34	17.29	16.09	16.25	16.83	15.71	17.46
24	AUXILIARY POWER PLANT	1.78	1.77	1.61	1.51	2.28	1.60	1.67	1.75	1.78	1.79	2.00	2.12	2.14	2.02	1.61	1.77
32	HYDRAULIC PROPELLER	8.52	7.61	6.53	4.26	4.21	3.93	5.59	4.78	4.76	3.69	6.11	4.64	4.23	5.59	5.68	4.78
41	AIR CONDITIONING, PRESSURIZATION	3.83	4.14	4.05	4.08	5.16	4.69	6.25	5.66	5.83	6.06	6.31	7.66	8.02	7.94	7.66	5.59
42	ELECTRICAL POWER SUPPLY	2.75	3.03	3.41	3.64	2.73	3.56	2.57	3.15	3.06	10.46	2.07	1.85	1.92	2.32	2.47	3.30
43	LIGHTING SYSTEM	3.48	3.73	3.63	3.58	5.01	4.15	3.30	4.98	5.18	4.08	4.64	6.22	7.31	7.15	8.73	4.78
45	HYDRAULIC AND PNEUMATIC	3.02	3.18	3.06	3.00	4.33	3.34	4.00	3.87	4.07	4.65	4.17	4.56	4.81	5.26	5.60	3.85
46	FUEL	9.04	7.61	6.50	2.62	1.24	2.30	3.41	3.72	3.79	3.63	3.77	3.02	4.40	5.10	6.21	3.66
47	OXYGEN	1.20	1.26	1.19	1.17	1.34	1.29	1.48	1.66	1.63	1.32	1.30	1.67	1.97	1.77	2.18	1.45
49	MISC. UTILITIES	0.74	0.86	0.84	0.87	1.27	1.07	1.09	1.29	1.36	1.19	1.37	1.88	2.00	1.92	2.01	1.27
51	INSTRUMENTS	0.00	1.30	7.70	11.00	12.15	12.21	4.15	7.93	7.44	4.00	6.07	6.08	5.84	5.71	5.40	8.22
52	AUTOPILOT	4.30	4.14	3.66	3.36	1.97	3.34	3.46	3.49	3.61	3.62	4.47	3.68	3.37	3.43	3.10	3.53
56	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.03	0.00
61	HF COMMUNICATIONS	0.50	0.52	0.51	0.52	0.65	0.66	1.30	0.66	0.71	0.86	1.08	0.83	0.55	0.76	0.69	0.67
62	VHF COMMUNICATIONS	0.62	0.59	0.61	0.47	0.45	0.45	0.61	0.46	0.45	0.66	0.68	0.42	0.34	0.40	0.26	0.46
63	UHF COMMUNICATIONS	1.90	2.03	2.16	2.21	0.87	2.19	2.11	1.98	1.92	2.49	2.17	2.27	1.42	1.16	0.89	1.94
64	INTERPHONE	5.42	5.17	4.60	4.08	2.08	3.93	1.89	4.01	3.96	3.01	3.64	3.64	4.47	4.92	4.80	4.02
65	IFF	0.81	0.96	1.22	1.48	1.08	1.37	2.50	1.15	1.13	2.18	0.87	0.45	0.43	0.52	0.34	1.33
66	EMERGENCY COMMUNICATIONS	0.36	0.37	0.36	0.35	0.06	0.39	0.46	0.46	0.51	0.29	0.57	0.66	1.39	0.34	0.60	0.46
69	MISC. COMMUNICATIONS	1.66	0.69	0.61	0.60	0.77	0.81	0.48	0.43	0.40	0.36	0.60	0.42	0.29	0.49	0.26	0.46
71	RADIO NAVIGATION	3.18	3.95	6.30	6.16	2.54	6.12	6.28	6.01	4.84	5.09	6.17	4.98	2.90	2.63	1.41	5.01
72	RADAR NAVIGATION	0.86	5.43	4.56	3.67	3.09	2.67	0.41	4.01	6.23	10.15	7.14	4.08	3.97	4.40	2.93	4.57
91	EMERGENCY EQUIPMENT	1.78	2.35	5.18	3.76	6.63	3.76	5.30	3.64	2.89	2.70	2.20	3.47	1.88	1.47	2.81	3.04
96	PERSONNEL EQUIPMENT	0.04	0.08	0.00	0.08	0.04	-	-	0.00	0.00	0.00	0.03	0.00	-	0.00	-	0.00
97	EXPLOSIVE DEVICES	0.09	0.78	0.81	0.36	0.33	0.31	0.33	0.46	0.45	0.47	0.63	0.48	0.79	0.43	0.52	0.46
	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* ANNUALIZED DATA

TABLE D-29 C-130E ORGANIZATIONAL REMOVE AND REPLACE TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.0191	0.08	0.0179	0.02	0.0149	0.0169	0.0215	0.0*	0.03	0.05	0.0372	0.0408	0.0285
12	COCKPIT AND FUSELAGE				0.0549	0.06	0.0373	0.03	0.0306	0.0318	0.0217	0.03	0.05	0.06	0.0448	0.0609	0.0400
13	LANDING GEAR				0.1554	0.22	0.1055	0.16	0.0612	0.0625	0.0780	0.07	0.08	0.09	0.0598	0.0555	0.1029
14	FLIGHT CONTROLS				0.0255	0.06	0.0185	0.02	0.0130	0.0138	0.0250	0.02	0.02	0.03	0.0192	0.0178	0.0218
22	TURBO PROP POWER PLANT				0.2862	0.33	0.1945	0.17	0.1140	0.1169	0.0703	0.14	0.4	0.20	0.1554	0.1411	0.1688
24	AUXILIARY POWER PLANT				0.0225	0.03	0.0165	0.02	0.0115	0.0122	0.0151	0.02	0.02	0.03	0.0186	0.0144	0.0204
32	HYDRAULIC PROPELLER				0.0632	0.09	0.0405	0.05	0.0218	0.0226	0.0311	0.04	0.04	0.06	0.0516	0.0591	0.0471
41	AIR CONDITIONING, PRESSURIZATION				0.0606	0.11	0.0483	0.05	0.0367	0.0400	0.0510	0.05	0.07	0.11	0.0733	0.0679	0.0596
42	ELECTRICAL POWER SUPPLY				0.0541	0.06	0.0367	0.02	0.0208	0.0210	0.0883	0.02	0.02	0.02	0.0214	0.0222	0.0346
44	LIGHTING SYSTEM				0.0533	0.11	0.0428	0.03	0.0323	0.0355	0.0412	0.04	0.06	0.09	0.0660	0.0784	0.0614
45	HYDRAULIC AND PNEUMATIC				0.0446	0.09	0.0344	0.04	0.0255	0.0279	0.0392	0.04	0.04	0.06	0.0486	0.0485	0.0431
46	FUEL				0.0390	0.07	0.0237	0.03	0.0246	0.0260	0.0298	0.03	0.03	0.05	0.0471	0.0477	0.0317
47	OXYGEN				0.0173	0.03	0.0133	0.01	0.0110	0.0105	0.0112	0.01	0.01	0.02	0.0164	0.0188	0.0142
49	MISC. UTILITIES				0.0130	0.04	0.0110	0.01	0.0085	0.0093	0.0101	0.01	0.02	0.03	0.0178	0.0181	0.0152
61	INSTRUMENTS				0.1756	0.25	0.1257	0.04	0.0524	0.0510	0.0406	0.04	0.04	0.07	0.0527	0.0485	0.0426
62	AUTOPILOT				0.0498	0.04	0.0344	0.03	0.0231	0.0241	0.0322	0.04	0.03	0.04	0.0319	0.0279	0.0326
63	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	-	-	-	-	-	-	-	-	-	-	0.0000	0.0003	0.0000
64	COMMUNICATIONS				0.0078	0.01	0.0058	0.01	0.0043	0.0049	0.0072	0.01	0.01	0.01	0.0071	0.0062	0.0076
65	IFF				0.0069	0.01	0.0046	0.01	0.0030	0.0031	0.0046	0.01	-	-	0.0039	0.0023	0.0053
66	EMERGENCY COMMUNICATIONS				0.0329	0.02	0.0225	0.02	0.0130	0.0132	0.0210	0.02	0.02	0.2	0.0107	0.0080	0.0186
69	MISC. COMMUNICATIONS				0.0606	0.04	0.0405	0.02	0.0265	0.0272	0.0254	0.03	0.03	0.06	0.0454	0.0431	0.0340
71	RADIO NAVIGATION				0.0200	0.02	0.0142	0.02	0.0076	0.0078	0.0184	0.01	-	0.01	0.0048	0.0031	0.0125
72	RADAR NAVIGATION				0.0052	-	0.0040	-	0.0030	0.0035	0.0024	0.01	0.01	0.02	0.0031	0.0036	0.0043
91	EMERGENCY EQUIPMENT				0.0074	0.02	0.0052	-	0.0028	0.0027	0.0031	-	-	-	0.0045	0.0023	0.0041
96	PERSONNEL EQUIPMENT				0.0914	0.05	0.0630	0.05	0.0331	0.0332	0.0429	0.05	0.04	0.04	0.0243	0.0126	0.0454
97	EXPLOSIVE DEVICES				0.0546	0.07	0.0275	0.07	0.0318	0.0359	0.0456	0.06	0.04	0.05	0.0406	0.0563	0.0506
					0.0559	0.14	0.0387	0.03	0.0200	0.0198	0.0228	0.02	0.03	0.02	0.0135	0.0181	0.0371
					0.0000	-	-	-	0.0000	0.0000	0.0000	-	-	-	0.0000	-	0.0000
					0.0052	0.01	0.0032	-	0.0030	0.0031	0.0039	0.01	-	0.01	0.0039	0.0046	0.0042
	TOTALS				1.4866	2.11	1.0300	0.90	0.6598	0.6866	0.8435	0.83	0.88	1.23	0.9233	0.8881	1.0184

* NORMALIZED DATA

TABLE D-30 C-130E ORGANIZATIONAL REMOVE AND REINSTALL TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	1.6	2.3	3.0	3.7	20.4	5.9	24.6	6.7	7.4	14.4	10.1	6.3	8.8	6.4	5.2	6.7
12	COCKPIT AND FUSELAGE	3.2	2.9	2.3	1.9	19.2	1.8	5.3	2.2	2.3	1.3	1.3	1.0	2.0	1.8	2.0	2.1
13	LANDING GEAR	2.0	2.2	2.6	3.0	7.1	3.0	6.4	2.7	2.7	2.2	3.3	1.7	0.9	2.0	1.5	2.7
14	FLIGHT CONTROLS	0.5	0.5	0.6	0.6	2.8	0.4	2.0	0.7	0.7	0.9	0.8	0.4	0.5	0.6	0.6	0.7
22	TURBO PROP POWER PLANT	2.4	2.6	3.1	3.5	10.1	3.6	5.0	3.2	3.2	2.6	1.7	1.0	4.8	3.8	2.9	3.2
24	AUXILIARY POWER PLANT	0.6	0.6	0.6	0.7	1.7	0.7	1.2	0.8	0.8	0.6	0.5	0.3	0.6	1.8	1.5	0.8
32	HYDRAULIC PROPELLER	16.3	14.3	11.9	10.1	21.3	9.7	18.4	11.6	11.7	1.2	2.7	3.8	13.3	24.8	34.8	11.4
41	AIR CONDITIONING, PRESSURIZATION	0.3	0.4	0.4	0.4	2.6	0.5	1.6	0.6	0.6	0.9	0.8	0.6	0.7	0.4	0.3	0.6
42	ELECTRICAL POWER SUPPLY	1.0	1.1	1.4	1.7	9.6	1.7	3.4	1.5	1.5	2.5	1.0	0.8	0.9	0.9	0.4	1.5
44	LIGHTING SYSTEM	0.1	0.1	0.2	0.2	1.3	0.2	0.4	0.2	0.3	0.2	0.2	0.1	0.4	0.3	0.2	0.2
45	HYDRAULIC AND PNEUMATIC	0.1	0.1	0.1	0.1	1.7	0.1	0.7	0.2	0.2	0.3	0.1	0.2	0.1	0.0	0.1	0.2
46	FUEL	5.6	4.9	3.4	2.2	15.3	2.0	21.9	3.1	3.2	3.3	2.0	0.4	1.2	1.9	3.3	3.8
47	OXYGEN	0.1	0.1	0.1	0.1	0.2	0.1	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1
49	MISC. UTILITIES	0.2	0.2	0.2	0.2	3.5	0.3	1.1	0.4	0.4	0.4	0.3	0.2	0.5	0.4	0.4	0.4
51	INSTRUMENTS	-	0.1	0.3	0.6	3.8	0.6	0.6	0.4	0.4	0.1	0.1	0.2	0.1	0.1	0.3	0.4
52	AUTOPILOT	0.2	0.2	0.2	0.2	1.9	0.2	1.6	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.2
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	0.0	0.0	0.1	0.1	1.9	0.1	0.0	0.1	0.1	0.0	0.0	-	0.0	0.0	0.0	0.1
62	VHF COMMUNICATIONS	-	-	-	-	1.4	-	0.5	-	-	-	-	-	-	0.0	0.0	0.0
63	UHF COMMUNICATIONS	0.2	0.2	0.2	0.2	3.0	0.2	1.7	0.2	0.2	0.0	0.0	0.0	0.0	0.0	-	0.2
64	INTERPHONE	0.2	0.2	0.2	0.2	2.4	0.2	1.1	0.2	0.2	0.0	-	0.0	0.1	0.0	0.0	0.2
65	IFF	0.1	0.1	0.1	0.2	1.3	0.2	1.5	0.1	0.1	-	0.0	-	-	-	-	0.1
66	EMERGENCY COMMUNICATIONS	-	-	-	-	0.1	-	0.4	-	-	0.1	0.1	0.0	0.0	0.0	0.0	0.0
69	MISC. COMMUNICATIONS	-	-	-	-	0.1	-	0.6	-	-	0.0	-	-	-	-	-	0.1
71	RADIO NAVIGATION	0.2	0.2	0.3	0.4	3.0	0.4	2.6	0.4	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.0
72	RADAR NAVIGATION	-	0.0	0.0	0.7	12.0	0.5	7.5	0.9	1.0	0.2	0.1	0.0	0.3	0.1	0.1	0.4
91	EMERGENCY EQUIPMENT	0.2	0.2	0.4	0.6	0.6	0.6	1.1	0.5	0.4	0.3	0.3	0.2	0.4	0.3	0.4	-
96	PERSONNEL EQUIPMENT	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-
97	EXPLOSIVE DEVICES	-	-	-	-	0.0	-	-	-	-	-	-	0.1	0.0	0.0	0.0	0.0

	TOTALS	34.1	34.4	32.6	31.6	139.3	33.2	112.6	37.0	38.0	31.7	25.7	18.0	36.2	46.1	64.1	36.3

* NORMALIZED DATA

TABLE D-31 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL REMOVE AND REINSTALL TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	6.69	6.69	9.23	11.71	14.64	17.27	21.84	18.11	10.47	46.43	30.38	36.00	24.31	14.61	9.61	18.46
12	COCKPIT AND FUSELAGE	9.38	8.43	7.00	6.01	7.32	5.42	4.21	5.95	6.95	4.10	5.06	5.56	5.62	4.31	3.70	5.72
13	LANDING GEAR	6.87	6.40	8.00	9.49	9.10	9.04	6.68	7.30	7.11	6.84	12.04	9.44	2.49	4.54	8.72	7.44
14	FLIGHT CONTROLS	1.47	1.45	1.85	1.90	2.01	1.81	1.78	1.89	1.89	2.04	3.11	2.22	1.66	1.26	1.11	1.92
22	TURBO PROP POWER PLANT	7.84	7.56	9.56	11.08	7.25	10.84	4.44	0.65	0.42	0.29	6.61	5.56	13.26	6.88	5.36	8.02
24	AUXILIARY POWER PLANT	1.76	1.76	1.85	2.22	1.22	2.11	1.07	2.16	2.11	1.58	1.96	1.67	2.21	4.88	2.77	2.20
32	HYDRAULIC PROPELLER	44.87	1.67	36.62	31.96	16.29	29.22	16.34	31.35	30.79	3.79	10.51	21.11	36.74	54.42	64.22	31.40
41	AIR CONDITIONING, PRESSURIZATION	0.88	1.16	1.23	1.27	1.87	1.51	1.42	1.62	1.58	2.84	3.11	2.22	1.93	0.91	0.55	1.65
42	ELECTRICAL POWER SUPPLY	2.93	3.20	4.31	5.38	6.89	5.12	3.02	4.05	3.95	7.89	3.89	4.44	2.49	2.04	0.74	4.13
44	LIGHTING SYSTEM	0.29	0.29	0.62	0.63	0.93	0.60	0.36	0.54	0.79	0.63	0.78	0.56	1.10	0.68	0.37	0.65
45	HYDRAULIC AND PNEUMATIC	0.29	0.29	0.31	0.32	1.22	0.30	0.62	0.54	0.53	0.95	0.39	1.11	0.28	0.00	0.18	0.55
46	FUEL	16.42	14.26	10.46	6.96	10.98	6.02	19.45	8.38	8.42	10.41	7.78	2.22	3.31	4.31	6.10	8.26
47	OXYGEN	0.29	0.29	0.31	0.32	0.14	0.30	0.62	0.27	0.26	0.32	0.39	0.56	0.28	0.00	0.18	0.29
49	MISC. UTILITIES	0.59	0.58	0.62	0.63	2.51	0.90	0.98	1.08	1.06	1.26	1.17	1.11	1.38	0.91	0.74	1.10
51	INSTRUMENTS	-	0.29	0.92	1.90	2.73	1.81	0.44	1.08	1.06	0.32	0.39	1.11	0.28	0.23	6.65	1.10
52	AUTOPILOT	0.59	0.58	0.62	0.63	1.36	0.60	1.42	0.54	0.53	0.32	0.39	1.11	0.28	0.00	0.00	0.55
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	0.00	0.00	0.31	0.32	1.01	0.30	0.71	0.27	0.26	0.00	0.00	-	0.00	0.00	0.00	0.28
62	VHF COMMUNICATIONS	-	-	-	-	2.15	-	0.44	-	-	-	-	-	-	0.00	0.00	0.00
63	UHF COMMUNICATIONS	0.59	0.58	0.62	0.63	1.72	0.60	1.51	0.54	0.53	0.00	0.00	0.00	0.00	0.00	-	0.55
64	INTERPHONE	0.59	0.58	0.62	0.63	0.93	0.60	0.98	0.54	0.53	0.00	-	0.00	0.28	0.00	0.00	0.55
65	ICS	0.29	0.29	0.31	0.63	0.07	0.60	1.33	0.27	0.26	-	0.00	-	-	-	-	0.28
66	EMERGENCY COMMUNICATIONS	-	-	-	-	0.07	-	0.36	-	-	0.32	0.39	0.00	0.00	0.00	0.00	0.00
69	MISC. COMMUNICATIONS	-	-	-	-	2.15	-	0.53	-	-	0.00	-	-	-	-	-	0.03
71	RADIO NAVIGATION	0.59	0.58	0.92	1.27	0.61	1.20	2.31	1.08	0.79	0.32	0.39	0.00	0.28	0.00	0.00	2.20
72	RADAR NAVIGATION	-	2.33	2.46	2.22	0.43	1.51	6.66	2.43	2.63	0.63	0.39	2.22	0.83	0.23	0.18	1.10
91	EMERGENCY EQUIPMENT	0.59	0.87	1.23	1.90	0.00	1.81	0.98	1.35	1.06	0.95	1.17	1.11	1.10	0.68	0.74	-
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	0.00	-	-	-	-	-
97	EXPLOSIVE DEVICES	-	-	-	-	-	-	-	-	-	-	-	0.56	0.00	0.00	0.00	0.00
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	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*NORMALIZED DATA

TABLE D-32 C-130E ORGANIZATIONAL REMOVE AND REINSTALL TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.0160	.084	0.0171	.047	0.0127	0.0144	.032	.028	.016	.026	0.0180	0.0134	0.0288
12	COCKPIT AND FUSELAGE				0.0082	.041	0.0052	.010	0.0042	0.0045	.003	.004	.003	.006	0.0056	0.0052	0.0088
13	LANDING GEAR				0.0130	.028	0.0087	.012	0.0051	0.0052	.005	.009	.004	.003	0.0056	0.0039	0.0092
14	FLIGHT CONTROLS				0.0026	.011	0.0017	.004	0.0013	0.0014	.002	.002	.001	.002	0.0017	0.0015	0.0028
22	TURBO PROP POWER PLANT				0.0162	.042	0.0104	.009	0.0060	0.0062	.006	.005	.003	.014	0.0085	0.0075	0.0111
24	AUXILIARY POWER PLANT				0.0030	.007	0.0020	.002	0.0015	0.0016	.001	.001	-	.002	0.0051	0.0039	0.0024
32	HYDRAULIC PROPELLER				0.0437	.088	0.0280	.035	0.0129	0.0227	.003	.008	.010	.039	0.0677	0.0898	0.0348
41	AIR CONDITIONING, PRESSURIZATION				0.0017	.011	0.0014	.003	0.0011	0.0012	.002	.002	.002	.002	0.0011	0.0008	0.0026
42	ELECTRICAL POWER SUPPLY				0.0074	.039	0.0049	.006	0.0028	0.0029	.006	.003	.002	.003	0.0025	0.0010	0.0072
44	LIGHTING SYSTEM				0.0009	.005	0.0006	-	0.0004	0.0006	-	-	-	.001	0.0008	0.0005	0.0008
45	HYDRAULIC AND PNEUMATIC				0.0004	.007	0.0003	.001	0.0004	0.0004	-	-	-	-	0.0000	0.0003	0.0009
46	FUEL				0.0095	.063	0.0058	.041	0.0059	0.0062	.007	.006	.001	.004	0.0056	0 0085	0.0160
47	OXYGEN				0.0004	-	0.0003	.001	0.0002	0.0002	-	-	-	-	0.0000	0.0003	0.0003
49	MISC. UTILITIES				0.0009	.014	0.0009	.002	0.0008	0.0008	-	-	-	.002	0.0011	0.0010	0.0021
51	INSTRUMENTS				0.0026	.015	0.0017	-	0.0008	0.0008	-	-	-	-	0 0003	0.0008	0.0020
52	AUTOPILOT				0.0009	.008	0.0006	.003	0.0004	0.0004	-	-	-	-	0.0000	0.0000	0.0014
55	MALFUNCTION ANAL. & RECORDING EQUIP.				-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS				0.0004	.008	0.0003	.002	0.0002	0.0002	-	-	-	-	0 0000	0.0000	0.0011
62	VHF COMMUNICATIONS				-	.006	-	-	-	-	-	-	-	-	0.0000	2.0000	0.0005
63	UHF COMMUNICATIONS				0.0009	.012	0.0006	.003	0.0004	0.0004	-	-	-	-	0 0000	-	0 0017
64	INTERPHONE				0.0009	.010	0.0006	.002	0.0004	0.0004	-	-	-	-	0.0000	0.0000	0.0014
65	IFF				0.0009	.005	0.0006	.003	0.0002	0.0002	-	-	-	-	-	-	0.0010
66	EMERGENCY COMMUNICATIONS				-	-	-	-	-	-	-	-	-	-	0.0000	0.0000	0.0000
69	MISC. COMMUNICATIONS				-	-	-	.001	-	-	-	-	-	-	-	-	0 0000
71	RADIO NAVIGATION				0.0017	.012	0.0012	.005	0.0008	0.0006	-	-	-	-	0.0000	0.0000	0.0000
72	RADAR NAVIGATION				0.0030	.049	0.0014	.014	0.0017	0.0019	-	-	.001	-	0.0003	0.0003	0.0022
91	EMERGENCY EQUIPMENT				0.0026	.082	0.0017	.002	0.0009	0.0008	-	-	-	.001	0.0008	0.0010	0.0072
96	PERSONNEL EQUIPMENT				-	-	-	-	-	-	-	-	-	-	-	-	0.0011
97	EXPLOSIVE DEVICES				-	-	-	-	-	-	-	-	-	-	0.0000	0.0000	-
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	TOTALS				0.1368	.573	0.0959	.212	0.0699	0.0737	.069	.071	.046	.106	0.1244	0.1396	0.1474

* NORMALIZED DATA

TABLE D-33 C-130E INTERMEDIATE TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	3.2	4.8	6.3	7.8	38.2	10.9	25.4	14.0	15.5	13.0	17.9	21.3	22.3	21.6	23.3	13.8
12	COCKPIT AND FUSELAGE	44.8	41.2	32.7	26.3	99.3	25.1	41.5	31.4	31.9	30.0	30.1	104.5	20.8	34.6	26.9	36.6
13	LANDING GEAR	43.5	48.1	58.2	66.0	104.4	67.3	78.2	59.7	59.2	37.3	42.8	48.2	64.6	60.0	66.1	59.7
14	FLIGHT CONTROLS	4.7	4.9	5.1	5.3	10.6	5.7	11.7	6.1	6.3	10.3	5.8	6.6	8.2	6.8	5.8	6.2
22	TURBO PROP POWER PLANT	98.4	107.2	127.3	143.1	148.3	146.6	160.6	130.5	129.8	150.9	95.5	119.9	120.2	119.8	115.0	130.6
24	AUXILIARY POWER PLANT	5.3	5.5	5.7	6.0	14.2	6.6	11.2	7.0	7.3	5.9	4.1	8.1	10.1	9.0	10.2	6.9
32	HYDRAULIC PROPELLER	61.6	57.6	48.1	40.7	68.0	39.2	63.4	46.6	47.1	63.8	47.6	62.7	42.7	37.1	47.5	46.2
41	AIR CONDITIONING, PRESSURIZATION	7.1	8.0	9.0	10.0	28.7	12.0	22.9	13.9	14.8	19.6	15.6	17.2	18.7	18.5	20.3	13.9
42	ELECTRICAL POWER SUPPLY	8.3	9.6	12.3	14.6	27.6	14.8	26.0	12.8	12.6	12.1	8.4	11.1	12.6	11.5	10.4	13.2
44	LIGHTING SYSTEM	2.2	2.5	2.8	3.1	7.3	3.7	7.3	4.3	4.6	6.8	5.2	6.3	6.0	3.9	4.6	4.2
45	HYDRAULIC AND PNEUMATIC	6.4	7.0	7.7	8.4	19.5	9.7	22.5	11.0	11.7	22.6	11.5	18.6	16.3	9.5	9.2	10.8
46	FUEL	12.9	11.4	7.8	5.0	5.7	4.5	12.9	7.2	7.4	7.3	5.5	7.1	11.5	9.7	8.8	7.0
47	OXYGEN	2.6	2.9	3.1	3.3	5.5	3.9	8.1	1.1	4.6	5.8	3.6	4.1	6.1	4.5	5.5	3.8
49	MISC. UTILITIES	1.6	1.9	2.2	2.6	8.2	3.1	8.4	3.7	4.0	5.6	3.3	4.4	5.8	4.6	5.4	3.6
51	INSTRUMENTS	0.0	2.7	20.5	34.2	74.8	36.7	21.8	23.4	22.2	20.7	16.9	23.4	30.0	22.1	23.6	26.1
52	AUTOPILOT	20.8	21.1	21.4	21.6	28.7	22.3	28.5	22.9	23.2	26.2	18.8	23.7	28.1	24.3	22.1	22.8
55	MALFUNCTION ANAL. & RECORDING EQUIP.	0.0	-	-	-	-	-	0.1	0.8	0.0	-	-	-	-	0.2	0.5	0.0
61	HF COMMUNICATIONS	4.0	4.4	4.9	5.3	14.6	6.2	15.9	7.1	7.5	6.5	5.6	6.0	9.9	10.6	11.6	6.9
62	VHF COMMUNICATIONS	4.4	4.4	4.4	4.4	9.6	4.4	6.3	4.4	4.4	3.4	2.9	3.3	5.7	5.2	4.0	4.4
63	UHF COMMUNICATIONS	15.1	16.8	20.6	23.5	22.2	24.0	27.2	21.1	20.9	18.1	13.8	18.4	24.7	19.5	21.0	21.1
64	INTERPHONE	8.9	8.9	8.9	8.9	12.5	8.9	15.6	8.9	8.9	7.0	6.4	8.3	10.7	8.7	7.5	8.8
65	IFF	5.3	6.5	9.5	11.8	22.3	12.2	24.2	10.6	9.8	14.3	3.7	3.7	6.6	5.6	6.4	9.6
66	EMERGENCY COMMUNICATIONS	7.8	8.6	9.6	10.6	17.7	12.5	16.4	14.6	15.6	14.6	6.9	23.0	28.7	20.2	21.9	14.2
69	MISC. COMMUNICATIONS	3.5	2.0	2.0	2.1	1.8	2.3	1.3	1.9	1.8	0.4	7.4	0.2	0.2	0.1	0.1	2.0
71	RADIO NAVIGATION	24.8	32.2	49.7	63.6	64.1	65.8	60.9	52.7	51.6	43.5	33.5	34.7	54.6	45.6	51.3	52.2
72	RADAR NAVIGATION	0.0	72.2	69.9	61.7	114.8	46.6	113.1	82.7	90.9	97.4	67.6	69.0	121.6	116.8	135.4	77.4
91	EMERGENCY EQUIPMENT	1.6	2.2	3.6	4.4	9.1	4.6	12.4	3.7	3.5	3.7	2.6	6.1	2.6	4.4	3.1	3.9
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	0.0
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	0.1	-	0.0
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	TOTALS	398.8	494.6	563.1	594.2	968.7	598.5	843.8	682.7	617.1	656.8	482.2	630.9	698.6	631.9	724.6	606.8

* NORMALIZED DATA

TABLE D-34 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	0.80	0.97	1.14	1.31	3.94	1.82	3.01	2.32	2.61	1.98	3.71	3.32	3.19	3.42	3.22	2.28
12	COCKPIT AND FUSELAGE	11.23	8.31	5.91	4.43	10.25	4.19	4.92	5.21	5.17	4.87	5.24	16.33	4.41	5.48	10.48	6.84
13	LANDING GEAR	10.91	9.73	10.52	11.11	10.78	11.24	9.27	9.91	9.59	9.68	8.71	7.61	9.25	9.50	9.12	9.85
14	FLIGHT CONTROLS	1.18	0.99	0.92	0.89	1.09	0.95	1.39	1.01	1.02	1.67	1.20	1.03	1.17	0.92	0.80	1.02
22	TURBO PROP POWER PLANT	24.67	21.67	23.02	24.08	15.31	24.33	19.03	21.65	21.03	24.50	19.01	18.74	17.21	18.96	15.87	21.64
24	AUXILIARY POWER PLANT	1.23	1.11	1.03	1.01	1.47	1.09	1.33	1.16	1.18	0.90	0.85	1.27	1.45	1.42	1.41	1.16
32	HYDRAULIC PROPELLER	16.45	11.65	8.70	6.85	7.02	6.55	7.81	7.73	7.63	9.71	9.07	8.24	6.31	5.87	6.56	7.63
41	AIR CONDITIONING, PRESSURIZATION	1.78	1.62	1.63	1.68	2.96	2.01	2.71	2.31	2.40	2.98	3.24	2.69	2.68	2.93	2.80	2.29
42	ELECTRICAL POWER SUPPLY	2.08	1.94	2.22	2.46	2.85	2.47	3.08	2.12	2.04	1.84	1.74	1.73	1.80	1.82	2.64	2.18
44	LIGHTING SYSTEM	0.55	0.61	0.61	0.62	0.75	0.62	0.87	0.71	0.75	1.04	1.08	0.83	0.72	0.62	0.63	0.69
45	HYDRAULIC AND PNEUMATIC	1.60	1.42	1.39	1.41	2.01	1.62	2.67	1.83	1.90	3.44	2.38	1.66	2.33	1.42	1.27	1.78
46	FUEL	3.23	2.30	1.41	0.84	0.59	0.75	1.53	1.19	1.20	1.11	1.14	1.11	1.65	1.38	1.21	1.36
47	OXYGEN	0.65	0.59	0.56	0.66	0.67	0.65	0.96	0.18	0.75	0.88	0.75	0.64	0.87	0.71	0.76	0.63
49	MISC. UTILITIES	0.40	0.38	0.40	0.42	0.85	0.62	1.00	0.61	0.65	0.85	0.68	0.69	0.83	0.71	0.75	0.69
51	INSTRUMENTS	0.00	0.55	3.71	5.76	7.72	6.11	2.58	3.08	3.60	3.15	3.50	3.66	4.29	3.50	3.26	4.31
62	AUTOPILOT	5.22	4.27	3.87	3.64	2.96	3.73	3.38	3.80	3.76	3.99	3.90	3.70	4.02	3.85	3.85	3.76
65	MALFUNCTION ANAL. & RECORDING EQUIP.	0.00	-	-	-	-	-	0.01	0.00	0.00	-	-	-	-	0.03	0.07	0.00
61	HF COMMUNICATIONS	1.00	0.89	0.89	0.89	1.51	1.04	1.08	1.18	1.22	0.99	1.16	0.94	1.42	1.68	1.60	1.14
62	VHF COMMUNICATIONS	1.10	0.89	0.80	0.74	0.99	0.74	0.75	0.73	0.71	0.62	0.60	0.62	0.82	0.82	0.55	0.73
63	UHF COMMUNICATIONS	3.79	3.48	3.72	3.95	2.29	4.01	3.22	3.50	3.38	2.76	2.86	2.88	3.64	3.09	2.90	3.48
64	INTERPHONE	2.23	1.80	1.61	1.50	1.29	1.49	1.85	1.48	1.44	1.07	1.33	1.30	1.53	1.38	1.04	1.45
65	IFF	1.33	1.31	1.72	1.99	2.30	2.04	2.87	1.66	1.59	2.18	0.77	0.58	0.94	0.89	0.88	1.58
66	EMERGENCY COMMUNICATIONS	1.96	1.74	1.74	1.78	1.83	2.09	1.94	2.42	2.53	2.22	1.43	3.59	4.11	3.28	3.02	2.34
69	MISC. COMMUNICATIONS	0.88	0.40	0.36	0.35	0.19	0.38	0.15	0.32	0.29	0.06	1.63	0.03	0.01	0.02	0.01	0.33
71	RADIO NAVIGATION	6.22	6.61	8.99	10.70	6.62	10.99	7.22	8.74	8.36	6.62	6.95	5.42	7.82	7.22	7.08	8.62
72	RADAR NAVIGATION	.00	14.60	12.64	10.36	11.85	7.79	13.40	13.72	14.73	14.83	14.02	10.78	17.44	18.48	18.69	12.78
91	EMERGENCY EQUIPMENT	0.40	0.44	0.61	0.74	0.01	0.77	1.47	0.61	0.67	0.66	0.64	0.80	0.37	0.70	0.43	0.64
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	-	-	0.00
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	0.02	-	0.00
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	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-35 C-130E INTERMEDIATE TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.0338	0.16	0.0315	0.05	0.0265	0.0301	0.03	0.06	0.06	0.06	0.0609	0.0601	0.0526
12	COCKPIT AND FUSELAGE				0.1139	0.40	0.0725	0.08	0.0593	0.0619	0.07	0.09	0.27	0.09	0.0976	0.1960	0.1248
13	LANDING GEAR				0.2858	0.43	0.1945	0.15	0.1128	0.1148	0.09	0.12	0.12	0.19	0.1692	0.1705	0.1749
14	FLIGHT CONTROLS				0.0229	0.04	0.0165	0.02	0.0115	0.0122	0.02	0.02	0.02	0.02	0.0164	0.0150	0.0194
22	TURBO PROP POWER PLANT				0.6196	0.61	0.4208	0.30	0.2466	0.2518	0.35	0.27	0.30	0.35	0.3378	0.2967	0.3584
24	AUXILIARY POWER PLANT				0.0260	0.06	0.0188	0.02	0.0132	0.0142	0.01	0.01	0.02	0.03	0.0254	0.0263	0.0220
32	HYDRAULIC PROPELLER				0.1762	0.28	0.1133	0.12	0.0881	0.0914	0.14	0.13	0.14	0.12	0.1046	0.1225	0.1341
41	AIR CONDITIONING, PRESSURIZATION				0.0433	0.12	0.0347	0.04	0.0263	0.0287	0.04	0.04	0.04	0.05	0.0522	0.0524	0.0459
42	ELECTRICAL POWER SUPPLY				0.0632	0.11	0.0428	0.05	0.0242	0.0244	0.03	0.02	0.03	0.04	0.0324	0.0475	0.0433
44	LIGHTING SYSTEM				0.0134	0.03	0.0107	0.01	0.0081	0.0089	0.02	0.01	0.01	0.02	0.0110	0.0119	0.0134
45	HYDRAULIC AND PNEUMATIC				0.0364	0.08	0.0280	0.04	0.0208	0.0227	0.05	0.03	0.03	0.05	0.0254	0.0237	0.0366
46	FUEL				0.0217	0.02	0.0130	0.02	0.0136	0.0144	0.02	0.02	0.02	0.03	0.0245	0.0227	0.0189
47	OXYGEN				0.0143	0.02	0.0113	0.02	0.0021	0.0089	0.01	0.01	0.01	0.02	0.0127	0.0142	0.0126
49	MISC. UTILITIES				0.0108	0.03	0.0090	0.02	0.0070	0.0078	0.01	0.01	0.01	0.02	0.0127	0.0139	0.0134
51	INSTRUMENTS				0.1481	0.30	0.1061	0.04	0.0442	0.0431	0.05	0.06	0.06	0.08	0.0623	0.0609	0.0858
52	AUTOPILOT				0.0935	0.12	0.0644	0.05	0.0433	0.0450	0.06	0.05	0.06	0.08	0.0685	0.0570	0.0639
55	MALFUNCTION ANAL. & RECORDING EQUIP.				-	-	-	-	0.0000	0.0000	-	-	-	-	0.0006	0.0013	0.0001
61	HF COMMUNICATIONS				0.0229	0.06	0.0179	0.03	0.0134	0.0146	0.01	0.02	0.02	0.03	0.0299	0.0299	0.0242
62	VHF COMMUNICATIONS				0.0191	0.04	0.0127	0.01	0.0083	0.0085	0.01	0.01	0.01	0.02	0.0147	0.0103	0.0140
63	UHF COMMUNICATIONS				0.1018	0.09	0.0694	0.05	0.0399	0.0405	0.04	0.04	0.05	0.07	0.0550	0.0542	0.0569
64	INTERPHONE				0.0385	0.05	0.0257	0.03	0.0168	0.0171	0.02	0.02	0.02	0.03	0.0245	0.0193	0.0260
65	IFF				0.0511	0.09	0.0353	0.05	0.0189	0.0190	0.03	0.01	0.01	0.02	0.0158	0.0166	0.0333
66	EMERGENCY COMMUNICATIONS				0.0459	0.07	0.0361	0.03	0.0276	0.0303	0.03	0.02	0.06	0.08	0.0570	0.0565	0.0416
69	MISC. COMMUNICATIONS				0.0091	0.01	0.0066	-	0.0036	0.0035	-	0.02	-	-	0.0003	0.0003	0.0044
71	RADIO NAVIGATION				0.2756	0.26	0.1902	0.11	0.0996	0.1001	0.09	0.09	0.09	0.16	0.1286	0.1324	0.1412
72	RADAR NAVIGATION				0.2672	0.47	0.1347	0.21	0.1563	0.1763	0.21	0.19	0.18	0.35	0.3294	0.3493	0.2370
91	EMERGENCY EQUIPMENT				0.0191	-	0.0133	0.02	0.0070	0.0068	0.01	0.01	0.01	0.01	0.0124	0.0080	0.0108
96	PERSONNEL EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	0.0000
97	EXPLOSIVE DEVICES				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0003	-	0.0000
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	TOTALS				2.6729	3.95	1.7297	1.57	1.1391	1.1972	1.44	1.36	1.65	2.02	1.7829	1.8692	1.8094

* NORMALIZED DATA

TABLE D-36 C-130E INTERMEDIATE BENCH CHECK TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	2.4	3.6	4.8	5.9	82.0	8.2	13.0	10.6	11.2	7.3	12.2	13.6	17.1	13.0	17.5	10.5
12	COCKPIT AND FUSELAGE	24.4	31.6	25.1	20.2	98.2	19.3	30.2	24.1	29.5	22.3	21.8	94.6	9.7	21.0	54.7	29.1
13	LANDING GEAR	24.1	26.7	32.3	36.6	99.2	37.4	56.1	33.1	32.0	28.9	34.0	25.0	25.0	20.0	19.2	33.1
14	FLIGHT CONTROLS	4.2	4.4	4.6	4.8	18.1	5.1	10.8	5.5	5.7	8.1	5.0	5.6	7.0	4.8	5.1	5.6
22	TURBO PROP POWER PLANT	38.2	41.6	49.4	55.6	104.2	56.6	111.9	50.7	50.4	37.2	21.8	45.4	58.2	42.5	61.5	50.7
24	AUXILIARY POWER PLANT	2.9	3.0	3.2	3.3	9.7	3.6	7.5	3.9	4.0	4.2	2.8	4.2	5.3	4.3	5.1	3.9
32	HYDRAULIC PROPELLER	40.6	38.0	31.7	26.8	43.0	25.8	52.4	30.7	31.0	40.3	26.7	34.7	27.8	25.3	30.2	30.4
41	AIR CONDITIONING, PRESSURIZATION	6.7	7.6	8.5	9.4	28.4	11.3	23.4	13.1	14.0	10.0	14.6	16.1	17.6	17.0	19.1	13.1
42	ELECTRICAL POWER SUPPLY	5.1	5.9	7.6	9.0	22.4	9.1	15.6	7.9	7.8	9.4	5.9	8.2	9.0	4.6	5.1	8.2
44	LIGHTING SYSTEM	1.8	2.0	2.3	2.5	5.6	3.0	6.1	3.5	3.7	5.3	4.6	4.7	4.6	1.7	4.1	3.4
45	HYDRAULIC AND PNEUMATIC	5.0	5.4	6.0	6.5	17.9	7.6	15.9	8.6	9.1	17.1	9.4	8.8	13.0	5.9	7.6	8.4
46	FUEL	12.7	11.2	7.7	4.9	15.5	4.4	12.1	7.1	7.3	7.0	5.2	6.6	11.1	7.7	8.3	6.9
47	OXYGEN	2.6	2.8	3.0	3.2	6.6	3.7	6.9	1.0	4.4	5.3	3.4	4.0	6.1	4.1	5.2	3.6
49	MISC. UTILITIES	1.3	1.6	1.8	2.1	6.3	2.6	6.9	3.1	3.4	5.0	2.6	3.8	5.2	3.7	4.6	3.1
51	INSTRUMENTS	0.0	2.6	19.7	32.9	81.1	35.3	20.8	22.5	21.4	20.0	16.5	22.3	28.7	19.3	22.3	25.8
52	AUTOPILOT	16.0	16.3	16.5	16.6	34.0	17.2	25.0	17.6	17.9	21.0	15.6	19.3	13.4	17.0	20.1	17.6
55	MALFUNCTION, FUEL, & RECORDING EQUIP.	0.0	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	-	-	0.2	-	0.0
61	HF COMMUNICATIONS	2.8	3.1	3.4	3.7	18.3	4.4	12.4	5.0	5.3	4.9	3.9	4.8	7.5	4.4	8.5	4.9
62	VHF COMMUNICATIONS	3.1	3.1	3.1	3.1	8.2	3.1	4.9	3.1	3.1	2.8	2.2	2.6	4.8	2.0	3.3	3.1
63	UHF COMMUNICATIONS	10.4	11.6	14.3	16.2	27.5	16.6	20.0	14.6	14.4	13.6	9.3	13.7	18.5	8.1	14.6	14.6
64	INTERPHONE	6.5	6.5	6.5	6.5	20.4	6.5	13.0	6.5	6.5	6.0	4.7	6.7	9.0	1.3	6.2	6.5
65	IFF	4.5	5.5	8.0	10.8	29.3	10.3	19.8	8.4	8.3	12.3	2.9	9.8	5.6	3.3	6.0	8.1
66	EMERGENCY COMMUNICATIONS	3.1	3.4	4.8	6.2	6.0	6.0	2.8	6.8	6.2	4.2	4.5	9.3	17.1	7.8	16.5	6.1
69	MISC. COMMUNICATIONS	0.6	0.3	0.3	0.3	1.6	0.4	1.3	0.3	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.3
71	RADIO NAVIGATION	18.3	23.8	36.7	46.9	64.6	48.6	49.1	38.9	38.1	36.4	26.5	27.6	43.3	19.2	37.8	38.6
72	RADAR NAVIGATION	0.0	53.0	51.4	45.3	116.0	34.2	92.9	60.8	66.8	80.5	53.9	55.0	97.3	64.8	101.2	66.9
91	EMERGENCY EQUIPMENT	0.4	0.5	0.6	1.0	-	1.0	1.1	0.8	0.8	0.4	0.2	0.2	0.1	1.5	2.8	0.7
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	0.0	-	-
	TOTALS	247.6	315.1	362.4	377.5	963.1	388.3	637.4	387.2	398.9	418.7	310.3	430.8	462.2	316.1	484.6	381.3

* NORMALIZED DATA

TABLE D-37 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE BENCH CHECK TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.97	1.14	1.36	1.66	0.61	2.16	2.04	2.74	2.93	1.79	3.93	3.09	3.70	4.11	3.61	2.69
12	COCKPIT AND FUSELAGE	13.89	10.03	7.12	5.35	10.20	5.07	6.07	6.22	6.14	5.33	7.03	21.61	2.10	6.90	11.29	7.10
13	LANDING GEAR	9.73	8.47	9.17	9.70	10.30	9.03	8.80	8.55	8.22	6.90	10.96	5.68	5.60	6.50	4.07	8.46
14	FLIGHT CONTROLS	1.70	1.40	1.31	1.27	1.88	1.34	1.69	1.42	1.43	1.93	1.61	1.27	1.61	1.62	1.06	1.43
22	TURBO PROP POWER PLANT	15.43	13.20	14.02	14.73	10.02	14.88	12.56	13.09	12.63	8.88	7.03	18.32	12.59	13.45	10.63	12.96
24	AUXILIARY POWER PLANT	1.17	0.95	0.91	0.87	1.01	0.95	1.18	1.01	1.00	1.00	0.90	0.95	1.15	1.36	1.05	1.00
32	HYDRAULIC PROPELLER	16.40	12.06	9.00	7.10	4.46	6.78	8.22	7.93	7.27	9.63	8.60	7.09	6.01	8.00	8.09	7.77
41	AIR CONDITIONING, PRESSURIZATION	2.71	2.41	2.41	2.49	2.95	2.97	3.36	3.38	3.51	4.30	4.71	3.66	3.81	5.38	3.94	3.35
42	ELECTRICAL POWER SUPPLY	2.06	1.87	2.16	2.38	2.33	2.39	2.48	2.04	1.96	2.25	1.90	1.86	1.95	1.42	1.05	2.10
44	LIGHTING SYSTEM	0.73	0.63	0.65	0.66	0.58	0.79	0.96	0.90	0.93	1.27	1.48	1.07	1.00	0.54	0.85	0.87
45	HYDRAULIC AND PNEUMATIC	2.02	1.71	1.70	1.72	1.86	2.00	2.49	2.22	2.28	4.08	3.03	2.00	2.81	1.87	1.57	2.15
46	FUEL	5.13	3.55	2.19	1.30	1.61	1.16	1.90	1.83	1.83	1.67	1.68	1.50	2.40	2.44	1.71	1.76
47	OXYGEN	1.01	0.89	0.85	0.85	0.58	0.97	1.08	0.26	1.10	1.27	1.10	0.91	1.32	1.30	1.07	0.92
49	MISC. UTILITIES	0.53	0.51	0.51	0.56	0.86	0.68	0.93	0.80	0.85	1.19	0.84	0.86	1.13	1.17	0.95	0.79
61	INSTRUMENTS	0.00	0.83	5.69	8.72	8.42	9.28	3.26	5.81	5.36	4.78	5.32	5.07	6.21	6.11	4.60	6.39
62	AUTOPILOT	6.46	5.17	4.68	4.40	3.83	4.52	3.92	4.85	4.49	5.21	5.00	4.39	2.90	5.63	4.15	4.47
96	HALFTRACK, AUXIL. & RECORDING EQUIP.	0.00	0.00	0.00	0.00	-	0.00	-	0.00	-	-	-	-	-	0.06	0.08	0.00
61	HF COMMUNICATIONS	1.13	0.98	0.96	0.98	1.90	1.16	1.95	1.29	1.33	1.17	1.26	1.09	1.62	1.39	1.76	1.25
62	VHF COMMUNICATIONS	1.25	0.98	0.88	0.82	0.85	0.82	0.77	0.80	0.78	0.67	0.71	0.57	0.97	0.63	0.68	0.79
63	UHF COMMUNICATIONS	4.20	3.68	4.03	4.29	2.86	4.36	3.14	3.77	3.61	3.25	3.00	3.12	4.00	2.56	3.01	3.73
64	INTERPHONE	2.63	2.06	1.84	1.72	2.12	1.71	2.04	1.68	1.63	1.43	1.51	1.52	1.95	0.41	1.28	1.66
65	IFF	1.82	1.76	2.27	2.65	3.04	2.71	3.11	2.17	2.08	2.94	0.93	0.68	1.21	1.04	1.03	2.07
66	EMERGENCY COMMUNICATIONS	1.25	1.08	1.08	1.11	0.52	1.31	0.44	1.50	1.55	1.00	1.45	2.11	3.70	2.47	3.20	1.56
69	MISC. COMMUNICATIONS	0.24	0.10	0.09	0.08	0.17	0.11	0.20	0.08	0.08	0.10	0.06	0.02	0.02	0.03	0.02	0.08
71	RADIO NAVIGATION	7.39	7.55	10.41	12.42	6.71	12.78	7.70	10.05	9.55	8.69	8.54	6.28	9.37	6.07	7.80	9.86
72	RADAR NAVIGATION	0.00	16.82	14.59	12.00	11.94	8.99	14.57	15.70	16.75	19.23	17.37	12.51	21.05	17.08	20.68	14.54
91	EMERGENCY EQUIPMENT	0.16	0.16	0.23	0.26	-	0.26	0.17	0.21	0.20	0.10	0.06	0.05	0.02	0.47	0.58	0.18
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	0.00	-	-
	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-38 C-130E INTERMEDIATE BENCH CHECK TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.0255	.22	0.0237	.02	0.0200	0.0227	.01	.03	.03	.04	0.0367	0.0452	0.0491
12	COCKPIT AND FUSELAGE				0.0875	.34	0.0558	.06	0.0455	0.0475	.04	.06	.23	.02	0.0615	0.1411	0.0950
13	LANDING GEAR				0.1505	.12	0.1081	.02	0.0626	0.0636	.01	.01	.01	.01	0.0587	0.0508	0.0582
14	FLIGHT CONTROLS				0.0208	.05	0.0147	.01	0.0104	0.0111	-	.01	.01	.01	0.0135	0.0132	0.0144
22	TURBO PROP POWER PLANT				0.2407	.22	0.1636	.11	0.0958	0.0978	.11	.07	.04	.03	0.1198	0.1329	0.1270
24	AUXILIARY POWER PLANT				0.0143	.02	0.0104	-	0.0074	0.0078	-	-	-	-	0.0121	0.0132	0.0069
32	HYDRAULIC PROPELLER				0.1160	.08	0.0746	.07	0.0580	0.0601	.06	.06	.06	.06	0.0713	0.1011	0.0711
41	AIR CONDITIONING, PRESSURIZATION				0.0407	.02	0.0327	.01	0.0248	0.0272	.01	.01	.01	.01	0.0479	0.0493	0.0229
42	ELECTRICAL POWER SUPPLY				0.0390	.05	0.0263	.01	0.0149	0.0151	.01	.01	.01	.01	0.0127	0.0132	0.0187
44	LIGHTING SYSTEM				0.0108	.01	0.0087	.01	0.0066	0.0072	.01	.01	.01	.01	0.0048	0.0106	0.0090
45	HYDRAULIC AND PNEUMATIC				0.0281	.01	0.0220	.01	0.0163	0.0177	.02	.01	.01	.01	0.0166	0.0196	0.0158
46	FUEL				0.0212	.04	0.0127	-	0.0134	0.0142	-	-	-	-	0.0217	0.0216	0.0117
47	OXYGEN				0.0139	-	0.0107	-	0.0019	0.0085	-	-	-	-	0.0116	0.0134	0.0045
49	MISC. UTILITIES				0.0091	.01	0.0075	.01	0.0059	0.0066	-	-	-	-	0.0104	0.0119	0.0062
61	INSTRUMENTS				0.1425	.02	0.1020	-	0.0425	0.0415	-	-	-	.01	0.0644	0.0675	0.0379
62	AUTOPILOT				0.0719	.03	0.0497	.02	0.0333	0.0347	.01	.01	.01	.01	0.0502	0.0519	0.0312
55	MALFUNCTION ANAL. & RECORDING EQUIP.				0.0000	-	0.0000	-	0.0000	-	-	-	-	-	0.0006	0.0010	0.0001
61	HF COMMUNICATIONS				0.0160	.03	0.0127	.01	0.0094	0.0103	.01	-	.01	.01	0.0124	0.0219	0.0126
62	VHF COMMUNICATIONS				0.0134	.02	0.0090	.01	0.0059	0.0060	-	-	-	.01	0.0056	0.0085	0.0076
63	UHF COMMUNICATIONS				0.0701	.05	0.0480	.02	0.0276	0.0279	.02	.01	.02	.02	0.0228	0.0377	0.0312
64	INTERPHONE				0.0281	.04	0.0188	.02	0.0123	0.0126	.01	.01	.01	.02	0.0037	0.0160	0.0173
65	IFF				0.0433	.06	0.0298	.02	0.0159	0.0161	.02	-	-	.01	0.0093	0.0129	0.0214
66	EMERGENCY COMMUNICATIONS				0.0182	.01	0.0144	-	0.0110	0.0120	-	-	.01	.02	0.0220	0.0400	0.0111
69	MISC. COMMUNICATIONS				0.0013	-	0.0012	-	0.0006	0.0006	-	-	-	-	0.0003	0.0003	0.0004
71	RADIO NAVIGATION				0.2031	.17	0.1406	.05	0.0735	0.0739	.05	.04	.04	.06	0.0541	0.0975	0.0880
72	RADAR NAVIGATION				0.1961	.30	0.0988	.09	0.1169	0.1296	.09	.07	.06	.13	0.1523	0.2611	0.1353
91	EMERGENCY EQUIPMENT				0.0043	-	0.0029	-	0.0015	0.0016	-	-	-	-	0.0042	0.0072	0.0015
96	PERSONNEL EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	0.0000
97	EXPLOSIVE DEVICES				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	-	0.0000
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	TOTALS				1.6346	2.04	1.0991	.58	0.7318	0.7739	.49	.43	.58	.51	0.8916	1.2503	0.9061

* NORMALIZED DATA

TABLE D-39 C-130E INTERMEDIATE BENCH CHECK ONLY TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.1	0.1	0.2	0.2	8.0	0.3	2.2	0.4	0.4	0.2	0.1	0.1	0.2	0.2	0.6	0.4
12	COCKPIT AND FUSELAGE	1.4	1.3	1.0	0.8	10.2	0.8	2.0	1.0	1.0	0.7	0.5	3.4	0.8	0.8	0.6	1.1
13	LANDING GEAR	2.7	3.0	3.7	4.2	7.4	4.2	9.8	3.8	3.7	7.8	2.4	2.4	2.2	2.4	2.1	3.8
14	FLIGHT CONTROLS	0.6	0.6	0.6	0.7	2.2	0.7	2.8	0.8	0.8	1.2	0.5	0.7	0.8	0.7	0.7	0.8
22	TURBO PROP POWER PLANT	1.8	2.0	2.4	2.7	5.0	2.8	6.2	2.5	2.7	2.6	1.8	2.1	2.9	1.9	1.9	2.6
24	AUXILIARY POWER PLANT	0.2	0.2	0.2	0.2	1.1	0.2	0.7	0.2	0.3	0.4	0.2	0.2	0.3	0.2	0.1	0.2
32	HYDRAULIC PROPELLER	5.6	5.1	4.3	3.6	17.6	3.6	9.0	4.2	4.2	8.3	4.7	4.1	1.8	1.1	1.3	4.1
41	AIR CONDITIONING, PRESSURIZATION	0.6	0.6	0.7	0.8	5.4	1.0	3.7	1.1	1.2	1.2	0.8	1.3	1.6	1.1	1.7	1.1
42	ELECTRICAL POWER SUPPLY	1.2	1.4	1.8	2.1	4.2	2.2	6.5	1.9	1.8	2.0	1.2	2.4	2.3	0.6	0.7	1.9
44	LIGHTING SYSTEM	0.4	0.4	0.5	0.5	1.4	0.6	1.7	0.7	0.8	0.7	0.8	0.7	1.0	0.7	0.8	0.7
45	HYDRAULIC AND PNEUMATIC	0.9	1.0	1.1	1.2	3.9	1.4	4.8	1.6	1.7	2.6	1.3	1.2	3.0	1.4	1.1	1.6
46	FUEL	0.5	0.4	0.3	0.2	0.6	0.2	1.8	0.3	0.3	0.5	0.1	0.2	0.4	0.2	0.1	0.3
47	OXYGEN	0.1	0.1	0.1	0.1	0.1	0.2	0.6	0.0	0.2	0.2	0.1	0.2	0.4	0.2	0.3	0.2
49	MISC. UTILITIES	0.1	0.2	0.2	0.2	0.6	0.2	1.4	0.3	0.3	0.3	0.2	0.4	0.4	0.5	0.5	0.3
51	INSTRUMENTS	0.0	0.3	2.6	4.2	7.6	4.6	3.5	2.8	2.7	1.8	1.2	1.6	3.2	2.0	2.6	2.9
52	AUTOPILOT	4.7	4.7	4.8	4.9	9.4	5.0	6.3	5.2	5.2	7.0	4.4	4.8	5.0	5.0	4.2	5.1
55	MALFUNCTION ANN. & RECORDING EQUIP.	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	1.3	1.4	1.6	1.7	4.2	2.0	5.1	2.2	2.4	2.2	1.8	1.9	3.3	3.4	4.1	2.2
62	VHF COMMUNICATIONS	1.2	1.2	1.2	1.2	2.4	1.2	1.7	1.2	1.2	1.0	0.8	0.8	1.6	1.6	0.9	1.2
63	UHF COMMUNICATIONS	4.4	4.5	6.0	6.9	4.7	7.0	7.9	6.2	6.1	5.4	3.8	4.9	7.7	6.4	6.2	6.2
64	INTERPHONE	1.3	1.3	1.3	1.3	1.3	1.3	3.5	1.3	1.3	1.4	1.1	1.1	1.2	1.0	1.0	1.3
65	IFF	1.6	2.0	3.0	3.7	4.7	3.0	7.7	3.1	3.0	4.5	1.0	1.1	2.3	1.8	2.3	3.0
66	EMERGENCY COMMUNICATIONS	1.8	1.9	2.2	2.4	1.6	2.8	1.6	3.3	3.5	1.8	2.4	4.2	6.5	6.8	8.2	3.3
69	MISC. COMMUNICATIONS	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
71	RADIO NAVIGATION	6.6	8.6	13.2	16.9	12.1	17.6	16.3	14.0	13.7	11.5	8.6	8.7	15.6	13.5	14.4	13.9
72	RADAR NAVIGATION	0.0	22.5	21.8	19.2	27.3	14.5	37.7	25.7	28.3	29.0	19.4	20.0	37.1	40.0	47.6	24.1
93	EMERGENCY EQUIPMENT	0.2	0.3	0.4	0.6	-	0.6	-	0.5	0.4	-	0.0	-	0.0	1.1	2.8	0.6
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-
	TOTALS	39.2	65.6	76.1	80.6	143.1	78.5	142.9	84.3	86.9	94.3	58.4	68.6	102.6	94.6	106.7	82.7

* NORMALIZED DATA

TABLE D-40 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE BENCH CHECK ONLY TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	0.26	0.15	0.27	0.25	5.59	0.30	1.54	0.47	0.46	0.21	0.17	0.15	0.19	0.21	0.42	0.68
12	COCKPIT AND FUSELAGE	3.67	1.98	1.33	0.98	7.13	1.02	1.60	1.19	1.15	0.74	0.86	4.96	0.78	0.95	0.66	1.33
13	LANDING GEAR	6.89	4.58	4.93	5.22	5.17	5.35	6.86	4.51	4.26	8.27	4.11	3.50	2.14	2.54	1.97	4.59
14	FLIGHT CONTROLS	1.63	0.92	0.80	0.97	1.54	0.89	1.96	0.95	0.92	1.27	0.86	1.02	0.78	0.74	0.66	0.97
22	TURBO PROP POWER PLANT	4.69	3.06	3.29	3.35	3.49	3.57	4.34	2.97	2.76	2.76	1.71	3.07	2.83	2.01	1.78	3.02
24	AUXILIARY POWER PLANT	0.61	0.31	0.27	0.25	0.77	0.25	0.49	0.24	0.35	0.42	0.34	0.29	0.29	0.21	0.09	0.24
32	HYDRAULIC PROPELLER	16.03	7.79	6.73	4.47	12.30	4.46	6.30	4.98	4.83	8.80	8.06	5.99	1.75	1.16	1.22	4.96
41	AIR CONDITIONING, PRESSURIZATION	1.63	0.92	0.93	0.99	3.77	1.27	2.59	1.30	1.38	1.27	1.37	1.90	1.56	1.16	1.59	1.33
42	ELECTRICAL POWER SUPPLY	3.06	2.14	2.40	2.61	2.94	2.80	4.55	2.25	2.07	2.12	2.05	3.50	2.24	0.63	0.66	2.30
44	LIGHTING SYSTEM	1.02	0.61	0.67	0.62	0.98	0.76	1.19	0.83	0.92	0.74	1.37	1.02	0.97	0.74	0.75	0.85
45	HYDRAULIC AND PNEUMATIC	2.30	1.53	1.46	1.49	2.73	1.78	3.36	1.90	1.96	2.65	2.23	1.75	2.92	1.48	1.03	1.93
46	FUEL	1.28	0.61	0.40	0.25	0.35	0.25	0.70	0.36	0.35	0.53	0.17	0.29	0.39	0.21	0.09	0.36
47	OXYGEN	0.26	0.15	0.13	0.12	0.07	0.25	0.42	0.00	0.23	0.21	0.17	0.29	0.39	0.21	0.28	0.24
49	MISC. UTILITIES	0.26	0.31	0.27	0.25	0.42	0.25	0.98	0.36	0.35	0.32	0.34	0.68	3.39	0.53	0.47	0.36
51	INSTRUMENTS	0.00	0.46	3.33	5.22	5.31	5.73	2.46	3.32	3.11	1.91	2.05	2.34	3.12	2.11	2.44	3.51
52	AUTOPILOT	11.99	7.18	6.39	6.09	6.57	6.37	4.41	6.17	5.98	7.42	7.53	7.01	5.85	6.29	3.94	6.17
55	MALFUNCTION ANAL. & RECORDING EQUIP.	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	3.32	2.14	2.13	2.11	2.94	2.55	3.57	2.61	2.76	2.33	3.08	2.77	3.22	3.59	3.84	2.66
62	VHF COMMUNICATIONS	3.06	1.83	1.60	1.48	1.68	1.53	1.19	1.42	1.38	1.06	1.37	1.17	1.66	1.69	0.84	1.45
63	UHF COMMUNICATIONS	11.22	7.48	7.99	8.57	3.28	8.92	6.53	7.35	7.02	6.73	6.51	7.15	7.60	6.77	6.81	7.50
64	INTERPHONE	3.32	1.98	1.73	1.61	0.91	1.66	2.45	1.54	1.50	1.48	1.88	1.61	1.17	1.06	0.94	1.57
65	IFF	4.68	3.05	3.99	4.60	3.28	4.84	6.39	3.68	3.45	4.77	1.71	1.61	2.24	1.90	2.16	3.63
66	EMERGENCY COMMUNICATIONS	4.59	2.90	2.93	2.98	1.12	3.57	1.12	3.91	4.03	1.91	4.11	6.13	6.34	7.19	7.69	3.99
69	MISC. COMMUNICATIONS	0.00	0.00	0.00	0.00	0.14	0.00	0.14	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
71	RADIO NAVIGATION	16.84	13.13	17.68	20.99	8.46	22.29	10.71	16.61	15.77	12.20	14.73	12.70	15.20	14.27	13.50	15.81
72	RADAR NAVIGATION	0.00	34.35	29.03	23.85	19.68	18.47	28.38	30.49	32.67	30.76	33.22	29.20	36.16	42.28	49.61	29.14
91	EMERGENCY EQUIPMENT	0.61	0.46	0.53	0.75	-	0.76	-	0.59	0.46	-	0.00	-	0.00	1.16	2.62	0.60
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	-	-	-	-	0.00	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	-	-	-	-	0.00	-	-	-	-	-	-	-
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	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*NORMALIZED DATA

TABLE D-41 C-130E INTERMEDIATE BENCH CHECK ONLY TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.0009	.0329	0.0009	.0042	0.0008	0.0008	.0001	.0003	.0003	.0004	0.0006	0.0013	0.0041
12	COCKPIT AND FUSELAGE				0.0035	.0419	0.0023	.0038	0.0019	0.0019	.0015	.0014	.0008	.0018	0.0023	0.0015	0.0063
13	LANDING GEAR				0.0182	.0304	0.0121	.0185	0.0072	0.0072	.0121	.0067	.0062	.0048	0.0068	0.0054	0.0127
14	FLIGHT CONTROLS				0.0030	.0090	0.0020	.0053	0.0015	0.0016	.0026	.0014	.0018	.0018	0.0020	0.0018	0.0030
22	TURBO PROP POWER PLANT				0.0117	.0206	0.0081	.0117	0.0047	0.0047	.0057	.0023	.0054	.0064	0.0054	0.0049	0.0080
24	AUXILIARY POWER PLANT				0.0009	.0045	0.0006	.0013	0.0004	0.0006	.0009	.0006	.0005	.0007	0.0006	0.0003	0.0010
32	HYDRAULIC PROPELLER				0.0156	.0223	0.0101	.0170	0.0079	0.0081	.0182	.0131	.0106	.0039	0.0031	0.0034	0.0166
41	AIR CONDITIONING, PRESSURIZATION				0.0035	.0222	0.0029	.0070	0.0021	0.0023	.0026	.0022	.0034	.0047	0.0031	0.0044	0.0052
42	ELECTRICAL POWER SUPPLY				0.0091	.0173	0.0064	.0123	0.0036	0.0035	.0044	.0033	.0062	.0067	0.0017	0.0018	0.0049
44	LIGHTING SYSTEM				0.0022	.0058	0.0017	.0032	0.0013	0.0016	.0016	.0022	.0018	.0029	0.0020	0.0021	0.0024
45	HYDRAULIC AND PNEUMATIC				0.0057	.0160	0.0040	.0091	0.0030	0.0033	.0055	.0036	.0031	.0087	0.0039	0.0078	0.0059
46	FUEL				0.0009	.0021	0.0006	.0019	0.0006	0.0006	.0011	.0003	.0005	.0012	0.0006	0.0002	0.0010
47	OXYGEN				0.0004	.0004	0.0006	.0011	0.0000	0.0004	.0004	.0003	.0005	.0012	0.0006	0.0008	0.0005
49	MISC. UTILITIES				0.0009	.0025	0.0006	.0027	0.0006	0.0006	.0006	.0006	.0010	.0012	0.0014	0.0013	0.0012
51	INSTRUMENTS				0.0182	.0312	0.0130	.0066	0.0053	0.0052	.0039	.0033	.0041	.0093	0.0056	0.0067	0.0095
52	AUTOPILOT				0.0212	.0386	0.0144	.0119	0.0098	0.0101	.0153	.0122	.0124	.0175	0.0141	0.0108	0.0155
55	NAVIGATION APPL. & RECORDING EQUIP.				-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS				0.0074	.0173	0.0058	.0096	0.0042	0.0047	.0048	.0050	.0049	.0096	0.0096	0.0106	0.0076
62	VHF COMMUNICATIONS				0.0052	.0099	0.0035	.0032	0.0023	0.0023	.0022	.0022	.0021	.0047	0.0045	0.0023	0.0036
63	UHF COMMUNICATIONS				0.0299	.0193	0.0202	.0149	0.0117	0.0118	.0118	.0106	.0126	.0224	0.0180	0.0160	0.0160
64	INTERPHONE				0.0056	.0052	0.0038	.0066	0.0025	0.0025	.0031	.0031	.0028	.0035	0.0028	0.0026	0.0038
65	IFF				0.0160	.0193	0.0110	.0146	0.0059	0.0058	.0059	.0028	.0028	.0047	0.0051	0.0059	0.0095
66	EMERGENCY COMMUNICATIONS				0.0104	.0066	0.0081	.0030	0.0062	0.0068	.0039	.0047	.0108	.0189	0.0192	0.0212	0.0085
69	MISC. COMMUNICATIONS				0.0000	.0008	0.0000	.0004	0.0000	0.0000	.0002	-	-	-	0.0000	0.0000	0.0001
71	RADIO NAVIGATION				0.0732	.0497	0.0506	.0289	0.0265	0.0266	.0252	.0239	.0225	.0456	0.0381	0.0372	0.0362
72	RADAR NAVIGATION				0.0831	.1122	0.0419	.0713	0.0486	0.0549	.0635	.0539	.0516	.1080	0.1128	0.1228	0.0719
91	EMERGENCY EQUIPMENT				0.0026	-	0.0017	-	0.0009	0.0008	-	-	-	-	0.0031	0.0072	0.0011
96	PERSONNEL EQUIPMENT				0.0000	-	-	-	-	0.0000	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES				0.0000	-	-	-	-	0.0000	-	-	-	-	-	-	-
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	TOTALS				0.3486	.588	0.2269	.270	0.1593	0.1686	.267	.162	.177	.296	0.2668	0.2753	0.2581

DATA NOT DETERMINABLE

DATA NOT DETERMINABLE

DATA NOT DETERMINABLE

* NORMALIZED DATA

TABLE D-42 C-130E INTERMEDIATE BENCH CHECK AND REPAIR TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	2.1	3.2	4.2	6.2	69.9	7.2	8.9	9.2	10.2	5.9	11.2	12.4	15.0	11.0	15.6	9.2
12	COCKPIT AND FUSELAGE	31.0	28.6	22.7	18.2	82.5	17.4	21.5	21.8	22.1	18.8	20.6	89.7	7.2	17.6	52.5	26.4
13	LANDING GEAR	3.4	3.7	4.5	5.1	20.9	5.2	7.8	4.6	4.6	4.2	3.6	1.9	2.2	4.0	3.1	4.6
14	FLIGHT CONTROLS	1.7	1.8	1.8	1.9	10.9	2.0	2.4	2.2	2.3	1.8	2.2	2.4	3.0	1.8	2.0	2.2
22	TURBO PROP POWER PLANT	18.1	19.7	23.4	26.3	65.6	26.7	89.6	24.0	23.8	47.8	24.8	13.9	5.4	7.8	9.7	24.0
24	AUXILIARY POWER PLANT	0.7	0.7	0.8	0.8	4.2	0.9	1.7	1.0	1.0	1.0	0.6	1.8	1.0	1.0	0.9	0.9
32	HYDRAULIC PROPELLER	29.6	27.6	23.0	19.6	20.1	18.8	34.6	22.3	22.6	27.8	19.2	24.6	20.4	19.2	32.0	22.1
41	AIR CONDITIONING, PRESSURIZATION	0.8	1.0	1.1	1.2	5.2	1.4	3.7	1.7	1.8	2.6	2.4	2.0	1.7	1.6	1.7	1.7
42	ELECTRICAL POWER SUPPLY	2.4	2.8	3.6	4.3	10.5	4.2	4.6	3.7	3.7	3.8	1.7	2.3	1.8	4.9	10.5	3.9
44	LIGHTING SYSTEM	1.0	1.1	1.2	1.3	2.7	1.6	2.7	1.9	2.0	2.4	2.5	2.8	2.4	1.6	2.0	1.8
45	HYDRAULIC AND PNEUMATIC	1.9	2.1	2.3	2.5	3.0	2.9	6.8	3.3	3.5	8.0	4.5	3.3	3.9	2.2	2.3	3.2
46	FUEL	1.4	1.3	0.9	0.6	0.5	0.5	1.4	0.8	0.8	0.3	0.6	0.4	0.8	0.7	0.5	0.8
47	OXYGEN	0.2	0.2	0.2	0.3	0.5	0.3	1.4	0.1	0.4	0.8	0.3	0.2	0.3	0.2	0.3	0.3
49	MISC. UTILITIES	0.4	0.4	0.5	0.6	3.0	0.7	3.0	0.8	0.9	1.1	0.7	0.9	1.2	0.9	1.0	0.8
51	INSTRUMENTS	0.0	0.2	1.8	3.0	6.5	3.3	2.0	2.1	2.0	0.8	0.9	1.5	1.8	1.7	1.6	2.1
52	AUTOPILOT	3.9	4.0	4.0	4.0	7.6	4.2	9.8	4.3	4.4	4.9	3.3	5.1	4.7	3.5	2.6	4.3
55	INSTRUCTION TAPE, & RECORDING EQUIP.	0.0	0.0	1.6	0.0	-	0.0	-	0.0	0.0	-	-	-	-	0.0	-	0.0
61	HF COMMUNICATIONS	1.3	1.4	1.9	1.7	7.8	2.0	6.4	2.3	2.5	2.2	1.5	2.4	3.0	3.1	3.3	2.3
62	VHF COMMUNICATIONS	1.9	.19	7.2	1.9	5.6	1.9	2.9	1.9	1.5	1.6	1.2	1.6	2.3	2.2	2.0	1.9
63	UHF COMMUNICATIONS	6.3	6.9	6.5	8.2	12.8	8.4	10.3	7.4	7.3	7.2	4.5	7.3	8.4	5.4	6.4	7.4
64	INTERPHONE	5.6	6.5	3.4	6.5	10.4	6.5	8.9	5.6	5.5	4.0	3.3	5.3	7.3	5.6	4.8	5.5
65	IFF	3.9	2.4	1.7	4.3	14.2	4.4	10.0	3.6	3.4	6.7	1.2	0.9	1.6	1.1	1.1	3.5
66	EMERGENCY COMMUNICATIONS	1.4	1.6	0.2	1.9	3.1	2.2	0.7	2.6	2.8	1.0	1.3	3.7	0.4	3.3	6.3	2.6
69	MISC. COMMUNICATIONS	0.4	0.2	20.3	0.2	0.9	0.2	1.0	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.2
71	RADIO NAVIGATION	10.1	13.2	25.3	26.0	40.9	26.9	27.1	21.5	21.1	20.7	14.4	14.8	20.5	15.3	16.6	21.4
72	RADAR NAVIGATION	8.8	26.2	263.1	22.4	73.0	16.9	46.7	30.0	32.9	40.1	26.0	24.8	42.8	35.5	37.8	28.8
91	EMERGENCY EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	0.7	0.0	0.0	0.3	0.8	0.8	0.1	0.0	0.0	0.0
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	0.0
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	0.0	-	0.0
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	TOTALS	126.3	156.6	163.1	168.9	497.7	169.8	300.6	178.8	183.0	216.6	153.0	226.2	171.3	161.9	216.7	180.1

* NORMALIZED DATA

TABLE D-43 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE BENCH CHECK AND REPAIR TASKS

SYS NO.	SYSTEM NAME	1962*	1965*	1967*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	1.66	2.04	2.68	3.12	14.04	4.34	2.96	6.16	6.55	2.69	7.32	6.61	8.76	7.77	7.89	5.11
12	COCKPIT AND FUSELAGE	24.54	18.26	13.92	10.99	16.68	10.49	10.48	12.19	12.02	8.78	13.40	39.83	4.20	11.59	24.22	14.10
13	LANDING GEAR	2.69	2.36	2.76	3.06	5.01	3.14	2.69	2.57	2.50	1.95	2.29	0.84	1.28	2.63	1.42	2.55
14	FLIGHT CONTROLS	1.35	1.15	1.10	1.14	2.19	1.21	0.80	1.23	1.25	0.83	1.50	1.07	1.75	1.18	0.92	1.22
22	TURBO PROP POWER PLANT	14.33	12.58	14.35	15.76	13.18	16.10	19.83	13.42	12.95	22.17	16.21	6.17	6.49	6.13	4.48	13.33
24	AUXILIARY POWER PLANT	0.55	0.45	0.49	0.48	0.84	0.54	0.57	0.56	0.54	0.46	0.39	0.44	0.68	0.66	0.42	0.50
32	HYDRAULIC PROPELLER	23.36	17.62	14.10	11.68	4.04	11.34	12.84	12.47	12.24	12.89	13.01	10.92	11.91	12.64	14.77	12.27
41	AIR CONDITIONING, PRESSURIZATION	0.63	0.64	0.67	0.72	1.04	0.84	1.23	0.95	0.98	1.16	1.57	0.89	0.99	0.99	0.78	0.94
42	ELECTRICAL POWER SUPPLY	1.90	1.79	2.21	2.69	2.19	2.59	1.53	2.07	2.01	1.76	1.11	1.02	1.06	3.23	4.85	2.17
43	LIGHTING SYSTEM	0.79	0.70	0.74	0.78	0.54	0.92	0.90	1.06	1.09	1.11	1.63	1.24	1.40	1.06	0.92	1.00
45	HYDRAULIC AND PNEUMATIC	1.50	1.34	1.41	1.60	0.60	1.78	2.26	1.85	1.90	3.71	2.88	1.47	2.28	1.45	1.06	1.78
46	FUEL	1.11	0.83	0.55	0.36	1.71	0.30	0.47	0.45	0.44	0.14	0.33	0.18	0.47	0.46	0.23	0.44
47	OXYGEN	0.16	0.13	0.12	0.18	0.10	0.18	0.47	0.06	0.22	0.37	0.20	0.09	0.18	0.13	0.14	0.17
49	MISC. UTILITIES	0.32	0.26	0.31	0.36	0.60	0.42	1.00	0.45	0.49	0.81	0.46	0.40	0.70	0.59	0.46	0.44
51	INSTRUMENTS	0.00	0.13	1.10	1.00	1.11	1.98	0.67	1.17	1.09	0.37	0.59	0.67	1.05	1.12	0.74	1.17
52	AUTOPILOT	3.09	2.55	2.46	2.40	1.61	2.53	3.26	2.40	2.39	2.27	2.16	2.26	2.74	2.30	1.28	2.39
55	MALFUNCTION ANAL. & RECORDING EQUIP.	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	0.00	-	0.00
61	HF COMMUNICATIONS	1.03	0.89	0.98	1.02	1.67	1.21	2.13	1.29	1.36	1.02	0.98	1.07	1.75	2.04	1.52	1.28
62	VHF COMMUNICATIONS	1.50	1.21	1.16	1.14	1.13	1.15	0.96	1.06	1.03	0.70	0.78	0.67	1.34	1.45	0.92	1.06
63	UHF COMMUNICATIONS	4.20	3.77	4.41	4.91	2.57	5.07	3.43	4.14	3.97	3.34	2.94	3.24	4.90	3.55	2.95	4.11
64	INTERPHONE	4.36	3.51	3.37	3.30	2.09	3.32	2.96	3.08	2.99	1.86	2.16	2.35	4.26	3.69	2.22	3.05
65	IFF	1.60	1.63	2.08	2.58	2.86	2.65	3.33	2.01	1.96	3.11	0.78	0.40	0.93	0.72	0.51	1.94
66	EMERGENCY COMMUNICATIONS	1.11	0.96	1.04	1.14	0.62	1.33	0.23	1.45	1.52	0.46	0.85	1.64	4.90	2.17	2.91	1.44
69	MISC. COMMUNICATIONS	0.32	0.13	0.12	0.12	0.18	0.12	0.33	0.11	0.11	0.06	0.07	0.04	0.06	0.00	0.05	0.11
71	RADIO NAVIGATION	8.80	8.43	12.46	15.58	8.22	16.22	9.02	12.02	11.48	9.60	9.41	6.67	11.97	10.07	7.66	11.08
72	RADAR NAVIGATION	0.00	16.73	16.61	13.42	16.67	10.19	16.56	16.78	17.90	18.60	16.99	11.01	24.99	23.37	17.44	15.55
91	EMERGENCY EQUIPMENT	0.00	0.00	0.00	0.00	-	0.00	0.23	00.00	0.00	0.14	0.00	0.00	0.06	0.00	0.00	0.00
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	-	-	0.00
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	0.00	-	0.00
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	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-44 C-130E INTERMEDIATE BENCH CHECK AND REPAIR TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.0225	.24	0.0298	.03	0.0174	0.0198	.02	.03	.04	.05	0.0233	0.0402	0.0928
12	COCKPIT AND FUSELAGE				0.0788	.40	0.0503	.07	0.0412	0.0429	.05	.06	.24	.03	0.0496	0.1354	0.1008
13	LANDING GEAR				0.0221	.41	0.0188	.11	0.0097	0.0089	.06	.10	.07	.07	0.0113	0.0080	0.0786
14	FLIGHT CONTROLS				0.0082	.07	0.0058	.02	0.0042	0.0045	.02	.01	.02	.02	0.0051	0.0052	0.0166
22	TURBO PROP POWER PLANT				0.1139	.43	0.0772	.21	0.0454	0.0462	.06	.06	.12	.17	0.0220	0.0250	0.1239
24	AUXILIARY POWER PLANT				0.0035	.04	0.0026	.02	0.0019	0.0019	.01	.01	.01	.02	0.0028	0.0021	0.0108
32	HYDRAULIC PROPELLER				0.0844	.18	0.0543	.10	0.0421	0.0437	.09	.07	.09	.08	0.0543	0.0826	0.0810
41	AIR CONDITIONING, PRESSURIZATION				0.0052	.12	0.0040	.04	0.0032	0.0036	.04	.04	.04	.06	0.0042	0.0044	0.0298
42	ELECTRICAL POWER SUPPLY				0.0196	.09	0.0124	.03	0.0070	0.0072	.02	.02	.02	.03	0.0138	0.0271	0.0746
44	LIGHTING SYSTEM				0.0056	.02	0.0046	.01	0.0036	0.0039	.01	.01	.01	.01	0.0045	0.0052	0.0081
45	HYDRAULIC AND PNEUMATIC				0.0108	.07	0.0084	.03	0.0062	0.0068	.04	.03	.02	.04	0.0062	0.0059	0.0232
46	FUEL				0.0026	.06	0.0014	.02	0.0015	0.0016	.02	.02	.02	.03	0.0020	0.0013	0.0150
47	OXYGEN				0.0013	.02	0.0009	.01	0.0002	0.0008	.01	.01	.01	.02	0.0006	0.0008	0.0068
49	MISC. UTILITIES				0.0026	.03	0.0020	.01	0.0016	0.0017	.01	.01	.01	.02	0.0026	0.0026	0.0083
51	INSTRUMENTS				0.0130	.33	0.0095	.04	0.0040	0.0039	.04	.06	.06	.08	0.0048	0.0041	0.0535
52	AUTOPILOT				0.0173	.14	0.0121	.05	0.0081	0.0085	.05	.04	.05	.04	0.0099	0.0067	0.0372
55	INDICATING AND A. & RECORDING EQUIP.				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	-	0.0000
61	HF COMMUNICATIONS				0.0074	.08	0.0058	.02	0.0043	0.0049	.01	.01	.01	.02	0.0087	0.0085	0.0163
62	VHF COMMUNICATIONS				0.0082	.03	0.0055	.01	0.0036	0.0037	.01	.01	.01	.01	0.0062	0.0052	0.0094
63	UHF COMMUNICATIONS				0.0355	.11	0.0243	.04	0.0160	0.0142	.03	.03	.04	.05	0.0152	0.0165	0.0350
64	INTERPHONE				0.0238	.08	0.0159	.03	0.0104	0.0107	.01	.01	.03	.03	0.0158	0.0124	0.0234
65	IFF				0.0186	.12	0.0127	.04	0.0068	0.0070	.03	.01	.01	.02	0.0031	0.0028	0.0260
66	EMERGENCY COMMUNICATIONS				0.0082	.02	0.0064	.01	0.0049	0.0054	.01	.01	.02	.05	0.0093	0.0163	0.0122
69	MISC. COMMUNICATIONS				0.0009	.01	0.0006	-	0.0004	0.0004	-	-	-	-	0.0000	0.0003	0.0011
71	RADIO NAVIGATION				0.1126	.27	0.0777	.09	0.0406	0.0409	.04	.07	.07	.13	0.0431	0.0428	0.0893
72	RADAR NAVIGATION				0.0970	.47	0.0688	.18	0.0567	0.0618	.18	.16	.14	.28	0.1001	0.0975	0.1523
91	EMERGENCY EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
96	PERSONNEL EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	0.0000
97	EXPLOSIVE DEVICES				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	-	0.0000
	TOTALS				0.7227	3.96	0.4792	1.22	0.3379	0.3566	.93	.87	1.16	1.36	0.4284	0.6591	1.0760

* NORMALIZED DATA

TABLE D-45 C-130E INTERMEDIATE REPAIR ONLY TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	0.1	0.1	0.1	0.1	0.6	0.2	1.1	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2
12	COCKPIT AND FUSELAGE	2.1	2.0	1.6	1.2	2.8	1.2	0.4	1.6	1.5	0.0	0.5	3.2	7.0	2.5	0.7	1.7
13	LANDING GEAR	3.8	4.2	5.1	5.0	3.0	5.9	4.8	5.3	5.2	2.4	1.6	2.0	2.3	10.0	19.0	5.3
14	FLIGHT CONTROLS	0.3	0.3	0.3	0.3	0.6	0.3	0.5	0.3	0.4	0.2	0.2	0.4	0.4	0.2	0.2	0.3
23	TURBO PROP POWER PLANT	8.9	9.7	11.5	12.9	2.8	13.1	1.6	11.8	11.7	2.2	0.8	31.7	18.2	10.5	20.3	11.8
24	AUXILIARY POWER PLANT	0.1	0.1	0.1	0.1	0.8	0.2	0.1	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.8	0.2
32	HYDRAULIC PROPELLER	3.1	2.9	2.4	2.1	2.4	2.0	4.6	2.4	2.4	5.4	1.3	3.2	2.1	1.0	0.7	2.3
41	AIR CONDITIONING, PRESSURIZATION	0.2	0.2	0.2	0.2	2.5	0.3	1.1	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.3
42	ELECTRICAL POWER SUPPLY	0.8	1.0	1.2	1.5	2.2	1.4	3.2	1.3	1.3	1.0	1.0	1.6	1.5	0.7	0.1	1.3
44	LIGHTING SYSTEM	0.2	0.2	0.3	0.3	1.5	0.3	1.1	0.4	0.4	0.5	0.5	0.4	0.3	0.4	0.4	0.4
45	HYDRAULIC AND PNEUMATIC	0.6	0.6	0.6	0.6	1.6	0.6	3.4	0.7	0.8	1.1	0.7	0.6	1.0	0.3	0.6	0.7
46	FUEL	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-	0.0	0.2	0.0	0.0	0.0	0.0
47	OXYGEN	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	-	0.0	0.0
51	MISC. UTILITIES	0.0	0.0	0.0	0.0	0.6	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1
51	INSTRUMENTS	0.0	0.1	0.9	1.5	5.2	1.6	0.8	1.0	1.0	0.2	0.2	0.6	1.1	0.9	1.0	1.0
52	AUTOPILOT	2.4	2.5	2.6	2.5	3.4	2.6	2.7	2.7	2.7	4.0	2.4	3.0	3.4	2.4	1.7	2.7
55	NAVIGATION SYS. & RECORDING EQUIP.	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	0.9	1.0	1.1	1.2	2.9	1.4	2.7	1.4	1.7	1.5	1.4	1.2	2.3	2.8	3.0	1.6
62	VHF COMMUNICATIONS	0.8	0.8	0.8	0.8	1.6	0.8	0.9	0.8	0.8	0.6	0.6	0.7	1.2	1.0	0.7	0.8
63	UHF COMMUNICATIONS	5.7	4.2	5.1	5.0	3.3	5.9	5.7	5.2	5.2	4.3	3.0	4.2	6.0	5.0	6.2	5.2
64	INTERPHONE	1.1	1.1	1.1	1.1	0.4	1.1	2.5	1.1	1.1	0.8	1.0	0.9	1.4	1.0	1.1	1.1
65	IFF	0.8	0.9	1.4	1.7	2.3	1.7	2.8	1.4	1.4	2.0	0.6	0.6	1.0	1.1	1.3	1.4
66	EMERGENCY COMMUNICATIONS	0.5	0.5	0.6	0.6	0.1	0.8	0.5	0.9	1.0	0.4	0.8	1.0	2.0	1.7	2.0	0.9
69	MISC. COMMUNICATIONS	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	-	0.0
71	RADIO NAVIGATION	9.7	8.1	9.4	12.0	7.4	12.5	9.1	10.0	9.8	6.7	5.7	6.6	10.6	10.6	13.1	9.9
72	RADAR NAVIGATION	0.0	12.0	11.6	10.2	0.6	7.7	16.5	13.7	15.1	14.6	10.6	10.2	19.0	23.4	29.6	12.8
91	EMERGENCY EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.2	0.1	0.0	0.0	-	-	0.0
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	0.0	-	0.2	0.0	-	-	-	-	-	-	-
	TOTALS	34.9	50.4	57.8	62.5	66.6	61.7	67.5	63.0	64.4	50.6	34.3	73.0	73.6	77.0	102.1	62.1

* NORMALIZED DATA

TABLE D-46 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE REPAIR ONLY TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.29	0.20	0.17	0.16	0.22	0.32	1.63	0.48	0.42	0.40	0.58	0.14	0.27	0.26	0.20	0.48
12	COCKPIT AND FUSELAGE	6.02	3.97	2.77	0.92	4.21	1.94	0.59	2.38	2.33	1.19	1.46	4.38	9.51	3.25	0.69	2.74
13	LANDING GEAR	10.49	8.33	8.82	9.28	6.51	9.56	7.11	8.41	9.02	4.24	4.37	2.74	3.13	12.99	18.61	8.53
14	FLIGHT CONTROLS	0.86	0.60	0.52	0.48	0.90	0.49	0.74	0.48	0.62	1.38	0.58	0.55	0.54	0.26	0.20	0.48
22	TURBO PROP POWER PLANT	25.60	19.25	19.90	20.64	4.21	21.23	2.37	18.73	18.17	4.35	2.33	43.42	13.86	13.64	19.88	19.00
24	AUXILIARY POWER PLANT	0.29	0.20	0.17	0.16	1.20	0.32	0.15	0.32	0.21	0.79	0.58	0.27	0.27	0.26	0.00	0.32
32	HYDRAULIC-PROPELLER	8.88	5.75	4.15	3.36	11.13	3.24	6.81	3.81	3.73	10.67	3.79	4.38	2.85	1.30	0.69	3.70
41	AIR CONDITIONING, PRESSURIZATION	0.57	0.40	0.35	0.32	3.76	0.49	1.63	0.48	0.47	0.79	1.17	0.41	0.27	0.26	0.20	0.48
42	ELECTRICAL POWER SUPPLY	2.29	1.58	2.08	2.40	1.31	2.27	5.48	2.06	2.02	1.98	2.92	2.19	2.17	0.91	0.10	2.09
44	LIGHTING SYSTEM	0.57	0.40	0.52	0.48	2.26	0.49	1.63	0.63	0.62	0.99	1.46	0.55	0.41	0.52	0.39	0.64
45	HYDRAULIC AND PNEUMATIC	1.15	0.99	0.87	0.96	2.41	0.97	5.04	1.11	1.24	2.17	2.04	0.82	1.36	0.39	0.39	1.13
46	FUEL	0.00	0.00	0.00	0.00	0.90	0.00	0.30	0.00	0.00	0.40	0.29	0.27	0.00	0.00	0.00	0.00
47	OXYGEN	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00
49	MISC. UTILITIES	0.00	0.00	0.00	0.00	0.00	0.16	0.59	0.16	0.16	0.20	0.08	0.14	0.14	0.13	0.20	0.16
51	INSTRUMENTS	0.00	0.20	1.56	2.40	7.82	2.59	1.19	1.59	1.55	0.40	0.58	0.82	1.49	1.17	0.98	1.61
52	AUTOPILOT	6.86	4.96	4.33	4.00	6.11	4.21	4.00	4.29	4.19	7.91	7.00	4.11	4.62	3.12	1.67	4.35
65	MALFUNCTION ANAL. & RECORDING EQUIP.	0.00	0.00	0.00	0.00	4.36	0.00	-	0.00	0.00	2.96	4.08	-	-	-	-	-
61	HF COMMUNICATIONS	2.58	1.98	1.90	1.92	-	2.27	4.00	2.64	2.64	-	-	1.64	3.13	3.64	2.94	2.58
62	VHF COMMUNICATIONS	2.29	1.59	1.38	1.28	2.41	1.30	1.33	1.27	1.24	1.19	1.75	0.96	1.63	1.30	0.69	1.29
63	UHF COMMUNICATIONS	10.60	8.33	8.82	9.28	4.96	9.56	8.44	8.25	8.07	8.50	9.91	5.75	8.15	7.63	6.67	8.37
64	INTERPHONE	3.15	2.18	1.90	1.76	6.60	1.78	3.70	1.76	1.71	1.58	2.92	1.23	1.90	1.30	1.08	1.77
65	IFF	2.29	1.79	2.42	2.72	3.46	2.76	4.15	2.22	2.17	3.95	1.75	0.82	1.36	1.43	1.27	2.25
66	EMERGENCY COMMUNICATIONS	1.43	0.99	1.04	0.96	0.15	1.30	0.74	1.43	1.55	0.79	2.33	1.37	2.72	2.21	1.96	1.45
69	MISC. COMMUNICATIONS	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.20	0.58	0.00	0.00	0.00	-	0.00
71	RADIO NAVIGATION	13.47	12.10	15.26	19.20	11.13	20.26	13.48	15.87	15.22	13.24	16.62	9.04	14.40	13.77	12.83	15.94
72	RADAR NAVIGATION	0.00	23.81	20.07	16.32	12.78	12.40	24.44	21.75	23.45	28.85	30.61	13.97	26.82	30.39	28.95	20.61
91	EMERGENCY EQUIPMENT	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	0.48	0.29	0.00	0.00	-	-	0.00
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	0.00	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	-	-	-
	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-47 C-130E INTERMEDIATE REPAIR ONLY TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	0.0004	.022	0.0006	.002	0.0006	0.0006	-	.001	-	.001	0.0006	0.0005	0.0027
12	COCKPIT AND FUSELAGE				0.0052	.012	0.0036	.001	0.0029	0.0029	.001	.001	.000	.029	0.0071	0.0018	0.0047
13	LANDING GEAR				0.0261	.012	0.0171	.009	0.0100	0.0101	.005	.004	.006	.007	0.0282	0.0490	0.0135
14	FLIGHT CONTROLS				0.0013	.003	0.0009	.001	0.0006	0.0009	.002	.001	.001	.001	0.0006	0.0005	0.0012
22	TURBO PROP POWER PLANT				0.0559	.002	0.0379	.001	0.0223	0.0227	.005	.002	.002	.030	0.0296	0.0624	0.0248
24	AUXILIARY POWER PLANT				0.0004	.003	0.0006	-	0.0004	0.0004	.001	.001	.001	.001	0.0006	0.0000	0.0008
32	HYDRAULIC PROPELLER				0.0091	.030	0.0058	.009	0.0045	0.0047	.012	.004	.008	.006	0.0028	0.0018	0.0086
41	AIR CONDITIONING, PRESSURIZATION				0.0009	.010	0.0009	.002	0.0006	0.0006	.001	.001	.001	.001	0.0006	0.0005	0.0018
42	ELECTRICAL POWER SUPPLY				0.0065	.009	0.0040	.007	0.0025	0.0025	.002	.003	.004	.006	0.0020	0.0003	0.0042
44	LIGHTING SYSTEM				0.0013	.006	0.0009	.002	0.0008	0.0008	.001	.001	.001	.001	0.0011	0.0018	0.0016
45	HYDRAULIC AND PNEUMATIC				0.0026	.006	0.0017	.006	0.0013	0.0016	.002	.002	.002	.003	0.0008	0.0030	0.0027
46	FUEL				0.0000	-	0.0000	-	0.0000	0.0000	-	-	.001	-	0.0000	0.0000	0.0000
47	OXYGEN				0.0000	-	0.0000	.001	0.0000	0.0000	-	-	-	-	-	0.0000	0.0000
49	MISC. UTILITIES				0.0000	.003	0.0003	.001	0.0002	0.0002	-	-	-	-	0.0003	0.0005	0.0005
51	INSTRUMENTS				0.0065	.021	0.0046	.002	0.0019	0.0019	-	.001	.002	.003	0.0025	0.0026	0.0041
52	AUTOPILOT				0.0108	.014	0.0075	.005	0.0051	0.0052	.009	.007	.007	.010	0.0068	0.0044	0.0074
55	MALFUNCTION ANAL. & RECORDING EQUIP.				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	0.0000
61	HF COMMUNICATIONS				0.0052	.012	0.0040	.005	0.0030	0.0033	.003	.004	.003	.007	0.0019	0.0077	0.0051
62	VHF COMMUNICATIONS				0.0035	.007	0.0023	.002	0.0015	0.0016	.001	.002	.002	.004	0.0028	0.0019	0.0025
63	UHF COMMUNICATIONS				0.0251	.014	0.0171	.011	0.0098	0.0101	.009	.010	.011	.018	0.0164	0.0160	0.0133
64	INTERPHONE				0.0048	.002	0.0032	.005	0.0021	0.0021	.002	.003	.002	.004	0.0028	0.0028	0.0030
65	ILS				0.0074	.009	0.0049	.005	0.0026	0.0027	.004	.002	.002	.003	0.0031	0.0034	0.0042
66	EMERGENCY COMMUNICATIONS				0.0026	-	0.0023	.001	0.0017	0.0019	.001	.002	.003	.006	0.0048	0.0052	0.0022
69	MISC. COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	.001	-	-	0.0000	-	0.0000
71	RADIO NAVIGATION				0.0520	.030	0.0361	.017	0.0189	0.0190	.015	.016	.017	.031	0.0298	0.0338	0.0250
72	RADAR NAVIGATION				0.0442	.035	0.0223	.011	0.0259	0.0293	.032	.029	.026	.055	0.0660	0.0764	0.0356
91	EMERGENCY EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	0.0000
96	PERSONNEL EQUIPMENT				0.2706	.26	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	0.0182
97	EXPLOSIVE DEVICES				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	0.0000
	TOTALS				0.2706	.26	0.1781	.13	0.1191	0.1249	.11	.10	.10	.22	0.2171	0.2634	0.1877

* NORMALIZED DATA

APPENDIX E

RELIABILITY STATISTICS

TABLE E-1 PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES BY WHEN DISCOVERED BEFORE FLIGHT (BF) - IN-FLIGHT (IF) - BETWEEN FLIGHT (BTF) - INSPECTION (INS)

SYS. NO.	SYSTEM NAME	WHEN DISCOVERED PERCENT BF	IF	BTF	INS
11	AIRFRAME	-	-	29	71
12	COCKPIT AND FUSELAGE	-	-	25	75
13	LANDING GEAR	-	1	31	68
14	FLIGHT CONTROLS	-	1	17	82
22	TURBO PROP POWER PLANT	2	9	23	66
24	AUXILIARY POWER PLANT	1	1	30	68
32	HYDRAULIC PROPELLER	1	7	18	74
41	AIR CONDITIONING, PRESS.	1	8	37	54
42	ELECTRICAL POWER SUPPLY	-	2	39	59
44	LIGHTING SYSTEM	-	3	28	69
45	HYDRAULIC & PNEUMATIC	-	2	38	60
46	FUEL	-	12	51	37
47	OXYGEN	-	6	36	58
49	MISC. UTILITIES	-	1	23	76
51	INSTRUMENTS	1	50	18	31
52	AUTOPILOT	3	62	7	28
55	MALFUNCTION ANAL. & REC. EQUIP.	5	45	50	-
61	HF COMMUNICATIONS	1	57	7	35
62	VHF COMMUNICATIONS	4	77	3	16
63	UHF COMMUNICATIONS	4	73	7	16
64	INTERPHONE	4	53	10	33
65	IFF	-	30	2	68
66	EMERGENCY COMMUNICATIONS	5	15	19	61
69	MISC. COMMUNICATIONS	-	2	-	98
71	RADIO NAVIGATION	-	40	2	58
72	RADAR NAVIGATION	-	55	5	40
91	EMERGENCY EQUIPMENT	-	-	2	98
96	PERSONNEL EQUIPMENT	-	-	-	100
97	EXPLOSIVE DEVICES	-	-	100	-
	TOTALS	2	13	24	61

TABLE E-2. C-130E ORGANIZATIONAL AND INTERMEDIATE COMPONENTS FAILURES PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	163.2	189.1	216.9	249.7	372.8	282.3	272.9	343.9	369.7	327.9	260.5	360.5	719.2	515.4	511.9	330.02
12	COCKPIT AND FUSELAGE	68.2	78.0	87.9	97.8	213.1	117.5	120.8	137.2	147.1	136.2	129.3	236.1	236.5	149.1	208.1	134.89
13	LANDING GEAR	70.5	85.7	121.4	149.3	199.3	156.9	112.9	127.3	124.8	95.6	86.0	97.7	156.8	116.4	117.7	127.55
14	FLIGHT CONTROLS	143.9	97.4	98.3	101.3	178.7	106.9	76.9	93.5	90.5	87.7	72.2	95.3	157.4	97.5	63.2	99.14
22	TURBO PROP POWER PLANT	195.0	203.5	212.0	220.5	243.3	237.4	236.8	254.4	262.9	258.9	177.1	273.1	363.7	309.9	215.0	245.33
24	AUXILIARY POWER PLANT	0.3	3.8	6.3	9.6	54.6	18.1	27.3	22.7	26.0	22.2	20.6	31.6	53.8	45.7	43.0	21.57
32	HYDRAULIC PROPELLER	76.3	77.3	79.2	81.1	179.5	85.0	82.2	88.2	90.1	78.6	77.8	109.3	93.2	96.6	129.0	87.92
41	AIR CONDITIONING, PRESSURIZATION	100.0	65.5	66.2	68.6	117.6	72.8	62.6	62.5	60.2	44.4	50.1	60.5	119.3	66.7	59.6	67.18
42	ELECTRICAL POWER SUPPLY	12.9	16.7	18.5	21.3	52.9	26.8	40.1	32.3	35.1	30.6	21.7	34.4	54.5	54.7	58.2	30.97
44	LIGHTING SYSTEM	176.4	102.5	103.9	108.7	147.1	117.7	87.8	96.3	91.5	81.0	55.0	83.6	170.6	94.6	58.7	102.79
45	HYDRAULIC AND PNEUMATIC	110.2	76.6	77.2	79.4	147.9	83.5	70.9	73.7	71.5	70.7	54.9	66.8	118.8	72.9	74.0	77.26
46	FUEL	20.4	27.0	33.6	40.2	48.1	53.5	65.7	66.7	73.3	73.4	64.1	91.2	144.1	88.2	110.9	63.81
47	OXYGEN	3.2	4.6	6.9	7.3	12.5	10.0	18.5	12.7	14.0	14.8	8.3	13.8	26.2	19.8	21.6	11.94
49	MISC. UTILITIES	3.2	6.2	9.2	12.3	46.1	18.4	26.3	24.4	27.6	29.5	20.3	33.5	67.6	41.6	39.8	23.42
51	INSTRUMENTS	205.6	76.8	79.2	87.6	117.4	103.2	36.0	65.9	57.5	33.5	29.2	42.7	57.9	45.2	46.1	70.48
52	AUTOPILOT	24.2	27.3	36.6	40.2	50.2	41.2	36.3	35.8	35.3	29.0	27.3	28.9	41.6	36.2	30.6	35.86
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	0.04	0.3	0.1	0.1	0.0	-	-	-	0.2	0.4	0.05
61	HF COMMUNICATIONS	36.4	18.9	19.8	20.1	27.2	22.3	20.5	17.1	16.0	12.2	10.9	12.2	16.0	14.7	14.8	17.68
62	VHF COMMUNICATIONS	19.0	9.1	9.2	9.9	14.4	11.1	8.6	8.5	7.6	6.1	6.2	6.8	7.9	7.0	6.0	8.58
63	UHF COMMUNICATIONS	55.1	31.6	32.0	33.6	42.6	36.4	34.1	29.6	28.1	25.1	20.3	25.9	30.9	22.2	24.9	30.34
64	INTERPHONE	90.1	41.2	42.2	45.3	64.0	61.3	42.3	37.1	33.9	31.7	25.2	29.2	32.3	26.4	23.4	38.96
65	IFF	39.0	16.6	17.0	18.5	26.4	21.2	21.9	16.7	13.2	15.7	4.2	3.4	8.7	12.7	15.3	15.17
66	EMERGENCY COMMUNICATIONS	8.0	5.8	5.8	4.7	3.4	3.1	2.0	6.8	7.7	4.6	5.5	9.0	16.7	8.4	11.5	6.31
69	MISC. COMMUNICATIONS	34.6	34.8	31.4	28.7	41.7	23.8	7.7	14.3	4.7	5.1	5.6	8.5	7.1	6.3	4.3	18.90
71	RADIO NAVIGATION	57.8	59.6	61.3	63.0	95.4	66.4	69.6	69.2	71.0	60.9	50.2	43.1	76.3	93.7	110.3	66.76
72	RADAR NAVIGATION	216.1	140.7	142.1	146.9	162.6	164.0	130.4	134.4	129.6	123.9	88.2	69.5	133.2	156.0	179.0	136.94
91	EMERGENCY EQUIPMENT	13.8	6.8	6.9	6.4	10.0	7.4	6.0	6.1	4.6	6.1	2.6	3.3	6.2	5.4	2.4	6.38
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.03	0.06	0.1	0.0	0.1	0.1	0.2	0.4	0.06
97	EXPLOSIVE DEVICES	0.24	0.10	0.11	0.11	0.2	0.13	0.0	0.10	0.08	0.1	0.1	0.1	0.3	0.1	0.0	0.11
	TOTALS	1936.2	1499.2	1614.0	1743.8	2558.0	1936.2	1748.4	1378.2	1904.6	1704.3	1375.2	1963.6	2904.9	2197.8	2299.9	1874.31

* NORMALIZED DATA

TABLE E-3 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	8.4	12.6	13.3	13.0	14.7	15.1	15.9	16.3	16.4	15.2	15.9	19.3	20.8	22.45	22.5	17.61
12	COCKPIT AND FUSELAGE	3.8	5.2	5.4	5.6	6.4	6.1	6.9	7.3	7.7	8.0	9.6	12.6	8.1	6.78	9.1	7.20
13	LANDING GEAR	3.6	5.7	7.5	8.6	7.8	8.0	6.8	6.8	6.6	5.6	6.3	8.2	5.4	5.30	5.1	6.81
14	FLIGHT CONTROLS	7.4	6.6	6.1	6.0	5.1	5.5	4.4	5.0	4.8	5.1	5.2	6.1	5.4	4.44	3.6	5.29
22	TURBO PROP POWER PLANT	10.1	13.6	13.1	12.6	9.2	12.3	13.5	13.6	13.8	15.2	12.9	14.6	12.5	16.10	12.0	13.00
24	AUXILIARY POWER PLANT	0.8	0.2	0.4	0.6	1.7	0.8	1.6	1.2	1.4	1.3	1.6	1.7	1.9	2.08	1.9	1.16
32	HYDRAULIC PROPELLER	3.9	5.2	4.9	4.6	5.1	4.4	5.3	4.7	4.7	4.6	5.7	5.8	3.2	4.40	5.6	4.69
41	AIR CONDITIONING, PRESSURIZATION	5.2	4.4	4.1	3.9	3.4	3.8	3.6	3.3	3.2	2.6	3.6	3.2	4.1	2.94	2.6	3.58
42	ELECTRICAL POWER SUPPLY	0.7	1.0	1.1	1.2	2.1	1.4	2.3	1.7	1.0	1.0	1.0	1.0	1.9	2.49	2.5	1.65
44	LIGHTING SYSTEM	9.1	6.8	6.4	6.2	5.8	6.1	5.6	6.1	4.8	4.7	6.0	4.5	5.9	4.30	4.3	6.48
45	HYDRAULIC AND PNEUMATIC	5.7	5.1	4.8	4.6	3.9	4.3	4.0	3.9	3.8	4.1	4.0	3.6	4.1	3.32	3.2	4.12
46	FUEL	1.8	1.8	2.1	2.3	1.9	2.8	3.8	3.6	3.8	4.3	4.7	4.9	5.0	4.01	4.8	3.40
47	OXYGEN	0.2	0.3	0.4	0.4	0.9	0.6	1.1	0.7	0.7	0.5	0.6	0.7	0.9	0.90	0.9	0.64
49	MISC. UTILITIES	0.2	0.4	0.6	0.7	1.8	1.0	1.5	1.3	1.4	1.7	1.5	1.8	2.0	1.89	1.7	1.25
51	INSTRUMENTS	10.6	6.1	4.9	5.0	7.0	6.3	2.1	3.6	3.0	2.8	2.1	2.3	2.0	2.06	2.8	3.76
52	AUTOPILOT	1.2	1.8	2.1	2.3	2.0	2.1	2.1	1.9	1.8	1.7	2.0	1.6	1.4	1.65	1.3	1.91
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	-	-	-	0.01	0.0	0.00
61	HF COMMUNICATIONS	1.9	1.2	1.2	1.2	1.1	1.2	1.2	0.9	0.8	0.7	0.8	0.7	0.5	0.67	0.6	0.94
62	VHF COMMUNICATIONS	1.0	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.32	0.3	0.46
63	UHF COMMUNICATIONS	2.8	2.1	2.8	1.9	1.7	1.9	1.9	1.6	1.5	1.5	1.5	1.4	1.1	1.01	1.3	1.62
64	INTERPHONE	4.6	2.7	2.6	2.6	2.5	2.6	2.4	2.0	1.8	1.9	1.8	1.6	1.1	1.16	1.8	2.08
65	IFF	2.8	1.1	1.8	1.1	1.0	1.1	1.2	0.8	0.7	0.9	0.3	0.2	0.3	0.68	0.7	0.81
66	EMERGENCY COMMUNICATIONS	0.8	0.4	0.3	0.3	0.1	0.2	0.1	0.4	0.4	0.3	0.4	0.5	0.6	0.38	0.5	0.34
69	MISC. COMMUNICATIONS	1.9	2.3	1.9	1.6	1.6	1.2	0.4	1.0	0.8	0.3	0.4	0.6	0.2	0.29	0.2	1.01
71	RADIO NAVIGATION	3.8	4.0	3.8	3.6	3.8	3.4	4.0	3.7	3.7	3.6	3.6	2.3	2.6	4.26	4.0	3.66
72	RADAR NAVIGATION	11.1	9.4	8.8	8.4	6.4	8.1	7.6	7.2	6.8	7.3	6.4	3.7	4.6	7.06	7.8	7.25
91	EMERGENCY EQUIPMENT	0.7	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.16	0.1	0.29
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
92	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.00
	TOTALS	100.00	100.00	100.00	100.00	100.0	100.00	100.0	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.00

* NORMALIZED DATA

TABLE E-4 C-130E ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES PER SORTIE

SYS NO.	SYSTEM NAME	1962	1963	1964	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				1.0422	1.43	.8447	.53	.6500	.7172	.72	.72	.93	2.09	1.4534	1.3203	0.9349
12	COCKPIT AND FUSELAGE				.4235	.68	.3396	.23	.2593	.2854	.30	.36	.61	.69	0.4205	0.5395	0.4100
13	LANDING GEAR				.6465	.82	.4451	.23	.2406	.2421	.21	.24	.25	.46	0.3282	0.3937	0.3574
14	FLIGHT CONTROLS				.4386	.53	.3089	.15	.1767	.1756	.19	.20	.26	.46	0.2749	0.2121	0.2649
22	TURBO PROP POWER PLANT				.9548	.96	.6861	.45	.4808	.6100	.57	.49	.71	1.06	0.8739	0.7094	0.6610
24	AUXILIARY POWER PLANT				.0416	.18	0.465	.05	.0429	.0504	.05	.06	.08	.16	0.1289	0.1109	0.0753
32	HYDRAULIC PROPELLER				.3512	.53	.2456	.17	.1667	.1748	.17	.22	.28	.27	0.2724	0.3328	0.2522
41	AIR CONDITIONING, PRESSURIZATION				.2966	.36	.2104	.12	.1181	.1168	.10	.14	.16	.35	0.1825	0.1638	0.1810
42	ELECTRICAL POWER SUPPLY.				.0922	.22	0.774	.08	.0610	.0681	.07	.07	.09	.16	0.1543	0.1502	0.1003
44	LIGHTING SYSTEM				.4707	.61	.3402	.18	.1820	.1778	.18	.16	.22	.60	0.2668	0.2546	0.2804
45	HYDRAULIC AND PNEUMATIC				.3438	.40	.2413	.13	.1393	.1387	.03	.15	.17	.35	0.2056	0.1909	0.1950
46	FUEL				.1741	.20	.1846	.12	.1261	.1422	.16	.20	.24	.42	0.2487	0.2861	0.1844
47	OXYGEN	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	.0316	.09	.0289	.04	.0240	.0272	.03	.02	.04	.08	0.0558	0.0556	0.0409
49	MISC. UTILITIES				.0532	.19	.0532	.05	.0461	.0534	.07	.06	.09	.17	0.1173	0.1027	0.0804
51	INSTRUMENTS				.3793	.73	.2982	.07	.1248	.1116	.07	.08	.11	.17	0.1275	0.1169	0.1994
52	AUTOPILOT				.1741	.21	.1191	.07	.0677	.0685	.06	.08	.08	.12	0.1021	0.0787	0.0994
55	MALFUNCTION ANAL. & RECORDING EQUIP.				-	-	.0001	-	.0002	.0002	-	-	-	-	0.0006	0.0010	0.0001
61	HF COMMUNICATIONS				.0870	.11	.0644	.04	.0323	.0310	.03	.02	.03	.05	0.0415	0.0362	0.0485
62	VHF COMMUNICATIONS				.0429	.06	.0321	.02	.0155	.0147	.01	.01	.02	.02	0.0197	0.0155	0.0235
63	UHF COMMUNICATIONS				.1456	.18	.1052	.07	.0559	.0545	.06	.06	.07	.09	0.0626	0.0642	0.0843
64	INTERPHONE				.1961	.26	.1483	.08	.0701	.0658	.07	.07	.08	.09	0.0716	0.0604	0.1062
65	IFF				.0801	.10	.0613	.04	.0278	.0256	.03	.01	.01	.03	0.0358	0.0395	0.0420
66	EMERGENCY COMMUNICATIONS				.0264	.01	.0090	-	.0128	.0149	.01	.02	.02	.05	0.0237	0.0297	0.0150
69	MISC. COMMUNICATIONS				.1243	.17	.0679	.02	.0346	.0304	.01	.02	.02	.02	0.0178	0.0111	0.0470
71	RADIO NAVIGATION				.2728	.39	.1919	.13	.1308	.1377	.13	.14	.11	.22	0.2642	0.2846	0.1897
72	RADAR NAVIGATION				.6361	.87	.4508	.26	.2540	.2516	.27	.25	.18	.39	0.4371	0.4618	0.3616
91	EMERGENCY EQUIPMENT				.0277	.04	.0214	.01	.0096	.0089	.01	.01	.01	.02	0.0096	0.0062	0.0152
96	PERSONNEL EQUIPMENT				0.0	-	0.0	-	.0001	.0001	-	-	-	-	0.0006	0.0010	0.0001
97	EXPLOSIVE DEVICES				.0006	-	.0004	-	.0002	.0002	-	-	-	-	0.0003	0.0010	0.0001
	TOTALS				7.6474	10.43	6.6926	3.33	3.6498	3.6952	3.71	3.86	4.86	8.49	6.1981	6.9337	6.2609

* NORMALIZED DATA

TABLE E-5 C-130E COMPONENTS REPAIRED OFF BASE PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.51	0.56	0.61	0.66	1.33	0.75	0.89	0.85	0.89	1.00	0.77	0.99	1.51	0.9	1.16	0.81
12	COCKPIT AND FUSILAGE	0.0	0.05	0.12	0.20	1.12	0.35	1.55	0.50	0.58	0.42	0.32	0.96	1.26	0.6	1.11	0.48
13	LANDING GEAR	78.79	31.61	32.51	25.66	162.63	41.51	33.73	27.55	24.40	17.66	25.64	20.07	20.07	13.6	13.82	29.68
14	FLIGHT CONTROLS	0.99	2.63	2.60	2.49	3.14	2.29	4.91	2.77	2.88	4.21	2.04	2.48	3.09	3.1	2.34	2.65
22	TURBO PROP POWER PLANT	15.61	27.45	27.23	26.46	29.26	25.01	30.18	28.45	29.22	34.48	20.68	26.83	37.41	28.2	33.16	27.75
24	AUXILIARY POWER PLANT	1.24	1.41	1.59	1.76	3.79	2.11	5.02	2.45	2.63	2.69	2.00	2.95	3.80	3.1	3.96	2.90
32	HYDRAULIC PROPELLER	2.98	3.16	3.35	3.53	3.61	3.90	4.32	4.26	4.45	4.24	2.03	5.21	6.59	5.0	3.80	3.96
41	AIR CONDITIONING, PRESSURIZATION	10.51	10.70	10.89	11.08	11.64	11.45	11.78	11.82	12.01	13.33	10.70	11.31	13.00	13.4	13.83	11.67
42	ELECTRICAL POWER SUPPLY	1.84	1.93	2.03	.212	6.81	2.30	2.84	2.49	2.58	2.70	2.10	2.42	3.64	3.2	3.90	2.60
44	LIGHTING SYSTEM	0.02	0.05	0.12	0.18	0.07	0.19	0.18	0.13	0.13	0.11	0.10	0.07	0.13	0.2	0.10	0.14
45	HYDRAULIC AND PNEUMATIC	11.10	10.63	9.96	9.40	9.49	8.26	3.47	7.12	6.55	6.24	3.28	4.01	6.68	4.0	3.48	7.10
46	FUEL	2.55	2.93	3.31	3.69	4.62	4.45	9.34	6.21	5.59	6.89	4.47	6.89	9.68	7.4	7.68	5.11
47	OXYGEN	3.01	3.11	3.22	3.33	4.44	3.54	4.67	3.75	3.86	4.24	2.94	3.68	5.41	3.9	4.63	3.67
49	MISC. UTILITIES	1.26	1.34	1.42	1.50	2.13	1.66	1.09	1.82	1.90	1.99	1.13	1.96	2.45	2.1	2.64	1.72
51	INSTRUMENTS	66.54	63.37	60.19	47.07	84.08	40.72	16.29	34.37	31.20	37.29	16.27	18.97	23.48	17.2	18.00	34.30
52	AUTOPILOT	5.32	5.83	6.34	6.86	7.97	7.88	8.99	8.91	9.42	9.91	7.88	9.48	13.35	12.4	13.12	8.62
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	0.00	-	-	-	-	-	-	0.2	0.15	0.02
61	HF COMMUNICATIONS	0.14	0.18	0.22	0.26	0.47	0.34	0.76	0.42	0.46	0.35	0.44	0.39	1.10	0.7	0.56	0.42
62	VHF COMMUNICATIONS	0.0	0.0	0.02	0.05	0.07	0.11	0.22	0.17	0.20	0.21	0.17	0.19	0.57	0.3	0.38	0.16
63	UHF COMMUNICATIONS	0.0	1.04	1.02	0.95	0.76	0.82	1.00	1.13	1.20	0.78	0.74	1.29	1.97	1.4	1.64	1.07
64	INTERPHONE	0.05	0.24	0.23	0.22	0.22	0.20	0.18	0.25	0.26	0.16	0.22	0.28	0.40	0.3	0.33	0.24
65	IFF	0.66	0.70	0.75	0.79	1.59	0.88	1.29	0.97	1.01	1.04	0.63	1.01	1.47	1.4	1.68	0.96
66	EMERGENCY COMMUNICATIONS	0.0	0.71	0.68	0.56	0.04	0.34	0.39	0.84	0.88	1.34	0.79	1.34	1.99	1.0	0.80	0.80
69	MISC. COMMUNICATIONS	0.18	0.07	0.07	0.08	0.14	0.09	0.04	0.06	0.05	0.00	0.01	0.05	0.03	0.0	0.05	0.06
71	RADIO NAVIGATION	2.35	2.69	2.81	3.05	3.34	3.51	5.08	3.97	4.20	3.96	3.24	3.91	6.69	5.2	5.67	3.82
72	RADAR NAVIGATION	0.0	9.	9.25	8.59	7.76	7.35	5.82	10.30	10.86	10.73	8.31	10.00	16.99	13.5	14.13	9.79
93	EMERGENCY EQUIPMENT	0.0	0.0	0.03	0.07	0.00	0.07	0.04	0.03	0.03	0.01	0.02	0.11	0.00	0.1	0.03	0.05
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	0.00	-	-	0.01	-	0.00	0.0
97	EXPLOSIVE DEVICES	-	-	-	-	0.00	-	-	-	-	-	-	-	-	0.0	0.00	0.0
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	TOTALS	196.66	171.63	170.57	170.61	209.42	170.08	161.07	160.61	157.64	145.68	115.12	135.79	180.77	141.4	151.95	160.81

* NORMALIZED DATA

TABLE E-6 C-130E PERCENT DISTRIBUTION OF COMPONENTS REPAIRED OFF BASE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	0.26	0.33	0.36	0.39	0.64	0.44	0.55	0.63	0.66	0.69	0.67	0.73	0.84	0.64	0.76	0.62
12	COCKPIT AND FUSELAGE	0.0	0.03	0.07	0.12	0.61	0.20	0.96	0.31	0.37	0.29	0.28	0.21	0.76	0.42	0.23	0.30
13	LANDING GEAR	48.57	18.42	19.06	20.90	25.13	24.41	20.84	17.15	15.48	12.12	22.45	14.78	11.10	9.62	9.10	18.55
14	FLIGHT CONTROLS	0.50	1.63	1.82	1.46	1.60	1.35	3.05	1.72	1.83	3.37	1.77	1.83	1.71	1.49	1.64	1.66
22	TURBO PROP POWER PLANT	7.94	15.99	15.96	15.61	13.97	14.70	22.70	17.71	18.54	23.67	17.97	19.76	20.69	19.94	21.82	17.34
24	AUXILIARY POWER PLANT	0.63	0.82	0.93	1.03	1.81	1.24	3.12	1.52	1.67	1.85	1.74	2.17	2.10	2.39	2.61	1.50
32	HYDRAULIC PROPELLER	1.52	1.84	1.96	2.07	1.72	2.29	2.68	2.65	2.82	2.91	1.76	3.84	3.09	3.54	2.50	2.47
41	AIR CONDITIONING, PRESSURIZATION	5.34	6.23	6.38	6.49	6.51	6.73	7.31	7.36	7.62	9.15	9.30	8.33	7.19	9.48	9.10	7.29
42	ELECTRICAL POWER SUPPLY	0.84	1.12	1.19	1.24	2.77	1.35	1.76	1.55	1.84	1.85	1.82	1.78	2.01	2.26	2.67	1.56
44	LIGHTING SYSTEM	0.01	0.03	0.07	0.10	0.03	0.11	0.11	0.08	0.08	0.08	0.09	0.05	0.07	0.14	0.07	0.09
45	HYDRAULIC AND PNEUMATIC	5.64	6.16	6.84	6.51	4.63	4.86	2.15	4.43	4.15	4.28	2.85	2.95	3.14	2.83	2.29	4.46
46	FUEL	1.30	1.71	1.94	2.17	2.21	2.62	5.80	3.24	3.55	4.04	3.88	4.34	5.35	5.23	5.05	3.19
47	OXYGEN	1.53	1.81	1.89	1.94	2.12	2.08	2.90	2.33	2.45	2.91	2.55	2.64	2.99	2.76	2.98	2.29
49	MISC. UTILITIES	0.64	0.78	0.83	0.88	1.02	0.98	0.68	1.13	1.20	1.37	0.98	1.44	1.36	1.49	1.74	1.07
51	INSTRUMENTS	28.75	31.10	29.42	27.59	25.82	23.94	9.49	21.40	19.75	11.87	12.40	13.971	12.99	12.16	11.85	21.44
52	AUTOPILOT	2.70	3.40	3.72	4.02	3.81	4.63	5.58	5.55	5.98	6.80	6.85	6.98	7.39	8.77	8.63	5.39
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	0.00	-	-	-	-	-	-	0.14	0.10	0.01
61	HF COMMUNICATIONS	0.07	0.10	0.13	0.16	0.22	0.20	0.47	0.26	0.29	0.24	0.38	0.29	0.61	0.50	0.37	0.26
62	VHF COMMUNICATIONS	0.0	0.0	0.01	0.03	0.03	0.06	0.14	0.10	0.13	0.14	0.15	0.14	0.32	0.21	0.25	0.10
63	UHF COMMUNICATIONS	0.0	0.68	0.60	0.56	0.36	0.48	0.62	0.70	0.76	0.56	0.64	0.95	1.09	0.99	1.08	0.67
64	INTERPHONE	0.02	0.14	0.13	0.13	0.11	0.12	0.11	0.16	0.16	0.11	0.19	0.21	0.22	0.21	0.22	0.15
65	IFF	0.34	0.41	0.44	0.46	0.76	0.52	0.80	0.60	0.64	0.71	0.55	0.74	0.81	0.99	1.04	0.60
66	EMERGENCY COMMUNICATIONS	0.0	0.41	0.40	0.33	0.02	0.20	0.24	0.64	0.62	0.92	0.69	1.02	1.10	0.71	0.53	0.60
69	MISC. COMMUNICATIONS	0.09	0.04	0.04	0.05	0.07	0.05	0.02	0.04	0.03	0.00	0.01	0.04	0.02	0.00	0.03	0.04
71	RADIO NAVIGATION	1.20	1.51	1.65	1.79	1.59	2.06	3.15	2.47	2.66	2.72	2.81	2.88	3.70	3.68	3.73	2.39
72	RADAR NAVIGATION	0.0	6.50	6.42	6.03	3.71	4.32	3.61	6.41	6.95	7.37	7.22	7.36	9.40	9.55	9.30	6.12
91	EMERGENCY EQUIPMENT	0.0	0.0	0.02	0.06	0.00	0.04	0.02	0.02	0.02	0.01	-	0.08	0.00	0.07	0.02	0.03
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	0.00	-	-	0.01	-	0.00	-
97	EXPLOSIVE DEVICES	-	-	-	-	0.00	-	-	-	-	-	-	-	-	0.00	0.00	-
	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE E-7 C-130E COMPONENTS REPAIRED OFF BASE PER SORTIE

SYS NO.	SYSTEM NAME	1962	1963	1964	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				.0021	.0065	.0022	.0017	.0016	.0017	.0022	.0021	.0026	.0044	.0026	.0030	.0026
12	COCKPIT AND FUSELAGE				.0009	.0046	.0010	.0029	.0009	.0011	.0009	.0009	.0025	.0037	.0017	.0029	.0019
13	LANDING GEAR				.1566	.2163	.1200	.0638	.0521	.0473	.0387	.0718	.0618	.0684	.0364	.0357	.0810
14	FLIGHT CONTROLS				.0108	.0129	.0066	.0093	.0052	.0056	.0108	.0067	.0064	.0090	.0059	.0060	.0079
22	TURBO PROP POWER PLANT				.1146	.1203	.0723	.0721	.0638	.0567	.0755	.0575	.0692	.1089	.0795	.0856	.0777
24	AUXILIARY POWER PLANT				.0076	.0166	.0061	.0095	.0046	.0051	.0059	.0066	.0076	.0111	.0087	.0102	.0079
32	HYDRAULIC PROPELLER				.0153	.0149	.0113	.0082	.0080	.0086	.0093	.0056	.0134	.0163	.0141	.0098	.0107
41	AIR CONDITIONING, PRESSURIZATION				.0483	.0474	.0331	.0222	.0223	.0233	.0292	.0258	.0292	.0378	.0378	.0357	.0314
42	ELECTRICAL POWER SUPPLY				.0092	.0239	.0066	.0054	.0047	.0050	.0059	.0068	.0062	.0106	.0090	.0101	.0082
44	LIGHTING SYSTEM				.0008	.0003	.0005	.0003	.0002	.0002	.0002	.0002	.0002	.0004	.0006	.0003	.0003
45	HYDRAULIC AND PNEUMATIC				.0407	.0360	.0239	.0066	.0134	.0127	.0137	.0091	.0104	.0166	.0113	.0090	.0170
46	FUEL				.0163	.0190	.0129	.0177	.0098	.0108	.0129	.0124	.0152	.0282	.0209	.0198	.0154
47	OXYGEN				.0144	.0183	.0102	.0068	.0071	.0075	.0093	.0082	.0092	.0157	.0110	.0117	.0106
49	MISC. UTILITIES				.0065	.0088	.0048	.0021	.0034	.0037	.0044	.0031	.0061	.0071	.0069	.0068	.0048
51	INSTRUMENTS				.2038	.2223	.1177	.0289	.0650	.0606	.0379	.0397	.0489	.0683	.0485	.0464	.0819
52	AUTOPILOT				.0297	.0328	.0228	.0170	.0168	.0183	.0217	.0219	.0245	.0386	.0358	.0338	.0241
55	MALFUNCTION ANAL. & RECORDING EQUIP.	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	-	-	-	-	-	-	-	-	-	-	.0006	.0004	.0000
61	HF COMMUNICATIONS				.0011	.0019	.0010	.0014	.0008	.0009	.0008	.0012	.0018	.0032	.0020	.0014	.0013
62	VHF COMMUNICATIONS				.0002	.0003	.0003	.0004	.0003	.0004	.0005	.0006	.0006	.0017	.0008	.0010	.0005
63	UHF COMMUNICATIONS				.0041	.0031	.0024	.0019	.0021	.0023	.0017	.0021	.0033	.0057	.0039	.0042	.0028
64	INTERPHONE				.0033	.0009	.0006	.0003	.0005	.0006	.0004	.0006	.0007	.0012	.0008	.0009	.0006
65	IFF				.0051	.0065	.0025	.0024	.0018	.0020	.0023	.0018	.0026	.0043	.0039	.0041	.0030
66	EMERGENCY COMMUNICATIONS				.0021	.0002	.0010	.0007	.0016	.0019	.0029	.0022	.0036	.0058	.0028	.0021	.0020
69	MISC. COMMUNICATIONS				.0003	.0005	.0003	-	.0001	.0001	-	-	.0001	-	.0000	.0001	.0001
71	RADIO NAVIGATION				.0135	.0137	.0101	.0096	.0076	.0081	.0087	.0090	.0101	.0195	.0147	.0146	.0108
72	RADAR NAVIGATION				.0372	.0319	.0212	.0110	.0195	.0213	.0235	.0231	.0258	.0494	.0381	.0365	.0254
91	EMERGENCY EQUIPMENT				.0001	-	.0002	-	.0001	.0001	-	-	.0003	-	.0003	.0001	.0001
96	PERSONNEL EQUIPMENT				-	-	-	-	-	-	-	-	-	-	-	.0000	.0000
97	EXPLOSIVE DEVICES				-	-	-	-	-	-	-	-	-	.0000	.0000	.0000	.0000
	TOTALS				.7387	.861	.4916	.304	.3032	.3087	.319	.328	.368	.626	.3887	.3826	.4298

* NORMALIZED DATA

TABLE E-8 C-130E, COMPONENTS CONDEMNED PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	3.97	1.03	1.08	1.27	2.45	1.63	1.03	0.78	0.59	0.33	0.10	0.15	0.39	0.1	0.27	0.86
12	COCKPIT AND FUSELAGE	7.44	2.55	2.64	2.96	4.29	3.66	3.66	2.14	1.82	2.37	0.48	0.65	0.48	2.7	0.53	2.31
13	LANDING GEAR	15.02	4.34	4.54	5.24	8.84	6.63	4.67	3.44	2.74	3.43	2.24	0.62	0.99	0.9	0.70	3.86
14	FLIGHT CONTROLS	0.49	0.46	0.43	0.38	0.36	0.33	0.68	0.26	0.22	0.21	0.16	0.07	0.13	0.0	0.03	0.28
22	TURBO PROP POWER PLANT	1.68	2.76	5.28	7.28	3.11	7.63	7.86	5.72	5.56	2.78	1.12	2.64	0.45	4.6	5.95	5.53
24	AUXILIARY POWER PLANT	0.55	.020	.020	.023	0.40	0.27	0.13	0.17	0.14	0.13	0.08	0.05	0.16	0.1	0.10	0.18
32	HYDRAULIC PROPELLER	1.57	0.53	0.55	0.61	1.19	0.74	0.41	0.44	0.37	0.04	0.06	0.03	0.04	0.0	0.25	0.47
41	AIR CONDITIONING, PRESSURIZATION	3.61	1.84	1.87	1.99	2.67	2.20	2.25	1.69	1.57	0.93	0.74	1.50	1.33	1.6	1.74	1.73
42	ELECTRICAL POWER SUPPLY	0.71	0.74	0.77	0.81	0.87	0.87	1.59	0.94	0.97	0.93	0.93	1.13	1.22	0.7	1.16	0.91
44	LIGHTING SYSTEM	1.75	1.69	1.62	1.55	1.30	1.42	1.61	1.29	1.22	2.12	1.16	1.12	1.05	0.8	1.11	1.36
45	HYDRAULIC AND PNEUMATIC	2.13	0.73	0.75	0.84	1.33	1.01	0.83	0.61	0.61	0.40	0.35	0.29	0.43	0.3	0.25	0.66
46	FUEL	0.41	0.39	0.36	0.34	0.18	0.29	0.41	0.23	0.21	0.28	0.07	0.10	0.13	0.1	0.02	0.24
47	OXYGEN	0.26	0.16	0.17	0.21	0.43	0.28	0.18	0.11	0.07	0.04	0.01	0.02	-	-	0.00	0.14
49	MISC. UTILITIES	1.94	1.83	1.72	1.61	2.20	1.40	0.44	1.18	1.07	1.10	0.62	0.65	1.18	0.6	0.45	1.20
61	INSTRUMENTS	0.31	0.26	0.13	0.03	1.98	0.01	0.07	0.11	0.12	0.10	0.12	0.27	0.17	0.1	0.03	0.12
52	AUTOPILOT	-	-	-	-	0.11	-	0.00	-	-	-	0.01	-	-	0.0	0.00	0.0
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	0.00	-	-	-	-	-	-	-	0.00	0.0
61	HF COMMUNICATIONS	0.24	0.14	0.14	0.15	0.18	0.16	0.15	0.13	0.12	0.13	0.07	0.11	0.13	0.3	0.51	0.15
62	VHF COMMUNICATIONS	0.0	0.01	0.04	0.06	0.14	0.06	0.02	0.04	0.04	0.01	0.01	0.01	0.02	0.03	0.00	0.04
63	UHF COMMUNICATIONS	1.84	0.58	0.60	0.66	0.94	0.77	0.81	0.50	0.43	0.22	0.21	0.26	0.44	0.3	0.33	0.53
64	INTERPHONE	0.48	0.45	0.42	0.39	0.18	0.32	0.44	0.26	0.23	0.42	0.08	0.01	0.08	0.1	0.03	0.27
65	IFF	0.70	0.65	0.60	0.55	0.40	0.46	0.72	0.34	0.29	0.07	0.01	0.04	0.19	0.1	0.05	0.35
66	EMERGENCY COMMUNICATIONS	0.03	0.05	0.11	0.16	0.22	0.16	0.13	0.12	0.12	0.07	0.04	0.02	0.18	0.1	0.15	0.12
69	MISC. COMMUNICATIONS	0.52	0.14	0.14	0.17	0.36	0.22	0.02	0.10	.06	0.20	0.01	0.01	0.00	0.03	0.00	0.12
71	RADIO NAVIGATION	1.61	0.76	0.78	0.83	0.58	0.94	1.59	0.69	0.64	0.31	0.27	0.20	0.54	0.6	1.03	0.70
72	RADAR NAVIGATION	2.67	1.02	1.05	1.16	0.94	1.36	2.64	0.88	0.77	0.72	0.19	0.20	0.44	0.4	0.71	0.91
91	EMERGENCY EQUIPMENT	0.02	0.11	0.31	0.47	0.00	0.49	0.39	0.34	0.33	0.07	0.12	0.0	0.55	0.5	0.00	0.32
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	0.01	-	0.00	0.0
97	EXPLOSIVE DEVICES	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	0.00	0.0
-																	
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	TOTALS	50.15	23.42	26.30	29.96	36.65	33.10	32.43	22.81	20.22	17.41	9.15	10.75	10.73	14.64	16.20	23.38

* NORMALIZED DATA

TABLE E-9 C-130E PERCENT DISTRIBUTION OF COMPONENTS CONDEMNED

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	7.92	4.40	4.11	4.24	6.87	4.92	3.16	3.47	2.92	1.99	1.09	1.48	2.15	0.68	1.78	3.76
12	COCKPIT AND FUSELAGE	14.84	10.89	10.04	9.88	12.03	10.76	10.91	9.51	9.00	13.61	5.26	5.12	2.64	18.49	2.12	9.80
13	LANDING GEAR	29.95	18.53	17.26	17.49	24.80	19.73	14.31	15.28	13.55	19.70	24.48	5.27	5.45	6.16	4.61	16.51
14	FLIGHT CONTROLS	0.99	1.96	1.63	1.30	1.01	1.00	2.08	1.16	1.14	1.21	1.75	0.65	0.72	0.00	0.20	1.20
22	TURBO PROP POWER PLANT	3.35	11.78	20.08	24.30	8.72	23.05	24.39	25.41	27.40	15.97	12.24	24.66	46.48	31.51	30.16	23.65
24	AUXILIARY POWER PLANT	1. 10	0.85	0.76	0.77	1.12	0.82	0.60	0.76	0.69	0.76	0.87	0.47	0.88	0.68	0.66	0.77
32	HYDRAULIC PROPELLER	3.13	2.26	2.09	2.04	3.34	2.24	1.26	1.95	1.83	0.23	0.66	7.72	0.22	0.00	1.64	2.01
41	AIR CONDITIONING, PRESSURIZATION	7.20	7.86	7.11	6.64	7.49	6.65	6.90	7.51	7.76	6.34	8.09	13.98	7.32	10.27	11.45	7.40
42	ELECTRICAL POWER SUPPLY	1.42	3.16	2.93	2.70	2.44	2.63	4.87	4.18	4.80	5.34	10.16	10.61	6.71	4.79	7.63	3.89
44	LIGHTING SYSTEM	3.49	.722	6.16	6.17	3.65	4.29	4.63	5.73	6.03	12.18	12.57	10.42	6.78	5.48	7.30	6.82
45	HYDRAULIC AND PNEUMATIC	4.25	3.12	2.85	2.80	3.73	3.05	2.54	2.71	2.52	2.30	1.83	2.70	2.37	2.05	1.64	2.82
46	FUEL	0.82	1.67	1.37	1.13	0.50	0.86	1.26	1.02	1.04	1.61	0.77	0.93	0.72	0.68	0.13	1.03
47	OXYGEN	1.52	0.68	0.65	0.70	1.21	0.85	0.65	0.49	0.35	0.23	0.11	0.19	-	-	0.00	0.60
49	MISC. UTILITIES	3.07	7.01	6.54	6.37	6.17	4.23	1.35	5.24	5.29	6.32	6.68	5.12	6.49	3.42	2.96	5.13
51	INSTRUMENTS	0.62	1.11	0.49	0.10	5.55	0.03	0.21	0.49	0.59	0.57	1.31	2.51	0.94	0.68	0.20	0.51
52	AUTOPILOT	-	-	-	-	0.31	-	0.00	-	-	-	0.11	-	-	0.00	0.00	0.0
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	0.00	-	-	-	-	-	-	-	0.00	0.0
61	HF COMMUNICATIONS	0.48	0.60	0.53	0.50	0.50	0.48	0.46	0.58	0.59	0.76	0.77	1.02	0.72	2.05	3.36	0.64
62	VHF COMMUNICATIONS	0.0	0.04	0.16	0.20	0.39	0.18	0.06	0.18	0.20	0.06	0.11	0.09	0.11	-	0.00	0.17
63	UHF COMMUNICATIONS	3.07	2.48	2.28	2.20	2.64	2.33	2.48	2.22	2.13	1.26	2.30	2.42	2.42	2.05	2.17	2.27
64	INTERPHONE	0.96	1.92	1.60	1.30	0.05	0.97	1.35	1.16	1.14	2.41	0.87	0.09	0.44	0.68	0.20	1.15
65	IFF	1.40	2.78	2.28	1.84	1.12	1.36	2.21	1.51	1.43	0.40	0.11	0.37	1.05	0.68	0.33	1.50
66	EMERGENCY COMMUNICATIONS	0.06	0.21	0.42	0.53	0.62	0.48	0.60	0.63	0.59	0.40	0.44	0.19	0.99	0.68	0.99	0.51
69	MISC. COMMUNICATIONS	1.04	0.60	0.53	0.57	1.01	0.66	0.06	0.44	0.40	1.15	0.11	0.09	0.00	-	0.00	0.61
71	RADIO NAVIGATION	3.21	3.25	2.97	2.77	1.63	2.84	4.87	3.07	3.17	1.78	2.95	1.86	2.97	4.11	6.78	2.99
72	RADAR NAVIGATION	5.32	4.36	3.99	3.87	2.64	4.11	8.09	3.91	3.81	4.14	2.08	1.86	2.42	2.74	4.67	3.89
91	EMERGENCY EQUIPMENT	0.04	0.47	1.18	1.67	0.00	1.48	1.20	1.51	1.63	0.40	1.31	-	-	2.05	0.00	1.37
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	0.06	-	0.00	0.0
97	EXPLOSIVE DEVICES	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	0.00	0.0
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	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE E-10 C-130E COMPONENTS CONDEMNED PER SORTIE

SYS NO.	SYSTEM NAME	1962	1963	1964	1965*	1966*	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	.0066	.0101	.0047	.0029	.0018	.0011	.0007	.0003	.0004	.0011	0.0003	0.0007	.0026
12	COCKPIT AND FUSELAGE				.0128	.0176	.0103	.0067	.0040	.0025	.0052	.0013	.0014	.0014	0.0076	0.0009	.0065
13	LANDING GEAR				.0227	.0363	.0189	.0088	.0065	.0053	.0078	.0012	.0016	.0029	0.0025	0.0018	.0110
14	FLIGHT CONTROLS				.0017	.0016	.0010	.0013	.0005	.0004	.0005	.0004	.0002	.0004	0.0000	0.0001	.0007
22	TURBO PROP POWER PLANT				.0316	.0128	.0221	.0150	.0108	.0107	.0061	.0031	.0068	.0246	0.0130	0.0154	.0140
24	AUXILIARY POWER PLANT				.0010	.0016	.0008	.0003	.0003	.0003	.0003	.0002	.0001	.0005	0.0003	0.0003	.0004
32	HYDRAULIC PROPELLER				.0026	.0049	.0021	.0008	.0008	.0007	-	.0002	.0022	.0001	0.0000	0.0006	.0013
41	AIR CONDITIONING, PRESSURIZATION				.0086	.0110	.0064	.0043	.0032	.0030	.0020	.0021	.0039	.0049	0.0042	0.0045	.0048
42	ELECTRICAL POWER SUPPLY				.0035	.0036	.0025	.0030	.0018	.0019	.0020	.0026	.0029	.0036	0.0020	0.0030	.0026
44	LIGHTING SYSTEM				.0067	.0053	.0041	.0029	.0024	.0024	.0046	.0032	.0029	.0031	0.0023	0.0029	.0036
45	HYDRAULIC AND PNEUMATIC				.0036	.0055	.0029	.0016	.0012	.0010	.0005	.0010	.0008	0013	0.0008	0.0006	.0010
46	FUEL				.0016	.0007	.0008	.0008	.0004	.0004	.0006	.0002	.0003	.0004	0.0003	0.0011	.0006
47	OXYGEN				.0009	.0018	.0008	.0003	.0002	.0001	-	-	-	-	-	0.0000	.0004
49	MISC. UTILITIES				.0070	.0090	.0040	.0008	.0022	.0021	.0024	.0016	.0014	.0034	0.0014	0.0012	.0030
51	INSTRUMENTS				.0001	.0081	.0000	.0001	.0002	.0002	.0002	.0003	.0007	.0005	0.0003	0.0001	.0009
52	AUTOPILOT				-	.0004	-	-	-	-	-	-	-	-	0.0000	0.0000	.0000
65	MALFUNCTION ANAL. & RECORDING EQUIP.				-	-	-	-	-	-	-	-	-	-	-	0.0000	.0000
61	HF COMMUNICATIONS				.0006	.0007	.0005	.0003	.0002	.0002	.0003	.0002	.0003	.0004	0.0008	0.0013	.0004
62	VHF COMMUNICATIONS				.0003	.0006	.0002	-	.0001	.0001	-	-	-	-	-	0.0000	.0001
63	UHF COMMUNICATIONS				.0029	.0037	.0022	.0016	.0009	.0008	.0005	.0006	.0007	.0013	0.0008	0.0009	.0015
64	INTERPHONE				.0017	.0007	.0009	.0008	.0005	.0004	.0009	.0002	-	.0002	0.0003	0.0001	.0006
65	IFF				.0024	.0016	.0013	.0014	.0006	.0006	.0002	-	.0001	.0006	0.0003	0.0001	.0008
66	EMERGENCY COMMUNICATIONS				.0007	.0009	.0006	.0006	.0002	.0002	.0002	.0001	-	.0005	0.0003	0.0004	.0004
69	MISC. COMMUNICATIONS				.0007	.0015	.0006	-	.0002	.0002	.0004	-	-	-	-	0.0000	.0003
71	RADIO NAVIGATION				.0036	.0024	.0027	.0030	.0013	.0012	.0007	.0008	.0005	.0016	0.0017	0.0027	.0019
72	RADAR NAVIGATION				.0050	.0039	.0039	.0050	.0017	.0015	.0016	.0005	.0006	.0013	0.0011	0.0018	.0026
91	EMERGENCY EQUIPMENT				.0020	-	.0014	.0007	.0006	.0006	.0002	.0003	-	-	0.0008	0.0000	.0006
96	PERSONNEL EQUIPMENT				-	-	-	-	-	-	-	-	-	-	-	0.0000	.0000
97	EXPLOSIVE DEVICES				-	-	-	-	-	-	-	-	-	-	-	0.0000	.0000

	TOTALS				.1296	.167	.0966	.062	.0423	.0300	.038	.026	.028	.053	0.0412	0.0362	.0674

* NORMALIZED DATA

TABLE E-11 C-13E MATERIAL MISSION ABORTS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	.08	.10	.13	.15	.42	.20	.24	.25	.28	0.42	.32	.30	.30	0.4	.48	0.24
12	COCKPIT AND FUSELAGE	.11	.11	.11	.10	.05	.09	.11	.08	.09	0.08	.06	.08	.03	0.1	.07	0.18
13	LANDING GEAR	.68	.67	.87	1.04	1.26	1.06	.94	.91	.89	0.86	.78	.68	.82	0.8	1.01	0.91
14	FLIGHT CONTROLS	.09	.62	.61	.48	.39	.43	.44	.55	.58	0.58	.73	.61	.79	0.6	.48	0.64
22	TURBO PROP POWER PLANT	2.06	2.34	3.00	3.51	4.07	3.59	3.16	3.10	3.06	4.30	2.64	3.31	3.96	2.8	2.54	3.24
24	AUXILIARY POWER PLANT	.17	.16	.15	.19	.14	.13	.15	.11	.10	0.06	.04	.06	.12	0.1	.08	0.11
32	HYDRAULIC PROPELLER	3.70	2.31	2.34	2.43	2.85	2.60	2.61	2.19	2.30	2.86	1.82	2.15	2.02	1.7	1.77	2.24
41	AIR CONDITIONING, PRESSURIZATION	.74	.71	.70	.66	.22	.63	.68	.58	.65	0.71	.29	.49	.65	0.6	.65	0.60
42	ELECTRICAL POWER SUPPLY	.06	.19	.49	.72	1.81	.17	.37	.64	.62	0.39	.37	.26	.49	0.4	.45	0.64
44	LIGHTING SYSTEM	.02	.02	.03	.04	.06	.06	-	.06	.07	0.06	.04	.06	.05	0.1	.20	0.06
45	HYDRAULIC AND PNEUMATIC	.20	.29	.48	.63	.36	.05	.63	.51	.58	0.58	.38	.48	.69	0.4	.48	0.52
46	FUEL	.00	.04	.28	.47	.69	.50	.28	.32	.31	0.32	.24	.28	.29	0.1	.18	0.33
47	OXYGEN	.00	.00	.04	.08	.14	.00	.06	.06	.06	0.06	.01	.04	.09	0.0	.03	0.16
49	MISC. UTILITIES	.26	.28	.30	.32	.39	.36	.37	.60	.42	0.43	.30	.50	.65	0.5	.36	0.39
61	INSTRUMENTS	.00	.00	.20	.43	.72	.47	.11	.25	.23	0.18	.09	.08	.12	0.1	.16	0.25
62	AUTOPILOT	.27	.27	.26	.25	.22	.24	.24	.22	.21	0.22	.22	.06	.13	0.2	.16	0.22
65	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	.01	.01	.01	.01	0.00	.01	-	.01	.01	0.04	.01	.01	.01	0.0	.03	0.01
62	VHF COMMUNICATIONS	.11	.10	.08	.09	.06	.07	.09	.06	.04	0.04	.01	.01	.02	-	-	0.06
63	UHF COMMUNICATIONS	.08	.08	.04	.07	0.02	.08	.09	.06	.04	0.04	-	.02	.05	0.0	.05	0.04
64	INTERPHONE	.16	.16	.09	.08	.06	.07	.06	.06	.06	0.07	.01	.01	.06	0.0	-	0.06
65	IFF	.16	.16	.14	.13	.11	.11	.13	.09	.08	0.16	.04	.06	.06	0.1	.08	0.10
66	EMERGENCY COMMUNICATIONS	.08	.003	.007	.01	0.02	.01	-	.02	.02	0.02	.03	.02	.06	0.0	.03	0.02
69	MISC. COMMUNICATIONS	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	0.0
71	RADIO NAVIGATION	.06	.04	.04	.04	.03	0.3	.04	.02	.02	0.01	.01	.01	.01	0.0	.02	0.02
72	RADAR NAVIGATION	.25	.21	.20	.19	.11	.17	.13	.14	.13	0.28	.03	.07	.16	0.2	.16	0.16
91	EMERGENCY EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	0.0
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	0.0
97	EXPLOSIVE DEVICES	.02	.02	.02	.02	0.00	0.1	.02	.01	.01	0.01	-	-	-	0.0	.03	0.01

	TOTALS	9.82	8.613	10.527	12.00	13.34	12.42	10.87	10.57	10.36	11.96	8.62	9.87	11.72	9.4	9.42	10.96

* NORMALIZED DATA

TABLE E-12 C-130E PERCENT DISTRIBUTION OF MATERIAL MISSION ABORTS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	0.89	1.16	1.23	1.24	2.14	1.61	2.21	2.36	2.70	3.62	2.32	3.04	3.34	4.48	6.09	2.22
12	COCKPIT AND FUSELAGE	1.22	1.27	1.04	.83	.22	.72	1.01	.76	.77	0.67	.70	.84	.26	0.53	0.74	0.83
13	LANDING GEAR	6.43	7.75	8.26	8.60	9.42	8.53	8.65	8.61	8.60	7.12	9.07	7.12	7.02	9.64	10.71	8.43
14	FLIGHT CONTROLS	1.06	6.02	4.84	3.97	2.92	3.46	4.23	6.20	5.60	4.94	8.37	6.39	6.76	4.62	5.09	5.00
22	TURBO PROP POWER PLANT	22.84	27.07	28.60	29.03	30.42	28.30	29.07	29.33	29.66	36.68	30.93	4.66	33.82	29.46	26.94	30.00
24	AUXILIARY POWER PLANT	1.88	1.85	1.42	1.16	1.05	1.05	1.38	1.04	.97	0.42	.46	.63	1.03	1.28	0.85	1.02
32	HYDRAULIC PROPELLER	41.02	26.73	22.23	20.10	21.30	20.93	23.09	20.72	20.29	17.26	21.16	22.51	17.29	17.93	18.77	20.74
41	AIR CONDITIONING, PRESSURIZATION	8.20	8.2	6.65	5.46	1.64	5.07	6.26	5.49	5.31	6.95	4.53	5.13	5.67	6.51	6.89	6.56
42	ELECTRICAL POWER SUPPLY	.66	2.20	4.65	5.96	7.55	6.20	3.40	5.11	5.02	3.27	4.30	2.72	4.20	4.27	4.77	5.00
44	LIGHTING SYSTEM	.22	.23	.28	.33	.60	.40	-	.57	.68	0.50	.70	.73	.43	1.39	2.12	0.56
45	HYDRAULIC AND PNEUMATIC	2.22	3.36	4.56	5.21	2.69	5.31	5.80	4.82	4.83	4.19	4.42	4.19	5.91	4.80	5.09	4.81
46	FUEL	.00	.46	2.66	3.89	5.16	4.02	2.58	3.03	3.00	2.68	2.79	2.93	2.40	1.60	1.91	3.06
47	OXYGEN	.00	.00	.38	.66	1.05	.64	0.55	.47	.48	0.50	.12	.42	.77	0.43	0.32	0.46
49	MISC. UTILITIES	2.88	3.24	2.85	2.65	2.91	2.90	3.40	3.78	4.06	3.60	4.42	5.24	5.57	5.12	3.71	3.61
51	INSTRUMENTS	.00	.00	1.90	3.66	6.38	3.78	1.01	2.35	2.22	1.26	1.04	.84	1.03	1.39	1.70	2.31
52	AUTOPILOT	2.99	3.12	2.47	2.07	1.64	1.93	2.21	2.08	2.03	1.84	2.56	.63	1.03	1.81	1.70	2.04
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	.11	.12	.09	.08	0.00	.08	-	.09	.10	0.34	.12	.10	.08	0.11	0.32	0.09
62	VHF COMMUNICATIONS	1.22		.85	.74	.45	.66	0.83	.47	.39	0.34	.12	.10	.08	-	-	0.46
63	UHF COMMUNICATIONS	.00	.00	.38	.68	0.00	.64	0.83	.47	.39	0.34	-	.21	.43	0.32	0.53	0.37
64	INTERPHONE	1.11	1.16	.85	.66	.60	.56	0.55	.57	.48	0.59	.12	.10	.51	0.11	-	0.56
65	IFF	1.77	1.74	1.13	1.08	.82	.88	1.20	.85	.77	1.34	.47	.53	.61	0.53	0.85	0.93
66	EMERGENCY COMMUNICATIONS	.00	.03	.07	.08	0.00	.08	-	.19	.19	0.17	.35	.21	.51	0.43	0.32	0.19
69	MISC. COMMUNICATIONS	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
71	RADIO NAVIGATION	.55	.46	.38	.33	.22	.24	0.37	.19	.19	0.08	.12	.10	.08	0.11	0.21	0.19
72	RADAR NAVIGATION	2.55	2.43	1.90	1.57	.82	1.37	1.20	1.32	1.26	2.35	.81	.73	1.37	2.03	1.06	1.48
91	EMERGENCY EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	.22	.23	.19	.16	0.00	.08	0.18	.09	.10	0.08	-	-	-	0.11	0.32	0.09
	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE E-13 C-130E MATERIAL MISSION ABORTS PER SORTIE

SYS NO.	SYSTEM NAME	1962	1963	1964	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				.0006	.0017	.0006	.0005	.0005	.0005	.0009	.0005	.0007	.0011	0.0012	0.0012	.0008
12	COCKPIT AND FUSELAGE				.0004	-	.0003	-	.0002	.0001	.0002	.0002	.0002	-	0.0001	0.0002	.0002
13	LANDING GEAR				.0045	.0051	.0031	.0018	.0017	.0017	.0019	.0022	.0019	.0024	0.0023	0.0026	.0025
14	FLIGHT CONTROLS				.0021	.0016	.0012	.0009	.0010	.0011	.0013	.0020	.0016	.0023	0.0017	0.0012	.0014
22	TURBO PROP POWER PLANT				.0152	.0167	.0104	.0060	.0058	.0059	.0096	.0074	.0085	.0115	0.0078	0.0066	.0090
24	AUXILIARY POWER PLANT				.0006	.0006	.0004	-	.0002	.0002	.0001	.0001	.0002	.0004	0.0003	0.0002	.0003
32	HYDRAULIC PROPELLER				.0105	.0117	.0076	.0047	.0041	.0041	.0045	.0051	.0056	.0059	0.0047	0.0046	.0060
41	AIR CONDITIONING, PRESSURIZATION				.0028	.0009	.0018	.0013	.0011	.0011	.0016	.0011	.0013	.0019	0.0017	0.0017	.0015
42	ELECTRICAL POWER SUPPLY				.0031	.0042	.0022	.0007	.0010	.0010	.0008	.0010	.0007	.0014	0.0011	0.0012	.0015
44	LIGHTING SYSTEM				.0002	-	.0001	-	.0001	.0001	.0001	.0002	.0002	.0002	0.0004	0.0005	.0001
45	HYDRAULIC AND PNEUMATIC				.0027	.0015	.0019	.0012	.0010	.0010	.0011	.0010	.0010	.0020	0.0013	0.0012	.0014
46	FUEL				.0020	.0028	.0014	.0005	.0006	.0006	.0007	.0006	.0007	.0008	0.0004	0.0005	.0010
47	OXYGEN	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	DATA NOT DETERMINABLE	.0003	.0006	.0002	.0001	.0001	.0001	.0001	-	.0001	.0003	0.0001	0.0001	.0002
49	MISC. UTILITIES				.0014	.0016	.0010	.0007	.0008	.0008	.0009	.0011	.0013	.0019	0.0014	0.0009	.0011
51	INSTRUMENTS				.0019	.0030	.0014	.0002	.0005	.0004	.0003	.0003	.0002	.0004	0.0004	0.0004	.0008
52	AUTOPILOT				.0011	.0009	.0007	.0005	.0004	.0004	.0004	.0006	.0001	.0004	0.0005	0.0004	.0005
55	MALFUNCTION ANAL. & RECORDING EQUIP.				-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS				.0000	-	.0000	-	.0000	.0000	-	-	-	-	0.0000	0.0001	.0000
62	VHF COMMUNICATIONS				.0004	-	.0002	.0002	.0001	.0001	-	-	-	-	-	-	.0001
63	UHF COMMUNICATIONS				.0003	-	.0002	.0002	.0001	.0001	-	-	-	.0002	0.0001	0.0001	.0001
64	INTERPHONE				.0003	-	.0002	.0001	.0001	.0001	.0001	-	-	.0002	0.0000	-	.0001
65	IFF				.0006	-	.0003	.0003	.0002	.0001	.0004	.0001	.0001	.0002	0.0001	0.0002	.0002
66	EMERGENCY COMMUNICATIONS				.0000	-	.0000	-	.0000	.0000	-	-	-	.0002	0.0001	0.0001	.0000
69	MISC. COMMUNICATIONS				-	-	-	-	-	-	-	-	-	-	-	-	-
71	RADIO NAVIGATION				.0002	-	.0001	-	.0000	.0000	-	-	-	-	0.0000	0.0001	.0000
72	RADAR NAVIGATION				.0008	.0005	.0005	.0003	.0003	.0002	.0006	.0002	.0002	.0005	0.0005	0.0003	.0004
91	EMERGENCY EQUIPMENT				-	-	-	-	-	-	-	-	-	-	-	-	-
96	PERSONNEL EQUIPMENT				-	-	-	-	-	-	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES				.0001	-	.0000	-	.0000	.0000	-	-	-	-	0.0000	0.0001	.0000
	TOTALS				.0524	0534	.0360	.0202	.0199	.0197	.0262	.0240	.0247	.0341	0.0264	0.0234	.0292

* NORMALIZED DATA

TABLE E-14 C-130E MATERIAL MISSION ABORTS (GROUND AND FLIGHT) PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		15 YEAR AVERAGE	
		GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL	GD	FL
11	AIRFRAME	.03	.05	.04	.06	.04	.09	.05	.10	.14	.28	.07	.13	.09	.15	.09	.16	.10	.18	.15	.27	.08	.12	.08	.22	.19	.20	.13	.29	.08	.40	.08	.16
12	COCKPIT AND FUSELAGE	.06	.05	.06	.05	.06	.06	.06	0.4	.00	.03	0.5	.04	.07	.04	.04	.04	.04	.04	.04	.04	.05	.01	.04	.04	.02	.01	.03	.02	.05	.02	.12	.03
13	LANDING GEAR	.24	.34	.28	.39	.36	.61	.43	.61	.61	.65	.44	.62	.61	.33	.38	.53	.37	.52	.34	.46	.34	.44	.30	.38	.30	.52	.28	.63	.26	.75	.38	.55
14	FLIGHT CONTROLS	.04	.05	.23	.29	.23	.29	.21	.27	.28	.11	.19	.24	.17	.29	.24	.31	.26	.32	.26	.33	.38	.35	.30	.31	.27	.52	.25	.37	.16	.32	.24	.31
22	TURBO PROP POWER PLANT	1.27	.79	1.45	.89	1.85	1.15	2.17	1.34	1.13	.94	2.22	1.37	2.40	1.76	1.92	1.18	1.89	1.17	2.62	1.76	1.71	.95	2.00	1.31	2.22	1.74	1.72	1.04	1.49	1.03	2.00	1.24
24	AUXILIARY POWER PLANT	.16	.02	.14	.02	.13	.02	.12	.02	.14	.00	.11	.02	.13	.02	.10	.01	.09	.01	.04	.03	.04	.01	.06	.00	.10	.02	.10	.02	.08	.00	.10	.01
32	HYDRAULIC PROPELLER	1.89	1.81	1.18	1.13	1.20	1.14	1.24	1.19	1.29	1.56	1.33	1.27	1.26	1.25	1.12	1.07	1.08	1.02	.95	.11	.87	.95	1.04	1.11	.93	1.09	1.13	.55	1.11	.66	1.15	1.05
41	AIR CONDITIONING, PRESSURIZATION	.35	.39	.34	.37	.33	.37	.31	.35	.14	.08	.30	.33	.33	.35	.27	.31	.26	.29	.32	.39	.18	.21	.21	.28	.34	.31	.30	.31	.25	.40	.28	.32
42	ELECTRICAL POWER SUPPLY	.03	.03	.09	.10	.26	.25	.35	.37	.40	.61	.38	.39	.28	.09	.26	.26	.25	.27	.17	.22	.15	.22	.11	.15	.23	.26	.26	.14	.23	.22	.26	.26
44	LIGHTING SYSTEM	.01	.01	.01	.01	.01	.02	.01	.03	.08	.00	.01	.04	-	-	.02	.04	.02	.05	.05	.01	.01	.05	.03	.05	.02	.03	.01	.12	.02	.18	.02	.04
45	HYDRAULIC AND PNEUMATIC	.09	.11	.13	.16	.21	.27	.28	.35	.18	.18	.30	.36	.28	.35	.23	.28	.23	.28	.22	.28	.20	.18	.19	.21	.30	.39	.12	.33	.25	.23	.23	.25
46	FUEL	.00	.00	.02	.02	.16	.12	.26	.21	.51	.18	.28	.22	.20	.08	.18	.14	.11	.14	.20	.12	.12	.12	.17	.11	.13	.16	.06	.09	.10	.08	.19	.14
47	OXYGEN	.00	.00	.00	.00	.02	.02	.04	.04	.14	.00	.04	.04	.04	.02	.2	.3	.2	.3	.02	.04	.00	.01	.02	.02	.03	.06	.03	.01	.02	.01	.06	.05
49	MISC. UTILITIES	.11	.15	.12	.14	.13	.17	.14	.18	.14	.25	.16	.20	.22	.15	.17	.23	.18	.24	.17	.26	.13	.25	.23	.27	.28	.37	.19	.29	.20	.15	.17	.22
51	INSTRUMENTS	.00	.00	.00	.00	.09	.11	.20	.23	.39	.33	.22	.25	.04	.07	.12	.13	.11	.12	.04	.11	.04	.05	.04	.04	.04	.08	.06	.07	.10	.06	.12	.13
52	AUTOPILOT	.14	.13	.14	.13	.14	.12	.13	.12	.14	.00	.13	.11	.22	.02	.12	.10	.11	.10	.10	.12	.12	.10	.02	.03	.09	.04	.10	.07	.05	.11	.12	1.0
55	MALFUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	.00	.01	.00	.01	.00	.01	.00	.01	.00	.00	.00	.01	-	-	.00	.01	.00	.01	.00	.04	.01	.00	.00	.01	.00	.01	-	.01	.00	.03	.00	.01
62	VHF COMMUNICATIONS	.06	.05	.05	.05	.04	.05	.04	.05	.03	.03	.04	.03	.02	.07	.02	.03	.02	.02	.01	.03	-	-	.01	.01	.02	.03	.01	.02	.02	.03	.02	.03
63	UHF COMMUNICATIONS	.00	.00	.00	.00	.02	.02	.04	.03	.00	.00	.04	.04	.02	.07	.02	.03	.02	.02	.01	.03	-	-	.01	.01	.03	.03	.01	-	-	-	.02	.04
64	INTERPHONE	.03	.07	.03	.07	.03	.06	.03	.05	.00	.00	.02	.05	.04	.02	.02	.04	.02	.03	.02	.05	.01	.00	.00	.01	.03	.03	.01	.04	.03	.05	.04	.06
65	IFF	.06	.10	.06	.09	.05	.09	.05	.08	.08	.03	.04	.07	.09	.04	.03	.06	.03	.05	.07	.09	.03	.01	.02	.03	.01	.05	.01	.03	.02	.01	.0	.02
66	EMERGENCY COMMUNICATIONS	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01	-	-	.0	.01	.01	.01	.01	.01	.00	.03	-	-	-	-	-	-	-	-	.0	.0
69	MISC. COMMUNICATIONS	-	-	-	-	-	-	-	-	.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.0	.0
71	RADIO NAVIGATION	.00	.05	.00	.04	.00	.04	.00	.04	.00	.03	.00	.03	.04	.00	.00	.02	.00	.02	.01	.00	.00	.01	.01	.00	.01	.00	.01	-	.02	.00	.0	.02
72	RADAR NAVIGATION	.10	.13	.09	.12	.08	.12	.08	.11	.08	.03	.07	.10	.06	.07	.06	.08	.06	.07	.08	.20	.04	.01	.04	.03	.06	.10	.07	.12	.09	.01	.07	.04
91	EMERGENCY EQUIPMENT	-	-	-	-	-	-	-	-	.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.0	.0
96	PERSONNEL EQUIPMENT	-	-	-	-	-	-	-	-	.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.0	.0
97	EXPLOSIVE DEVICES	-	-	-	-	-	-	-	-	.00	.00	-	-	.00	.02	-	-	-	-	.04	.01	-	-	-	-	-	-	-	.01	.02	.01	.0	.0
	TOTALS	4.66	4.34	4.46	4.16	5.42	5.09	6.26	5.83	7.90	5.48	6.44	5.97	6.61	4.26	5.62	5.39	5.81	5.26	5.93	6.02	4.61	4.11	4.93	4.65	5.66	6.07	4.89	4.48	4.65	4.74	5.69	5.27

APPENDIX F:

MAINTENANCE DIGEST REPORT STATISTICAL PROCEDURES

Step 1 - Monthly Maintenance Digest reports, containing detailed assigned maintenance personnel allocations by 62 work centers, were collated for the months of September, 1975 through July, 1976 (11 months).

Step 2 - Assigned maintenance manpower allocations encompassing officers, enlisted and civilian personnel were recorded for each of the 11 months of data released by Little Rock and Pope AFB's. Assigned manpower allocations, entered by grade in rank/skill levels were aligned to the 15 DCM work centers, 18 Organizational Maintenance Squadron work centers, 19 Field Maintenance Squadron work centers, and 10 Avionics Maintenance Squadron work centers. (Total of 62 work centers.)

Step 3 - Assigned manpower allocations derived in Step 2 were summarized in the manner depicted in Table 10. Total numbers of officer, enlisted and civilian personnel allocated to Little Rock and Pope AFB's, were then merged and aligned to the total numbers of possessed C-130E/H aircraft at the two MAC bases. This enabled the developments of:

1. Average numbers of officer, enlisted and civilian personnel assigned to the DCM's, OMS's, FMS's, and AMS's of Little Rock and Pope AFB.

2. Average numbers of possessed aircraft by month.

3. Average number of possessed aircraft over the total 11 month period.

4. Numbers of officer personnel assigned per possessed aircraft within the DCM's, OMS's, FMS's and AMS's.

5. Numbers of enlisted personnel (by skill levels 9, 7, 5, and 3) assigned per possessed aircraft within the same work locations noted in number 4 above.

6. Numbers of civilian personnel assigned per possessed aircraft by work locations noted in number 4 above.

Step 4 - Data derived during Step 3 enabled formulation of officer, enlisted, and civilian manpower loading constants per C-130E aircraft. This encompassed:

1. Numbers of DCM personnel required per UE.

    a. Officer personnel
    b. Enlisted personnel
    c. Civilian personnel

2. Numbers of OMS personnel required per UE.

    a. Officer personnel
    b. Enlisted personnel
    c. Civilian personnel

3. Numbers of FMS personnel required per UE.

    a. Officer personnel
    b. Enlisted personnel
    c. Civilian personnel

4. Numbers of AMS personnel required per UE.

    a. Officer personnel
    b. Enlisted personnel
    c. Civilian personnel

APPENDIX G:

USAF OPERATING AND SUPPORT COST REPORTING SYSTEM (OSCR)

Based on the continuing emphasis and requirements to be able to account for actual operating and support cost of various weapon systems, the Air Force was tasked in early 1974, by the Department of Defense, to develop a Management Information System (MIS) that would identify their weapon system operating and support (O&S) costs. Headquarters USAF Comptroller, Cost Analysis Division (ACMCA) is presently developing a USAF Operating and Support Cost Reporting (OSCR) System to satisfy this requirement. As outlined in Reference, [15] one of the initial conclusions during phase I of accomplishing the above task was to realize that no data system in the Air Force directly associated or captured all operating and support (O&S) costs to a weapon system. Without the knowledge of total actual costs and expenditures for the operation and support of a weapon system it is extremely difficult to know what and where improvements in costs can be made or what the actual cost drivers are.

The purpose of OSCR is the implementation of a reporting system that collects operating and support costs for a weapon system such as the C-130E. Information within the reporting system covers both base and depot (level) data pertaining to actual costs incurred for human and material resources. As indicated previously, only fragments of information are available to make historical comparisons of material resource costs of a weapon system. The OSCR is an extremely important effort that will fill this void and in future years provide a much more effective means to determine and/or historically compare and analyze the operating and support costs of a weapon system

The Operating and Support Cost Report System was implemented at the start of fiscal year 1975. OSCR being a new system, continuous efforts are being made to debug, purify and improve the data contained in the report as well as the data included in the feeder reports from the various bases and depots. Fiscal year 1976 data is being processed as of this date. In addition, the user's handbook has been developed and is in draft form. However, it has not been released as of this date.

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[15] Presentation, "Visibility and Management of Support Costs," MBO 9-2, Headquarters USAF/ACMCA, undated.

APPENDIX H:

USAF MAINTENANCE COST SYSTEM (MCS)

USAF Maintenance Cost System (MCS) is a system, implemented in mid-1975, in which selected cost data at base level flows through various commands to Headquarters USAF and OASD (I&L and Comptroller). Its prime purpose is to provide various levels of maintenance management with comparative cost data by weapon and support systems. The elements of cost such as labor and material, when related to various categories of cost (i.e., direct costs, indirect productive costs, etc.), provide the information base for accomplishing the comparisons mentioned above.

The primary objectives of the MCS were to: 1) Design and implement a cost system for base level activities performing organizational and intermediate maintenance; 2) permit consolidation of both depot and base level maintenance costs into one report showing total Air Force Maintenance costs, and 3) provide data for life cycle costing. There are other objectives not mentioned here that are outlined in AFM 177-380 [12].

The accuracy of the maintenance cost system is dependent on the accuracy of the various reports and systems that feed data to it. These include the General Accounting System, Maintenance Data Collection System (MDC), MMICS Administrative Subsystem/Exception Time Accounting System (ETA), MMICS Status Subsystem/Aerospace Vehicle Status Report (A1), Standard Base Level Supply System - U1050-II (SBSS), and input from the Base Engine Manager. Information from Civilian Accured Annual Leave Cost Records and Maintenance Manhour Data Requirements from the Command Aircraft Maintenance Manpower Information System (CAMMIS) are also input to the MCS. Information from the above sources constitute the data contained in the various reports of the MCS. These organizational and intermediate maintenance cost reports of the MCS are:

1. Work Breakdown Structure (WBS) Within Model/Design/Series (MDS) Within Program Element Code (PEC).
2. NON-MDS by WBS.
3. Work Accomplishment Code (WAC) Within MDS Within PEC.
4. NON-MDS by WAC.
5. By Indirect Productive Labor.

6. By Indirect Non-Productive Labor.

7. By Material Category.

8. By Customer.

The prime office of responsibility is the Air Force Finance Center, (AFAFC/XSM). Since this is a comparatively new system, efforts are presently being made to debug, purify and consolidate fleet wide data. As a result of being a newly developed system the only information that was usable in this study was discussed in the Material Resources area. It is felt that because of the objectives of this new system this detail discussion is appropriate, as the MCS could become a valuable cost data source for future studies.

APPENDIX I

RELIABILITY SUMMARIES

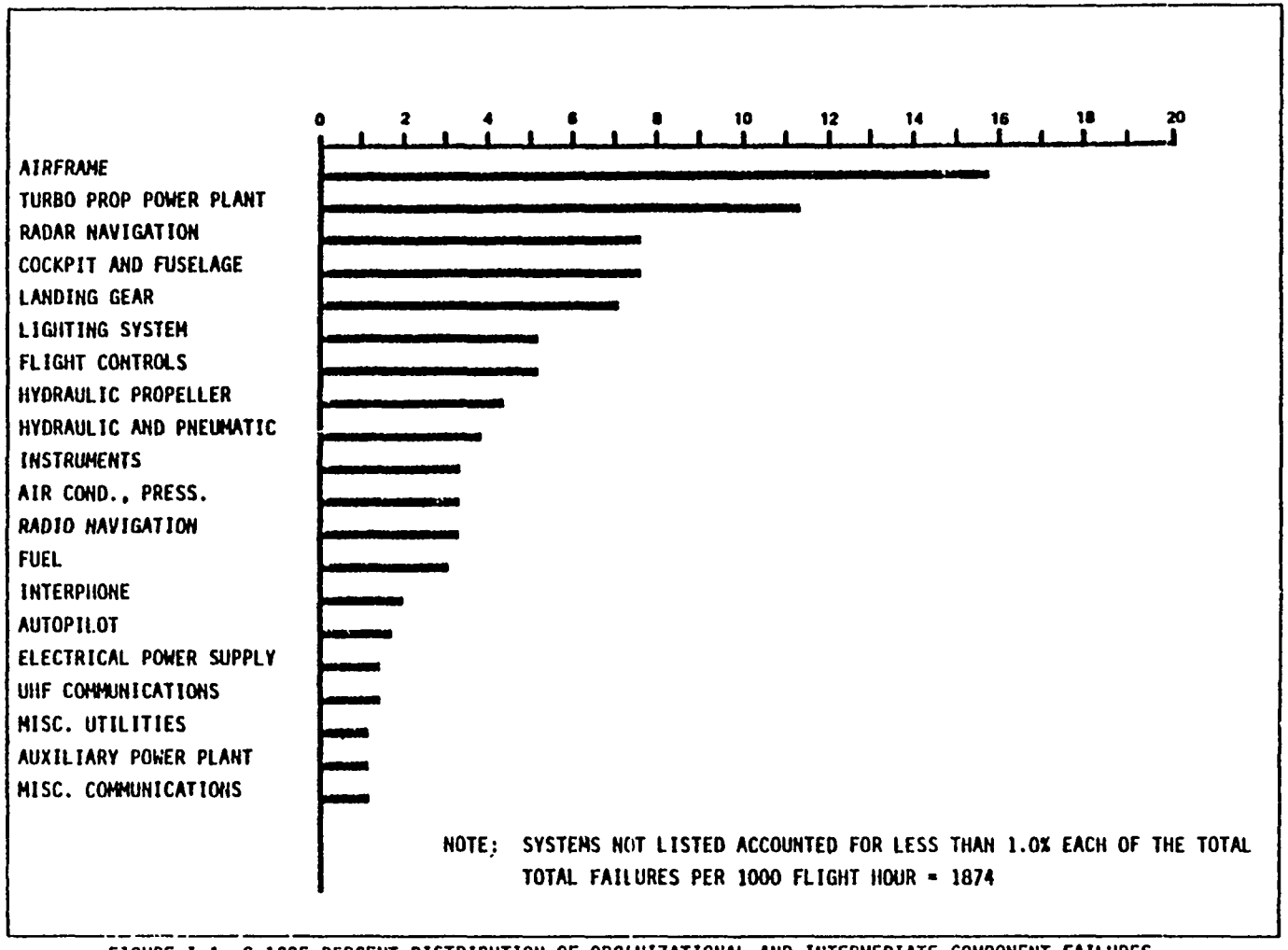

FIGURE I-1 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES
(15 YEAR AVERAGE 1962-1976)

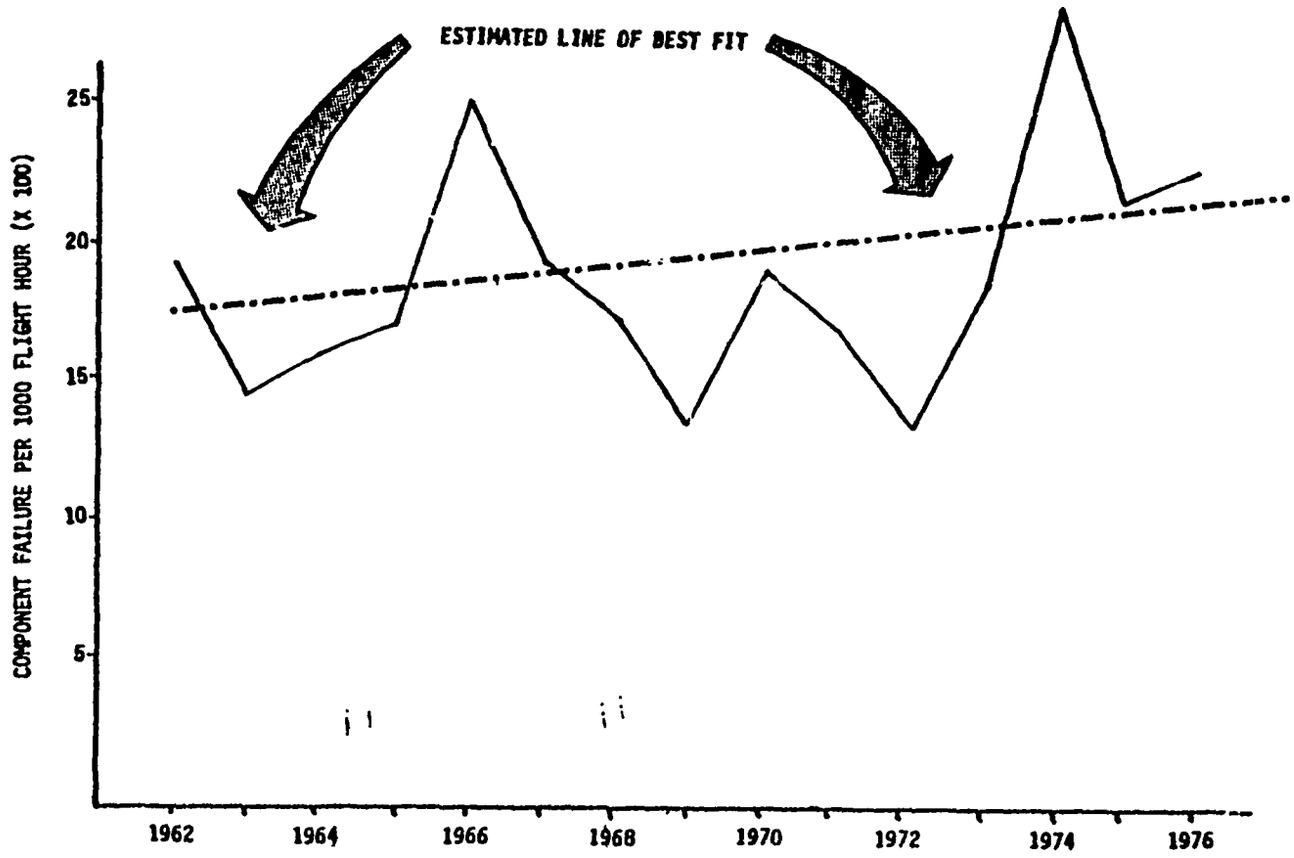

FIGURE I-2 C-130E ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES PER 1000 FLIGHT HOURS VS YEAR OF OPERATION

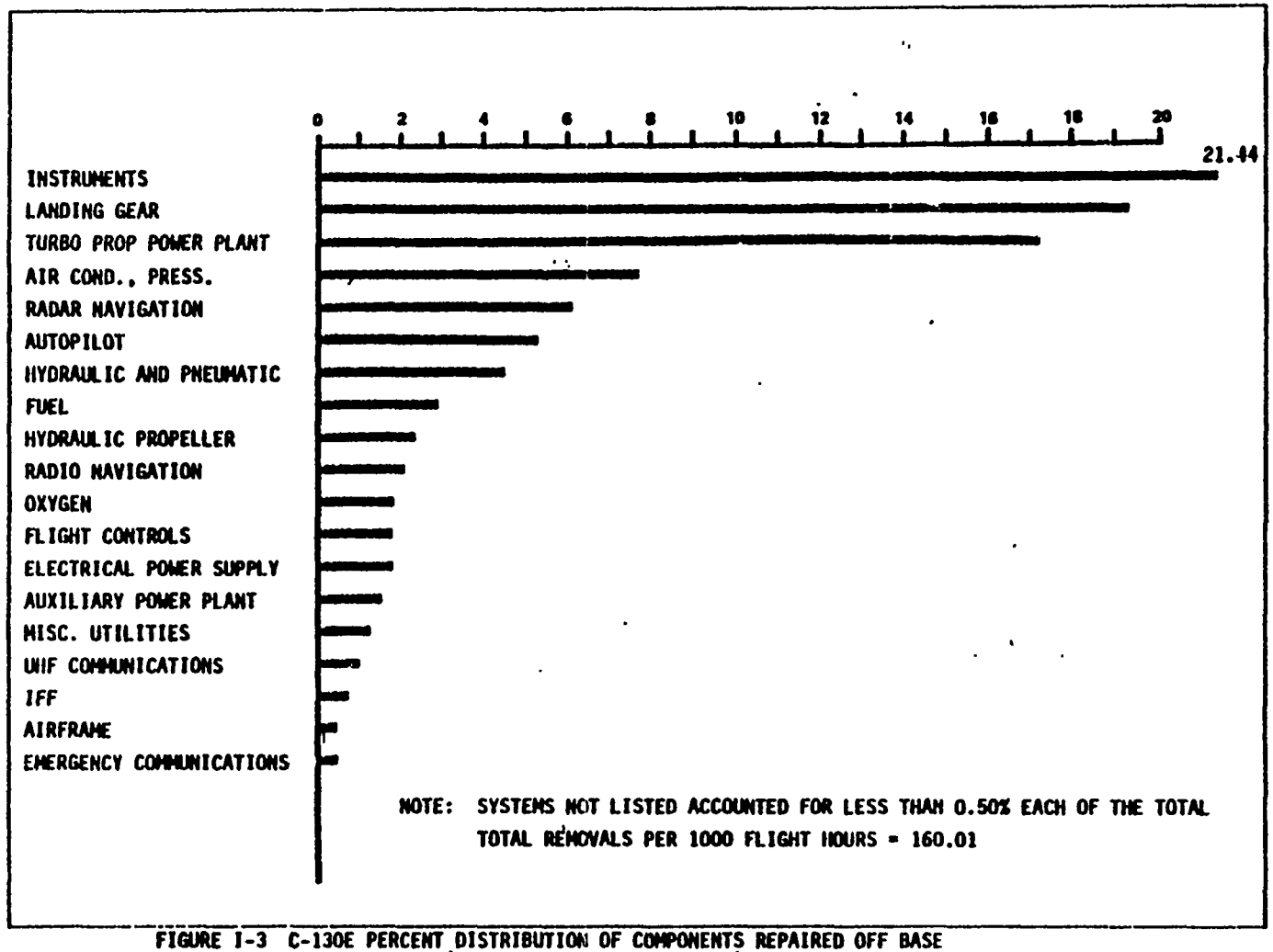

FIGURE I-3 C-130E PERCENT DISTRIBUTION OF COMPONENTS REPAIRED OFF BASE
(15 YEAR AVERAGE 1962-1976)

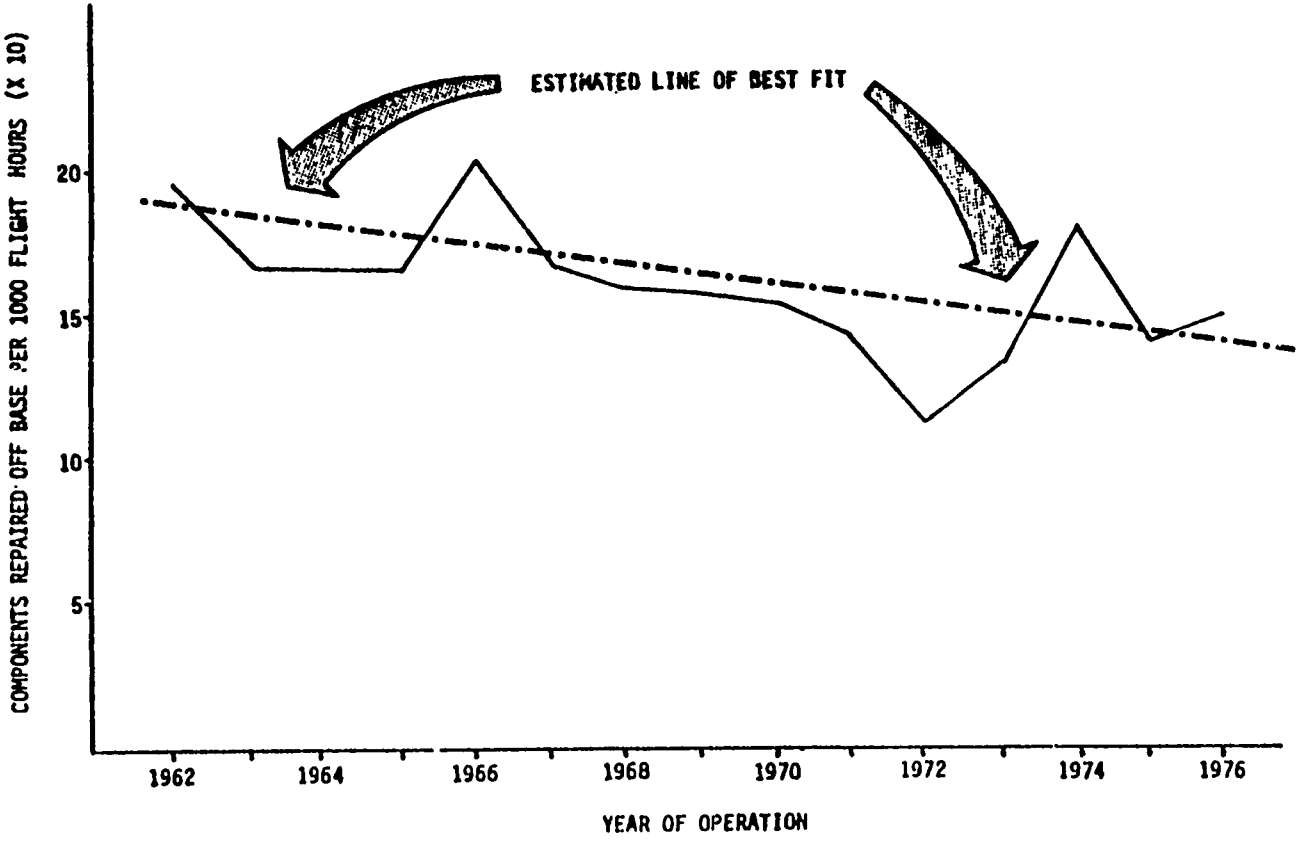

FIGURE I-4 C-130E COMPONENTS REPAIR OFF BASE PER 1000 FLIGHT HOURS VS YEAR OF OPERATION

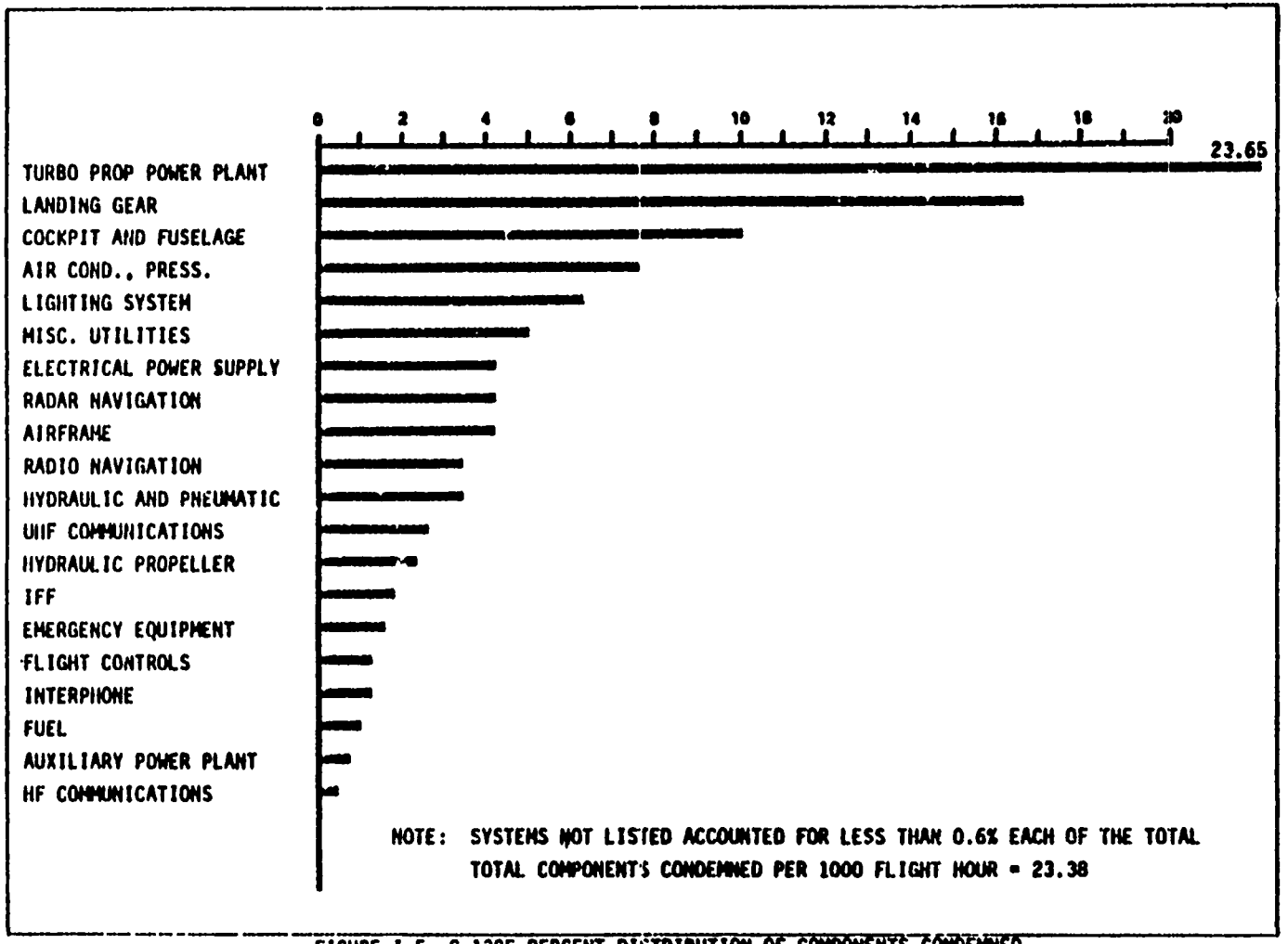

FIGURE I-5 C-130E PERCENT DISTRIBUTION OF COMPONENTS CONDEMNED
(15 YEAR AVERAGE 1962-1976)

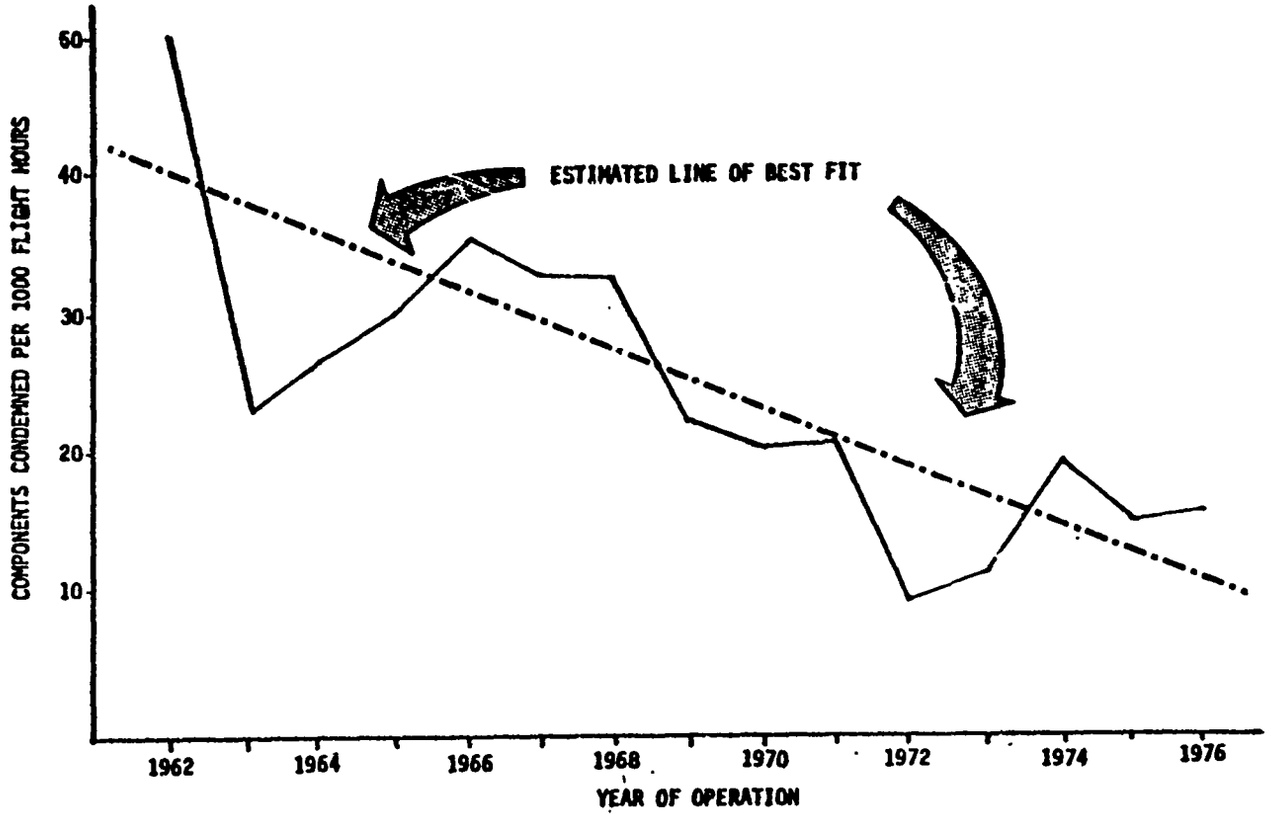

FIGURE I-6 C-130E COMPONENTS CONDEMNED PER 1000 FLIGHT HOURS VS YEAR OF OPERATION

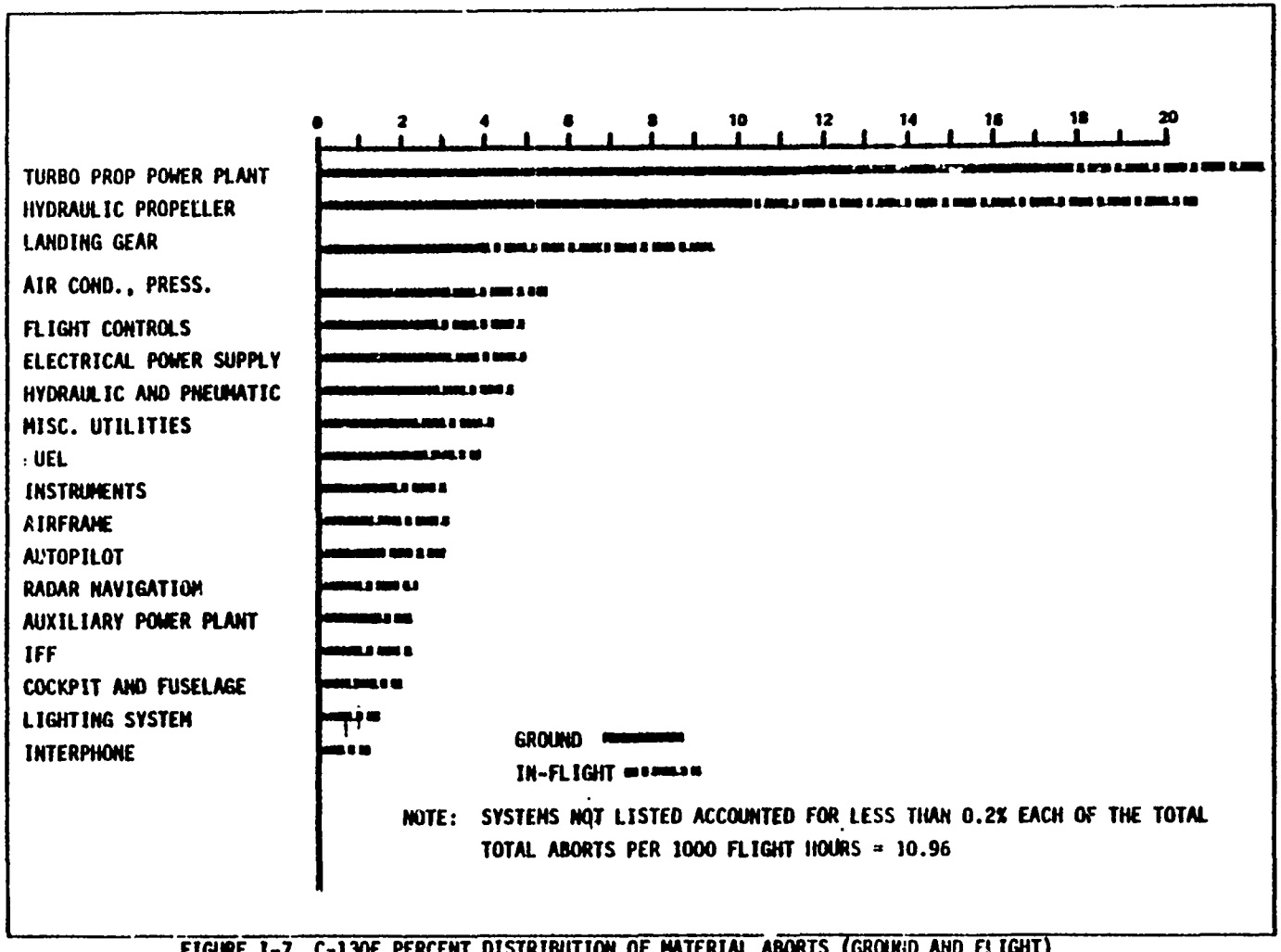

FIGURE I-7 C-130E PERCENT DISTRIBUTION OF MATERIAL ABORTS (GROUND AND FLIGHT)
(15 YEAR AVERAGE 1962-1976)

FIGURE I-8 C-130E MATERIAL ABORTS (GROUND AND FLIGHT) PER 1000 FLIGHT HOURS VS YEAR OF OPERATION

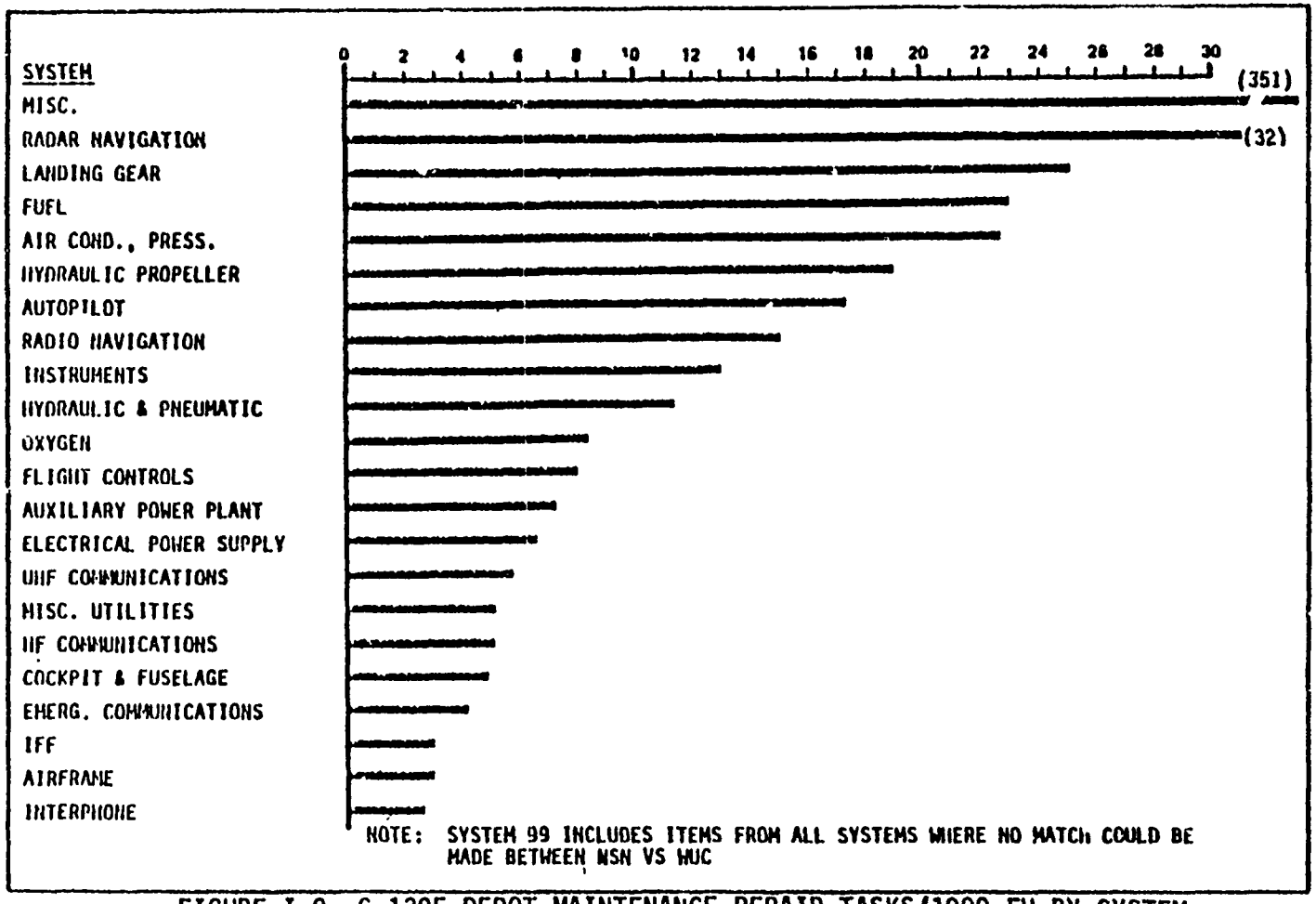

FIGURE I-9 C-130E DEPOT MAINTENANCE REPAIR TASKS/1000 FH BY SYSTEM (EXCLUDING ENGINES) FY 75-76

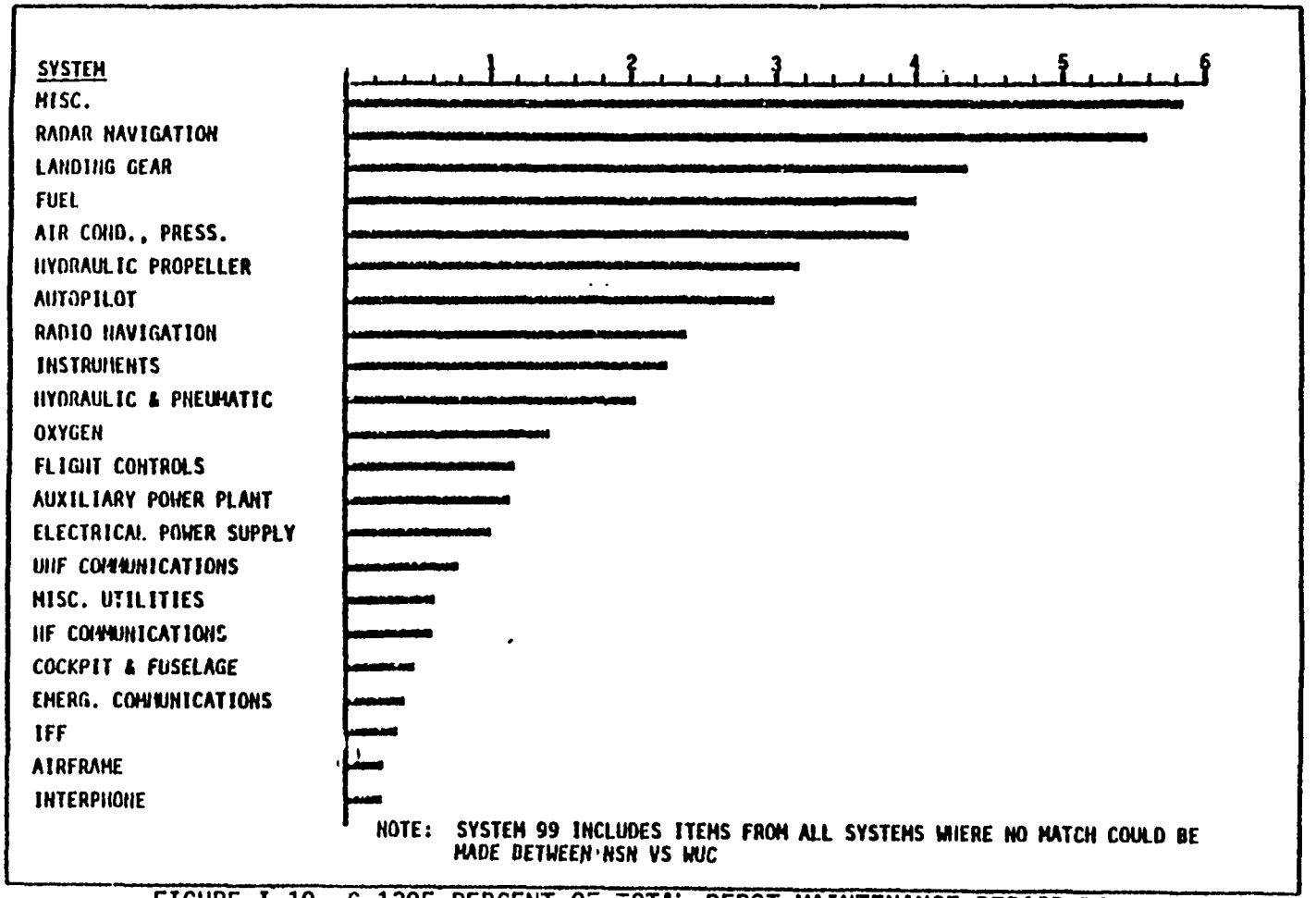

FIGURE I-10 C-130E PERCENT OF TOTAL DEPOT MAINTENANCE REPAIR TASKS BY AIRCRAFT SYSTEM (EXCLUDING ENGINES) FY 75-76