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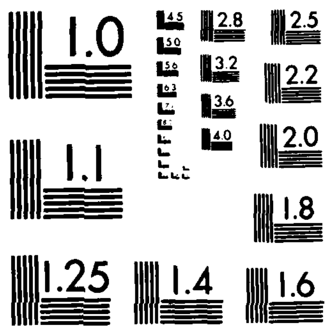

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ESTIMATION OF F-15 PEACETIME
MAINTENANCE MANPOWER REQUIREMENTS
USING THE LOGISTICS COMPOSITE MODEL

THESIS

GOR/SM/76D-5

George DeGovanni
Captain USAF

Donald M. Douglas
Major USAF

Abstract

Estimates of the maintenance manpower requirements of a planned F-15 Tactical Fighter Training Wing operating in a peacetime environment were requested by Tactical Air Command. The Logistics Composite Model (LCOM), a computer simulation, was used in conjunction with the Moody Regression and Moody Manpower programs to estimate these requirements. A more efficient method, using statistical tests of hypothesis, was developed for determining steady state in the simulation model. Using this method, steady state conditions were found to exist, in most cases, at the end of the first simulated day. An estimate was made of the autocorrelation present in each set of simulation output data. Then, correcting for this autocorrelation, statistical confidence intervals were constructed for the manpower estimates. By simulating at various levels of flying activity and with various constraints on resource availability, manpower requirements were found to be relatively insensitive to these constraints at low sortie rates and more sensitive at higher sortie rates. The authors suggest that the construction of statistical confidence intervals and the methodology developed in this study for determining steady state should be given serious consideration in future LCOM manpower studies.

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ESTIMATION OF F-15 PEACETIME MAINTENANCE MANPOWER REQUIREMENTS USING THE LOGISTICS COMPOSITE MODEL

THESIS

Presented to the Faculty of the School of Engineering

of the Air Force Institute of Technology

Air University

in Partial Fulfillment of the

Requirements for the Degree of

Master of Science

by

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Captain USAF

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Graduate Operations Research

December 1976

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Preface

This thesis represents the first detailed Logistics Composite Model (LCOM) analysis of United States Air Force (USAF) peacetime flying operations. In the study, we have attempted to shed light on the statistical and sensitivity inferences of the manpower estimation process. Hopefully, our efforts will allow the LCOM community to achieve greater statistical accuracy with LCOM.

We would like to thank our advisor, Colonel Ronald A. Luhks, and reader, Lieutenant Colonel Jon R. Hobbs, for their guidance during these past six months. We especially thank Lieutenant James R. Lowell for his ceaseless efforts and expert technical advice throughout our thesis effort. We also would like to thank Lieutenant Colonel Donald C. Tetmeyer, William D. Moody, and Wayne Jansen for their help with LCOM procedures. Finally, we would like to thank our wives, Mary and Bobbi, without wnose help and encouragement this thesis would not have been possible.

George DeGovanni

Donald M. Douglas

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Symbols and Abbreviations

AFB	Air Force Base
AFIT	Air Force Institute of Technology
AFM	Air Force Manual
AFSC	Air Force Specialty Code
AGE	Aerospace Ground Equipment
α	Type I Error
ASD	Aeronautical Systems Division
ASR	Accomplished Sortie Rate
ATS	Avionic Test Station
AUTO	Automatic
β	Type II Error
COM	Communications
E	Mutually Exclusive Probability
$\bar{E}(\ )$	Expected Value
ECM	Electronic Counter Measures
E(U)	Mean Value of Mann-Whitney
FC	Functional Code
FHPM	Flying Hours per Month
G	Nonmutually Exclusive Probability
H_a	Statistical Alternate Hypothesis
H_0	Statistical Null Hypothesis
INS	Inertial Navigation System
L	Interval or Lag Between Data Points
LCOM	Logistics Composite Model

Symbols and Abbreviations (continued)

LRU	Line Replaceable Unit
M	Direct Manning in Number of Men
MPIP	Maintenance Posture Improvement Program
M_s	Manpower Constraint in Number of Men
MSBMA	Mean Sorties Between Maintenance Action
N	Sample Size
NAV	Navigations
NRTS	Not Repairable This Station
P(R)	Probability That R Equals Some Integer Valued Number of Runs
PSR	Performance Summary Report
R	Number of Runs
ρ	Autocorrelation Coefficient
$\hat{\rho}$	Estimated Autocorrelation Coefficient
$\hat{\rho}(L)$	Estimated Autocorrelation Coefficient at Lag (L)
$\rho(L)$	Autocorrelation Coefficient at Lag (L)
RPV	Remotely Piloted Vehicle
σ^2	Population Variance
S_μ	Standard Deviation of the Mean
S_μ^2	Sample Variance of the Mean
TAC	Tactical Air Command
TFTW	Tactical Fighter Training Wing
U	Mann-Whitney Statistic
μ	Population Mean
U.E.	Unit Equipment

Symbols and Abbreviations (continued)

UHF	Ultra High Frequency
USAF	United States Air Force
V(U)	Variance of Mann-Whitney Statistic
W	Mann-Whitney Rank Value
WUC	Work Unit Code
$\overline{X}$	Sample Mean
X_t	Output Data Value at Time (t)
Z	Standard Normal Random Variable

I. INTRODUCTION

Estimation of the maintenance manpower necessary to support desired flying activities in various United States Air Force (USAF) organizations is a continuing problem. As new aircraft enter the inventory and as procedures change, there exists a recurring need for reliable estimates of the maintenance manpower necessary to support desired levels of flying activity efficiently. These estimates aid USAF managers in allocating maintenance manpower to new or existing flying units and insuring combat readiness.

Background

One method which has been used successfully to estimate these maintenance manpower requirements involves the use of the Logistics Composite Model (LCOM). The LCOM is a USAF computer simulation language designed to model USAF base level aircraft, maintenance, and support functions (Ref 33). Specifically, the model can be used to estimate maintenance manpower requirements for a USAF flying wing at specified levels of flying activity.

Two previous Air Force Institute of Technology (AFIT) theses have addressed LCOM estimation of maintenance manpower requirements: Green and Rumple constructed an LCOM simulation to evaluate the effects of alternative operational, maintenance, and supply policies on remotely piloted vehicle (RPV) maintenance manning (Ref 14:ii). Fritz and Yates used LCOM to simulate the interaction of the RPV, the launch aircraft, and the recovery helicopter (Ref 13:ii).

Tactical Air Command (TAC) used LCOM to estimate maintenance manpower requirements for their F-4, A-7, A-10, F-15, and F-16 aircraft

(Ref 23). However, TAC conducted the majority of these studies using a wartime operational environment and devoted little attention to a peacetime environment. Consequently, TAC suggested that AFIT students consider a peacetime LCOM study as a possible graduate thesis topic (Ref 29) and offered to make available an on-the-scene technical advisor to assist in making such a study meet TAC requirements.

Each of these previous LCOM studies simulated concurrent flying and maintenance activity. That is, aircraft maintenance was performed only on days of scheduled flying operations. In a wartime environment, this practice is acceptable since aircraft missions are scheduled seven days a week. However, this practice has one major drawback: if a high level of flying activity is scheduled, the aircraft maintenance organization may, at times, become overloaded with work. This causes a temporary decrease in flying activity until the maintenance organization clears out the backlogged work.

In a peacetime environment, flying operations are normally scheduled Monday through Friday. During high levels of flying activity, the maintenance organization continues to perform its functions on weekends in order to alleviate backlogged work. In this manner, the maintenance complex can usually keep stride with the weekly flying operations and the day to day level of flying activity remains fairly constant.

In this thesis, the authors use LCOM to model a peacetime flying environment. The model simulates a Monday through Friday flying schedule and a seven day maintenance work week.

Thesis Objectives

A need exists to expand F-15 LCOM estimation of maintenance manpower requirements to include the peacetime operational environment

(Ref 29). Furthermore, previous LCOM manpower studies have not emphasized statistica' analysis of the output data.

In this thes , the authors use LCOM to estimate the maintenance manpower requirements for an F-15 Tactical Fighter Training Wing (TFTW) with 72 unit equipment (U.E.) aircraft operating in a peacetime environment. In addition, they construct statistical confidence intervals around the resulting estimates of maintenance manpower requirements. Finally, the authors investigate the sensitivity of manpower requirements to variations in availability of aircraft parts and support equipment.

Thesis Scope

The LCOM peacetime environment is determined by TAC Training Syllabus Course Numbers F1500 B,I, and TX (Ref 30) requirements. These publications specify the flying training activity for F-15 pilot upgrade training which is the primary mission of a TFTW. The 58th TFTW located at Luke Air Force Base (AFB), Arizona currently uses these syllabi for all F-15 pilot upgrade training and is the base case for determining the peacetime F-15 LCOM operation and maintenance procedures.

Overview

The remainder of the thesis consists of five chapters. The LCOM chapter describes the Logistics Composite Model and Moody Manpower/Regression Programs. The Data Base chapter describes the maintenance and operations data base. The Methodology chapter lays the groundwork for this study's estimation of manpower requriements. The Analysis and Results chapter contains the manpower estimations and describes their sensitivity to variations in aircraft spare parts and support equipment.

Finally, the Conclusions and Recommendations chapter summarizes the thesis findings.

II. LCOM MANPOWER ESTIMATION

Rather than present a detailed description of the LCOM process, this chapter introduces simplified LCOM concepts which form a basis for the remainder of the thesis. Further detail concerning LCOM can be found in Drake (Ref 7 and 8) and Tetmeyer (Ref 33). The LCOM manpower estimation process uses the Logistics Composite Model, the Moody Regression Program, and the Moody Manpower Program (Ref 7, 8, and 33). The interaction of these computer programs produces a complete basic manning document for a USAF maintenance organization.

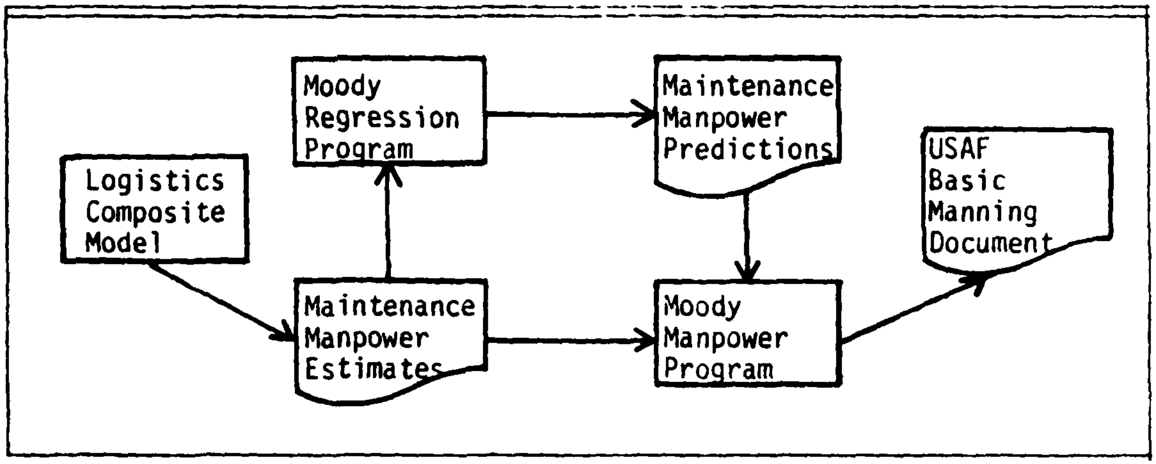


Figure 1. LCOM and Moody Regression/Manpower Program Relationship

Figure 1 depicts the interrelationship of LCOM and the Moody Regression/Manpower Programs. The Logistic Composite Model estimates maintenance manpower requirements for specified levels of flying activity. The Moody Regression Program uses these estimates and regression techniques to predict maintenance manpower requirements for a wide range of flying activity. The Moody Manpower Program uses the LCOM estimates and Regression predictions to produce a complete basic manning document for a USAF maintenance organization. The following paragraphs describe each program in greater detail.

Logistics Composite Model

The LCOM uses three major computer programs to model aircraft flying operations, maintenance functions, and resource constraints. These programs are the preprocessor, main, and postprocessor programs (Ref 7: Chap. 1, p.2). The preprocessor program prepares aircraft operations and maintenance data for the main program. The main program simulates the interaction of aircraft operations, maintenance functions, and resource constraints and provides a statistical summary of the simulation results. The postprocessor program offers additional statistical output data.

Figure 2 illustrates the relationship between the three LCOM programs and the input/output data.

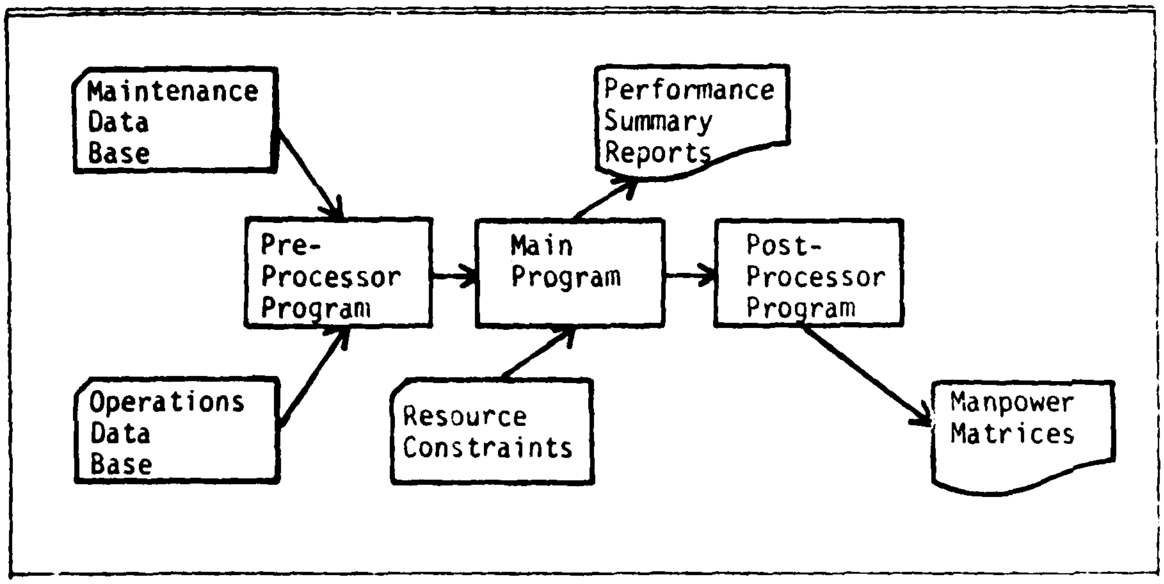


Figure 2. LCOM Program and Data Relationship

The operations and maintenance data bases represent the respective aircraft flying operations and maintenance characteristics. Resource constraints consist of specified quantities of men by Air Force Specialty Code (AFSC), aircraft spare parts, and support equipment. The performance summary reports depict statistical summaries of the simulation results. Finally, the manpower matrices illustrate the daily distribution of manpower requirements (by AFSC).

Figure 3 shows how LCOM uses the flying operations schedule, maintenance functions, and resource constraints to simulate a sequence of maintenance activities. When the flying schedule calls for aircraft to start mission preparation, LCOM designates aircraft from the available aircraft pool for the mission. Each aircraft then processes through the preflight to postflight check blocks.

During this processing, LCOM uses men, spare parts, and support equipment as needed to perform maintenance functions. If all available manpower is already performing aircraft maintenance, LCOM delays the next mission until maintenance manpower is available. If the aircraft are ready for launch at their scheduled takeoff time, the missions fly for the specified mission length and then return for processing through the postflight check block. After postflight, LCOM places the aircraft in the available aircraft pool.

The LCOM also maintains a failure clock on each aircraft subsystem. These clocks use an exponential failure distribution to determine the number of sorties flown until corrective maintenance for their respective subsystems. Since LCOM does not simulate in-flight activity, it checks the failure clocks only during preflight and postflight. If the number of sorties flown equals a particular subsystem's clock value, LCOM lists that component as failed and ceases mission processing. The failed component then processes through the corrective maintenance block and uses

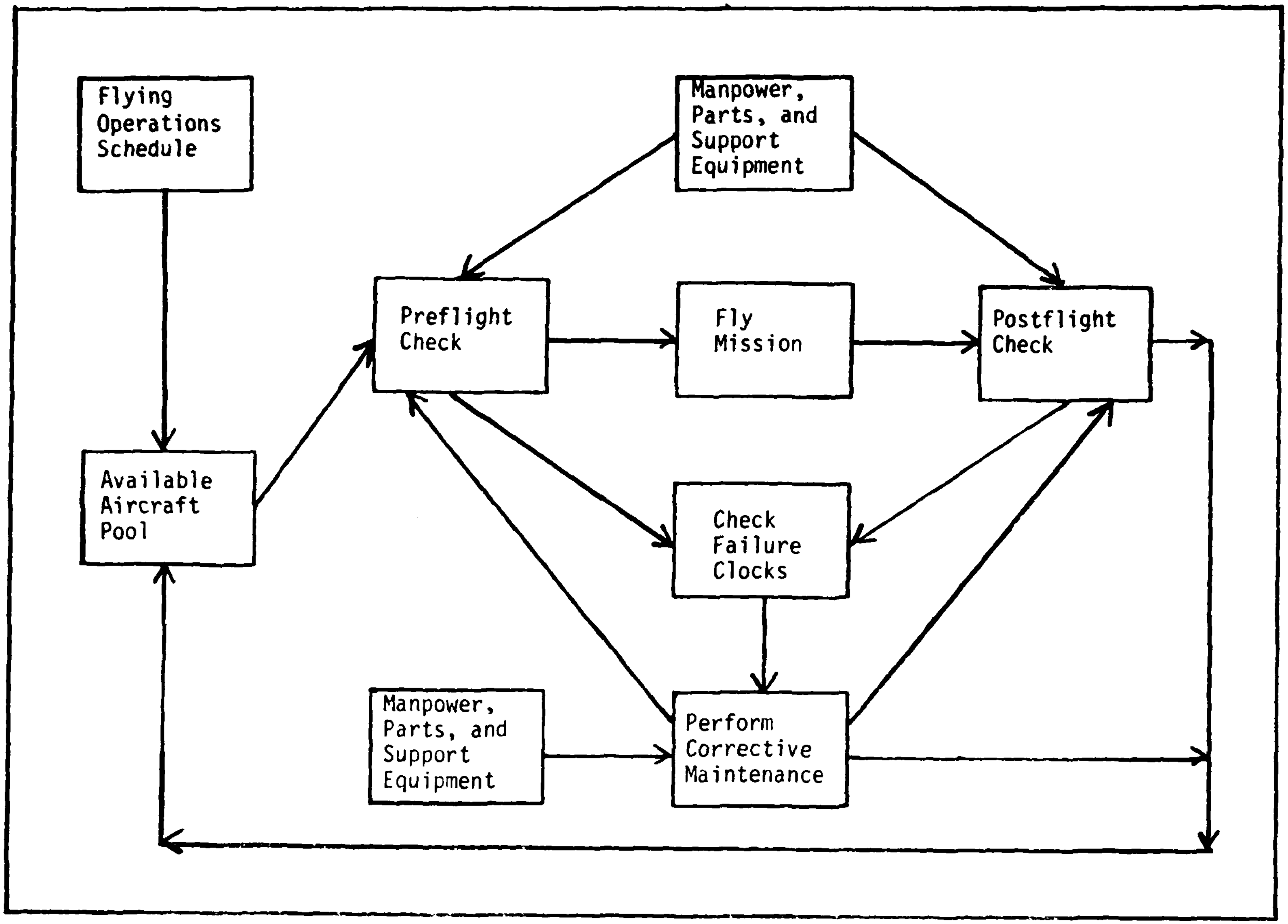


Figure 3. LCOM Simulation of Maintenance Activities

men, spare parts, and support equipment as necessary to perform the corrective maintenance. Upon completion of all corrective maintenance activity, LCOM allows the aircraft to continue with mission processing. However, if corrective maintenance delays an aircraft beyond its scheduled takeoff time, LCOM cancels the corresponding mission and returns the respective aircraft to the available aircraft pool.

The following description of LCOM's preprocessor, main, and postprocessor programs more clearly defines the simulation process.

Preprocessor Program. The preprocessor program translates and organizes the maintenance and operations data bases for the main program. During data translation, the program scans the data base for inconsistencies and provides error diagnostic messages for data ambiguities (Ref 7: Chap. II, p.1). In some cases, the program makes computer logic assumptions when it finds minor data errors concerning user intentions and provides a message specifying the data ambiguity and corresponding program assumption. This feature prevents an unnecessary computer abort for minor data errors.

The LCOM maintenance data base consists of a weapon system's scheduled and unscheduled maintenance procedures, major components (parts), component failure frequencies, mean service and repair times, and resource (men, part, support equipment) requirements. This data represents the maintenance environment of an LCOM simulation (Ref 33:30).

During data base formulation, the user graphically depicts the maintenance environment using LCOM networks (Ref 33:28). These networks define maintenance relationships within the data base. Figure 4 illustrates a simplified LCOM main network and corrective maintenance network for an aircraft mission.

In an LCOM network, tasks represent the scheduled and unscheduled maintenance procedures. These tasks are connected by network nodes (Ref 33:32). For example, nodes AA1/AA2, in Figure 4, define a FUEL task. The user also specifies the men (by Air Force Specialty Code), support equipment, and service or repair time necessary to complete a task. If a task resource is not available, LCOM will delay processing the aircraft mission beyond the guilty task until the constraining resource becomes available. For example, the FUEL task requires two men (AFSC 431X1), one fuel truck, and five minutes.

Every weapon system is composed of many major components or parts. The work unit code (WUC) manual for the particular weapon system numerically defines each of these parts. The LCOM maintains a failure clock for each major component in the maintenance network (Ref 33:36). For example, nodes M1/M2, in Figure 4, define the failure clock for the UHF radio (F63A00). The user assigns each failure clock a failure frequency parameter. He determines this parameter by analyzing failure rates of corresponding real life weapon system components. Mean sorties between maintenance action (MSBMA) is the most common parameter (Ref 33:56). In Figure 4, F63A00 has a MSBMA equal to 10 sorties. At the completion of an aircraft mission, the failure clock for each component in that mission main network advances one sortie.

The LCOM allows the user to specify the percent of time a major component fails before or after mission launch through the use of a clock decrement task (Ref 33:37). Nodes AA4/AA5, in Figure 4, define the clock decrement task prior to launch (DCRMT1) while nodes AA12/AA13 define the clock decrement task after launch (DCRMT2) for the UHF radio.

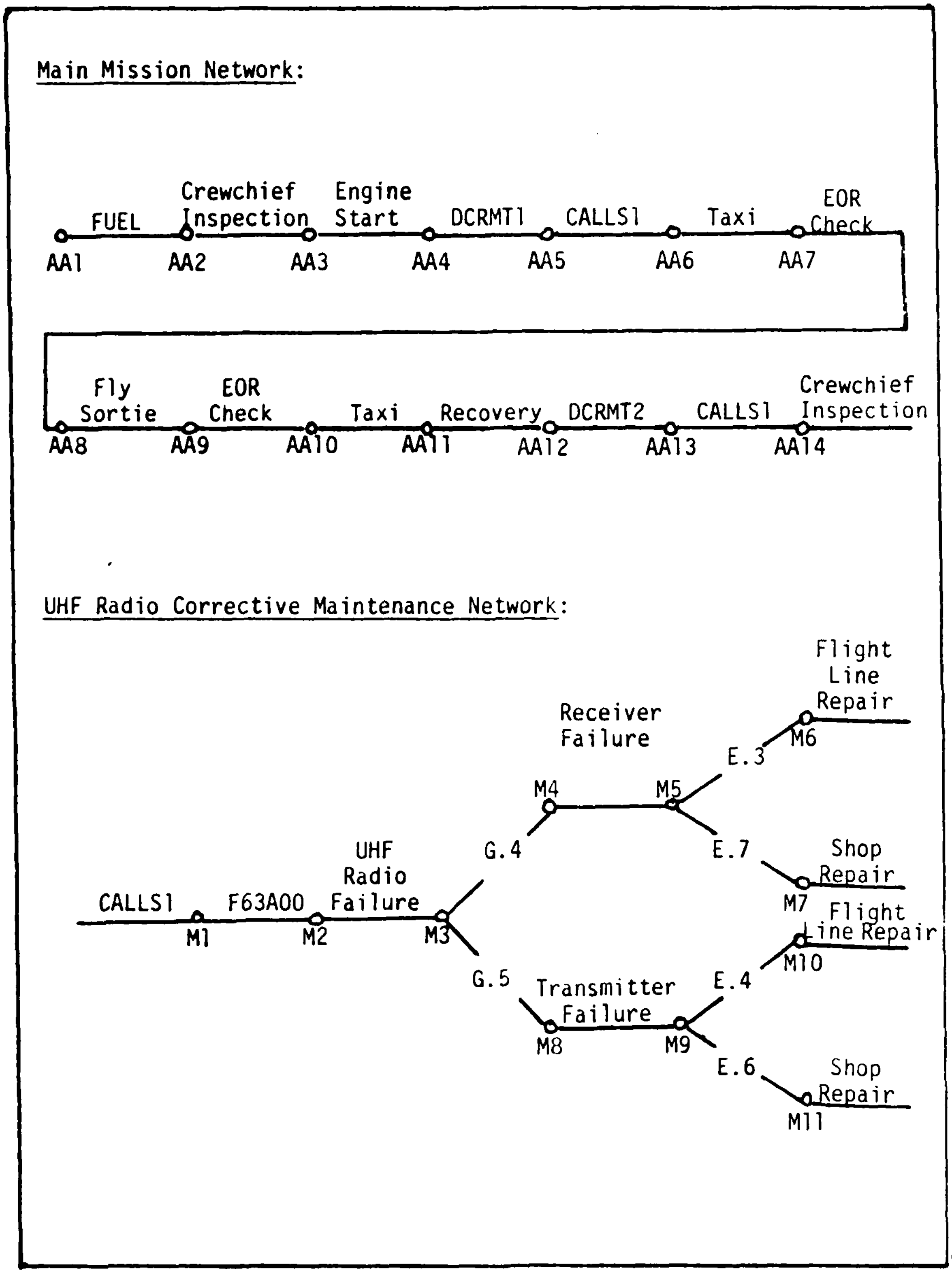


Figure 4. LCOM Maintenance Network

For example, DCRMT1 advances F63A00 three-fourth sortie and DCRMT2 advances F63A00 one-fourth sortie for a one sortie advance of the UHF radio clock by the completion of a processed aircraft mission.

Certain component failures in an LCOM network are not sortie related. In these cases, the failure clock uses a parameter other than MSBMA and the decrement task advances the failure clock by an adjusted amount independent of a sortie. One example is the gun on a tactical aircraft. Periodic gun maintenance is usually based on number of expended ammunition rounds. In this case, the failure clock uses rounds fired as a parameter and the decrement task advances the clock a certain number of rounds each mission sortie.

The LCOM interrogates a failure clock via a Call task (Ref 33:36). Nodes AA5/AA6 and AA13/AA14, in Figure 4, define the Call task (CALLS1) for the UHF radio failure clock (F63A00). Each time LCOM processes a mission through a Call task, the Model checks the corresponding clock to see if it has advanced to its MSBMA parameter. If the clock has advanced to this parameter, LCOM marks that component as failed and stops processing the aircraft mission. At the same time, the model begins processing the failed component through its respective corrective maintenance network. In Figure 4, LCOM processes the UHF radio through the UHF radio corrective maintenance network after F63A00 advances 10 sorties.

Within the corrective maintenance network, LCOM allows the user to specify which subsystem(s) caused the component failure and who fixes the subsystem(s). The model accomplishes this function with G and E probability distributions (Ref 33:62-65).

A G probability is a nonmutually exclusive probability that determines which subsystem(s) caused the component failure. Since the G probability is nonmutually exclusive, either one or more than one subsystem can cause a component failure. In Figure 4, there exists a .4 probability that the receiver (nodes M4/M5) caused the radio failure, a .5 probability that the transmitter (nodes M8/M9) caused the radio failure, and an inferred .1 probability that both the receiver and transmitter caused the radio failure.

An E probability is a mutually exclusive probability that determines who fixes the broken subsystem(s). Since the E probability is mutually exclusive, Flight Line Repair (node M6) or Shop Repair (node M7), but not both, can fix the receiver. In Figure 4, there exists a .7 probability that Shop Repair fixes the receiver and a .3 probability that Flight Line Repair fixes the receiver.

If Shop Repair fixes the receiver, LCOM immediately generates a new part from supply stock and allows the aircraft mission to continue processing through its main network. After Shop Repair fixes the receiver, LCOM returns the repaired receiver to supply stock.

After constructing the LCOM networks, the user transcribes this information onto LCOM Extended Forms 11 (Ref 33:32-36). He then transfers this data to a computer card deck. This card deck is the completed maintenance data base. Figure A-1 in Appendix A contains a sample LCOM Extended Form 11.

The operations data base consists of the aircraft daily flying and maintenance schedules. These schedules form the operational scenario for an LCOM simulation.

The flying schedule contains the aircraft mission type, number of primary aircraft for each mission, mission takeoff time, mission cancel time, and flight duration. Missions with similar configurations, flight time, preflight and postflight servicing, and maintenance crew requirements are grouped under a single LCOM mission type (Ref 33:16), since LCOM only simulates ground activity. As far as LCOM is concerned, flight time is that time which an aircraft is unavailable for maintenance.

The maintenance schedule specifies the number of spare aircraft per mission type, missions that fly more than once during the day (preflight to thru-flight), and number of phase inspections and aircraft washes.

The user designs the operational scenario for a specified level of flying activity. This level of activity is usually designated as aircraft sortie rate. Equation (1) defines sortie rate.

$$\text{sortie rate} = \frac{\text{sorties/day}}{\text{aircraft U.E. size}} \tag{1}$$

The U.E. size is the number of authorized aircraft assigned to a unit. Sorties per day may be either scheduled sorties or accomplished sorties. During the planning stage, the user bases the operational scenario on a scheduled aircraft sortie rate. After an LCOM simulation, the user computes an accomplished aircraft sortie rate.

The user records the completed operational scenario onto LCOM Forms 20 (Ref 33:17) prior to transferring the information to a computer card deck. The punched card deck represents the operational data base. Appendix B contains three operational scenarios based on scheduled sortie rates of .43, .74, and 1.0.

Main Program. The main program simulates maintenance and operations data base interaction. During this interaction, the main program uses available resources to prepare scheduled maintenance and flying activity. The program processes each mission type through its respective main network while simulating all required maintenance tasks.

The preprocessor translated maintenance data base contains unconstrained maintenance manpower, aircraft spare parts, and support equipment. When these resources are left unconstrained, the main program has little difficulty complying with the operations data base's scheduled sortie rate provided sufficient time is allowed between scheduled missions for postflight and preflight maintenance tasks. If resources are constrained, the main program delays mission types, as necessary, when men, spare parts, and/or support equipment are unavailable. If a mission delay exceeds its cancel time, the program cancels the guilty mission. To constrain these resources, the user submits a series of computer cards to the main program prior to simulation. Each card specifies the number of maintenance men by AFSC and work shift, quantity of spare parts by WUC, and/or quantity of support equipment available during the LCOM simulation (Ref 33:123).

After simulation, the main program provides statistical data in the form of Performance Summary Report (PSR). These reports include the number of flying hours, number of sorties requested, number of sorties accomplished, manhours (by AFSC) used, manhour utilization rate (by AFSC), and parts (by WUC) consumed, generated, or backordered (Ref 7, Chap. II, p. 3). The user specifies the interval and number of PSR's desired prior to simulation. Figures C-1 and C-4 in Appendix C contain sample PSR's. The PSR's are used to evaluate the effects of main program simulation. For example, the user can compare scheduled and accomplished sortie rates to determine the effect of resource constraints on the simulation.

Postprocessor Program. The postprocessor program produces manpower matrices for each AFSC. These manpower matrices depict how an AFSC workload varies with the time of day (Ref 33:121). Figures C-2, C-3, C-5, and C-6 in Appendix C contain examples of on-equipment, off-equipment, and backorder matrix printouts for various AFSC's.

These on/off equipment printouts display the number of times during a simulated period that the number of people shown in the leftmost vertical axis are working at the time of day shown on the horizontal axis. This time is in half hour increments.

For instance, the on-equipment matrix for AFSC 326C2, in Appendix C, shows 11 cases in which two people are needed between 0330 and 0400.

The backorder matrices indicate which work shifts require additional personnel in order to increase sorties accomplished.

Moody Regression Program

The Moody Regression Program allows the user to estimate maintenance manning requirements for a wide range of flying activity (Ref 33:126). The user provides the program with three sets of LCOM estimated manning requirements (by AFSC) for an operational scenario based on three different scheduled sortie rates. The Moody Regression Program uses this data to compute first and second order regression equations for maintenance manning (by AFSC) as a function of flying hours per month. The program compares these ordered equations for goodness of fit and chooses that equation, for each AFSC, with the best fit. These equations can be used to graphically depict the information as shown in Figure 5.

Moody Manpower Program

The Moody Manpower Program produces a complete basic authorization document for a maintenance organization (Ref 33:129). The program requires a unit's aircraft U.E. size and flying hours per month from the LCOM simulation, regression equations from the Moody Regression Program, the minimum crew size for each AFSC, and the organization's Major Command supervision and overhead requirements. The resultant document defines the organization structure by Air Force Functional Code (FC) and provides manning requirements by AFSC grade level, for each FC.

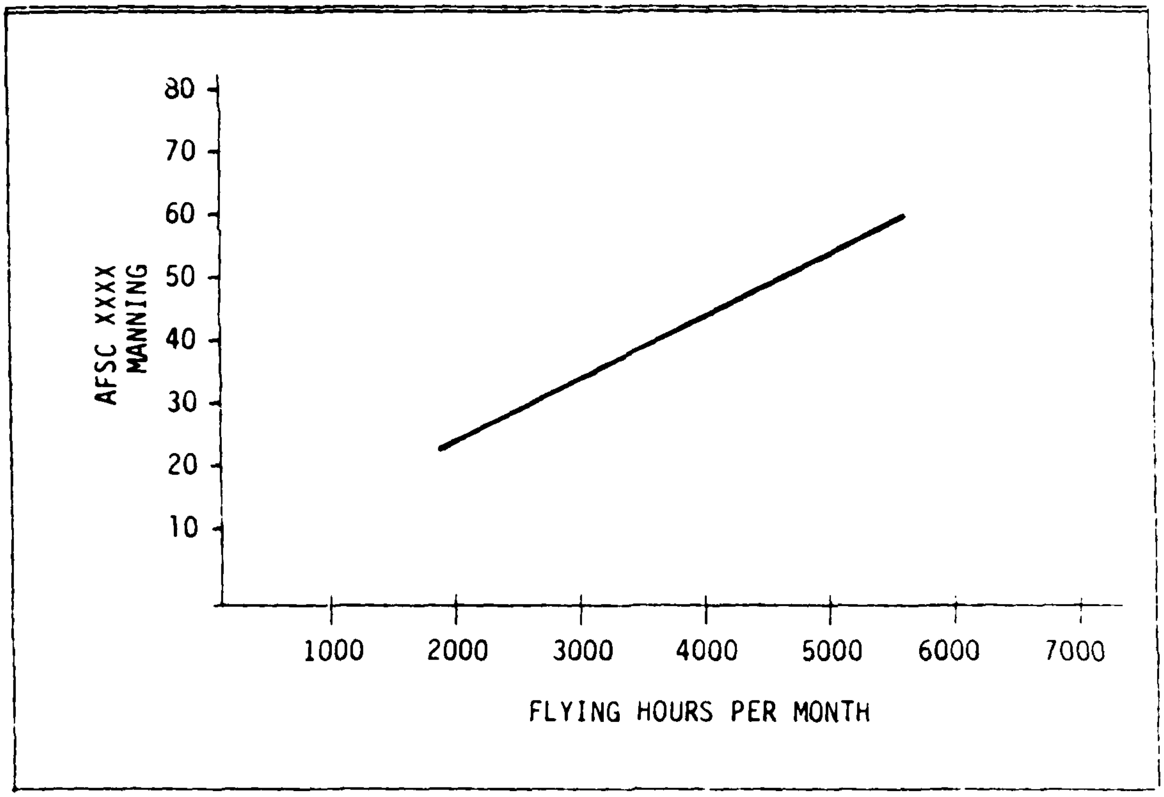


Figure 5. Moody Regression Graph

Summary

This chapter established the basic concepts used in the LCOM manpower estimation process. These concepts included the three LCOM programs, the Moody Regression Program, and the Moody Manpower Program. The next chapter uses these concepts to describe the F-15 peacetime maintenance data base, operations data base, and resource constraints used in this study.

III. DATA BASE

This chapter contains a discussion of the maintenance and operations data bases and resource constraints used in the F-15 TFTW peacetime Logistics Composite Model. The description includes pertinent assumptions and the maintenance organization structure.

Maintenance Data Base

The maintenance data base is a modified version of maintenance data used in the ASD F-15/F-16 Wartime Study (Ref 5). Revisions include maintenance of TF-15 aircraft and simplified flight line maintenance networks with reduced armament and electronic counter measure requirements. Pages 107 through 149 in Appendix A contain a computer listing of the revised data base. The following paragraphs discuss these revisions in terms of the maintenance organization structure, scheduled and unscheduled maintenance procedures, repair/service times, weapon system components, and failure parameters.

Maintenance Organization Structure. Figure 6 illustrates the maintenance organization structure that supports the LCOM F-15 TFTW. This structure is similar to the 58th TFTW maintenance operation. The LCOM estimates those functional codes (FC's) designated by an "L" in Figure 6; the Moody Manpower Program produces a basic authorization document for all FC's depicted in the organization structure. Table I translates these FC's into AFSC's for LCOM estimated manpower and gives their work descriptions.

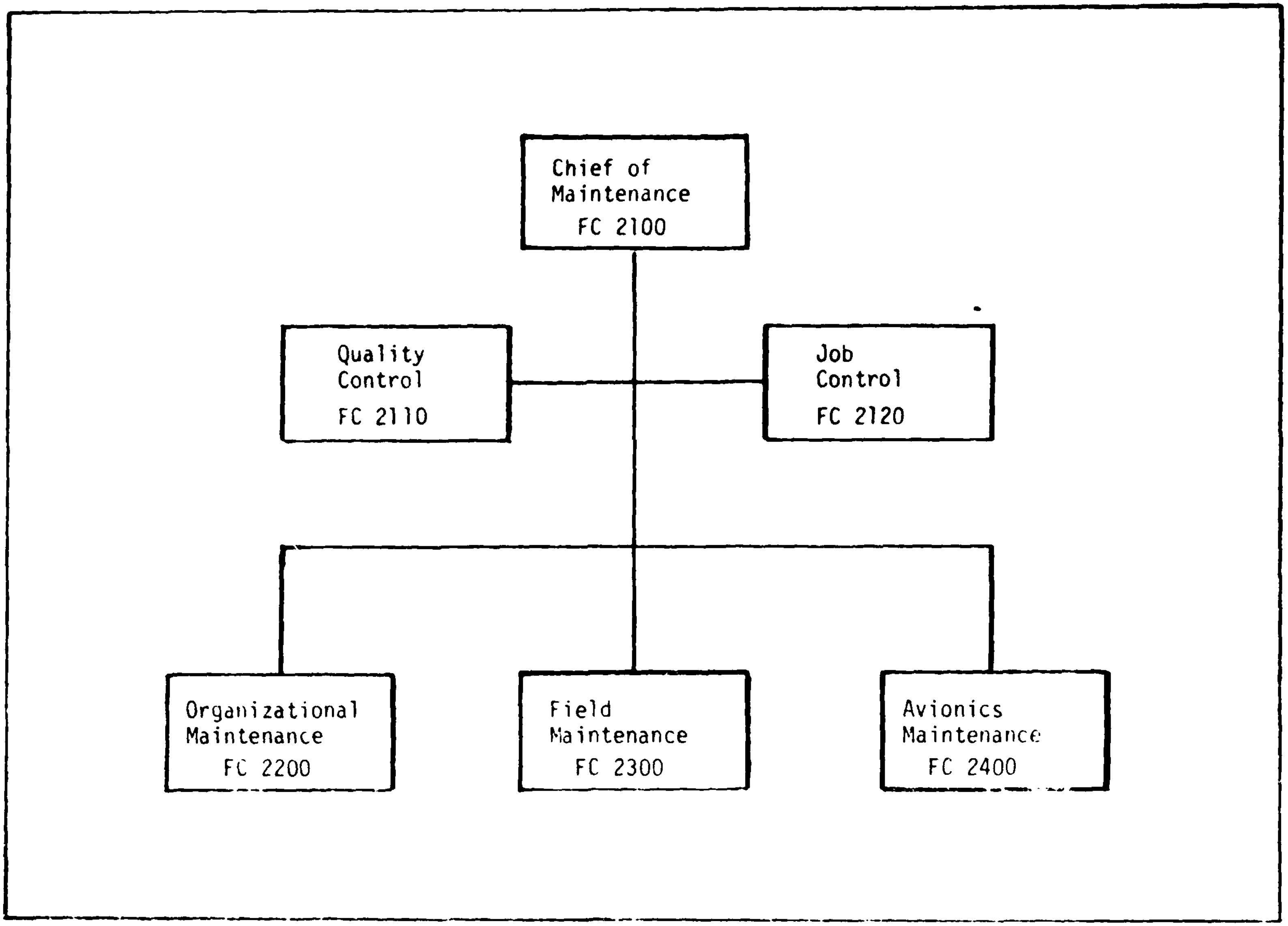


Figure 6. LCOM F-15 TFTW Maintenance Organization Structure

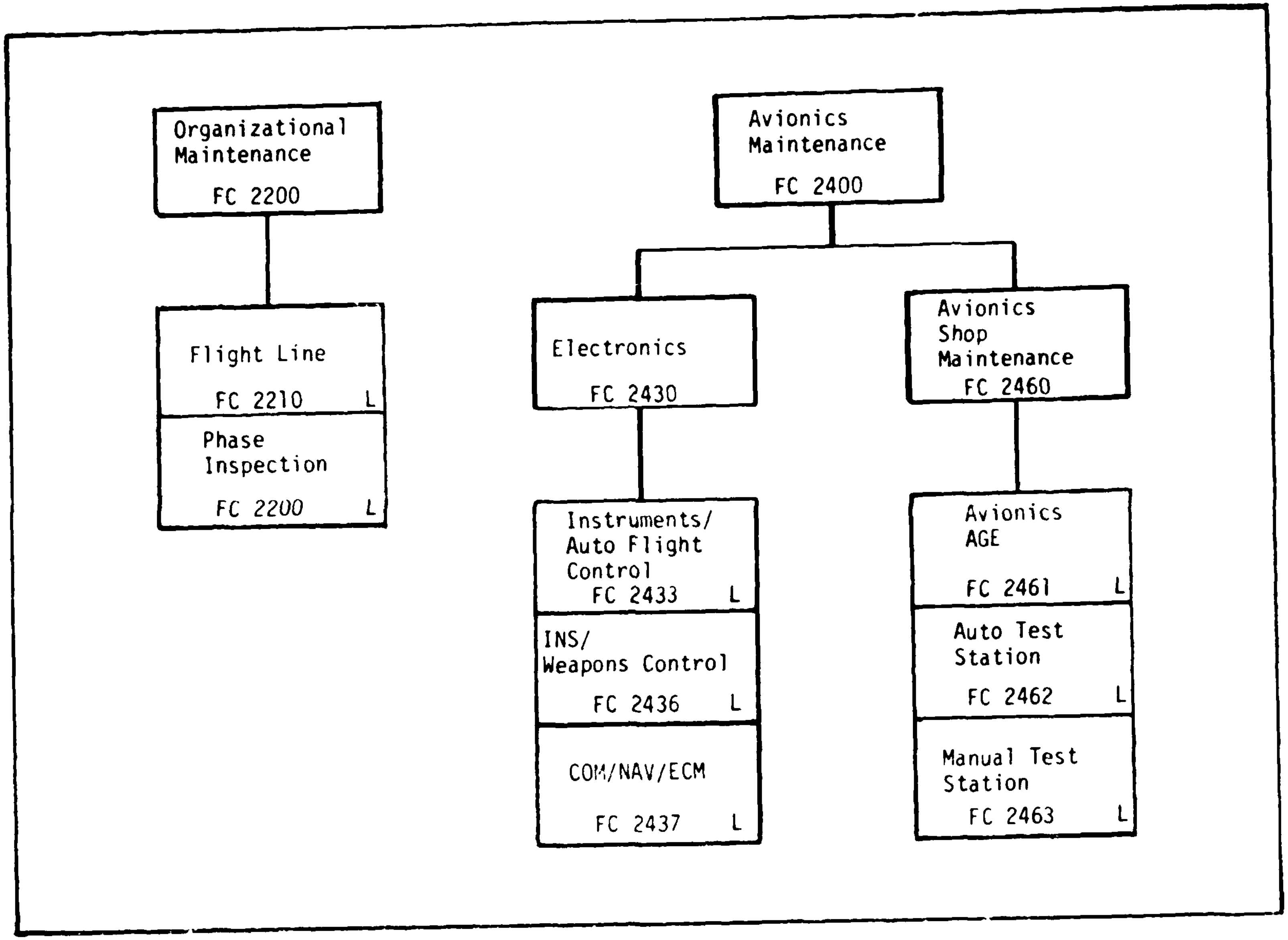


Figure 6. LCOM F-15 TFTW Maintenance Organization Structure (Continued)

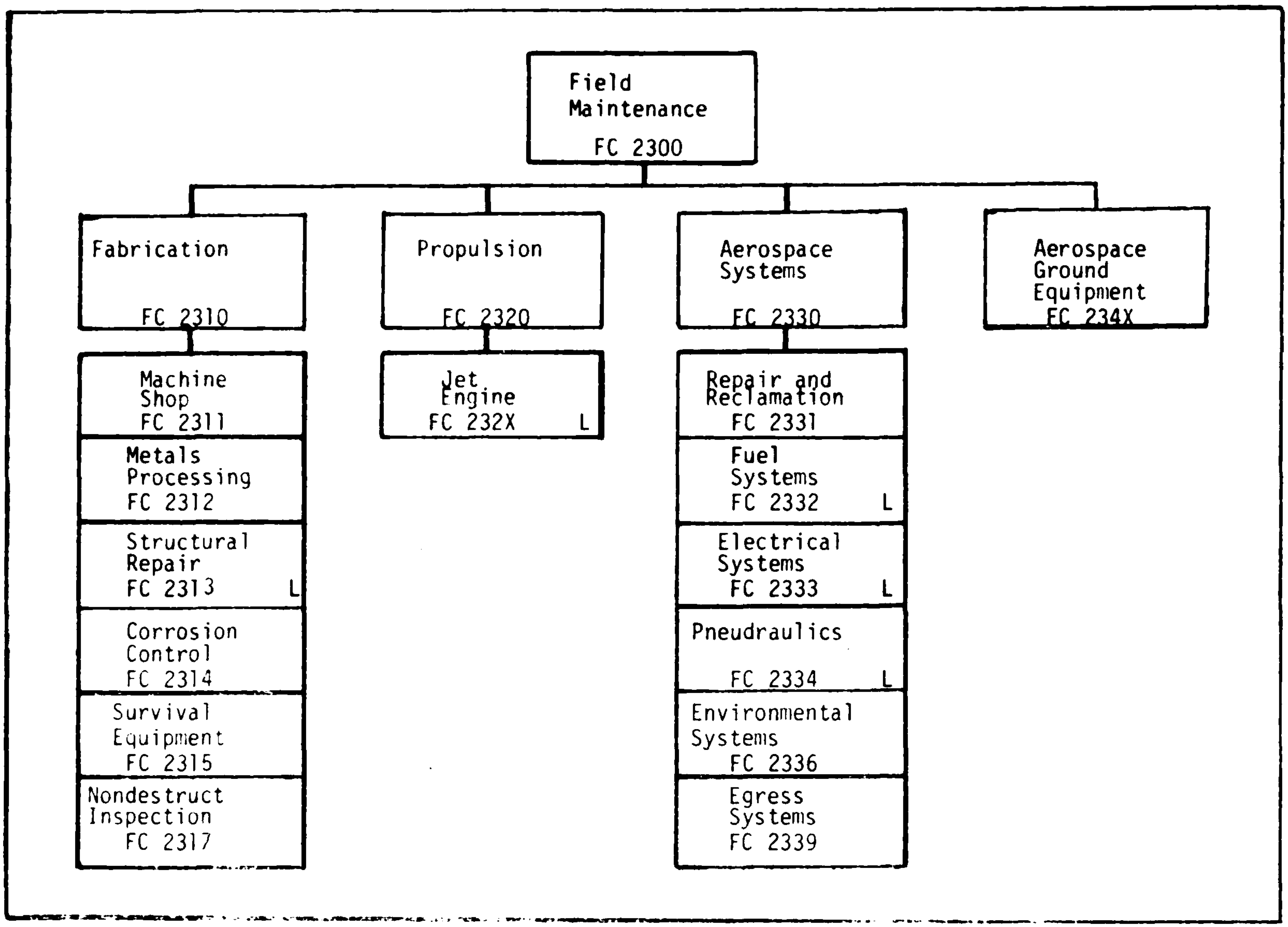


Figure 6. LCOM F-15 TFTW Maintenance Organization Structure (Continued)

Table I

Function Code to AFSC Translation

FC	WORK DESCRIPTION	AFSC
22XX	Flight Line Crew Chief/ Phase Inspection	431X1
2313	Structural Repair	531X3
232X	Jet Engine Shop/Jet Engine Flight Line/Test Cell	426X2
2332	Fuel Systems	423X3
2333	Electrical Systems	423X0
2334	Pneudraulics	423X4
2336	Environmental Systems	423X1
2339	Egress Systems	423X2
2433	Automatic Flight Control/Instruments	326X2B
2436	Inertial Navigation System/Weapon Control	326X2A
2437	Communications/Navigations/Electronic Counter Measures	326X2C
2462	Automatic Test Station	326X1D
2463	Manual Test Station	326X1C

Scheduled and Unscheduled Maintenance. The wartime data base contained maintenance procedures peculiar to a wartime environment. With the technical assistance of the TAC advisor, the authors deleted wartime procedures and added, when necessary, the appropriate peacetime maintenance functions. The resulting LCOM networks represent those scheduled and unscheduled maintenance procedures performed by the 58th TFTW located at Luke AFB, Arizona. These modifications are based on an operational audit of maintenance procedures at Luke AFB (Ref 22) and TAC coordinated peacetime maintenance assumptions (Ref 16, 17, and 27). These assumptions consist of the following:

- The LCOM simulation models maintenance procedures of a 72 U.E. TFTW operating under TAC Training Syllabus course numbers F1500 B, I, and TX (Ref 30).

- Both F-15A and TF-15A aircraft maintenance are modeled.

- The 20mm gun is loaded with 1,000 rounds of ammunition and reloaded after two DART missions are flown. This is the only "live" ammunition used in the simulation.

- Ground aborted missions are not rescheduled since course flying requirements have a nine percent refly factor in establishing the Flying Training Program.

- The wing maintenance activity is organized per AFM 66-1 (Ref 4) and does not reflect Maintenance Posture Improvement Program (MPIP) reorganization.

- The F-15/TF-15 phase inspection procedures performed by the 58th TFTW at Luke AFB are used in scheduled maintenance networks.

-Not reparable this station (NRTS) components use a 15 day resupply time.

-On/off equipment maintenance is available 24 hours a day and seven days a week.

-On-equipment failure of a component is corrected by a remove and replace task when parts are available.

-Cannibalization is initiated when spare parts are constrained and a removed component cannot be repaired in time to accomplish a mission.

-End-of-runway teams are always available during scheduled flying periods.

Maintenance Repair/Service Time. Maintenance task repair and service times are based on interviews with the respective work center supervisors at Luke AFB, Arizona (Ref 1). The data base listing in Appendix A depicts these times and the respective maintenance tasks.

Weapon System Components. The authors used the F/TF-15A Series Work Unit Code (WUC) Manual to describe all weapon system components (parts) (Ref 36). A WUC is a five character code (11XXX-99XXX) that identifies each weapon system part. The maintenance data base describes each F-15 part at the two-four significant character WUC level. This description is equivalent to the line replaceable unit (LRU) level.

Component Failure Parameters. The maintenance data tape (Ref 1) for the 58th TFTW at Luke AFB, defines failure parameters for components in the corrective maintenance networks. This tape contains maintenance data for the September 1975 - February 1976 time period and includes 2132 F/TF-15 flying sorties and 2867 flying hours.

Tetmeyer, Moody, and Nichols (Ref 32 and 33) describe the detailed procedures necessary to extract useful maintenance data from this tape. They also illustrate the method to compute the LCOM failure parameters (MSBMA and G/E Probabilities).

The data base listing in Appendix A illustrates the G and E probabilities for each corrective maintenance network. Appendix D contains each component failure clock, its corresponding MSBMA, and decrement value. The decrement values come from the F-15/F-16 Wartime Study (Ref 5).

Operations Data Base

The F-15 peacetime operations data base contains the flying training schedule and maintenance wash and phase inspection schedules and supports a 72 U.E. TFTW consisting of 48 single seat (F-15) and 24 tandem seat (TF-15) aircraft. The following TAC coordinated assumptions (Ref 16, 17, and 27) were used during construction of the operational scenarios contained in Appendix B.

- -TAC Training Syllabus Course Numbers F1500 B, I, and TX define the unit's flying requirements (Ref 30).

- -The modeled TFTW conducts only a conversion and air-to-air training program.

- -Flying schedule sortie length and variance are derived from the training syllabi.

-Flying training is not scheduled on weekends or holidays.

-Night flying is scheduled as training requires.

-Aircraft scheduled for morning flights are thru-flighted as required to meet mission requirements.

-Aircraft missions delayed longer than two hours are cancelled.

-Only scheduled and spare mission aircraft are preflighted each day.

-Preflight inspections for each aircraft are completed at least two hours prior to scheduled takeoff.

Flying Schedule. This study uses three flying schedules to obtain scheduled sortie rates of .43, .74, and 1.0. Each schedule contains a 13 percent over schedule for maintenance cancellations and a nine percent over schedule for rescheduled training requirements. The .74 sortie rate establishes the base line flying schedule while the .43 and 1.0 sortie rates allow for decreased or increased demands in F-15 pilots. The schedules use a 65/35 ratio of F-15 versus TF-15 aircraft.

The flying schedules involved two basic mission types: Conversion and Air-Air missions. Conversion missions familiarize the pilot with basic F-15 aircraft performance characteristics. Air-Air missions contain tactical air intercept, combat, and gunnery maneuvers. All three flying schedules are based on a 30/70 ratio of Conversion versus Air-Air missions.

Maintenance Schedule. The maintenance schedule specifies the number of spare aircraft, thru-flights, washes, and phase inspections. In this study, the following conditions apply: 52 percent of scheduled aircraft are thru-flighted each day; airframes receive a wash every 75 hours and a phase inspection every 50 hours; spare aircraft are based on 10 percent of scheduled sorties.

Table II summarizes the daily maintenance requirements for the three operational scenarios used in this study.

Table II

Daily Maintenance Requirements

	Scheduled Sortie Rate		
	.43	.74	1.0
Scheduled Aircraft	21	35	47
Scheduled Sorties	31	53	72
Spare Aircraft	4	6	8
Hours per Airframe per Month	15	25	33

Resource Constraints

During the LCOM simulation, the authors constrain selected spare parts and support equipment to measure the effects on accomplished sortie rate and maintenance manpower. These constraints reflect the quantity of spare parts and support equipment available from base supply stock.

This study uses part supply levels found in the F-15/F-16 Wartime manpower Study (Ref 5:60-64). These quantities reflect the most current information on part levels. Appendix E lists the constrained spare parts by WUC and the corresponding supply quantity.

The only support equipment constrained during simulation are avionic test stations (ATS's). Maintenance personnel use these stations to troubleshoot aircraft avionic components. There are three ATS types in the maintenance data base. Appendix E lists each type, the job description, and constrained quantity.

Summary

The F-15 TFTW maintenance and operations data bases and resource constraints were discussed in this chapter. The discussion included pertinent TAC coordinated assumptions and the modeled maintenance organization structure. The next section contains the procedures used in this study to simulate peacetime maintenance and operations data base interaction and analyze the resultant manpower estimates.

IV METHODOLOGY

In this chapter, the authors discuss the concepts and procedures employed in the development of manning estimates using the LCOM model, and the analyses of results obtained. Specifically, this includes an explanation of the sequence of simulation runs performed, the use of the resulting data to compute manpower estimates, and the procedures employed to validate the model. Further, the authors discuss the statistical concepts used to define steady state for the model and to construct confidence intervals for the manpower estimates. Finally, the use of the Moody Regression and Moody Manpower Programs to investigate the sensitivity of manning requirements to parts/ATS constraints is explained.

Sequence of Simulation Runs

In order to estimate manpower requirements for a particular combination of sortie rate and parts/ATS constraints, a series of LCOM runs was performed as shown in Figure 7. To investigate the sensitivity of manpower requirements to various constraints and sortie rates, this sequence was repeated for each of the nine possible combinations of the three sortie rates (.43, .74, and 1.0) and the three levels of resource constraints (unconstrained parts/ATS, constrained parts and unconstrained ATS, and constrained parts/ATS.

Determination of Manpower Requirements

The LCOM determined manpower requirements are based on the total manhours used for each AFSC. After running the model with unconstrained manpower as indicated in Figure 7, it is necessary to constrain the number of men available in the model in order to estimate the actual number

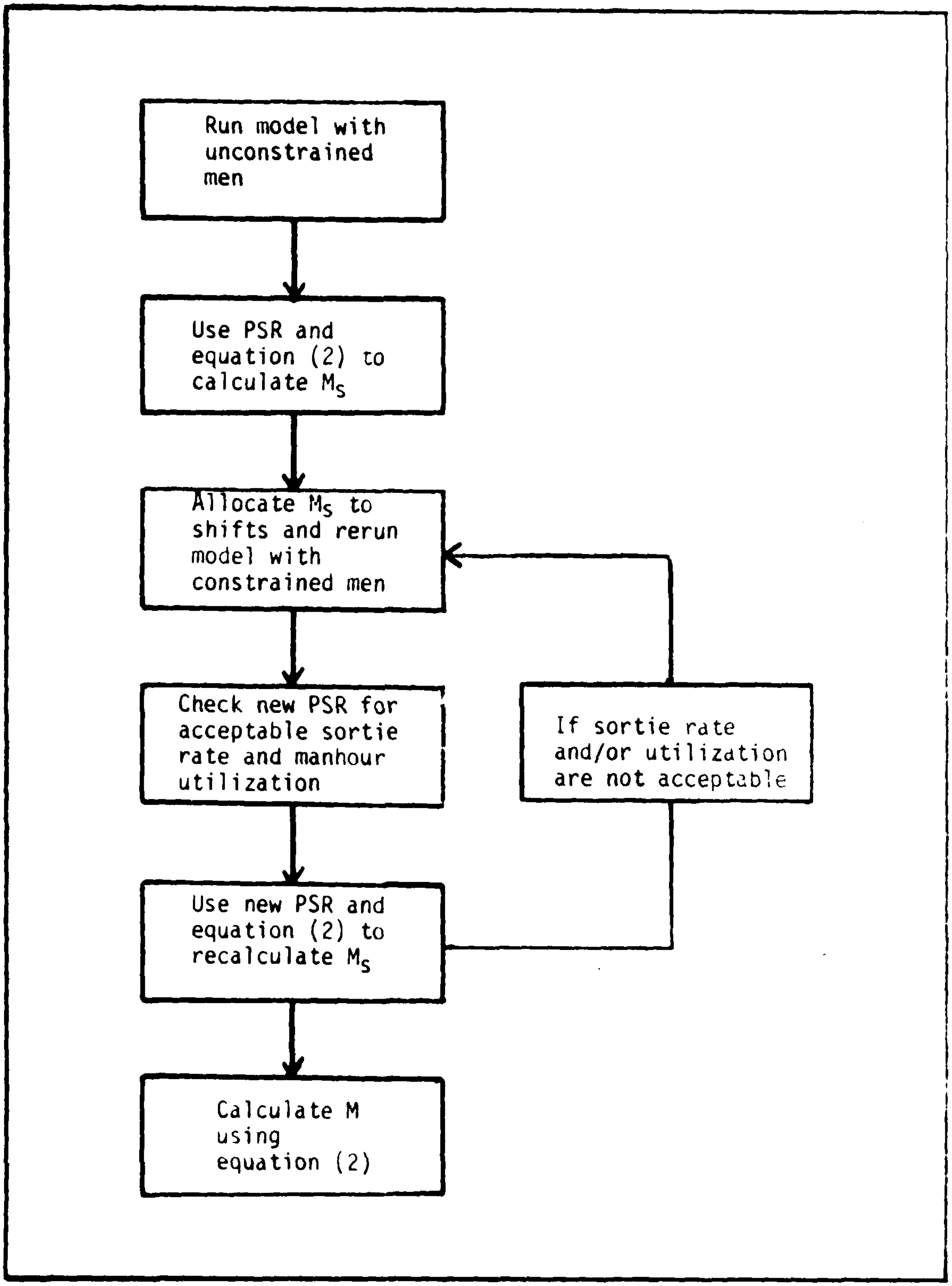


Figure 7. Sequence of Simulation Runs

of men required to support a specified sortie rate. Equation (2) is used to convert each AFSC's total manhours used into these manning constraints.

$$M_S = \frac{\text{Total Manhours Used}}{\begin{pmatrix}\text{Utilization} \\ \text{Factor}\end{pmatrix}\begin{pmatrix}\text{Number} \\ \text{of Days}\end{pmatrix}\begin{pmatrix}\text{Shift} \\ \text{Length}\end{pmatrix}} \qquad (2)$$

In this equation, the total manhours used for each AFSC are obtained from the simulation's performance summary report (PSR). The utilization factor is the fraction of manhours available for direct work; in this case, the Air Force standard is 0.6 (Ref 2: Chap. 6, p. 29). Shift length is eight hours. The M_S then becomes the average number of men available each day for each AFSC (Ref 33:121). This number is allocated over the three shifts using the manpower matrices as a guide. The resulting shift manning is incorporated into the model as a constraint on manpower. Certain AFSC's require a minimum crew size to perform their maintenance functions. In cases where M_S is less than the daily minimum crew manning, the minimum crew size is assigned to each shift as the constraint on manpower. The simulation is then rerun to determine what change has occurred in the accomplished sortie rate, as defined by equation (1), and to ensure that the resulting manhour utilization rate has not exceeded 0.6. If the accomplished sortie rate and/or manhour utilization rate are unacceptable, the process is repeated as indicated in Figure 7.

The M_S resulting from this procedure, however, is not the actual number of men required because it does not consider the fact that each individual normally works five days a week, takes leave, and may otherwise be legitimately absent from work. The Air Force standard for actual hours worked per man per month is 144 hours (Ref 3:7-8). Equation (3) is used to convert M_S into Direct Manning (M). Direct Manning represents the final manpower estimate for each AFSC in the LCOM simulation.

$$M = \frac{M_S(\text{work days/month})(\text{shift length})}{144 \text{ hours/man/month}} \tag{3}$$

Model Validation

If a simulation model is to be of use in making predictions, then those predictions must be shown to be correct or at least as good as predictions made using some other method. Emshoff and Sisson state that the best possible evidence of such validity is that the model has made satisfactory predictions in the past (Ref 10:204). In this respect, the general LCOM model has been proven valid by numerous previous studies of other weapons systems and scenarios. There was, however, no direct counterpart to the present study, and for this reason a further investigation of validity was conducted.

A first-time model, such as the one under consideration here, cannot be validated completely until the system it represents actually comes into existence. Until that time, the model's validity can only be evaluated in terms of credibility. Emshoff and Sisson suggest that such validation consists of debugging the program, checking that key subsystem models predict their part of the world well (using historical data), and that knowledgeable individuals agree to the reasonableness of the model structure and output or face validity (Ref 10:206). The authors used these criteria in conjunction with a more detailed debugging procedure, recommended by Tetmeyer, to develop the following validation procedure (Ref 33:111, 113).

A 28 day unconstrained simulation was run, with complete diagnostics, and the output checked to insure that: all phases and scheduled inspections were accomplished as well as a high percentage of scheduled sorites, there were no unsatisfied demands for personnel, the number of repairable generations for each item in the shop repair summary was equal to the number of units demanded for the same item in the supply summary, and, finally, there were no cannibalizations, supply backorders or unsatisfied demands (anything else would have indicated a data error) (Ref 33:113).

Next, a 28 day simulation was run with each of the three flying schedules. In each case, all unscheduled maintenance was removed from the model, thus preventing any equipment or aircraft breakdowns. In each case, all scheduled sorties were in fact accomplished, demonstrating the feasibility of the flying scenarios.

Finally, the MSBMA assigned from historical data to each failure clock was compared to the MSBMA actually observed during a 28 day run of the simulation. In most cases the variation was low; those few cases that did show a large variation in MSBMA had a large assigned MSBMA (the failure should seldom occur). In these cases small numerical differences between observed and predicted numbers of failures resulted in large changes in MSBMA. In light of the negative exponential distribution of failures in the model, and the short time span of the test simulation, variations of this sort were not unexpected. Further, as noted by Emshoff and Sisson, variations in the distribution of infrequent events are not normally significant when the model is intended to predict the behavior of some larger system (Ref 10:205). Consequently, the authors saw no reason to doubt the validity of the model based on its stochastic behavior.

The model was also tested for face validity. Emshoff and Sisson state that face validity exists when knowledgeable individuals agree to the reasonableness of the model structure and output (Ref 10:204). In this case, Lowell and Moody examined the model and output and found it, in their opinion, to be reasonable (Ref 24).

Steady State

In any simulation model, one of the important questions the researcher must answer is, "How long must the simulation be run until the parameters of interest (in this study sortie rate and manhours used) reach typical values for the system, or steady state?" Steady state, of course, is a relative condition depending on the specific parameters being considered and the degree of accuracy desired from the simulation. For instance, the time series output of a hypothetical simulation might appear like that shown in Figure 8.

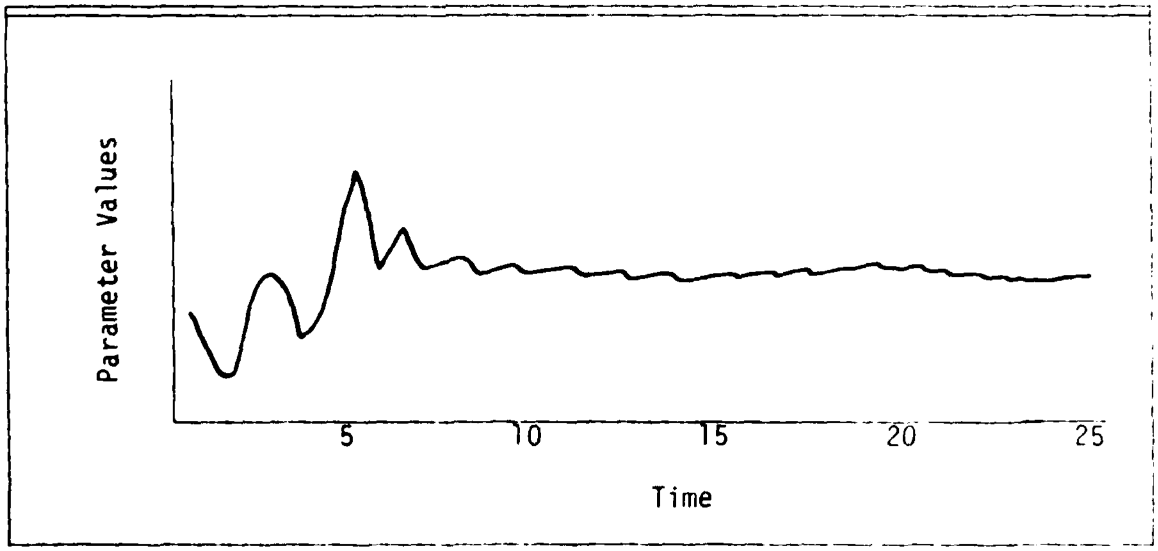


Figure 8. Type I Hypothetical Steady State Behavior

In this particular hypothetical example, after time period 10 the value of the output parameter is reasonably constant. In such a situation, the user could confidently accept data after that time as being typical of the system being modeled.

Unfortunately, many simulations do not exhibit the type of behavior just described. The values of output parameters may increase or decrease over time, indicating that they do not have a typical value within the system being simulated. Another possibility is that the value of the output may fluctuate considerably from one observation to the next; yet, in viewing such data over time the individual data points show no particular trends; but instead, appear to be randomly distributed about some central value. Such a case is illustrated in Figure 9. A closer

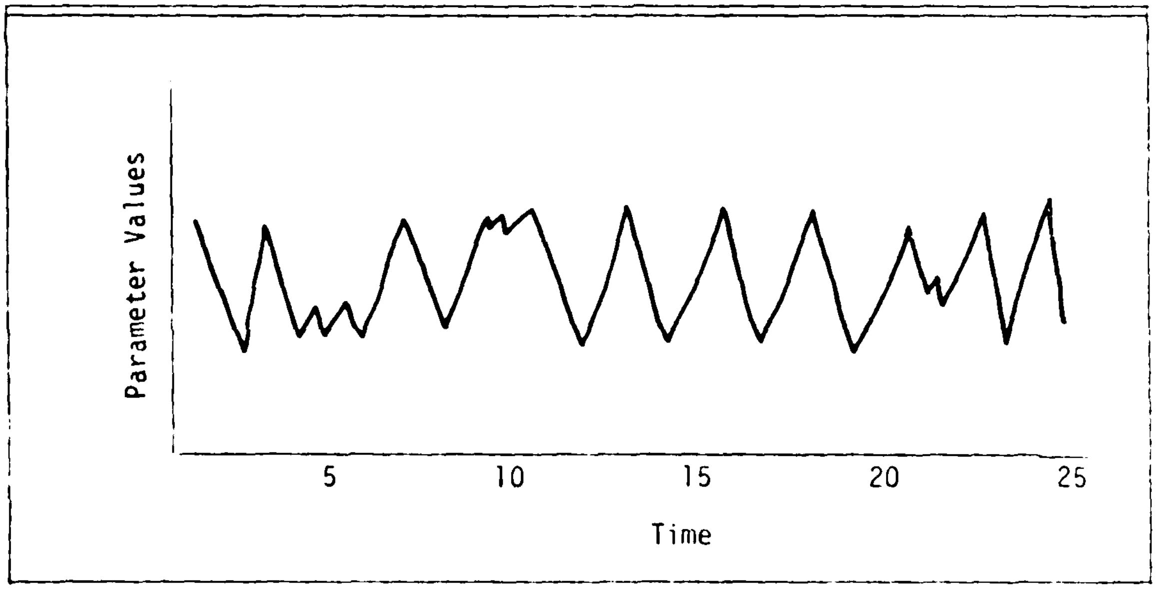


Figure 9. Type II Hypothetical Steady State Behavior

examination of the two situations depicted in Figures 8 and 9 reveals that the graph in Figure 8 after period 10, is actually similar to the situation depicted in Figure 9 except for the amplitude of the fluctuations.

Some Criteria for Steady State

Tetmeyer states in his discussion of the LCOM model that steady state is reached when successive thirty day manhour totals for each AFSC do not vary more than five percent (Ref 33:112). Of course, this is just another way of stating how much error the user is willing to accept. As noted by Conway:

> "...it is also important to recognize that equilibrium is a limiting condition which may be approached but never actually attained. This means that there is no single point in the execution of a simulation experiment beyond which the system is in equilibrium. The difference between the temporal and limiting distribution presumably decreases with time and one seeks a point beyond which he is willing to neglect the error that is made by considering the system to be in equilibrium" (Ref 6).

Emshoff and Sisson mention a procedure similar to that used by Tetmeyer, but go on to discuss other methods which the authors of this study felt were possibly more appropriate (Ref 10:192). Specifically, they state that steady state has been reached when successive output values vary randomly about some typical value; or similarly, when successive observations of the time series output are statistically indistinguishable (Ref 10:190).

The procedure described by Tetmeyer for identifying steady state is in common usage among LCOM practitioners. In an effort to reduce computer running time, the authors elected to investigate the feasibility of determining steady state by comparing probability distributions as suggested by Emshoff and Sisson.

Student's T Test. Student's T test is a very powerful statistical test which can be used to compare the means of two populations. Such a test might be used to indicate if the mean values of the simulation output over two adjacent time periods were statistically indistinguishable (Ref 25:343). This, in turn, would indicate that the simulation was in steady state. To use the test, however, one must be able to assume that the sample data is from at least a near normal or mound shaped probability distribution (Ref 12:169).

Since, in this study, the flying scenario calls for no flying on Saturday or Sunday, the distribution of manhours used per day is bimodal in nature. Consequently, the authors felt an assumption of normality was not warranted.

It is important to point out, nevertheless, that in other experiments having a continuous flying schedule, such as a wartime model or a peacetime scenario as described by Tetmeyer, the T test might be an appropriate tool (Ref 33:126-127). For a further discussion of the T test, the reader is referred to any elementary text on parametric statistics.

The Man-Whitney U Test. The Mann-Whitney U test is a nonparametric statistical test designed to indicate if two independent random samples can reasonably be expected to have come from different probability distributions, or if the two are stochastically indistinguishable. The primary advantage of this test is its applicability regardless of the probability distribution of the data to be tested (Ref 28:116).

Use of the U Test in Determining Steady State. In light of the distribution-free nature of the Mann-Whitney test, it was tested as an indicator of steady state on the simulation runs which had constrained manpower. The first fourteen days of simulation output were compared to the remainder of the data from each run; a two week segment was chosen to provide sufficient data for meaningful application of the test, and also to avoid bias which would have resulted if proportionately more Saturdays and Sundays (nonflying days) were included in one of the samples than in the other. The null hypothesis (H_0) was defined to be:

> H_0: The two samples come from the same probability distribution.

If H_0 is not rejected, then the test is not able to distinguish between the two samples, and the authors considered steady state to exist at the beginning of the first sample. The alternate hypothesis (H_a) was defined as:

> H_a: The two samples do not come from the same probability distribution.

When H_a is accepted, a significant difference exists between the two samples indicating that steady state has not been reached at the beginning of the first sample. In such instances, the authors threw out data from the first part of the time series (in increments of seven days) until the test indicated that steady state had been reached.

Application of the Mann-Whitney test involves first, computing the value of the U statistic for the two samples being compared. U is defined as the smaller of

$$U = N_1 N_2 \frac{N_1(N_1 + 1)}{2} - W_1 \qquad (4)$$

or $$U = N_1 N_2 \quad \frac{N_2(N_2 + 1)}{2} \quad W_2 \tag{5}$$

where N_1 and N_2 are the sample sizes of the two time periods being compared, and W_1 and W_2 are obtained by ranking the $(N_1 + N_2)$ data points from one to $(N_1 + N_2)$ and summing these ranks for each group. Then, for N_1 and N_2 greater than ten.

$$Z = \frac{U - E(U)}{V(U)} \tag{6}$$

where Z is the standard normal random variable, E(U) is the expected value of the U statistic

$$E(U) = \frac{N_1 N_2}{2} \tag{7}$$

and V(U) is the variance of the U statistic.

$$V(U) = \frac{N_1 N_2 (N_1 + N_2 + 1)}{12} \tag{8}$$

(Ref 25:535-538).

If H_0 is true then

$$P(|Z| \geq Z_{\alpha/2}) = \alpha \tag{9}$$

where $\alpha/2$ is equal to the integral of the standard normal distribution function from $Z_{\alpha/2}$ to ∞ (Ref 25:276). It can then be said with probability $(1 - \alpha)$ that if the absolute value of Z, from equation (6), is greater than or equal to $Z_{\alpha/2}$ then H_0 is not true.

The Runs Test. The Runs Test was used to identify steady state for simulation runs with unconstrained manpower. This test is a distribution free statistical test which can be used to guard against nonrandomness in a time series. Such nonrandomness may be related to either trends or periodicies in the data. As noted earlier in this paper, one criteria for steady state in a simulation is randomness of the output data about some central value. To use the test, the time series is separated into observations above the mean and observations below the mean. A run is defined as a series of observations all above or all below the mean. Given the number of data points above the mean (N_1), the number of points below the mean (N_2), and the number of runs (R); it is possible to compute the probability of observing R or fewer runs assuming the sequence is in fact random. These probabilities are commonly tabled and can be used in testing various hypotheses (Ref 25:542-547).

Application of Runs Test in Determining Steady State. In using the Runs Test as an indicator of steady state, the authors aggregated the daily manhour totals by weeks. Too few runs, in a statistical sense, were taken as an indication of a trend in the data. The null and alternate hypotheses were defined as follows:

> H_0: There is no trend in the data--steady state is assumed to exist over the entire time series.
>
> H_a: There is a trend in the data--steady state does not exist over the entire time series.

The rejection region was defined to be R such that $P(R) \leq .1$. As with the Mann-Whitney Test, if H_0 was rejected with the original data set, the data set was reduced until H_0 was no longer rejected.

Type I and Type II Errors. When using any statistical test of hypothesis, the experimenter must be aware of the errors that can be made in accepting or rejecting H_0. The probability of rejecting H_0 when H_0 is in fact true is termed the Type I error and is denoted by α. The authors chose the relatively large value of 0.1 for α, so that the Type II error (β), defined as the probability of accepting H_0 when actually H_a is true, would not be too large. Mendenhall and Shaeffer note that as α increases β will decrease (Ref 25:330). Even so, with the relatively small sample sizes involved in this study, β will be quite large. The authors, however, do not consider this serious since the intention is not to "prove" that the null hypothesis is true, but only to detect any significant deviation from that hypothesis.

Confidence Intervals

The mean value for manhours used, from the simulation output, is merely an estimate of the true mean for the system being modeled. The accuracy of this estimate is affected by the analyst's decision on when steady state exists, the number of data points used in the estimate (N), and the variance of the sample data (S^2). When considering the accuracy of such an estimate, the analyst is led to the consideration of statistical confidence intervals.

If the sample data is composed of independent random variables, the sample mean will possess a normal distribution for sample sizes larger than thirty (Ref 25:270). Then, the statistic

$$Z = \frac{(\bar{X} - \mu)}{\sqrt{S^2_{\bar{x}}}} \qquad (10)$$

where μ = the population mean

$\overline{X}$ = the sample mean

S_μ^2 = the sample variance of the mean $(\frac{S^2}{N})$

S_μ = the sample standard deviation of the mean $(\sqrt{S_\mu^2})$

As before, Z is the standard normal random variable with zero mean and variance equal to one. From equation (10) can be constructed the following confidence interval:

$$\mu = \overline{X} \pm Z_{\alpha/2} S_\mu \qquad (11)$$

where $Z_{\alpha/2}$ is such that the integral of the standard normal density function from $Z_{\alpha/2}$ to ∞ is equal to $\alpha/2$. It can now be stated with probability $(1 - \alpha)$ that the true population mean is contained in the interval given in equation (11) (Ref 25:276-277).

Autocorrelation. In many simulation models, the parameter values for separate observations are not independent; they are affected in some way by those values that preceed them. For instance, in the LCOM model used in this study, high work loads on one day may carry over into the next day causing the man hours used on both days to be high. This type of dependence is called autocorrelation. The autocorrelation coefficient, ρ, where ρ is as defined by equation (12), is a measure of this dependency. If man hours used on any particular day is assumed to be normally distributed, ρ equal zero implies independence, and ρ equal one implies complete dependence (Ref 35:70).

$$\rho(L) = \frac{E([X_t - \overline{X}][X_{t+L} - \overline{X}])}{\sigma^2} \qquad (12)$$

where E = expected value

X_t = output value at time (t)

$\bar{X}$ = sample mean

σ^2 = population variance

L = interval or lag between data points to be tested for dependence (Ref 10:194-199).

Given only a sample from the entire population, it is not possible to compute $\rho(L)$. However, an estimate, $\hat{\rho}(L)$ is available as follows.

$$\hat{\rho}(L) = \frac{\sum_{t=1}^{N-L} (X_t - \bar{X})(X_{t+L} - \bar{X})}{\sum_{t=1}^{N} (X_t - \bar{X})^2} \qquad (13)$$

Correcting for Autocorrelation. The procedure developed previously for constructing confidence intervals employed an estimate of the variance of the mean, S_μ^2, based on an assumption of independence. If autocorrelation is present, then, the procedure for constructing confidence intervals must be modified.

One possibility is to examine $\hat{\rho}(L)$. If a value of (L) can be found such that $\hat{\rho}(L) = 0$, then the data can be combined or blocked into intervals of length (L). The mean values for these blocks will now be independent, and as such can be used to construct confidence intervals as previously described (Ref 10:199-200).

A second possibility is to correct the variance of the mean (S_μ^2) by using the following relationship.

$$\text{Corrected } S_\mu^2 = S_\mu^2 \left[1 + 2 \sum_{L=1}^{N-1} \left(1 - \frac{L}{N}\right) \hat{\rho}(L)\right] \qquad (14)$$

The reader should note that when $\hat{\rho}(L) = 0$, the above reduces to the form used in the previous development of confidence intervals (Ref 10:199).

Sensitivity Analysis

The Moody Regression Program, discussed in Chapter II, was used to develop a relationship between direct manning requirements and flying hours per month. A regression equation was developed for each AFSC with constrained manpower only, constrained manpower and parts, and constrained manpower, parts and ATS. These equations were then plotted to demonstrate the sensitivity of manning requirements, for each AFSC, to various sortie rates and parts/ATS constraints.

The primary inputs to the Regression Program consist of flying hours per month and final direct manning (M from equation (3)) rounded in accordance with AFM 25-5 (Ref 2:7-8). Manning for some LCOM shred-outs is combined under a single AFSC as shown in Appendix A. Further, direct manning for some LCOM shred-outs cannot be properly estimated using LCOM hours from the PSR. For instance, the End of Runway Crew requires very few LCOM hours in the model. In reality though, the positions must be manned during all flying operations. Direct manning in this case was estimated using the following relationship (Ref 3:2-4).

$$M = \frac{\text{(crew size)(work days/wk)(hrs/day)(4.348 wks/mo)}}{\text{144 hours/man/month}} \qquad (15)$$

Direct manning for these LCOM shred-outs was combined under the appropriate AFSC in the Regression Program.

Developing a Manning Document

The final step in obtaining an estimate of required manpower involves the use of the Moody Manpower Program. Up until this point only direct manning has been discussed; that is, no consideration has been given to the fact that there is a requirement for supervisory and other overhead personnel in the maintenance organization being modeled. The Moody Manpower Program converts the results of the final simulation runs and the Moody Regression runs into a completed manning document, which reflects the total maintenance manning, by AFSC and work center, necessary to support the organization under study at a specified sortie rate and with specified constraints on parts/ATS.

In this study the authors used the Moody Manpower Program to develop estimates for total required manning, and also to demonstrate the sensitivity of total manning to parts/ATS constraints.

Summary

This chapter has included a discussion of the concepts and procedures used by the authors in accomplishing the objectives of this study. In the next chapter the authors demonstrate the methodology discussed here and present the results.

V. ANALYSIS AND RESULTS

The analysis and results of the F-15 peacetime LCOM study are documented in this chapter. The analysis section investigates the simulation's steady state conditions and autocorrelation functions. The results section consists of maintenance manpower estimates for each AFSC listed in Table I of Chapter III, statistical confidence intervals for these estimates, manpower sensitivity to variations in spare parts and ATS, and a complete basic manning document for the modeled F-15 TFTW.

Analysis

Simulation analysis consisted of graphical and statistical interpretation of accomplished aircraft sortie rate, AFSC manhours used, and AFSC autocorrelation coefficients. The authors used the procedures discussed in Chapter IV to analyze these variables. The simulation run length during this analysis consisted of 98 simulation days including weekends; this period is equivalent to 14 seven day weeks.

Steady State. The authors conducted steady state analysis on both unconstrained and constrained manpower simulations. During the unconstrained manpower simulations, PSR's were requested every seven days. The authors used daily PSR's for the constrained manpower simulations.

The authors chose a seven day data period for unconstrained manpower simulations due to a fundamental seven day cycle in the LCOM statistical output. This cycle was caused primarily by the peacetime operational scenarios; the five day flying and seven day maintenance schedule resulted in an appreciable decrease in manhours used for most AFSC's during the weekends. The accumulation of output data into seven day intervals smoothed this cyclic pattern and simplified the steady state

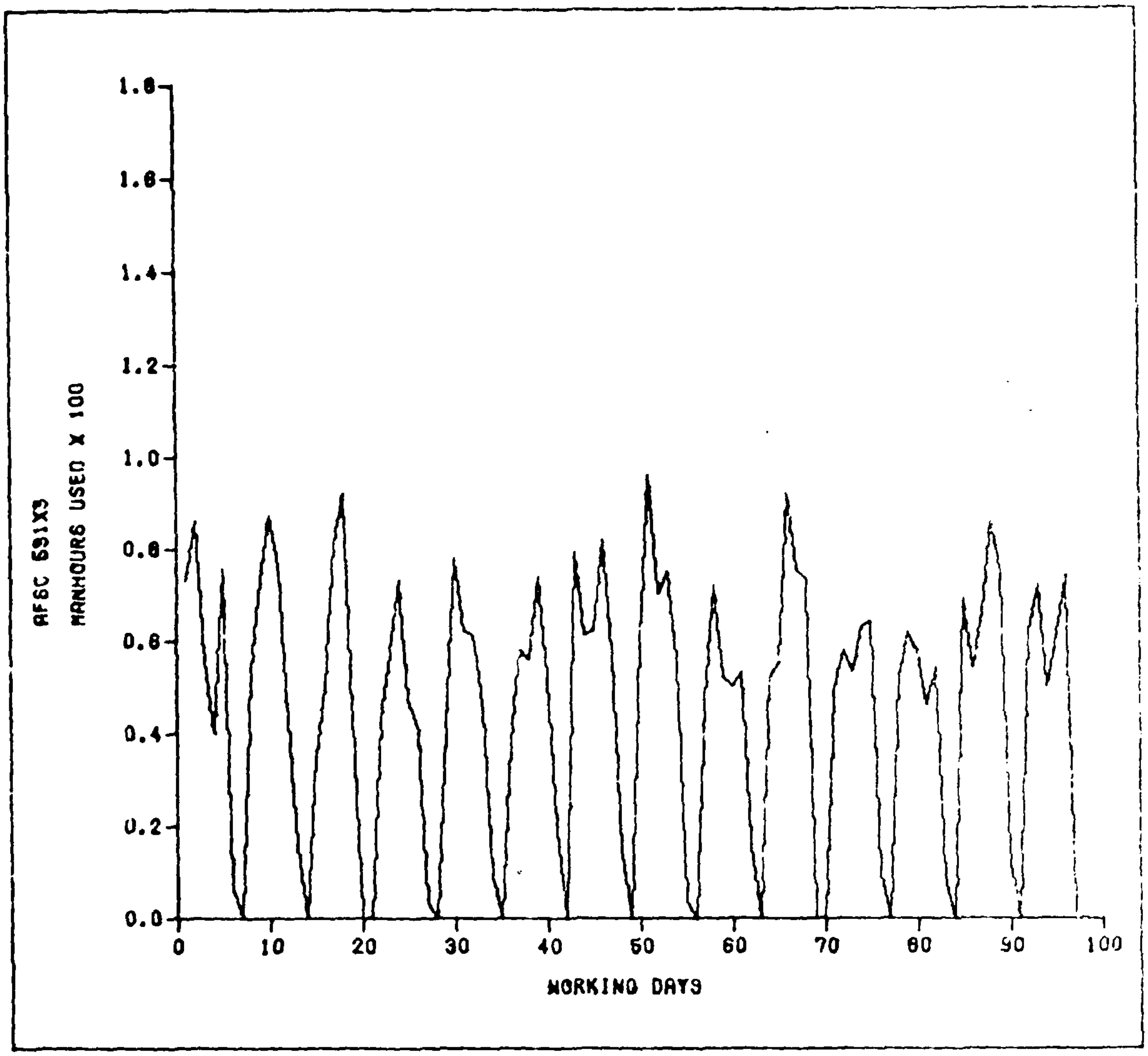


Figure 10. AFSC 531X3 (Structural Repair) Daily Manhours Used

analysis. For example, Figure 10 graphically depicts the daily manhours used for AFSC 531X3 (Structural Repair) over the 93 day simulation period based on unconstrained parts/ATS at a .74 scheduled sortie rate. The graph illustrates the seven day cyclic pattern caused by decreased manhours used during weekends. Figure 11 contains the weekly manhours used for the same AFSC with identical simulation conditions. The graph, in this case, clearly represents steady state conditions throughout the

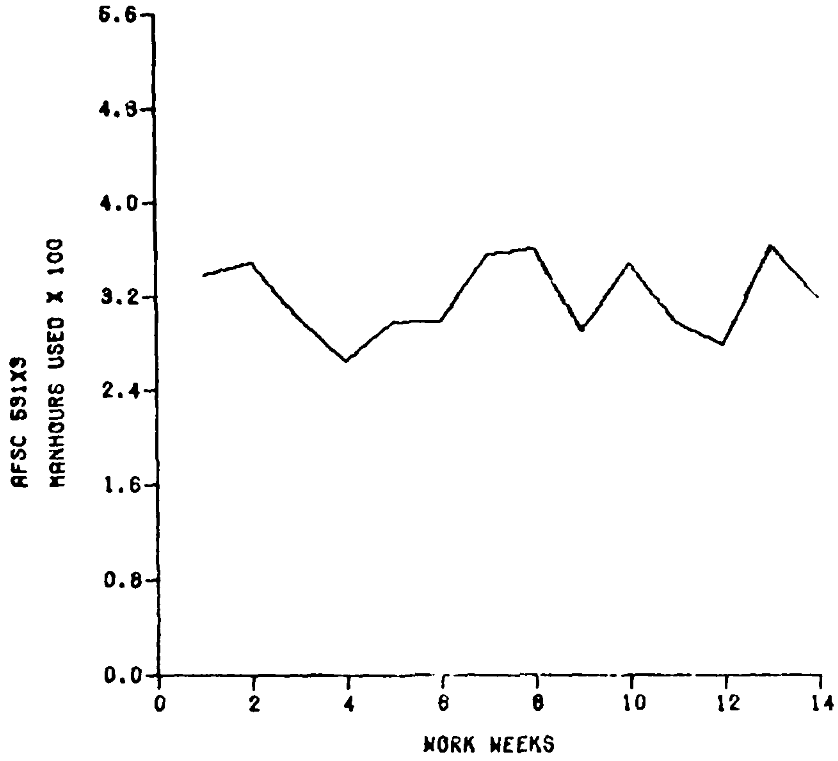


Figure 11. AFSC 531X3 (Structural Repair) Weekly Manhours Used

14 week period; additionally, the Runs test described in Chapter IV indicated no trends in this weekly data. All AFSC's except AFSC 423X3 (Fuel Systems) exhibited similar graphical and statistical steady state conditions throughout the 98 day unconstrained manpower simulations.

AFSC 423X3 was the only manpower statistic to exhibit nonsteady state conditions during the unconstrained manpower simulations. This AFSC exhibited an unstable condition during the constrained parts/ATS simulation at a .43 scheduled sortie rate. Figure 12 graphically

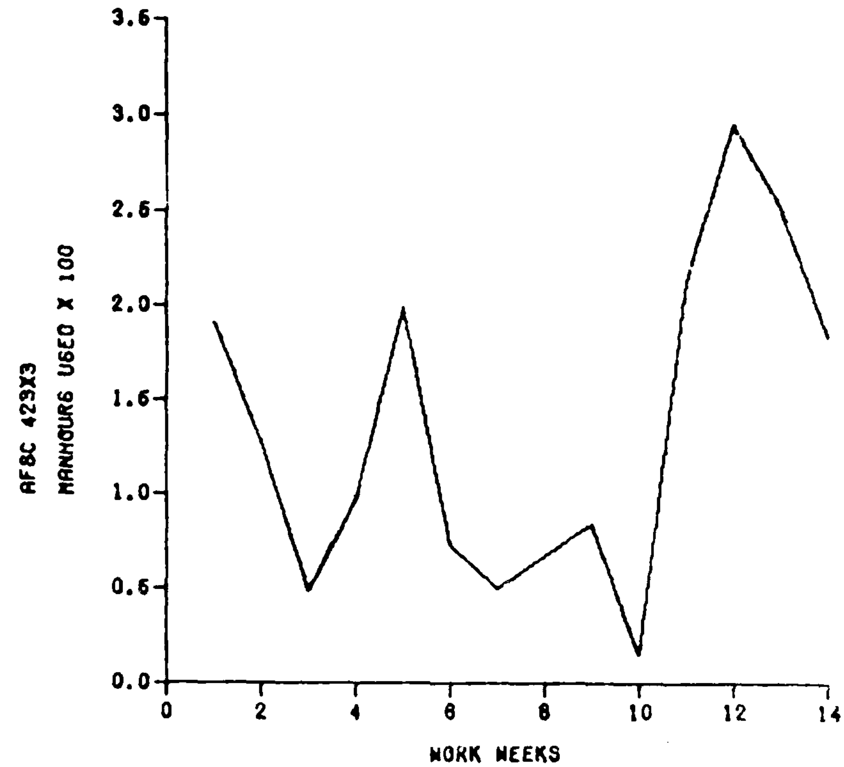


Figure 12. AFSC 423X3 (Fuel Systems) Weekly Manhours Used

illustrates this AFSC's instability in manhours used. The increase in manhours used during the eleventh through thirteenth weeks is especially noteworthy. This demand indicates a backlog of work during the latter portion of the simulation period. The authors, therefore, constrained manpower for this AFSC using the average daily manhours used during the eleventh through thirteenth weeks. This method of constraining manpower has two advantages: first, manpower is allocated to the constrained manpower simulation based on peak workloads as described by Tetmeyer (Ref 33:119); second, if peak workloads are not considered during the manpower constraint process, the constrained manpower simulation's PSR will indicate manhour utilization for the AFSC in question greater than 60 percent and an additional constrained manpower simulation will be necessary to reduce this utilization below 60 percent.

Table III

AFSC 531X3 Manpower Constraint Calculation

Source	Calculation
Equation (2)	$M_s = \dfrac{\begin{pmatrix}\text{0-98 Day PSR}\\ \text{Manhours Used}\end{pmatrix}}{\begin{pmatrix}\text{Utilization}\\ \text{Factor}\end{pmatrix}\begin{pmatrix}\text{Number}\\ \text{of Days}\end{pmatrix}\begin{pmatrix}\text{Shift}\\ \text{Length}\end{pmatrix}}$ $= \dfrac{4445}{(.6)(98)(8)}$ $= 9.449 \approx 10$ Men

Since all other AFSC's exhibited steady state conditions during the entire simulation period, the authors constrained manpower for these AFSC's using equation (2) from Chapter IV and the respective AFSC manhours used contained in the 0-98 day cummulative PSR. Table III illustrates the calculation of the manpower constraint for AFSC 531X3 (Structural Repair) using equation (2) and the respective manhours used in Figure C-1 of Appendix C. It should be noted that all manpower constraints are rounded to the next highest integer value during input to the main LCOM program.

During the constrained manpower simulations, the authors used a modified version of LCOM (Ref:19) which provided daily PSR's containing only operations and personnel data. The elimination of shop repair and supply data from the PSR's appreciably reduced the amount of unneeded computer output during these simulations. Daily manhours used data was required in order to accurately compute the autocorrelation coefficients and statistical confidence intervals discussed later in the chapter; the daily data permits large sample size statistical analysis and increases the statistical confidence in the output data.

Figure 13 graphically illustrates the daily manhours used for AFSC 431X1 (Flight Line Crew Chief) for the unconstrained parts/ATS simulation at a .74 scheduled sortie rate. This graph indicates two major points: first, the seven day cycle of manhours used is very evident; second, the underlying steady state nature of the data throughout the 98 day simulation period is visible. Because steady state conditions are more difficult to detect in the daily manhours used data, the Mann-Whitney Test described in Chapter IV was used to verify output stability. The test indicated no statistical differences in the data contained in Figure 13.

All AFSC's except those listed in Table IV exhibited similar steady state conditions during the entire 98 day constrained manpower simulation period. For those AFSC's in Table IV, the Mann-Whitney test initially indicated instability in the data. The test was, therefore, reapplied to these AFSC's after eliminating the first seven days of data. In most cases, the reduced data set passed the test. In other cases, the first 14 days of data had to be eliminated before the reduced data set would pass the Mann-Whitney test. Table IV indicates each AFSC and its respective usable data sub-set. These data subsets were used to verify

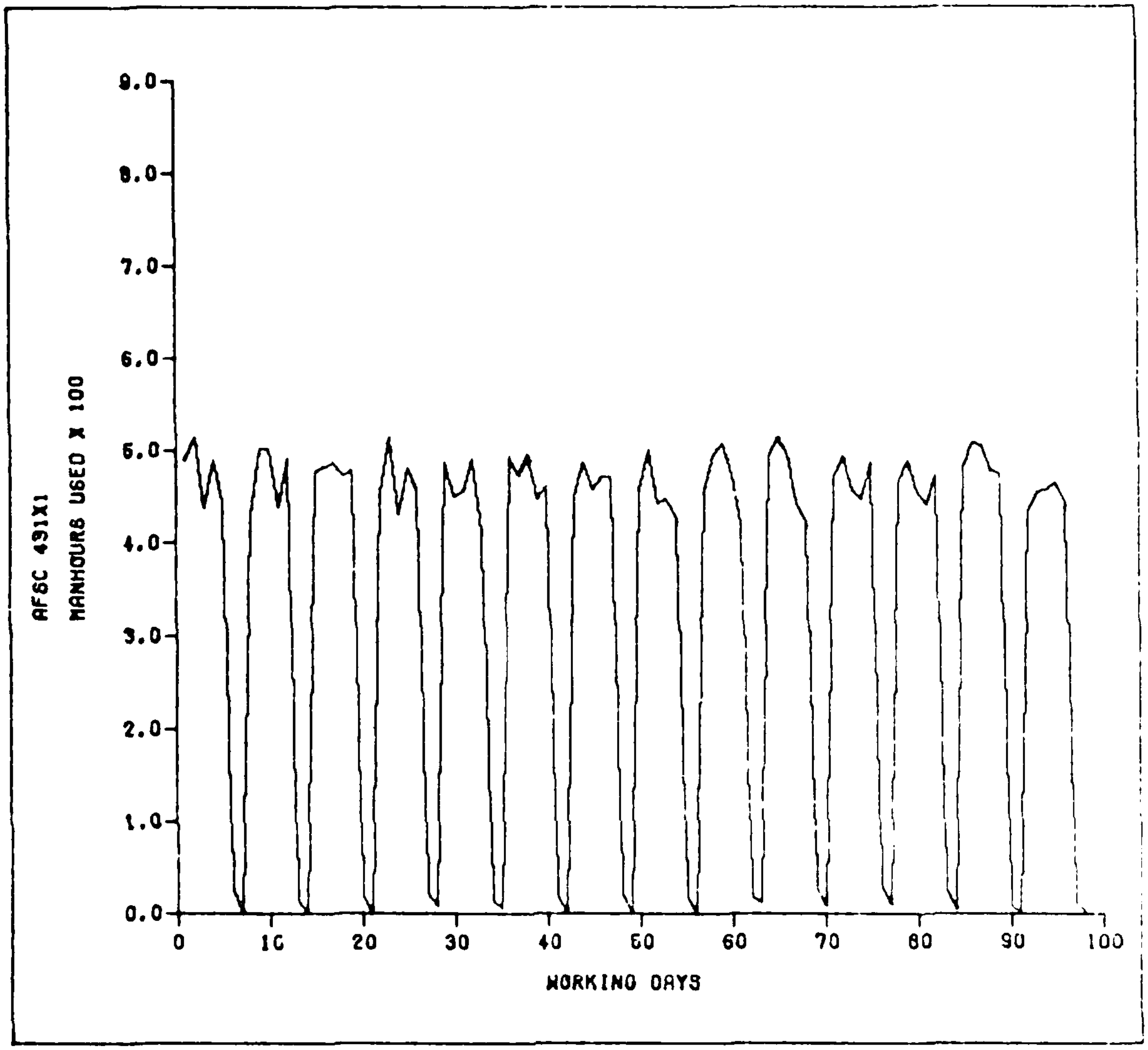


Figure 13. AFSC 431X1 (Flight Line Crew Chief) Daily Manhours used

manhour utilization, calculate manpower estimates, and compute confidence intervals for the AFSC's listed in Table IV.

The authors also analyzed accomplished aircraft sortie rate for the constrained manpower simulations. If this sortie rate exhibits steady state conditions, then the modeled F-15 TFTW can satisfy TAC training syllabi requirements on a routine basis.

Table IV

LCOM AFSC's That Exhibited Initial Transient Conditions

Constraint Type	Scheduled Sortie Rate	AFSC	Usable Simulation Period
Unconstrained Parts/ATS	1.0	326X2A (COM/ NAV/ ECM)	Last 91 Days
Constrained Parts/ Unconstrained ATS	1.0	423X3 (Fuel Systems)	Last 84 Days
Constrained Parts/ Constrained ATS	1.0	326X1D (Automatic Test Station)	Last 91 Days
	1.0	326X2A (Inertial Navigation System)	Last 91 Days
	1.0	431X1 (Phase Inspection)	Last 91 Days
	.74	426X2 (Jet Engine)	Last 84 Days

Figure 14 depicts the accomplished aircraft sortie rate for the unconstrained parts/ATS simulation at a .74 scheduled sortie rate. The graph excludes weekends due to the undefined nature of sortie rate for nonflying days. In Figure 14, accomplished sortie rate exhibits a steady state condition throughout the 70 flying days. The Mann-Whitney test also verified steady state conditions in the data. Accomplished sortie rates

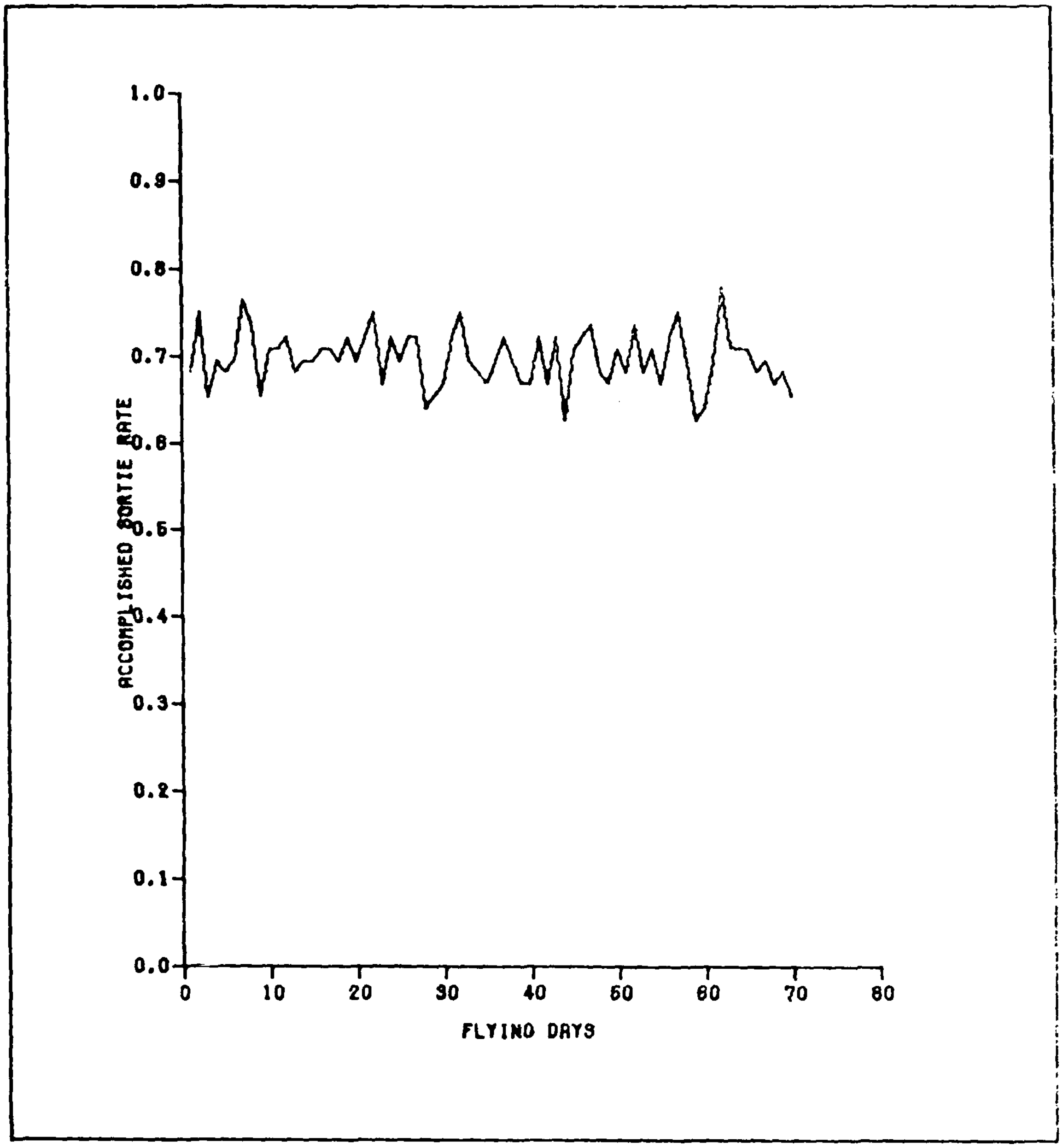


Figure 14. Accomplished Aircraft Sortie Rate for Constrained Manpower and Unconstrained Parts/ATS Simulation at .74 Scheduled Sortie Rate

for each of the nine combinations of parts/ATS constraints and scheduled sortie rates exhibited similar steady state conditions. These steady state conditions indicate that the modeled F-15 TFTW can routinely meet syllabi training requirements.

Autocorrelation. The authors conducted the autocorrelation analysis on the constrained manpower simulations. The autocorrelation coefficients ($\hat{\rho}(L)$) were estimated for each AFSC using the respective manhours used and equation (13) found in Chapter IV; the lag (L) between daily observations was incremented to include a one through 97 day lag. For those AFSC's listed in Table IV, $\hat{\rho}(L)$ was estimated for the corresponding reduced data sets. The analysis consisted of both graphical and statistical interpretation of the autocorrelation function.

Figure 15 graphically illustrates the autocorrelation function versus the lag in days for AFSC 431X1 (Flight Line Crew Chief) for the unconstrained parts/ATS simulation at a .74 scheduled sortie rate. This graph indicates two major points: first, the seven day cyclic nature of the function caused by the reduced manhour demands on weekends is clearly evident; second, multiple lags of seven days are highly correlated. The high correlation of manhours used on multiple seven day lags is due to the seven day cyclic nature of the simulation data. This functional form of autocorrelation coefficients prevents the grouping of manhours used into blocks of independent observations. The authors, therefore chose to use the estimated correlation coefficients and equation (14) to correct the variance of daily manhour observations during the computation of manpower statistical confidence intervals.

AFSC 423X3 (Fuel Systems) was the only AFSC to exhibit a more desirable autocorrelation function. The reason for this unique difference was that the fuel systems shop did not show a routine decrease in manhours used each weekend. This resulted in an absence of the seven day cycle. Figure 16 illustrates the graphical nature of the autocorrelation function for this AFSC. In the graph, lags of 15 or more days indicate

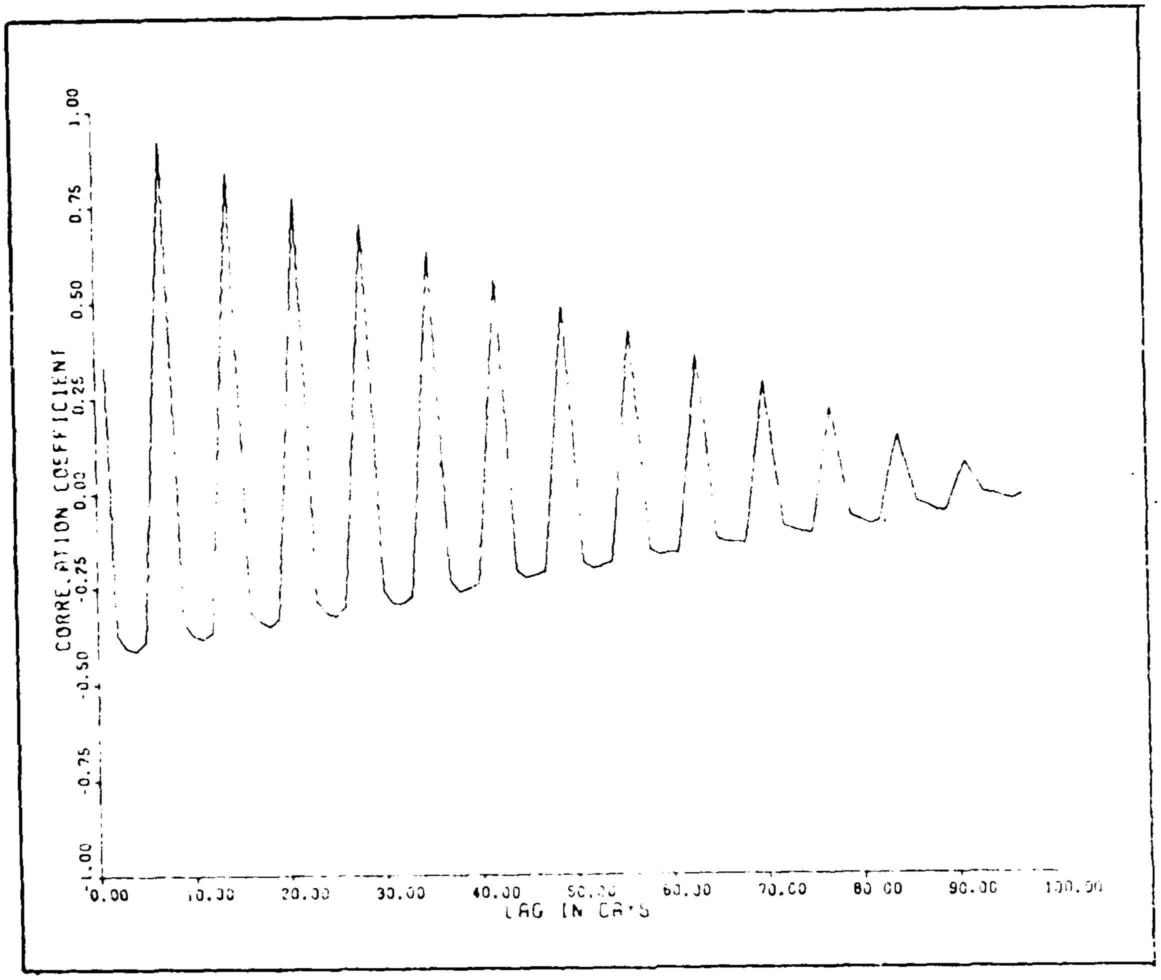


Figure 15. AFSC 431X1 (Flight Line Crew Chief) Autocorrelation Function

a $\hat{\rho}(L)$ close to zero. As a result, manhours used contained on cummulative 15 day PSR's would be statistically independent and could be treated as independent observations during the calculation of statistical confidence intervals. The type of autocorrelation function illustrated in Figure 16 is often found in an LCOM simulation where maintenance and flying activity operate concurrently. Concurrent maintenance and flying activity do not produce the cyclic output data that is found in this study. In particular, wartime LCOM simulations contain the functional form illustrated in Figure 16.

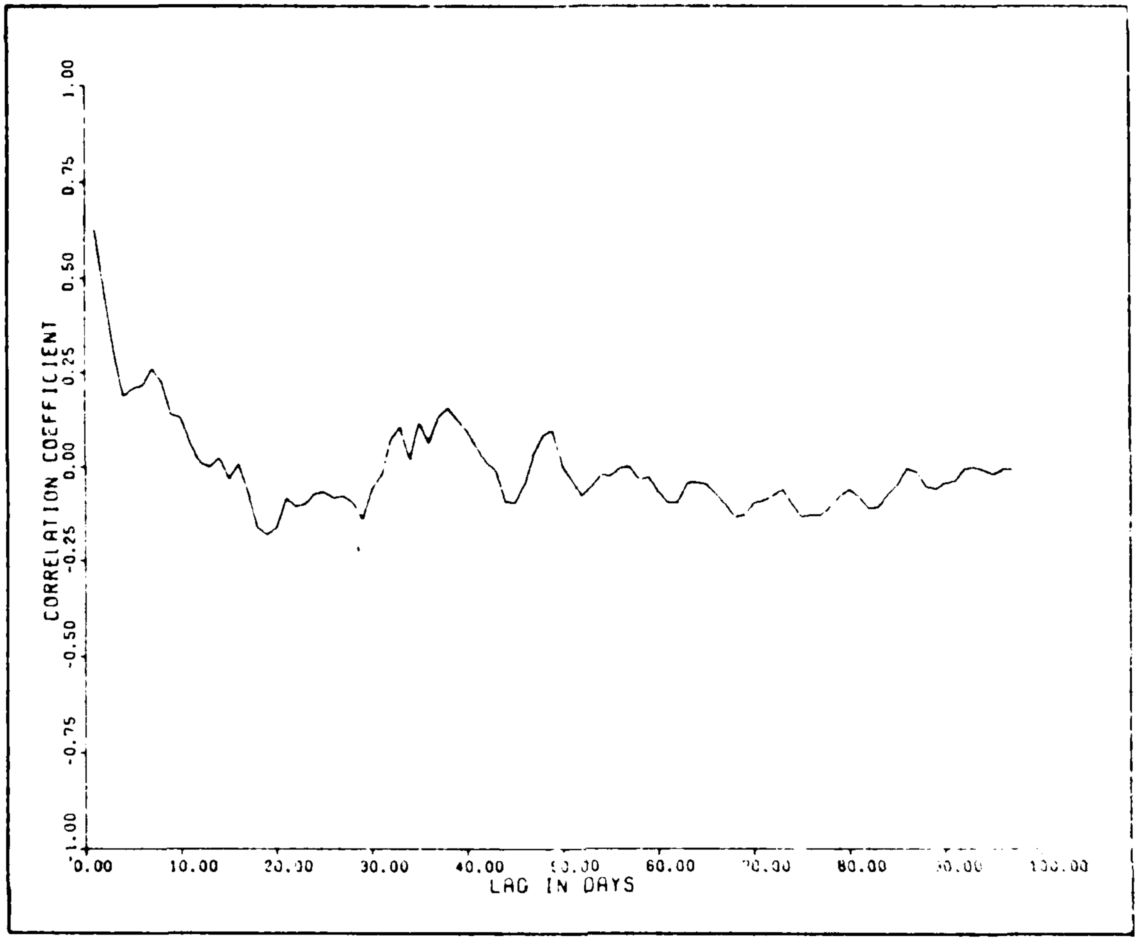


Figure 16. AFSC 423X3 (Fuel Systems) Autocorrelation Function

Because the majority of AFSC's in this study exhibited autocorrelation functions similar to Figure 15, the variance of daily manhours used for each AFSC including AFSC 423X3 was corrected using equation (13). These corrected variances were used during calculation of the manpower confidence intervals.

Results

The results of the F-15 TFTW LCOM simulation contain the direct manning estimations (M) for each AFSC contained in Table I of Chapter III, 95 percent confidence intervals for these estimates, and sensitivity of M to constrained parts and constrained parts/ATS. The final output of these estimates is a USAF basic manning document for the F-15 TFTW based on unconstrained parts and ATS.

Direct Manning. The average daily manhours used from the final constrained manpower simulations are applied to equations (1) and (2) from Chapter IV to calculate the direct manning for each AFSC listed in Table I. Direct Manning is then converted to whole men according to AFM 25-5 standards (Ref 2:Chap. 6, p. 29). During the calculation of M, the AFM 25-5 standard of 30.44 work days per month is applied to equation (2). Table V illustrates the computation of direct manning for AFSC 531X3 (Structural Repair) for the unconstrained parts/ATS simulation at .74 scheduled sortie rate.

Table V
AFSC 531X3 Direct Manning Computation

Source	Calculation
Equation (1)	$M_S = \frac{\text{Average Daily Manhours Used}}{(\text{Utilization Factor})(\text{Shift Length})}$ $= \frac{(40.44)}{(.6)(8)}$ $= 8.425$
Equation (2)	$M = \frac{M_S\ (\text{Workdays/mo})(\text{Shift Length})}{144\ \text{Hours/Man/Month}}$ $= \frac{(8.425)(30.44)(8)}{144}$ $= 14.248$
AFM 25-5	Direct Manning = 14 Men

Confidence Intervals. Confidence intervals for direct manning are computed using equations (1), (2), (11), and (14) found in Chapter IV. The computation is a six step process: first, estimate the sample variance of daily manhours used (Ref 25:268); second, use equation (14) to calculate the corrected sample variance of daily manhours used; third, convert the corrected sample variance into a standard deviation of daily manhours used; fourth use equations (1) and (2) to transform the standard deviation of daily manhours used into a direct manning standard deviation; fifth, use equation (11) to develop 95 percent confidence intervals for direct manning; finally, convert the confidence intervals into integer values in accordance with AFM 25-5 (Ref 2: Chap. 6, p. 29). Table VI illustrates the computation of a 95 percent confidence interval for the direct manning of AFSC 531X3 based on unconstrained parts/ATS at a .74 scheduled sortie rate. In these calculations, N equals the number of steady state days simulated. In all cases, except those AFSC's listed in Table IV, N equals 98.

The procedures contained in Tables V and VI were used to compute each AFSC's direct manning and confidence intervals for the three constraint types (unconstrained parts/ATS, constrained parts/unconstrained ATS, and constrained parts/ATS) and scheduled sortie rates (.43, .74, and 1.0). The direct manning for the End of Runway Crew was separately calculated using equation (15) found in Chapter IV and added to the direct manning estimate and confidence interval of AFSC 431X1 (Flight Line Crew Chief). This calculation is illustrated in Table VII.

Table VI

AFSC 531X3 Confidence Interval Computation

Source	Calculation
Sample Variance of Daily Manhours Used	$S_{\mu}^{2} = 5.526$
Equation (14)	Corrected $S_{\mu}^{2} = S_{\mu}^{2}\,[1 + 2 \sum_{L=1}^{N-1} (1 - \frac{L}{N})\, \hat{\rho}(L)]$ $= 5.256\,[1 + 2 \sum_{L=1}^{97} (1 - \frac{L}{98}) \hat{\rho}(L)]$ $= .507$
Convert Variance to Standard Deviation	Average Daily Manhours Used Standard Deviation $= \sqrt{.507}$ $= .712$
Equation (1)	M_S Standard Deviation $= \frac{\text{(Average Daily Manhours Used Standard Deviation)}}{\text{(Utilization Factor)(Shift Length)}}$ $= \frac{(.712)}{(.6)(8)}$ $= .148$
Equation (2)	M Standard Deviation $= \frac{(M_S \text{ Standard Deviation})(\text{Work Days/Mo})(\text{Shift Length})}{(144 \text{ Hours/Man/Month})}$ $= \frac{(.148)(30.44)(8)}{144}$ $= .250$

Table VI. (Continued)

AFSC 531X3 Confidence Interval Computation

Source	Calculation
Equation (11)	95% Confidence Interval $= M \pm (Z_{\alpha/2}) \begin{pmatrix} \text{M Standard} \\ \text{Deviation} \end{pmatrix}$ $= 14.248 \pm (1.96)(.250)$ $= 14.248 \pm .49$ $= (13.758, 14.738)$
AFM 25-5	95% Confidence Interval for M = (13, 14) Men

Table VII

End of Runway Crew Direct Manning Computation

Source	Computation
Equation (15)	$M = \dfrac{\begin{pmatrix} \text{Crew} \\ \text{Size} \end{pmatrix} \begin{pmatrix} \text{Workdays} \\ \text{per} \\ \text{Month} \end{pmatrix} \begin{pmatrix} \text{Hours} \\ \text{per} \\ \text{Day} \end{pmatrix} \begin{pmatrix} \text{4.348} \\ \text{Weeks} \\ \text{per Month} \end{pmatrix}}{\text{144 Hours/Man/Month}}$ $= \dfrac{(3)(5)(16)(4.348)}{144}$ $= 7.25$
AFM 25-5	Direct Manning = 7 Men

Direct Manning Sensitivity. This section illustrates both graphically and statistically the sensitivity of direct manning estimates to each of the three simulation constraint types and scheduled sortie rates. The authors used the Moody Regression Program to develop a regression equation for each constraint type comparing AFSC direct manning with flying hours per month (FHPM). The accomplished sortie rate (ASR) corresponding to the simulation's scheduled sortie rate was converted into FHPM for the purpose of this comparison. Table VIII depicts the resulting ASR and FHPM for the three constraint types and scheduled sortie rates.

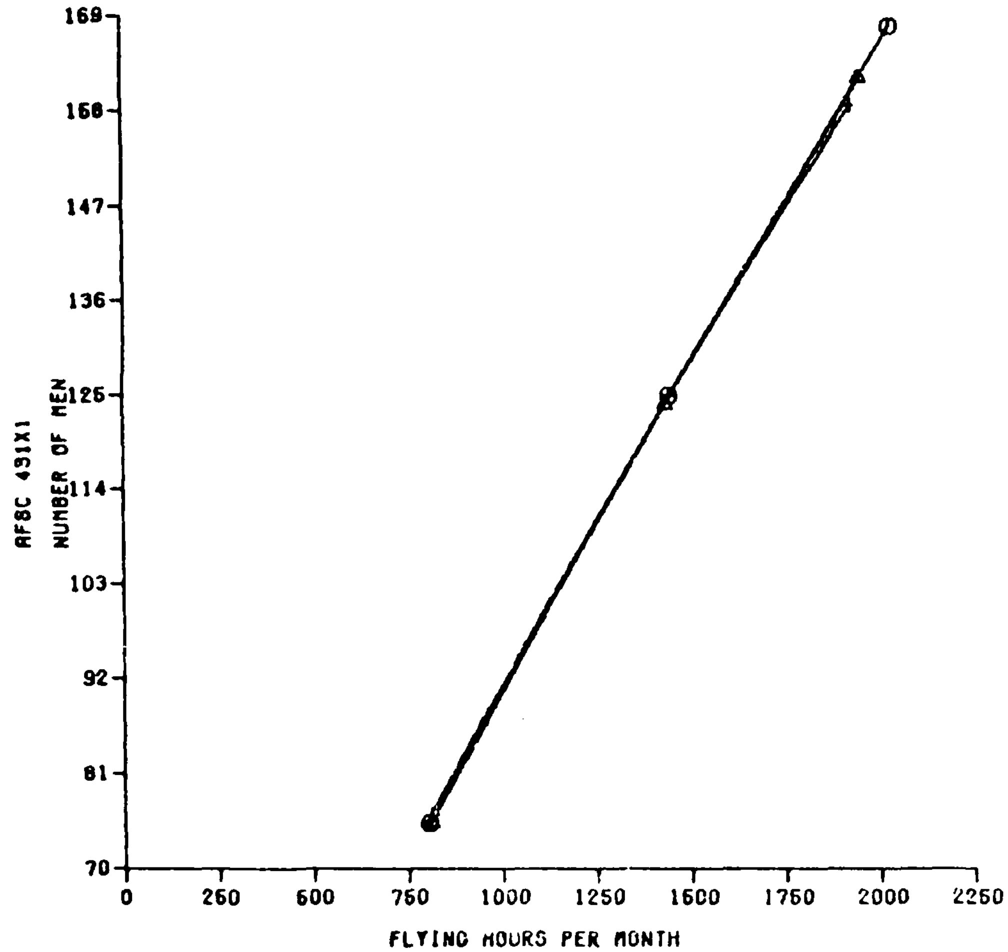
Table VIII

Accomplished Sortie Rate (ASR) and Flying Hours per Month (FHPM) versus Constraint Type and Scheduled Sortie Rate

Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
Unconstrained Parts/ Unconstrained ATS	.404 ASR 806 FHPM	.697 ASR 1444 FHPM	.955 ASR 2037 FHPM
Constrained Parts/ Unconstrained ATS	.406 ASR 809 FHPM	.692 ASR 1433 FHPM	.916 ASR 1954 FHPM
Constrained Parts/ Constrained ATS	.406 ASR 808 FHPM	.698 ASR 1446 FHPM	.904 ASR 1930 FHPM

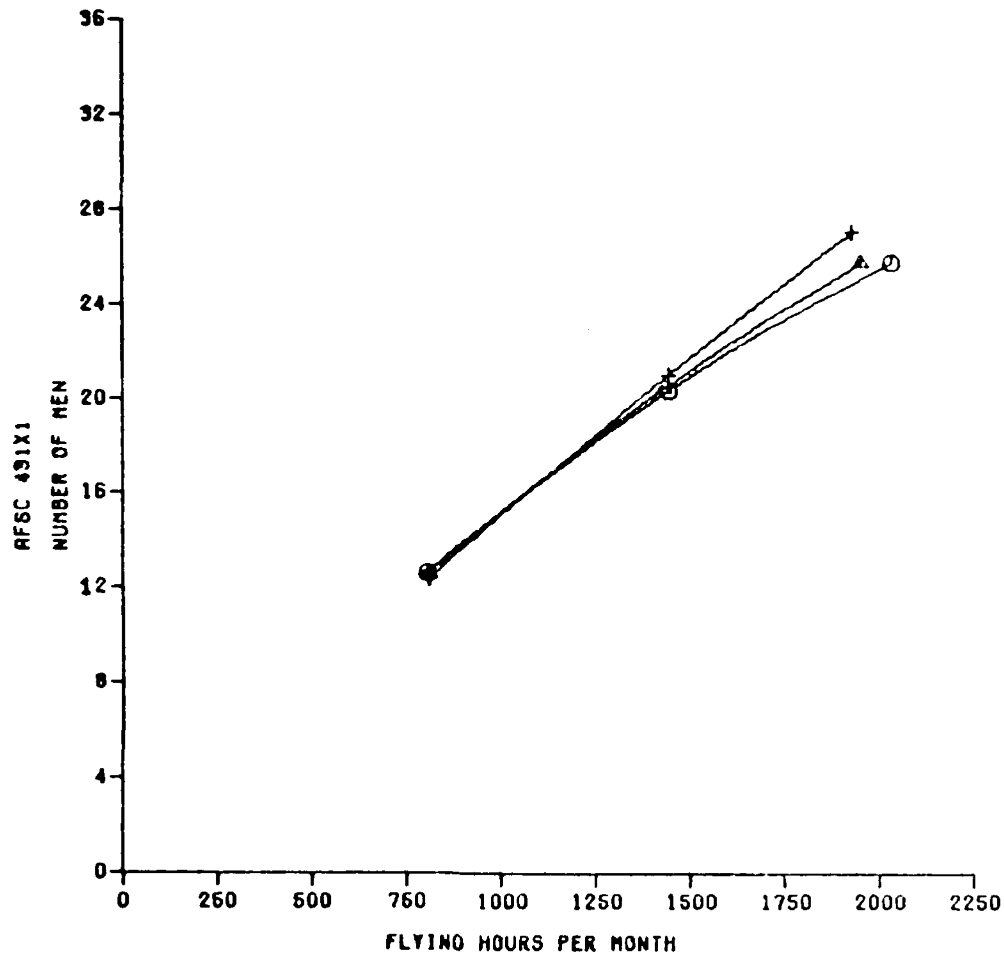
Figures 17 through 30 depict the direct manning for those AFSC's listed in Table I. These figures use the Moody Regression equations to graphically illustrate the sensitivity of direct manning to constraint type and flying hours per month. The figures also depict in tabular form the direct manning and 95 percent confidence intervals corresponding to each constraint type and scheduled sortie rate.

Table VIII and Figures 17 through 30 summarize the relationships between scheduled sortie rate, flying hours per month, accomplished sortie rate, and direct manning. For example, AFSC 431X1 (Flight Line Crew Chief) in Figure 17 requires 76 direct men with a 95 percent confidence interval of (74-78) to achieve 806 FHPM and a .404 ASR based on unconstrained parts/ATS and a .43 scheduled sortie rate.



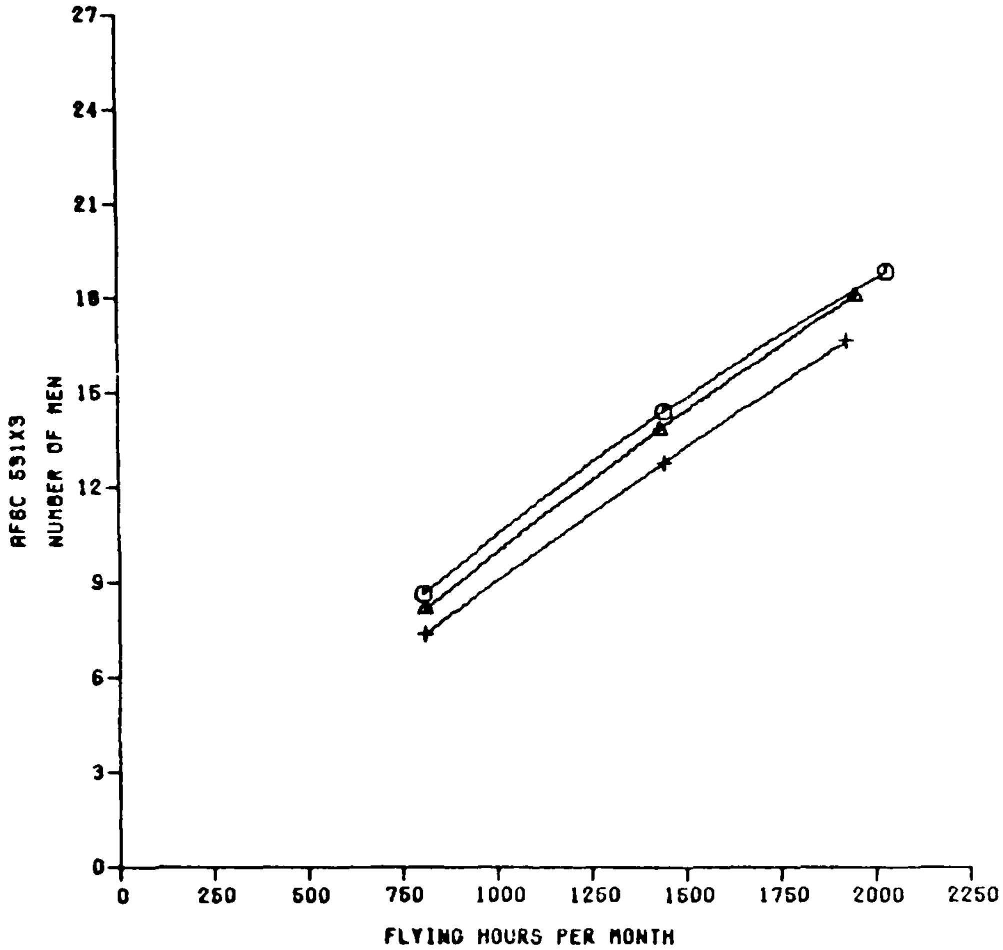
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	76 (74-78)	124 (120-128)	168 (163-172)
△ - Constrained Parts/ Unconstrained ATS	76 (74-79)	123 (119-127)	162 (157-167)
+ - Constrained Parts/ Constrained ATS	77 (75-79)	124 (119-128)	159 (149-169)

Figure 17. AFSC 431X1 (Flight Line Crew Chief) Direct Manning



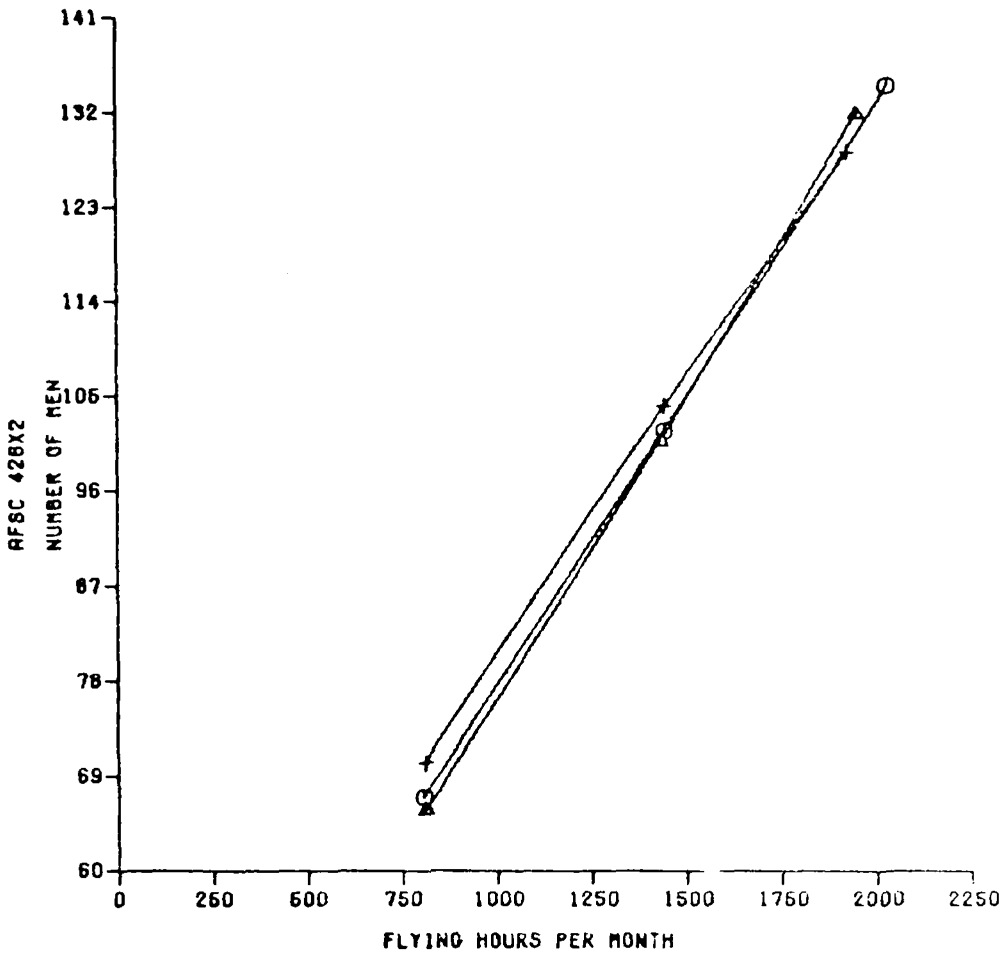
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	13 (12-13)	20 (20-21)	26 (26-27)
Δ - Constrained Parts/ Unconstrained ATS	13 (12-13)	20 (19-22)	26 (25-27)
+ - Constrained Parts/ Constrained ATS	14 (13-14)	19 (17-20)	28 (26-29)

Figure 18. AFSC 431X1 (Phase Inspection) Direct Manning



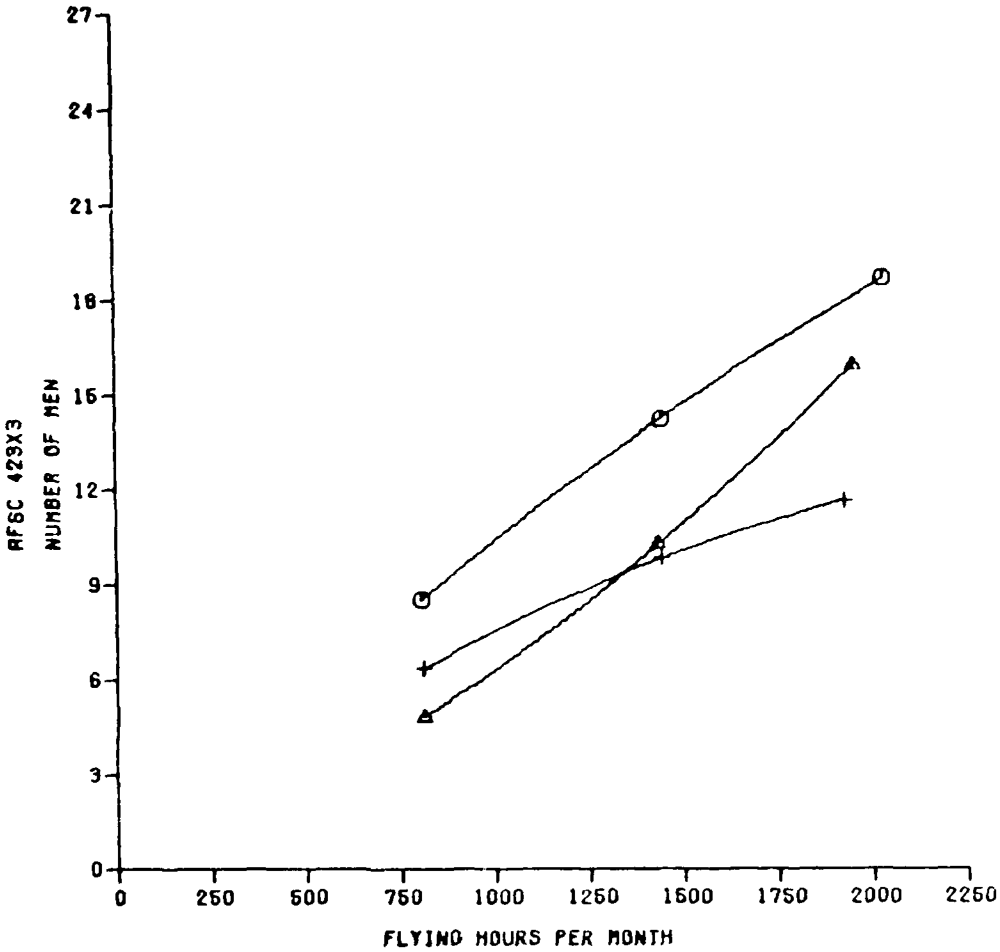
Constraint Type	Scheduled Sortie Rate .43	Scheduled Sortie Rate .74	Scheduled Sortie Rate 1.0
0 - Unconstrained Parts/ Unconstrained ATS	9 (8-9)	14 (13-14)	19 (18-20)
Δ - Constrained Parts/ Unconstrained ATS	8 (8-9)	14 (13-14)	18 (17-19)
+ - Constrained Parts/ Constrained ATS	8 (8-9)	12 (12-13)	17 (16-19)

Figure 19. AFSC 531X3 (Structural Repair) Direct Manning



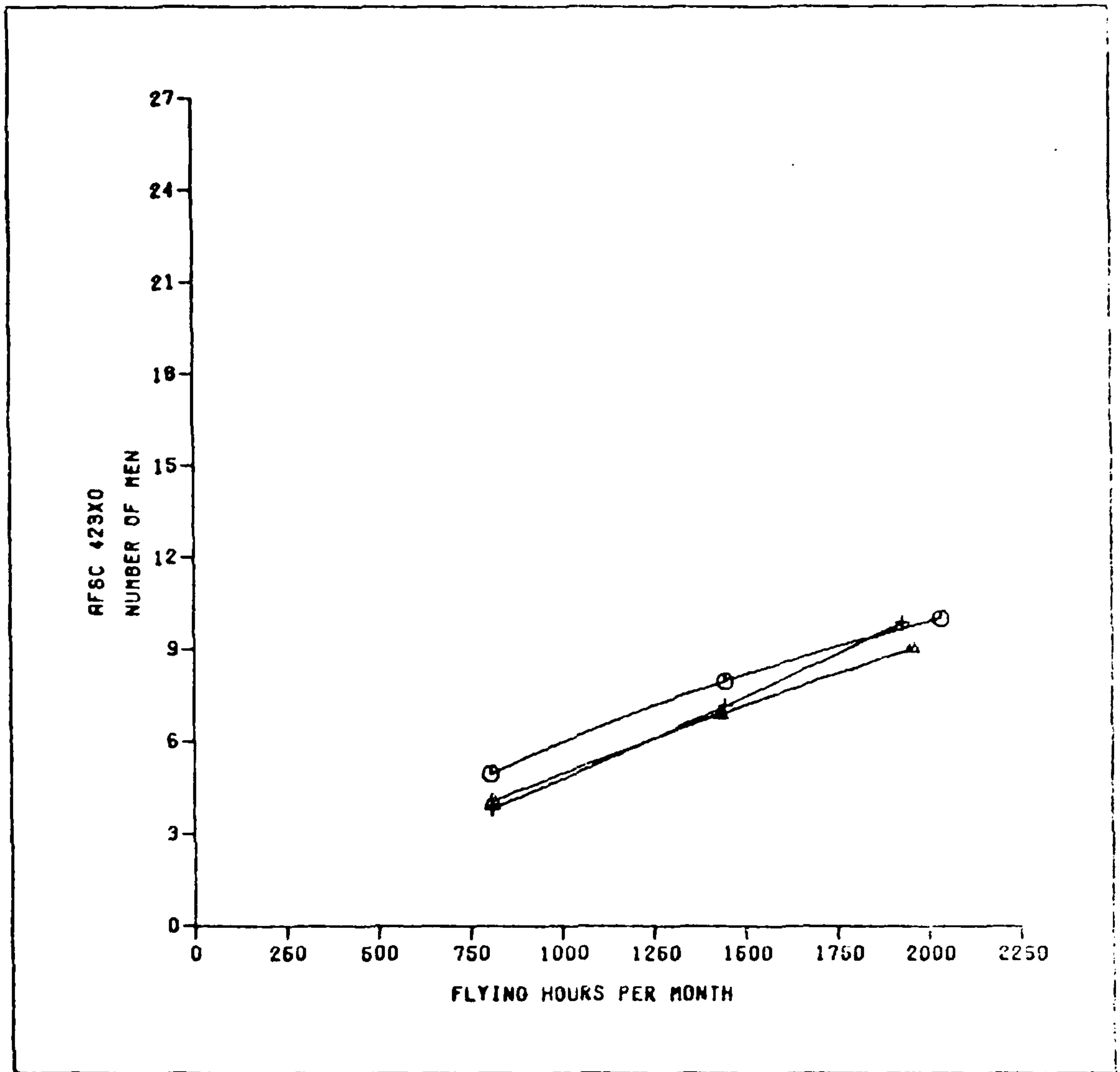
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	66 (64-68)	103 (94-112)	134 (126-14[illegible])
Δ - Constrained Parts/ Unconstrained ATS	68 (65-70)	98 (92-107)	133 (128-139)
+ - Constrained Parts/ Constrained ATS	68 (65-72)	107 (101-112)	127 (11[illegible]-14[illegible])

Figure 20. AFSC 426X2 (Jet Engine) Direct Manning



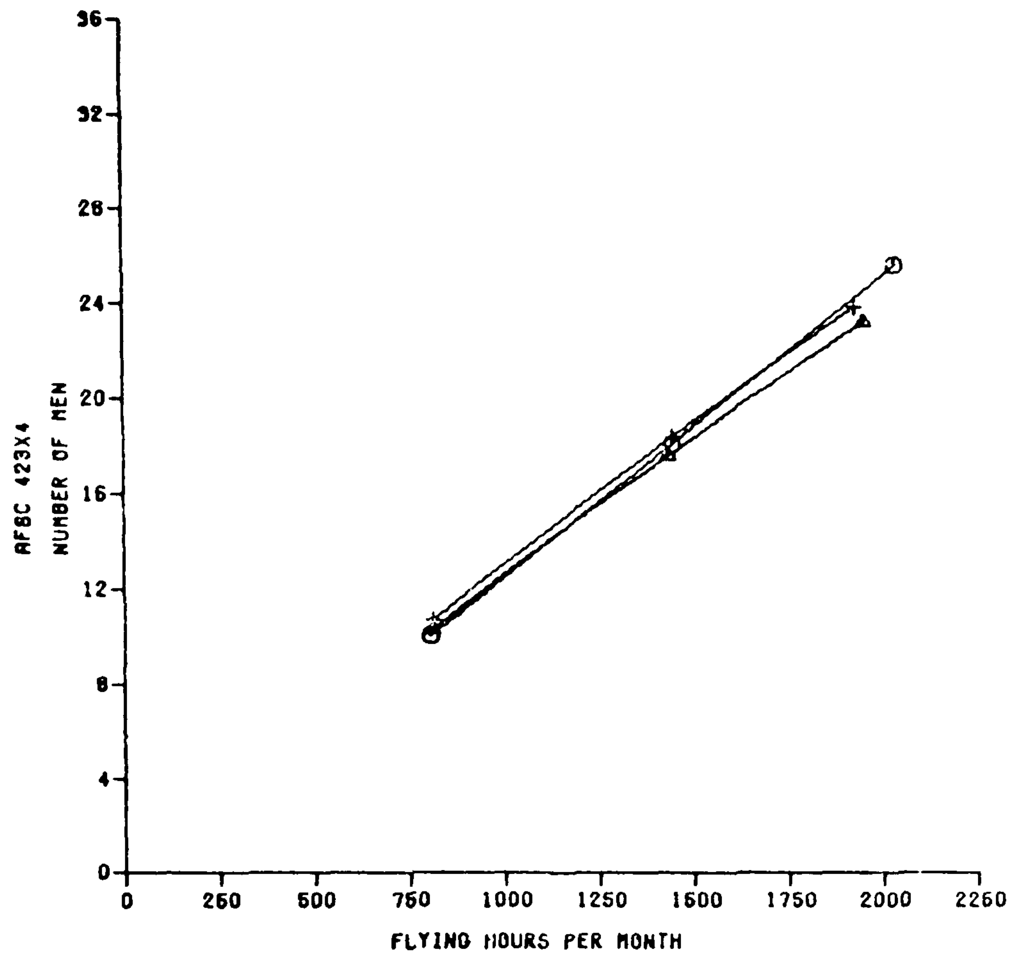
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	7 (5-9)	16 (14-17)	18 (16-19)
Δ - Constrained Parts/ Unconstrained ATS	5 (5-6)	10 (10-11)	16 (15-18)
+ - Constrained Parts/ Constrained ATS	7 (6-8)	9 (8-9)	12 (11-13)

Figure 21. AFSC 423X3 (Fuel Systems) Direct Manning



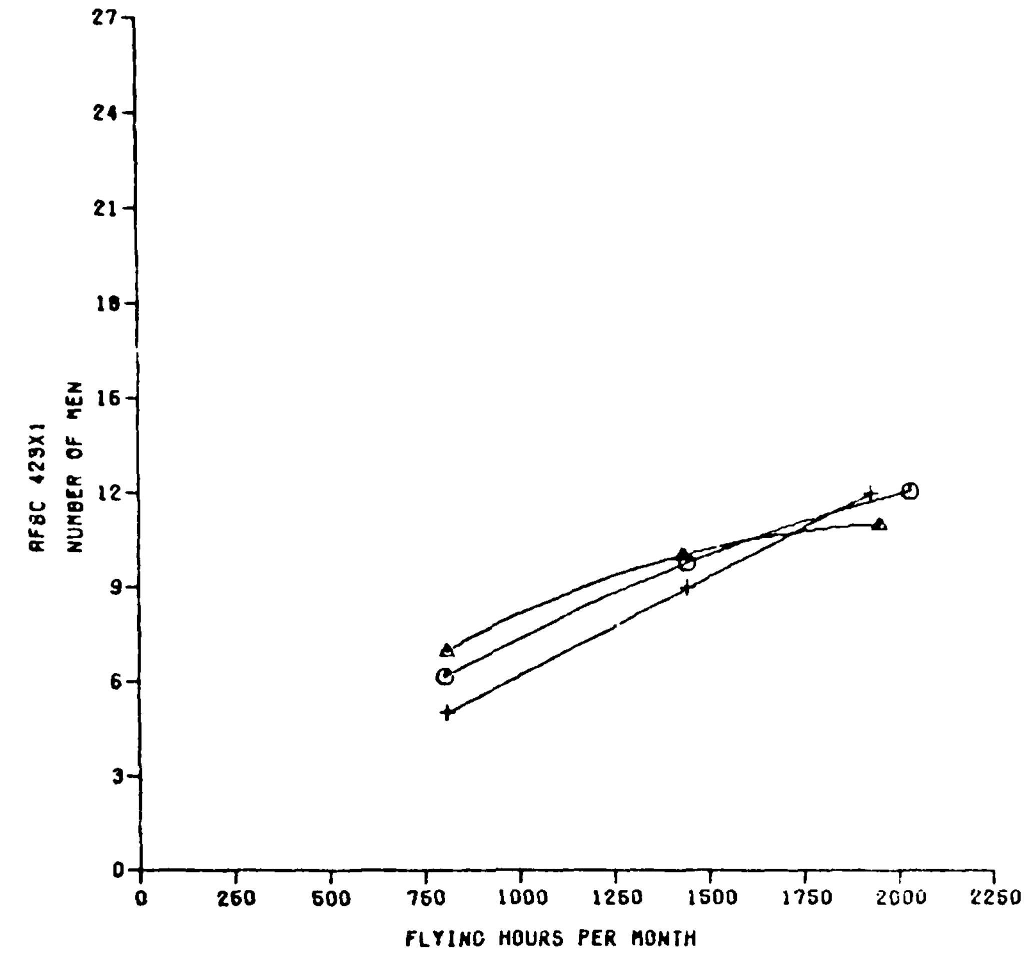
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	5 (5-5)	8 (7-8)	10 (9-10)
Δ - Constrained Parts/ Unconstrained ATS	4 (4-5)	7 (6-7)	9 (9-10)
+ - Constrained Parts/ Constrained ATS	4 (4-4)	7 (7-7)	10 (9-10)

Figure 22. AFSC 423X0 (Electrical Systems) Direct Manning



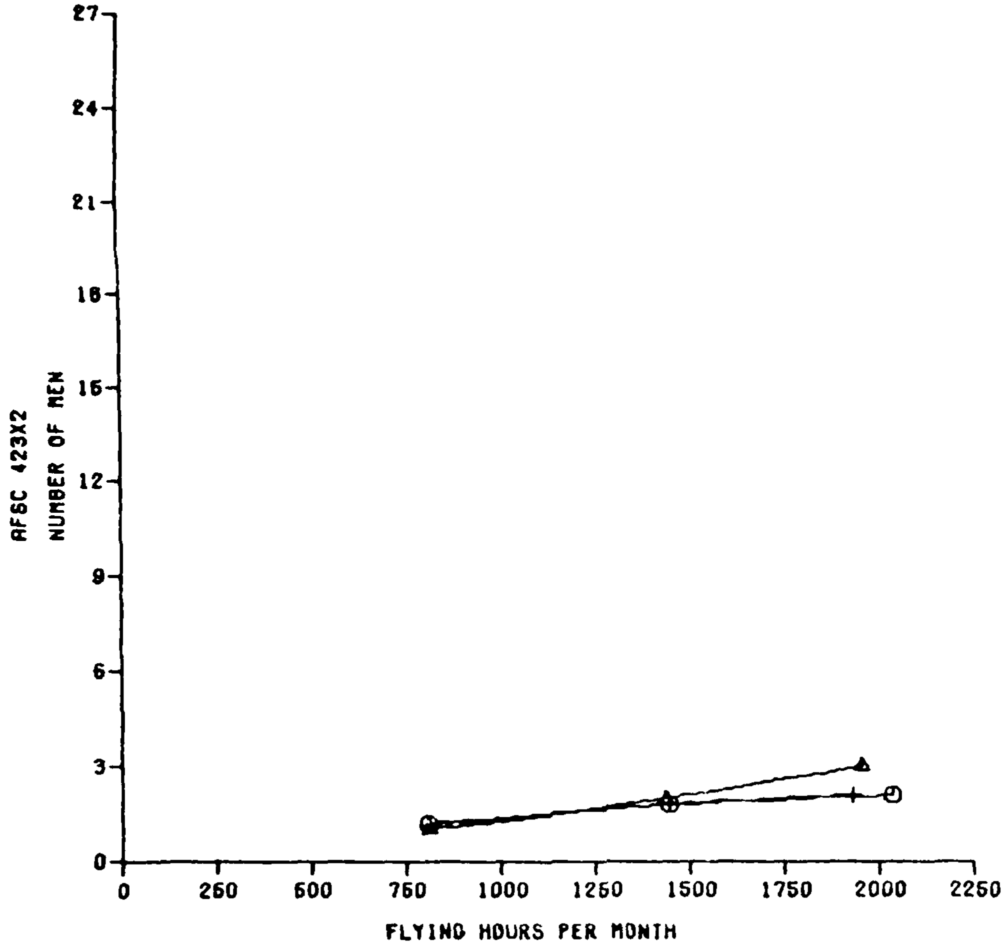
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
0 - Unconstrained Parts/ Unconstrained ATS	11 (10-11)	17 (16-19)	26 (25-27)
Δ - Constrained Parts/ Unconstrained ATS	10 (9-11)	18 (17-19)	23 (22-24)
+ - Constrained Parts/ Constrained ATS	11 (10-11)	18 (18-19)	24 (22-25)

Figure 23. AFSC 423X4 (Pneudraulics) Direct Manning



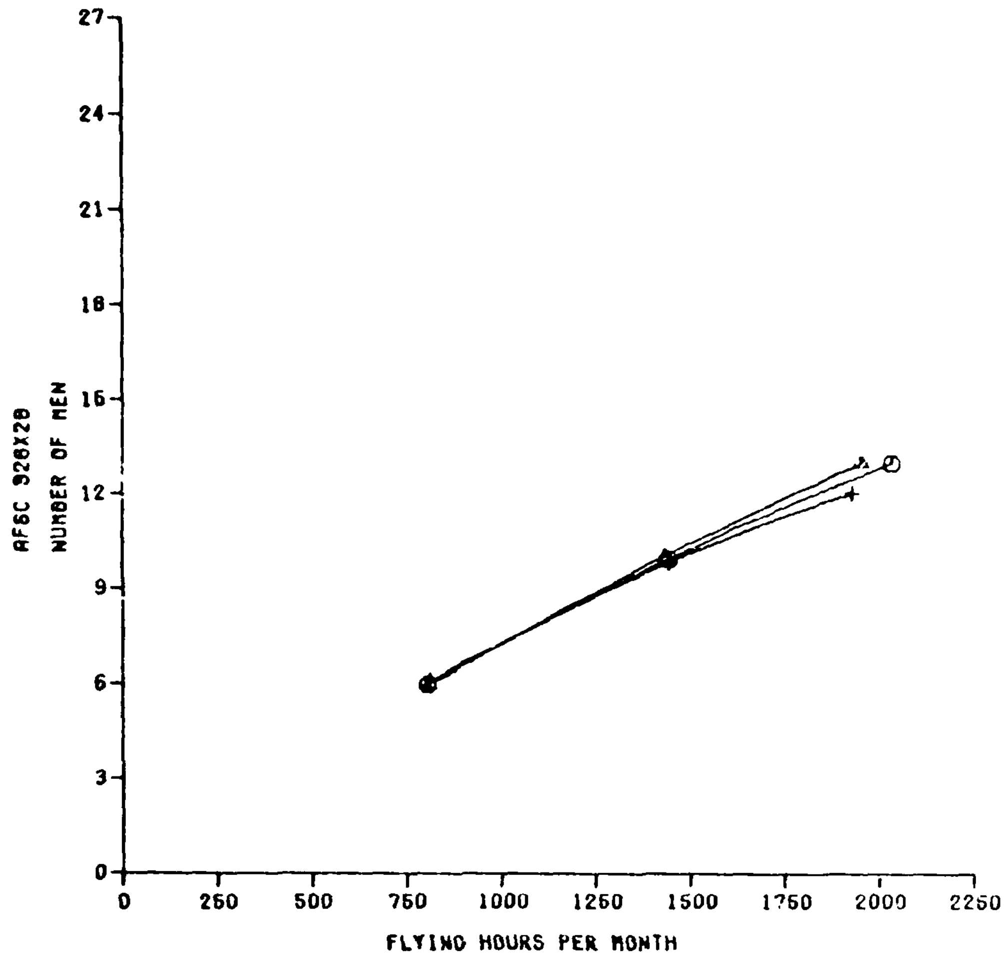
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	6 (5-6)	10 (9-10)	12 (12-13)
Δ - Constrained Parts/ Unconstrained ATS	7 (7-7)	10 (9-11)	11 (10-11)
+ - Constrained Parts/ Constrained ATS	5 (5-5)	9 (9-9)	12 (11-13)

Figure 24. AFSC 423X1 (Environmental Systems) Direct Manning



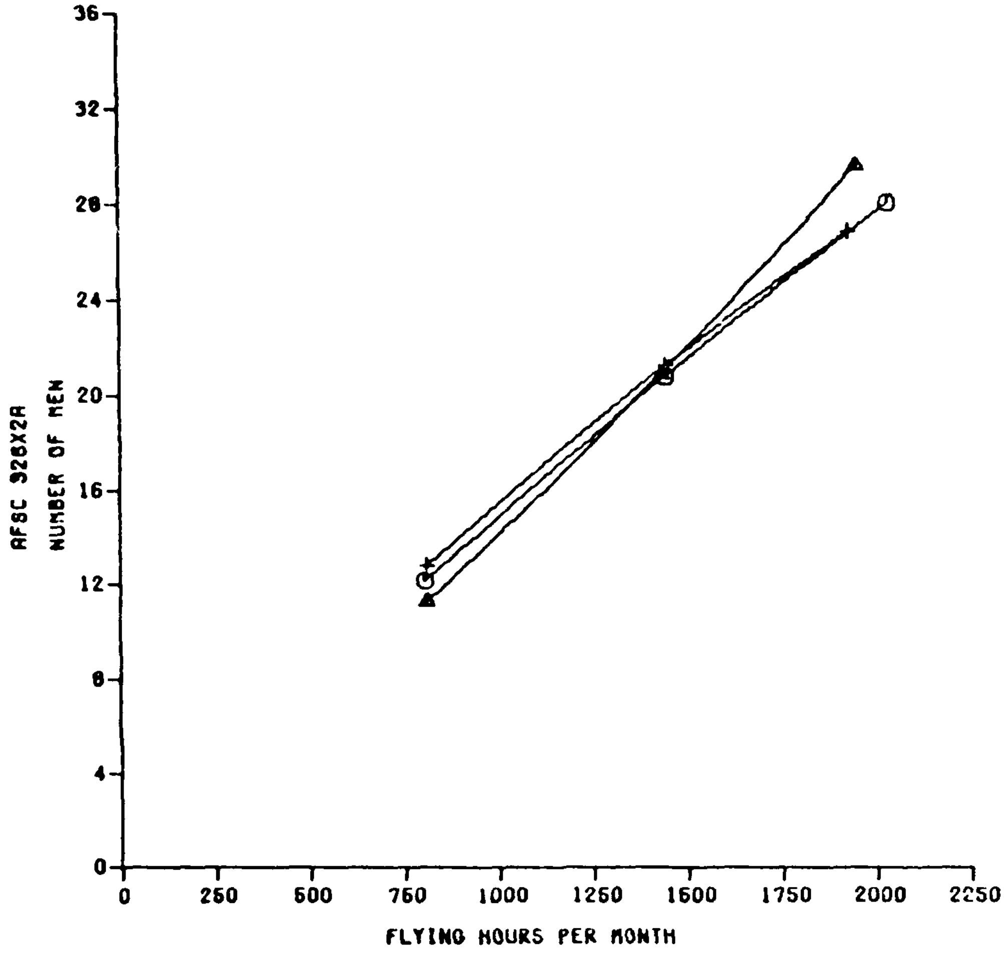
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	1 (1-2)	2 (2-2)	2 (2-3)
Δ - Constrained Parts/ Unconstrained ATS	1 (1-1)	2 (2-2)	3 (2-3)
+ - Constrained Parts/ Constrained ATS	1 (1-2)	2 (1-2)	2 (2-3)

Figure 25. AFSC 423X2 (Egress Systems) Direct Manning



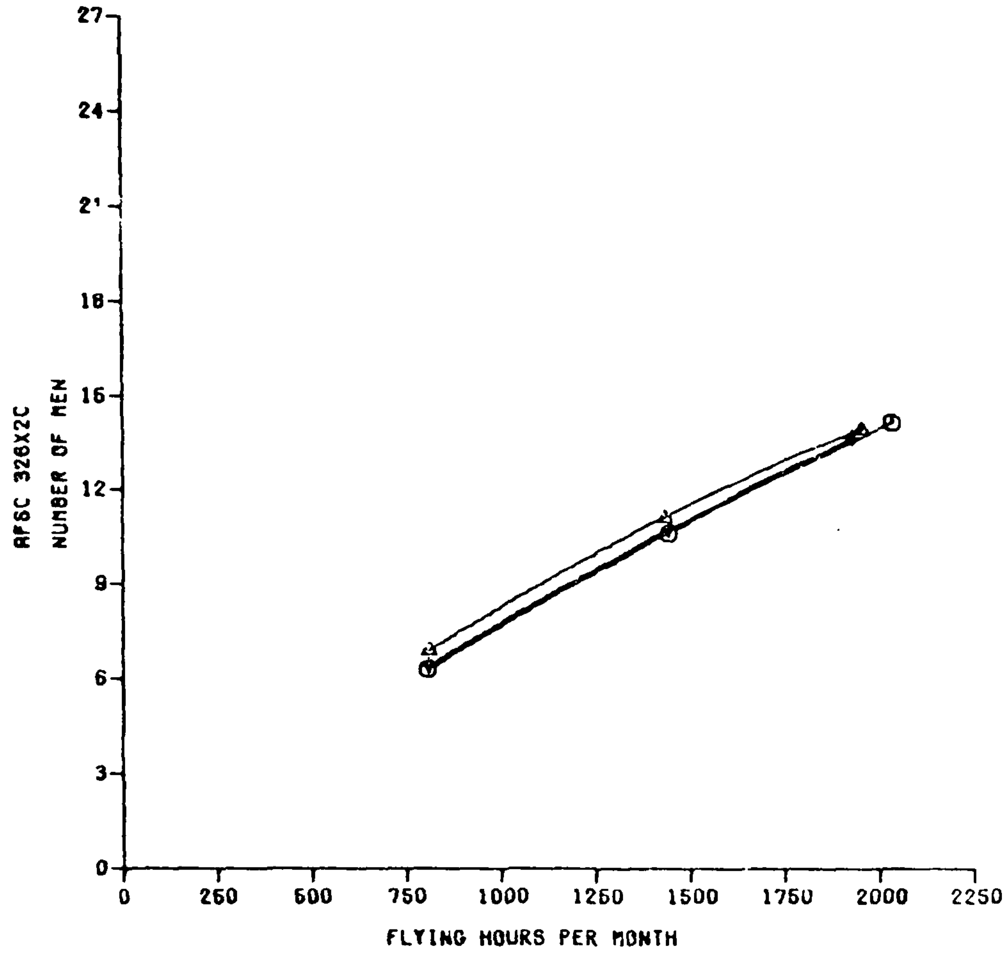
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
0 - Unconstrained Parts/ Unconstrained ATS	6 (5-6)	10 (9-10)	13 (13-13)
Δ - Constrained Parts/ Unconstrained ATS	6 (5-6)	10 (9-10)	13 (13-14)
+ - Constrained Parts/ Constrained ATS	6 (5-6)	10 (10-10)	12 (12-12)

Figure 26. AFSC 326X2B (Automatic Flight Control/Instrument) Direct Manning



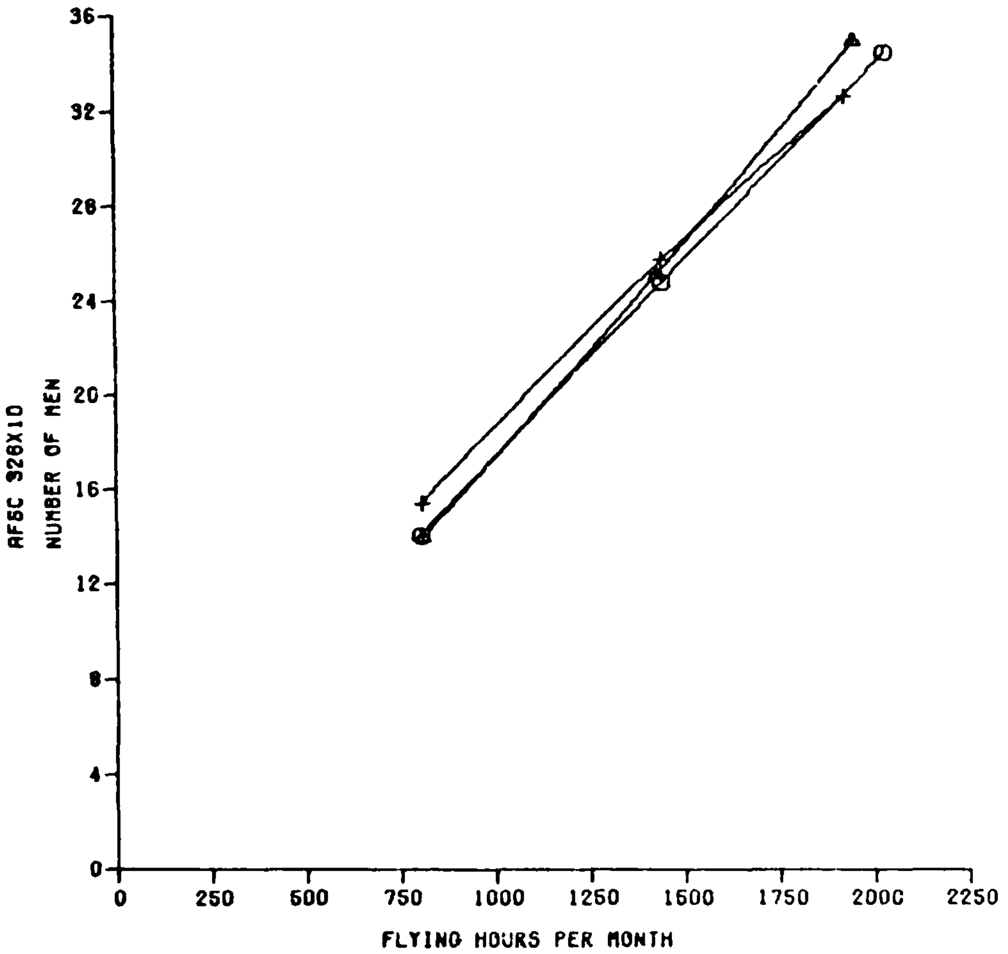
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	12 (11-12)	21 (21-22)	28 (28-29)
Δ - Constrained Parts/ Unconstrained ATS	12 (12-12)	20 (19-21)	30 (29-31)
+ - Constrained Parts/ Constrained ATS	13 (12-13)	21 (20-22)	27 (25-30)

Figure 27. AFSC 326X2A (Inertial Navigation System/Weapon Control) Direct Manning



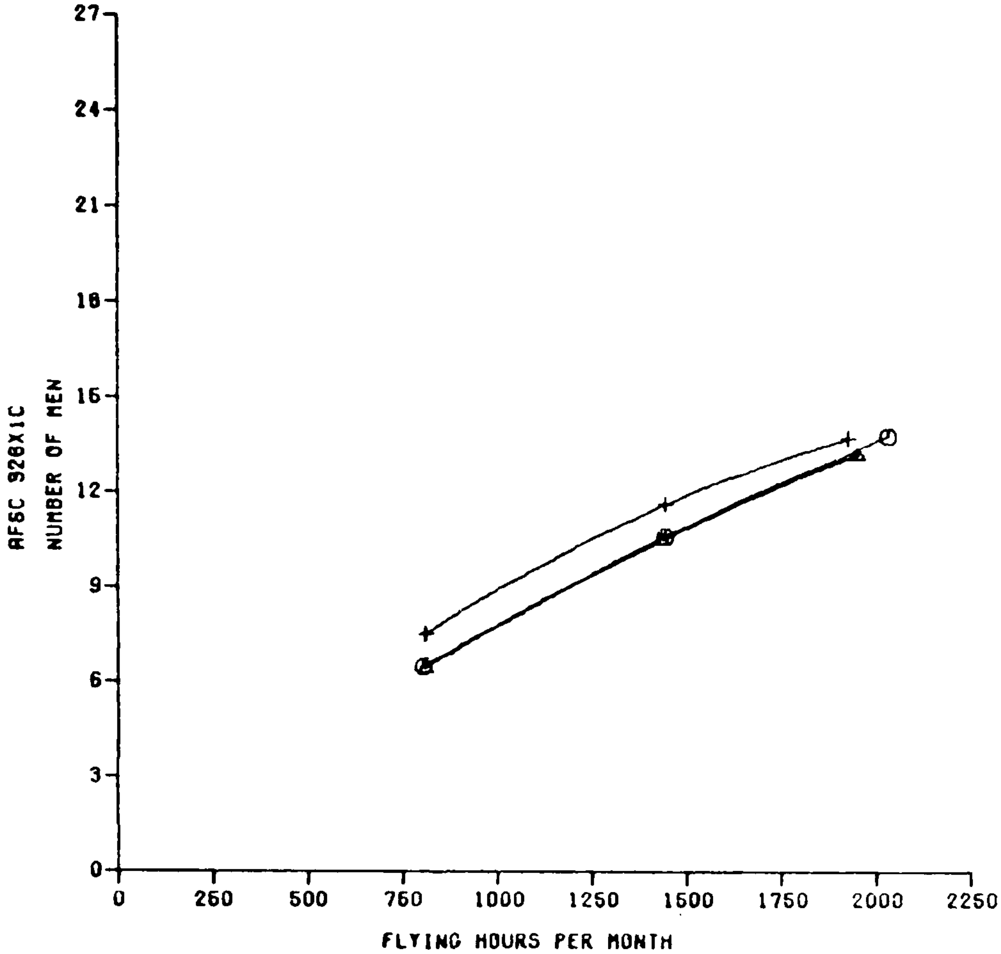
Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	6 (6-7)	11 (10-11)	14 (13-14)
Δ - Constrained Parts/ Unconstrained ATS	7 (6-7)	11 (10-11)	14 (14-15)
+ - Constrained Parts/ Constrained ATS	7 (6-7)	10 (10-11)	14 (13-15)

Figure 28. AFSC 326X2C (Communications/Navigations/Electronic Counter Measures) Direct Manning



Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	13 (13-14)	26 (24-27)	34 (33-36)
Δ - Constrained Parts/ Unconstrained ATS	14 (13-15)	25 (23-27)	35 (34-37)
+ - Constrained Parts/ Constrained ATS	16 (15-16)	25 (25-26)	33 (3[illegible]-34)

Figure 29. AFSC 326X1D (Automatic Test Station) Direct Manning



Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	7 (7-8)	10 (9-11)	14 (13-14)
Δ - Constrained Parts/ Unconstrained ATS	6 (6-7)	11 (9-12)	13 (12-13)
+ - Constrained Parts/ Constrained ATS	8 (7-8)	11 (10-11)	14 (12-16)

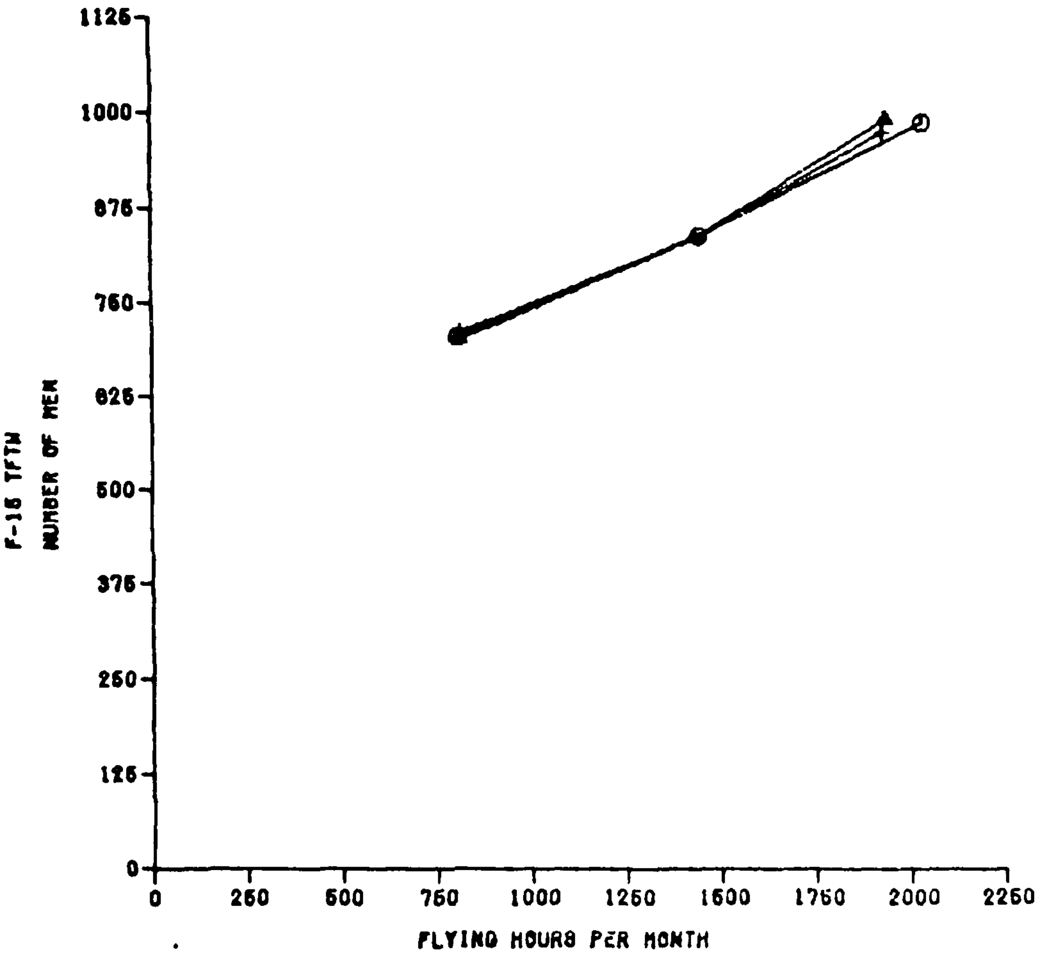
Figure 30. AFSC 326X1C (Manual Test Station) Direct Manning

Manning Document. The authors used the Moody Manpower Program to develop a complete basic manning document for the maintenance organization depicted in Figure 6 of Chapter III. Additionally, the program was used to determine the total maintenance manning requirements for each constraint type and scheduled sortie rate. The Moody Manpower Program considers each AFSC's minimum crew manning during the development of total manning requirements. If direct manning estimates are below the respective minimum crew manning, the program uses the minimum crew manning to determine total manning requirements. Since the LCOM networks define minimum crew requirements for each maintenance task, AFSC minimum crew manning remains constant for each constraint type and scheduled sortie rate. Table IX depicts the minimum crew manning for each AFSC. Figure 31 indicates the sensitivity of the F-15 TFTW's total manning requirements to constraint type and scheduled sortie rate. Figure 32 illustrates the basic manning document for unconstrained parts/ATS at a .74 scheduled sortie rate.

Table IX

AFSC Minimum Crew Manning

AFSC	Work Description	Minimum Crew Manning
431X1	Flight Line Crew Chief	31
431X1	Phase Inspection	24
531X3	Structural Repair	10
426X2	Jet Engine	48
423X3	Fuel Systems	10
423X0	Electrical Systems	10
423X4	Pneudraulics	10
423X1	Environmental Systems	10
423X2	Egress Systems	10
326X2B	Automatic Flight Control/Instruments	10
326X2A	Inertial Navigation System/Weapon Control	10
326X2C	Communications/Navigations/Electronic Counter Measures	10
326X1D	Automatic Test Station	10
326X1C	Manual Test Station	10



Constraint Type	Scheduled Sortie Rate		
	.43	.74	1.0
O - Unconstrained Parts/ Unconstrained ATS	705	837	984
Δ - Constrained Parts/ Unconstrained ATS	703	834	990
+ - Constrained Parts/ Constrained ATS	710	836	973

Figure 31. F-15 TFTW Total Manning Requirements

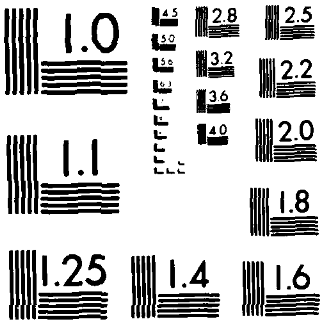
CHIEF OF MAINTENANCE

F/C	DESC.	OSC	AFSC	GRADE	RQMT
~~210000~~	~~CHIEF OF MAINT~~	~~JN~~	~~4095~~	~~COL~~	~~1~~
210000	CHIEF OF MAINT	JN	4016	LTC	1
210000	CHIEF OF MAINT	JN	43191	CMS	1
210000	CHIEF OF MAINT	JN	43171C	MSG	1
210000	CHIEF OF MAINT	JN	70450	CIV	1
					6
210000	CHIEF OF MAINT	JND	70270	MSG	1
210000	CHIEF OF MAINT	JND	70250	SSG	2
210000	CHIEF OF MAINT	JND	70250	SGT	3
~~210000~~	~~CHIEF OF MAINT~~	~~JND~~	~~70230~~	~~A1C~~	~~1~~
					7
210000	CHIEF OF MAINT TNG MGT	JNB	75193	SMS	1
~~210000~~	~~CHIEF OF MAINT TNG MGT~~	~~JNB~~	~~75172~~	~~TSG~~	~~1~~
210000	CHIEF OF MAINT TNG MGT	JNB	75132	SSG	1
					3
~~210000~~	~~CHIEF OF MAINT PROD ANAL~~	~~JNA~~	~~39170A~~	~~MSG~~	~~1~~
210000	CHIEF OF MAINT PROD ANAL	JNA	39150A	SSG	1
210000	CHIEF OF MAINT PROD ANAL	JNA	39150A	SGT	1
					3
210000	QUALITY CONT ADM	JND	70250	CIV	2
					2
~~210000~~	~~PROGRAMS/MOBILITY~~	~~JNE~~	~~66170~~	~~MSG~~	~~2~~
					2
211000	QUALITY CONT FCF	JNHA	F4024	CPT	2
~~211000~~	~~QUALITY CONT~~	~~JNHA~~	~~43171C~~	~~TSG~~	~~1~~
					3
211000	QUALITY CONT I O DIST	JNHC	43151C	SSG	2
					2
211000	QUALITY CONT	JNH	4016	LTC	
211000	QUALITY CONT	JNH	43191	CMS	1
					2

Figure 32. F-15 TFTW Manning Document

AD-A156 540 ESTIMATION OF F-15 PEACETIME MAINTENANCE MANPOWER REQUIREMENTS USING THE. (U) AIR FORCE INST OF TECH WRIGHT-PATTESSON AFB OH SCHOOL OF ENGI. 2/3

UNCLASSIFIED G DEGOVANNI ET AL. DEC 76 AFIT/GOR/SM/76D-5 F/G 5/9 NL



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

211000	QUALITY CONT	JNHB	42375	MSG	1
211000	QUALITY CONT	JNHB	42375	TSG	2
~~211000~~	~~QUALITY CONT~~	~~JNHB~~	~~46272~~	~~MSG~~	~~1~~
211000	QUALITY CONT	JNHB	46272	TSG	4
211000	QUALITY CONT	JNHB	43171C	MSG	2
211000	QUALITY CONT	JNHB	43171C	TSG	4
211000	QUALITY CONT	JNHB	43151C	SSG	1
211700	QUALITY CONT	JNHB	46270	MSG	1
~~211000~~	~~QUALITY CONT~~	~~JNHB~~	~~46270~~	~~TSG~~	~~1~~
211000	QUALITY CONT	JNHB	46170	MSG	1
211000	QUALITY CONT	JNHB	46170	TSG	1
211000	QUALITY CONT	JNHB	32672A	MSG	1
211000	QUALITY CONT	JNHB	32672A	TSG	1
211000	QUALITY CONT	JNHB	32672B	TSG	1
~~211000~~	~~QUALITY CONT~~	~~JNHB~~	~~32672C~~	~~MSG~~	~~1~~
211000	QUALITY CONT	JNHB	32672C	TSG	2
					25

~~212000~~	~~MAINT CONT~~	~~JNI~~	~~4016~~	~~LTC~~	~~1~~
212000	MAINT CONT	JNI	4024	CPT	1
212000	MAINT CONT	JNI	39290	CMS	1
212000	MAINT CONT	JNI	70250	SSG	1
					4

212000	MAINT CONT JOB CNTL	JNIA	43191	SMS	1
212000	MAINT CONT JOB CNTL	JNIA	43171C	MSG	2
212000	MAINT CONT JOB CNTL	JNIA	43171C	TSG	6
212000	MAINT CONT JOB CNTL	JNIA	43151C	SSG	7
~~212000~~	~~MAINT CONT JOB CNTL~~	~~JNIA~~	~~43151C~~	~~SGT~~	~~8~~
212000	MAINT CONT JOB CNTL	JNIA	42355	SSG	2
212000	MAINT CONT JOB CNTL	JNIA	42355	SGT	2
212000	MAINT CONT JOB CNTL	JNIA	32672A	MSG	1
212000	MAINT CONT JOB CNTL	JNIA	32652A	SSG	1
212000	MAINT CONT JOB CNTL	JNIA	32652A	SGT	1
~~212000~~	~~MAINT CONT JOB CNTL~~	~~JNIA~~	~~46270~~	~~MSG~~	~~1~~
212000	MAINT CONT JOB CNTL	JNIA	46270	TSG	1
212000	MAINT CONT JOB CNTL	JNIA	46250	SSG	1
212000	MAINT CONT JOB CNTL	JNIA	46250	SGT	1
					35

212000	MAINT CONT PLANS/SCH/DOC	JNIB	32672A	MSG	1
212000	MAINT CONT PLANS/SCH/DOC	JNIB	32672B	TSG	1
212000	MAINT CONT PLANS/SCH/DOC	JNIB	43171C	TSG	3
212000	MAINT CONT PLANS/SCH/DOC	JNIB	39230	SSG	6
~~212000~~	~~MAINT CONT PLANS/SCH/DOC~~	~~JNIB~~	~~39230~~	~~SGT~~	~~2~~
212000	MAINT CONT PLANS/SCH/DOC	JNIB	39270	MSG	2
212000	MAINT CONT PLANS/SCH/DOC	JNIB	39270	TSG	4
212000	MAINT CONT PLANS/SCH/DOC	JNIB	39290	SMS	1
212000	MAINT CONT PLANS/SCH/DOC	JNIB	70250	SGT	1
212000	MAINT CONT PLANS/SCH/DOC	JNIB	43171C	TSG	2
~~212000~~	~~MAINT CONT PLANS/SCH/DOC~~	~~JNIB~~	~~43151C~~	~~SSG~~	~~1~~
212000	MAINT CONT PLANS/SCH/DOC	JNIB	39270	MSG	1
212000	MAINT CONT PLANS/SCH/DOC	JNIB	39230	SSG	1
					26

212000	MAINT CONT MAT CONT	JNIC	6424A	CPT	1
212000	MAINT CONT MAT CONT	JNIC	64570	MSG	1
212000	MAINT CONT MAT CONT	JNIC	70250	SGT	1
					3

212000	MAINT CONT MAT CONT	JNICA	64570	TSG	4
212000	MAINT CONT MAT CONT	JNICA	64550	SSG	4
212000	MAINT CONT MAT CONT	JNICA	64550	SGT	5
212000	MAINT CONT MAT CONT	JNICA	64530	A1C	3
					16

212000	MAINT CONT MAT CONT	JNICB	39270	MSG	3
212000	MAINT CONT MAT CONT	JNICB	39230	SSG	6
~~212000~~	~~MAINT CONT MAT CONT~~	~~JNICB~~	~~39230~~	~~SGT~~	~~6~~
212000	MAINT CONT MAT CONT	JNICB	39270	TSG	3
					18

Figure 32. F-15 TFTW Manning Document (continued)

OPGANIZA. MAINTENANCE SQUADRON

F/C	DESC.	OSG	AFSC	GRADE	RQMT.
223000	ORGANIZ. MAINT SQ	AA	4016	MAJ	1
220000	ORGANIZ. MAINT SQ	AA	44016	LTG	1
220000	ORGANIZ. MAINT SQ	AA	70250	SSG	1
220000	ORGANIZ. MAINT SQ	AA	70230	A1C	1
220000	ORGANIZ. MAINT SQ	AA	43191	CMS	1
					5
220000	UNIT ADMIN	AU	7034	CPT	1
220000	UNIT ADMIN	AU	70250	SSG	1
220000	UNIT ADMIN	AU	70230	A1C	2
220000	UNIT ADMIN	AU	10090	MSG	1
					5
221000	FLIGHT LINE SUPV	MLM	4024	CPT	1
221000	FLIGHT LINE SUPV	MLM	70230	A1C	1
221000	FLIGHT LINE SUPV	MLM	4024	LT	1
221000	FLIGHT LINE SUPV	MLM	43191	SMS	1
221000	FLIGHT LINE CHF	MLM	43171C	MSG	1
221000	FLIGHT LINE CHF	MLM	43171C	MSG	1
221000	FLIGHT LINE CHF	MLM	43171C	MSG	4
221000	FLIGHT LINE CHF	MLM	43171C	TSG	20
221000	FLIGHT LINE EXPEDITOR	MLM	43171C	TSG	9
221000	FLIGHT LINE CHF	MLM	43151C	SSG	4
221000	FLIGHT LINE INSPECTOR	MLM	43191	SMS	1
221000	FLIGHT LINE GO SUPT EQP	MLM	43171C	MSG	1
221000	FLIGHT LINE BENCH STOCK	MLM	43151C	SSG	1
221000	FLIGHT LINE BENCH STOCK	MLM	43151C	SGT	2
221000	FLIGHT LINE 780 EQUIP	MLM	43171C	TSG	1
221000	FLIGHT LINE 780 EQUIP	MLM	43151C	SSG	1
221000	FLIGHT LINE 780 EQUIP	MLM	43151C	SGT	1
221000	FLIGHT LINE 780 EQUIP	MLM	43131C	A1C	1
221000	FLIGHT LINE	MLM	43191	SMS	1
221000	FLIGHT LINE	MLM	43191	MSG	1
221000	FLIGHT LINE	MLM	43171C	MSG	4
221000	FLIGHT LINE	MLM	43171C	TSG	7
221000	FLIGHT LINE	MLM	43171C	SSG	5
221000	FLIGHT LINE	MLM	43151C	SSG	19
221000	FLIGHT LINE	MLM	43151C	SGT	41
221000	FLIGHT LINE	MLM	43151C	A1C	10
221000	FLIGHT LINE	MLM	43131C	A1C	41
					176
222000	PHASE	MLI	431	71CMSG	1
222000	PHASE	MLI	431	71CTSG	1
222000	PHASE	MLI	431	71CSSG	1
222000	PHASE	MLI	431	51CSSG	4
222000	PHASE	MLI	431	51CSGT	8
222000	PHASE	MLI	431	51CA1C	2
222000	PHASE	MLI	431	31CA1C	7
					26

Figure 32. F-15 TFTW Manning Document (continued)

FIELD MAINTENANCE SQUADRON

F/C	DESC.	OSC	AFSC	GRADE	RQMT
230000	FIELD MAINT SQ	AA	4015	MAJ	1
~~230000~~	~~FIELD MAINT SQ~~	~~AA~~	~~A4015~~	~~LTC~~	~~1~~
230000	FIELD MAINT SQ	AA	70250	SSG	1
230000	FIELD MAINT SQ	AA	42692	CMS	1
230000	FIELD MAINT SQ	AA	70230	A1C	1
					5
230000	UNIT ADMIN	AU	7034	CPT	1
230000	UNIT ADMIN	AU	70250	SSG	1
230000	UNIT ADMIN	AU	70230	A1C	1
230000	UNIT ADMIN	AU	10090	MSG	1
					4
231000	FABRICATION	MKH	53195	SMS	1
					1
231100	MACHINE SHOP	MKHA	53150	SSG	2
231100	MACHINE SHOP	MKHA	53150	SGT	2
231100	MACHINE SHOP	MKHA	53150	A1C	1
~~231100~~	~~MACHINE SHOP~~	~~MKHA~~	~~53130~~	~~A1C~~	~~1~~
					6
231200	METAL PROCESSING	MKHB	53151	SSG	2
~~231200~~	~~METAL PROCESSING~~	~~MKHB~~	~~53151~~	~~SGT~~	~~2~~
231200	METAL PROCESSING	MKHB	53131	A1C	2
					6
~~231300~~	~~STRUT REPAIR~~	~~MKHC~~	~~53173~~	~~SSG~~	~~1~~
231300	STRUT REPAIR	MKHC	53153	SSG	2
231300	STRUT REPAIR	MKHC	53153	SGT	5
231300	STRUT REPAIR	MKHC	53153	A1C	1
231300	STRUT REPAIR	MKHC	53133	A1C	5
					14
231400	CORROSION CONTROL	MKHF	53154	SSG	1
231400	CORROSION CONTROL	MKHF	53154	SGT	2
231400	CORROSION CONTROL	MKHF	53154	A1C	3
~~231400~~	~~CORROSION CONTROL~~	~~MKHF~~	~~53134~~	~~A1C~~	~~2~~
					8
231500	SURVIVAL EQUIPMENT	MKHE	58271	TSG	1
231500	SURVIVAL EQUIPMENT	MKHE	58251	SSG	2
231500	SURVIVAL EQUIPMENT	MKHE	58251	SGT	2
231500	SURVIVAL EQUIPMENT	MKHE	58231	A1C	2
231500	SURVIVAL EQUIPMENT	MKHE	58250	SSG	1
231500	SURVIVAL EQUIPMENT	MKHE	58250	SGT	1
231500	SURVIVAL EQUIPMENT	MKHE	58230	A1C	1
					10
231700	NON-DESTRUCTIVE INSPECTION	MKHG	53175	CIV	1
231700	NON-DESTRUCTIVE INSPECTION	MKHG	53175	TSG	1
~~231700~~	~~NON-DESTRUCTIVE INSPECTION~~	~~MKHG~~	~~53155~~	~~SSG~~	~~2~~
231700	NON-DESTRUCTIVE INSPECTION	MKHG	53155	SGT	2
231700	NON-DESTRUCTIVE INSPECTION	MKHG	53135	A1C	2
					8
232000	PROPULSION	MKI	4024	LT	1
232000	PROPULSION	MKI	45292	CMS	1
232000	BENCH STOCK/TOOL RM	MKI	42672	TSG	1
232000	BENCH STOCK/TOOL RM	MKI	42652	SSG	1
232000	BENCH STOCK/TOOL RM	MKI	42652	SGT	1
~~232000~~	~~BENCH STOCK/TOOL RM~~	~~MKI~~	~~42632~~	~~A1C~~	~~1~~
					6

Figure 32. F-15 TFTW Manning Document (continued)

232300	JET ENGINE	MKIC	42672	MSG	2
232300	JET ENGINE	MKIC	42672	TSG	2
232300	JET ENGINE	MKIC	42672	SSG	4
232300	JET ENGINE	MKIC	42652	SSG	16
232300	JET ENGINE	MKIC	42652	SGT	34
232300	JET ENGINE	MKIC	42652	A1C	8
232300	JET ENGINE	MKIC	42632	A1C	35
					101
233000	AEROSPACE SYSTEMS	MKJ	4024	LT	1
233000	AEROSPACE SYSTEMS	MKJ	70250	SGT	1
233000	AEROSPACE SYSTEMS	MKJ	42396	SMS	1
					3
233100	REPAIR AND RECLAMATION	MKJA	43171C	MSG	2
233100	REPAIR AND RECLAMATION	MKJA	43171C	TSG	3
233100	REPAIR AND RECLAMATION	MKJA	43151C	SSG	6
233100	REPAIR AND RECLAMATION	MKJA	43151C	SGT	6
233100	REPAIR AND RECLAMATION	MKJA	43131C	A1C	5
					22
233200	FUEL SYSTEMS	MKJB	42373	SSG	1
233200	FUEL SYSTEMS	MKJB	42353	SSG	2
233200	FUEL SYSTEMS	MKJB	42353	SGT	5
233200	FUEL SYSTEMS	MKJB	42353	A1C	1
233200	FUEL SYSTEMS	MKJB	42333	A1C	5
					14
233300	ELECTRICAL SYSTEMS	MKJC	42370	SSG	1
233300	ELECTRICAL SYSTEMS	MKJC	42350	SSG	2
233300	ELECTRICAL SYSTEMS	MKJC	42350	SGT	3
233300	ELECTRICAL SYSTEMS	MKJC	42350	A1C	1
233300	ELECTRICAL SYSTEMS	MKJC	42330	A1C	3
					10
233400	PNEUDRAULICS	MKJD	42374	SSG	1
233400	PNEUDRAULICS	MKJD	42354	SSG	3
233400	PNEUDRAULICS	MKJD	42354	SGT	6
233400	PNEUDRAULICS	MKJD	42354	A1C	1
233400	PNEUDRAULICS	MKJD	42334	A1C	7
					18
233600	ENVIRONMENTAL SYSTEMS	MKJF	42351	SSG	2
233600	ENVIRONMENTAL SYSTEMS	MKJF	42351	SGT	3
233600	ENVIRONMENTAL SYSTEMS	MKJF	42351	A1C	1
233600	ENVIRONMENTAL SYSTEMS	MKJF	42331	A1C	4
					10
233900	EGRESS SYSTEMS	MKJI	42352	SSG	2
233900	EGRESS SYSTEMS	MKJI	42352	SGT	3
233900	EGRESS SYSTEMS	MKJI	42352	A1C	1
233900	EGRESS SYSTEMS	MKJI	42332	A1C	4
					10
234000	AEROSPACE GROUND EQUIPMENT	MKK	42375	MSG	2
234000	AEROSPACE GROUND EQUIPMENT	MKK	42375	TSG	2
234000	AEROSPACE GROUND EQUIPMENT	MKK	42375	SSG	4
234000	AEROSPACE GROUND EQUIPMENT	MKK	42355	SSG	15
234000	AEROSPACE GROUND EQUIPMENT	MKK	42355	SGT	33
234000	AEROSPACE GROUND EQUIPMENT	MKK	42355	A1C	8
234000	AEROSPACE GROUND EQUIPMENT	MKK	42335	A1C	34
					98

Figure 32. F-15 TFTW Manning Document (continued)

AVIONICS COMMAND SQUADRON

F/C	DESC.	OSC	AFSC	GRADE	RQMT
240000	AVIONICS SQ	AA	A4096	LTC	1
240000	AVIONICS SQ	AA	4016	MAJ	1
240000	AVIONICS SQ	AA	32090	CMS	1
240000	AVIONICS SQ	AA	70250	SSG	1
240000	AVIONICS SQ	AA	70230	A1C	1
240000	AVIONICS SQ	AA	4024	CPT	1
					6
240000	UNIT ADMIN	AU	7034	CPT	1
240000	UNIT ADMIN	AU	10090	MSG	1
240000	UNIT ADMIN	AU	70250	SSG	1
240000	UNIT ADMIN	AU	70230	A1C	1
					4
243000	ELECTRONICS	MJO	4024	CPT	1
243000	ELECTRONICS	MJO	32672C	MSG	1
					2
243300	AUT FLT CON & INST SUPV	MJQ	32692	SMS	1
243300	AUT FLT CON & INST	MJQ	32652B	SSG	2
243300	AUT FLT CON & INST	MJQ	32652B	SGT	3
243300	AUT FLT CON & INST	MJQ	32652B	A1C	1
243300	AUT FLT CON & INST	MJQ	32632B	A1C	4
					11
243600	WEAP CON & INER NV SUPV	MJOA	32692	SMS	1
243600	WEAP CON & INER NV	MJOA	32672A	MSG	1
243600	WEAP CON & INER NV	MJOA	32672A	TSG	1
243600	WEAP CON & INER NV	MJOA	32672A	SSG	1
243600	WEAP CON & INER NV	MJOA	32652A	SSG	3
243600	WEAP CON & INER NV	MJOA	32652A	SGT	7
243600	WEAP CON & INER NV	MJOA	32652A	A1C	1
243600	WEAP CON & INER NV	MJOA	32632A	A1C	6
					21
243700	COMM NV & PEN AIDS	MJOC	32652C	SSG	1
243700	COMM NV & PEN AIDS	MJOC	32652C	SGT	3
243700	COMM NV & PEN AIDS	MJOC	32652C	A1C	1
243700	COMM NV & PEN AIDS	MJOC	32632C	A1C	5
					10
246000	AVN SHOP MAINT	MJP	4024	CPT	1
246000	AVN SHOP MAINT	MJP	32692	MSG	1
					2

Figure 32. F-15 TFTW Manning Document (continued)

246100	AVN AGE	MJPA	32670B	MSG	1
246100	AVN AGE	MJPA	32670B	TSG	1
246100	AVN AGE	MJPA	32670B	SSG	1
246100	AVN AGE	MJPA	32650B	SSG	4
246100	AVN AGE	MJPA	32650B	SGT	9
246100	AVN AGE	MJPA	32650B	A1C	2
246100	AVN AGE	MJPA	32630B	A1C	8
					26
246200	AUTO TST STN SUPV	MJPB	32692	SMS	1
246200	AUTO TST STN	MJPB	32671D	MSG	1
246200	AUTO TST STN	MJPB	32671D	TSG	1
246200	AUTO TST STN	MJPB	32671D	SSG	1
246200	AUTO TST STN	MJPB	32651D	SSG	4
246200	AUTO TST STN	MJPB	32651D	SGT	6
246200	AUTO TST STN	MJPB	32551D	A1C	2
246200	AUTO TST STN	MJPB	32631D	A1C	7
					26
246300	MAN TST STN	MJPC	32651C	SSG	1
246300	MAN TST STN	MJPC	32651C	SGT	3
246300	MAN TST STN	MJPC	32651C	A1C	1
246300	MAN TST STN	MJPC	32631C	A1C	4
					10

SUMMARY OF WHOLE WING

COL	1
LTC	6
MAJ	3
CPT	11
LT	3
TOTAL	24
CIV	4
CMS	6
SMS	12
MSG	5
MSG	46
TSG	89
SSG	23
SSG	146
SGT	227
A1C	47
A1C	208
TOTAL	899

Figure 32. F-15 TFTW Manning Document (continued)

Summary

This chapter contains a discussion of the analysis and results of the F-15 TFTW LCOM simulation. The analysis section contains a graphical and statistical interpretation of the simulation's steady state conditions and autocorrelation coefficients. The results consist of direct manning estimates for each AFSC listed in Table I, their respective 95 percent confidence intervals, the sensitivity of these estimates to variations in parts and ATS, and a USAF basic manning document for the F-15 TFTW. The Conclusion and Recommendation Chapter summarizes the results and makes recommendations concerning the thesis findings.

VI. CONCLUSIONS AND RECOMMENDATIONS

As stated in Chapter I, this thesis had three major objectives: first, use LCOM to estimate the maintenance manpower requirements for a 72 U.E. F-15 TFTW; second, construct statistical confidence intervals for these manpower estimates; third, investigate the sensitivity of maintenance manpower requirements to variations in the availability of aircraft spare parts and support equipment. The authors accomplished these objectives and presented their analysis and results in Chapter V. Figures 17 through 30 illustrate each AFSC's direct manning requirements, confidence intervals, and sensitivity to constraint type and scheduled sortie rate. Figure 31 depicts the total manning requirements for a 72 U.E. F-15 TFTW and the sensitivity of these requirements to constraint type and scheduled sortie rate. Finally, Figure 32 contains a basic manning document for a 72 U.E. F-15 TFTW based on unconstrained parts/ATS and a .74 scheduled sortie rate.

Conclusions

This thesis has allowed the authors to develop several noteworthy conclusions concerning LCOM manpower estimation, in general, and the peacetime model used in this study. They feel that these developments will enable greater statistical accuracy in LCOM manpower estimates and, therefore, further enhance LCOM's position in the manpower community.

Steady State. In this study, the authors developed a more efficient procedure for determining steady state conditions in an LCOM computer simulation. The procedure involved graphical and statistical analysis of daily and weekly AFSC manhour totals as described in Chapters IV and V.

Using this technique, the authors found that the F-15 TFTW model used in this thesis exhibited steady state conditions throughout the 98 day simulation period. In those isolated instances found in Table IV of Chapter V where individual AFSC's indicated transient behavior, this behavior disappeared after the first or second week into the simulation period. As a result, output data for the entire simulation period was used to estimate maintenance manpower requirements. When contrasted with the more common procedure of discarding the first 30 days in an LCOM simulation (Ref 33:114-115), the procedure used in this study more efficiently utilizes computer run time and allows equally accurate results. When one considers that this study required more than 25 computer runs, the overall savings in computer time is significant.

<u>Autocorrelation</u>. The study used autocorrelation analysis to develop 95 percent statistical confidence intervals for AFSC direct manning estimates. The procedure allowed the authors to estimate maintenance manpower requirements with a very high degree of statistical accuracy. Based on this procedure, all AFSC's except two indicated a five percent or less variability in direct manning estimates; AFSC's 426X2 (Jet Engine) and 423X3 (Fuel Systems) indicated an eight percent and nine percent, respectively, variability in direct manning estimates. Such accuracy lends confidence to the LCOM manpower estimation process.

<u>Model Validity</u>. In order to verify these procedures, the authors compared the LCOM direct manning estimates and corresponding statistical confidence intervals contained in Chapter V with estimates from three other LCOM simulation strategies. Table X illustrates this comparison using four sets of manning estimates based on unconstrained parts/ATS

Table X

Comparison of Simulation Strategies

AFSC	Simulation Strategy			
	1	2	3	4
431X1 (Flight Line Crew Chief)	124(120-128)	124	124	125
431X1 (Phase Inspection)	20(20-21)	21	20	20
531X3	14(13-14)	13	13	13
426X2	103(94-112)	97	107	97
423X3	16(14-17)	13	13	11
423X0	8(7-8)	7	7	8
423X4	17(16-19)	18	18	18
423X1	10(9-10)	9	10	8
423X2	2(2-2)	2	2	2
326X2B	10(9-10)	9	9	10
326X2A	21(21-22)	21	21	20
326X2C	11(10-11)	10	11	11
326X1D	26(24-27)	25	25	24
326X1C	10(9-11)	10	11	11
ASR	.697	.694	.708	.692

Strategy 1 - 98 day simulation with 5 day flying schedule and 7 day maintenance schedule.

Strategy 2 - 196 day simulation with 5 day flying schedule and 7 day maintenance schedule.

Strategy 3 - 100 day simulation with 5 day flying schedule and 5 day maintenance schedule.

Strategy 4 - 98 day simulation with 5 day flying schedule, 7 day maintenance schedule, and different random number seeds.

and a .74 scheduled sortie rate. In this table, Strategy 1 reflects the methodology and results contained in Chapters IV and V, respectively.

The direct manning estimates from Strategy 2 were obtained using methodology similar to Strategy 1 except the simulation period consisted of 196 days and the manning estimates were based solely on the last 98 simulated days. The reason for doubling the simulation period was to determine if the authors' assertions concerning the peacetime model's steady state behavior were, in fact, correct. Since the direct manning estimates obtained from Strategy 2 were similar to the corresponding Strategy 1 estimates, the authors concluded that longer computer run times did not significantly affect the F-15 TFTW direct manning estimates. This comparison confirmed their steady state analysis of the peacetime model.

In Strategy 3, the direct manning estimates were based on a 100 day simulation period with a concurrent five day flying and maintenance work week. Such a scenario eliminated weekends from the maintenance schedule and eliminated the opportunity to perform backlogged maintenance work on nonflying days. During the computation of direct manning under this strategy, 20.99 work days per month replaced 30.44 work days per month in Equation (3) of Chapter IV (Ref 2:Chap. 6, p. 29). Although the manning estimates from this strategy were similar to those of Strategy 1, the authors concluded that higher scheduled sortie rates, and/or more severe parts/ATS constraints would cause bottlenecks in the maintenance work flow and produce erratic day-to-day manhours used data. Such data would cause transient behavior at the beginning of the simulation period and would require longer computer run times in order to achieve steady state conditions. Since actual peacetime operations routinely schedule flying and maintenance activity Monday through Friday and permit weekend maintenance activity to allevaite backlogged work, a scenario based on a five day flying and seven day maintenance work week is a logical simulation strategy for peacetime LCOM studies. Such a strategy reflects peacetime operations in that maintenance manpower only works on weekends when there exists a work demand and permits efficient LCOM estimation of peacetime maintenance manpower over a wide range of flying activity levels and aircraft part/ATS constraints.

The direct manning estimates from Strategy 4 were obtained using methodology identical to Strategy 1 and different random number seeds in the LCOM main program. The change in random number seeds created an independent replication of direct manning estimates; the slight differences in AFSC manning estimates between Strategies 1 and 4 are a normal occurrence in replicated data. At the same time, this small variability in AFSC direct manning between the two replications supported the internal validity of the F-15 TFTW model used in this study and reinforced the authors' confidence in the F-15 peacetime model (Ref 10:204).

It should be noted that the AFSC 423X3 (Fuel Systems) direct manning estimate in Strategies 2, 3, and 4 did not fall within the respective Strategy 1 confidence interval. Additionally, the Strategy 4 estimates for AFSC's 423X1 (Environmental Systems) and 326X2A (Inertial Navigation System/Weapon Control) did not lie within the corresponding Strategy 1 confidence intervals. The authors found these deviations interesting but not disconcerting. The authors expected isolated deviations in direct manning estimates for two reasons: first, when direct manning estimates are rounded to integer values in accordance with AFM 25-5 standards, two estimates such as 8.61 and 8.62 become eight and nine, respectively; second, some variability in replicated data is to be expected. The comparison of simulation Strategy 1 with Strategies 2, 3, and 4 was intended to illustrate, in a general sense, that the authors methodology was valid. The authors could not completely explain the lower estimates for AFSC 423X3 in Strategies 2, 3, and 4. However, they do not feel that the deviation of these estimates from the Strategy 1 estimates was reason to question the overall validity of Strategy 1. If there had existed consistent deviations among a majority of the AFSC estimates in Strategies 2, 3, and 4 when compared to Strategy 1, the authors would have questioned the validity of their methodology. However, in general, just the opposite is true. The majority of estimates in Strategies 2, 3, and 4 agreed closely with the results of Strategy 1. Thus, the authors believe the comparison of simulation strategies supports, in a general sense, the validity of their methodology.

Manning Sensitivity. It is apparent from Figure 31 in Chapter V that F-15 TFTW total manning requirements were relatively insensitive to the constrained parts and ATS contained in Appendix E. Although total manning requirements indicated a slight sensitivity to parts and ATS constraints at the 1.0 scheduled sortie rate, these constraints had little effect on total manning requirements at the lower scheduled flying activity levels. The authors concluded that at and below a .74 scheduled sortie rate the spare part and ATS constraints contained in Appendix E were sufficient to support the daily flying activity.

At the 1.0 scheduled sortie rate, the spare parts and ATS constraints could not support the daily flying activity. As a result, the constrained parts simulation required additional manpower to repair and/or cannibilize aircraft parts while the constrained parts/ATS simulation required less manpower because a limited number of men could perform ATS functions. As Table VIII in Chapter V indicates, these constraints also had a noticeable effect on accomplished sortie rate (ASR) and flying hours per month (FHPM). The authors concluded that more severe part and ATS constraints would have similar effects on the lower flying activity levels.

Individual AFSC manning showed no particular trend in sensitivity to constraint type. The AFSC 423X3 (Fuel Systems) in Figure 21 was the most sensitive estimate while AFSC 431X1 (Flight Line Crew Chief) displayed the least sensitivity. In most cases, the AFSC direct manning confidence intervals for the .43 and .74 scheduled sortie rates contained two or more constraint type manning estimates. The authors, therefore, concluded that, since the modeled F-15 TFTW conducts its routine flying training in the .43 and .74 scheduled sortie rate range, direct manning sensitivity to aircraft spare part and ATS constraints contained in Appendix E was statistically insignificant.

Recommendations

As a result of this study, the authors have gained an indepth understanding of the LCOM manpower estimation process. They believe this experience qualifies them to make several recommendations concerning future LCOM studies.

The authors recommend that the LCOM postprocessor program be modified to provide time series plots of AFSC manhours used. These plots would be similar to the graphs illustrated in Figures 10 through 13 in Chapter V. This capability would allow LCOM users to efficiently determine the steady state behavior of their simulation model. Tetmeyer

(Ref 31) agreed that such a capability would benefit the LCOM community; Drake (Ref 29) confirmed the feasibility of such a modification. The authors, therefore, recommend that the new version of LCOM (LCOM II) incorporate this feature.

It is recommended that LCOM peacetime studies use a five day flying and seven day maintenance work week. This type of scenario reflects actual peacetime operations and permits efficient LCOM estimation of maintenance manpower over a wide range of flying activity levels.

Finally, the authors recommend that the LCOM community use the methodology described in Chapter IV to develop statistical confidence intervals for manning estimates. This procedure adds statistical reliability to the LCOM estimates and provides decision makers with a realistic perspective of manpower requirements.

Future Work

The accomplishment of the authors stated objectives represent the conclusion of this thesis effort. However, the authors feel that future LCOM studies should investigate the interaction of peacetime manning estimates with a wartime environment. For example, the peacetime manning estimates derived from this thesis should be incorporated into the F-15 wartime model in order to measure the effect on accomplished sortie rate and manhour utilization rate. Such an effort would realistically portray the conversion of a peacetime flying organization into a wartime operation and give the decision maker direction in determining potential operational problem areas.

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APPENDIX A

F-15 TFTW DATA BASE

APPENDIX A

F-15 TFTW DATA BASE

1. This appendix contains a computer listing of the F-15 peacetime maintenance data base. The data base is listed in LCOM Extended Form 11 format on pages 107 through 149. The data base organization corresponds to the LCOM Extended Form 11 column headings illustrated in Figure A-1. Maintenance manpower defined in the data base networks is available 24 hours a day and seven days a week. Tetmeyer (Ref 33) describes in further detail the mechanics of the LCOM Extended Form 11.

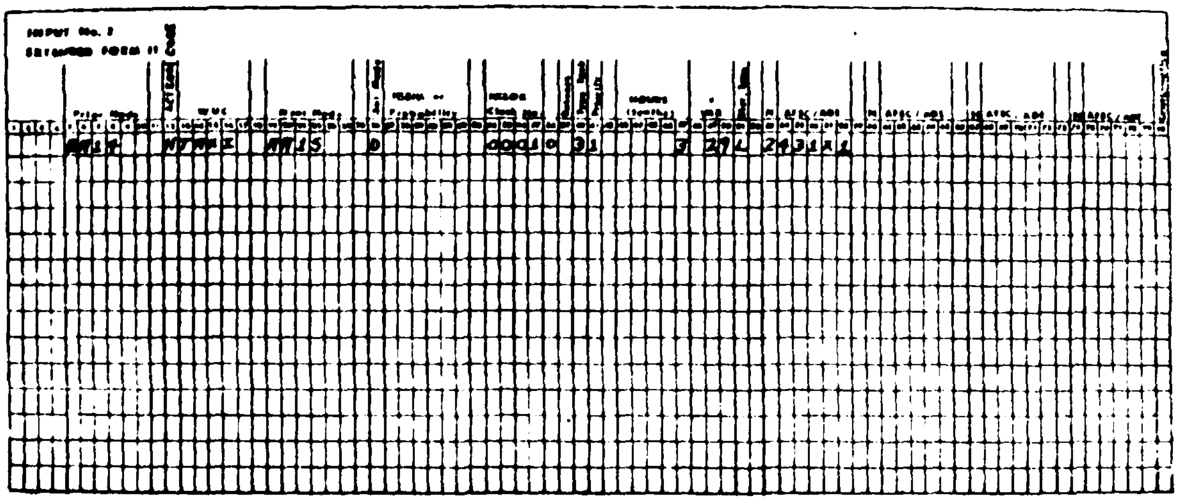

Figure A-1. LCOM Extended Form 11

2. The networks include the following coding conventions.

a. ACTION CODES:

F - Failure Clock.

T - Troubleshoot On-aircraft.

X - Work to Facilitate Maintenance (Acess, Preparation, etc.).

A - Get and Hookup Aircraft Ground Equipment.

R - Remove/Replace LRU.

M - Repair On-aircraft.

V - Verify Systems Works.

W - Check and Repair In-shop.

K - Check OK in Shop.

N - Check and NRTS/Condemn.

J - Aircraft Handling.

B - Loading/Downloading.

G - Fueling.

H - Flightline Inspection/Service.

P - Phase Inspection.

C - Call Section (Reference to a sub-network).

Q - Draw LRU from Supply.

D - Decrement a Failure Clock.

Z - Fly Sortie.

b. Task names for unscheduled maintenance use the appropriate LRU work unit code (WUC). Task names for general aircraft servicing and support tasks are mnemonic abbreviations of the task description. For example, the task of reloading the gun is named LDGUN, and the task of servicing liquid oxygen is named LOXSV.

c. LCOM SELECTION MODES:

A - Non-Mutually Exclusive Probability.

C - Call Section Reference to a Sub-network.

D - Task Done in Indicated Order.

E - Mutually Exclusive Probability.

F - Task Done if Indicated Failure Occurs.

G - Relative Probability, Non-Mutually Exclusive.

H - Task Not Done if Indicated Failure Occurs.

I - Task Done Only if Cannibalization is Required.

X - Task Done When Failure Occurs in Subsequent Tasks.

S - Sortie (Externally Scheduled).

3. Task resource names are the Air Force Specialty Codes (AFSC's) of maintenance personnel, or mneomonic abbreviations for ground support equipment. For example, LXCART indicates a liquid oxygen service cart, and D60 indicates an M32-60 Ground Power Unit. The fourth (skill level) digit of the Air Force Specialty Code is replaced by an X, except in cases where a further shredout is necessary. Table A-I depicts each AFSC whose manpower was estimated by LCOM, the corresponding LCOM shredout, and the work description.

Table A-I

LCOM AFSC Shredout Used in F-15 Data Base

AFSC	LCOM Shredout	Work Description
326X1D	326A1	Automatic Test Station
326X2A	326A2	Inertial Navigation System/Weapon Control
326X1C	326B1	Manual Test Station
326X2B	326B2	Automatic Flight Control/Instruments
326X2C	326C2	Communications/Navigation/Electronic Counter Measures
423X0	423X0	Electrical Systems
423X1	422X1	Environmental Systems
423X2	422X2	Egress Systems
423X3	424X0	Fuel Systems
423X4	421X2	Pneudraulics
426X2	432X0	Jet Engine Shop/Jet Engine Flight Line
	432T0	Jet Engine Test Cell
431X1	431X1	Flight Line Crew Chief
	431P1	Phase Inspection
531X3	531X3	Structural Repair

```
.JGF151.1275 X.11      35    05 1 001 17                                                  OBASE
                            H                       MAIN NETWORKS FOR F15 TFTW OPERATION  OBASE
                            H                       THIS IS AN UPDATE OF THE F15 STUDY    OBASE
                            H                       ACCOMPLISHED  OCTOBER 1975.  THE      OBASE
                            H                       CLOCKS HAVE BEEN CHANGED TO REFLECT   OBASE
                            H                       ACTUAL LUKE AFB DATA FROM THE PERIOD  OBASE
                            H                       SEP 75 THRU FEB 76.  THE PHASE AND    OBASE
                            H                       ENGINE NETWORKS HAVE BEEN CHANGED     OBASE
                            H                       DRASTICALLY.  THE PHASE BECAUSE TAC   OBASE    1
                            H                       AND AFLC NO LONGER SUPPORT THE NEW    OBASE    1
                            H                       100 HOUR PHASE INSPECTION THAT WAS    OBASE    1
                            H                       SUGGESTED BY SIST BOUNDS. THE ENGINE HOBASE    1
                            H                       HAD TO BE RENETWORKED TO REFLECT MOI. OBASE    1
                            H                       ALL NETWORK CHANGES WERE ACCOMPLISHED OBASE    1
                            H                       UNDER THE DIRECTION OF A TAC REPRESENTOBASE    1
                            H                       ATIVE AND ALL SIMULATION WILL BE DONE OBASE    1
                            H                       AS AN AFIT THESIS TOPIC.              OBASE    1
                            H           00010       PREFLIGHT DUMMY SORTIE                OBASE    1
      J0010 Z0000           S           00010 11                                          OBASE    2
      J0011 DORMT3          D           00010 31                                          OBASE    2
    CALPRE DORMGS   J0004 D             00010 31                                          OBASE    2
      J0004 CALGPJ  J0006 D             00010 31                                          OBASE    2
      J0035 HPFASE          D           00010 31    5 29L 1060                            OBASE    2
      J0036 HPRFLT          D           00010 31   17 29L 1431X1                          OBASE    2
    CALPRE HLDXGV           A       33  00010 31    3 29L 2431X1 1LOART                   OBASE    2
    CALPRE DORMT3           D           00010 31                                          OBASE   27
                            H           00010       CHANGE MALFUNCT ECM POD               OBASE   28
    CALECM DORMG2   J0031 A          1. 00010 31                                          OBASE   29
      J0031 CALGPJ  J0032 D             00010 31                                          OBASE   30
      J0032 BECMLD          D           00010 31   11 11L 332602 1401                     OBASE   31
      J0032 BECMAS          D           00010 31    5 11L 1060                            OBASE   32
                            H           00010       RELOAD AND INSPECTION OF GUN          OBASE   33
    CLGUN1 BLDGUN           A       17  00010 31    4 11L 3462X1                          OBASE   34
    CLGUN1 HOKGUN           A       34  00010 31    4 29L 2462X2                          OBASE   35
                            H           00010       DOWNLOAD AIM9 FOR ENGINE MAINT 15 77 OBASE   36
    CALEG2 MISSIL CALEG1 X              00010 31    7 11L 446270                          OBASE   37
                            H           00010       DOWNLOAD AIM9 FOR JACKING 15 77       OBASE   38
    CALJK2 MISSIL CALJK1 X              00010 31                                          OBASE   39
                            H           000100      DOWNLOAD AIM9 FOR UNMNT 15 77         OBASE   40
    CALLS2 MISSIL CALLS1 X              00010 31                                          OBASE   41
                            H           00010       AIR-AIR TNG FIRST TO TURN             OBASE   42
    AA1     CALPRE AA2      D           00010 31                                          OBASE   43
    AA2     HARM   AA3      D           00010 31    5 29L 346270                          OBASE   44
    AA3     HLUNCH AA4      D           00010 31    3 29L 1431X1                          OBASE   45
    AA4     HSTRT2 AA5      D           00010 31    5 29L 2431X1                          OBASE   46
    AA5     DORMT1 AA6      D           00010 31                                          OBASE   47
    AA6     CALEG2 AA7      D           00010 31                                          OBASE   48
    AA7     CALJK2 AA8      D           00010 31                                          OBASE   49
    AA8     CALLOM AA9      D           00010 31                                          OBASE   50
    AA9     CALLS1 AA10     D           00010 31                                          OBASE   51
    AA10    JTAXI  AA11     D           00010 31    2 11L                                 OBASE   52
    AA11    HEDFGD AA12     D           00010 31    1 11L 3431X1 346270                   OBASE   53
    AA12    Z0000  AA13     S           00010 11                                          OBASE   54
    AA13    HEGRIN AA14     D           00010 31    1 11L 246270                          OBASE   55
    AA13    DORMT2          D           00010 31                                          OBASE   56
    AA13    DORMT5          D           00010 31                                          OBASE   57
    AA14    HTAXI  AA15     D           00010 31    3 29L 2431X1                          OBASE   58
    AA15    GASF15 AA16     D           00010 31    5 29L 2431X1                          OBASE   59
    AA16    HTHRU1          D           00010 31    8 29L 1431X1                          OBASE   60
    AA16    HTHRU2          D           00010 31    8 29L 1431X1                          OBASE   61
    AA16    CALEG1 AA17     D           00010 31                                          OBASE   62
    AA17    CALJK1 AA18     D           00010 31                                          OBASE   63
```

AA18	CALLS1	AA19	C	00010	31		DBASE	64
AA19	CLGUN1		C	00010	31		DBASE	65
			4	00010	31	AIR-AIR TNG TURN TO TURN	DBASE	66
AA31	MLUNCH	AA32	0	00010	31		DBASE	67
AA32	MSTRT2	AA33	0	00010	31		DBASE	68
AA33	OCRMT1	AA34	0	00010	31		DBASE	69
AA34	CALEG2	AA35	C	00010	31		DBASE	70
AA35	CALJK2	AA36	C	00010	31		DBASE	71
AA36	CALLOM	AA37	C	00010	31		DBASE	72
AA37	CALLS1	AA38	C	00010	31		DBASE	73
AA38	JTAXI	AA39	0	00010	31		DBASE	74
AA39	HEDFGD	AA40	0	00010	31		DBASE	75
AA40	Z[illegible]	AA41	S	00010	11		DBASE	76
AA41	HEDRIN	AA42	0	00010	31		DBASE	77
AA42	HTAXI	AA43	0	00010	31		DBASE	78
AA42	OCRMT2		0	00010	31		DBASE	79
AA42	OCRMT5		0	00010	31		DBASE	80
AA43	GASF15	AA44	0	00010	31		DBASE	81
AA44	HTHPU1		0	00010	31		DBASE	82
AA44	HTHPU2		0	00010	31		DBASE	83
AA44	CALES1	AA45	C	00010	31		DBASE	84
AA45	CALJK1	AA46	C	00010	31		DBASE	85
AA46	CALLS1	AA47	C	00010	31		DBASE	86
AA47	CLGUN1		C	00010	31		DBASE	87
			4	00010	31	AIR-AIR TNG TURN TO LAST	DBASE	88
AA61	MLUNCH	AA62	0	00010	31		DBASE	89
AA62	MSTRT2	AA63	0	00010	31		DBASE	90
AA63	OCRMT1	AA64	0	00010	31		DBASE	91
AA64	CALEG2	AA65	C	00010	31		DBASE	92
AA65	CALJK2	AA66	C	00010	31		DBASE	93
AA66	CALLOM	AA67	C	00010	31		DBASE	94
AA67	CALLS1	AA68	C	00010	31		DBASE	95
AA68	JTAXI	AA69	C	00010	31		DBASE	96
AA69	HEDFGD	AA70	0	00010	31		DBASE	97
AA70	Z[illegible]	AA71	S	00010	11		DBASE	98
AA71	HEDRIN	AA72	0	00010	31		DBASE	99
AA72	OCRMT2		0	00010	31		DBASE	100
AA72	OCRMT5		0	00010	31		DBASE	101
AA72	HTAXI	AA73	0	00010	31		DBASE	102
AA73	GASF15	AA74	0	00010	31		DBASE	103
AA74	OARM	AA75	0	00010	31	3 29L 3-6270	DBASE	104
AA75	HPOST1		0	00010	31	10 29L 1-31X1	DBASE	105
AA75	HPOST2		0	00010	31	10 29L 1-31X1	DBASE	106
AA75	CALES1	AA76	C	00010	31		DBASE	107
AA76	CALJK1	AA77	C	00010	31		DBASE	108
AA77	CALLS1	AA78	C	00010	31		DBASE	109
AA78	CLGUN1		C	00010	31		DBASE	110
			4	00010	31	AIR-AIR FIRST TO LAST	DBASE	111
AA101	CALPRE	AA102	C	00010	31		DBASE	112
AA102	MARM	AA103	0	00010	31		DBASE	113
AA103	MLUNCH	AA104	0	00010	31		DBASE	114
AA104	MSTRT2	AA105	0	00010	31		DBASE	115
AA105	OCRMT1	AA106	0	00010	31		DBASE	116
AA106	CALEG2	AA107	C	00010	31		DBASE	117
AA107	CALJK2	AA108	C	00010	31		DBASE	118
AA108	CALLOM	AA109	C	00010	31		DBASE	119
AA109	CALLS1	AA110	C	00010	31		DBASE	120
AA110	JTAXI	AA111	0	00010	31		DBASE	121
AA111	HEDFGD	AA112	0	00010	31		DBASE	122
AA112	Z[illegible]	AA113	S	00010	11		DBASE	123
AA113	HEDRTN	AA114	0	00010	31		DBASE	124
AA113	OCRMT2		0	00010	31		DBASE	125
AA113	OCRMT5		0	00010	31		DBASE	126
AA114	HTAXI	AA115	0	00010	31		DBASE	127
AA115	GASF15	AA116	0	00010	31		DBASE	128
AA115	OARM	AA117	0	00010	31		DBASE	129

AA117	HPOST1		D		00010 31		DBASE	130
AA117	HPOST2		D		00010 31		DBASE	131
AA117	CALEG1	AA118	C		00010 31		DBASE	132
AA118	CALJK1	AA119	C		00010 31		DBASE	133
AA119	CALLS1	AA120	C		00010 31		DBASE	134
AA120	DLGUM1		D		00010 31		DBASE	135
			4		00010	CONVERSION TNG MISSION FIRST TO TURN	DBASE	136
CON1	CALPRE	CON2	C		00010 31		DBASE	137
CON2	HLUNCH	CON3	D		00010 31		DBASE	138
CON3	HSTRT1	CON4	E	25	00010 31	10 29L 2431X1	DBASE	139
CON3	HSTRT2	CON4	E	75	00010 31		DBASE	140
CON4	DDRMT1		D		00010 31		DBASE	141
CON4	CALEG2	CON5	C		00010 31		DBASE	142
CON5	CALJK2	CON6	C		00010 31		DBASE	143
CON6	CALLOM	CON7	C		00010 31		DBASE	144
CON7	CALLS1	CON8	C		00010 31		DBASE	145
CON8	JTAXI	CON9	D		00010 31	2 10L	DBASE	146
CON9	HEDPGD	CON10	D		00010 31		DBASE	147
CON10	Z.....	CON11	S		00010 11		DBASE	148
CON11	HEDRIN	CON12	D		00010 31		DBASE	149
CON11	DDRMT2		D		00010 31		DBASE	150
CON12	HTAXI	CON13	D		00010 31		DBASE	151
CON13	GASF15	CON14	D		00010 31		DBASE	152
CON14	HTHRU1		D		00010 31		DBASE	153
CON14	HTHRU2		D		00010 31		DBASE	154
CON14	CALEG1	CON15	C		00010 31		DBASE	155
CON15	CALJK1	CON16	C		00010 31		DBASE	156
CON16	CALLS1		C		00010 31		DBASE	157
			4		00010	CONVERSION TNG MISSION TURN TO LAST	DBASE	158
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CON31	HSTRT2	CON32	E	75	00010 31		DBASE	161
CON32	DDRMT1		D		00010 31		DBASE	162
CON32	CALEG2	CON33	C		00010 31		DBASE	163
CON33	CALJK2	CON34	C		00010 31		DBASE	164
CON34	CALLOM	CON35	C		00010 31		DBASE	165
CON35	CALLS1	CON36	C		00010 31		DBASE	166
CON36	JTAXI	CON37	D		00010 31		DBASE	167
CON37	HEDPGD	CON38	D		00010 31		DBASE	168
CON38	Z.....	CON39	S		00010 11		DBASE	169
CON39	HEDRIN	CON40	D		00010 31		DBASE	170
CON39	DDRMT2		D		00010 31		DBASE	171
CON40	HTAXI	CON41	D		00010 31		DBASE	172
CON41	GASF15	CON42	D		00010 31		DBASE	173
CON42	HPOST1		D		00010 31		DBASE	174
CON42	HPOST2		D		00010 31		DBASE	175
CON42	CALEG1	CON43	C		00010 31		DBASE	176
CON43	CALJK1	CON44	C		00010 31		DBASE	177
CON44	CALLS1		C		00010 31		DBASE	178
			4		00010	CONVERSION TNG MISSION TURN TO TURN	DBASE	179
CON50	HLUNCH	CON51	D		00010 31		DBASE	180
CON51	HSTRT1	CON52	E	25	00010 31		DBASE	181
CON51	HSTRT2	CON52	E	75	00010 31		DBASE	182
CON52	DDRMT1		D		00010 31		DBASE	183
CON52	CALEG2	CON53	C		00010 31		DBASE	184
CON53	CALJK2	CON54	C		00010 31		DBASE	185
CON54	CALLOM	CON55	C		00010 31		DBASE	186
CON55	CALLS1	CON56	C		00010 31		DBASE	187
CON56	JTAXI	CON57	D		00010 31		DBASE	188
CON57	HEDPGD	CON58	D		00010 31		DBASE	189
CON58	Z.....	CON59	S		00010 11		DBASE	190
CON59	HEDRIN	CON60	D		00010 31		DBASE	191
CON59	DDRMT2		D		00010 31		DBASE	192
CON60	HTAXI	CON61	D		00010 31		DBASE	193
CON61	GASF15	CON62	D		00010 31		DBASE	194
CON62	HTHRU1		D		00010 31		DBASE	195

CON62	MTMPU2		D		00010 31		DBASE	196
CON62	CALLG1	CON63	D		00010 31		DBASE	197
CON63	CALJK1	CON64	D		00010 31		DBASE	198
CON64	CALLS1		C		00010 31		DBASE	199
CON100	CALPPE	CON101	D		00010 31		DBASE	200
CON101	MLUNCH	CON102	D		00010 31		DBASE	201
CON102	MSTAT2	CON103	E	75	00010 31		DBASE	202
CON102	MSTAT1	CON103	E	25	00010 31		DBASE	203
CON103	DDRMT1		D		00010 31		DBASE	204
CON103	CALEG2	CON104	D		00010 31		DBASE	205
CON104	CALJK2	CON105	D		00010 31		DBASE	206
CON105	[illegible]	CON106	D		00010 31		DBASE	207
CON106	CALLS1	CON107	D		00010 31		DBASE	208
CON107	[illegible]	CON108	D		00010 31		DBASE	209
CON108	MEDRGD	CON109	D		00010 31		DBASE	210
CON109	[illegible]	CON110	S		00010 31		DBASE	211
CON110	MEDRIN	CON111	D		00010 31		DBASE	212
CON110	DDRMT2		D		00010 31		DBASE	213
CON111	MTAXI	CON112	D		00010 31		DBASE	214
CON112	GASF15	CON113	D		00010 31		DBASE	215
CON113	MPOST1		D		00010 31		DBASE	216
CON113	MPOST2		D		00010 31		DBASE	217
CON113	CALEG1	CON114	D		00010 31		DBASE	218
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PHASE1	FPHAS4	PHA001	E	16	PHASE 32	8 29L 5431X1	DBASE	253
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PHA002	PJACK		D		PHASE 32	5 29L 1531X2	DBASE	257
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CPAN	PPAN2		0		PHASE 32	10 29L	1431P1	OBASE	273
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CSPEC1	PSTRUT		4	5.	PHASE 32	20 29L	2431P1	OBASE	280
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CLUB1	LUB2		0		PHASE 32	3 29L	2431P1	OBASE	283
CLUB1	LUB1		0		PHASE 32			OBASE	284
CLUB1	LUB2		0		PHASE 32			OBASE	285
CLUB1	LUB1		0		PHASE 32			OBASE	286
CLUB1	LUB1		0		PHASE 32			OBASE	287
CLUB1	LUB1		0		PHASE 32			OBASE	288
CLUB1	LUB2		0		PHASE 32			OBASE	289
CLUB1	LUB2		0		PHASE 32			OBASE	290
CLUB1	LUB1		0		PHASE 32			OBASE	291
CLUB1	LUB2		0		PHASE 32			OBASE	292
CLUB1	LUB1		0		PHASE 32			OBASE	293
CLUB1	LUB2		0		PHASE 32			OBASE	294
CLUB1	LUB2		0		PHASE 32			OBASE	295
CLUB1	LUB2		0		PHASE 32			OBASE	296
CLUB1	LUB1		0		PHASE 32			OBASE	297
CLUB1	LUB2		0		PHASE 32			OBASE	298
CLUB1	LUB2		0		PHASE 32			OBASE	299
CLUB1	LUB1		0		PHASE 32			OBASE	300
CLUB1	LUB1		0		PHASE 32			OBASE	301
CLUB1	LUB1		0		PHASE 32			OBASE	302
CLUB1	LUB1		0		PHASE 32			OBASE	303
CLUB1	LUB1		0		PHASE 32			OBASE	304
CLUB1	LUB1		0		PHASE 32			OBASE	305
CFIX	PFIX1		0		PHASE 32	20 29L	4431P1	OBASE	306
CFIX	PFIXM		0		PHASE 32	10 29L	2421X2	OBASE	307
CFIX	PFIXS		0		PHASE 32	30 29L	1531X3	OBASE	308
CLOOK1	LOOK1		0		PHASE 32	33 29L	1431P1	OBASE	309
CLOOK1	LOOK2		0		PHASE 32	33 29L	1431P1	OBASE	310
CLOOK1	LOOK2		0		PHASE 32			OBASE	311
CLOOK1	LOOK3		0		PHASE 32	2 29L	1431P1	OBASE	312
CLOOK1	LOOK1		0		PHASE 32			OBASE	313
CLOOK1	LOOK1		0		PHASE 32			OBASE	314
CLOOK1	LOOK2		0		PHASE 32			OBASE	315
CLOOK1	LOOK4		0		PHASE 32	5 29L	1431P1	OBASE	316
CLOOK1	LOOK4		0		PHASE 32			OBASE	317
CLOOK1	LOOK5		0		PHASE 32	1 29L	1431P1	OBASE	318
CLOOK1	LOOK1		0		PHASE 32			OBASE	319
PHB001	PSAFE	PHB002	0		PHASE 32			OBASE	320
PHB002	CPAN	PHB003	0		PHASE 32			OBASE	321
PHB003	PHYDOP	PHB004	0		PHASE 32	40 29L	1431P1 2421X2	OBASE	322
PHB004	CSPEC2	PHB005	0		PHASE 32			OBASE	323
PHB005	POUM3	PHB006	E	9.	PHASE 32			OBASE	324
PHB005	POC	PHB006	E	10	PHASE 32			OBASE	325
PHB006	CFIX	PHB007	0		PHASE 32			OBASE	326
PHB007	CPAN	PHB008	0		PHASE 32			OBASE	327.

PH8036	TONOUT		0		PHASE 32	5 29L 5431X1	DBASE	328
CSPE32	PIUST2		0		PHASE 32	10 29L 232532	DBASE	329
CSPE32	PF/C1		0		PHASE 32		DBASE	330
CSPE32	PHEAP2	PH3023	0		PHASE 32	10 29L 446272	DBASE	331
PH8033	SHEAP1	PH8013	0		PHASE 32	10 29L 2402X1	DBASE	332
PH8011	PHEAP3		0		PHASE 32	20 29L 440272	DBASE	333
CSPE32	CLOOK2		0		PHASE 32		DBASE	334
CSPE32	PEES22		0		PHASE 32	10 29L 1422X1	DBASE	335
CSPE32	PHYC22		0		PHASE 32	15 29L 1421X2	DBASE	336
CSPE32	PIES		0		PHASE 32	10 29L 1432X2	DBASE	337
CSPE32	CLU32		0		PHASE 32		DBASE	338
CLU32	LU31		0		PHASE 32		DBASE	339
CLU32	LU31		0		PHASE 32		DBASE	340
CLU32	LU31		0		PHASE 32		DBASE	341
CLU32	LU31		0		PHASE 32		DBASE	342
CLU32	LU31		0		PHASE 32		DBASE	343
CLU32	LU31		0		PHASE 32		DBASE	344
CLU32	LU31		0		PHASE 32		DBASE	345
CLU32	LU31		0		PHASE 32		DBASE	346
CLU32	LU31		0		PHASE 32		DBASE	347
CLOOK2	LOOK4		0		PHASE 32		DBASE	348
CLOCK2	LOOK4		0		PHASE 32		DBASE	349
CLOCK2	LOOK3		0		PHASE 32		DBASE	350
CLOCK2	LOOK3		0		PHASE 32		DBASE	351
CLOCK2	LOOK5		0		PHASE 32	10 29L 243121	DBASE	352
CLOCK2	LOOK2		0		PHASE 32		DBASE	353
CLOCK2	LOOK7		0		PHASE 32	5 29L 243121	DBASE	354
PHC0..	PSAFE	PHC0.2	0		PHASE 32		DBASE	355
PHC032	CPAN	PHC003	0		PHASE 32		DBASE	356
PHC032	PECCK	PHC0..	0		PHASE 32	5 29L 143121 243101	DBASE	357
PHC0..	CSPE33	PHC0.5	0		PHASE 32		DBASE	358
PHC0.3	PDUMP	PHC0..	E	50	PHASE 32		DBASE	359
PHC035	P70	PHC005	E	10	PHASE 32		DBASE	360
PHC036	CFIX	PHC037	0		PHASE 32		DBASE	361
PHC037	CPAN	PHC039	0		PHASE 32		DBASE	362
PHC0..	TONOUT		0		PHASE 32		DBASE	363
CSPE33	PHEAP1	PHC039	0		PHASE 32	10 29L 346270	DBASE	364
PHC013	SHEAP2	PHC013	0		PHASE 32	40 29L 2402X0	DBASE	365
PHC011	PHEAP5		0		PHASE 32	10 29L 340220	DBASE	366
CSPE33	CLOOK3		0		PHASE 32		DBASE	367
CSPE33	CLU33		0		PHASE 32		DBASE	368
CSPE33	PEN33		0		PHASE 32	35 29L 1432X0	DBASE	369
CSPE33	PDUMP	PHC011	0		PHASE 32		DBASE	370
PHC011	PELEC3		E	50	PHASE 32	5 23L 1427X0	DBASE	371
PHC011	PELEC5		E	50	PHASE 32	20 23L 1427X0	DBASE	372
CSPE33	PEC33		A	50	PHASE 32	10 23L 2422X1	DBASE	373
CLOCK3	LOOK6		0		PHASE 32		DBASE	374
CLOCK3	LOOK3		0		PHASE 32		DBASE	375
CLOCK3	LOOK2		0		PHASE 32		DBASE	376
CLOCK3	LOOK1		0		PHASE 32	10 29L 143101	DBASE	377
CLOCK3	LOOK7		0		PHASE 32		DBASE	378
CLOCK3	LOOK3		0		PHASE 32		DBASE	379
CLU33	LU31		0		PHASE 32		DBASE	380
CLU33	LU31		0		PHASE 32		DBASE	381
CLU33	LU31		0		PHASE 32		DBASE	382
CLU33	LU31		0		PHASE 32		DBASE	383
CLU33	LU31		0		PHASE 32		DBASE	384
CLU33	LU31		0		PHASE 32		DBASE	385
CLU33	LU31		0		PHASE 32		DBASE	386
CLU33	LU31		0		PHASE 32		DBASE	387
CLU33	LU31		0		PHASE 32		DBASE	388
CLU33	LU31		0		PHASE 32		DBASE	389
CLU33	LU31		0		PHASE 32		DBASE	390
PHC0..	PSAFE	PHC0.2	0		PHASE 32		DBASE	391
PHC032	CPAN	PHC003	0		PHASE 32		DBASE	392
PHC033	PAYOOP	PHC004	0		PHASE 32		DBASE	393

PH0104	PENCAN	PH0105	0		PHASE 32	10 29L 3431C1	DBASE 394
PH0105	CSPED4	PH0106	0		PHASE 32		DBASE 395
PH0106	PDUP3	PH0107	0	97	PHASE 32		DBASE 396
PH0116	PDC	PH0117	0	1.	PHASE 32		DBASE 397
PH0117	CFIX	PH0108	0		PHASE 32		DBASE 398
PH0118	GAIN	PH0109	0		PHASE 32		DBASE 399
PH0119	TOADUT		0		PHASE 32		DBASE 400
CSPED4	CLOCK4		0		PHASE 32		DBASE 401
CSPED4	CCANPY		0		PHASE 32		DBASE 402
CSPED4	CLUE4		0		PHASE 32		DBASE 403
CSPED4	PINST2		0		PHASE 32		DBASE 404
CSPED4	PROS4		0		PHASE 32	10 29L 1422X1	DBASE 405
CSPED4	PHYD4		0		PHASE 32	10 29L 1421X2	DBASE 406
CSPED4	PILED4		0		PHASE 32	10 29L 1423X0	DBASE 407
CSPED4	PENG4		0		PHASE 32	10 29L 1432X0	DBASE 408
CLOCK4	LOCK4		0		PHASE 32		DBASE 409
CLOCK4	LOCK4		0		PHASE 32		DBASE 410
CLOCK4	LOCK2		0		PHASE 32		DBASE 411
CLOCK4	LOCK2		0		PHASE 32		DBASE 412
CLOCK4	LOCK2		0		PHASE 32		DBASE 413
CLOCK4	LOCK2		0		PHASE 32		DBASE 414
CLOCK4	LOCK2		0		PHASE 32		DBASE 415
CLUE4	LU31		0		PHASE 32		DBASE 416
CLUE4	LU31		0		PHASE 32		DBASE 417
CLUE4	LU31		0		PHASE 32		DBASE 418
CLUE4	LU31		0		PHASE 32		DBASE 419
CLUE4	LU31		0		PHASE 32		DBASE 420
CLUE4	LU31		0		PHASE 32		DBASE 421
CLUE4	LU31		0		PHASE 32		DBASE 422
CLUE4	LU31		0		PHASE 32		DBASE 423
CLUE4	LU31		0		PHASE 32		DBASE 424
CLUE4	LU31		0		PHASE 32		DBASE 425
CLUE4	LU31		0		PHASE 32		DBASE 426
CLUE4	LU31		0		PHASE 32		DBASE 427
CLUE4	LU31		0		PHASE 32		DBASE 428
CLUE4	LU31		0		PHASE 32		DBASE 429
CLUE4	LU31		0		PHASE 32		DBASE 430
CCANPY	FFF	PH0111	H	1	PHASE 32		DBASE 431
CCANPY	FF	PH0201	H	1	PHASE 32		DBASE 432
PH0111	ESRES1	PH0112	0		PHASE 32	35 29L 2422X2	DBASE 433
PH0112	ESRES3	PH0113	0		PHASE 32	30 29L 2422X2	DBASE 434
PH0113	ESRES5	PH0114	0		PHASE 32	5 29L 1422X2	DBASE 435
PH0114	ESRES7	PH0115	0		PHASE 32	35 29L 2422X2	DBASE 436
PH0115	ESRES9		0		PHASE 32	35 29L 1431P1	DBASE 437
PH0211	ESRES2	PH0212	0		PHASE 32	15 29L 2422X2	DBASE 438
PH0212	ESRES4	PH0213	0		PHASE 32	15 29L 2422X2	DBASE 439
PH0213	ESRES6	PH0214	0		PHASE 32	2 29L 1422X2	DBASE 440
PH0214	ESRES8	PH0215	0		PHASE 32	15 29L 2422X2	DBASE 441
PH0215	ESRES.		0		PHASE 32	18 29L 1431P1	DBASE 442
	11PA0		H		S11PA	PAMP ACTUATORS TCI	DBASE 443
S11P0	FS11PA	S11P1	F	59.	S11PA 31		DBASE 444
S11P1	RS11PA	S11P2	0		S11PA 31	70 29L 1421X2	DBASE 445
S11P2	VS11PA		0		S11PA 31	10 29L 2421X2	DBASE 446
S11P3	J[illegible]	I11P0J	0		S11PA 53		DBASE 447
	13HC0		H		S13HC	WHEEL SPEED SENSOR TCI	DBASE 448
S13H0	FS13HC	S13H1	F	150	S13HC 31		DBASE 449
S13H1	DORH03	S13H2	0		S13HC 31		DBASE 450
S13H2	CALGPJ	S13H3	0		S13HC 31		DBASE 451
S13H3	RS13HC	IA3HCA	0		S13HC 31	20 29L 2423X0	DBASE 452
IA3HCA	V13HCA		0		S13HC*33	3 29L 1423X0	DBASE 453
IA3HCA	Q13HCA		I		S13HC 31	5 29L 2423X0	DBASE 454
	14GC0		H		S14GC	AILERON SERVOCYL TCI	DBASE 455
S14G0	FS14GC	S14G1	F	59.	S14GC 31		DBASE 456
S14G1	DORH07	S14G2	0		S14GC 31		DBASE 457
S14G2	DORH07	S14G3	0		S14GC 31		DBASE 458
S14G3	CALGPJ	S14G4	0		S14GC 31		DBASE 459

S14G0	CALTTU	S14G5	D		S14GO 31		OBASE	460
S14G5	PS14GO	IA4G10	D		S14GO 31	20 29L 2-21X2 1061 1IU22A	OBASE	461
			4		S2300	5THR BORESCOPE BTWN PHASES 15 77	OBASE	462
S2300	FS230	S23H1	F	33	S2300 31		OBASE	463
S2301	VS2300		D		S2300 31	40 29L 2432X0	OBASE	464
	23H		4		S23H1	MAIN FUEL PUMP TCI 15 77	OBASE	465
S2340	FS23HA	S23H1	F	39	S23HA 31		OBASE	466
S2341	PS23HA	S23H2	D		S23HA 31	25 29L 2432X0	OBASE	467
S2342	VS23HA	23H03	D		S23HA 31	5 29L 3432X0	OBASE	468
			4		S4700	LOX 60 DAY LEAK CHK	OBASE	469
S4700	FS4700	S4701	F	6	S4700 31		OBASE	470
S4701	VS470		D		S4700 31	5 29L 1432X1	OBASE	471
			4		S7500	RACKS/LAUNCHERS TCI WHEN FIRED	OBASE	472
S7510	FS750	S7501	F	3	S7500 31		OBASE	473
S7511	DCRHG3	S7512	D		S7500 31		OBASE	474
S7512	CALGPU	S7503	C		S7500 31		OBASE	475
S7513	RS75FA	S7504	D		S7500 31		OBASE	476
S7514	PS7500		D	50	S7500 31		OBASE	477
			4		S7500	ARM SYST CK WITH SP TEST SQ	OBASE	478
S7515	VS750		4	16	S7500 31	25 29L 3462X0 1060 1AAH72	OBASE	479
			4		SCGUN	F15 GUN SCHEDULED INSPECTIONS	OBASE	480
JGUN0	FSCGUN	JGUN1	F	15.00	SCGUN 32		OBASE	481
JGUN1	DCRHG7	JGUNA	D		SCGUN 32		OBASE	482
JGUN2	CALGPU	JGUN2	C		SCGUN 32		OBASE	483
JGUN2	DSGUN1	JGUN3	E	50	SCGUN 32		OBASE	484
JGUN2	DSGUN2	JGUN4	E	50	SCGUN 32		OBASE	485
			4		SCGUN	F15 15.00 RND INSP REQUIREMENTS SGUN1	OBASE	486
JGUN3	VSGUN1		D		SCGUN 32	40 29L 3462X0 1060 105	OBASE	487
JGUN3	VSGUN2		D		SCGUN 32	25 29L 2462X0 1060 105	OBASE	488
			4		SCGUN	F15 3.000 RND INSP REQUIREMENTS SGUN2	OBASE	489
JGUN4	VSGUN3		D		SCGUN 32	125 29L 3462X0 1060 105	OBASE	490
			4		SCGUN	F15 25000 RND INSP REQUIREMENTS SGUN3	OBASE	491
JGUN5	FSGUN1	JGUN6	F	25300	SGUN0 32		OBASE	492
JGUN6	VSGUN1		D		SGUN1 32	40 29L 2462X1 1060 105	OBASE	493
			H		11A00	FWD FUS	OBASE	494
			4		11A00	F4E 111A 6 0 0 DATA USED	OBASE	495
			4		11A00	MSG CICELLO LUKE PH 2783 VERIFIED	OBASE	496
			H		11A00	EXPECT OVERALL MSRMA AS F4E	OBASE	497
			4		11A00	SCREWS BIND DUE TO OVER TORQUE	OBASE	498
			H		11A00	PANNELS CRACKING	OBASE	499
			4		11A00	BOOM CAP FARING DRAGGS ON LANDINGS	OBASE	500
			H		11A00	CONSTANT REPAIR 8HR POD	OBASE	501
			H		11A00	F15 MSRMA 22	OBASE	502
			H		11A00	FWD FUSELAGE F15	OBASE	503
A1A30	F11A00	A1A01	F	16	11A00 21		OBASE	504
A1A31	R11A00	A1A02	E	03	11A00 21	22 29L 2431X1	OBASE	505
A1A31	M11A00		E	07	11A00 21	09 29L 1431X1	OBASE	506
A1A31	R11A01	A1A02	E	53	11A00 21	16 29L 1531X3	OBASE	507
A1A31	M11A01		E	32	11A00 21	10 29L 1531X3	OBASE	508
A1A32	SHOP	SA1A03	D		11A00 23		OBASE	509
SA1A30	L11AE0	IA1A01	5	.0237	11A00 23		OBASE	510
	L11AE0		4		11A00	FARING MUZZLE BLAST	OBASE	511
IA1A31	M11AE0		E	55	11A00*23	20 29L 2531X3	OBASE	512
IA1A31	M11AE1		E	37	11A00*23	05 29L 1531X3	OBASE	513
IA1A31	M11AE2		E	12	11A00*23	46 29L 1531X3 146223	OBASE	514
IA1A31	Q11AE0		D		11A00 21		OBASE	515
SA1A30	L11AR0	IA1A02	5	.0115	11A00 23		OBASE	516
	L11AR0		4		11A00	ACCESS DOORS	OBASE	517
IA1A32	M11AR0		E	50	11A00*23	37 29L 2531X3	OBASE	518
IA1A32	M11AR1		E	10	11A00*23	05 29L 1531X3	OBASE	519
IA1A32	Q11AR0		D		11A00 21		OBASE	520
			4		11000	CENTER FUSELAGE	OBASE	521
			H		11000	F4E 111F 0 M DATA USED	OBASE	522
			4		11000	F15 MSRMA 4	OBASE	523
			H		11000	THIS AREAS MSRMA WILL PROB GET WORSE	OBASE	524
			H		11000	CTR FUSELAGE F15	OBASE	525

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A1D00  F11D00 A1D01  F       6 11D00 21                                   DBASE  526
 A1D01 R11D01  A1D02 E      02 11D00 21       22 29L 1431X1                DBASE  527
 A1D01 M11D01        E      07 11D00 21       12 29L 1431X1                DBASE  528
 A1D01 M11D01        E      55 11D00 21       14 29L 2531X3                DBASE  529
 A1D01 M11D02        E      40 11D00 21       10 29L 1531X0                DBASE  530
 A1D02 SHOP    SA1D00 D        11D00 23                                    DBASE  531
SA1D00 L11D00 IA1D00 G 01457 11D00 23                                      DBASE  532
       L11D00        4         11D00 23 CTR FUSELAGE                       DBASE  533
IA1D00 W11D00        E      95 11D00*23       34 29L 2531X3                DBASE  534
IA1D00 W11D00        E      05 11D00*23       05 29L 1531X3                DBASE  535
IA1D00 Q11D00        D         11D00 21                                    DBASE  536
SA1D00 L11DG0 IA1D00 G 00161 11D00 23                                      DBASE  537
       L11DG0        4         11D00    ACCESS DOORS                       DBASE  538
IA1D01 W11DG0        E       1 11D00*23       07 29L 1531X0                DBASE  539
IA1D01 W11DG1        E      63 11D00*23       34 29L 2531X3                DBASE  540
IA1D01 W11DG0        E      07 11D00*23       06 29L 1531X3                DBASE  541
IA1D01 Q11DG0        D         11D00 21                                    DBASE  542
                     4         11G00    AFT FUSELAGE                       DBASE  543
                     4         11G00    F-E 111K L                         DBASE  544
                     4         11G00    F15 MS3MA 9                        DBASE  545
                     4         11G00    AFT FUSELAGE F15                   DBASE  546
A1G00  F11G00 A1G01  F       8 11G00 21                                   DBASE  547
 A1G01 R11G01  A1G02 E      09 11G00 21       28 29L 2431X1                DBASE  548
 A1G01 M11G02        E      04 11G00 21       08 29L 1431X1                DBASE  549
 A1G01 M11G00        E      45 11G00 21       10 29L 1531X0                DBASE  550
 A1G01 M11G01        E      43 11G00 21       16 29L 2531X3                DBASE  551
 A1G02 SHOP    S11G00 D        11G00 23                                    DBASE  552
SA1G00 L11GA0 IA1G00 G 02635 11G00 23                                      DBASE  553
       L11GA0        4         11G00 23 AFT FUSELAGE                       DBASE  554
IA1G00 W11GA0        E      24 11G00*23       23 29L 1531X1                DBASE  555
IA1G00 W11GA1        E      67 11G00*23       25 29L 1531X3                DBASE  556
IA1G00 W11GA0        E      05 11G00*23       16 29L 1531X1                DBASE  557
IA1G00 Q11GA0        D         11G00 21                                    DBASE  558
SA1G00 L11GR0 IA1G01 G 00122 11G00 23                                      DBASE  559
       L11GR0        4         11G00    ACCESS DOORS                       DBASE  560
IA1G01 W11GR0        D         11G00*23       19 29L 2531X3                DBASE  561
IA1G01 Q11GR0        D         11G00 21                                    DBASE  562
                     4         11K00    WING ASSY F15                      DBASE  563
                     4         11K00 *  CRACKS IN WINGS SKIN BEING LOOKED  DBASE  564
                     4         11K00    INTO BY ENGINEERS                  DBASE  565
                     4         11K00    F-E 112 USED FOR COMPARABILITY     DBASE  566
                     4         11K00    MSGT DICELLO LUKE SHEET MOL PH2787 DBASE  567
                     4         11K00    F15 DATA SHOWS 33 MS3MA AUG75      DBASE  568
                     4         11K00    WING ASSY F15                      DBASE  569
A1K00  F11K00 A1K01  F      20 11K00 21                                   DBASE  570
A1K01  D11K00 A1K10  E      15 11K00 21                                   DBASE  571
A1K00  M1K00         E      30 11K00 21      120 29L 2424X0                DBASE  572
A1K00  M11K00        E         11K00 21       29 29L 2424X0                DBASE  573
 A1K01 R11K00  A1K02 E      01 11K00 21       95 29L 443101                DBASE  574
 A1K01 R11K01  A1K02 E      02 11K00 21       25 29L 1431X1                DBASE  575
 A1K01 M11K01        E      42 11K00 21       10 29L 1531X0                DBASE  576
 A1K01 M11K02        E      40 11K00 21       18 29L 2531X3                DBASE  577
 A1K02 SHOP    SA1K00 D        11K00 23                                    DBASE  578
SA1K00 L11KA0 IA1K00 G 01565 11K00 23                                      DBASE  579
       L11KA0        4         11K00    LEADING EDGE TRAILING EDGE         DBASE  580
IA1K00 W11KA1        E      66 11K00*23       23 29L 1531X3                DBASE  581
IA1K00 W11KA2        E      34 11K00*23       15 29L 2536X0                DBASE  582
IA1K00 Q11KA0        I         11K00 21       95 29L 443101                DBASE  583
SA1K00 L11KV0 IA1K01 G 00119 11K00 23                                      DBASE  584
       L11KV0        4         11K00    WING ACCESS PROVISIONS             DBASE  585
IA1K01 W11KV0        D         11K00*23       18 29L 2331X3                DBASE  586
IA1K01 Q11KV0        I         11K00 21       28 29L 1431X1                DBASE  587
                     4         11P00    AIR INDUCTION SYS IS EXPECTED TO   DBASE  588
                     4         11P00    HAVE HIGHER FAIL RATE THAN F-E     DBASE  589
                     H         11P00    REASON IS MORE CYLINDERS & SERVOS  DBASE  590
                     4         11P00    F15 DATA SHOWS 18 MS3MA AUG75      DBASE  591
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                                  H          11P00      F4E 113 DATA USED 96 MSPMA              DBASE  592
                                  H          11P00      A COMPOSITE OF F4E & F15 FOR SHOP       DBASE  593
                                  H          11P00      AIR INDUCTION SYS F15                   DBASE  594
A1P01  F11P00 A1P01   F   22 11P00 21                                                         DBASE  595
A1P01 R11P00   A1P02  E   03 11P00 21     29 29L 232692                                        DBASE  596
A1P01 M11P00          E   33 11P00 21     14 29L 232692                                        DBASE  597
A1P01 R11P01   A1P02  E   03 11P00 21     50 29L 2421X2                                        DBASE  598
A1P01 M11P01          E   02 11P00 21     14 29L 2421X2                                        DBASE  599
A1P01 M11P02          E   24 11P00 21     11 29L 2423X0                                        DBASE  600
A1P01 M11P03          E   16 11P00 21     48 29L 3431[illegible]                               DBASE  601
A1P01 M11P03          E   05 11P00 21     20 29L 2431C1                                        DBASE  602
A1P01 M11P04          E   13 11P00 21     59 29L 1531X1                                        DBASE  603
A1P01 M11P05          E   05 11P00 21     24 29L 2531X3                                        DBASE  604
A1P12 SH0P    SA1P00  D      11P00 23                                                          DBASE  605
SA1P0 L11PA0  IA1P00  G 01293 11P00 23                                                         DBASE  606
      L11PA0          H      11P00      VARIABLE INLET RAMP SYS                                DBASE  607
IA1P0 M11PA0          D      11P00*23     09 29L 1421X2                                        DBASE  608
IA1P0 M11PA0          I      11P00 21     50 29L 2421X2                                        DBASE  609
SA1P0 L11P00  IA1P01  G 01655 11P00 23                                                         DBASE  610
      L11P00          H      11P00      CONTROLLED AIR INLET                                   DBASE  611
IA1P01 D11P00         I      11P00 23     29 29L 232692                                        DBASE  612
IA1P11 D11P00  IA1P02 D      11P00*23                                                          DBASE  613
IA1P12 C11P00  IA1P03 D      11P00 23                                                          DBASE  614
IA1P13 M11P00         E   20 11P00 23     71 29L 132641 1PTS15                                 DBASE  615
IA1P13 K11P00         E   44 11P00 23     30 29L 132641 1PTS15                                 DBASE  616
IA1P13 M11P00         E   34 11P00 23     14 29L 232641 1PTS15                                 DBASE  617
                      H      12A00      F4E 121 DATA USED                                      DBASE  618
                      H      12A00      F15 MSPMA 21[illegible]                                DBASE  619
                      H      12A00      MSG DICELLO LUKE PH2793 SHEETMDL                       DBASE  620
                      H      12A00      TSG SHEERS LUKE APG PH 3466                            DBASE  621
                      H      12A00      COCKPIT FURNISHINGS F15                                DBASE  622
A2A01  F12A00 A2A01   F  102 12A00 21                                                          DBASE  623
A2A01 R12A00   A2A02  E   05 12A00 21     11 29L 1431X1                                        DBASE  624
A2A01 M12A00          E   07 12A00 21     12 29L 1431X1                                        DBASE  625
A2A01 M12A01          E   47 12A00 21     13 29L 1531X1                                        DBASE  626
A2A01 M12A02          E   45 12A00 21     15 29L 1531X3                                        DBASE  627
A2A02 SH0P    S42A00  D      12A00 23                                                          DBASE  628
SA2A01 L12AAA IA2A01  G 00016 12A00 23                                                         DBASE  629
      L12AAA          H      12A00      PANNELS                                                DBASE  630
IA2A01 M12AAA         D      12A00*23     25 29L 2531X3                                        DBASE  631
IA2A00 O12AAA         D      12A00 21                                                          DBASE  632
SA2A01 L12AAF IA2A01  G 00043 12A00 23                                                         DBASE  633
      L12AAF          H      12A00      GLARE SHIELD INS PAN FWD CREW LH RH C                  DBASE  634
IA2A01 M12AAF         D      12A00*23     19 29L 1531X3                                        DBASE  635
IA2A01 O12AAF         D      12A00 21                                                          DBASE  636
                      H      12B00      EJECTION SEAT                                          DBASE  637
                      H      12B00      A7D 128 DATA USED                                      DBASE  638
                      H      12B00      ASSUME NO SEAT REMOVAL EXCEPT SCHED                    DBASE  639
                      H      12B00      NO ITEM TO SHOP ITEM FAILING A7D IS                    DBASE  640
                      H      12B00      NOT ON F15  F15 MSPMA 422                              DBASE  641
                      H      12B00      TSG JENSEN LUKE PH 2325 EGRESS                         DBASE  642
                      H      12B00      SSG SCHNEIDER EDWARDS EGRESS                           DBASE  643
                      H      12B00      MSG GREGSON LUKE PH2325 EGRESS VER                     DBASE  644
                      H      12B00      MSG MILLER LUKE  PH2323 EGRESS                         DBASE  645
                      H      12B00      EJECTION SEAT F15                                      DBASE  646
A2B01  F12B00 A2B01   F  125 12B00 21                                                          DBASE  647
A2B01 D2RMG7   A2B04  D      12B00 21                                                          DBASE  648
A2B01 O1LGPU   A2B03  D      12B00 21                                                          DBASE  649
A2B03 R12B00  A2B02   E   66 12B00 21     27 29L 2422X2 1060                                   DBASE  650
A2B03 M12B00          E   16 12B00 21     13 29L 2422X2                                        DBASE  651
A2B03 R12B01          E   18 12B00 21     17 29L 1531X3                                        DBASE  652
A2B02 V12B00          D      12B00 21     12 29L 2422X2                                        DBASE  653
                      H      12C00      CANOPY                                                 DBASE  654
                      H      12C00      F4E 123 DATA USED                                      DBASE  655
                      H      12C00      V12C00 IS PRES OK                                      DBASE  656
                      H      12C00      HYD OPERATED CANOPY                                    DBASE  657
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                       M      12C00    MSG DICELLO LUKE PH 2753 SHEET MOL       DBASE  659
                       M      12C00    TSG JENSEN LUKE EGRESS                   DBASE  659
                       M      12C00    SSG SCHNEIDER EDWARDS EGRESS             DBASE  660
                       M      12C00    RIGGING CANOPY MUCH LARGER JOB THAN      DBASE  661
                       M      12C00    F4 CANOPY MS3MA WILL BE DOUBLE F4E       DBASE  662
                       M      12C00    CANOPY HAS APPROX 2 CLOSES FROM ACCUM    DBASE  663
                       M      12C00    AFTER THAT A HAND PUMP OF HYD MULE       DBASE  664
                       M      12C00    F15 MS3MA +2                             DBASE  665
                       M      12C00    CANOPY ASSY F15                          DBASE  666
A2C00  F12C00 A2C01 F      25 12C00 21                                          DBASE  667
 A2C01 DDMMH7  A2C0A E     57 12C00 21                                          DBASE  668
 A2C0A CALTTU  A2C0B C        12C00 21                                          DBASE  669
 A2C0B T12C00  A2C02 E     24 12C00 21     12 29L 2421X2 1TU228                 DBASE  670
 A2C02 R12C0A  A2C03 E     55 12C00 21     22 29L 2431X1 1TU228                 DBASE  671
 A2C03 R12C03 -        E   69 12C00 21     29 29L 2422X1                        DBASE  672
 A2C0A R12C03          E   05 12C00 21     68 29L 243101                        DBASE  673
 A2C01 M12C01          E   07 12C00 21     14 29L 2422X1                        DBASE  674
 A2C02 M12C02          E   23 12C00 21     09 29L 2431X1                        DBASE  675
 A2C02 M12C02          E   02 12C00 21     10 29L 1531X0                        DBASE  676
 A2C02 M12C 3          E   06 12C00 21     15 29L 1431X1                        DBASE  677
 A2C02 M12C04          E   11 12C00 21     50 29L 2531X3                        DBASE  678
 A2C02 M12C04          E  065 12C00 21     30 29L 2421X2 1TU225                 DBASE  679
 A2C02 M12C05          E   35 12C00 21     16 29L 2421X2 1TU228                 DBASE  680
 A2C02 V12D00  A2C04 D        12C00 21     15 29L 2422X1 1TU228                 DBASE  681
 A2C04 SHOP    SA2C00 D       12C00 23                                          DBASE  682
SA2C00 L12C00 IA2C00 D        12C00 23                                          DBASE  683
       L12C00        M        12C00    CANOPY PARTS                             DBASE  684
IA2C00 M12C00          E   55 12C00*23     29 29L 2421X2                        DBASE  685
IA2C00 M12C01          E   03 12C00*23     07 29L 1531X0                        DBASE  686
IA2C00 M12C 2          E   06 12C00*23     14 29L 2531X3                        DBASE  687
IA2C00 K12C 0          E   06 12C00*23     03 29L 1530X0                        DBASE  688
IA2C00 M12C00          E   29 12C00*23      3 29L 1421X2                        DBASE  689
IA2C00 012C00          I      12C00 21     22 29L 2421X2                        DBASE  690
                       M      13A00    MAIN LANDING GEAR                        DBASE  691
                       M      13A00    F4E 132 DATA USED                        DBASE  692
                       M      13A00    V TASK ARE FOR JACKING / RETRACT CKS     DBASE  693
                       M      13A00    HYD BASICALLY F4E WITH MORE STRUT        DBASE  694
                       M      13A00    SEALS PROBLEMS                           DBASE  695
                       M      13A00  . HY MUL PRING PROBLM HOPEFULLY            DBASE  696
                       M      13A00    BEING CORRECTED                          DBASE  697
                       M      13A00    ACFT BEING JACKED                        DBASE  698
                       M      13A00    TSGT MCMILLION LUKE HYD PH 2507          DBASE  699
                       M      13A00    SSG SAMPLE EDWARDS HYD                   DBASE  700
                       M      13A00    WHEEL / TIRE 1325 ELIMINATED             DBASE  701
                       M      13A00    MS3MA ADJUSTED ACCORDINGLY               DBASE  702
                       M      13A00    MAIN LG F15                              DBASE  703
A3A00  F13A00 A3A01 F      11 13A00 21                                          DBASE  704
 A3A01 DDMMG7  A3A0A E     04 13A00 21                                          DBASE  705
 A3A0A DDMMH7  A3A0B D        13A00 21                                          DBASE  706
 A3A0B CALGPJ  A3A0C C        13A00 21                                          DBASE  707
 A3A0C CALTTJ  A3A0D C        13A00 21                                          DBASE  708
 A3A0D DDMMG7  A3A0E E     07 13A00 21                                          DBASE  709
 A3A0E DDMMH7  A3A0F D        13A00 21                                          DBASE  710
 A3A0F CALGPJ  A3A0G C        13A00 21                                          DBASE  711
 A3A0G CALTTU  A3A0H C        13A00 21                                          DBASE  712
 A3A0J DDMMG7  A3A0K E     04 13A00 21                                          DBASE  713
 A3A0K DDMMH7  A3A0L D        13A00 21                                          DBASE  714
 A3A0L CALGPJ  A3A0M C        13A00 21                                          DBASE  715
 A3A0M CALTTJ  A3A0N C        13A00 21                                          DBASE  716
 A3A0O R13A00  A3A02 D        13A00 21     35 29L 2421X2 1060                   DBASE  717
 A3A00 A13A00          D      13A00 21     15 29L 2431X1                        DBASE  718
 A3A01 M13A00          E   4- 13A00 21     26 29L 2421X2                        DBASE  719
 A3A01 M13A01          E   09 13A00 21     13 29L 1531X0                        DBASE  720
 A3A0H R13A01  A3A0? D        13A00 21     47 29L 3431[illegible] 1060          DBASE  721
 A3A02 M13A02          E   04 13A00 21     19 29L 243101                        DBASE  722
 A3A0N R13A02  A3A06 D        13A00 21     16 29L 2431X1 1060                   DBASE  723
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A3A0C	M13A03		E	05	13A00 21	06 29L 1431X1		DBASE	724
A3A0C	M13A04		E	23	13A00 21	17 29L 2531X3		DBASE	725
A3A12	VJACK	A3A05	D		13A00 21	10 29L 4431X1 1060		DBASE	726
A3A13	VJACK	A3A05	D		13A00 21			DBASE	727
A3A14	VJACK	A3A05	D		13A00 21			DBASE	728
A3A15	V13A00		D		13A00 21	05 29L 2431X1 1060		DBASE	729
A3A15	V13A03		D		13A00 21			DBASE	730
A3A15	SHOP	SA3A00	D		13A00 23			DBASE	731
SA3A00	L13A00	IA3A00	G	0397	13A00 23			DBASE	732
	L13A00		4		13A00	MAIN LG MECH COMPTS 13AA THRU 13AG		DBASE	733
IA3A00	M13A00		E	50	13A00*23	15 29L 2421X2		DBASE	734
IA3A00	M13A00		E	25	13A00*23	00 29L 2531X3		DBASE	735
IA3A00	K13A00		E	25	13A00*23	21 29L 1531X2		DBASE	736
IA3A00	D13A00		I		13A00 21	24 29L 2421X2		DBASE	737
SA3A00	L13AH0	IA3A01	G	0061	13A00 23			DBASE	738
	L13AH0		4		13A00	UPLATCH MECH ETC 13AH		DBASE	739
IA3A00	M13AH0		E	07	13A00*23	06 29L 1531X3		DBASE	740
IA3A00	M13AH0		E	53	13A00*23	43 29L 2531X3		DBASE	741
IA3A01	D13AH0		D		13A00 21			DBASE	742
			H		13B00	NOSE GEAR TO INCLUDE STEERING		DBASE	743
			4		13B00	F4E 13B DATA USED		DBASE	744
			4		13B00	V TASK ARE FOR JACKING / RETRACT CK		DBASE	745
			4		13B00	F15 MS8MA 49		DBASE	746
			4		13B00	MORE MAINT THIS AREA		DBASE	747
			H		13B00	SHIMMY PROBLEM STARTING		DBASE	748
			4		13B00	NOSE LG / STEER F15		DBASE	749
A3B00	F13B00	A3B01	F	26	13B00 21			DBASE	750
A3B00	D0RM97	A3B03	E	15	13B00 21			DBASE	751
A3B04	D0RMH7	A3B03	D		13B00 21			DBASE	752
A3B0E	D4LGPJ	A3B00	D		13B00 21			DBASE	753
A3B0C	D4LTTJ	A3B00	D		13B00 21			DBASE	754
A3B00	D0RM97	A3B0E	E	05	13B00 21			DBASE	755
A3B0E	D0RMH7	A3B0F	D		13B00 21			DBASE	756
A3B0F	D4LGPJ	A3B0G	D		13B00 21			DBASE	757
A3B0G	D4LTTJ	A3B04	D		13B00 21			DBASE	758
A3B00	D0RM97	A3B0K	E	04	13B00 21			DBASE	759
A3B0K	D0RMH7	A3B0L	D		13B00 21			DBASE	760
A3B0L	D4LGPJ	A3B0M	D		13B00 21			DBASE	761
A3B0M	D4LTTJ	A3B0N	D		13B00 21			DBASE	762
A3B00	F13B00	A3B02	D		13B00 21	39 29L 2421X2 1060	1TU228	DBASE	763
A3B0M	F13B.1	A3B04	D		13B00 21	20 29L 2423X3 1060	1TU228	DBASE	764
A3B0N	F13B02	A3B05	D		13B00 21	10 29L 1431X1 1060	1TU228	DBASE	765
A3B01	M13B.0		E	31	13B00 21	13 29L 2421X2		DBASE	766
A3B01	M13B01		E	02	13B00 21	14 29L 1531X3		DBASE	767
A3B01	M13B.2		E	02	13B00 21	05 29L 1431X1		DBASE	768
A3B01	M13B03	A3B01A	E	3	13B00 21	13 29L 2531X3		DBASE	769
A3B014	X13B03		D		13B00 21	10 29L 2431X1		DBASE	770
A3B01	M13B04		E	30	13B00 21	30 29L 2423X0		DBASE	771
A3B02	VJACK	A3B03	D		13B00 21			DBASE	772
A3B04	VJACK	A3B05	D		13B00 21			DBASE	773
A3B05	VJACK	A3B07	D		13B00 21			DBASE	774
A3B03	V13B00		D		13B00 21	05 29L 2431X1		DBASE	775
A3B06	V13B.7		D		13B00 21			DBASE	776
A3B07	V13B00		D		13B00 21			DBASE	777
A3B03	SHOP	SA3B00	D		13B00 21			DBASE	778
SA3B00	L13B.0	I13B00	D		13B00 21			DBASE	779
	L13B00		4		13B00	NOSE GEAR / STEP COMPTS		DBASE	780
IA3B00	M13B00		E	03	13B00*23	50 29L 2421X2		DBASE	781
IA3B0.	M13B.0		E	76	13B00*23	13 29L 1421X2		DBASE	782
IA3B00	M13B00		E	07	13B00*23	10 29L 1531X2		DBASE	783
IA3B0.	K13B00		E	12	13B00*23	05 29L 2531X0		DBASE	784
IA3B00	D13B00		I		13B00 21	39 29L 2423X0		DBASE	785
			H		13C00	ARRESTING HOOK SYS		DBASE	786
			H		13C00	F4E 13CXX DATA USED		DBASE	787
			H		13C00	F15MS3MA NO FAILURE		DBASE	788
			H		13C0G	ARREST HOOK SYS F15		DBASE	789

A3C00	F13C00	A3C01	F	164	13C00 21		DBASE	790
A3C01	F13C01	A3C02	E	44	13C00 21	33 29L 2421X2	DBASE	791
A3C01	M13C0.		E	12	13C00 21	16 29L 2421X2	DBASE	792
A3C01	M13C01		E	07	13C00 21	19 29L 2423X0	DBASE	793
A3C01	R13C01	A3C02	E	04	13C00 21	32 29L 1431X1	DBASE	794
A3C01	M13C02		E	05	13C00 21	13 29L 1431X1	DBASE	795
A3C01	M13C03		E	2.	13C00 21	.9 29L 1531X0	DBASE	796
A3C01	M13C04		E	02	13C00 21	16 29L 2531X3	DBASE	797
A3C0E	SHOP	SA3C00	D		13C00 23		DBASE	798
SA3C00	L13C0.	IA3C00	G .031		13C00 23		DBASE	799
	L13C00		H		13C00	ARRESTING HOOK ASY	DBASE	800
IA3C..	W13C00		E	54	13C00*23	61 29L 2421X2	DBASE	801
IA3C00	N13C00		E	31	13C00*23	15 29L 1421X2	DBASE	802
IA3C..	W13C01		E	15	13C00*23	13 29L 1531X0	DBASE	803
IA3C0.	O13C00		I		13C00 21	33 29L 2421X2	DBASE	804
SA3C00	L13C00	IA3C01	G 156		13C00 23		DBASE	805
	L13C00		H		13C00	DAMPER ASY	DBASE	806
IA3C01	W13C00		E	32	13C0.*23	20 29L 1531X2	DBASE	807
IA3C01	W13C01		E	63	13C00*23	21 29L 1531X1	DBASE	808
IA3C01	O13C01		I		13C00 21	32 29L 1431X1	DBASE	809
	L13C00		H		13C00	NCC	DBASE	810
SA3C0.	L13C0.	IA3C02	G 027		13C00 23		DBASE	811
IA3C02	W13C00		D		13C00*23	20 29L 1531X3	DBASE	812
IA3C02	O13C00		D		13C00 21		DBASE	813
			H		13D00	BRAKE SYS	DBASE	814
			H		13D00	F4E 1341 1344 DATA USED	DBASE	815
			H		13D00	INCLUDES JACKING AS NECESSARY	DBASE	816
			H		13D00	F15 MSRMA 165	DBASE	817
			H		13D00	BRAKE SYS F15	DBASE	818
A3D00	F13D00	A3D01	F	65	13D00 21		DBASE	819
A3D01	DOR407	A3D0A	E	63	13D00 21		DBASE	820
A3D0A	DOR447	A3D0B	D		13D00 21		DBASE	821
A3D0B	CALGPU	A3D0C	C		13D00 21		DBASE	822
A3D0C	CALTTU	A3D0D	C		13D00 21		DBASE	823
A3D01	DOR407	A3D0E	E	29	13D00 21		DBASE	824
A3D0E	DOR447	A3D0F	D		13D00 21		DBASE	825
A3D0F	CALGPU	A3D0G	C		13D00 21		DBASE	826
A3D0G	CALTTU	A3D0H	C		13D00 21		DBASE	827
A3D01	M13D00		E	06	13D00 21	14 29L 1431X1	DBASE	828
A3D01	M13D01		E	07	13D00 21	10 29L 1531X0	DBASE	829
A3D0H	R13D01	A3D04	D		13D00 21	18 29L 2431X1 1060 1TU228	DBASE	830
A3D04	VJACK		D		13D00 21		DBASE	831
A3D00	M13D02		E	16	13D00 21	25 29L 2421X2 1060 1TU228	DBASE	832
A3D02	R13D00	A3D02	E	64	13D00 21	40 29L 2421X2 1060 1TU228	DBASE	833
A3D02	VJACK	A3D03	C		13D00 21		DBASE	834
A3D03	SHOP	SA3D00	D		13D00 21		DBASE	835
SA3D00	L13D00	IA3D00	D		13D00 21		DBASE	836
	L13D00		H		13D00	BRAKE COMPTS	DBASE	837
IA3D01	W13D00		E	5	13D00*23	10 29L 1531X1	DBASE	838
IA3D0.	N13D00		E	15	13D00*23	02 29L 1531X1	DBASE	839
IA3D0.	K13D00		E	77	13D00*23	51 29L 1431Y1 1531X1	DBASE	840
IA3D01	O13D00		D		13D00 21		DBASE	841
			H		13F00	LANDING CNTL / WARNING / EMERG SYS	DBASE	842
			H		13F00	F4E 1?1 DATA USED FOR F15 13F / 13F	DBASE	843
			H		13F00	F15 MSRMA 14.	DBASE	844
			H		13F00	LNG CNTL WARN / EMERG SYS F15	DBASE	845
A3F00	F13F00	A3F01	F	178	13F00 21		DBASE	846
A3F01	DOR407	A3F0A	D		13F00 21		DBASE	847
A3F0A	CALGPU	A3F0B	C		13F00 21		DBASE	848
A3F0B	M13F00	A3F02	E	24	13F00 21	20 29L 2421X2 1060	DBASE	849
A3F03	M13F04		E	02	13F00 21	12 29L 1531X3	DBASE	850
A3F02	T13F00		A	07	13F00 21	08 29L 2421X2 1060	DBASE	851
A3F03	R13F..	A3F03	E	14	13F00 21	22 29L 2423X0 1060	DBASE	852
A3F05	M13F01		E	27	13F00 21	16 29L 1423X0 1060	DBASE	853
A3F03	J13F02	A3F04	E	20	13F00 21	10 29L 4431X1	DBASE	854
A3F04	R13F02		D		13F00 21	40 29L 2421X2 1060	DBASE	855

A3F23	R13F21		E	13	13F03 21	07 29L 232682 1060	DBASE	856
A3F12	V13F11		D		13F00 21	11 29L 2-21X2 1060 1431X1	DBASE	857
A3F25	W13F12		E	1.	13F00 21	05 29L 1-31X1 1060	DBASE	858
A3F13	SHOP	SA3F01	D		13F00 23		DBASE	859
SA3F1.	L13FA1	IA3F01	D		13F00 23		DBASE	860
	L13FA1		4		13F00	LDG CNTL WARN / EMERG SYS	DBASE	861
IA3F01	W13FA1		D		13F0.*23	12 29L 1-21X2	DBASE	862
IA3F..	O13FA1		D		13F00 21		DBASE	863
			H		13H00	SKID CONT SYS	DBASE	864
			H		13H00	F-4 1363 DATA USED	DBASE	865
			4		13H00	F15 MSRMA 03 AUG 75	DBASE	866
			4		13H00	SKID CONT SYS F15	DBASE	867
A3H03	F13H03	A3H0A	F	237	13H00 21		DBASE	868
A3HAA	V13H03	A3H01	D		13H00 21	31 29L 2-23X5 1-31X1 1421X2	DBASE	869
A3HJ1	R13H11		E	02	13HJ0 21	34 29L 2-21X2	DBASE	870
A3H11	W13H11		E	1.	13H00 21	11 29L 2-21X2	DBASE	871
A3H11	R13H11	A3H02	E	35	13H00 21	14 29L 2-23X0	DBASE	872
A3H..	W13H11		E	55	13H00 21	12 29L 2-23X0	DBASE	873
A3HJ2	SHOP	SA3H01	D		13HJ0 23		DBASE	874
SA3H..	L13HA1	IA3H..	D		13H00 23		DBASE	875
	L13HA1		4		13H00	CONT ASY	DBASE	876
IA3H..	W13HA1		D		13H00*23	10 29L 1423X0	DBASE	877
IA3HJ0	O13HA1		I		13HJ0 21	14 29L 2-23X0	DBASE	878
			4		13J00	WHEEL / TIRE	DBASE	879
			H		13J00	F-4 1333 1325 1326 FOR F15 13AJ 0J	DBASE	880
			4		13J00	ASSUME F-4 PEACETIME CHGS EQUAL F15	DBASE	881
			H		13J00	WARTIME CHGS	DBASE	882
			H		13J00	F15 MSRMA 16	DBASE	883
			4		13J00	WHEEL / TIRE F15	DBASE	884
A3J01	F13J01	A3J01	F	19	13J00 21		DBASE	885
A3J01	R13J01	A3J02	D		13J00 21	09 29L 2-31X1	DBASE	886
A3J02	SHOP	SA3J01	D		13J00 23		DBASE	887
SA3J0.	L13JA1	IA3J01	D		13J00 23		DBASE	888
	L13JA1		4		13J00	WHEEL / TIRE	DBASE	889
IA3J0.	K13JA1		E	01	13J0C*23	02 29L 1401Y1	DBASE	890
IA3J..	W13JA1	IA3J02	E	93	13J0C*23	12 29L 1471Y1	DBASE	891
IA3J0.	W13JA1		D		13J00 23	21 29L 2401Y1	DBASE	892
IA3J0.	O13JA1		I		13J00 21	15 29L 2471X1	DBASE	893
			4		14AA0	CONTROL STICK	DBASE	894
			4		14AA0	F15 MSRMA 24.	DBASE	895
			4		14AA0	SSG THOMPSON FLT CONT EDWARDS	DBASE	896
			4		14AA0	TSG POOLE LUKE FLT CONT	DBASE	897
			4		14AA0	TSG FULTON EDWARDS	DBASE	898
			H		14AA0	TSG MCMILLON LUKE HYD	DBASE	899
			4		14AA0	SSG SAMPLE EDWARDS HYD	DBASE	900
			4		14AA0	MSG TWEED EDWARDS AHG	DBASE	901
			H		14AA0	TSG SWEEBE LUKE APG 2464	DBASE	902
			4		14AA0	F111F 14AA0 DATA USED	DBASE	903
			4		14AA0	CONTROL STICK F15	DBASE	904
A4AA1	F14AA1	A4AA1	F	93	14AA0 21		DBASE	905
A4AA1	DDSM07	A4AA1	D		14AA0 21		DBASE	906
A4AA1	DD1MM7	A4AA3	D		14AA0 21		DBASE	907
A4AA3	DALGPJ	A4AA3	D		14AA0 21		DBASE	908
A4AA?	[illegible]	[illegible]	D		14AA0 21		DBASE	909
A4AA0	T14AA1	A4AA2	D		14AA0 21	23 29L 2423X0 1060 1TU228	DBASE	910
A4AA2	W14AA1		E	55	14AA0 21	56 29L 232682	DBASE	911
A4AA2	R14AA0	A4AA3	E	45	14AA0 21	15 29L 2423X0 1060 1TU228	DBASE	912
A4AA3	V14AA1		D		14AA0 21	13 29L 232682 1060 1TU228	DBASE	913
A4AA3	SHOP	SA4AA1	D		14AA0 23		DBASE	914
SA4AA1	L14AA1	IA4AA1	D		14AA0 23		DBASE	915
	L14AA1		H		14AA0	CONTROL STICK ASSY	DBASE	916
IA4AA1	414AA1		E	20	14AA0*23	54 29L 1423X0	DBASE	917
IA4AA.	414AA1	IA4AA1	E	60	14AA0 23	11 29L 132631	DBASE	918
IA4AA1	414AA1		D		14AA0*23	30 0	DBASE	919
IA4AA0	O14AA1		I		14AA0 21	15 29L 2423X0	DBASE	920
			4		14A00	F15 DATA USED	DBASE	921

			M		14A30	NO COMPARIBILITY	DBASE	922
			M		14A30	TSGT POOLE LUKE	DBASE	923
			M		14A30	TSGT FULTON EDWARDS	DBASE	924
			M		14A30	F15 MSPMA 420	DBASE	925
			M		14A30	PITCH & ROLL CHANNEL ASY F15	DBASE	926
A4A30	F14A30	A4A31	F	71	14A30 21		DBASE	927
A4A31	R14A30	A4A32	D		14A30 21	54 29L 2421X2	DBASE	928
A4A32	V14A30	A4A33	D		14A30 21	40 29L 1421X2 232632 243101 1060	DBASE	929
A4A33	SHOP	SA4A30	D		14A30 23		DBASE	930
SA4A30	L14A30	IA4A30	D		14A30 23		DBASE	931
	L14A30		M		14A30	PITCH & ROLL CHANNEL ASY	DBASE	932
IA4A30	N14A30		D		14A30 *23	19 29L 1421X2	DBASE	933
IA4A30	Q14A30		I		14A30 21	54 29L 2421X2	DBASE	934
			M		14C00	STAB SYS DATA	DBASE	935
			M		14C00	F111F 14C0A + 33% 14HAB + 14000 C 30	DBASE	936
			M		14C00	F4E 14300 FOR APG & 10% OF SHEET MOL	DBASE	937
			M		14C00	F15 MSPMA 420	DBASE	938
			M		14C00	STAB SYS F15	DBASE	939
A4C00	F14C00	A4C01	F	152	14C00 21		DBASE	940
A4C01	DDRMG7	A4C0A	D		14C00 21		DBASE	941
A4C04	CALGPU	A4C0B	D		14C00 21		DBASE	942
A4C05	DDRMH7	A4C0C	D		14C00 21		DBASE	943
A4C00	CALTTU	A4C00	D		14C00 21		DBASE	944
A4C00	R14C00		E	59	14C00 21	26 29L 2431X1 1060 1TU228	DBASE	945
A4C00	N14C00		E	29	14C00 21	17 29L 1431X1 1060 1TU228	DBASE	946
A4C00	T14C00		E	65	14C00 21	20 29L 232682 1060 1TU228	DBASE	947
A4C00	R14C03	A4C0E	E	1	14C00 21	57 29L 2421X2 1TU226	DBASE	948
A4C0E	SHOP	SA4C00	D		14C00 23		DBASE	949
SA4C00	L14C00	IA4C00	D		14C00 23		DBASE	950
	L14C00		M		14C00	STAB SYS	DBASE	951
IA4C00	N14C00		D		14C00 *23	15 29L 2421X2	DBASE	952
IA4C00	Q14C00		I		14C00 21	26 29L 2431X1	DBASE	953
			M		14D00	RUDDER	DBASE	954
			M		14D00	F111F 14AE0 23% F4E 1442 C D 14400	DBASE	955
			M		14D00	FOR APG	DBASE	956
			M		14D00	F15 MSPMA 32	DBASE	957
			M		14D00	RUDDER F15	DBASE	958
A4D00	F14D00	A4D01	F	21	14D00 21		DBASE	959
A4D01	DDRMG7	A4D0A	D		14D00 21		DBASE	960
A4D04	DDRMH7	A4D0B	D		14D00 21		DBASE	961
A4D05	CALGPU	A4D0C	D		14D00 21		DBASE	962
A4D00	CALTTU	A4D00	D		14D00 21		DBASE	963
A4D00	R14D00		E	26	14D00 21	35 29L 2431X1 1060 1TU228	DBASE	964
A4D00	R14D01	A4D03	E	61	14D00 21	39 29L 2421X2 1060 1TU228	DBASE	965
A4D00	N14D00		E	06	14D00 21	12 29L 1431X1	DBASE	966
A4D00	T14D00		E	05	14D00 21	20 29L 232682 1060 1TU228	DBASE	967
A4D00	R14D02		E	02	14D00 21	20 29L 243101	DBASE	968
A4D03	SHOP	SA4D00	D		14D00 23		DBASE	969
SA4D00	L14D00	IA4D00	D		14D00 23		DBASE	970
	L14D00		M		14D00	RUDDER COMPTS	DBASE	971
IA4D00	N14D00		E	97	14D00 *23	10 29L 2421X2	DBASE	972
IA4D00	W14D00		E	03	14D00 *23	16 29L 2421X2	DBASE	973
IA4D00	Q14D00		I		14D00 21	37 29L 2421X2	DBASE	974
			M		14E00	SPEED BRAKE SYS	DBASE	975
			M		14E00	F4E 14600 LESS 14020 DATA USED	DBASE	976
			M		14E00	F15 MSPMA 210	DBASE	977
			M		14E00	SPEED BRAKE SYS F15	DBASE	978
A4E00	F14E00	A4E01	F	67	14E00 21		DBASE	979
A4E01	DDRMG7	A4E0A	D		14E00 21		DBASE	980
A4E04	CALGPU	A4E0B	D		14E00 21		DBASE	981
A4E05	DDRMH7	A4E0C	D		14E00 21		DBASE	982
A4E00	CALTTU	A4E00	D		14E00 21		DBASE	983
A4E00	R14E00	A4E02	E	06	14E00 21	40 29L 2421X2 1060 1TU228	DBASE	984
A4E00	N14E00		E	56	14E00 21	16 29L 2421X2 1060 1TU228	DBASE	985
A4E00	R14E01	A4E02	E	09	14E00 21	17 29L 2423X3 1060 1TU228	DBASE	986
A4E00	N14E01		E	05	14E00 21	11 29L 2423X0 1060 1TU228	DBASE	987

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A4E00 R1+E02  A4E02 E      69 14E00 21      30 29L 2431X1 1060    1TU228          DBASE  988
A4E0. M1+E02          E    63 14E0. 21      1. 29L 1431X1 1060    1TU228          DBASE  989
A4E00 M1+E03          E    63 14E0. 21      1. 29L 1531X0 1060    1TU228          DBASE  990
A4E0D M1+E..          E    6. 14E0. 21      21 29L 2531X3 1060    1TU228          DBASE  991
A4E02 V1+E0.          0       14E0. 21      10 29L 2421X2 1060    1TU228          DBASE  992
A4E0. SHOP    S4+E0.  0       14E0. 23                                            DBASE  993
SA4E0. L1+E0. IA4E00 G ..215 14E00 23                                             DBASE  994
       L1+E0.         4       14E0.   [illegible]                                 DBASE  995
IA4E.. M1+E0.         E    53 14E00*23      5. 29L 25.1X3                         DBASE  996
IA4E.. M1+E0.         E    .7 14E0.*23      .4 29L 1531X3                         DBASE  997
IA4E0. Q1+E0.         0       14E00 21                                            DBASE  998
SA4E0. L1+E0. IA4E0. G [illegible] 14E0. 23                                       DBASE  999
       L1+E00         4       14E00   BRAKE CONT SYS                              DBASE 1000
IA4E.. M1+E0.         E    5. 14E0.*23      .. 29L 2421X2                         DBASE 1001
IA4E0. N1+E0.         E    50 14E0.*23      1. 29L 1421X2                         DBASE 1002
IA4E.. Q1+E0.         0       14E00 21                                            DBASE 1003
                      4       14G00   LATERAL SYS                                 DBASE 1004
                      4       14G0.   F111F 1-9E3 ACTUATOR F4E 1-22B LAT HY       DBASE 1005
                      4       14G0.   F15 MS2MA +2.                               DBASE 1006
                      4       14G00   LATERAL SYS F15                             DBASE 1007
A4G00  F1+G0. A4G01  F    533 14G0. 21                                            DBASE 1008
A4G0. D0RM07  4+G0. 0         14G00 21                                            DBASE 1009
A4G0. D0RMH7  4+G05 0         14G00 21                                            DBASE 1010
A4G03 D4LGEJ  4+G0. 0         14G0. 21                                            DBASE 1011
A4G0C DALTTJ  4+G00 C         14G00 21                                            DBASE 1012
A4G0. V1+G..  4+G.2 E      4. 14G0. 21      36 29L 2421X2 1060    1TU228          DBASE 1013
A4G.2 V1+G0.  4+G03 0         14G0. 21       6 29L 2421X2 1060    1TU228          DBASE 1014
A4G0. M1+G0.          E    59 14G0. 21      21 29L 2421X2                         DBASE 1015
A4G03 SHOP    S4+G00 0        14G00 23                                            DBASE 1016
SA4G. L1+G0. I4+G00 0         14G0. 23                                            DBASE 1017
       L1+G0.         4       14G0.   LATERAL SYS COMPTS                          DBASE 1018
IA4G.. M1+G.0         E    94 14G0.*23      15 29L 1421X2                         DBASE 1019
IA4G0C M1+G0.         E    06 14G00*23      17 29L 2421X2                         DBASE 1020
IA4G0. Q1+G.0         0       14G0. 21                                            DBASE 1021
                      4       14H00   FLAP SYS                                    DBASE 1022
                      4       14H00   F4E 14EEE DATA USED 14EEN NOTHING           DBASE 1023
                      4       14H00   F15 MSMMA NO FAILURE                        DBASE 1024
                      4       14H00   FLAP SYS F15                                DBASE 1025
A4H00  F1+H0. A4H01  F    426 14H00 21                                            DBASE 1026
A4H0. D0RM07  4+H0A 0         14H00 21                                            DBASE 1027
A4H0A DORMH7  4+H0B 0         14H00 21                                            DBASE 1028
A4H0B DALGEJ  4+H0C C         14H00 21                                            DBASE 1029
A4H0C DALTTJ  4+H00 C         14H00 21                                            DBASE 1030
A4H0. R1+H.0  4+H0. E      2. 14H0. 21      22 29L 2421X2 1060    1TU228          DBASE 1031
A4H00 M1+H00          E    76 14H00 21      21 29L 2421X2 1060    1TU228          DBASE 1032
A4H02 SHOP    S4+H00 0        14H00 23                                            DBASE 1033
SA4H0. L1+H0. IA4H00 0        14H00 23                                            DBASE 1034
       L1+H0.         4       14H0.   FLAP SYS COMPTS                             DBASE 1035
IA4H0. N1+H0.         E    50 14H00*23      10 29L 1421X2                         DBASE 1036
IA4H0. M1+H0.         E    4. 14H00*23      4. 29L 2421X2                         DBASE 1037
IA4H0. K1+H0.         E    10 14H00*23      .4 29L 1536X.                         DBASE 1038
IA4H0. Q1+H0.         0       14H00 21                                            DBASE 1039
                      4       23000   THIS IS F-1.. ENGINE NETWORK AS             DBASE 1040
                      4       23000   DEFINED BY SGT HODGES, SGT HARMATH, ANDDBASE 1041
                      4       23000   AND MR RUFF AT LUKE AAFB.                   DBASE 1042
       F23000         4       23000   CLOCK FOR FIRST ENGINE                      DBASE 1043
B3000  F23000 B3001  F      5 23000 21                                            DBASE 1044
       F27000         4       27000   CLOCK FOR SECOND ENGINE                     DBASE 1045
B7000  F27000 B3001  F      5 27000 21                                            DBASE 1046
                      4       23000   V23ARM MUNITIONS SAFE                       DBASE 1047
B3001  V23ARM B3002  E     .. 23000 21       3 29L 34.2..                         DBASE 1048
                      4       23000   T23000 IDENTIFY PROBLEM                     DBASE 1049
B3001  T23000 B3022  E     89 23000 21       5 29L 2432X. 1431X1                  DBASE 1050
                      4       23000   O23TOW TOW ACFT TO -A.                      DBASE 1051
B3002  O23TOW B3004  0        23000 21       5 29L 5431X1                         DBASE 1052
                      4       23000   O23PAN REM OR REPLACE ENGINE PANELS         DBASE 1053
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83604  023PAN 83006  D          23000 21       3 29L 1431X1                         DBASE 1054
                     4          23000     023PAD INSTALL OR REMOVE ACFT FROM PADDBASE 1055
83005  023PAD 33006  D          23000 21       8 29L 2432X0 1432X1                  DBASE 1056
                     4          23000     T23001 TROUBLESHOOT,FIX,TRIM, AND LEAKDBASE 1057
                     4          23000            NO PARTS REPLACEMENT               DBASE 1058
83003  T23001 83010  E     25 23000 21      30 29L 3432X0 1431X1                    DBASE 1059
                     4          23000     M23000 MINOR REPAIR WITH PART CHANGES DBASE 1060
                     4          23000            ON TRIM PAD                        DBASE 1061
83005  M23000 33016  E     50 23000 21      50 29L 3432X0 1431X1                    DBASE 1062
83003  VDUMMY 83018  E     25 23000 21                                              DBASE 1063
83010  023PAD 83012  D          23000 21                                            DBASE 1064
83012  023PAN 83014  D          23000 21                                            DBASE 1065
83014  023TOW        D          23000 21                                            DBASE 1066
                     4          23000     023LEK ENGINE LEAK CHECK                  DBASE 1067
83016  023LEK 83020  D          23000 21       5 29L 2432X0 1431X1                  DBASE 1068
83015  SHOP   S83000 D          23000 21                                            DBASE 1069
83013  023PAD 83020  D          23000 21                                            DBASE 1070
83020  023TOW 83032  D          23000 21                                            DBASE 1071
                     4          23000     M23001 MINOR REPAIR WITH PART CHANGE  DBASE 1072
                     4          23000            ON FLIGHT LINE                     DBASE 1073
83022  M23001 83024  E     90 23000 21      10 29L 2432X0                           DBASE 1074
83022  VDUMMY 83030  E     10 23000 21                                              DBASE 1075
83024  023LEK        D          23000 21                                            DBASE 1076
83024  SHOP   S83000 D          23000 21                                            DBASE 1077
83030  023PAN 83032  D          23000 21                                            DBASE 1078
83032  023[illegible] 83034  D          23000 21      15 29L 4432X0                    DBASE 1079
83034  023[illegible]        E          23000 21      15 29L 4432X0                    DBASE 1080
83034  023LEK 83036  D          23000 21                                            DBASE 1081
83034  TSTCEL S83200 D          23000 21                                            DBASE 1082
83035  023PAN        E     95 23000 21                                              DBASE 1083
83035  023TOW 83034  E     05 23000 21                                              DBASE 1084
                     4          23000     ENGINE IN SHOP AND TEST CELL              DBASE 1085
S83200 023SHO S83201 D          23000 23      35 29L 3432X0 1330[illegible]                 DBASE 1086
                     4          23000     DTOW23 TOW ENGINE TO TEST CELL            DBASE 1087
S83201 DTOW23 S83202 E     25 23000 23       1 29L 2432T0                           DBASE 1088
S83201 SHOP   S83203 E     75 23000 23                                              DBASE 1089
                     4          23000     C23TCL CONNECT AND DISCONNECT TESTCELLDBASE 1090
S83202 C23TCL S83204 D          23000 23       9 29L 5432T0                         DBASE 1091
                     4          23000     T23002 TROUBLESHOOT AND TRIM TEST CELLDBASE 1092
S83204 T23002 S83206 D          23000 23      50 29L 4432T0                         DBASE 1093
                     4          23000     T23003 TREND AND SOAP TEST CELL           DBASE 1094
S83206 T23003 S83208 E     65 23000 23       5 29L 4432T0                           DBASE 1095
S83208 C23TCL S83210 E     35 23000 23                                              DBASE 1096
S83210 C23TCL S83212 D          23000 23                                            DBASE 1097
S83203 SHOP   S83000 D          23000 23                                            DBASE 1098
S83212 DTOW23 S83214 D          23000 23                                            DBASE 1099
                     4          23000     W23000 FINAL SHOP WORK GOOD ENGINE OUTDBASE 1100
S83214 W23000        D          23000*23      40 29L 4432X0                         DBASE 1101
S83210 DTOW23 S83215 D          23000 23                                            DBASE 1102
                     4          23000     W23001 ENGINE SHOP WORK                   DBASE 1103
S83215 W23001 S83202 D          23000 23      50 29L 4432X0                         DBASE 1104
                     4          23000     W23002 ENGINE SHOP WORK                   DBASE 1105
S83233 W23002 S83202 E     90 23000 23      60 29L 5432X0                           DBASE 1106
                     4          23000     W23003 ENGINE SHOP WORK                   DBASE 1107
S83233 W23003 S83202 E     10 23000 23     320 29L 4432X0                           DBASE 1108
       L23A00        4          23000 23 INLET FAN MODULE                           DBASE 1109
S83000 L23A00 83A00  S 03516 23000 23                                               DBASE 1110
83A00  W23A00        E     27 23000*23      40 29L 3432X0                           DBASE 1111
83A00  W23A01        E      9 23000*23      22 29L 1531X1                           DBASE 1112
83A00  W23A00        E     55 23000*23       5 29L 2432X0                           DBASE 1113
83A00  W23A01        E     09 23000*23       5 29L 2432T0                           DBASE 1114
83A00  023A00        D          23000 21                                            DBASE 1115
       L23B00        4          23000 23 CORE ENGINE MODULE                         DBASE 1116
S83000 L23B00 83B00  S 03987 23000 23                                               DBASE 1117
83B00  W23B00        E     12 23000*23      13 29L 1432X0                           DBASE 1118
83B00  K23B00        E     15 23000*23      18 29L 1432X0                           DBASE 1119
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83E0J  N23E0J          E    73 23000*23      5 29L 1432X0                    DBASE 1120
83E0J  023E0J          D       23000 21                                      DBASE 1121
       L23G0J          4       23000 23 FAN-DRIVE TURBINE MODULE             DBASE 1122
S83G0J L23G0J 83G0J    G 10469 23000 23                                      DBASE 1123
83G0J  W23G0J          E    44 23000*23     90 29L 1432X0                    DBASE 1124
83G0J  K23G0J          E     1 23000*23      2 29L 1432X0                    DBASE 1125
83G0J  N23G0J          E    51 23000*23     10 29L 1432X0                    DBASE 1126
83G0J  023G0J          D       23000 21                                      DBASE 1127
       L23F0J          4                    AUGMENTOR DUCT AND NOZZLE MODULE DBASE 1128
S83F0J L23F0J 83F0J    G 12570 23000 23                                      DBASE 1129
83F0J  W23F0J          E    13 23000*23     10 29L 1432X0                    DBASE 1130
83F0J  W23F0J          E    11 23000*23     41 29L 1531X1                    DBASE 1131
83F0J  N23F 2          E     4 23000*23     45 29L 1531X3                    DBASE 1132
83F0J  N23F0J          E    72 23000*23      5 29L 1432X0                    DBASE 1133
83F0J  023F0J          0       23000 21                                      DBASE 1134
       L23G0J          4                    GEARBOX MODULE                   DBASE 1135
S83G0J L23G0J 83G0J    G 10422 23000 23                                      DBASE 1136
83G0J  W23G0J          E    37 23000*23      5 29L 1432X0                    DBASE 1137
83G0J  K23G0J          E    11 23000*23      5 29L 1432X0                    DBASE 1138
83G0J  N23G0J          E    55 23000*23     10 29L 1432X0                    DBASE 1139
83G0J  023G0J          D       23000 21                                      DBASE 1140
       L23H0J          4       23000        FUEL SYSTEM                      DBASE 1141
S83H0J L23H0J 83H0J    G 03330 23000 23                                      DBASE 1142
83H0J  N23H0J          D       23000*23     10 29L 1432X0                    DBASE 1143
83H0J  023H0J          D       23000 21                                      DBASE 1144
       L23J0J          4       23000        OIL SYSTEM                       DBASE 1145
S83J0J L23J0J 83J0J    G 03375 23000 23                                      DBASE 1146
83J0J  N23J0J          D       23000*23      5 29L 1432X0                    DBASE 1147
83J0J  023J0J          D       23000 21                                      DBASE 1148
       L23K0J          4       23000        ELECTRICAL SYSTEM                DBASE 1149
S83K0J L23K0J 83K0J    G 03235 23000 23                                      DBASE 1150
83K0J  N23K0J          D       23000*23      6 29L 1432X0                    DBASE 1151
83K0J  023K0J          D       23000 21                                      DBASE 1152
       L23P0J          4       23000        AUGMENTOR NOZZLE ACTUATION SYSTEM DBASE 1153
S83P0J L23P0J 83P0J    G 10469 23000 23                                      DBASE 1154
83P0J  N23P0J          D       23000*23      5 29L 1432X0                    DBASE 1155
83P0J  023P0J          0       23000 21                                      DBASE 1156
       L23Q0J          4       23000        MISC COMPONENTS                  DBASE 1157
S83Q0J L23Q0J 83Q0J    G 12225 23000 23                                      DBASE 1158
83Q0J  W23Q0J          E    30 23000*23     31 29L 1531X1                    DBASE 1159
83Q0J  N23Q0J          E    70 23000*23      5 29L 1432X0                    DBASE 1160
83Q0J  023Q0J          D       23000 21                                      DBASE 1161
                       4       23100        ENGINE INSTRUMENTS               DBASE 1162
83100  F23100 83101    F    42 23100 21                                      DBASE 1163
83101  DCRMG7 83102    D       23100 21                                      DBASE 1164
83102  CALGPJ 83103    D       23100 21                                      DBASE 1165
83103  R23100 83104    E    29 23100 21      3 29L 232632                    DBASE 1166
83103  R23100 83104    E    22 23100 21     20 29L 2431X1                    DBASE 1167
83103  R23102 93104    E    12 23100 21     20 29L 2432X0                    DBASE 1168
83103  M23100          E    10 23100 21     16 29L 232632                    DBASE 1169
83103  M23101          E    10 23100 21     47 29L 1431X1 1423X0             DBASE 1170
83103  M23102          E     8 23100 21     15 29L 1531X0                    DBASE 1171
83103  M23103          E     9 23100 21     22 29L 1432X0                    DBASE 1172
83104  SHOP   S83100 D         23100 23                                      DBASE 1173
S83100 K23100          E    36 23100*23     13 29L 132632                    DBASE 1174
S83100 M23100          E    35 23100*23     19 29L 132632                    DBASE 1175
S83100 N23100          E    23 23100*23      5 29L 1432X0                    DBASE 1176
S83100 023100          I       23100 21      8 29L 232632                    DBASE 1177
                       4       24A00        JET FUEL STARTER                 DBASE 1178
                       4       24A00        F15 INFO AND INTERVIEW USED      DBASE 1179
                       H       24A00        Y24A00 SHOP REPAIR               DBASE 1180
                       4       24A00        Y24TST TEST CELL RUN             DBASE 1181
                       H       24A00        TSGT PETTERSON ENG PH 2734       DBASE 1182
                       4       24A00        TSGT GOODMAN ENG PH 2979         DBASE 1183
                       H       24A00        JET FUEL STARTER F15             DBASE 1184
84A00  F24A00 04A01    F    44 24A00 21                                      DBASE 1185
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84A31 DOORMH7  84A3A D          24A0* 21                                           DBASE 1186
34A14 C4.ITU   34A33 C          24A00 21                                           DBASE 1187
34A13 T24A33 34A12  D           24A30 21      20 29L 1-23X0 1432X0 1431X1          DBASE 1188
34A12 A24A33        D           24A30 21       3 29L 1-31X1                        DBASE 1189
34A.2 R24A12        A        1  24A30 21      40 29L 2-31X1                        DBASE 1190
34A12 R2-A3   34A13 F       5   24A30 21      37 29L 2432X0 1TJ229                 DBASE 1191
34A12 M24A33        E      22   24A30 21      17 29L 2421X2 1TJ225                 DBASE 1192
54A12 M24A31        E      2    24A30 21      59 29L 2-32X1 1TJ228                 DBASE 1193
34A13 Y24A33  34A14 D           24A30*21     240 29L 1-32X0                        DBASE 1194
34A13 02-A30        I           24A30 21      33 29L 2432X1                        DBASE 1195
34A14 Y24TST  34A15 D           24A30 21      10 29L 2-32X0                        DBASE 1196
84A1F SHOP   S34A33 D           24A00 23                                           DBASE 1197
S34A3. L2-A30 I34A30 D          24A30 23                                           DBASE 1198
      L2-A3.        H           24A30      JFS SYS                                 DBASE 1199
I34A3. N24A33       D           24A33 23      15 29L 1432X0                        DBASE 1200
                    H           24700      ACC OF GEARBOXES                        DBASE 1201
                    H           24300      F15 DATA USED                           DBASE 1202
                    H           24300      NO WAY TO TEST AMADS                    DBASE 1203
                    H           24930      NEW PTO SHAFT SEAL IS WORKING           DBASE 1204
                    H           24930      MSBMA ADJ FROM 25 TO 75 FOR CORREC-     DBASE 1205
                    H           24930      TIVE ACTIONS                            DBASE 1206
                    H           24900      ACC OR GEARBOX F15                      DBASE 1207
34B33 F24B33 34B31  F      25   24B30 21                                           DBASE 1208
34B31 DOORMH7 34B3A D           24B30 21                                           DBASE 1209
34B31 PANEL         D           24B00 21       5 29L 1431X1                        DBASE 1210
34B3A 24LGPJ  34B3B C           24B30 21                                           DBASE 1211
34B13 32-B33 34B12  E      14   24B30 21      20 29L 2431X1                        DBASE 1212
34B13 M24B33        E      21   24B30 21      24 29L 2432X0 1TJ223                 DBASE 1213
64B33 M2-B33        E       5   24B00 21      10 29L 1431X1                        DBASE 1214
94B13 R24B33  34B32 E      53   24B30 21      23 29L 2432X0 1TJ223                 DBASE 1215
34B12 SHOP   S34B33 D           24B30 23                                           DBASE 1216
S34B3. L2-B33 I34B30 D          24B30 23                                           DBASE 1217
      L2-B33        H           24B00      ACC OF GEARBOX                          DBASE 1218
I34B3. N2-B33       D           24B3.*23      05 29L 1-32X0                        DBASE 1219
I34B3. 02-B33       I           24B0. 21      23 29L 2432X1                        DBASE 1220
                    H           240J.      JFS STARTING SYS                        DBASE 1221
                    H           24000      NO COMPARABILITY AVAILABLE              DBASE 1222
                    H           24000      USED F15 DATA                           DBASE 1223
                    H           24000      JFS START SYS F15                       DBASE 1224
34D03 F24D33 34D31  F     355   24000 21                                           DBASE 1225
34D31 F24D33  34D33 D           24000 21      14 29L 2421X2 1TJ225 1431X1          DBASE 1226
34D32 SHOP   S34D33 D           24000 23                                           DBASE 1227
S34D3. L2-D33 I34D33 D          24000 23                                           DBASE 1228
      L24D.3        H           24000      JFS START SYS                           DBASE 1229
I34D30 N24D33       D           24000*23      22 29L 2421X2                        DBASE 1230
I34D33 02-D33       D           24000 21                                           DBASE 1231
                    H           41A00      ENV CONT SYS                            DBASE 1232
                    H           41A00      MSG DEVLAEMICK LUKE ENV PH 2791         DBASE 1233
                    H           41A00      SSG JAMES EDWARDS ENV                   DBASE 1234
                    H           41A00      F15 DATA USED                           DBASE 1235
                    H           41A00      ENV CONT SYS F15                        DBASE 1236
01A03 F41A10 01A01  F      2    41A00 21                                           DBASE 1237
01A01 X41A33 01A02  D           41A30 21      13 29L 2422X1 1431X1                 DBASE 1238
01A02 T41A33  01A03 D           41A00 21      24 29L 2422X1                        DBASE 1239
01A03 R41A30  01A04 E      40   41A00 21      24 29L 2422X1                        DBASE 1240
01A03 M41A33        E      54   41A30 21      27 29L 1422X1                        DBASE 1241
01A03 R41A01        E       6   41A30 21      82 29L 2421X2                        DBASE 1242
01A04 SHOP   S01A00 D           41A00 23                                           DBASE 1243
S01A00 L41A30 I01A33 G .0952    41A33 23                                           DBASE 1244
      L41A30        H           41A30      BLEED / SERVICE AIR                     DBASE 1245
I01A3. N41A30       D           41A30*23      06 29L 1-22X1                        DBASE 1246
I01A3. 041A30       D           41A30 21                                           DBASE 1247
S01A3. L41A30 I01A31 G .0233    41A30 23                                           DBASE 1248
      L41A30        H           41A30      AVN EQP COOLING                         DBASE 1249
I01A31 K41A33       D           41A00*23      20 29L 1-22X1                        DBASE 1250
I01A31 041A33       D           41A00 21                                           DBASE 1251
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S01A0. L41AA0 I01A02 G 30357 41A0C 23                                    DBASE 1252
       L41AA0        M          41A00   CREW COMPT COOL / PRES           DBASE 1253
I01A02 K41AA0        E      75 41A0.*23    2C 29L 2-22X1                 DBASE 1254
I01A02 M41AA0        E      25 41A00*23    .6 29L 2-22X1                 DBASE 1255
I01A02 Q41AA0        0         41A00 21                                  DBASE 1256
                     M         42A00    ELECTRICAL PWR                   DBASE 1257
                     M         42A0C    F4E 426 FOR 42A0A 2373  / 4  FOR DBASE 1258
                     M         42A00    42A0B 422 FOR 42AE0 M  K  421 FOR DBASE 1259
                     M         42A00    42CC0 423 FOR 42B00 / 000        DBASE 1260
                     M         42A00    A70 42CAA 3 G Z 9 FOR 42ECC      DBASE 1261
                     M         42A00    F15 MS3MA 30                     DBASE 1262
                     M         42A00    SSG CLAYBORN LUKE ELEC           DBASE 1263
                     M         42A0C    SSG SMITH EDWARDS ELECT          DBASE 1264
                     M         42A00    MSG SHAW LUKE PM 2A73 ELECT REP  DBASE 1265
                     M         42A00    ELECT PWR F15                    DBASE 1266
02A00  F42A00 02A00  F      67 42A00 21                                  DBASE 1267
 02A01 DOPMG7  02ACA 0         42A00 21                                  DBASE 1268
 02A0A CALGPU  02A00 0         42A00 21                                  DBASE 1269
02A03  R42A00 02A02  E      25 42A00 21     40 29L 2-23X0 1060           DBASE 1270
02A03  R42A00 02A02  E       9 42A00 21     15 29L 2-31X1                DBASE 1271
02A03  M42A01        E      26 42A00 21     10 29L 2431X1                DBASE 1272
02A03  M42A00        E      3C 42A0C 21     14 29L 2423X0 1060           DBASE 1273
 02A02 SHOP    S02A00 0        42A0C 23                                  DBASE 1274
S02A0. L42A00 I02A00 0         42A00 23                                  DBASE 1275
       L42A00        M         42A00    ELECT PWR SYSTEMS                DBASE 1276
I02A00 M42A00        E      50 42A00*23    46 29L 2423X0                 DBASE 1277
I02A00 K42A00        E      C9 42A00*23    46 29L 2-23X0                 DBASE 1278
I02A0. M42A00        E      41 42A00*23    09 29L 2-23X0                 DBASE 1279
I02A00 Q42A00        0         42A00 21                                  DBASE 1280
                     M         44A00    EXTERIOR LIGHTING                DBASE 1281
                     M         44A0C    F4E 442 DATA USED                DBASE 1282
                     M         44A0.    F15 MS3MA 14 USED                DBASE 1283
                     M         44A00    EXT LIGHTING F15                 DBASE 1284
044.0  F44A00 04A01  F       2 44A00 21                                  DBASE 1285
 04A01 DOPMG7  044A0A 0        44A00 21                                  DBASE 1286
 04A0A CALGPU  044A03 0        44A00 21                                  DBASE 1287
 04A03 T44A00  04A02 E      15 44A0C 21     03 29L 2-23X0 1060           DBASE 1288
 04A02 P44A00  04A03 0         44A00 21     14 29L 2423X0 1060           DBASE 1289
 04A03 V44A00  044A04 0        44A0C 21     C5 29L 2423X0 1060           DBASE 1290
 04A03 M44A00        E      45 44A00 21     11 29L 2423X0 1060           DBASE 1291
 04A09 R44A01  044A04 E     20 44A0C 21     11 29L 1431X1 1060           DBASE 1292
 04A03 M44A01        E      05 44A00 21     09 29L 1431X1 1060           DBASE 1293
 04A03 M44A02        E      10 44A0C 21     09 29L 1531X0 1060           DBASE 1294
 04A03 M44A03        E      C2 44A00 21     24 29L 2531X3 1060           DBASE 1295
 04A04 SHOP    S044A00 0       44A00 23                                  DBASE 1296
S04A01 L44A00 I044A00 0        44A00 23                                  DBASE 1297
       L44A00        M         44A00    EXT LIGHTING                     DBASE 1298
I04A00 M44A00        E      67 44A00*23    15 29L 2531X3                 DBASE 1299
I04A0. N44A00        E      33 44A00*23    10 29L 2-23X0                 DBASE 1300
I04A0  Q44A00        0         44A00 21                                  DBASE 1301
                     M         44B00    INTERIOR LIGHTS                  DBASE 1302
                     M         44B00    F4E 441 DATA USED                DBASE 1303
                     M         44B00    F15 MS3MA NO FAILURE             DBASE 1304
                     M         44B00    INTERIOR LGH F15                 DBASE 1305
04B00  F44B00 04B00  F     267 44B00 21                                  DBASE 1306
 04B01 DOPMG7  04B0A 0         44B00 21                                  DBASE 1307
 04B0A CALGPU  04B03 0         44B00 21                                  DBASE 1308
 04B03 M44B00        F      37 44B00 21     10 29L 2423X0 1060           DBASE 1309
 04B03 R44B01  04B04 E      C7 44B00 21     06 29L 1431X1 1060           DBASE 1310
 04B05 M44B02        F      01 44B00 21     09 29L 1431X1 1060           DBASE 1311
 04B03 R44B00        E      37 44B00 21     10 29L 2423X0 1060           DBASE 1312
 04B06 M44B00        F      C2 44B00 21     06 29L 232692 1060           DBASE 1313
 04B04 SHOP    S04B00 0        44B00 23                                  DBASE 1314
S04B00 L44B00 I04B00 0         44B00 23                                  DBASE 1315
       L44B00        M         44B00    INTERIOR LIGHTS                  DBASE 1316
I04B00 K44B00        E      C5 44B00*23    C9 29L 2423X0                 DBASE 1317
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			[illegible]		[illegible]	[illegible]	DBASE [illegible]19
					[illegible]		DBASE [illegible]
			[illegible]		44E00	[illegible]	DBASE [illegible]2[illegible]
			4		44E0[illegible]	[illegible]	DBASE 1321
			H		44E0C	F15 MSBMA 140	DBASE 1322
			H		44E00	WARN / CAUT LIGHTS F15	DBASE 1323
D4E00	F44E00	D4E01	F	3.5	44E00 21		DBASE 1324
D4E01	DCRMS7	D4E0A	D		44E00 21		DBASE 1325
D4E0A	CALGPU	D4E03	D		44E00 21		DBASE 1326
D4E0C	T44E00	D4E02	E	35	44E00 21	04 29L 2423X0 1060	DBASE 1327
D4E02	R44E00	D4E03	D		44E00 21	09 29L 2423X0 1060	DBASE 1328
D4E03	M44E0[illegible]		E	67	44E00 21	07 29L 2423X0 1060	DBASE 1329
D4E03	R44E02	D4E03	E	03	44E00 21	13 29L 232622 1060	DBASE 1330
D4E03	R44E04	D4E03	E	03	44E00 21	05 29L 1431X1 1060	DBASE 1331
D4E0E	M44E01		E	04	44E00 21	11 29L 1431X1 1060	DBASE 1332
D4E03	R44E05	D4E03	E	07	44E00 21	63 29L 4462X0 1060	DBASE 1333
D4E03	SHOP	SD4E00	D		44E00 23		DBASE 1334
SD4E00	L44E00	ID4E00	D		44E00 23		DBASE 1335
	L44E00		4		44E00	WARNING/CAUTION LIGHTS	DBASE 1336
ID4E01	W44E00		E	55	44E00*23	12 29L 2423X0	DBASE 1337
ID4E00	K44E00		E	11	44E00*23	06 29L 2423X0	DBASE 1338
ID4E00	M44E00		E	31	44E00*23	02 29L 1423X0	DBASE 1339
ID4E00	O44E00		D		44E00 21		DBASE 1340
			4		45A00	HY SYS PWR NO 1	DBASE 1341
			H		45A00	F4E 4511 F11F 45AEA B FOR 45A00	DBASE 1342
			4		45A00	F15 MSBMA NO FAILURE	DBASE 1343
			4		45A00	TSG MCMILLION LUKE	DBASE 1344
			4		45A00	NO 1 HYD SYS PWR CONT F15	DBASE 1345
D5A00	F45A00	D5A01	F	112	45A00 21		DBASE 1346
D5A01	DCRMS7	D5A0A	D		45A00 21		DBASE 1347
D5A0A	CALGPU	D5A0B	D		45A00 21		DBASE 1348
D5A0B	DCRMH7	D5A0C	D		45A00 21		DBASE 1349
D5A0C	CALTTU	D5A0C	C		45A00 21		DBASE 1350
D5A0C	R45A01	D5A02	E	24	45A00 21	34 29L 2421X2 1060 1TU228	DBASE 1351
D5A00	M45A02		E	04	45A00 21	05 29L 2-3201 1421X2 1TU22A 1060	DBASE 1352
D5A00	M45A00		E	63	45A00 21	15 29L 2421X2 1060 1TU228	DBASE 1353
D5A00	M45A01		E	04	45A00 21	09 29L 2423X0 1421X2 1TU228 1060	DBASE 1354
D5A00	P45A01		E	01	45A00 21	8 29L 132622	DBASE 1355
D5A00	M45A03		E	02	45A00 21	07 29L 232622 1060 1TU228	DBASE 1356
D5A02	SHOP	SD5A00	D		45A00 23		DBASE 1357
SD5A00	L45A00	ID5A00	D		45A00 23		DBASE 1358
	L45A00		4		45A00	HYD PWR SYS	DBASE 1359
ID5A01	W45A00		E	51	45A00*23	26 29L 2421X2	DBASE 1360
ID5A00	K45A00		E	03	45A00*23	15 29L 2421X2	DBASE 1361
ID5A00	M45A00		E	46	45A00*23	15 29L 2421X2	DBASE 1362
ID5A00	O45A00		I		45A00 21	34 29L 2421X2	DBASE 1363
			4		45B00	HYD SYS PWR CONT NO 2	DBASE 1364
			H		45B00	F4E 4512 F111F 45AEA FOR 45B00 /	DBASE 1365
			4		45B00	453FD	DBASE 1366
			H		45B00	F15 MSBMA 290	DBASE 1367
			H		45B00	NO 2 HYD SYS PWR CONT F15	DBASE 1368
D5B00	F45B00	D5B01	F	133	45B00 21		DBASE 1369
D5B01	DCRMS7	D5B0A	D		45B00 21		DBASE 1370
D5B0A	CALGPU	D5B0B	D		45B00 21		DBASE 1371
D5B0B	DCRMH7	D5B0C	D		45B00 21		DBASE 1372
D5B0C	CALTTU	D5B0D	C		45B00 21		DBASE 1373
D5B0D	R45B01	D5B03	E	22	45B00 21	34 29L 2421X2 1060 1TU228	DBASE 1374
D5B0D	M45B00	D5B04	E	55	45B00 21	17 29L 2421X2 1060 1TU228	DBASE 1375
D5B04	V45B00		D		45B00 21		DBASE 1376
D5B00	R45B01	D5B03	E	02	45B00 21	8 29L 232622 1060 1TU228	DBASE 1377
D5B00	M45B03		E	03	45B00 21	10 29L 2423X0 1060 1TU228	DBASE 1378
D5B00	M45B04		E	04	45B00 21	06 29L 2-3201 1060 1TU228	DBASE 1379
D5B00	M45B05		E	02	45B00 21	05 29L 2-30X0 1060 1TU228	DBASE 1380
D5B00	M45B06		E	02	45B00 21	09 29L 1531X0 1060 1TU228	DBASE 1381
D5B03	SHOP	SD5B00	D		45B00 23		DBASE 1382
SD5B00	L45B00	ID5B00	D		45B00 23		DBASE 1383

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         L4590C         M            45800     NO 2 HYD SYS PWR                             DBASE 1384
  I0583C M4583C         E         33 45800*23    26 29L 2421X2                              DBASE 1385
  I0583C K4583C         E         12 45800*23    15 29L 1421X2                              DBASE 1386
  I0583C N4583C         E         51 45800*23    15 29L 1421X2                              DBASE 1387
  I0583C Q4583C         I            45800 21    29 29L 2421X2                              DBASE 1388
                        M            45000     UTILITY HYD SYS                              DBASE 1389
                        M            45000     F4E 4513 F11F 45AEA & FOR 45CDE /            DBASE 1390
                        M            45000     45DED                                        DBASE 1391
                        M            45000     F15 MSBMA 30                                 DBASE 1392
                        M            45000     EXPECTED TO BE WORSE UNLESS AMAD SYS         DBASE 1393
                        M            45000     PROBLEMS CORRECTED                           DBASE 1394
                        M            45000     UTILITY HYD SYS F15                          DBASE 1395
 05C00   F45C00 05C01   F         23 45C00 21                                               DBASE 1396
  05C01 DUMMY7  05C04   D            45C00 21                                               DBASE 1397
  05C04 CALT0J  05C03   D            45C00 21                                               DBASE 1398
  05C03 P45C00  05C03   E         26 45C00 21    34 29L 2421X2 1TU228                       DBASE 1399
  05C09 M45C00          D         67 45C00 21    18 29L 2421X2 1TU228                       DBASE 1400
  05C05 P45C00          E         22 45C00 21     8 29L 232682 1TU228                       DBASE 1401
  05C03 M45C01          E         61 45C00 21     7 29L 232682 1TU228                       DBASE 1402
  05C05 P45C02          E         01 45C00 21    10 29L 2423X2 1TU228                       DBASE 1403
  05C05 M45C02          E         62 45C05 21    06 29L 24310I 1TU228                       DBASE 1404
  05C03 M45C03          E         22 45C00 21    10 29L 1531X2 1TU228                       DBASE 1405
  05C03 SHOP    S05C03  D            45C00 23                                               DBASE 1406
 S05C01 L45C00  I05C03  D            45C00 23                                               DBASE 1407
         L45C00         M            45C00     UTILITY HYD SYS                              DBASE 1408
  I05C00 M45C00         E         32 45C00*23    26 29L 2421X2                              DBASE 1409
  I05C00 K45C00         E         07 45C00*23    15 29L 1421X2                              DBASE 1410
  I05C00 N45C00         E         58 45C00*23    15 29L 1421X2                              DBASE 1411
  I05C00 K45C01         E         63 45C00*23    13 29L 2536X2                              DBASE 1412
  I05C00 Q45C00         I            45C00 21    30 29L 2421X2                              DBASE 1413
                        M            46A00     INTERNAL FUEL SYS                            DBASE 1414
                        M            46A00     F4E 461 DATA USED                            DBASE 1415
                        M            46A00     TSG POOLE LUKE INST                          DBASE 1416
                        M            46A00     MSG WILLIAMS LUKE FUEL                       DBASE 1417
                        M            46A00     SSG PRIN LUKE FUEL                           DBASE 1418
                        M            46A00     F15 MSBMA 105                                DBASE 1419
                        M            46A00     INTERNAL FUEL SYS F15                        DBASE 1420
 06A00   F46A00 06A01   F         32 46A00 21                                               DBASE 1421
 06A01   DUMMY  06A02   E         56 46A00 21                                               DBASE 1422
 06A02   IFUEL  06A03   D            46A00 21     5 29L 3431X1                              DBASE 1423
 06A03   OFUEL  06A04   D            46A00 21    20 29L 3431X1                              DBASE 1424
 06A04   M46A00         E         30 46A00 21   120 29L 2424X1                              DBASE 1425
 06A04   R46A00 06A05   E         51 46A00 21    67 29L 2424X1                              DBASE 1426
 06A05   P46A01 06A05   E         21 46A00 21   720 29L 2424X1                              DBASE 1427
 06A01   DUMMY7 06A05   E         44 46A00 21                                               DBASE 1428
 06A05   M46A01         E         33 46A00 21    21 29L 2431X1                              DBASE 1429
 06A05   M46A02         E         33 46A00 21    10 29L 1531X1                              DBASE 1430
 06A05   R46A02 06A07   E         34 46A00 21    50 29L 2431X1                              DBASE 1431
 06A05   DUMMY  06A07   D            46A00 21                                               DBASE 1432
 06A05   SHSF15 06A05   D            46A00 21                                               DBASE 1433
 06A05   V46A00         D            46A00 21     5 29L 2424X1 1431X1                       DBASE 1434
 06A07   SHOP   S06A00  D            46A00 21                                               DBASE 1435
 S06A00  L46A00 I06A00  D            46A00 23                                               DBASE 1436
         L46A00         M            46A00     INTERNAL FUEL SYS                            DBASE 1437
 I06A00  M46A00         E         31 46A00*23    10 29L 1424X1                              DBASE 1438
 I06A00  K46A00         E         59 46A00*23    27 29L 1424X1                              DBASE 1439
 I06A00  M46A00         E         40 46A00*23     5 29L 1531X1                              DBASE 1440
 I06A00  M46A02         E         03 46A00*23    12 29L 1531X1                              DBASE 1441
 I06A00  446A03         E         07 46A00*23    25 29L 2431X3                              DBASE 1442
 I06A00  K46A01         E         01 46A00*23    15 29L 2536X1                              DBASE 1443
 I06A00  Q46A00         D            46A00 21                                               DBASE 1444
                        M            46B00     THE FOL IS EXT WG TANK NTMM                  DBASE 1445
                        M            46B00     F4E 462 DATA USED                            DBASE 1446
                        M            46B00     50% LESS FAILURE THAN F4E TANKS              DBASE 1447
                        M            46B00     F15 MSBMA 400                                DBASE 1448
                        M            46B00     EXTERNAL FUEL SYS F15                        DBASE 1449
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06800  F468.0 06801  F    355 46800 21                                                  DBASE 1450
 06801 DDRHG7  0680A E     44 46800 21                                                  DBASE 1451
 0680A CALGPJ  06803 C        46800 21                                                  DBASE 1452
 06802 T468.1  06844 D        46800 21    05 29L 2424X0 1060                            DBASE 1453
 06804 R468.1  06843 D        46800 21    45 29L 2424X0 1060                            DBASE 1454
 06801 R468.2  06803 E     3. 46800 21    17 29L 5431X1                                 DBASE 1455
 06801 M46802          E   04 46800 21    08 29L 2431X1                                 DBASE 1456
 06801 M468.3          E   15 46800 21    11 29L 1531X0                                 DBASE 1457
 06801 M46804          E   07 46800 21    13 29L 2531X3                                 DBASE 1458
 06803 SHOP    S06800 D       46800 23                                                  DBASE 1459
S06800 L46800 I06800 D        46800 23                                                  DBASE 1460
       L468.0        4        46800       EXTERNAL WG TANKS                             DBASE 1461
I06800 W468.0          E   21 46800*23      50 29L 2424X0                               DBASE 1462
I06800 K468.0          E   15 46800*23      36 29L 2424X0                               DBASE 1463
I06800 N46800          E   5. 46800*23      06 29L 1424X0                               DBASE 1464
I06800 M46801          E   03 46800*23      23 29L 2531X0                               DBASE 1465
I06800 W46802          E   02 46800*23      09 29L 1531X1                               DBASE 1466
I06800 W46803          E   04 46800*23      21 29L 2531X3                               DBASE 1467
I06800 K46800          E   14 46800*23      03 29L 2536X0                               DBASE 1468
I06800 Q46800          D      46800 21                                                  DBASE 1469
                     4        46000       REFUEL NTWK                                   DBASE 1470
                     4        46000       F4E 4631 DATA USED                            DBASE 1471
                     4        46000       F15 MSBMA NO FAILURE                          DBASE 1472
                     4        46000       REFUEL SYS F15                                DBASE 1473
06000  F46000 06001  F    305 46000 21                                                  DBASE 1474
 06001 DDRHG7  0600A D        46000 21                                                  DBASE 1475
 0600A CALGPJ  06003 C        46000 21                                                  DBASE 1476
 06003 DDRHG7  06000 C        46000 21                                                  DBASE 1477
 06000 CALTTJ  06000 C        46000 21                                                  DBASE 1478
 06000 T46000  06002 E     19 46000 21      16 29L 2423X0 1424X0 1TU228 1060            DBASE 1479
 06002 R46000  06003 D        46000 21      60 29L 2424X0 1060   1TU228                 DBASE 1480
06003  V46000          D      46000 21      15 29L 2424X0 1060   1TU228 1431X1          DBASE 1481
 06000 M46000          E   55 46000 21      16 29L 2424X0 1060   1TU228                 DBASE 1482
 06000 M460.3          E   35 46000 21      30 29L 2421X2 1060   1TU228                 DBASE 1483
 06000 R46002  06004 E     14 46000 21      60 29L 2424X0                               DBASE 1484
0600.  V460.1          D      46000 21      18 29L 2424X0 1431X1                        DBASE 1485
 06000 M460.1  06004 E     13 46000 21      22 29L 2424X0                               DBASE 1486
06000  M46002          E    3 46000 21      27 29L 2531X3                               DBASE 1487
 06004 SHOP    S06000 D       46000 23                                                  DBASE 1488
S06000 L46000 I06000 D        46000 23                                                  DBASE 1489
       L46000        4        46000       AIR REFUEL SYS                                DBASE 1490
I06000 W46000          E   29 46000*23      15 29L 1531X0                               DBASE 1491
I06000 N46000          E   23 46000*23      10 29L 1421X2                               DBASE 1492
I06000 N46001          E   42 46000*23      10 29L 1424X0                               DBASE 1493
I06000 Q46000        . D      46000 21                                                  DBASE 1494
                     4        46E00       FUEL CONT & WING INDICATING SYS               DBASE 1495
                     4        46E00       F4E 464                                       DBASE 1496
                     4        46E00       FUEL CONT & WG INDICATING SYS F15             DBASE 1497
06E00  F46E00 06E01  F     32 46E00 21                                                  DBASE 1498
 06E01 DDRHG7  06E0A D        46E00 21                                                  DBASE 1499
 06E0A CALGPJ  06E03 C        46E00 21                                                  DBASE 1500
 06E03 T46E00          D      46E00 21      10 29L 232682 1060                          DBASE 1501
 06E02 R46E02  06E02 E     97 46E00 21      42 29L 2424X0                               DBASE 1502
06E03  M46E.3          E    3 46E00 21      14 29L 2424X0 1431X1                        DBASE 1503
 06E02 SHOP    S06E00 D       46E00 23                                                  DBASE 1504
S06E00 L46E00 I06E00 D        46E00 23                                                  DBASE 1505
       L46E00        4        46E00       FUEL CONT & WG IND SYS                        DBASE 1506
I06E00 N46E01          E   50 46E00*23      03 29L 1424X0                               DBASE 1507
I06E00 K46E00          E   16 46E00*23      25 29L 232631                               DBASE 1508
I06E00 N46E00          E   34 46E00*23      10 29L 232631                               DBASE 1509
I06E00 Q46E00          D      46E00 21                                                  DBASE 1510
                     4        47A00       THE FOL IS LOX NTWK                           DBASE 1511
                     4        47A00       F111F 47A DATA USED                           DBASE 1512
                     4        47A00       LOX F15                                       DBASE 1513
07A00  F47A00 07A01  F     63 47A00 21                                                  DBASE 1514
07A01  R47A00 07A02  E     47 47A00 21      11 29L 2422X1                               DBASE 1515
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07A01  R47A01 07A02  E    12 47A00 21    15 29L 132632                      DBASE 1516
07A01  R47A02 07A02  E    21 47A00 21    18 29L 1-31X1                      DBASE 1517
07A01  M47A03 07A03  E     5 47A00 21     9 29L 2422X1                      DBASE 1518
07A01  M47A01        E     3 47A00 21    10 29L 232692                      DBASE 1519
07A13  V47A03        D       47A00 21    05 29L 2422X1                      DBASE 1520
07A11  R47A03        E    04 47A00 21     5 29L 1-31X1                      DBASE 1521
07A12  SHOP   S07A03 D       47A00 23                                       DBASE 1522
S07A10 L47A03 I07A03 D       47A00 23                                       DBASE 1523
       L47A03        4       47A00      LOX SYS                             DBASE 1524
I07A10 M47A00        E    11 47A00*23    31 29L 2-22X1                      DBASE 1525
I07A30 N47A03        E    89 47A00*23    17 29L 1-22X1                      DBASE 1526
I07A10 O47A03        I       47A00 21     5 29L 2431X1                      DBASE 1527
                     4       49A00      FIRE DETECT & WARNING SYS           DBASE 1528
                     4       49A00      F111F 49A DATA USED                 DBASE 1529
                     M       49A00      FIRE DETECT & WARNING ENG & AMMO BAY DBASE 1530
09A01  F49A01 09A01  F    95 49A00 21                                       DBASE 1531
09A11  T49A03 09A02  D       49A00 21    24 29L 2423X0                      DBASE 1532
09A12  R49A03 09A03  E    46 49A00 21    13 29L 2423X0                      DBASE 1533
09A12  M49A03 09A04  E    33 49A00 21    09 29L 1423X0                      DBASE 1534
09A12  R49A01        E    04 49A00 21    11 29L 1-31X1                      DBASE 1535
09A12  M49A01        E    17 49A00 21    06 29L 2-31X1                      DBASE 1536
09A13  V49A0         D       49A00 21    18 29L 1-23X0                      DBASE 1537
09A14  V49A03        D       49A00 21                                       DBASE 1538
                     4       51L00      THIS IS LAUNCH FOR 51L00 AREA       DBASE 1539
E1L01  F51L00 E1L01  F    15 51L00 21                                       DBASE 1540
E1L01  RE1EA0 IE1EA0 E    31 51L00 21     8 29L 132642                      DBASE 1541
E1L01  RE1AE0 IE1AE0 E    05 51L00 21     2 29L 132642                      DBASE 1542
E1L01  RE1MA0 IE1MA0 E    34 51L00 21     2 29L 132642                      DBASE 1543
E1L01  RE1A00 IE1A00 E    14 51L00 21     3 29L 132642                      DBASE 1544
E1L01  RE1AK0 IE1AK0 E    15 51L00 21     3 29L 132642                      DBASE 1545
E1L01  RE1N50 IE1N50 E    15 51L00 21     3 29L 132642                      DBASE 1546
                     4       51A00      VERIFIED BY TS POOLE USE F15 DATA   DBASE 1547
                     M       51A00      F15 INSTRUMENTS 51A00               DBASE 1548
E1A00  F51A00 E1A01  F    50 51A00 21                                       DBASE 1549
E1A01  D0RM07 E1A04  D       51A00 21                                       DBASE 1550
E1A04  D41G00 E1A02  D       51A00 21                                       DBASE 1551
E1A02  R51A00 E1A03  E    75 51A00 21    15 29L 232692 1060   105           DBASE 1552
E1A02  M51A00        E    25 51A00 21    15 29L 232632 1431X1 1060   105    DBASE 1553
E1A03  SHOP   SE1A00 D       51A00 23                                       DBASE 1554
                     4       51A00      FOR REPAIR CAPABILITY TO MARTIN FEELS DBASE 1555
                     M       51A00      AUTOMATIC TEST STATION FEELS        DBASE 1556
                     4       51A00      THAT ITEMS THAT ARE NRTS ONLY WILL BE DBASE 1557
                     M       51A00      ABOUT 90 PERCENT N ACTIONS          DBASE 1558
                     M       51A00      G MODE   COMP DATA F111F            DBASE 1559
                     M       51A00      F15 INSTRUMENT MOST HAVE NO SHOP DATA DBASE 1560
SE1A00 L51A00 IE1A00 G 00549 51A00 23                                       DBASE 1561
IE1A00 O51A00        I       51A00 21    10 29L 232632 1060   105           DBASE 1562
IE1A00 D51A00 IE1A01 D       51A00*23                                       DBASE 1563
IE1A01 D51A00 IE1A02 D       51A00 23                                       DBASE 1564
IE1A02 K51A00        E    10 51A00 23    15 29L 132641 1PTS24               DBASE 1565
IE1A02 N51A00        E    90 51A00 23     5 29L 132641 1PTS24               DBASE 1566
SE1A00 L51AE0 IE1AE0 G 00238 51A00 23                                       DBASE 1567
                     4       51A00      F15 AIRSPEED IND 51AE0  G FROM F15  DBASE 1568
IE1AE0 K51AE0        E    10 51A00*23    22 29L 132631                      DBASE 1569
IE1AE0 N51AE0        E    90 51A00*23    10 29L 132631                      DBASE 1570
IE1AE0 O51AE0        I       51A00 21    10 29L 232632 1060   105           DBASE 1571
SE1A00 L51AF0 IE1AF0 G 00021 51A00 23                                       DBASE 1572
                     4       51A00      F15 VERTICAL SPEED IND 51AF0 G NO DATEDBASE 1573
IE1AF0 K51AF0        E    10 51A00*23    10 29L 132631                      DBASE 1574
IE1AF0 N51AF0        E    90 51A00*23    15 29L 132631                      DBASE 1575
IE1AF0 O51AF0        I       51A00 21    10 29L 232632 1060   105           DBASE 1576
SE1A00 L51AG0 IE1AG0 G 00119 51A00 23                                       DBASE 1577
                     4       51A00      F15 STBY AIRSPEED IND 51AG0 G FROM F15DBASE 1578
IE1AG0 O51AG0        I       51A00 21    20 29L 232632 1060   105           DBASE 1579
IE1AG0 O51AG0 IE1AG1 D       51A00*23                                       DBASE 1580
IE1AG1 O51AG0 IE1AG2 D       51A00 23                                       DBASE 1581
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IE1AG2 N51AGO          E    9  51A00 23     10 29L 1326A1 1PTS2             DBASE 1582
IE1AG2 K51AGO          E    1  51A00 23      5 29L 1326A1 1PTS2             DBASE 1583
SE1AJO L51AHO IE1AHO G 01169 51A00 23                                       DBASE 1584
                       H       51A00    F15 PRESSURE ALTIMETER 51AHO G-F111F DBASE 1585
IE1AHO O51AHO          I       51A00 21     20 29L 232682 1060   1C5        DBASE 1586
IE1AHO D51AHO IE1AH1 D         51A00*23                                     DBASE 1587
IE1AH1 D51AHO IE1AH2 D         51A00 23                                     DBASE 1588
IE1AH2 K51AHO          E    1  51A00 23     10 29L 1326A1 1PTS1             DBASE 1589
IE1AH2 N51AHO          E    9  51A00 23      5 29L 1326A1 1PTS1             DBASE 1590
SE1AJO L51AJO IE1AJO G 00094 51A00 23                                       DBASE 1591
                       H       51A00    F15 STBY GYRO IND  G FROM F5E       DBASE 1592
IE1AJO O51AJO          I       51A00 21     20 29L 232682 1060   1C5        DBASE 1593
IE1AJO D51AJO IE1AJ1 D         51A00*23                                     DBASE 1594
IE1AJ1 D51AJO IE1AJ2 D         51A00 23                                     DBASE 1595
IE1AJ2 K51AJO          E    1  51A00 23     30 29L 1326A1 1PTS10            DBASE 1596
IE1AJ2 N51AJO          E    9  51A00 23     30 29L 1326A1 1PTS10            DBASE 1597
SE1AJO L51AKO IE1AKO G 00188 51A00 23                                       DBASE 1598
                       H       51A00    F15 ALTITUDE IND 51AKO G FROM F-E   DBASE 1599
IE1AKO K51AKO          E    1  51A00*23     15 29L 132681                   DBASE 1600
IE1AKO N51AKO          E    9  51A00*23     10 29L 132681                   DBASE 1601
IE1AKO O51AKO          I       51A00 21     10 29L 232682 1060   1C5        DBASE 1602
SE1AJO L51ALO IE1ALO G 00010 51A00 23                                       DBASE 1603
                       H       51A00    F15 ANGLE OF ATTACK IND 51ALO G NO DATDBASE 1604
IE1ALO K51ALO          E    1  51A00*23     15 29L 132681                   DBASE 1605
IE1ALO N51ALO          E    90 51A00*23     10 29L 132681                   DBASE 1606
IE1ALO O51ALO          I       51A00 21     10 29L 232682 1060   1C5        DBASE 1607
SE1AJO L51AMO IE1AMO G 00097 51A00 23                                       DBASE 1608
                       H       51A00    F15 ACCELEROMETER IND 51AMO G FROM F4EDBASE 1609
IE1AMO O51AMO          I       51A00 21     10 29L 232682 1060   1C5        DBASE 1610
IE1AMO D51AMO IE1AM1 D         51A00*23                                     DBASE 1611
IE1AM1 D51AMO IE1AM2 D         51A00 23                                     DBASE 1612
IE1AM2 K51AMO          E    1  51A00 23     10 29L 1326A1 1PTS26            DBASE 1613
IE1AM2 N51AMO          E    9  51A00 23      5 29L 1326A1 1PTS26            DBASE 1614
                       H       51E00    F111F AND F4E DATA USED             DBASE 1615
                       H       51E00    VERIFIED BY TS POOLE IF    PROBE FIXED DBASE 1616
                       H       51E00    F15 AIR DATA SYS 51E00    F15=40    DBASE 1617
E1E00  F51E00 E1E01   F    51  51E00 21                                     DBASE 1618
 E1E01 OOPMG7  E1E0A  D        51E00 21                                     DBASE 1619
 E1E0A CALGPU  E1E02  D        51E00 21                                     DBASE 1620
E1E02  R51E00 E1E03   E    60  51E00 21     15 29L 232682 1060   1C5        DBASE 1621
E1E02  R51E01 E1E03   E    40  51E00 21     10 29L 1431X1 1060   1C5        DBASE 1622
 E1E03 SHOP    SE1E00 D        51E00 23                                     DBASE 1623
SE1E00 L51EA0 IE1EA0 G 01190 51E00 23                                       DBASE 1624
                       H       51E00    USED FOR G SELECT  WORK AROUND      DBASE 1625
                       H       51E00    F111F 52BAA FOR E SEL AND TIMES     DBASE 1626
                       H       51E00    F15 AIR DATA COMPUTER 51EA0 F15 DATA DBASE 1627
IE1EA0 O51EA0          I       51E00 21     20 29L 232682 1060   1C5        DBASE 1628
IE1EA0 D51EA0 IE1EA1 D         51E00*23                                     DBASE 1629
IE1EA1 D51EA0 IE1EA2 D         51E00 23                                     DBASE 1630
IE1EA2 N51EA0          E   42  51E00 23     10 29L 1326A1 1PTS25 1TSC       DBASE 1631
IE1EA2 K51EA0          E    5  51E00 23     45 29L 1326A1 1PTS25 1TSC       DBASE 1632
IE1EA2 N51EA0          E   49  51E00 23     89 29L 1326A1 1PTS25 1TSC       DBASE 1633
SE1E00 L51E00 IE1E00 G 00258 51E00 23                                       DBASE 1634
                       H       51E00    F4E 51380 DATA USED                 DBASE 1635
                       H       51E00    F15 ANGLE OF ATTACK TRANS 51E00     DBASE 1636
IE1E00 K51E00          E    10 51E00*23     15 29L 132681                   DBASE 1637
IE1E00 N51E00          E    90 51E00*23     10 29L 132681                   DBASE 1638
IE1E00 O51E00          I       51E00 21     20 29L 232682 1060   1C5        DBASE 1639
                       H       51M00    VERIFIED BY TS POOLE  SUGEST NO SWING DBASE 1640
                       H       51M00    F15 STBY COMPASS 51MBC  F111F USED  DBASE 1641
E1M00  F51M00 E1M01   F   426  51M00 21                                     DBASE 1642
 E1M01 OOPMG7  E1M0A  D        51M00 21                                     DBASE 1643
 E1M0A CALGPU  E1M02  D        51M00 21                                     DBASE 1644
E1M02  R51M00 E1M03   E    60  51M00 21     40 29L 232682 1060   1C5        DBASE 1645
E1M02  R51M01 E1M03   E    40  51M00 21     10 29L 1431X1 1060   1C5        DBASE 1646
 E1M03 SHOP    SE1M00 D        51M00 23                                     DBASE 1647
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SE1N30 L51M80 IE1M80 D           51M00 23                                              DBASE 1648
                        H        51M00    F111F DATA USED                              DBASE 1649
                        H        51M00    F15 STBY COMPASS 51M80                       DBASE 1650
IE1M80 O51M80           I        51M00 21    40 29L 232682 1060    1C5                 DBASE 1651
IE1M80 D51M80           D        51M00*23                                              DBASE 1652
                        H        51M00    VERIFIED BY TS POOLE SET CLOCK=75            DBASE 1653
                        H        51N00    F15 INDICATOR SET 51N00   F15=20             DBASE 1654
E1N01  S51N00 E1N01  F       27  51N00 21                                              DBASE 1655
 E1N01 OOPMG7  E1N0A D           51N00 21                                              DBASE 1656
 E1N0A CALGEN  E1N02 D           51N00 21                                              DBASE 1657
E1N02  R51N00 E1N03  E       29  51N00 21    20 29L 232682 1060    1C5                 DBASE 1658
E1N02  P51N00 E1N03  E       13  51N00 21    13 29L 1431X1 1060    1C5                 DBASE 1659
E1N02  M51N00        E       52  51N00 21    10 29L 232682 1060    1C5                 DBASE 1660
 E1N03 SHOP    SE1N00 D          51N00 23                                              DBASE 1661
SE1N30 L51NA0 IE1NA0 G 01190 51M00 23                                                  DBASE 1662
                        H        51N00    E SEL AND TIMES FM TS BOUCHARD               DBASE 1663
                        H        51N00    F15 HORIZ SITUATION IND 51NA0 G=F15          DBASE 1664
IE1NA0 O51NA0           I        51N00 21    15 29L 232682 1060    1C5                 DBASE 1665
IE1NA0 D51NA0 IE1NA1 D           51N00*23                                              DBASE 1666
IE1NA1 O51NA0 IE1NA2 D           51N00 23                                              DBASE 1667
IE1NA2 K51NA0        E       10  51N00 23    20 29L 1326A1 1PTS40 1TSD                 DBASE 1668
IE1NA2 M51NA0        E       90  51N00 23    20 29L 1326A1 1PTS40 1TSD                 DBASE 1669
SE1N30 L51N80 IE1N80 G 13595 51N00 23                                                  DBASE 1670
                        H        51N00    TIMES FM F111F 51BAF                         DBASE 1671
                        H        51N00    THIS IS WORK AROUND                          DBASE 1672
                        H        51N00    F15 FLT DIRECTOR ADAPTOR 51N80 G=F15         DBASE 1673
IE1N80 O51N80           I        51N00 21    15 29L 232682 1060    1C5                 DBASE 1674
IE1N80 D51N80 IE1N81 D           51N00*23                                              DBASE 1675
IE1N81 O51N80 IE1N82 D           51N00 23                                              DBASE 1676
IE1N82 K51N80        E       1   51N00 23    25 29L 1326A1 1PTS42 1TSD                 DBASE 1677
IE1N82 M51N80        E       97  51N00 23    26 29L 1326A1 1PTS42 1TSD                 DBASE 1678
                        H        52A00    DATA 52AAF+52ABG+52ACH USED FOR MS3MA        DBASE 1679
                        H        52A00    F15 DATA AUG-75 MS3MA 420  CK A70            DBASE 1680
                        H        52A00    VERIFIED BY TS POOLE                         DBASE 1681
                        H        52A00    F15 AUTO FLT CONT SET ASW38  F111F           DBASE 1682
E2A00  F52A00 E2A01  F       35  52A00 21                                              DBASE 1683
 E2A01 OORMG7  E2A0A D           52A00 21                                              DBASE 1684
 E2A0A CALGEN  E2A02 D           52A00 21                                              DBASE 1685
E2A02  R52A00 E2A03  E       74  52A00 21    20 29L 232682 1060    1TU228              DBASE 1686
 E2A02 A52A00        A       5   52A00 21    20 29L 1431X1                             DBASE 1687
E2A02  P52A01 E2A03  E       13  52A00 21    15 29L 1431X1 1060    1TU228              DBASE 1688
E2A02  M52A00        E       13  52A00 21    17 29L 232682 1060    1TU228              DBASE 1689
 E2A03 SHOP    SE2A00 D          52A00 23                                              DBASE 1690
SE2A30 L52AA0 IE2AA0 G 02110 52A00 23                                                  DBASE 1691
                        H        52A00    TS BOUCHARD-THIS IS PRESENTLY WORK           DBASE 1692
                        H        52A00    AROUND ITEM  COULD NOT GIVE ESTIMATES        DBASE 1693
                        H        52A00    F15 PITCH FLT CONT COMPUTER 52AA0            DBASE 1694
IE2AA0 O52AA0           I        52A00 21    25 29L 232682 1060    1TU228              DBASE 1695
IE2AA0 D52AA0 IE2AA1 D           52A00*23                                              DBASE 1696
IE2AA1 O52AA0 IE2AA2 D           52A00 23                                              DBASE 1697
IE2AA2 K52AA0        E       33  52A00 23    23 29L 1326A1 1PTS12 1TSC                 DBASE 1698
IE2AA2 M52AA0        E       34  52A00 23    25 29L 1326A1 1PTS12 1TSC                 DBASE 1699
IE2AA2 M52AA0        E       33  52A00 23    46 29L 1326A1 1PTS12 1TSC                 DBASE 1700
SE2A30 L52AB0 IE2AB0 G 04230 52A00 23                                                  DBASE 1701
                        H        52A00    TS BOUCHARD-WORK AROUND                      DBASE 1702
                        H        52A00    F15 ROLL-YAW FLT CONT COMPUTER 52AB0         DBASE 1703
IE2AB0 O52AB0           I        52A00 21    25 29L 232682 1060    1TU228              DBASE 1704
IE2AB0 D52AB0 IE2AB1 D           52A00*23                                              DBASE 1705
IE2AB1 O52AB0 IE2AB2 D           52A00 23                                              DBASE 1706
IE2AB2 M52AB0        E       33  52A00 23    40 29L 1326A1 1PTS11 1TSC                 DBASE 1707
IE2AB2 K52AB0        E       33  52A00 23    23 29L 1326A1 1PTS11 1TSC                 DBASE 1708
IE2AB2 M52AB0        E       34  52A00 23    25 29L 1326A1 1PTS11 1TSC                 DBASE 1709
SE2A30 L52AC0 IE2AC0 G 01163 52A00 23                                                  DBASE 1710
                        H        52A00    TS BOUCHARD GAVE TIME ESTIMATES BUT          DBASE 1711
                        H        52A00    WAS UNSURE OF E SELECT AND W TASK            DBASE 1712
                        H        52A00    USED F111F FOR THESE                         DBASE 1713
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                          M        52A00     F15 RATE SENSOR ASSY 52AC0 G=F111F      DBASE 1714
IE2AC. O52AC.             I        52A00 21    25 29L 232682 1060    1TU228          DBASE 1715
IE2AC. O52AC0 IE2AC1 O             52A00*23                                          DBASE 1716
IE2AC1 O52AC1 IE2AC2 C             52A00 23                                          DBASE 1717
IE2AC2 W52AC0             E     43 52A00 23    20 29L 1326A1 1PTS4   1TSC            DBASE 1718
IE2AC2 K52AC0             E     30 52A00 23    20 29L 1326A1 1PTS4   1TSC            DBASE 1719
IE2AC2 N52AC0             E     27 52A00 23    20 29L 1326A1 1PTS4   1TSC            DBASE 1720
SE2A0. L52AL1 IE2AL. G .0014 52A00 23                                                DBASE 1721
                          M        52A00     TS BOUCHARD GAVE TIME ESTIMATES G=F111  DBASE 1722
                          M        52A00     F15 EXCELEROMETER SENSOR ASSY 52ALL     DBASE 1723
IE2ALC O52AL0             I        52A00 21    25 29L 232682 1060    1TU228          DBASE 1724
IE2AL0 O52AL0 IE2AL1 O             52A00*23                                          DBASE 1725
IE2AL1 O52AL1 IE2AL2 C             52A00 23                                          DBASE 1726
IE2AL2 W52AL0             E     03 52A00 23    20 29L 1326A1 1PTS27 1TSC             DBASE 1727
IE2AL2 K52AL0             E     20 52A00 23    10 29L 1326A1 1PTS27 1TSC             DBASE 1728
IE2AL2 N52AL0             E     77 52A00 23    10 29L 1326A1 1PTS27 1TSC             DBASE 1729
SE2A0. L52AM0 IE2AM0 G .0001 52A00 23                                                DBASE 1730
                          M        52A00     TS BOUCHARD COULD NOT EST-NO W TASK     DBASE 1731
                          M        52A00     F15 DYNAMIC PRESSURE SENSOR 52AM        DBASE 1732
IE2AM0 O52AM0             I        52A00 21    38 29L 232682 1060    1TU228          DBASE 1733
IE2AM0 O52AM0 IE2AM1 O             52A00*23                                          DBASE 1734
IE2AM1 O52AM1 IE2AM2 C             52A00 23                                          DBASE 1735
IE2AM2 K52AM0             E     10 52A00 23     5 29L 1326A1 1PTS17 1TSC             DBASE 1736
IE2AM2 N52AM0             E     90 52A00 23     5 29L 1326A1 1PTS17 1TSC             DBASE 1737
                          M        55L00     THIS IS LAUNCH FOR 55000 AREA           DBASE 1738
E5L0. F55L00  E5L01 F      420 55L00 21                                              DBASE 1739
E5L01 R55A00 IE5A00 O              55L00 21     3 29L 1326L2                         DBASE 1740
                          M        55A00     THERE IS NO COMP EQUIP F15 DATA USED    DBASE 1741
                          M        55A00     THIS IS NETWORK FOR BIT ON F15 55A00    DBASE 1742
E5A00  F55A00 E5A01  F     237 55A00 21                                              DBASE 1743
E5A01 DDRM67  E5A0A O              55A00 21                                          DBASE 1744
E5A0A CALGPJ  E5A02 C              55A00 21                                          DBASE 1745
E5A02 R55A00  E5A03 E           95 55A00 21    20 29L 232632 1060     105            DBASE 1746
E5A02 M55A00  E5A03 E            5 55A00 21    20 29L 232682 1060     105            DBASE 1747
E5A03 SHOP    SE5A00 O             55A00 21                                          DBASE 1748
SE5A0. L55A00 IE5A00 G .0011 55A00 23                                                DBASE 1749
                          M        55A00     VERIFIED BY TS OBERLY                   DBASE 1750
                          M        55A00     F15 ASP  55AC0                          DBASE 1751
IE5A00 K55A00             E     10 55A00*23    25 29L 132691                         DBASE 1752
IE5A00 N55A00             E     90 55A00*23    20 29L 132691                         DBASE 1753
IE5A00 O55AC0             I        55A00 21    20 29L 232632 1060     105            DBASE 1754
SE5A0. L55A00 IE5A00 G .0011 55A00 23                                                DBASE 1755
                          M        55A00     VERIFIED BY TS OBERLEY                  DBASE 1756
                          M        55A00     F15 BIT CONT 55A00                      DBASE 1757
IE5A0. W55A00             E     65 55A00*23    40 29L 132631                         DBASE 1758
IE5A0. K55A00             E      1 55A00*23    30 29L 132631                         DBASE 1759
IE5A00 N55A00             E     25 55A00*23    30 29L 132681                         DBASE 1760
IE5A00 O55A00             I        55A00 21    10 29L 232682 1060     105            DBASE 1761
                          M        55B00     F111F 55AA0 AND 55AWA ARE USED AS COMPO DBASE 1762
                          M        55B00     THIS IS NETWORK FOR F15 SIG DATA RCRDR  DBASE 1763
E5B00  F55B00  E5B01 F      65 55B00 21                                              DBASE 1764
E5B01 DDRM67   E5B0A O             55B00 21                                          DBASE 1765
E5B0A CALGPJ   E5B02 C             55B00 21                                          DBASE 1766
E5B02 R55B00   E5B03 O             55B00 21    10 29L 232632 1060     105            DBASE 1767
E5B03 SHOP     SE5B00 O            55B00 23                                          DBASE 1768
SE5B0. L55B00 IE5B00 G .00357 55B00 23                                               DBASE 1769
                          M        55B00     E SELECT AND TASK TIME ESTIMATES GIVEN  DBASE 1770
                          M        55B00     BY TSGT BOUCHARD  CHECK FURTHER         DBASE 1771
                          M        55B00     F15  SIG DATA RECORDER FROM F15 DATA    DBASE 1772
IE5B00 O55B00             I        55B00 21   240 29L 232682                         DBASE 1773
IE5B0. O55B00 IE5B01 O             55B00*23                                          DBASE 1774
IE5B01 O55B01 IE5B02 C             55B00 23                                          DBASE 1775
IE5B02 W55B00             E     30 55B00 23    20 29L 2326A1 1PTS3   1TSC            DBASE 1776
IE5B02 K55B00             E     30 55B00 23    08 29L 2326A1 1PTS3   1TSC            DBASE 1777
IE5B02 N55B00             E     4. 55B00 23    08 29L 2326A1 1PTS3   1TSC            DBASE 1778
SE5B00 L55B00 IE5BE0 G .00366 55B00 23                                               DBASE 1779
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                          M       55B00     VERIFIED BY TS BOUCHARD              DBASE 1780
                          M       55B00     F15 CASSETTE FROM F111F 55AAA DATA   DBASE 1781
IE5B31 Q55B31             I       55B00 21    24  29L 232682                     DBASE 1782
IE5B31 D55B31             D       55B00*23                                       DBASE 1783
                          M       55C00     F111F 55AC0 USED  F15 MSBMA=210      DBASE 1784
                          M       55C00     VERIFIED BY TS POOLE 2733            DBASE 1785
                          M       55C00     F15 ACCELEROMETER COUNTER 55C00      DBASE 1786
E5C01  F55C00   E5C01 F      75 55C00 21                                         DBASE 1787
 E5C01 DORMG7   E5C0A D       55C00 21                                           DBASE 1788
 E5C1A CALGP1   E5C02 D       55C00 21                                           DBASE 1789
 E5C02 R55C00   E5C03 E      97 55C00 21     10 29L 232692 1060    1C5           DBASE 1790
                          M       55C00     E SELECT FROM F15 DATA               DBASE 1791
 E5C02 M55C00             E   3 55C00 21     10 29L 232692 1060    1C5           DBASE 1792
 E5C03 SHOP     SE5C01 D          55C00 23                                       DBASE 1793
SE5C00 L55CA0 IE5CA0 S .0357 55C00 23                                            DBASE 1794
                          M       55C00     F15 DATA USED NO F111F SHOP DATA     DBASE 1795
                          M       55C00     TASK TIME EST BY TS BOUCHARD         DBASE 1796
                          M       55C00     DIGITAL READOUT ELECT COUNTER 55CA0  DBASE 1797
IE5CA0 Q55CA0             I       55C00 21    20 29L 232692 1060    1C5          DBASE 1798
IE5CA1 D55CA1 IE5CA1 D            55C00*23                                       DBASE 1799
IE5CA1 C55CA1 IE5CA2 C            55C00 23                                       DBASE 1800
IE5CA2 M55CA0             E     6 55C00 23    40 29L 1326A1 1PTS19 1TSC          DBASE 1801
IE5CA2 K55CA0             E     2 55C00 23    25 29L 1326A1 1PTS19 1TSC          DBASE 1802
IE5CA2 N55CA0             E    92 55C00 23    25 29L 1326A1 1PTS19 1TSC.         DBASE 1803
SE5C00 L55C30 IE5C30 S .0119 55C00 23                                            DBASE 1804
                          M       55C00     F15 DATA USED NO F111F DATA AVAIL    DBASE 1805
                          M       55C00     NO M TASK  TIME EST BY TS BOUCHARD   DBASE 1806
                          M       55C00     LINEAR ELECT ACCELEROMETER 55C30     DBASE 1807
IE5C30 Q55C30             I       55C00 21    20 29L 232632 1060    1C5          DBASE 1808
IE5C31 D55C31 IE5C31 D            55C00*23                                       DBASE 1809
IE5C31 C55C31 IE5C32 C            55C00 23                                       DBASE 1810
IE5C32 N55C30             E    83 55C00 23    12 29L 1326A1 1PTS16 1TSC          DBASE 1811
IE5C32 K55C30             E    15 55C00 23    10 29L 1326A1 1PTS16 1TSC          DBASE 1812
                          M       57L00     THIS IS LAUNCH FOR 57000 AREA        DBASE 1813
 E7L00 F57L00   E7L01 F      70 57L00 21                                         DBASE 1814
 E7L01 R57AA0 IE7AA0 D            57L00 21     2 29L 1326L2                      DBASE 1815
                          M       57A00     THIS IS NETWORK FOR F15 CENTRAL      DBASE 1816
                          M       57A00     COMPUTER 57AA0  THERE IS NO COMP     DBASE 1817
                          M       57A00     DATA F15 DATA USED                   DBASE 1818
                          M       57A00     VERIFIED BY TS RAY                   DBASE 1819
                          M       57A00      F15 CENTRAL COMPUTER                DBASE 1820
E7A00  F57A00   E7A01 F      21 57A00 21                                         DBASE 1821
 E7A01 DORMG7   E7A0A D           57A00 21                                       DBASE 1822
 E7A0A CALGP1   E7A02 D           57A00 21                                       DBASE 1823
E7A02  R57AA0 E7A03   E      17 57A00 21     8 29L 2326A2 1060     1C5    1431X1 DBASE 1824
 E7A02 M57AA0             E  83 57A00 21    10 29L 2326A2 1060     1C5           DBASE 1825
 E7A03 SHOP     SE7AA0 D          57A00 23                                       DBASE 1826
SE7AA0 L57AA0 IE7AA0 D            57A00 23                                       DBASE 1827
                          M       57A00     WORK AROUND                          DBASE 1828
                          M       57A00     F15 57AA0 CENT COMP F15 DATA USED    DBASE 1829
IE7AA0 Q57AA0             I       57A00 21     8 29L 2326A2                      DBASE 1830
IE7AA1 D57AA1 IE7AA1 D            57A00*23                                       DBASE 1831
IE7AA1 C57AA1 IE7AA2 C            57A00 23                                       DBASE 1832
IE7AA2 M57AA0             E    65 57A00 23    45 29L 1326A1 1PTS20 1TSC          DBASE 1833
IE7AA2 N57AA0             E    29 57A00 23    35 29L 1326A1 1PTS20 1TSC          DBASE 1834
IE7AA2 K57AA0             E     6 57A00 23    20 29L 1326A1 1PTS20 1TSC          DBASE 1835
                          M       63L00     THIS IS LAUNCH FOR 63000 AREA        DBASE 1836
 F3L00 F63L00   F3L01 F      12 63L00 21                                         DBASE 1837
 F3L01 RF3AA0 IF3AA0 E       39 63L00 21     1 29L 1326L2                        DBASE 1838
 F3L01 RF3B00 IF3B00 E       04 63L00 21     2 29L 1326L2                        DBASE 1839
 F3L01 RF3AG0 IF3AG0 E       02 63L00 21     1 29L 1326L2                        DBASE 1840
 F3L01 RF3D00 IF3D00 E       01 63L00 21     3 29L 1326L2                        DBASE 1841
                          M       63A00     COMP DATA FROM F111F AND A7D USED    DBASE 1842
                          M       63A00     VERIFIED BY TSGT FIELD 7308          DBASE 1843
                          M       63A00     THIS NETWORK IS FOR THE 63A AREA F15 DBASE 1844
                          M       63A00     UHF COMM SET ARC 109 F15             DBASE 1845
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F3A00  F63A00  F3A01 F    27 63A00 21                                                        DBASE 1846
 F3A01 DD-4G7  F3A0A D       63A00 21                                                        DBASE 1847
 F3A0A CALGPJ  F3A02 C       63A00 21                                                        DBASE 1848
 F3A02 R63A00  F3A03 E    55 63A00 21       13 29L 232602 1060    105                        DBASE 1849
 F3A02 M63A00        E    45 63A00 21       12 29L 232602 1060    105                        DBASE 1850
 F3A03 SHOP    SF3A00 D      63A00 23                                                        DBASE 1851
SF3A00 L63AA0 IF3AA0 G 02335 63A00 23                                                        DBASE 1852
                     H       63A00    COMP F111F 63AA0                                       DBASE 1853
                     H       63A00    F15 UHF RT 63AA0                                       DBASE 1854
IF3AA0 W63AA0 IF3AA1 E    77 63A00*23      50 29L 132681                                     DBASE 1855
IF3AA0 K63AA0        E    10 63A00*23      30 29L 132681                                     DBASE 1856
IF3AA0 N63AA0        E    17 63A00*23      20 29L 132681                                     DBASE 1857
IF3AA0 Q63AA0        I       63A00 21       6 29L 232602                                     DBASE 1858
                     H       63A00    W63AA1 INDICATES 4HR LEAK CHECK                        DBASE 1859
IF3AA1 W63AA1        D       63A00 23      40    C                                           DBASE 1860
SF3A0  L63AG0 IF3AG0 G 00057 63A00 23                                                        DBASE 1861
                     H       63A00    COMP A7D 63300                                         DBASE 1862
                     H       63A00    W63AG0 DATA REFLECTED 67 PERCENT FIX                   DBASE 1863
                     H       63A00    EXPERIENCE AND CAPABILITY WILL MAKE A                  DBASE 1864
                     H       63A00    65 PERCENT REPAIR POSSIBLE                             DBASE 1865
                     H       63A00    F15 UHF BACKUP RECEIVER                                DBASE 1866
IF3AG0 W63AG0        E    65 63A00*23      30 29L 132681                                     DBASE 1867
IF3AG0 N63AG0        E    15 63A00*23      20 29L 132681                                     DBASE 1868
IF3AG0 Q63AG0        I       63A00 21       8 29L 232602                                     DBASE 1869
                     H       63A00    THERE IS NO DATA FOR SECURE VOICE OR                   DBASE 1870
                     H       63A00 ,  IN SHOP ANTENNA REPAIR                                 DBASE 1871
                     H       63300    THIS NETWORK IS FOR THE 63B AREA F15                   DBASE 1872
                     H       63300    IT COVERS ALL CONTROL PANELS                           DBASE 1873
                     H       63300    COMP DATA FROM F111F AND F4E                           DBASE 1874
                     H       63300    VERIFIED BY DSGT FIELD  7319                           DBASE 1875
                     H       63300    INTEG CNI CONT SET F15                                 DBASE 1876
F3300  F63300  F3301 F    25 63300 21                                                        DBASE 1877
 F3301 DD-4G7  F3301 D       63300 21                                                        DBASE 1878
 F3301 CALGPU  F3302 C       63300 21                                                        DBASE 1879
 F3302 R63300  F3303 E    55 63300 21       25 29L 232602 1060    105                        DBASE 1880
 F3302 M63300        E    45 63300 21       16 29L 232602 1060    105                        DBASE 1881
F3302  M63301        A    15 63300 21       10 29L 243141                                    DBASE 1882
 F3303 SHOP    SF3300 D      63300 23                                                        DBASE 1883
SF3300 L63300 IF3300 G 00203 63300 23                                                        DBASE 1884
                     H       63300    63B AREA FOR SHOP WORK VERIFIED BY                     DBASE 1885
                     H       63300    TSGT OREILLY 7322                                      DBASE 1886
                     H       63300    ADDED N63300 AND ADJ E SELECT MODES                    DBASE 1887
                     H       63300                                                           DBASE 1888
IF3300 W63300        E    70 63300*23      60 29L 132681                                     DBASE 1889
IF3300 K63300        E    15 63300*23      30 29L 132681                                     DBASE 1890
IF3300 N63300        E    15 63300*23      30 29L 132681                                     DBASE 1891
IF3300 Q63300        I       63300 21      20 29L 232602 1060    105                         DBASE 1892
SF3900 L63300 IF3300 G 00029 63900 23                                                        DBASE 1893
                     H       63300    ADDED N63300 AND ADJ E SELECT MODES                    DBASE 1894
                     H       63900                                                           DBASE 1895
IF3900 W63300        E    75 63300*23      15 29L 132681                                     DBASE 1896
IF3900 K63900        E    15 63900*23      10 29L 132681                                     DBASE 1897
IF3300 N63300        E    10 63300*23      10 29L 132681                                     DBASE 1898
IF3900 Q63900        I       63300 21      10 29L 232602                                     DBASE 1899
                     H       63300    F15 CNI CONTROL USED 63300 AND 64000                   DBASE 1900
                     H       63900    FROM F111F AS COMP                                     DBASE 1901
                     H       63300    F15  NAVAIDS CONT USED 7100A AND 7100A                 DBASE 1902
                     H       63300    FROM F111F AS COMP                                     DBASE 1903
                     H       63900                                                           DBASE 1904
SF3900 L633F0 IF39F0 G 00169 63300 23                                                        DBASE 1905
                     H       63300    F15 IFF USED 65A00 FROM F111F AS COMP                  DBASE 1906
IF39F0 W639F0        E    64 63900*23      15 29L 132681                                     DBASE 1907
IF39F0 K633F0        E    15 63300*23      10 29L 132681                                     DBASE 1908
IF39F0 N633F0        E    16 63300*23      10 29L 132681                                     DBASE 1909
IF39F0 Q633F0        I       63300 21      12 29L 232602                                     DBASE 1910
SF3800 L638H0 IF38H0 G 00267 63800 23                                                        DBASE 1911
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	M		63900	F15 MAIN COMM CONTROL USED 63A90 AND	DBASE 1912
	M		63800	ADDED N63EMJ AND ADJ E SELECT MODES	DBASE 1913
	M		63300	64DAO FROM F111F AS COMP	DBASE 1914
	M		63900		DBASE 1915
IF3941 N635MJ	E	55	63900*23	15 29L 132681	DBASE 1916
IF3941 K633MJ	E	05	63900*23	10 29L 132631	DBASE 1917
IF394. N635MJ	E	19	63900*23	10 29L 132631	DBASE 1918
IF394. D635MJ	I		63900 21	8 29L 232622	DBASE 1919
SF3901 L633EL IF39EL G		.2595	63900 23		DBASE 1920
	M		63900	ADDED K633EL AND N639EC AND ADJ SELECT	DBASE 1921
	M		63300	MODES	DBASE 1922
	M		63900		DBASE 1923
IF39EC M639EC	E	80	63900*23	15 29L 132691	DBASE 1924
IF39E. K633EC	E	10	63810*23	10 29L 132681	DBASE 1925
IF39EL N639EJ	E	11	63300*23	10 29L 132681	DBASE 1926
IF39E. D639EJ	I		63900 21	8 29L 232622	DBASE 1927
	M		63800	THE AAI CONT BOX IS F15 DATA USED	DBASE 1928
	M		65L00	THIS IS LAUNCH FOR 65000 AREA	DBASE 1929
F5L01 F65L00 F5L01 F		69	65L00 21		DBASE 1930
F5L01 3F5AA1 IF5AA1 D			65L00 21	2 29L 232612	DBASE 1931
	M		65A00	F111F 65A00-65ACF IS USED AS COMP	DBASE 1932
	M		65A00	VERIFIED BY TSGT FIELD	DBASE 1933
	M		65A00	THIS IS IFF TRANSPONDER APX101 FOR F15	DBASE 1934
F5A.1 F65A00 F5A01 F		147	65A00 21		DBASE 1935
F5A01 DDRMG7 F5A01 D			65A00 21		DBASE 1936
F5A01 CALGPJ F5A02 D			65A00 21		DBASE 1937
F5A02 R65A00 F5A03 E		90	65A00 21	18 29L 232602 1060 105	DBASE 1938
F5A02 M65A00	E	1	65A00 21	18 29L 232602 1060 105	DBASE 1939
F5A02 M65A01	A	20	65A00 21	20 29L 1431X1	DBASE 1940
F5A02 SHOP SF5A00 D			65A00 23		DBASE 1941
SF5A0. L65AAJ IF5AAJ D			65A00 23		DBASE 1942
	M		65A00	THERE IS NO DATA TO INDICATE 65A00	DBASE 1943
	M		65A00	WORK EITHER F15 OR COMP ACFT	DBASE 1944
	M		65A00	VERIFIED SHOP WORK WITH TSGT OBERLEY	DBASE 1945
	M		65A00	PH#7302	DBASE 1946
	M		65A00	F15 RX/TX F111F 65A00 AS COMP	DBASE 1947
IF5AA1 N65AAJ	E	70	65A00*23	160 29L 132681	DBASE 1948
IF5AA1 K65AAJ	E	5	65A00*23	70 29L 132681	DBASE 1949
IF5AA. N65AAL	E	25	65A00*23	60 29L 132631	DBASE 1950
IF5AA. D65AAL	I		65A00 21	15 29L 232602	DBASE 1951
	M		65300	THIS IS NETWORK FOR AAI IFF F15 DATA	DBASE 1952
	M		65900	USED AS COMP DATA NOT AVAILABLE	DBASE 1953
	M		65800	AAI IFF	DBASE 1954
F5B01 F65B00 F5B01 F		55	65900 21		DBASE 1955
F5B01 DDRMG7 F5B0A D			65300 21		DBASE 1956
F5B01 CALGPJ F5B02 D			65900 21		DBASE 1957
F5B02 R65B00 F5B03 E		79	65900 21	23 29L 232602 1060 105	DBASE 1958
F5B02 M65B00 F5B04 E		21	65900 21	7 29L 232602 1060 105	DBASE 1959
F5B02 M65B.1	A	30	65800 21	17 29L 2431X1	DBASE 1960
F5B02 V65B00	D		65900 21	10 29L 232602 1060 105	DBASE 1961
F5B03 SHOP SF5B00 D			65900 23		DBASE 1962
SF5B0. L65B00 IF5BAJ G		.1171	65900 23		DBASE 1963
	M		65300	F15 AAI RT860/APX76 F15 DATA USED	DBASE 1964
	M		65900	ADDED K65BAJ AND ADJ E SELECT MODES	DBASE 1965
	M		65800	VERIFIED SHOP WORK WITH TSGT OBERLEY	DBASE 1966
	M		65900	PH#7302	DBASE 1967
	M		65900	SGT OBERLEY GAVE BEST ESTIMATES OF	DBASE 1968
	M		65900	TASK TIME REQUIREMENTS ALL CREW SIZES	DBASE 1969
	M		65800	ARE 1	DBASE 1970
	M		65900	F15 AAI RT868/APX76	DBASE 1971
IF5BA. N65BAJ	E	71	65800*23	100 29L 132691	DBASE 1972
IF5BAJ K65BAJ	E	5	65800*23	45 29L 132681	DBASE 1973
IF5BAJ N65BAJ	E	24	65800*23	50 29L 132681	DBASE 1974
IF5BA1 D65BAJ	I		65900 21	23 29L 232602	DBASE 1975
SF5B01 L65BMC IF5BMJ G		.0333	65800 23		DBASE 1976
	M		65300	F15 AAI TARGET PROCESSOR F15 DATA USED	DBASE 1977

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IF5E4U Q65BH0            I        65900 21    23 29L 232602                              DBASE 1978
IF53H1 D65BH0 IF53H1 D            65900*23                                               DBASE 1979
IF53H1 C65BH0 IF53H2 D            65900 23                                               DBASE 1980
IF53H2 K65BH0            E     33 65900 23    70 29L 1326A1 1PTS34 1TSO                  DBASE 1981
IF5B42 N65BH0            E     67 65900 23    15 29L 2326A1 1PTS33 1TSO                  DBASE 1982
                         H        71L00   THIS IS LAUNCH FOR 71L00 AREA                  DBASE 1983
G1L00 F71L00   G1L01 F          9 71L00 21                                               DBASE 1984
G1L01 RG1DA1 IG1DA1 E          14 71L00 21      1 29L 2326L2                             DBASE 1985
G1L01 KG1AE0 IG1AE0 E          75 71L00 21      3 29L 2326L2                             DBASE 1986
G1L01 RG1FA1 IG1FA1 E          11 71L00 21      3 29L 2326L2                             DBASE 1987
                         H        71A00   A7D WAS GIVEN AS COMPARABLE BUT THIS           DBASE 1988
                         H        71A00   SYSTEM SHOULD BE MUCH BETTER THE [illegible]   DBASE 1989
                         H        71A00   ENGINEER MARV BROWN COULD NOT ESTIMATE         DBASE 1990
                         H        71A00   HOW MUCH BETTER COULD [illegible] A7D ARE      DBASE 1991
                         H        71A00   73FA0+73GB0+73FD0+73FF0+73FG0 THE LAST         DBASE 1992
                         H        71A00   BEING FOR THE INS CONT IND F15 71AK0           DBASE 1993
                         H        71A00   VERIFIED BY TSGT RAY  A7D 17  F15=14           DBASE 1994
                         H        71A00   THIS IS NETWORK FOR F15 INS 71A00              DBASE 1995
G1A00  F71A00 G1A01  F         13 71A00 21                                               DBASE 1996
G1A01 D02MG7  G1A1A D             71A00 21                                               DBASE 1997
G1A1A CALGPJ  G1A02 D             71A00 21                                               DBASE 1998
G1A02 R71A00  G1A03 E          94 71A00 21     17 29L 2326A2 1060   105                  DBASE 1999
G1A02 M71A00             E     16 71A00 21     22 29L 2326A2 1060   105                  DBASE 2000
G1A02 N71A00             E     20 71A00 21     19 29L 2431X1                             DBASE 2001
G1A03 SHOP    SG1A00 D            71A00 23                                               DBASE 2002
SG1A00 L71AE0 IG1AE0 G 03136 71A00 23                                                    DBASE 2003
                         H        71A00   F15 INS UNIT USED A7D 73FA0+73FD0+             DBASE 2004
                         H        71A00   73FF0+73G00 THE F15 HAS EVERYTHING IN          DBASE 2005
                         H        71A00   ONE UNIT E SELECT AND TIMES AND                DBASE 2006
                         H        71A00   VERIFIED BY TS BOUCHARD  WORK AROUND           DBASE 2007
                         H        71A00   E SEL AND TIMES FM A7D                         DBASE 2008
                         H        71A00   F15 INS UNIT                                   DBASE 2009
IG1AE0 Q71AE0            I        71A00 21     10 29L 2326A2 1060   105                  DBASE 2010
IG1AE0 D71AE0 IG1AE1 D            71A00*23                                               DBASE 2011
IG1AE1 C71AE0 IG1AE2 D            71A00 23                                               DBASE 2012
IG1AE2 W71AE0            E     43 71A00 23     96 29L 1326A1 1PTS9  1TSO                 DBASE 2013
IG1AE2 K71AE0            E     26 71A00 23     75 29L 1326A1 1PTS9  1TSO                 DBASE 2014
IG1AE2 N71AE0            E     26 71A00 23     58 29L 1326A1 1PTS9  1TSO                 DBASE 2015
SG1A00 L71AK0 IG1AK0 G 00136 71A00 23                                                    DBASE 2016
                         H        71A00   F15 INS CONT-IND A7D 73FC0 DATA USED           DBASE 2017
                         H        71A00   E SELECT AND TASK TIMES AND DATA               DBASE 2018
                         H        71A00   VERIFIED BY TS BOUCHARD  WORK AROUND           DBASE 2019
                         H        71A00   F15 INS CONT                                   DBASE 2020
IG1AK0 Q71AK0            I        71A00 21     10 29L 2326A2 1060   105                  DBASE 2021
IG1AK0 D71AK0 IG1AK1 D            71A00*23                                               DBASE 2022
IG1AK1 C71AK0 IG1AK2 D            71A00 23                                               DBASE 2023
IG1AK2 W71AK0            E     54 71A00 23     46 29L 1326A1 1PTS6  1TSO                 DBASE 2024
IG1AK2 K71AK0            E     21 71A00 23     10 29L 1326A1 1PTS6  1TSO                 DBASE 2025
IG1AK2 N71AK0            E     25 71A00 23     10 29L 1326A1 1PTS6  1TSO                 DBASE 2026
                         H        71B00   F111F 71BA0 DATA USED                          DBASE 2027
                         H        71B00   VERIFIED BY TSGT FIELD                         DBASE 2028
                         H        71B00   THIS IS NETWORK FOR F15 ADF 71B00              DBASE 2029
G1B00  F71B00 G1B01  F        305 71B00 21                                               DBASE 2030
G1B01 D02MG7  G1B1A D             71B00 21                                               DBASE 2031
G1B1A CALGPJ  G1B02 D             71B00 21                                               DBASE 2032
G1B02 R71B00  G1B03 E          85 71B00 21     25 29L 2326C2 1060   105                  DBASE 2033
G1B02  M71B00            E     15 71B00 21     20 29L 2326C2 1060   105     1431X1       DBASE 2034
                         H        71B00   THERE IS NO SIGNIFICANT SHOP DATA FOR          DBASE 2035
                         H        71B00   THIS SUBSYSTEM DATA BY TS DARFLY               DBASE 2036
                         H        71B00   THIS IS NETWORK FOR F15 ADF 71B00              DBASE 2037
G1B03 L71B00 IG1B00 D             71B00 23                                               DBASE 2038
IG1B00 W71B00            E     70 71B00*23     30 29L 1326B1                             DBASE 2039
IG1B00 K71B00            E     20 71B00*23     20 29L 1326B1                             DBASE 2040
IG1B00 N71B00            E     10 71B00*23     20 29L 1326B1                             DBASE 2041
IG1B00 Q71B00            I        71B00 21     20 29L 2326B2 1060   105                  DBASE 2042
                         H        71C00   F111F 71CA0 DATA USED  F15 MSBMA 1030          DBASE 2043
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                        H        71C00     VERIFIED BY TSGT FIELD                     DBASE 2044
                        H        71C00     THIS IS NETWORK FOR F15 ILS 71CA0          DBASE 2045
G1C00  F71C00 G1C01  F      533 71C00 21                                              DBASE 2046
 G1C01 D0R4G7  G1C0A D          71C00 21                                              DBASE 2047
 G1C0A DALGPJ  G1C02 D          71C00 21                                              DBASE 2048
 G1C02 P71C00  G1C03 E       30 71C00 21     20 29L 232622 1060    1C5                DBASE 2049
G1C02  M71C00        E       10 71C00 21     10 29L 232602 1060    1C5       1431X1 DBASE 2050
 G1C03 SHOP    SG1C00 D         71C00 23                                              DBASE 2051
SG1C03 L71CA0 IG1CA0 D          71C00 23                                              DBASE 2052
                        H        71C00     F15 ILS RC/R 71CA0 USED F111F 71CA0        DBASE 2053
                        H        71C00     VERIFIED BY TS OBERLY                      DBASE 2054
                        H        71C00     F15 ILS RC/R                               DBASE 2055
IG1CA0 W71CA0        E       75 71C00*23     30 29L 132681                            DBASE 2056
IG1CA0 K71CA0        E       15 71C00*23     20 29L 132681                            DBASE 2057
IG1CA0 N71CA0        E       10 71C00*23     20 29L 132681                            DBASE 2058
IG1CA0 D71CA0        I          71C00 21     10 29L 232622 1060    1C5                DBASE 2059
                        H        71D00     F111F 71BA0 DATA USED  F15 MSBMI 76        DBASE 2060
                        H        71D00     VERIFIED BY TSGT FIELD HAS 37 FOR F111     DBASE 2061
                        H        71D00     THIS IS NETWORK FOR F15 TACAN 71DA0        DBASE 2062
G1D00  F71D00 G1D01  F       55 71D00 21                                              DBASE 2063
 G1D01 D0R4G7  G1D0A D          71D00 21                                              DBASE 2064
 G1D0A DALGPJ  G1D02 D          71D00 21                                              DBASE 2065
 G1D02 P71D00  G1D03 E       92 71D00 21     25 29L 232602 1060    1C5                DBASE 2066
G1D02  M71D00        E        4 71D00 21     15 29L 232602 1060    1C5       1431X1 DBASE 2067
 G1D03 SHOP    SG1D00 D         71D00 23                                              DBASE 2068
SG1D03 L71DA0 IG1DA0 D          71D00 23                                              DBASE 2069
                        H        71D00     F15 TACAN RCVR 71DA0 F111F 71BA0 USED      DBASE 2070
                        H        71D00     F15 TACAN RCV.                             DBASE 2071
IG1DA0 W71DA0        E       80 71D00*23     20 29L 132681                            DBASE 2072
IG1DA0 K71DA0        E       15 71D00*23     15 29L 132681                            DBASE 2073
IG1DA0 N71DA0        E        5 71D00*23     15 29L 132681                            DBASE 2074
IG1DA0 D71DA0        I          71D00 21     20 29L 232682 1060    1C5                DBASE 2075
                        H        71F00     THIS IS NETWORK FOR F15 ATTITUDE HEAD-     DBASE 2076
                        H        71F00     ING REF  F111F 51D DATA USED  F15 2?       DBASE 2077
                        H        71F00     VERIFIED BY TS POOLE                       DBASE 2078
                        H        71F00     ATTITUDE/HEADING REF                       DBASE 2079
G1F00  F71F00 G1F01  F       52 71F00 21                                              DBASE 2080
 G1F01 D0R4G7  G1F0A D          71F00 21                                              DBASE 2081
 G1F0A DALGPJ  G1F02 D          71F00 21                                              DBASE 2082
 G1F02 P71F00  G1F03 E       56 71F00 21     31 29L 232682 1060    1C5                DBASE 2083
 G1F02 M71F00        E        4 71F00 21     11 29L 232682 1060    1C5                DBASE 2084
G1F02  M71F00        E       25 71F00 21     18 29L 1431X1                            DBASE 2085
 G1F03 SHOP    SG1F00 D         71F00 23                                              DBASE 2086
SG1F03 L71FA0 IG1FA0 D .03465 71F00 23                                              DBASE 2087
                        H        71F00     F15 ELEC-CONT AMP 71FA0 F111F 51CCC        DBASE 2088
                        H        71F00     DATA USED  WORK AROUND                     DBASE 2089
                        H        71F00     VERIFIED BY  TS BOUCHARD                   DBASE 2090
                        H        71F00     F15 ELEC-CONT AMP                          DBASE 2091
IG1FA0 D71FA0        I          71F00 21     15 29L 232682 1060    1C5                DBASE 2092
IG1FA0 D71FA0 IG1FA1 D          71F00*23                                              DBASE 2093
IG1FA1 C71FA0 IG1FA2 D          71F00 23                                              DBASE 2094
IG1FA2 W71FA0        E       55 71F00 23     40 29L 132681 1PTS14 1TSC                DBASE 2095
IG1FA2 K71FA0        E       13 71F00 23     30 29L 132681 1PTS14 1TSC                DBASE 2096
IG1FA2 N71FA0        E       27 71F00 23     36 29L 132681 1PTS14 1TSC                DBASE 2097
SG1F03 L71FB0 IG1FB0 D .03300 71F00 23                                              DBASE 2098
                        H        71F00     F15 DISPLACEMENT GYRO F111F 51CAC DATA     DBASE 2099
                        H        71F00     USED FOR RATE E SELECT AND TASK TIMES      DBASE 2100
                        H        71F00     VERIFIED BY TS BOUCHARD                    DBASE 2101
                        H        71F00     F15 DISPLACEMENT GYRO                      DBASE 2102
IG1FB0 D71FB0        I          71F00 21     15 29L 232682 1060    1C5                DBASE 2103
SG1F03 L71FC0 IG1FC0 D .00099 71F00 23                                              DBASE 2104
IG1FB0 D71FB0 IG1FB1 D          71F00*23                                              DBASE 2105
IG1FB1 C71FB0 IG1FB2 D          71F00 23                                              DBASE 2106
IG1FB2 K71FB0        E       10 71F00 23     70 29L 132681 1PTS18 1TSC                DBASE 2107
IG1FB2 N71FB0        E       90 71F00 23     70 29L 132681 1PTS18 1TSC                DBASE 2108
                        H        71F00     F15 COMPASS CONT F111F 51CAA DATA USED     DBASE 2109
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                                        AND TASK TIMES GIVENO          2110
                                                                           2111
                                                                     OB    2112
       K71F00          E    10 71F00*23    25 29L 132681            OBASE 2113
IG1F0. N71FC0          E    9. 71F00*23    10 29L 132681            DBASE 2114
IG1F0. 071F00          I       71F00 21    10 29L 232682 1060   105 DBASE 2115
SG1F0. L71FE. IG1FE0 G 00355 71F00 23                               DBASE 2116
                       4       71F00   F15 MAG AZIMUTH DETECT F111F F10A0 DBASE 2117
                       M       71F00   DATA USED FOR RATE E SELECT AND TASK DBASE 2118
                       4       71F00   F15 MAG AZIMUTH DETEC        DBASE 2119
IG1FE1 071FE0          I       71F00 21    25 29L 232682 1060   105 DBASE 2120
IG1FE1 V71FE1 IG1FE1 D         71F0. 21    40 29L 232682 1060   105 DBASE 2121
IG1FE1 071FE1 IG1FE2 D         71F00*23                             DBASE 2122
IG1FE2 071FE2 IG1FE3 C         71F00 23                             DBASE 2123
IG1FE3 K71FE3          E    10 71F00 23    10 29L 1326A1 1PTS7  1TSC DBASE 2124
IG1FE3 N71FE3          E    90 71F00 23    10 29L 1326A1 1PTS7  1TSC DBASE 2125
                       4       74L00   THIS IS LAUNCH FOR 74L00 AREA DBASE 2126
G4L0. F74L00   G4L01 F      6 74L00 21                              DBASE 2127
G4L01 RG4K0. IG4K0. E      22 74L00 21     2 29L 2326L2              DBASE 2128
G4L01 RG4F00 IG4F00 E      19 74L00 21     3 29L 232FL2              DBASE 2129
G4L01 RG4FF0 IG4FF0 E      16 74L00 21     3 29L 2326L2              DBASE 2130
G4L01 RG4FS0 IG4FS0 E      25 74L00 21     3 29L 2326L2              DBASE 2131
G4L01 RG4FH0 IG4FH0 E      19 74L00 21     3 29L 2326L2   -          DBASE 2132
                       4       74E00   F15 DATA USED E SELECT AND TIMES GIVENDBASE 2133
                       M       74E00   VERIFIED BY TSGT RAY         DBASE 2134
                       M       74E00   F15 LEAD COMPUTING GYRO 74E00 DBASE 2135
G4E00 F74E00   G4E01 F    164 74E00 21                              DBASE 2136
G4E01 00+MG7   G4E0A D        74E00 21                              DBASE 2137
G4E01 CALGPJ   G4E02 C        74E00 21                              DBASE 2138
G4E02 H74E00   G4E03 E     3. 74E00 21     8 29L 2326A2 1060   105  DBASE 2139
G4E02 M74E01           4   23 74E00 21    20 29L 2431X1       .     DBASE 2140
G4E02 47400            E   70 74E00 21    50 29L 2326A2 1060   105  DBASE 2141
G4E03 SHOP     SG4E00 D       74E00 23                              DBASE 2142
SG4E0. L74E00 IG4E00 D        74E00 23                              DBASE 2143
                       4       74E00   F15 LEAD COMP GYRO 74E00 E SELECT AND DBASE 2144
                       M       74E00   TASK TIMES GIVEN AND VERIFIED BY DBASE 2145
                       M       74E00   TS BOUCHARD                   DBASE 2146
                       M       74E00   F15 LEAD COMP GYRO            DBASE 2147
IG4E31 074E30          I       74E00 21    10 29L 2326A2 1060   105 DBASE 2148
IG4E3. 074E30 IG4E31 D         74E00*23                             DBASE 2149
IG4E31 074E30 IG4E32 C         74E00 23                             DBASE 2150
IG4E32 M74E30          E    60 74E00 23    50 29L 1326A1 1PTS9  1TSC DBASE 2151
IG4E32 K74E30          E    15 74E00 23    30 29L 1326A1 1PTS8  1TSC DBASE 2152
IG4E32 N74E30          E    05 74E00 23    30 29L 1326A1 1PTS9  1TSC DBASE 2153
                       4       74F00   F111F DATA IS USED AS COMPARABLE WUCS DBASE 2154
                       M       74F00   73VAC+73JA0+73VCC MAKE UP MOST OF THE DBASE 2155
                       M       74F00   RADAR COMPONENTS  THE F15 DIGITAL AND DBASE 2156
                       M       74F00   ANALOG PROCESSOR ARE UNIQUE  FOR THIS DBASE 2157
                       M       74F00   REASON SPC ENGINEERS ESTIMATED THAT   DBASE 2158
                       4       74F00   F15 MS9MA WOULD BE 50 PERCENT OF THE  DBASE 2159
                       4       74F00   F111F DATA   F15 MS9MA 7  F111 MS9MA10DBASE 2160
                       M       74F00   VERIFIED BY TSGT RAY          DBASE 2161
                       M       74F00   THIS IS NETWORK FOR F15 RADAR 74F00   DBASE 2162
G4F00 F74F00   G4F01 F      - 74F00 21                              DBASE 2163
G4F01 00+MG7   G4F0A D        74F00 21                              DBASE 2164
G4F01 CALGPJ   G4F02 C        74F00 21                              DBASE 2165
G4F02 K74F00   G4F03 E     80 74F00 21    25 29L 2326A2 1060   105  DBASE 2166
G4F02 M74F00           E    2 74F00 21    14 29L 2326A2 1060   105  DBASE 2167
G4F02 M74F01           4   17 74F00 21    20 29L 2431X1             DBASE 2168
G4F03 SHOP     SG4F00 D       74F00 23                              DBASE 2169
SG4F00 L74FA0 IG4FA0 G 00531 74F00 23                               DBASE 2170
                       4       74F00   F15 RA TRANSMITTER 74FA0 USED F111F   DBASE 2171
                       M       74F00   73VAC AS COMP G SELECTION IS 1/3 OF   DBASE 2172
                       M       74F00   F111F DATA TIMES AND E SELECT GIVEN   DBASE 2173
                       M       74F00   AND VERIFIED BY TS BOUCHARD   DBASE 2174
                       M       74F00   F15 RA TRANSMITTER            DBASE 2175
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IG4FA0 W7+FA0             E     52 74F00*23      90 29L 232681                           DBASE 2176
IG4FA0 K7+FA0             E      2 74F00*23      50 29L 232681                           DBASE 2177
IG4FA0 N7+FA0             E     46 74F00*23      52 29L 232681                           DBASE 2178
IG4FA0 Q7+FA0             I        74F00 21      30 29L 232642 1060   1C5                DBASE 2179
SG4F10 L7+FC0 IG4FC0 G 10531 74F00 23                                                    DBASE 2180
                          4        74F00      F15 RADAR RCVR 74FC0 USED F111F 73VC0      DBASE 2181
                          H        74F00      AS COMP  G SELECT IS 1/3 OF F111F DATA     DBASE 2182
                          H        74F00      F111 USED E SELECT  TIME ESTIMATES BY      DBASE 2183
                          H        74F00      TS BOUCHARD                                DBASE 2184
                          H        74F00      F15 RADAR RCVR                             DBASE 2185
IG4FC0 Q7+FC0             I        74F00 21      10 29L 232642 1060   1C5                DBASE 2186
IG4FC0 Q7+FC0 IG4FC1 O             74F00*23                                              DBASE 2187
IG4FC1 Q7+FC0 IG4FC2 O             74F00 23                                              DBASE 2188
IG4FC2 W7+FC0             E     72 74F00 23      59 29L 1326A1 1PTS31 1TSM               DBASE 2189
IG4FC2 K7+FC0             E     14 74F00 23      30 29L 1326A1 1PTS31 1TSM               DBASE 2190
IG4FC2 N7+FC0             E     14 74F00 23      30 29L 1326A1 1PTS31 1TSM               DBASE 2191
SG4F10 L7+FJ0 IG4FJ0 G 10531 74F00 23                                                    DBASE 2192
                          4        74F00      F15 RO FREQ OSC 74FJ0 USED F111F           DBASE 2193
                          H        74F00      73VAC AS COMP  G SELECT IS 1/3 OF          DBASE 2194
                          H        74F00      F111F DATA                                 DBASE 2195
                          H        74F00      AND VERIFIED BY TS BOUCHARD                DBASE 2196
                          4        74F00      F15 RO FREQ OSC                            DBASE 2197
IG4FJ0 Q7+FJ0             I        74F00 21      10 29L 232642 1060   1C5                DBASE 2198
IG4FJ0 Q7+FJ0 IG4FJ1 O             74F00*23                                              DBASE 2199
IG4FJ1 Q7+FJ0 IG4FJ2 O             74F00 23                                              DBASE 2200
IG4FJ2 W7+FJ0             E     72 74F00 23      55 29L 1326A1 1PTS30 1TSM               DBASE 2201
IG4FJ2 K7+FJ0             E     13 74F00 23      40 29L 1326A1 1PTS30 1TSM               DBASE 2202
IG4FJ2 N7+FJ0             E     15 74F00 23      40 29L 1326A1 1PTS30 1TSM               DBASE 2203
                          4        74F00      F15 ANT 74FU0 F111F 73JA0 DATA USED        DBASE 2204
                          4        74F00      VERIFIED BY TS BOUCHARD F111 TIME USED     DBASE 2205
                          4        74F00      F15 ANT                                    DBASE 2206
SG4F10 L7+FU0 IG4FU0 G 10353 74F00 23                                                    DBASE 2207
IG4FU0 W7+FU0             E     67 74F00*23      60 29L 232631                           DBASE 2208
IG4FU0 K7+FU0             E     16 74F00*23      30 29L 232681                           DBASE 2209
IG4FU0 N7+FU0             E     17 74F00*23      46 29L 232681                           DBASE 2210
IG4FU0 Q7+FU0             I        74F00 21      35 29L 232642 1060   1C5                DBASE 2211
SG4F10 L7+FF0 IG4FF0 G 11690 74F00 23                                                    DBASE 2212
                          H        74F00      F15 RADAR TGT PROCESSOR 74FF0 F111F        DBASE 2213
                          H        74F00      73VC0 DATA USED   WORK AROUND              DBASE 2214
                          H        74F00      VERIFIED BY  TS BOUCHARD                   DBASE 2215
                          4        74F00      F15 RADAR TGT PROCESSOR                    DBASE 2216
IG4FF0 Q7+FF0             I        74F00 21      10 29L 232642 1060   1C5                DBASE 2217
IG4FF0 Q7+FF0 IG4FF1 O             74F00*23                                              DBASE 2218
IG4FF1 Q7+FF0 IG4FF2 O             74F00 23                                              DBASE 2219
IG4FF2 W7+FF0             E     59 74F00 23      81 29L 1326A1 1PTS43 1TS0               DBASE 2220
IG4FF2 K7+FF0             E     24 74F00 23      45 29L 1326A1 1PTS43 1TS0               DBASE 2221
IG4FF2 N7+FF0             E     17 74F00 23      45 29L 1326A1 1PTS43 1TS0               DBASE 2222
SG4F10 L7+FQ0 IG4FQ0 G 1212- 74F00 23                                                    DBASE 2223
                          H        74F00      VERIFIED BY          WORK AROUND           DBASE 2224
                          H        74F00      F15  DATA   PROCESSOR 74FQ0 F15 DATA       DBASE 2225
IG4FQ0 Q7+FQ0             I        74F00 21      10 29L 232642 1060   1C5                DBASE 2226
IG4FQ0 Q7+FQ0 IG4FQ1 O             74F00*23                                              DBASE 2227
IG4FQ1 Q7+FQ0 IG4FQ2 O             74F00 23                                              DBASE 2228
IG4FQ2 W7+FQ0             E     7- 74F00 23      69 29L 1326A1 1PTS32 1TSM               DBASE 2229
IG4FQ2 K7+FQ0             E     13 74F00 23      40 29L 1326A1 1PTS32 1TSM               DBASE 2230
IG4FQ2 N7+FQ0             E     49 74F00 23      40 29L 1326A1 1PTS32 1TSM               DBASE 2231
SG4F10 L7+FS0 IG4FS0 G 12519 74F00 23                                                    DBASE 2232
                          4        74F00      VERIFIED BY          WORK AROUND           DBASE 2233
                          4        74F00      F15 ANALOG PROCESSOR 74FS0 F15 DATA        DBASE 2234
IG4FS0 Q7+FS0             I        74F00 21      10 29L 232642 1060   1C5                DBASE 2235
IG4FS0 Q7+FS0 IG4FS1 O             74F00*23                                              DBASE 2236
IG4FS1 Q7+FS0 IG4FS2 O             74F00 23                                              DBASE 2237
IG4FS2 W7+FS0             E     43 74F00 23      90 29L 1326A1 1PTS33 1TSM               DBASE 2238
IG4FS2 K7+FS0             E     1- 74F00 23      64 29L 1326A1 1PTS33 1TSM               DBASE 2239
IG4FS2 N7+FS0             E     43 74F00 23      64 29L 1326A1 1PTS33 1TSM               DBASE 2240
SG4F10 L7+FK0 IG4FK0 G 10119 74F00 23                                                    DBASE 2241
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                        H        74F00    F15 RADAR SET CONT 74FK0 F111F          DBASE 2242
                        H        74F00    VERIFIED BY TS OBERLEY                  DBASE 2243
                        H        74F00    F15 RADAR SET CONT                      DBASE 2244
IG4FK0 K74FK0           E     10 74F00*23   20 29L 132681                         DBASE 2245
IG4FK0 N74FK0           E     90 74F00*23   26 29L 132681                         DBASE 2246
IG4FK0 Q74FK0           I        74F00 21   13 29L 232642 1060   105              DBASE 2247
SG4F00 L74FH0 IG4FH0  S 11786 74F00 23                                            DBASE 2248
                        H        74F00    F15 PWR SPLY 745H0 F15 DATA G SELECT    DBASE 2249
                        H        74F00    TIMES AND G SELECT GIVEN BY TSBOUCHARDDBASE 2250
                        H        74F00    F15 PWR SPLY 745H0                      DBASE 2251
IG4FH0 W74FH0           E     57 74F00*23   30 29L 132681                         DBASE 2252
IG4FH0 K74FH0           E     29 74F00*23   20 29L 132681                         DBASE 2253
IG4FH0 N74FH0           E     14 74F00*23   12 29L 132681                         DBASE 2254
IG4FH0 Q74FH0           I        74F00 21   13 29L 232642 1060   105              DBASE 2255
                        H        74J00    F15 INDICTOR GROUP A70 73AE0+73EBL      DBASE 2256
                        H        74J00    USED  F15 15BMA 34                      DBASE 2257
                        H        74J00    VERIFIED BY TSGT RAY                    DBASE 2258
                        H        74J00    F15 INDICTOR GROUP                      DBASE 2259
G4J00  F74J00 G4J01     F     35 74J00 21                                         DBASE 2260
 G4J01 DD+HG7  G4J0A    D        74J00 21                                         DBASE 2261
 G4J0A CALGPJ  G4J02    D        74J00 21                                         DBASE 2262
 G4J02 F74J0J  G4J03    E     67 74J00 21   20 29L 232642 1060   105              DBASE 2263
G4J02  H74J0J           E     17 74J00 21   12 29L 232642 1060   105  .  1431X1   DBASE 2264
 G4J03 SHOP    SG4J00   D        74J00 23                                         DBASE 2265
SG4J00 L74JA0 IG4JA0  S 12263 74J00 23                                            DBASE 2266
                        H        74J00    F15 MULT IND AND 73AE0 DATA USED        DBASE 2267
                        H        74J00    VERIFIED BY  TS BOUCHARD                DBASE 2268
                        H        74J00    F15 MULT IND                            DBASE 2269
IG4JA0 Q74JA0           I        74J00 21   20 29L 232642 1060   105              DBASE 2270
IG4JA0 D74JA0 IG4JA1    D        74J00*23                                         DBASE 2271
IG4JA1 C74JA0 IG4JA2    D        74J00 23                                         DBASE 2272
IG4JA2 W74JA0           E     80 74J00 23   43 29L 132641 1PTS46 1TSD             DBASE 2273
IG4JA2 K74JA0           E     16 74J00 23   15 29L 132641 1PTS46 1TSD             DBASE 2274
IG4JA2 N74JA0           E      4 74J00 23   15 29L 132641 1PTS46 1TSD             DBASE 2275
SG4J00 L74JC0 IG4JC0  S 12291 74J00 23                                            DBASE 2276
                        H        74J00    F15 SIG DATA PROCESSOR 74J00 A70 73EBLDBASE 2277
                        H        74J00    DATA USED          WORK AROUND          DBASE 2278
                        H        74J00    VERIFIED BY   TS BOUCHARD               DBASE 2279
                        H        74J00 .  F15 SIG DATA PROCESSOR                  DBASE 2280
IG4JC0 Q74JC0           I        74J00 21    8 29L 232642 1060   105              DBASE 2281
IG4JC0 D74JC0 IG4JC1    D        74J00*23                                         DBASE 2282
IG4JC1 C74JC0 IG4JC2    D        74J00 23                                         DBASE 2283
IG4JC2 W74JC0           E     57 74J00 23   66 29L 132641 1PTS37 1TSD             DBASE 2284
IG4JC2 K74JC0           E     20 74J00 23   40 29L 132641 1PTS37 1TSD             DBASE 2285
IG4JC2 N74JC0           E     23 74J00 23   40 29L 132641 1PTS37 1TSD             DBASE 2286
                        H        74K00    F15 HUD NETWORK A70 73EA0+73EB0 DATA    DBASE 2287
                        H        74K00    USED  F15 45EMA 16  A70 13 USE F15      DBASE 2288
                        H        74K00    VERIFIED BY TSGT RAY                    DBASE 2289
                        H        74K00    F15 HUD                                 DBASE 2290
G4K00  F74K00 G4K01     F     13 74K00 21                                         DBASE 2291
 G4K01 DD+HG7  G4K0A    D        74K00 21                                         DBASE 2292
 G4K0A CALGPJ  G4K02    D        74K00 21                                         DBASE 2293
 G4K02 R74K00  G4K03    E     60 74K00 21   23 29L 232642 1060   105              DBASE 2294
G4K02  H74K00           E     20 74K00 21   10 29L 232642 1060   105     1431X1   DBASE 2295
 G4K03 SHOP    SG4K00   D        74K00 23                                         DBASE 2296
SG4K00 L74KC0 IG4KC0  S 12291 74K00 23                                            DBASE 2297
                        H        74K00    F15 SIG DATA PROCESSOR 74K00 A70 73EBLDBASE 2298
                        H        74K00    DATA USED          WORK AROUND          DBASE 2299
                        H        74K00    VERIFIED BY  TS BOUCHARD                DBASE 2300
                        H        74K00    F15 SIG DATA PROCESSOR                  DBASE 2301
IG4KC0 Q74KC0           I        74K00 21    8 29L 232642 1060   105              DBASE 2302
IG4KC0 D74KC0 IG4KC1    D        74K00*23                                         DBASE 2303
IG4KC1 C74KC0 IG4KC2    D        74K00 23                                         DBASE 2304
IG4KC2 W74KC0           E     57 74K00 23   66 29L 132641 1PTS36 1TSD             DBASE 2305
IG4KC2 K74KC0           E     20 74K00 23   40 29L 132641 1PTS36 1TSD             DBASE 2306
IG4KC2 N74KC0           E     23 74K00 23   20 29L 132681                         DBASE 2307
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SG4K3: L74KA3 IG4KA3 G 13357 74K00 23                              DBASE 2308
                     4         74K00     F15 HUD DISP UNIT 74KA3 A7D 73EA3 DATADBASE 2309
                     4         74K00     USED                   WORK ARGUNC  DBASE 2310
                     4         74K00     VERIFIED BY TS BOUCHARD             DBASE 2311
                     4         74K00     F15 HUD DISP UNIT                   DBASE 2312
IG4K3. Q74KA3        I         74K00 21    25 29L 2326A2 1060    1C5         DBASE 2313
IG4K3: D74KA3 IG4KA1 D         74K00*23                                      DBASE 2314
IG4KA1 C74KA. IG4KA2 C         74K00 23                                      DBASE 2315
IG4KA2 H74KA3        E      63 74K00 23     53 29L 1326A1 1PTS41 1TSD        DBASE 2316
IG4K32 K74KA3        E      13 74K00 23     22 29L 1326A1 1PTS41 1TSD        DBASE 2317
IG4KA2 H74KA3        E      19 74K00 23     25 29L 1326A1 1PTS41 1TSD        DBASE 2318
SG4K3. L74KE3 IG4KE. G  2476 74K00 23                                        DBASE 2319
                     4         74K00     VERIFIED BY TS OBERLEY              DBASE 2320
                     4         74K00     F15 CAMERA 74KE3 F15 DATA USED      DBASE 2321
IG4KE. H74KE3        E      74 74K00*23     30 29L 1326B1                    DBASE 2322
IG4KE. K74KE3        E      25 74K00*23     25 29L 1326B1                    DBASE 2323
IG4KE. H74KE3        E       5 74K00*23     20 29L 1326B1                    DBASE 2324
IG4KE. Q74KE3        I         74K00 21     15 29L 2326B2 1060    1C5        DBASE 2325
                     4         75F00     VERIFIED BY MS GIBELYOU 2937/2364   DBASE 2326
                     4         75F00     F15 MAU12 BOMB RACK A7D 75AC3 DATA  DBASE 2327
G6F00  F75F00 G5F.1  F     107 75F00 21                                      DBASE 2328
 G5F01 D03M67  G5F0A D         75F00 21                                      DBASE 2329
 G5F0A CALGPU  G5F02 C         75F00 21                                      DBASE 2330
 G5F02 R75F..  G5F03 E      31 75F00 21     15 29L 2462Y0 1060    1C5        DBASE 2331
 G5F02 H75F00        E      69 75F00 21     11 29L 2462Y0 1060    1C5        DBASE 2332
 G5F03 SHOP   SG5F00 D         75F00 23                                      DBASE 2333
SG5F3. L75FA3 IG5FA3 D         75F00 23                                      DBASE 2334
                     4         75F00     VERIFIED BY MS GIBELYOU             DBASE 2335
                     H         75F00     F15 MAU12 A7D DAT USED              DBASE 2336
IG5FA. H75FA3        E      87 75F00*23     35 29L 2462Y0                    DBASE 2337
IG5FA. K75FA3        E       3 75F00*23      6 29L 2462Y0                    DBASE 2338
IG5FA. H75FA3        E      10 75F00*23     10 29L 2462Y0                    DBASE 2339
IG5FA. Q75FA3        I         75F00 21     13 29L 2462Y0 1060    1C5        DBASE 2340
                     4         75D00     VERIFIED BY MS GIBELYOU             DBASE 2341
                     H         75D00     F15 INBOARD PYLON 75DA0 A7D 75BP0 DATADBASE 2342
G5D00  F75D00 G5D01  F     152 75D00 21                                      DBASE 2343
 G5D01 D03M67  G5D0A D         75D00 21                                      DBASE 2344
 G5D0A CALGPU  G5D02 C         75D00 21                                      DBASE 2345
G5D02  H75D00        E      14 75D00 21      9 29L 3462Y0 1424X0 1060   1C5  DBASE 2346
G5D02  H75D01        E      29 75D00 21     20 29L 1531X3                    DBASE 2347
G5D02  H75D02        E      57 75D00 21     14 29L 1531X3                    DBASE 2348
                     4         75B00     VERIFIED BY MS GIBELYOU             DBASE 2349
                     4         75B00     F15 ARM LAUNCHERS NETWORK F4E AND A7D DBASE 2350
G5B00  F75B00 G5B01  F      51 75B00 21                                      DBASE 2351
 G5B01 D03M67  G5B0A D         75B00 21                                      DBASE 2352
 G5B0A CALGPU  G5B02 C         75B00 21                                      DBASE 2353
G5B02  R75B.. G5B03  E      29 75B00 21     24 29L 3462Y0 1060    1C5        DBASE 2354
G5B02  H75B00        E      21 75B00 21     10 29L 2462Y0 1060               DBASE 2355
G5B02  H75B01        E      21 75B00 21     10 29L 1531X3 1060               DBASE 2356
G5B02  H75B02        E      29 75B00 21     18 29L 1531X3                    DBASE 2357
G5B02  H75B03        E       7 75B00 21     20 29L 2431X1                    DBASE 2358
 G5B03 SHOP   SG5B00 D         75B00 23                                      DBASE 2359
SG5B3. L75B33 IG5B33 G  1216 75B00 23                                        DBASE 2360
       L75B33        4         75B00     VERIFIED BY  MS GIBELYOU            DBASE 2361
       L75B33        4         75B00     F15 AIM7 LAU F4E DATA USED          DBASE 2362
IG5B3. H75B33        E      96 75B00*23     15 29L 2462Y0                    DBASE 2363
IG5B3. H75B31        E       9 75B00*23      9 29L 1531X3                    DBASE 2364
IG5B3. K75B33        E       5 75B00*23     10 29L 2462Y0                    DBASE 2365
IG5B3. Q75B33        I         75B00 21     25 29L 3462Y0 1060    1C5        DBASE 2366
SG5B3. L75BC3 IG5BC3 G  2620 75B00 23                                        DBASE 2367
       L75BC3        4         75B00     VERIFIED BY MS GIBELYOU             DBASE 2368
       L75BC3        H         75B00     F15  AIM9 LAU    A7D 75AKC DATA USED DBASE 2369
IG5BC. H75BC3        E      95 75B00*23     15 29L 2462Y0                    DBASE 2370
IG5BC3 H75BC1        E       2 75B00*23      3 29L 1531X3                    DBASE 2371
IG5BC. K75BC3        E       3 75B00*23     15 29L 2462Y0                    DBASE 2372
IG5BC3 Q75BC3        I         75B00 21     20 29L 3462Y0 1060    1C5        DBASE 2373
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                         M        75C0J      VERIFIED BY MS GIBELYOU 2937/2954         DBASE 2374
                         M        75C0J      F15 MEP NETWORK A7D 75A00 DATA USED       DBASE 2375
   G5C0. F75C0J   G5C01 F    135 75C00 21                                              DBASE 2376
   G5C0. 0D?MG7   G5C0A D        75C0J 21                                              DBASE 2377
   G5C0A CALGPU   G5C02 C        75C0J 21                                              DBASE 2378
   G5C02 M75C0J         D        75C0J 21     15 29L 3462YC 1060    1C5                DBASE 2379
                         M        75M0J      PANEL WILL FAIL 10X AS OFTEN AS A7D       DBASE 2380
                         M        75M0C      VERIFIED BY MS GIBELYOU                   DBASE 2381
                         M        75M0J      F15 M39A AUG 75 IS 210                    DBASE 2382
                         M        75M0J      F15 ARM CONT SET AHS 20 A7D 74CAS USED    DBASE 2383
  G5M0J  F75M0J G5M01   F    213 75M0J 21                                              DBASE 2384
   G5M01 0D?MG7   G5M0A D        75M0J 21                                              DBASE 2385
   G5M0A CALGPU   G5M02 C        75M0J 21                                              DBASE 2386
   G5M02 F75M0J   G5M03 E     99 75M0J 21     25 29L 2462YJ 1060    1C5                DBASE 2387
   G5M02 M75M0J         E      2 75M0J 21     10 29L 2462YJ 1060    1C5                DBASE 2388
   G5M03 SHOP     SG5M0J D       75M0J 23                                              DBASE 2389
  SG5M0J L75MAJ IG5MAJ S .9107 75M0J 23                                                DBASE 2390
                         M        75M0C      ESTIMATES BY          WORK AROUND         DBASE 2391
                         M        75M0J      F15 ARM CONT PANEL 75MA0                  DBASE 2392
  IG5MA0 075MAJ         I        75M0C 21     20 29L 2462YC 1060    1C5                DBASE 2393
  IG5MA. D75MA. IG5MA1 D        75M0J*23                                               DBASE 2394
  IG5MA1 D75MA0 IG5MA2 C    -    75M0J 23                                              DBASE 2395
  IG5MA2 A75MAJ         E     20 75M0J 23     20 29L 1326A1 1PTS45 1TSO                DBASE 2396
  IG5MA2 K75MAJ         E     30 75M0J 23  -  13 29L 1326A1 1PTS45 1TSO                DBASE 2397
  IG5MA2 N75MAJ         E     5. 75M0J 23     13 29L 1326A1 1PTS45 1TSO                DBASE 2398
  SG5M0J L75MC0 IG5MC0 S .9107 75M0J 23                                                DBASE 2399
                         M        75M0J      ESTIMATES BY          WORK AROUND         DBASE 2400
                         M        75M0C      F15 CONVERTER PROGRAMMER 75MC0            DBASE 2401
  IG5MC0 075MCJ         I        75M0J 21     15 29L 2462Y0 1060    1C5                DBASE 2402
  IG5MC. D75MC0 IG5MC1 D        75M0E*23                                               DBASE 2403
  IG5MC1 D75MC0 IG5MC2 C        75M0J 23                                               DBASE 2404
  IG5MC2 W75MCJ         E     20 75M0J 23     50 29L 1326A1 1PTS44 1TSO                DBASE 2405
  IG5MC2 K75MC0         E     30 75M0J 23     40 29L 1326A1 1PTS44 1TSO                DBASE 2406
  IG5MC2 N75MC0         E     50 75M0J 23     40 29L 1326A1 1PTS44 1TSO                DBASE 2407
                         M        75H0J      VERIFIED BY BURBRINK ONLY ORDER ACTION    DBASE 2408
                         M        75H0J      F15 DATA=56  MCATA=18 A7D=13 F111F=17     DBASE 2409
                         M        75H0J      F15 M61A1 GUN NETWORK 75H0J               DBASE 2410
   G5H0. F75H0J   G5H01 F 20000 75H0J 21                                               DBASE 2411
   G5H01 0D?MG7   G5H0A D        75H0J 21                                              DBASE 2412
   G5H0A CALGPJ   G5H02 C        75H0J 21                                              DBASE 2413
   G5H02 R75H0J   G5H03 E     01 75H0J 21     40 29L 2421X2 1060    1TU229             DBASE 2414
  G5H02  M75H02         A     13 75H0J 21     14 29L 2431X1 1531X3                     DBASE 2415
   G5H02 M75H0J         E     02 75H0J 21     20 29L 2421X2 1060    1TU224             DBASE 2416
   G5H02 R75H0J   G5H03 E     87 75H0J 21     30 29L 3462X0 1060    1C5                DBASE 2417
   G5H02 M75H0J         E     1. 75H0J 21     16 29L 2462X0 1060    1C5                DBASE 2418
   G5H02 T75H0J         A     16 75H0J 21     13 29L 3462X3 1060    1C5                DBASE 2419
   G5H03 SHOP     SG5H0J D       75H0J 23                                              DBASE 2420
                         M        75H0C      F15 M61A1 GUN 75H0J                       DBASE 2421
  SG5H0. L75H0J IG5H0J S .1246 75H0J 23                                                DBASE 2422
  IG5H0J W75H0J         E     86 75H0J*23     30 29L 2462X0                            DBASE 2423
  IG5H0J K75H0J         E      5 75H0J*23     26 29L 2462X0                            DBASE 2424
  IG5H0J M75H0J         E      9 75H0J*23     30 29L 2462X0                            DBASE 2425
  IG5H0. 075H0J         I    _   75H0J 21     60 29L 3462X0 1060    1C5                DBASE 2426
  SG5H0J L75HEJ IG5HEJ S .6307 75H0J 23                                                DBASE 2427
                         M        75H0.      F15 DRUM ASSY 75HE0                       DBASE 2428
  IG5HEJ M75HEJ         E     77 75H0J*23     39 29L 2462X0                            DBASE 2429
  IG5HEJ M75HEJ         E     23 75H0J*23     23 29L 2462X0                            DBASE 2430
  IG5HEJ 075HEJ         I        75H0J 21     60 29L 3462X0 1060    1C5                DBASE 2431
  SG5H0. L75HJJ IG5HJ0 S .4167 75H0J 23                                                DBASE 2432
                         M        75H0J      F15 CONVEYOR SYS 75HJ0                    DBASE 2433
  IG5HJ0 W75HJJ         D        75H0J*23     30 29L 2462X0                            DBASE 2434
  IG5HJ. 075HJJ         I        75H0J 21    120 29L 3462X0 1060                       DBASE 2435
  SG5H0C L75HL0 IG5HLJ S .0392 75H0J 23                                                DBASE 2436
                         M        75H00      F15 HYD COMP GUN 75HLM                    DBASE 2437
  IG5HL0 W75HL0         D        75H0J*23     13 29L 2421X2                            DBASE 2438
  IG5HL0 075HLJ         I        75H0J 21     30 29L 2421X2                            DBASE 2439
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                      H        76A00    F15 ALR 56 NETWORK                          DBASE 2440
G6A0. F76A01  G6A01 F     19 76A00 21                                               DBASE 2441
G6A01 DCRMG7  G6AGA D        76A00 21                                               DBASE 2442
G6A0A CALG21  G6AU2 C        76A0. 21                                               DBASE 2443
G6A02 R76A.0        E     75 76A00 21     10 29L 232602 1060    105                 DBASE 2444
G6A02 M76A.0  G6A.. E     25 76A00 21                                               DBASE 2445
G6A04 M76A.1        E     10 76A00 21    120 29L 232602 1060    105                 DBASE 2446
G6A.. M76A.2        E     9. 76A00 21     40 29L 232602 1060    105                 DBASE 2447
                      4        76G00    F15 EWWS                                    DBASE 2448
G6G0. F76G.1  G6G01 F    25. 76G00 21                                               DBASE 2449
G6G01 DCRMG7  G6GGA D        76G00 21                                               DBASE 2450
G6G0A CALG21  G6G02 C        76G02 21                                               DBASE 2451
G6G02 R76G.0        D        76G00 21      8 29L 232602 1060    105                 DBASE 2452
                      H        76H00    F15 ALQ 135                                 DBASE 2453
G6H0. F76H.0  G6H01 F     12 76H00 21                                               DBASE 2454
G6H01 DCRMG7  G6HGA D        76H00 21                                               DBASE 2455
G6H0A CALGFJ  G6H02 C        76H00 21                                               DBASE 2456
G6H02 R76H.0        E     55 76H00 21     10 29L 232602 1060    105                 DBASE 2457
G6H02 M76H.1        E      1 76H0P 21    160 29L 232602 1060    105                 DBASE 2458
G6H02 M76H.2        E      2 76H00 21     40 29L 232602 1060    105                 DBASE 2459
G6H02 M76H.3        E      1 76H00 21     15 29L 232602 1060    105                 DBASE 2460
                      4        D6000    M32-60 AGE DESPATCH                         DBASE 2461
CALGPU AD6.0. AD6004 D       D6000 21      3 29L 142143 1060                        DBASE 2462
AD6.04 FD6.0. AD6005 F     5 D6000 21                                               DBASE 2463
AD6.05 MD6..0       E     60 D6000 21      5 29L 142143 1060                        DBASE 2464
AD6.05 AD6..0       E     40 D6000 21                                               DBASE 2465
                      4        TTUC0    HYDRAULIC MULE AGE DESPATCH                 DBASE 2466
CALTTU ATTUC0 ATTUC4 D       TTU00 21      3 29L 142103 1TU223                      DBASE 2467
ATTUC4 FTTU00 ATTUC5 F     5 TTUC0 21                                               DBASE 2468
ATTU.5 MTTU.0       E     50 TTU.0 21      5 29L 142143 1TU223                      DBASE 2469
ATTUC5 ATTU.0       E     50 TTU00 21                                               DBASE 2470
                      4        TESTC    T/S FOR COMPUTERS                           DBASE 2471
C51AH0 PTSNCK 51AH01 E    16 TESTC 23                                               DBASE 2472
C51AH0 PTSCK        E     34 TESTC 23                                               DBASE 2473
51AH01 LPTS1  51AH02 D       TESTC 23                                               DBASE 2474
       LPTS1          4        TESTC    LRU 51AH0 T/S                               DBASE 2475
51AH02 OPTS1  51AH03 D       TESTC 23     14 29L                                    DBASE 2476
51AH03 GPTS1        D        TESTC*23                                               DBASE 2477
C51AH0 CTSC         C        TESTC 23                                               DBASE 2478
C51AG. PTSNCK 51AG01 E    16 TESTC 23                                               DBASE 2479
C51AG. PTSCK        E     64 TESTC 23                                               DBASE 2480
C51AG. CTSC         C        TESTC 23                                               DBASE 2481
51AG01 LPTS2  51AG02 D       TESTC 23                                               DBASE 2482
       LPTS2          4        TESTC    LRU 51AG0 T/S                               DBASE 2483
51AG02 OPTS2  51AG03 D       TESTC 23     14 29L                                    DBASE 2484
51AG03 GPTS2        D        TESTC*23                                               DBASE 2485
C55BC. PTSNCK 55BC01 E    09 TESTC 23                                               DBASE 2486
C55BC. PTSCK        E     91 TESTC 23                                               DBASE 2487
C55BC0 CTSC         C        TESTC 23                                               DBASE 2488
55BC01 LPTS3  55BC02 D       TESTC 23                                               DBASE 2489
       LPTS3          4        TESTC    LRU 55BC0 T/S                               DBASE 2490
55BC02 OPTS3  55BC03 D       TESTC 23     12 29L                                    DBASE 2491
55BC03 GPTS3        D        TESTC*23                                               DBASE 2492
C52AC. PTSNCK 52AC01 E    21 TESTC 23                                               DBASE 2493
C52AC. PTSCK        E     79 TESTC 23                                               DBASE 2494
C52AC. CTSC         C        TESTC 23                                               DBASE 2495
52AC01 LPTS4  52AC02 D       TESTC 23                                               DBASE 2496
       LPTS4          4        TESTC    LRU 52AC0 T/S                               DBASE 2497
52AC02 OPTS4  52AC03 D       TESTC 23     13 29L                                    DBASE 2498
52AC03 GPTS4        D        TESTC*23                                               DBASE 2499
C41AAU PTSNCK 41AAU1 E    16 TESTC 23                                               DBASE 2500
C41AAU PTSCK        E     84 TESTC 23                                               DBASE 2501
C41AAU CTSC         C        TESTC 23                                               DBASE 2502
41AAU1 LPTS5  41AAU2 D       TESTC 23                                               DBASE 2503
       LPTS5          4        TESTC    LRU 41AAU TAS                               DBASE 2504
41AAU2 OPTS5  41AAU3 D       TESTC 23     14 29L                                    DBASE 2505
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71AAJ3	GPTS5		D		TESTC*23		DBASE 2506
C71AK.	PTSNCK	71AKC1	E	34	TESTC 23		DBASE 2507
C71AK.	PTSCK		E	66	TESTC 23		DBASE 2508
C71AK.	CTSC		C		TESTC 23		DBASE 2509
71AKJ1	LPTS6	71AKC2	D		TESTC 23		DBASE 2510
	LPTS6		4		TESTC	LRU 71AKC T/S	DBASE 2511
71AKJ2	QPTS6	71AKC3	D		TESTC 23	12 29L	DBASE 2512
71AKJ3	GPTS6		D		TESTC*23		DBASE 2513
C71FE.	PTSNCK	71FEC1	E	16	TESTC 23		DBASE 2514
C71FE.	PTSCK		E	84	TESTC 23		DBASE 2515
C71FE.	CTSC		C		TESTC 23		DBASE 2516
71FEJ1	LPTS7	71FEC2	D		TESTC 23		DBASE 2517
	LPTS7		4		TESTC	LRU 71FEC T/S	DBASE 2518
71FEJ2	QPTS7	71FEC3	D		TESTC 23	13 29L	DBASE 2519
71FEJ3	GPTS7		D		TESTC*23		DBASE 2520
C74E3.	PTSNCK	74E3C1	E	37	TESTC 23		DBASE 2521
C74E3.	PTSCK		E	63	TESTC 23		DBASE 2522
C74E3.	CTSC		C		TESTC 23		DBASE 2523
74E3J1	LPTS8	74E3C2	D		TESTC 23		DBASE 2524
	LPTS8		4		TESTC	LRU 74E3C T/S	DBASE 2525
74E3J2	QPTS8	74E3C3	D		TESTC 23	13 29L	DBASE 2526
74E3J3	GPTS8		D		TESTC*23		DBASE 2527
C71AE.	PTSNCK	71AEC1	E	38	TESTC 23		DBASE 2528
C71AE.	PTSCK		E	62	TESTC 23		DBASE 2529
C71AE.	CTSC		C		TESTC 23		DBASE 2530
71AEJ1	LPTS9	71AEC2	D		TESTC 23		DBASE 2531
	LPTS9		4		TESTC	LRU 71AEC T/S	DBASE 2532
71AEJ2	QPTS9	71AEC3	D		TESTC 23	13 29L	DBASE 2533
71AEJ3	GPTS9		D		TESTC*23		DBASE 2534
C51AJ.	PTSNCK	51AJC1	E	16	TESTC 23		DBASE 2535
C51AJ.	PTSCK		E	84	TESTC 23		DBASE 2536
C51AJ.	CTSC		C		TESTC 23		DBASE 2537
51AJJ1	LPTS10	51AJC2	D		TESTC 23		DBASE 2538
	LPTS10		4		TESTC	LRU 51AJC T/S	DBASE 2539
51AJJ2	QPTS10	51AJC3	D		TESTC 23	14 29L	DBASE 2540
51AJJ3	GPTS10		D		TESTC*23		DBASE 2541
C52A3.	PTSNCK	52A3C1	E	09	TESTC 23		DBASE 2542
C52A3.	PTSCK		E	91	TESTC 23		DBASE 2543
C52A3C	CTSC		C		TESTC*23		DBASE 2544
52A3J1	LPTS11	52A3C2	D		TESTC 23		DBASE 2545
	LPTS11		4		TESTC	LRU 52A3C T/S	DBASE 2546
52A3J2	QPTS11	52A3C3	D		TESTC 23	12 29L	DBASE 2547
52A3J3	GPTS11		D		TESTC*23		DBASE 2548
C52AA.	PTSNCK	52AAC1	E	09	TESTC 23		DBASE 2549
C52AA.	PTSCK		E	91	TESTC 23		DBASE 2550
C52AA.	CTSC		C		TESTC 23		DBASE 2551
52AAJ1	LPTS12	52AAC2	D		TESTC 23		DBASE 2552
	LPTS12		4		TESTC	LRU 52AAC T/S	DBASE 2553
52AAJ2	QPTS12	52AAC3	D		TESTC 23	12 23L	DBASE 2554
52AAJ3	GPTS12		D		TESTC*23		DBASE 2555
C49CAA	PTSNCK	49CAA1	E	20	TESTC 23		DBASE 2556
C49CAA	PTSCK		E	80	TESTC 23		DBASE 2557
C49CAA	CTSC		C		TESTC 23		DBASE 2558
49CAA1	LPTS13	49CAA2	D		TESTC 23		DBASE 2559
	LPTS13		4		TESTC	LRU 49CAA T/S	DBASE 2560
49CAA2	QPTS13	49CAA3	D		TESTC 23	13 29L	DBASE 2561
49CAA3	GPTS13		D		TESTC*23		DBASE 2562
C71FA.	PTSNCK	71FAC1	E	40	TESTC 23		DBASE 2563
C71FA.	PTSCK		E	60	TESTC 23		DBASE 2564
C71FA.	CTSC		C		TESTC 23		DBASE 2565
71FAJ1	LPTS14	71FAC2	D		TESTC 23		DBASE 2566
	LPTS14		4		TESTC	LRU 71FAC T/S	DBASE 2567
71FAJ2	QPTS14	71FAC3	D		TESTC 23	13 29L	DBASE 2568
71FAJ3	GPTS14		D		TESTC*23		DBASE 2569
C11PD.	PTSNCK	11PDC1	E	37	TESTC 23		DBASE 2570
C11PDC	PTSCK		E	63	TESTC 23		DBASE 2571

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C11P01 CTSC              0          TESTC 23                          DBASE 2572
11P011 LPTS15 11P012 0              TESTC 23                          DBASE 2573
       LPTS15            4          TESTC     LRU 11P0C T/S           DBASE 2574
11P012 OPTS15 11P013 0              TESTC 23     13 29L               DBASE 2575
11P013 GPTS15            0          TESTC*23                          DBASE 2576
C55C01 PTSN.K 55C001 E          18 TESTC 23                           DBASE 2577
C55C01 PTS.K             E          82 TESTC 23                       DBASE 2578
C55C01 CTSC              0          TESTC 23                          DBASE 2579
55C011 LPTS16 55C012 0              TESTC 23                          DBASE 2580
       LPTS16            4          TESTC     LRU 55C00 T/S           DBASE 2581
55C012 OPTS16 55C013 0              TESTC 23     13 29L               DBASE 2582
55C013 GPTS16            0          TESTC*23                          DBASE 2583
C52AM1 PTSN.K 52AM01 E          16 TESTC 23                           DBASE 2584
C52AM1 PTS.K             E          84 TESTC 23                       DBASE 2585
C52AM1 CTSC              0          TESTC 23                          DBASE 2586
52AM11 LPTS17 52AM12 0              TESTC 23                          DBASE 2587
       LPTS17            4          TESTC     LRU 52AM0 T/S           DBASE 2588
52AM12 OPTS17 52AM13 0              TESTC 23     13 29L               DBASE 2589
52AM13 GPTS17            0          TESTC*23                          DBASE 2590
C71F31 PTSN.K 71F301 E          09 TESTC 23                           DBASE 2591
C71F31 PTS.K             E          91 TESTC 23                       DBASE 2592
C71F31 CTSC              0          TESTC 23                          DBASE 2593
71F311 LPTS18 71F312 0              TESTC 23                          DBASE 2594
       LPTS18            4          TESTC     LRU 71F30 T/S           DBASE 2595
71F312 OPTS18 71F313 0              TESTC 23     13 29L               DBASE 2596
71F313 GPTS18            0          TESTC*23                          DBASE 2597
C55CA1 PTSN.K 55CA01 E          19 TESTC 23                           DBASE 2598
C55CA1 PTS.K             E          81 TESTC 23                       DBASE 2599
C55CA1 CTSC              0          TESTC 23                          DBASE 2600
55CA11 LPTS19 55CA12 0              TESTC 23                          DBASE 2601
       LPTS19            4          TESTC     LRU 55CA0 T/S           DBASE 2602
55CA12 OPTS19 55CA13 0              TESTC 23     13 29L               DBASE 2603
55CA13 GPTS19            0          TESTC*23                          DBASE 2604
C57AA1 PTSN.K 57AA01 E          36 TESTC 23                           DBASE 2605
C57AA1 PTS.K             E          64 TESTC 23                       DBASE 2606
C57AA1 CTSC              0          TESTC 23                          DBASE 2607
57AA11 LPTS20 57AA12 0              TESTC 23                          DBASE 2608
       LPTS20            4          TESTC     LRU 57AA0 T/S           DBASE 2609
57AA12 OPTS20 57AA13 0              TESTC 23     12 29L               DBASE 2610
57AA13 GPTS20            0          TESTC*23                          DBASE 2611
C41AAC PTSN.K 41AAC1 E          20 TESTC 23                           DBASE 2612
C41AAC PTS.K             E          80 TESTC 23                       DBASE 2613
C41AAC CTSC              0          TESTC 23                          DBASE 2614
41AAC1 LPTS22 41AAC2 0              TESTC 23                          DBASE 2615
       LPTS22            4          TESTC     LRU 41AAC T/S           DBASE 2616
41AAC2 OPTS22 41AAC3 0              TESTC 23     13 29L               DBASE 2617
41AAC3 GPTS22            0          TESTC*23                          DBASE 2618
C41ABL PTSN.K 41ABL1 E          20 TESTC 23                           DBASE 2619
C41ABL PTS.K             E          80 TESTC 23                       DBASE 2620
C41ABL CTSC              0          TESTC 23                          DBASE 2621
41ABL1 LPTS23 41ABL2 0              TESTC 23                          DBASE 2622
       LPTS23            4          TESTC     LRU 41ABL T/S           DBASE 2623
41ABL2 OPTS23 41ABL3 0              TESTC 23     13 29L               DBASE 2624
41ABL3 GPTS23            0          TESTC*23                          DBASE 2625
C51AD1 PTSN.K 51AD01 E          22 TESTC 23                           DBASE 2626
C51AD1 PTS.K             E          78 TESTC 23                       DBASE 2627
C51AD1 CTSC              0          TESTC 23                          DBASE 2628
51AD11 LPTS24 51AD12 0              TESTC 23                          DBASE 2629
       LPTS24            4          TESTC     LRU 51AD0 T/S           DBASE 2630
51AD12 OPTS24 51AD13 0              TESTC 23     16 29L               DBASE 2631
51AD13 GPTS24            0          TESTC*23                          DBASE 2632
C51EA1 PTSN.K 51EA01 E          33 TESTC 23                           DBASE 2633
C51EA1 PTS.K             E          67 TESTC 23                       DBASE 2634
C51EA1 CTSC              0          TESTC 23                          DBASE 2635
51EA11 LPTS25 51EA12 0              TESTC 23                          DBASE 2636
       LPTS25            4          TESTC     LRU 51EA0 T/S           DBASE 2637
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51EA02	OPTS25 51EA03	O		TESTC 23	12 29L	OBASE 2638
51EA03	GPTS25	O		TESTC*23		OBASE 2639
C51AM1	PTSN.K 51AM01	E	16	TESTC 23		OBASE 2640
C51AM1	PTS.K	E	84	TESTC 23		OBASE 2641
C51AM1	CTSC	C		TESTC 23		OBASE 2642
51AM01	LPTS26 51AM02	O		TESTC 23		OBASE 2643
	LPTS26	4		TESTC	LRU 51AM0 T/S	OBASE 2644
51AM02	OPTS26 51AM03	O		TESTC 23	14 29L	OBASE 2645
51AM03	GPTS26	O		TESTC*23		OBASE 2646
C52AL1	PTSN.K 52AL01	E	17	TESTC 23		OBASE 2647
C52AL1	PTS.K	E	83	TESTC 23		OBASE 2648
C52AL1	CTSC	C		TESTC 23		OBASE 2649
52AL01	LPTS27 52AL02	O		TESTC 23		OBASE 2650
52AL02	OPTS27 52AL03	O		TESTC 23		OBASE 2651
52AL03	GPTS27	O		TESTC 23		OBASE 2652
		4		TESTM	T/S FOR MICROWAVE EQUIP	OBASE 2653
C74FJ1	PTSN.K 74FJ01	E	36	TESTM 23		OBASE 2654
C74FJ1	PTS.K	E	64	TESTM 23		OBASE 2655
C74FJ1	CTSM	C		TESTM 23		OBASE 2656
74FJ01	LPTS30 74FJ02	O		TESTM 23		OBASE 2657
	LPTS30	4		TESTM	LRU 74FJ0 T/S	OBASE 2658
74FJ02	OPTS30 74FJ03	O		TESTM 23	15 29L	OBASE 2659
74FJ03	GPTS30	O		TESTM*23		OBASE 2660
C74FC1	PTSN.K 74FC01	E	36	TESTM 23		OBASE 2661
C74FC1	PTS.K	E	64	TESTM 23		OBASE 2662
C74FC1	CTSM	C		TESTM 23		OBASE 2663
74FC01	LPTS31 74FC02	O		TESTM 23		OBASE 2664
	LPTS31	4		TESTM	LRU 74FC0 T/S	OBASE 2665
74FC02	OPTS31 74FC03	O		TESTM 23	15 29L	OBASE 2666
74FC03	GPTS31	O		TESTM*23		OBASE 2667
C74FQ1	PTSN.K 74FQ01	E	06	TESTM 23		OBASE 2668
C74FQ1	PTS.K	E	94	TESTM 23		OBASE 2669
C74FQ1	CTSM	C		TESTM 23		OBASE 2670
74FQ01	LPTS32 74FQ02	O		TESTM 23		OBASE 2671
	LPTS32	4		TESTM	LRU 74FQ0 T/S	OBASE 2672
74FQ02	OPTS32 74FQ03	O		TESTM 23	25 29L	OBASE 2673
74FQ03	GPTS32	O		TESTM*23		OBASE 2674
C74FS1	PTSN.K 74FS01	E	17	TESTM 23		OBASE 2675
C74FS1	PTS.K	E	83	TESTM 23		OBASE 2676
C74FS1	CTSM	C		TESTM 23		OBASE 2677
74FS01	LPTS33 74FS02	O		TESTM 23		OBASE 2678
	LPTS33	4		TESTM	LRU 74FS0 T/S	OBASE 2679
74FS02	OPTS33 74FS03	O		TESTM 23	14 29L	OBASE 2680
74FS03	GPTS33	O		TESTM*23		OBASE 2681
C76CA1	PTSN.K 76CA01	E	06	TESTM 23		OBASE 2682
C76CA1	PTS.K	E	94	TESTM 23		OBASE 2683
C76CA1	CTSM	C		TESTM 23		OBASE 2684
76CA01	LPTS34 76CA02	O		TESTM 23		OBASE 2685
	LPTS34	4		TESTM	LRU 76CA0 T/S	OBASE 2686
76CA02	OPTS34 76CA03	O		TESTM 23	25 29L	OBASE 2687
76CA03	GPTS34	O		TESTM*23		OBASE 2688
		4		TESTD	T/S FOR DISPLAYS	OBASE 2689
C13HA1	PTSN.K 13HA01	E	17	TESTD 23		OBASE 2690
C13HA1	PTS.K	E	83	TESTD 23		OBASE 2691
C13HA1	CTSD	C		TESTD 23		OBASE 2692
13HA01	LPTS35 13HA02	O		TESTD 23		OBASE 2693
	LPTS35	4		TESTD	LRU 13HA0 T/S	OBASE 2694
13HA02	OPTS35 13HA03	O		TESTD 23	13 29L	OBASE 2695
13HA03	GPTS35	O		TESTD*23		OBASE 2696
C74KC1	PTSN.K 74KC01	E	32	TESTD 23		OBASE 2697
C74KC1	PTS.K	E	68	TESTD 23		OBASE 2698
C74KC1	CTSD	C		TESTD 23		OBASE 2699
74KC01	LPTS36 74KC02	O		TESTD 23		OBASE 2700
	LPTS36	4		TESTD	LRU 74KC0 T/S	OBASE 2701
74KC02	OPTS36 74KC03	O		TESTD 23	12 29L	OBASE 2702
74KC03	GPTS36	O		TESTD*23		OBASE 2703

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C74JC1 PTSNCK 74JC01 E    09 TESTD 23                                DBASE 2704
C74JC1 PTSCK         E    91 TESTD 23                                DBASE 2705
C74JC1 CTSD          C       TESTD 23                                DBASE 2706
74JC11 LPTS37 74JC12 D       TESTD 23                                DBASE 2707
       LPTS37        4       TESTD    LRU 74JC1 T/S                  DBASE 2708
74JC12 OPTS37 74JC13 D       TESTD 23    12 29L                      DBASE 2709
74JC13 GPTS37        D       TESTD*23                                DBASE 2710
C658H1 PTSNCK 658HC1 E    1. TESTD 23                                DBASE 2711
C658H1 PTSCK         E    91 TESTD 23                                DBASE 2712
C658H1 CTSD          C       TESTD 23                                DBASE 2713
658H11 LPTS38 658HC2 D       TESTD 23                                DBASE 2714
       LPTS38        4       TESTD    LRU 658HC T/S                  DBASE 2715
658H12 OPTS38 658HC3 D       TESTD 23    12 29L                      DBASE 2716
658H13 GPTS38        D       TESTD*23                                DBASE 2717
C448FA PTSNCK 448FA1 E    16 TESTD 23                                DBASE 2718
C448FA PTSCK         E    94 TESTD 2                                 DBASE 2719
C448FA CTSD          C       TESTD 23                                DBASE 2720
448FA1 LPTS39 448FA2 D       TESTD 23                                DBASE 2721
       LPTS39        4       TESTD    LRU 448FA T/S                  DBASE 2722
448FA2 OPTS39 448FA3 D       TESTD 23    13 29L                      DBASE 2723
448FA3 GPTS39        D       TESTD*23                                DBASE 2724
C51NA1 PTSNCK 51NA01 E    32 TESTD 23                                DBASE 2725
C51NA1 PTSCK         E    63 TESTD 23                                DBASE 2726
C51NA1 CTSD          C       TESTD 23                                DBASE 2727
51NA11 LPTS40 51NA02 D       TESTD 23                                DBASE 2728
       LPTS40        4       TESTD    LRU 51NAC T/S                  DBASE 2729
51NA12 OPTS40 51NAC3 D       TESTD 23    12 29L                      DBASE 2730
51NA13 GPTS40        D       TESTD*23                                DBASE 2731
C74KA1 PTSNCK 74KAC1 E    24 TESTD 23                                DBASE 2732
C74KA1 PTSCK         E    76 TESTD 23                                DBASE 2733
C74KA1 CTSD          C       TESTD 23                                DBASE 2734
74KA11 LPTS41 74KAC2 D       TESTD 23                                DBASE 2735
       LPTS41        4       TESTD    LRU 74KAC T/S                  DBASE 2736
74KA12 OPTS41 74KAC3 D       TESTD 23    13 29L                      DBASE 2737
74KA13 GPTS41        D       TESTD*23                                DBASE 2738
C51NB1 PTSNCK 51NB01 E    32 TESTD 23                                DBASE 2739
C51NB1 PTSCK         E    68 TESTD 23                                DBASE 2740
C51NB1 CTSD          C       TESTD 23                                DBASE 2741
51NB11 LPTS42 51NB02 D       TESTD 23                                DBASE 2742
       LPTS42        4       TESTD    LRU 51NBC T/S                  DBASE 2743
51NB12 OPTS42 51NB03 D       TESTD 23    12 29L                      DBASE 2744
51NB13 GPTS42        D       TESTD*23                                DBASE 2745
C74FF1 PTSNCK 74FF01 E    09 TESTD 23                                DBASE 2746
C74FF1 PTSCK         E    91 TESTD 23                                DBASE 2747
C74FF1 CTSD          C       TESTD 23                                DBASE 2748
74FF11 LPTS43 74FF02 D       TESTD 23                                DBASE 2749
       LPTS43        4       TESTD    LRU 74FFD T/S                  DBASE 2750
74FF12 OPTS43 74FF03 D       TESTD 23    12 29L                      DBASE 2751
74FF13 GPTS43        D       TESTD*23                                DBASE 2752
C75MC1 PTSNCK 75MC01 E    09 TESTD 23                                DBASE 2753
C75MC1 PTSCK         E    91 TESTD 23                                DBASE 2754
C75MC1 CTSD          C       TESTD 23                                DBASE 2755
75MC11 LPTS44 75MC02 D       TESTD 23                                DBASE 2756
       LPTS44        4       TESTD    LRU 75MCD T/S                  DBASE 2757
75MC12 OPTS44 75MC03 D       TESTD 23    12 29L                      DBASE 2758
75MC13 GPTS44        D       TESTD*23                                DBASE 2759
C75MA1 PTSNCK 75MAC1 E    09 TESTD 23                                DBASE 2760
C75MA1 PTSCK         E    91 TESTD 23                                DBASE 2761
C75MA1 CTSD          C       TESTD 23                                DBASE 2762
75MA11 LPTS45 75MAC2 D       TESTD 23                                DBASE 2763
       LPTS45        4       TESTD    LRU 75MAC T/S                  DBASE 2764
75MA12 OPTS45 75MAC3 D       TESTD 23    12 29L                      DBASE 2765
75MA13 GPTS45        D       TESTD*23                                DBASE 2766
C74JA1 PTSNCK 74JA01 E    37 TESTD 23                                DBASE 2767
C74JA1 PTSCK         E    63 TESTD 23                                DBASE 2768
C74JA1 CTSD          C       TESTD 23                                DBASE 2769
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74JA31 LPTS46 74JA32 0         TESTD 23                              DBASE 2770
       LPTS46          4       TESTD     LFU 74JA  T/S               DBASE 2771
74JA32 DPTS46 74JA33 0         TESTD 23    13 29L                    DBASE 2772
74JA33 GPTS46          0       TESTD*23                              DBASE 2773
                       4       TSC       TSC TEST STATION            DBASE 2774
  CTSC DUMTSC  CTSC1 0         TSC    23    C1    C 1TSC             DBASE 2775
 CTSC1 DORMTA   TSC1 0         TSC    23                             DBASE 2776
  TSC1 FTSC     TSC2 F      65 TSC    23                             DBASE 2777
  TSC2 QTSC     TSC3 0         TSC    23    50 29L                   DBASE 2778
  TSC3 GTSC            0       TSC   *23                             DBASE 2779
                       4       TSM       TSM TEST STATION            DBASE 2780
  CTSM DUMTSM  CTSM1 0         TSM    23    C1    C 1TSM             DBASE 2781
 CTSM1 DORMTA   TSM1 0         TSM    23                             DBASE 2782
  TSM1 FTSM     TSM2 F      65 TSM    23                             DBASE 2783
  TSM2 QTSM     TSM3 0         TSM    23    50 29L                   DBASE 2784
  TSM3 GTSM            0       TSM   *23                             DBASE 2785
                       4       TSD       TSD TEST STATION            DBASE 2786
  CTSD DUMTSD  CTSD1 0         TSD    23    C1    C 1TSD             DBASE 2787
 CTSD1 DORMTD   TSD1 0         TSD    23                             DBASE 2788
  TSD1 FTSD     TSD2 F      65 TSD    23                             DBASE 2789
  TSD2 QTSD     TSD3 0         TSD    23    50 29L                   DBASE 2790
  TSD3 GTSD            0       TSD   *23                             DBASE 2791
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APPENDIX B

F-15 TFTW OPERATIONS DATA FILE

APPENDIX B

F-15 TFTW OPERATIONS DATA FILE

1. The operational scenarios contained in this appendix use scheduled aircraft sortie rates of .43, .74, and 1.0. Each scenario schedules aircraft flying and maintenance activity Monday through Friday. The same schedule is repeated each week during the simulation.

2. Explanation of Aircraft Mission Names:

a. PFLTF and PFLTTF are dummy missions that make a specified number of corresponding F-15 and TF-15 aircraft unavailable each day.

b. AAXX designates Air-Air Missions. The third character defines aircraft type: one is a TF-15 and two is an F-15. The fourth character defines the type of aircraft processing and number of times an aircraft flies each day: one is preflight to thruflight, two is thruflight to thruflight, three is thruflight to postflight, and four is preflight to postflight.

c. CONVXX designates conversion missions. The fifth character defines the aircraft type: one is a TF-15 and two is an F-15. The sixth character defines the type of aircraft processing and number of times an aircraft flies each day: one is preflight to thruflight, two is thruflight to postflight, three is thruflight to thruflight, and four is preflight to postflight.

d. PHASF and PHASTF are F-15 and TF-15 aircraft scheduled for Phase Inspection.

e. WASHF and WASHTF are F-15 and TF-15 aircraft scheduled for Washing and Corrosion Control Inspection.

3. Explanation of Column Headings:

a. TIME - Daily simulation time when an aircraft begins mission processing.

b. MISSION - Mission name.

c. A/C TYPE - self explanatory.

d. SCHED - number of aircraft scheduled for a given mission.

e. MIN - minimum number of aircraft required to fly a given mission.

f. SPARE - identifies preparation of spare aircraft for a given mission. If the spare is not used for the mission it is designated for, it then becomes a spare for the next mission.

g. PRIORITY - LCOM peculiar code that allows an order of importance to mission scheduling.

h. TAKEOFF - scheduled takeoff time 24 hour clock.

i. LATENESS - time remaining after scheduled takeoff time before mission cancellation.

j. SORTIE LENGTH - sortie length in hours and minutes.

.43 OPERATIONAL SCENARIO

DAY 1

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
29	AA21	F15	2	2	1	2	500	2+ 0	1+31
114	CONV21	F15	2	2	1	2	545	2+ 0	1+43
130	CONV11	TF15	2	2	1	2	600	2+ 0	1+13
144	AA11	TF15	1	1	0	2	615	2+ 0	1+ 7
215	AA14	TF15	2	2	0	2	645	2+ 0	2+31
229	AA21	F15	1	1	0	2	700	2+ 0	1+20
329	AA14	TF15	1	1	0	2	800	2+ 0	0+58
349	AA24	F15	3	3	0	2	820	2+ 0	1+19
500	CONV24	F15	2	2	0	2	930	2+ 0	1+23
649	AA24	F15	1	1	0	2	1120	2+ 0	0+53
649	AA14	TF15	2	2	0	2	1120	2+ 0	1+ 7
730	CONV12	TF15	1	1	0	2	1200	2+ 0	1+23
761	PHASF	F15	1	1	0	2	800	5+ 0	2+ 5
761	PHASTF	TF15	1	1	0	2	800	5+ 0	2+ 5
759	PFLTTF	TF15	14	2	0	3	1200	6+ 0	12+ 0
759	PFLTF	F15	31	2	0	3	1200	6+ 0	12+ 0
1009	AA24	F15	2	2	0	2	1440	2+ 0	1+13
1030	AA13	TF15	1	1	0	2	1500	2+ 0	0+56
1059	AA23	F15	2	2	0	2	1530	2+ 0	1+ 4
1230	AA23	F15	1	1	0	2	1700	2+ 0	1+14
1300	CONV12	TF15	1	1	0	2	1730	2+ 0	1+16
1315	CONV22	F15	2	2	0	2	1745	2+ 0	1+31

DAY 2

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
59	AA11	TF15	2	2	1	2	530	2+ 0	0+57
144	CONV21	F15	2	2	1	2	615	2+ 0	1+18
229	CONV24	F15	2	2	0	2	700	2+ 0	1+25
245	AA14	TF15	2	2	0	2	715	2+ 0	1+ 9
300	AA21	F15	1	1	0	2	730	2+ 0	1+54
430	AA21	F15	2	2	0	2	900	2+ 0	1+ 6
430	AA14	TF15	1	1	0	2	900	2+ 0	1+15
510	CONV11	TF15	1	1	1	2	940	2+ 0	1+13
614	CONV22	F15	2	2	0	2	1045	2+ 0	1+15
620	AA24	F15	2	2	0	2	1050	2+ 0	1+25
645	AA24	F15	2	2	0	2	1115	2+ 0	1+ 3
730	WASHF	F15	1	1	0	2	800	5+ 0	2+ 7
730	AA24	F15	2	2	0	2	1200	2+ 0	1+52
730	AA14	TF15	1	1	0	2	1200	2+ 0	1+10
741	PHASF	F15	1	1	0	2	800	5+ 0	2+ 7
900	PFLTTF	TF15	14	2	0	3	1200	6+ 0	12+ 0
900	PFLTF	F15	31	2	0	3	1200	6+ 0	12+ 0
929	AA23	F15	2	2	0	2	1300	2+ 0	1+ 3
1100	CONV12	TF15	1	1	0	2	1530	2+ 0	1+32
1310	AA23	F15	1	1	0	2	1740	2+ 0	1+ 1
1310	AA13	TF15	2	2	0	2	1740	2+ 0	1+13
1600	CONV14	TF15	1	1	0	2	2030	2+ 0	2+20

DAY 3

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
29	AA21	F15	2	2	1	2	500	2+ 0	0+50
100	CONV11	TF15	1	1	0	2	530	2+ 0	1+28
104	CONV21	F15	2	2	1	2	535	2+ 0	1+14
142	AA11	TF15	2	2	1	2	615	2+ 0	0+57
215	AA14	TF15	1	1	0	2	645	2+ 0	2+25
230	AA21	F15	1	1	0	2	700	2+ 0	1+20
329	AA14	TF15	1	1	0	2	800	2+ 0	1+ 0
350	AA24	F15	3	3	0	2	820	2+ 0	1+10
430	AA21	F15	1	1	1	2	900	2+ 0	0+56
459	CONV24	F15	3	3	0	2	930	2+ 0	1+22
557	AA22	F15	2	2	0	2	1030	2+ 0	1+10
647	AA24	F15	1	1	0	2	1120	2+ 0	1+ 5
650	AA14	TF15	1	1	0	2	1120	2+ 0	0+55
700	CONV14	TF15	1	1	0	2	1130	2+ 0	1+29
730	WASHF	F15	1	1	0	2	800	5+ 0	2+ 6
730	CONV12	TF15	1	1	0	2	1200	2+ 0	1+29
761	PHASF	F15	1	1	0	2	800	5+ 0	2+ 7
759	PFLTTF	TF15	16	2	0	3	1200	6+ 0	12+ 0
759	PFLTF	F15	29	2	0	3	1200	6+ 0	12+ 0
1010	AA24	F15	1	1	0	2	1440	2+ 0	1+13
1030	AA13	TF15	2	2	0	2	1500	2+ 0	0+51
1229	AA23	F15	2	2	0	2	1700	2+ 0	1+ 5
1314	CONV22	F15	1	1	0	2	1745	2+ 0	1+23
1330	CONV22	F15	1	1	0	2	1800	2+ 0	1+13
1345	AA23	F15	2	2	0	2	1815	2+ 0	1+17

DAY 4

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
100	AA11	TF15	1	1	1	2	530	2+ 0	0+50
145	CONV21	F15	3	3	1	2	615	2+ 0	1+23
149	AA21	F15	2	2	1	2	620	2+ 0	0+55
240	CONV24	F15	1	1	0	2	710	2+ 0	1+24
244	AA14	TF15	2	2	0	2	715	2+ 0	1+12
300	AA21	F15	3	3	0	2	730	2+ 0	2+11
329	AA14	TF15	1	1	0	2	800	2+ 0	0+59
400	CONV14	TF15	2	2	1	2	830	2+ 0	1+58
430	AA21	F15	2	2	0	2	900	2+ 0	1+ 1
430	AA14	TF15	1	1	0	2	900	2+ 0	1+ 3
645	AA24	F15	1	1	0	2	1115	2+ 0	0+55
730	WASHF	F15	1	1	0	2	800	5+ 0	2+ 5
741	PHASF	F15	1	1	0	2	800	5+ 0	2+ 5
759	PFLTF	F15	31	2	0	3	1200	6+ 0	12+ 0
759	PFLTTF	TF15	14	2	0	3	1200	6+ 0	12+ 0
830	AA23	F15	3	3	0	2	1300	2+ 0	0+57
900	AA24	F15	1	1	0	2	1330	2+ 0	1+24
900	AA14	TF15	1	1	0	2	1330	2+ 0	1+17
919	CONV22	F15	3	3	0	2	1350	2+ 0	1+31
1245	AA23	F15	2	2	0	2	1715	2+ 0	1+19
1310	AA23	F15	1	1	0	2	1740	2+ 0	1+ 4
1310	AA13	TF15	1	1	0	2	1740	2+ 0	1+11
1330	AA23	F15	1	1	0	2	1800	2+ 0	0+58

DAY 5

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
30	AA21	F15	2	2	1	2	500	2+ 0	0+59
59	CONV11	TF15	1	1	0	2	530	2+ 0	1+23
142	AA11	TF15	3	3	1	2	615	2+ 0	1+ 2
200	CONV14	TF15	1	1	0	2	630	2+ 0	1+45
229	AA21	F15	2	2	1	2	700	2+ 0	1+28
300	CONV21	F15	3	3	1	2	730	2+ 0	1+53
350	AA24	F15	3	3	0	2	820	2+ 0	1+17
500	CONV24	F15	1	1	0	2	930	2+ 0	1+16
529	AA24	F15	2	2	0	2	1000	2+ 0	1+ 1
647	AA24	F15	1	1	0	2	1120	2+ 0	1+ 3
650	AA14	TF15	1	1	0	2	1120	2+ 0	0+53
730	WASHTF	TF15	1	1	0	2	800	5+ 0	2+ 6
730	CONV12	TF15	1	1	0	2	1200	2+ 0	1+25
742	PHASTF	TF15	1	1	0	2	800	5+ 0	2+ 5
800	PFLTF	F15	30	2	0	3	1200	6+ 0	12+ 0
800	PFLTTF	TF15	15	2	0	3	1200	6+ 0	12+ 0
1010	AA24	F15	1	1	0	2	1440	2+ 0	1+ 7
1030	AA13	TF15	3	3	0	2	1500	2+ 0	0+55
1100	AA23	F15	2	2	0	2	1530	2+ 0	1+11
1230	AA23	F15	2	2	0	2	1700	2+ 0	1+23
1315	CONV22	F15	3	3	0	2	1745	2+ 0	1+38

.74 OPERATIONAL SCENARIO

DAY 1

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
29	4421	F15	2	2	1	2	9[illegible]	2+	1+ 7
100	CONV11	TF15	1	1	0	2	530	2+	1+11
115	CONV21	F15	2	2	1	2	545	2+	1+22
130	CONV11	TF15	2	2	1	2	600	2+	1+35
145	4811	TF15	1	1	0	2	615	2+	0+54
159	CONV14	TF15	4	2	1	2	630	2+	1+34
215	4814	TF15	2	2	0	2	645	2+	2+17
230	4421	F15	1	3	0	2	700	2+	1+20
329	4814	TF15	1	1	0	2	900	2+	1+ 7
350	4426	F15	3	3	1	2	820	2+	1+11
400	4421	F15	2	2	0	2	830	2+	1+23
414	4421	F15	2	2	0	2	845	2+	1+ 5
459	CONV24	F15	2	2	1	2	930	2+	1+31
530	4426	F15	2	2	0	2	1000	2+	1+53
600	4422	F15	1	2	0	2	1030	2+	1+11
650	4426	F15	1	1	0	2	1120	2+	1+ 7
690	4424	TF15	1	1	0	2	1120	2+	1+ 2
700	CONV14	TF15	1	1	0	2	1130	2+	1+34
730	WESHP	F15	1	1	0	2	900	5+	2+ 5
730	CONV12	TF15	1	1	0	2	1200	2+	1+13
741	PHASP	F15	1	1	0	2	800	5+	2+ 6
741	PHASE	F15	1	1	0	2	800	5+	2+ 7
741	PHASTP	TF15	1	1	0	2	800	5+	2+ 6
759	PFLTTF	TF15	4	2	0	3	1200	6+	12+
759	PFLTF	F15	19	2	0	3	1200	5+	12+
1049	4424	F15	3	3	0	2	1440	2+	1+12
1030	4413	TF15	2	2	1	2	1500	2+	1+ 9
1059	4423	F15	2	2	0	2	1530	2+	1+ 8
1139	4423	F15	3	3	0	2	1610	2+	1+ 1
1229	4423	F15	2	2	0	2	1700	2+	1+ 7
1300	CONV12	TF15	1	1	0	2	1730	2+	1+29
1314	CONV22	F15	2	2	0	2	1745	2+	1+27
1645	4423	F15	2	2	0	2	2115	2+	2+ 7

DAY 2

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
100	4421	F15	2	2	1	2	530	2+	1+ 5
130	CONV11	TF15	2	2	1	2	600	2+	1+17
145	CONV21	F15	2	2	1	2	615	2+	1+24
150	4421	F15	2	2	1	2	620	2+	1+ 5
230	CONV24	F15	2	2	0	2	700	2+	1+32
244	4814	TF15	2	2	1	2	719	2+	1+ 7
300	4421	F15	3	3	0	2	730	2+	2+34
349	4421	F15	2	2	0	2	819	2+	1+27
430	4421	F15	1	1	0	2	900	2+	1+12
430	4414	TF15	1	1	0	2	900	2+	1+ 4
509	CONV11	TF15	2	2	0	2	940	2+	1+21
600	CONV11	TF15	2	2	0	2	1030	2+	1+21
615	CONV22	F15	2	2	0	2	1045	2+	1+41
629	4424	F15	2	2	0	2	1059	2+	1+ 5
645	4424	F15	2	2	0	2	1115	2+	1+53
700	4423	F15	2	2	0	2	1130	2+	1+53
730	WESHP	F15	1	1	0	2	900	5+	2+ 5
730	4424	F15	2	2	0	2	1200	2+	1+[illegible]
741	PHASTP	TF15	1	1	0	2	810	5+	2+ 5
741	PHASP	F15	1	1	0	2	810	4+	2+ 6
741	PHASF	F15	1	1	0	2	800	5+	2+ 5
759	PFLTP	F15	18	2	[illegible]	3	1200	5+	12+
759	PFLTTF	TF15	9	2	0	3	1200	5+	12+
830	4423	F15	2	3	0	2	1300	2+	1+[illegible]
900	4424	F15	1	1	0	2	1330	2+	1+ 7
900	4414	TF15	1	1	0	2	1330	2+	1+19
1045	CONV22	F15	2	2	0	2	1515	2+	1+14
1059	CONV12	TF15	2	2	0	2	1530	2+	1+[illegible]
1130	CONV24	F15	2	2	0	2	1600	2+	1+34
1239	CONV24	F15	1	1	0	2	1710	2+	1+ 9
1239	CONV12	TF15	1	1	0	2	1710	2+	1+12
1300	4423	F15	2	2	0	2	1730	2+	1+ 8
1309	4423	F15	1	1	0	2	1740	2+	1+ 4
1309	4413	TF15	1	1	0	2	1740	2+	1+ 5
1330	4423	F15	2	2	0	2	1800	2+	1+[illegible]
1600	CONV14	TF15	2	2	0	2	2030	2+	2+[illegible]
1630	CONV12	TF15	2	2	0	2	2100	2+	1+ 4

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
30	AA21	F15	2	2	1	2	[illegible]	2+ [illegible]	[illegible]
59	CONV11	TF15	1	1	0	2	53[illegible]	2+ [illegible]	1+45
109	CONV21	F15	2	2	[illegible]	2	559	2+ [illegible]	1+22
130	CONV11	TF15	2	2	1	2	600	2+ [illegible]	1+26
142	AA11	TF15	1	1	[illegible]	2	619	2+ [illegible]	1+ [illegible]
200	CONV14	TF15	4	2	1	2	63[illegible]	2+ [illegible]	1+41
215	AA14	TF15	2	2	[illegible]	2	645	2+ [illegible]	2+ 9
229	AA21	F15	3	3	0	2	70[illegible]	2+ 0	1+19
330	AA14	TF15	1	1	0	2	900	2+ [illegible]	0+47
349	AA24	F15	3	3	0	2	82[illegible]	2+ [illegible]	1+15
430	AA21	F15	[illegible]	3	[illegible]	2	90[illegible]	2+ [illegible]	[illegible]
500	CONV24	F15	2	2	0	2	930	2+ [illegible]	1+2[illegible]
529	AA24	F15	2	2	0	2	100[illegible]	2+ [illegible]	1+ 2
557	AA22	F15	2	2	0	2	103[illegible]	2+ [illegible]	1+2[illegible]
647	AA24	F15	1	1	[illegible]	2	112[illegible]	2+ [illegible]	1+ 4
649	AA14	TF15	1	1	0	2	112[illegible]	2+ [illegible]	0+59
659	CONV14	TF15	1	1	0	2	113[illegible]	2+ [illegible]	1+ 8
730	AASHF	F15	1	1	[illegible]	2	8[illegible]	5+ [illegible]	2+ 5
730	CONV12	TF15	1	1	0	2	12[illegible]	2+	1+13
734	CONV24	F15	2	2	[illegible]	2	1205	2+ [illegible]	1+19
741	PHASE	F15	1	1	0	2	900	5+ [illegible]	2+ 8
741	PHASE	F15	1	1	0	2	80[illegible]	5+ [illegible]	2+ 5
741	PHASE	TF15	1	1	0	2	[illegible]	5+ [illegible]	2+ 8
800	RELTTE	TF15	7	2	[illegible]	3	122[illegible]	6+ [illegible]	12+ [illegible]
800	RELTTE	F15	2[illegible]	2	[illegible]	3	122[illegible]	5+	12+ [illegible]
800	AA14	TF15	1	1	0	2	1230	2+ [illegible]	0+53
1009	AA24	F15	3	3	[illegible]	2	144[illegible]	2+	1+2[illegible]
1030	AA13	TF15	1	1	[illegible]	2	150[illegible]	2+ [illegible]	1+ 9
1230	AA23	F15	2	2	1	2	170[illegible]	2+ [illegible]	1+ 4
1259	CONV12	TF15	2	2	0	2	1730	2+ [illegible]	1+22
1315	CONV22	F15	2	2	[illegible]	2	1749	2+ [illegible]	1+18
1330	CONV22	F15	2	2	[illegible]	2	180[illegible]	2+	1+33
1344	AA23	F15	2	2	1	2	1819	2+	1+ 9
1644	AA23	F15	2	2	0	2	2115	2+ [illegible]	2+29

DAY 4

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
59	AA21	F15	2	2	1	2	53[illegible]	2+ [illegible]	1+ [illegible]
130	CONV11	TF15	2	2	1	2	6[illegible]	2+ [illegible]	1+34
144	CONV21	F15	2	2	1	2	619	2+ [illegible]	1+22
150	AA21	F15	2	2	1	2	62[illegible]	2+ 0	1+ 3
239	CONV24	F15	2	2	0	2	710	2+ [illegible]	1+19
245	AA14	TF15	2	2	1	2	715	2+	1+16
300	AA21	F15	3	3	0	2	73[illegible]	2+ [illegible]	0+ 7
330	AA14	TF15	2	2	1	2	80[illegible]	2+ [illegible]	1+ 3
359	CONV14	TF15	2	2	0	2	830	2+ [illegible]	2+14
430	AA21	F15	1	1	[illegible]	2	90[illegible]	2+ [illegible]	1+ 9
430	AA14	TF15	1	1	[illegible]	2	90[illegible]	2+ [illegible]	1+2[illegible]
600	CONV11	TF15	2	2	[illegible]	2	103[illegible]	2+ [illegible]	1+25
645	AA24	F15	2	2	0	2	1119	2+ [illegible]	[illegible]
659	AA22	F15	2	2	0	2	113[illegible]	2+ [illegible]	[illegible]+49
709	AA22	F15	2	2	[illegible]	2	114[illegible]	2+ [illegible]	1+ 2
730	AASHTR	TF15	1	1	[illegible]	2	8[illegible]	5+ [illegible]	2+ 6
730	AASHF	F15	1	1	0	2	80[illegible]	5+ [illegible]	2+ 9
730	AA24	F15	2	2	[illegible]	2	120[illegible]	2+ [illegible]	1+53
800	RELTTE	F15	22	2	[illegible]	3	12[illegible]	5+ [illegible]	12+ [illegible]
800	RELTTE	TF15	7	2	[illegible]	3	120[illegible]	6+ [illegible]	12+ [illegible]
829	AA23	F15	3	3	[illegible]	2	13[illegible]	2+ [illegible]	1+ 4
845	CONV24	F15	2	2	0	2	1315	2+ [illegible]	1+27
900	AA24	F15	1	1	[illegible]	2	133[illegible]	2+ [illegible]	1+ 9
900	AA14	TF15	1	1	[illegible]	2	133[illegible]	2+	1+ 9
920	CONV22	F15	2	2	[illegible]	2	13[illegible]	2+ [illegible]	1+ 2
1100	AA24	F15	2	2	0	2	1530	2+ [illegible]	1+19
1240	CONV24	F15	1	1	0	2	171[illegible]	2+ [illegible]	1+27
1240	CONV12	TF15	1	1	0	2	171[illegible]	2+ [illegible]	1+34
1245	AA23	F15	2	2	[illegible]	2	1715	2+ [illegible]	1+16
1309	AA23	F15	1	1	0	2	1740	2+ [illegible]	1+17
1309	AA13	TF15	1	1	[illegible]	2	174[illegible]	2+ [illegible]	1+1[illegible]
1330	AA23	F15	2	2	[illegible]	2	180[illegible]	2+	[illegible]+53
1559	CONV14	TF15	2	2	[illegible]	2	203[illegible]	2+ [illegible]	1+49
1630	CONV12	TF15	2	2	[illegible]	2	210[illegible]	2+ [illegible]	1+ 7

DAY 5

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
~~30~~	~~AA21~~	~~F19~~	~~2~~	~~2~~	~~1~~	~~2~~	~~5[illegible]~~	~~2+~~	~~1+[illegible]~~
59	CONV11	TF15	1	1	0	2	530	2+	1+26
130	CONV11	TF15	2	2	1	2	600	2+	1+27
142	AA11	TF15	1	1	0	2	615	2+	1+ 2
~~200~~	~~CONV14~~	~~TF19~~	~~4~~	~~2~~	~~1~~	~~2~~	~~630~~	~~2+~~	~~1+45~~
215	AA14	TF15	2	2	0	2	645	2+	2+19
~~229~~	~~AA21~~	~~F19~~	~~3~~	~~3~~	~~1~~	~~2~~	~~700~~	~~2+~~	~~1+19~~
300	CONV21	F15	2	2	1	2	730	2+	1+44
~~330~~	~~AA14~~	~~TF19~~	~~1~~	~~1~~	~~0~~	~~2~~	~~800~~	~~2+~~	~~1+ 4~~
349	AA24	F15	3	3	1	2	823	2+	1+ 6
~~399~~	~~AA21~~	~~F19~~	~~2~~	~~2~~	~~1~~	~~2~~	~~830~~	~~2+~~	~~1+ 9~~
415	AA21	F15	2	2	0	2	845	2+	1+ 5
~~500~~	~~CONV24~~	~~F19~~	~~2~~	~~2~~	~~0~~	~~2~~	~~930~~	~~2+~~	~~1+19~~
529	AA24	F15	2	2	0	2	1000	2+	0+52
~~557~~	~~AA22~~	~~F19~~	~~2~~	~~2~~	~~1~~	~~2~~	~~1030~~	~~2+~~	~~1+29~~
647	AA24	F15	1	1	0	2	1120	2+	1+ 3
~~649~~	~~AA14~~	~~TF19~~	~~1~~	~~1~~	~~0~~	~~2~~	~~1120~~	~~2+~~	~~0+53~~
659	CONV14	TF15	1	1	0	2	1130	2+	1+18
~~730~~	~~ABSWTF~~	~~TF19~~	~~1~~	~~1~~	~~0~~	~~2~~	~~900~~	~~9+~~	~~2+ 9~~
730	CONV12	TF15	1	1	0	2	1200	2+	1+32
~~900~~	~~REFLTF~~	~~F19~~	~~22~~	~~2~~	~~0~~	~~3~~	~~1200~~	~~6+~~	~~12+ 3~~
900	REFLTF	TF15	8	2	0	3	1200	6+	12+ 0
~~1009~~	~~AA24~~	~~F15~~	~~3~~	~~3~~	~~1~~	~~2~~	~~1440~~	~~2+~~	~~1+11~~
1030	AA13	TF15	1	1	0	2	1500	2+	0+56
~~1100~~	~~AA21~~	~~F19~~	~~2~~	~~2~~	~~0~~	~~2~~	~~1530~~	~~2+~~	~~1+14~~
1139	AA23	F15	3	3	0	2	1610	2+	1+ 3
~~1230~~	~~AA23~~	~~F19~~	~~2~~	~~2~~	~~0~~	~~2~~	~~1700~~	~~2+~~	~~1+11~~
1259	CONV12	TF15	1	1	0	2	1730	2+	1+33
~~1319~~	~~CONV22~~	~~F19~~	~~2~~	~~2~~	~~0~~	~~2~~	~~1749~~	~~2+~~	~~1+17~~
1644	AA23	F15	2	2	6	2	2115	2+ 0	2+ 4

1.0 OPERATIONAL SCENARIO

DAY 1

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
29	AA21	F15	2	2	1	2	500	2+ 0	1+31
59	PHASF	F15	1	1	0	2	800	5+ 0	2+ 7
59	PHASF	F15	1	1	0	2	800	5+ 0	2+ 5
59	PHASTF	TF15	1	1	0	2	800	5+ 0	2+ 6
59	WASHF	F15	1	1	0	2	800	5+ 0	2+ 6
100	CONV11	TF15	1	1	0	2	530	2+ 0	1+28
109	AA11	TF15	2	2	1	2	540	2+ 0	0+53
109	AA21	F15	2	2	0	2	540	2+ 0	1+ 6
114	CONV21	F15	2	2	1	2	545	2+ 0	1+23
130	CONV11	TF15	2	2	1	2	600	2+ 0	1+23
144	AA21	F15	2	2	0	2	610	2+ 0	2+28
144	AA11	TF15	1	1	0	2	615	2+ 0	0+59
159	CONV14	TF15	4	2	1	2	630	2+ 0	1+31
215	AA14	TF15	2	2	0	2	645	2+ 0	2+ 6
229	AA21	F15	1	3	0	2	700	2+ 0	1+31
239	CONV11	TF15	1	1	0	2	710	2+ 0	1+21
300	CONV24	F15	2	2	1	2	730	2+ 0	1+15
314	CONV21	F15	1	1	0	2	745	2+ 0	1+26
329	AA14	TF15	1	1	0	2	800	2+ 0	0+54
349	AA24	F15	3	3	1	2	820	2+ 0	1+19
359	AA21	F15	2	2	0	2	830	2+ 0	1+ 8
415	AA21	F15	2	2	0	2	845	2+ 0	0+56
500	CONV24	F15	2	2	0	2	930	2+ 0	1+25
529	AA24	F15	2	2	0	2	1000	2+ 0	0+57
545	AA24	F15	1	1	0	2	1015	2+ 0	1+54
545	AA14	TF15	1	1	0	2	1015	2+ 0	2+ 1
600	AA22	F15	2	2	0	2	1030	2+ 0	1+15
649	AA24	F15	1	1	0	2	1120	2+ 0	0+52
649	AA14	TF15	1	1	0	2	1120	2+ 0	0+53
700	CONV14	TF15	1	1	0	2	1130	2+ 0	1+39
715	AA23	F15	2	2	0	2	1145	2+ 0	1+16
725	AA13	TF15	2	2	0	2	1155	2+ 0	1+27
730	CONV12	TF15	1	1	0	2	1200	2+ 0	1+32
759	PFLTTF	TF15	3	2	0	3	1200	6+ 0	12+ 0
759	PFLTF	F15	11	2	0	3	1200	6+ 0	12+ 0
829	AA23	F15	2	2	0	2	1300	2+ 0	2+ 9
1009	AA24	F15	3	3	0	2	1440	2+ 0	1+29
1030	AA13	TF15	2	2	0	2	1500	2+ 0	1+ 3
1044	CONV22	F15	1	1	0	2	1515	2+ 0	1+32
1059	AA23	F15	2	2	0	2	1530	2+ 0	1+ 1
1129	CONV12	TF15	1	1	0	2	1600	2+ 0	1+26
1139	AA23	F15	3	3	0	2	1610	2+ 0	1+ 3
1230	AA23	F15	2	2	0	2	1700	2+ 0	1+ 0
1300	CONV12	TF15	1	1	0	2	1730	2+ 0	1+28
1315	CONV22	F15	2	2	0	2	1745	2+ 0	1+14
1645	AA23	F15	2	2	0	2	2115	2+ 0	2+ 6

DAY 2

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
59	AA21	F15	2	2	1	2	530	2+ 0	1+ 5
100	WASHF	F15	1	1	0	2	600	5+ 0	2+ 5
100	PHASTF	TF15	1	1	0	2	800	5+ 0	2+ 6
100	PHASF	F15	1	1	0	2	800	5+ 0	2+ 5
100	PHASF	F15	1	1	0	2	800	5+ 0	2+ 5
110	CONV24	F15	1	1	1	2	540	2+ 0	1+22
111	CONV24	F15	1	1	0	2	542	2+ 0	1+22
115	CONV24	F15	1	1	0	2	545	2+ 0	1+31
130	CONV11	TF15	2	2	1	2	600	2+ 0	1+17
144	CONV21	F15	2	2	1	2	615	2+ 0	1+29
150	AA21	F15	2	2	1	2	620	2+ 0	1+ 0
210	CONV11	TF15	1	1	0	2	640	2+ 0	1+29
229	CONV24	F15	2	2	0	2	700	2+ 0	1+39
245	AA14	TF15	2	2	1	2	715	2+ 0	1+13
300	AA21	F15	3	3	0	2	730	2+ 0	1+53
345	AA21	F15	2	2	0	2	815	2+ 0	1+16
359	AA24	F15	2	1	0	2	830	2+ 0	1+11
359	AA14	TF15	1	1	0	2	830	2+ 0	1+ 2
415	AA24	F15	1	1	0	2	845	2+ 0	1+ 4
415	AA14	TF15	1	1	0	2	845	2+ 0	0+50
430	AA21	F15	1	1	0	2	900	2+ 0	1+11
430	AA14	TF15	1	1	0	2	900	2+ 0	1+ 6
510	CONV11	TF15	2	2	0	2	940	2+ 0	1+24
529	AA21	F15	2	1	0	2	1000	2+ 0	1+12
529	AA11	TF15	1	1	0	2	1000	2+ 0	1+11
600	CONV11	TF15	2	2	0	2	1030	2+ 0	1+ 8
614	CONV22	F15	2	2	0	2	1045	2+ 0	1+15
620	AA24	F15	2	2	0	2	1050	2+ 0	1+ 1
645	AA24	F15	2	2	0	2	1115	2+ 0	0+52
659	AA23	F15	2	2	0	2	1130	2+ 0	0+55
730	AA24	F15	2	2	0	2	1200	2+ 0	1+40
800	PFLTTF	TF15	5	2	0	3	1200	6+ 0	12+ 0
800	PFLTF	F15	9	2	0	3	1200	6+ 0	12+ 0
829	AA23	F15	3	3	0	2	1300	2+ 0	0+53
900	AA24	F15	1	1	0	2	1330	2+ 0	1+ 8
900	AA14	TF15	1	1	0	2	1330	2+ 0	1+24
930	CONV12	TF15	1	1	0	2	1400	2+ 0	1+30
1044	CONV22	F15	2	2	0	2	1515	2+ 0	1+31
1100	CONV12	TF15	2	2	0	2	1530	2+ 0	1+32
1129	CONV24	F15	2	2	0	2	1600	2+ 0	1+15
1240	CONV24	F15	1	1	0	2	1710	2+ 0	1+23
1240	CONV12	TF15	1	1	0	2	1710	2+ 0	1+21
1300	AA23	F15	2	2	0	2	1730	2+ 0	1+11
1310	AA23	F15	1	1	0	2	1740	2+ 0	1+11
1310	AA13	TF15	1	1	0	2	1740	2+ 0	1+14
1330	AA23	F15	2	2	0	2	1800	2+ 0	1+ 2
1400	AA23	F15	2	2	0	2	1830	2+ 0	2+18
1400	AA13	TF15	1	1	0	2	1830	2+ 0	2+26
1600	CONV14	TF15	2	2	0	2	2030	2+ 0	2+22
1630	CONV12	TF15	2	2	0	2	2100	2+ 0	1+16

DAY 3

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
29	AA21	F15	2	2	1	2	500	2+ 0	1+ 1
59	WASHTF	TF15	1	1	0	2	800	5+ 0	2+ 6
59	PHASF	F15	1	1	0	2	800	5+ 0	2+ 5
59	PHASF	F15	1	1	0	2	800	5+ 0	2+ 6
59	PHASTF	TF15	1	1	0	2	800	5+ 0	2+ 6
59	WASHF	F15	1	1	0	2	800	5+ 0	2+ 5
100	CONV11	TF15	1	1	0	2	530	2+ 0	1+19
104	CONV21	F15	2	2	0	2	535	2+ 0	1+17
130	CONV11	TF15	2	2	1	2	600	2+ 0	1+23
142	AA11	TF15	1	1	0	2	615	2+ 0	1+ 9
159	CONV14	TF15	4	2	1	2	630	2+ 0	1+59
215	AA14	TF15	2	2	0	2	645	2+ 0	2+28
230	AA21	F15	3	3	0	2	700	2+ 0	1+23
244	AA24	F15	2	2	0	2	715	2+ 0	1+12
244	AA11	TF15	1	1	0	2	715	2+ 0	1+ 2
250	CONV21	F15	1	1	1	2	720	2+ 0	1+30
300	CONV21	F15	1	1	0	2	730	2+ 0	1+12
315	AA21	F15	2	2	1	2	745	2+ 0	2+14
315	AA11	TF15	1	1	0	2	745	2+ 0	2+25
329	AA14	TF15	1	1	0	2	800	2+ 0	1+ 5
356	AA24	F15	3	3	0	2	820	2+ 0	1+ 5
430	AA21	F15	3	3	0	2	900	2+ 0	0+58
459	CONV24	F15	2	2	0	2	930	2+ 0	1+35
530	AA24	F15	2	2	0	2	1000	2+ 0	0+54
530	CONV24	F15	1	1	0	2	1030	2+ 0	1+22
557	AA22	F15	2	2	0	2	1030	2+ 0	1+ 6
647	AA24	F15	1	1	0	2	1120	2+ 0	0+55
653	AA14	TF15	1	1	0	2	1120	2+ 0	0+57
700	CONV14	TF15	1	1	0	2	1130	2+ 0	1+15
730	CONV12	TF15	1	1	0	2	1200	2+ 0	1+28
735	CONV23	F15	2	2	0	2	1205	2+ 0	1+30
759	PFLTTF	TF15	3	2	0	3	1200	6+ 0	12+ 0
759	PFLTF	F15	9	2	0	3	1200	6+ 0	12+ 0
759	AA14	TF15	1	1	0	2	1230	2+ 0	1+ 1
830	AA12	TF15	1	1	1	2	1300	2+ 0	1+10
830	AA24	F15	1	1	0	2	1300	2+ 0	1+14
1010	AA24	F15	3	3	0	2	1440	2+ 0	1+15
1030	AA13	TF15	1	1	0	2	1500	2+ 0	1+11
1130	CONV22	F15	1	1	0	2	1600	2+ 0	1+27
1140	CONV22	F15	1	1	0	2	1610	2+ 0	1+23
1200	AA24	F15	2	1	0	2	1630	2+ 0	0+56
1200	AA13	TF15	1	1	0	2	1630	2+ 0	1+ 2
1229	AA23	F15	2	2	0	2	1700	2+ 0	1+ 7
1300	CONV12	TF15	2	2	0	2	1730	2+ 0	1+25
1314	CONV22	F15	2	2	0	2	1745	2+ 0	1+29
1330	CONV22	F15	2	2	0	2	1800	2+ 0	1+36
1345	AA23	F15	2	2	0	2	1815	2+ 0	1+ 9
1430	AA23	F15	2	1	0	2	1900	2+ 0	0+55
1430	AA13	TF15	1	1	0	2	1900	2+ 0	0+52
1645	AA23	F15	2	2	0	2	2115	2+ 0	2+ 9

DAY 4

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
59	WASHTF	TF15	1	1	0	2	800	5+ 0	2+ 5
59	WASHF	F15	1	1	0	2	800	5+ 0	2+ 6
59	PHASF	F15	1	1	0	2	800	5+ 0	2+ 5
59	PHASTF	TF15	1	1	0	2	800	5+ 0	2+ 6
100	AA21	F15	2	2	1	2	530	2+ 0	1+ 3
130	CONV11	TF15	2	2	1	2	600	2+ 0	1+39
139	AA21	F15	2	2	0	2	610	2+ 0	2+31
139	AA11	TF15	1	1	0	2	610	2+ 0	2+ 5
145	CONV21	F15	2	2	1	2	615	2+ 0	1+24
149	AA21	F15	2	2	1	2	620	2+ 0	1+ 0
240	CONV24	F15	2	2	0	2	710	2+ 0	1+38
244	AA14	TF15	2	2	1	2	715	2+ 0	1+19
300	AA21	F15	3	3	0	2	730	2+ 0	2+ 9
315	CONV21	F15	1	1	0	2	745	2+ 0	1+36
329	AA14	TF15	2	2	1	2	800	2+ 0	1+12
345	AA21	F15	1	1	1	2	815	2+ 0	1+12
345	AA14	TF15	1	1	0	2	815	2+ 0	1+29
400	CONV14	TF15	2	2	0	2	830	2+ 0	2+21
430	AA21	F15	1	1	0	2	900	2+ 0	1+ 1
430	AA14	TF15	1	1	0	2	900	2+ 0	1+ 5
445	CONV11	TF15	1	1	0	2	915	2+ 0	1+31
459	CONV21	F15	1	1	0	2	930	2+ 0	1+36
600	CONV11	TF15	2	2	0	2	1030	2+ 0	1+16
645	AA24	F15	2	2	0	2	1115	2+ 0	0+57
700	AA22	F15	2	2	0	2	1130	2+ 0	1+ 3
710	AA22	F15	2	2	0	2	1140	2+ 0	1+ 3
730	AA24	F15	2	2	0	2	1200	2+ 0	1+49
759	PFLTF	F15	11	2	0	3	1200	6+ 0	12+ 0
759	PFLTTF	TF15	2	2	0	3	1200	6+ 0	12+ 0
830	AA23	F15	3	3	0	2	1300	2+ 0	1+ 4
844	CONV24	F15	2	2	0	2	1315	2+ 0	1+33
900	AA24	F15	1	1	0	2	1330	2+ 0	1+13
900	AA14	TF15	1	1	0	2	1330	2+ 0	1+ 4
919	CONV22	F15	2	2	0	2	1350	2+ 0	1+23
929	AA13	TF15	1	1	0	2	1400	2+ 0	0+52
929	AA24	F15	2	1	0	2	1400	2+ 0	1+ 0
1030	AA24	F15	1	1	0	2	1500	2+ 0	2+ 6
1030	AA23	F15	1	1	0	2	1500	2+ 0	2+ 5
1059	AA24	F15	2	2	0	2	1530	2+ 0	1+18
1130	AA23	F15	2	2	0	2	1600	2+ 0	2+22
1240	CONV24	F15	1	1	0	2	1710	2+ 0	1+33
1240	CONV12	TF15	1	1	0	2	1710	2+ 0	1+23
1245	AA23	F15	2	2	0	2	1715	2+ 0	1+21
1310	AA23	F15	1	1	0	2	1740	2+ 0	1+25
1310	AA13	TF15	1	1	0	2	1740	2+ 0	1+ 5
1330	AA23	F15	2	2	0	2	1800	2+ 0	0+58
1500	CONV22	F15	1	1	0	2	1930	2+ 0	1+19
1515	CONV12	TF15	1	1	0	2	1945	2+ 0	1+27
1529	CONV22	F15	1	1	0	2	2000	2+ 0	1+28
1600	CONV14	TF15	2	2	0	2	2030	2+ 0	2+11
1630	CONV12	TF15	2	2	0	2	2100	2+ 0	1+25

DAY 5

TIME	MISSION	A/C TYPE	SCHED	(MIN)	(SPARE)	PRIORITY	TAKEOFF	LATENESS	SORTIE LENGTH
30	AA21	F15	2	2	1	2	500	2+ 0	0+54
59	CONV11	TF15	1	1	0	2	530	2+ 0	1+23
100	PHASF	F15	1	1	0	2	800	5+ 0	2+ 6
100	WASHF	F15	1	1	0	2	800	5+ 0	2+ 5
100	WASHTF	TF15	1	1	0	2	800	5+ 0	2+ 6
130	CONV11	TF15	2	2	1	2	600	2+ 0	1+39
142	AA11	TF15	1	1	0	2	615	2+ 0	0+57
200	CONV14	TF15	4	2	1	2	630	2+ 0	1+31
215	AA14	TF15	2	2	0	2	645	2+ 0	2+ 4
229	AA21	F15	3	3	1	2	700	2+ 0	1+16
300	CONV21	F15	2	2	1	2	730	2+ 0	1+59
314	AA21	F15	2	2	1	2	745	2+ 0	2+19
314	AA11	TF15	1	1	1	2	745	2+ 0	2+ 7
330	AA14	TF15	1	1	0	2	800	2+ 0	0+52
350	AA24	F15	3	3	1	2	820	2+ 0	1+10
359	AA21	F15	2	2	0	2	830	2+ 0	1+15
415	AA21	F15	2	2	0	2	845	2+ 0	1+ 4
430	AA21	F15	3	2	0	2	900	2+ 0	1+51
430	AA11	TF15	1	1	0	2	900	2+ 0	2+14
500	CONV24	F15	2	2	0	2	930	2+ 0	1+18
515	CONV21	F15	1	1	0	2	945	2+ 0	1+14
529	AA24	F15	2	2	0	2	1000	2+ 0	0+54
545	CONV11	TF15	1	1	0	2	1015	2+ 0	1+21
557	AA22	F15	2	2	0	2	1030	2+ 0	1+ 6
647	AA24	F15	1	1	0	2	1120	2+ 0	0+51
650	AA14	TF15	1	1	0	2	1120	2+ 0	0+57
659	CONV14	TF15	1	1	0	2	1130	2+ 0	1+37
730	CONV12	TF15	1	1	0	2	1200	2+ 0	1+25
800	PFLTF	F15	11	2	0	3	1200	6+ 0	12+ 0
800	PFLTTF	TF15	3	2	0	3	1200	6+ 0	12+ 0
829	CONV22	F15	1	1	0	2	1300	2+ 0	1+17
905	CONV24	F15	1	1	0	2	1335	2+ 0	1+21
1010	AA24	F15	3	3	0	2	1440	2+ 0	1+ 4
1030	AA13	TF15	1	1	0	2	1500	2+ 0	1+ 3
1040	AA23	F15	3	2	0	2	1510	2+ 0	1+ 5
1040	AA14	TF15	1	1	0	2	1510	2+ 0	0+52
1100	AA23	F15	2	2	0	2	1530	2+ 0	1+11
1140	AA23	F15	3	3	0	2	1610	2+ 0	0+51
1230	AA23	F15	2	2	0	2	1730	2+ 0	1+ 9
1259	CONV12	TF15	1	1	0	2	1733	2+ 0	1+25
1315	CONV22	F15	2	2	0	2	1745	2+ 0	1+15
1344	AA23	F15	2	1	0	2	1815	2+ 0	1+23
1344	AA13	TF15	2	1	0	2	1815	2+ 0	1+21
1429	CONV12	TF15	1	1	0	2	1900	2+ 0	1+23
1500	CONV24	F15	1	1	0	2	1930	2+ 0	1+20
1644	AA23	F15	2	2	0	2	2115	2+ 0	2+37

APPENDIX C

PERFORMANCE SUMMARY REPORTS AND MATRICES

APPENDIX C

PERFORMANCE SUMMARY REPORTS AND MATRICES

Performance Summary Reports (PSR's) and on/off equipment manpower and backorder matrices are illustrated in this appendix. These statistics reflect the results of the F-15 peacetime simulation based on unconstrained parts, unconstrained avionic test stations, and a .74 scheduled sortie rate. Figures C-1, C-2, and C-3 describe the results of the unconstrained manpower simulation. Figures C-4, C-5, and C-6 contain output statistics for the constrained manpower simulation. Drake (Ref 7 and 8) describes in detail the statistical output of an LCOM simulation.

RUN NUMBER 893RUN PERFORMANCE SUMMARY PERIOD FROM [illegible] TO 98.00

#	OPERATIONS	TOTAL	CONVF	CONVTF	AAF	AATF	PHASF	PHASTF	W3SHF	WASHTF	PFLTF	PFLTTF
1	NUMBER OF MISSIONS REQUESTED	2352.00	[illegible]	436.00	910.00	350.00	84.00	42.00	56.00	28.00	70.00	70.00
2	NUMBER ACCOMPLISHED	22[illegible]	287.[illegible]	426.00	872.00	349.00	84.00	42.00	56.00	28.00	70.00	70.00
3	PERCENT ACCOMPLISHED	97.[illegible]	93.19	98.16	95.82	99.71	100.00	100.00	100.00	100.00	100.00	100.00
4	NUMBER OF SORTIES REQUESTED	[illegible]	[illegible]	77[illegible]	1019.[illegible]	448.00	84.00	42.00	56.00	28.00	1414.00	546.00
5	NUMBER ACCOMPLISHED	56[illegible]	[illegible]	7[illegible]	1531.00	446.00	84.00	42.00	56.00	28.00	1371.00	544.00
6	PERCENT ACCOMPLISHED	[illegible]	92.96	97.14	95.66	99.55	100.00	100.00	100.00	100.00	96.96	99.63

#	AIRCRAFT	TOTAL	F15	TF15	
7	NUMBER OF AIRCRAFT AUTH. (EOP)	72.00	48.00	24.00	0.00
8	NUMBER OF AIRCRAFT-DAYS AVAIL.	7056.00	4704.00	2352.00	0.00
9	PCT SORTIES (INCL ALERT)	16.68	17.53	14.92	0.00
10	PCT UNSCHED MAINTENANCE	15.25	15.44	14.98	0.00
11	PCT SCHED MAINTENANCE	23.[illegible]	24.71	21.97	0.00
12	PCT NORS	[illegible]	[illegible]	[illegible]	0.00
13	PCT SERVICE + MAN. WAIT	[illegible]	[illegible]	[illegible]	0.00
14	PCT OPERATIONALLY READY	47.9[illegible]	46.66	50.63	0.00
15	AVG. AIRCRAFT TURNAROUND TIME	5.34	5.33	5.50	0.00
16	AVG. NO. OF SORTIES/ A/C /DAY	0.81	0.83	0.77	0.00

#	PERSONNEL	TOTAL	326A1	326A2	326B1	32692	326C2	326L2	42143	421X2	422X1	422X2
17	MANHOURS AUTHORIZED (EOP)	127[illegible]	47[illegible]	47[illegible]	4704.00	4704.00	4704.00	4704.00	4704.00	4704.00	4704.00	4704.00
18	MANHOURS AVAILABLE (EOP)	1270[illegible]	47[illegible]	47[illegible]	4704.00	4704.00	4704.00	4704.00	4704.00	4704.00	4704.00	4704.00
19	PERCENT UTILIZATION	[illegible]	1.63	1.31	[illegible]	0.56	0.7[illegible]	0.01	0.52	1.22	0.59	0.12
20	MANHOURS USED (EOP)	1[illegible]	76.[illegible]	61.[illegible]	30.21	26.45	32.74	0.47	24.47	57.57	27.75	5.68
21	PCT UNSCHED. MAINTENANCE	66.5[illegible]	1[illegible]	59.34	100.00	90.13	100.00	100.00	100.00	85.47	93.52	25.98
22	PCT SCHED. MAINTENANCE	33.[illegible]	[illegible]	0.66	0.00	5.87	0.00	0.00	0.00	14.53	6.48	74.02
23	NUMBER OF MEN DEMANDED	14587.[illegible]	1463.[illegible]	3160.00	817.00	1764.00	1930.00	194.00	7980.00	2612.00	1449.00	269.00
24	PCT AVAILABLE (PRIME)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
25	PCT AVAILABLE (SUBST.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	PCT PROV. BY EXCHANGE	[illegible]	[illegible]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	PCT PROV. BY PREEMPTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	PCT DEMANDS NOT SATIS.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	OVERTIME MANHOURS USED (EOP)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	MANHOURS PER FLYING HOUR	4.67	0.27	0.22	0.11	0.09	0.12	0.00	0.09	0.20	0.10	0.02
31	MOST TROUBLESOME PERS. ITEMS	0.00	3.01	3.02	3.03	4.01	4.02	4.03	5.01	5.02	5.03	6.01

Figure C-1. Unconstrained Simulation Performance Summary Report

	P E R S O N N E L	TOTAL	423X.	424XC	431C1	431P1	431X1	431Y1	432T3	432Y3	462X8	462YC
17	MANHOURS AUTHORIZED (1000)	1270.9..	4704.00	47.4.00	4704.00	4704.00	4704.00	4704.00	4704.00	4734.00	4764.00	4704.00
18	MANHOURS AVAILABLE (1000)	1270.9..	4704.00	47.4.00	4704.00	47.4.00	4704.00	4704.00	4704.00	4704.00	4764.69	4704.00
19	PERCENT UTILIZATION	1.76	0.45	1.1	0.20	1.27	7.19	0.26	1.75	5.18	3.45	0.14
20	MANHOURS USED (1000)	1316.61	21.76	47.65	9.50	59.85	339.04	12.17	82.46	243.76	21.24	6.38
21	PCT UNSCHED. MAINTENANCE	66.50	96.19	100.00	99.69	0.00	24.40	100.00	100.00	95.19	6.89	84.24
22	PCT SCHED. MAINTENANCE	33.50	3.82	0.00	10.31	100.00	75.60	0.00	0.00	4.81	93.12	15.76
23	NUMBER OF PER DEMANDED	145897..	1224.00	646.00	232.00	61 A.00	58836.00	638.00	5288.00	14127.00	2965.00	331.00
24	PCT AVAILABLE (PRIME)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	160.00
25	PCT AVAILABLE (SUBST.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	PCT PROV. BY EXPEDITE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	PCT PROV. BY PREEMPTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	PCT DEMANDS NOT SATIS.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	OVERTIME MANHOURS USED (1000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	MANHOURS PER FLYING HOUR	4.67	0.27	0.17	0.33	0.21	1.20	0.34	0.29	0.86	0.08	0.02
31	MOST TROUBLESOME PERS. ITEMS	0.00	6.02	6.03	7.01	7.02	7.03	8.01	8.02	8.03	9.01	9.02

	P E R S O N N E L	TOTAL	4622.	531X.	531Y1	531X3	531Y4	531X5	536X0	
17	MANHOURS AUTHORIZED (1000)	1270.9..	4704.00	47.4.00	4704.00	47.4.00	4704.00	4704.00	4704.00	0.00
18	MANHOURS AVAILABLE (1000)	1270.9..	4704.00	47.4.00	4704.00	4704.00	4704.00	4704.00	47.4.33	0.00
19	PERCENT UTILIZATION	1.04	1.39	0.19	0.13	0.94	0.04	0.08	0.00	0.00
20	MANHOURS USED (1000)	1316.61	65.16	8.36	6.17	44.45	2.07	3.98	0.13	0.00
21	PCT UNSCHED. MAINTENANCE	66.50	2.54	97.33	100.00	91.41	0.00	0.00	100.00	0.00
22	PCT SCHED. MAINTENANCE	33.50	97.46	2.67	0.00	8.59	100.00	100.00	0.00	0.00
23	NUMBER OF MIN DEMANDED	145897.00	24295.00	842.00	181.00	22 6.00	94.00	90.00	22.00	0.00
24	PCT AVAILABLE (PRIME)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0.00
25	PCT AVAILABLE (SUBST.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	PCT PROV. BY EXPEDITE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	PCT PROV. BY PREEMPTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	PCT DEMANDS NOT SATIS.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	OVERTIME MANHOURS USED (1000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	MANHOURS PER FLYING HOUR	4.67	0.23	0.03	0.02	0.16	0.01	0.01	0.00	0.00
31	MOST TROUBLESOME PERS. ITEMS	0.00	9.03	10.01	10.02	10.03	11.01	11.02	11.03	12.01

```
TDAYS,TTSKS =        60        587
AVGCS,STDCS =      2.000000   0.000000
AVGTTM, SDTKTM =     1.566431    695.533677
                  ON EQUIPMENT MANPOWER MATRIX FOR WORK CENTER 326C2   THIS MATRIX COVERS   61 DAYS OF SIMULATION DATA

+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
0  I    1    2    3    4    5    6    7    8 II    9   10   11   12   13   14   15   16III   17   18   19   20   21   22   23

AVE WK/HR    .8   .9   .6   .5   .5   .3   .3   .6  1.3  2.1  2.8  3.5  3.2  2.6  2.4  2.2  1.8  1.8  1.7  1.8  2.7  2.9  1.1   .5

ST DEV/HR   4.1  4.4  3.1  2.9  2.8  2.2  1.7  2.8  6.1  8.7  1.6 11.7 10.7  9.6  8.5  8.2  6.7  7.2  9.2  8.1 10.6  7.1  5.3  2.5

     TOTAL MNHRS =  1833.1   AVE MNHRS/DAY =   30.6   ST DEV/DAY =   27.6   AVE CREW SIZE =  2.0   ST DEV =   0.0
     TOTAL TASKS PERFORMED =     587   AVE TASK TIME =  1.6   ST DEV =    1.1

     TOTAL REQUIRED MANNING =    10.64
```

SHIFT NUMBER	1	2	3	4	5
START HOUR-STOP HOUR	0 / 8	8 / 16	16 / 24		
DIRECT MANNING/TOTAL MAN(X INDIRECT)= 43	1.52 / 2.54	6.93 / 11.55	4.65 / 7.75		
MAXIMUM CREWSIZE PER JOB	2	2	2		

Figure C-2. AFSC 326X2C on-Equipment Unconstrained Manpower Matrix

```
TDAYS,TTSKS =          60         172
AVGCS,STDCS =        1.662791     19.441860
AVGTTM, SDTKTM =        2.912821     339.305908
                     OFF EQUIPMENT MANPOWER MATRIX FOR WORK CENTER 531X3   THIS MATRIX COVERS   6C DAYS OF SIMULATION DATA
    •  0                                        0                                        0
    •  0                                        0                                        0
 25•   0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
 20•   0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
 15•   0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
    •  0                                        0                                        0
 10•   0                                        0                                        0
    •  0                                        0                                        0
    •  2       1  1                             1                                        0
    •  2                                        1                   1                    0
    •  4     1  1                               7              1    1  2 1    1          6   1   1 1                   1  1 1
  5•   4                                       14                         1  2 1         1 2   11  2 1                            1  1
    •  30  2 2  2     3  3 3  3 3  2 1  1 1    60     1 2  2 1  1 3  2 1  2 2  2 2  1 2   59  4 4  6 4  2 2  2 4  3 2  3 2  4 2  2 2
    •  37  1       1  1 1  1           1 1     76  1 1  1 1         1  2 1  3 5  6 7  5 2   73  1 1        1 1  1 1  1 2  2 1  1 1
    •169   9 8  8 7  7 7  8 9  911 1110  9 7  7 6 218  6 5  4 5  811 1112 1311 10 8 10 8 1010 241 1111 1210 1010 9 8 10 9 1312 1213 1111
    •240   4 6  7 6  6 7  4 4  3 3  4 5  4 3  3 2 293  1 1  2 4  4 4  5 6  5 6  7 8  6 6  5 5 30.  2 4  4 3  3 5  5 4  4 2  2 3  4 5  4 5
        4443 4245 4542 4444 4543 4444 4643 4951      5253 5248 4643 4137 3638 3635 3637 3939     4238 3742 4543 4343 4245 4339 3739 4242
    •----•-----•-----•-----•-----•-----•-----•-----•----•-----•-----•-----•-----•-----•-----•----•-----•-----•-----•-----•-----•-----•----
    0 I    1     2     3     4     5     6     7     8 II     9    10    11    12    13    14    15   16III  17    18    19    20    21    22    23

AVE WK/HR  .6   .6   .6   .6   .5   .5   .4   .3   .3   .4   .5   .8   .9   .9   .9   .8   .9   .9   .5   .6   .6   .8   .8   .6

ST DEV/HR  2.5  2.4  2.4  2.7  3.   2.7  2.2  1.7  1.5  1.5  2.7  3.4  3.5  3.3  3.6  3.2  3.7  3.9  2.8  2.8  2.8  3.3  3.7  2.9

      TOTAL MNHRS =    789.8  AVE MNHRS/DAY =    13.2  ST DEV/DAY =     9.3  AVE CREW SIZE =  I.7  ST DEV =     .5
      TOTAL TASKS PERFORMED =    172  AVE TASK TIME =  2.8  ST DEV =   1.4

      TOTAL REQUIRED MANNING =     4.57

SHIFT NUMBER                                       1                2                3                4                5

START HOUR-STOP HOUR                             0 /  8          8 /  16         16 /  24

DIRECT MANNING/TOTAL MAN(% INDIRECT)= 40     1.41 /  2.35    1.88 /  3.13    2.00 /  3.33

MAXIMUM CREWSIZE PER JOB                           2                2                2
```

Figure C-3. AFSC 531X3 off-Equipment Unconstrained Manpower Matrix

RUN NUMBER 990RUN — P E R F O R M A N C E S U M M A R Y — PERIOD FROM 0.0 TO 98.00

	O P E R A T I O N S	TOTAL	CONVF	CONVTF	AAF	AATF	FHASF	PHASTF	WASHF	WASHTF	PFLTF	PFLTTF
1	NUMBER OF MISSIONS REQUESTED	2332.00	318.00	434.00	917.00	350.00	84.00	42.00	56.00	28.00	70.00	70.00
2	NUMBER ACCOMPLISHED	2227.00	279.00	427.00	855.00	346.00	84.00	42.00	56.00	28.00	70.00	70.00
3	PERCENT ACCOMPLISHED	95.50	90.58	98.39	93.96	98.86	100.00	100.00	100.00	100.00	100.00	100.00
4	NUMBER OF SORTIES REQUESTED	5894.	586.00	770.00	1918.00	448.00	84.00	42.00	56.00	28.00	1414.00	946.00
5	NUMBER ACCOMPLISHED	5139.00	571.00	743.00	1735.00	444.00	84.00	42.00	56.00	28.00	1062.00	633.00
6	PERCENT ACCOMPLISHED	87.19	96.31	96.49	91.59	99.11	100.00	100.00	100.00	100.00	73.69	79.30

	A I R C R A F T	TOTAL	F15	TF15	
7	NUMBER OF AIRCRAFT AUTH. (EOP)	72.00	48.00	24.00	0.00
8	NUMBER OF AIRCRAFT-DAYS AVAIL.	7056.00	4704.00	2352.00	0.00
9	PCT SORTIES (INCL ALERT)	13.50	13.97	12.59	0.00
10	PCT UNSCHED MAINTENANCE	16.34	16.17	16.69	0.00
11	PCT SCHED MAINTENANCE	21.41	21.80	20.61	0.00
12	PCT NORS	0.00	0.00	0.00	0.00
13	PCT SERVICE & MSN. WAIT	8.62	8.27	9.31	0.00
14	PCT OPERATIONALLY READY	40.14	39.79	40.85	0.00
15	AVG. AIRCRAFT TURNAROUND TIME	9.75	9.62	9.99	0.00
16	AVG. NO. OF SORTIES/ A/C /DAY	0.74	0.75	0.72	0.00

	P E R S O N N E L	TOTAL	326A1	326A2	326F1	326B2	326C2	326L2	421A3	421X2	422X1	422X2
17	MANHOURS AUTHORIZED (ID)	35170.33	133.28	109.75	54.88	47.04	54.88	4704.00	4704.00	101.92	47.04	47.04
18	MANHOURS AVAILABLE (ID)	35175.33	133.28	109.75	54.88	47.04	54.88	4704.00	4704.00	101.92	47.04	47.04
19	PERCENT UTILIZATION	3.57	55.49	55.76	52.94	59.55	57.93	0.01	0.51	49.45	59.55	11.65
20	MANHOURS USED (ID)	1255.51	73.96	61.21	29.05	28.08	31.79	0.45	23.93	50.40	27.78	5.48
21	PCT UNSCHED. MAINTENANCE	65.23	100.00	99.34	100.00	90.64	100.00	100.00	100.00	66.12	93.58	25.96
22	PCT SCHED. MAINTENANCE	34.77	0.00	0.66	0.00	9.36	0.00	0.00	0.00	13.88	6.42	74.14
23	NUMBER OF PCU DEMANDED	14399.00	1494.00	330.00	806.00	1826.00	190.00	181.00	7795.00	2368.00	1470.00	252.00
24	PCT AVAILABLE (PRIME)	73.26	51.70	32.24	43.18	17.74	36.15	100.00	100.00	51.01	58.91	97.62
25	PCT AVAILABLE (SUBST.)	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00
26	PCT PROV. BY EXPEDITE	6.28	0.00	1.27	0.25	1.26	0.37	0.00	0.75	3.46	0.41	0.00
27	PCT PROV. BY PREEMPTION	1.12	0.00	1.45	0.99	7.34	2.21	0.00	0.00	11.35	3.21	0.00
28	PCT DEMANDS NOT SATIS.	19.27	48.26	65.03	55.58	73.66	61.27	0.00	0.00	35.18	37.48	2.38
29	OVERTIME MANHOURS USED (ID)	2.12	0.06	0.34	0.33	0.00	0.00	0.00	0.00	0.18	0.00	0.00
30	MANHOURS PER FLYING HOUR	5.45	0.32	0.27	0.13	0.12	0.14	0.00	0.10	0.22	0.12	0.12
31	MOST TROUBLESOME PERS. ITEMS	[illegible]	3.01	3.02	3.03	4.01	4.02	4.03	5.01	5.12	5.03	6.01

Figure C-4. Constrained Simulation Performance Summary Report

	P E R S O N N E L	TOTAL	423X	424X	431C1	431F1	431X1	431Y1	432T?	432X1	462X0	462Y0
17	MANHOURS AUTHORIZED (10)	3517?.23	47.?4	94.0?	47 4.?	117.6	564.4?	47 4.	148.36	4?7.68	47 4.0	4764.??
18	MANHOURS AVAILABLE (10)	3517?.23	47.?4	94.0?	47?4.?	117.6?	564.49	47 4.0?	148.36	4?7.6?	47 4.0?	4784.36
19	PERCENT UTILIZATION	3.57	46.77	[illegible]	0.1?	53.02	58.75	0.22	53.12	52.36	0.47	0.16
20	MANHOURS USED (10)	1255.51	21.96	45.1?	8.73	58.82	331.67	10.57	79.12	213.4?	21.89	7.70
21	PCT UNSCHED. MAINTENANCE	65.23	96.35	1??.??	88.21	0.0?	24.??	1?0.??	1?0.10	92.36	7.37	84.83
22	PCT SCHED. MAINTENANCE	34.77	3.65	?.?	11.79	1?.??	76.??	0.??	0.??	7.?4	92.63	15.17
23	NUMBER OF MEN DEMANDED	1479.9?	1365.??	599.??	729.0?	8?25.0?	57?81.07	547.0?	5137.0?	14031.5?	2915.00	4?4.?0
24	PCT AVAILABLE (PRIME)	73.24	46.96	54.7?	1??.0?	26.31	66.01	1?0.??	?5.93	87.11	1?0.00	100.00
25	PCT AVAILABLE (SUBSTIT	[illegible]	[illegible]	[illegible]	[illegible]	?.0?	[illegible]	[illegible]	[illegible]	?.00	0.0?	0.??
26	PCT PROV. BY EXPEDITE	6.36	1.59	1.84	?.?	?.0?	14.77	[illegible]	0.1?	2.61	0.0?	0.0?
27	PCT PROV. BY PREEMPTION	1.12	3.15	3.??	?.??	0.00	9.84	0.0?	0.1?	1.93	0.0?	0.00
28	PCT DEMANDS NOT SATIS.	19.27	49.30	46.4?	?.0?	73.69	18.37	0.?0	14.11	?.35	0.0?	0.00
29	OVERTIME MANHOURS USED (10)	2.12	[illegible]	?.?	?.0?	0.0?	0.57	[illegible]	0.24	0.55	0.0?	0.30
30	MANHOURS PER FLYING HOUR	5.49	0.19	0.2	?.04	0.26	1.45	0.?5	0.35	0.93	0.1?	0.?3
31	MOST TROUBLESOME PERS. ITEMS	[illegible]	6.?2	6.?3	7.0?	7.02	7.03	?.?1	8.?2	8.?3	9.01	9.?2

	P E R S O N N E L	TOTAL	462Z?	531X?	531X1	531X3	531X4	531X5	536X3	
17	MANHOURS AUTHORIZED (10)	35177.23	47 4.?	47.?4	23.5?	78.4?	23.52	47.?4	47.94	[illegible]
18	MANHOURS AVAILABLE (10)	35177.23	47 4.?0	47.?4	2?.52	7?.40	23.52	47.?4	47.94	0.00
19	PERCENT UTILIZATION	3.57	1.35	17.0	29.75	?0.67	9.0?	8.47	0.22	[illegible]
20	MANHOURS USED (10)	1255.51	63.59	8.?	7.0?	39.67	2.14	3.98	0.1?	0.?0
21	PCT UNSCHED. MAINTENANCE	65.23	2.95	97.?3	1??.??	91.37	[illegible]	0.??	1?0.0?	[illegible]
22	PCT SCHED. MAINTENANCE	34.77	97.?5	2.97	?.0?	8.63	100.0?	100.00	0.00	0.00
23	NUMBER OF MEN DEMANDED	1439?9.??	27826.00	8?1.??	2?1.0?	2161.00	84.0?	88.0?	15.00	?.0?
24	PCT AVAILABLE (PRIME)	73.24	1??.??	78.?3	52.74	47.20	86.9?	52.27	1??.??	?.0?
25	PCT AVAILABLE (SUBSTIT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26	PCT PROV. BY EXPEDITE	6.38	[illegible]	1.12	?.0?	2.87	0.0?	0.0?	0.0?	0.00
27	PCT PROV. BY PREEMPTION	1.12	0.00	1.12	1.00	11.61	0.0?	0.??	0.??	0.00
28	PCT DEMANDS NOT SATIS.	19.27	0.?0	19.23	46.27	38.32	13.1?	47.73	0.0?	0.?0
29	OVERTIME MANHOURS USED (10)	2.12	0.0?	0.??	0.??	0.15	0.0?	0.0?	[illegible]	[illegible]
30	MANHOURS PER FLYING HOUR	5.49	0.28	[illegible]	?.?3	0.17	0.01	0.02	0.00	0.00
31	MOST TROUBLESOME PERS. ITEMS	[illegible]	9.?3	10.?1	10.02	10.03	11.01	11.02	11.??	12.01

Figure C-4. Constrained Simulation Performance Summary Report (continued)

```
DAYS.TTSKS =          6C          5C9
ON EQUIPMENT BACKORDER MATRIX FOR WORK CENTER 326C2   THIS MATRIX COVERS   60 DAYS OF SIMULATION DATA
    •  0                                                      0                                                   0
    •  0                                                      0                                                   0
 25 •  0                                                      .                                                   .
    •  0                                                      0                                                   0
    •  0                                                      0                                                   0
    •  0                                                      .                                                   0
    •  0                                                      .                                                   2                                            1 1
 20 •  0                                                      0                                                   3                                                 1
    •  0                                                      0                                                   5                                        1 1
    •  5  1   1 1       1 1                                   0                                                   5
    •  8    1       1 1                                       .                                                   10                            1 1  1 1  1
    •  9                       1                              0                                                   12                                 1 1
 15 • 11  1 1                                                 1          1                                        19                                    1  1      1 1  1 2
    • 14                             1  1               1     6  1 1  1    1 1                                      25                       1         1 1  2             1
    • 21  1 2  2 2                                            9                   1 1  1                           32  1 1            1  1 1  1        1
    • 36  1 1           1 1  1 1  1 2  2 2  2                 5                                                   42  1     1 1      1  1 2           2  1
    • 46  2     1 1  2 1                             1 2      27  1 1  1 1  1 1  2 2      3    3 2                  72  1 1  1 1  2 1     3  3 2  1 3  3 3  3 2
 10 • 64  3 2  4 4  3 2                                       38           1  1 1       2        1  2 1  1 1      92        1  1 1  2 2  1 1       2 3  3 3
    • 76    1  1     1 2  3 1  1 1        1                   59  1 2  1       1  1 2  1          3 6  2 3        132  3 3  4 6  2 2  3 2  2 2  4 2  3 3  1
    • 93    1  1 1  2 3  3 1  1 1  1 1  1                       85  2 1  1     1     1       1 3  2 3  1 3  4 3      191  1 3  4 5  3 5  4 3  5 6  7 6  4 1  2
    •139  5 3  2 3  4 2  3 4  4 4  4 3  1 2           2       129         2 2  1 2     2  3 1  6 6  4 3  5 7        249  6 5  1 1  5 3  1 2  3 4  4 2  5 5  6 5
    •171  4 5  2 1        1 2  2 2  2 2  2 2  2 3              18.  3 2  1 2  3 1  4 3  3 5  5 4  5 4  4 2        325  2 2  4 3  3 3  5 3  7 8  6 8  5 6  5 6
  5 •217  3 4  6 5  3 4  3 2  2 1  2 3  2 3  2                227  1 1  3 1  2 5  5 6  5 5  2 3  2 2  1 3         367  4 5  4 4  2 3  3 2  1     1 2  1 2  3 4
    •266  5 5  6 5  6 5  4 5  4 4  3 2  2 3  6 4              323  3 5  4 6  3 7 10 7  9 8  6 8  9 6  2 3         44.  3 4  4 4  5 7  6 7  2 2  3 4  5 6  6 5
    •336  3 3  3 4  6 3  4 5  4 3  3 2  2 1  2 2              437  2 4  7 8  9 7  8 9  7 6  9 6  4 8 11 9         43.  7 2  3 4  6 3  3 4  6 5  2 1  1 1     2
    •442  8 7  4 5  5 7  5 6  7 8  7 8  7 6  511              524  9 5  4 4  5 3  1 5  5 5  2 3  6 6  7 7         562  61.  9 5  2 4  4 3  3 1  4 3  3 5  3 5
    •479    1  1 1  1 2  2 2  3 4  3 2  4 4  4 3              587  4 6  8 9  6 5  6 2  4 3  4 2  2 3  4 3         607  3 5  5 7  7 4  3 2  1 2  2 2       1 1
          2323 2626 2628 303  3630 3335 3637 3632                   3336 2725 2726 2121 2621 2122 2220 1319              2019 1920 2122 2323 2223 2223 2523 2523
    ------------------------------------------------------------------------------------------------------------------------------------------
    0 I    1    2    3    4    5    6    7    8 II    9    10   11   12   13   14   15   16III   17   18   19   20   21   22   23

AVE OL/HR  3.8  3.4  3.0  2.6  2.3  2.0  1.7  1.8  1.9  2.2  2.4  3.0  3.0  3.2  3.1  3.2  3.3  3.3  3.4  3.8  4.4  4.3  4.2  4.1

ST DEV/HR  6.4  8.3  7.1  6.2  5.5  5.2  4.6  5.3  4.7  5.3  5.8  7.8  7.8  8.9  8.1  8.6  7.9  8.1  7.8  8.2  10.1 10.8  9.7  9.6

   TOTAL TASKS B/O FOR LACK OF MNPWR =   569  AVE TASKS B/O / DAY =   8.48  STD DEV / DAY =   24.19 TOTAL HRS OF DELAY = 2836.75
   TOTAL MEN B/O =   728  AVE MEN B/O / TSK =  1.4  STD DEV =   .50  AVE CREW SZ REQST =  2.0   AVE DELAY PER TASK =   5.57

    TOTAL REQUIRED MANNING =    0.00

SHIFT NUMBER                                     1                  2                  3                  4                  5

START HOUR-STOP HOUR                           0 /  8             8 /  16            16 /  24

DIRECT MANNING/TOTAL MANNING INDIRECT= 40     7.10 /  11.83      7.61 /  12.69      10.65 /  17.76

MAXIMUM CREWSIZE PER JOB                         2                  1                  2
```

Figure C-5. AFSC 326X2C on-Equipment Constrained Manpower Backorder Matrix

```
TDAYS,TTSKS =        6J        116
OFF EQUIPMENT BACKORDER MATRIX FOR WORK CENTER 531X3   THIS MATRIX COVERS   60 DAYS OF SIMULATION DATA
25*
2.
15*
1C*
  *   9                   1  1 1  1 1  1 1  1 1
  *  13             1 1         1 1
 5*  47   3 2  3 3  3 3  2 1  2 2  1 1  2 2  2 2  16  2 1  1 1  1 1        1  1 1  1    1        22  1 1  1 1  1 1            1  1 1  2 3
  *  66   1 2  1 1  1 1  2 2  1 1  1 1  1 1  1 1  3.                 2 2  2 1       1 2  2 2  46  2 1  1 1  1 1  2 1    3  3 3  2 1  1 1
  *1J8    3 3  4 4  4 4  2 2  2 2  2 2  2 2  2 2  65  3 4  4 2  2 2  2 1    1  3 3  4 1  1 2  5:  2 2  3 2  2     1 1  3 3  3 1  2 3  4 3
  *144    3 2  2 1  3 3  4 4  3 3  2 1  1 1  1   111          3  2 2  2 3  5 4  3 4  4 5  5 4 168  6 7  6 7  5 7  7 8  7 5  4 4  4 5  2 3
  *232    6 7  7 6  6 4  3 3  5 5  5 6  6 7  6 6 182  3 3  4 3  3 2  3 5  5 5  7 6  7 5  5 5 263  4 4  4 4  5 4  3 6  8 6  8 8  9 8  8 6
       4444 4343 4345 4646 4646 4747 4746 4748    5252 5151 5253 5149 4448 4646 4345 4546     4544 4444 4546 4643 4143 4243 4242 4344
 *----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----*----
 C  I    1    2    3    4    5    6    7    8 II    9   10   11   12   13   14   15   16III  17   18   19   20   21   22   23

AVE DL/HR    .7   .7   .7   .7   .6   .6   .6   .6   .4   .3   .3   .4   .4   .5   .6   .6   .6   .7   .6   .6   .6   .6   .6   .7

ST DEV/HR   2.3  2.7  2.7  2.1  2.  1.7  2.   1.9  1.7  1.5  1.2  1.4  1.6  1.8  2.2  1.9  2.2  2.2  2.1  2.3  2.4  2.3  2.1  2.4

   TOTAL TASKS B/O FOR LACK OF MNPWR =  116  AVE TASKS B/O / DAY =   1.93  STD DEV / DAY =    2.97 TOTAL HRS OF DELAY =  556.94
   TOTAL MEN B/O =   148  AVE MEN B/O / TSK =  1.3  STD DEV =   .45  AVE CREW SZ REQST =  1.6    AVE DELAY PER TASK =  4.80

    TOTAL REQUIRED MANNING =    [illegible]

SHIFT NUMBER                                  1                 2                 3                 4                 5

START HOUR-STOP HOUR                        0 / 8             8 / 16           16 / 24

DIRECT MANNING/TOTAL MANNING INDIRECT)= 43  1.79 /  2.99   1.18 /  1.97    1.70 /  2.84

MAXIMUM CREWSIZE PER JOB                      2                 2                 2
```

Figure C-6. AFSC 531X3 off-Equipment Constrained Manpower Backorder Matrix

APPENDIX D

FAILURE CLOCKS

APPENDIX D

FAILURE CLOCKS

This appendix lists the LCOM failure clocks, the respective mean sorties between maintenance action (MSBMA), the decrement tasks, and the decrement values. The MSBMA's are in aircraft sorties unless otherwise specified. DCRMT1, DCRMT2, and DCRMT5 are located in the main flight line networks. DCRMT1 advances the failure clocks prior to a mission launch while DCRMT2 and DCRMT5 advance the clocks after launch. All other decrement tasks are located in the phase and/or corrective maintenance networks.

The cumulative decrement values corresponding to certain failure clocks listed in Table D-I do not equal one. This apparent inconsistency is corrected in respective corrective maintenance network. Tetmeyer (Ref 33) describes in detail the procedures used in designing the corrective maintenance networks and decrementing the corresponding failure clocks.

Table D-I

Failure Clocks

LCOM CLOCK	MSBMA	DECREMENT	
		DCRMT1	DCRMT2
F11A00	18	.02	.98
F11D00	6	.02	.98
F11G00	8	.02	.98
F11K00	20	.02	.98
F11P00	22	.02	.98
F12A00	102	.02	.98
F12B00	125	.02	.98
F12C00	25	.02	.98
F13A00	11	.09	.91
F13B00	26	.09	.91
F13C00	164	.09	.91
F13D00	65	.09	.91
F13F00	178	.09	.91
F13H00	237	.09	.91
F13J00	19	.09	.91
F14AA0	93	.05	.95
F14AB0	711	.05	.95
F14C00	152	.05	.95
F14D00	21	.05	.95
F14E00	67	.05	.95
F14G00	533	.05	.95
F14H00	426	.05	.95
F23000	5	.06	.94
F23100	42	.06	.94
F24A00	44	.14	.86
F24B00	26	.14	.86
F24D00	355	.14	.86
F27000	5	.06	.94
F41A00	20	.05	.95
F42A00	67	.16	.84
F44A00	20	.09	.91
F44B00	267	.09	.91
F44E00	305	.09	.91
F45A00	112	.07	.93
F45B00	133	.07	.93
F45C00	23	.07	.93
F46A00	32	.06	.94
F46B00	355	.06	.94
F46D00	305	.06	.94
F46E00	32	.06	.94
F47A00	63	.10	.90
F49A00	85	.06	.94
F51A00	50		.95
F51E00	51		.95
F51L00	15	.05	
F51M00	426		.95
F51N00	27		.95

Table D-I. Failure Clocks (continued)

LCOM CLOCK	MSBMA	DECREMENT	
		DCRMT1	DCRMT2
F52A00	35	.19	.81
F55A00	237		.99
F55B00	65		.99
F55C00	76		.99
F55L00	420	.01	
F57A00	21		.87
F57L00	70	.13	
F63A00	27		.91
F63B00	25		.91
F63L00	12	.09	
F65A00	142		.98
F65B00	58		.98
F65L00	69	.02	
F71A00	13		.93
F71B00	305		.93
F71C00	533		.93
F71D00	55		.93
F71F00	52		.93
F71L00	8	.07	
F74E00	164		.93
F74F00	4		.93
F74J00	36		.93
F74K00	18		.93
F74L00	6	.07	
F75B00	51		1.00
F75C00	185		1.00
F75D00	152		1.00
F75F00	107		1.00
F75M00	213		1.00
F76A00	18	.11	.89
F76G00	250	.11	.89
F76H00	12		1.00
FCTANK	1333		1.00
FS11PA	590		1.00
FS13HC	1500		1.00
FS14GC	590		1.00
FS2300	33		1.00
FS23HA	89		1.00
		DCRMT3	
FS4700	60	1.00	
FS7500	30	1.00	

Table D-I. Failure Clocks (continued)

LCOM CLOCK	MSBMA	DECREMENT		
		DCRMT5		
F75H00 FSCGUN FSGUN0	20000 rounds 15000 rounds 25000 rounds	41.40 rounds 41.40 rounds 41.40 rounds		
		DCRMG2	DCRMG3	DCRMG7
FD6000	9	.30	.30	.40
		DCRMH7		
FTTU00	5	.70		
		DCRMTA		
FTSC	65 demands	1.00 demand		
		DCRMTB		
FTSD	65 demands	1.00 demand		
		DCRMTC		
FTSM	65 demands	1.00 demand		
		DCRMF		
HF	1	1.00		
		DCRMTF		
HTF	1	1.00		

APPENDIX E

SPARE PART AND AVIONIC TEST STATION CONSTRAINTS

Table E-I. Spare Part Constraints

Work Unit Code	Constrained Quantity	Work Unit Code	Constrained Quantity
13CA0	11	52AB0	7
14AA0	8	52AC0	14
14AB0	1	52AL0	8
23000	37	52AM0	10
24AA0	14	55AC0	3
24B00	31	55AD0	4
51AD0	16	55BC0	5
51AE0	23	55BE0	3
51AF0	11	55CA0	6
51AG0	14	55CB0	33
51AH0	14	57AA0	6
51AK0	18	63AG0	11
51AL0	14	63BC0	14
51AM0	9	63BD0	8
51EA0	4	63BF0	8
51ED0	9	63BH0	7
51NA0	6	65AA0	8
51NB0	10	65BH0	8
52AA0	7	71AE0	14

AD-A156 540 ESTIMATION OF F-15 PEACETIME MAINTENANCE MANPOWER REQUIREMENTS USING THE..(U) AIR FORCE INST OF TECH WRIGHT-PATTESSON AFB OH SCHOOL OF ENGI.. 3/3

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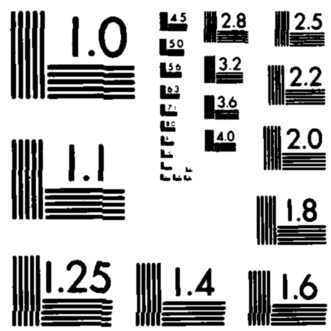
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1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0

Table E-I. Spare Part Constraints (Continued)

Work Unit Code	Constrained Quantity	Work Unit Code	Constrained Quantity
71AK0	20	74FK0	16
71BD0	6	74FQ0	12
71CA0	7	74FS0	13
71FA0	9	74FU0	11
71FB0	10	74JA0	12
71FC0	11	74JC0	11
71FE0	9	74KA0	7
74EB0	12	74KC0	8
74FA0	14	74KE0	7
74FC0	16	75BB0	5
74FF0	14	75HE0	7
74FH0	16	75MA0	7
74FJ0	14	75MC0	5

Table E-II

Avionic Test Station Constraints

Avionic Test Station	Job Description	Constrained Quality
TSC	Analog/Digital Computer Test Station	2
TSD	Analog/Visual Computer Test Station	2
TSM	Microwave Frequency Test Station	2

VITA

George DeGovanni was born on 4 January 1947 in Philadelphia, Pennsylvania. He graduated from the United States Air Force Academy in June 1968 with a Bachelor of Science in Mathematics. He completed Undergraduate Pilot Training at Moody AFB, Georgia in August 1969. He then flew combat missions in Vietnam as an OV-10 Forward Air Controller attached to the 20th Tactical Air Support Squadron until April 1971. Upon return to the United States, DeGovanni was assigned to the 14th Pilot Training Wing, Columbus Air Force Base, Mississippi, as a T-38 Instructor Pilot/Flight Examiner. In May 1975, he entered the Air Force Institute of Technology.

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VITA

Donald Michael Douglas was born on 23 January, 1943 in Mt. Carmel, Illinois. After graduating from high school there in 1961, he attended the United States Air Force Academy from which he received the degree of Bachelor of Basic Science and a commission in the United States Air Force in 1965. He completed pilot training in September, 1966 and served as a KC-135 pilot with the 301st Air Refueling Wing, Lockbourne Air Force Base, Ohio. After completing rotary wing conversion training in May, 1969, he served with the 809th Combat Support Group, F. E. Warren Air Force Base, Wyoming as a UH-1F pilot. During 1970 and 1971 he flew as a UH-1P and UH-1N gunship flight examiner with the 20th Special Operations Squadron, RVN. He then served as an instructor pilot and Wing Chief of UH-1N Standardization in the 1550th Aircrew Training and Test Wing, Hill Air Force Base, Utah until entering the School of Engineering, Air Force Institute of Technology, in May 1975.

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