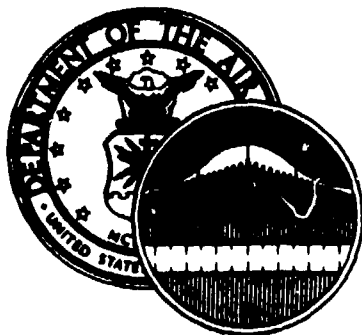


AD A108986

DTIC FILE COPY



LEVEL

UNITED STATES AIR FORCE

LEVEL

OCCUPATIONAL SURVEY REPORT



INTEGRATED AVIONICS ELECTRONIC WARFARE
EQUIPMENT AND COMPONENT SPECIALTY

AFS 326X3A/B

AFPT 90-326-428B

DECEMBER 1981

DTIC
ELECTE
DEC 30 1981

S

D

D

OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT CENTER
AIR TRAINING COMMAND
RANDOLPH AFB, TEXAS 78150

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

81 12 28 097

DISTRIBUTION FOR 326X3 OSRs AND TRAINING EXTRACTS

<u>ORGANIZATION</u>	<u>OSR</u>	<u>TNG EXTRACT</u>
AFMPC/MPCRPQ	X	
DEFENSE TECHNICAL INFORMATION CENTER	X	
AFHRL/MODS	X	X
AFMEA/MEMD	X	
HQ USAF/MPPT	X	X
AFHRL/LRT	X	
LTTC (TECHNICAL TRAINING CENTER, CHECK PTT FOR ADDRESS)	X	X
EXTENSION COURSE INSTITUTE (ECI/EDV)	X	
ARMY OCCUPATIONAL SURVEY BRANCH	X	
CCAF/AYX	X	
3507/DPUI	X	
AFMPC/MPCHS	X	
HQ AFISC/IGAP	X	
HQ ATC/TTQ	X	X
NODAC	X	
HQ USMC/OMU	X	
HQ ATC/DPAE	X	X
HQ PACAF/DPAT	X	X
Hq SAC/DPAT	X	X
HQ TAC/DPAT	X	X
HQ USAFE/DPAT	X	X
HQ USAFE/DPATC	X	X
HQ TAC/DPLATC	X	X
HQ PACAF/DPAL	X	X
HQ SAC/LGMQ (ATCLO)	X	X
HQ USAF FUNCTIONAL MANAGER (IF AFMPC/MPCRPQ WISHES)	X	X

Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	

TABLE OF CONTENTS

	<u>PAGE NUMBER</u>
PREFACE -----	iii
INTRODUCTION -----	1
SURVEY METHODOLOGY -----	2
Inventory Development -----	2
Survey Administration -----	3
Data Processing and Analysis -----	3
Survey Sample -----	4
Task Factor Administration -----	4
CAREER LADDER STRUCTURE -----	8
Overview -----	10
Relationships Among AFS 326X3 Jobs: The Job Difficulty Index -----	16
Summary -----	17
ANALYSIS OF SKILL LEVEL GROUPS -----	23
A-Shred Comparisons -----	23
B-Shred Comparisons -----	24
Evaluation of the Proposal to Shred 7-Skill Level Personnel -----	24
ANALYSIS OF AFR 39-1 -----	37
ANALYSIS OF MAJOR COMMAND DIFFERENCES -----	37
A-Shred MAJCOM Analysis -----	37
B-Shred MAJCOM Analysis -----	39
Summary -----	39
ANALYSIS OF EXPERIENCE GROUPS -----	44
Job Satisfaction Comparisons -----	45
First Enlistment Personnel -----	45
TRAINING ANALYSIS -----	57
AFS 326X3A Training -----	57
AFS 326X3B Training -----	60
Summary -----	62
IMPLICATIONS -----	72
APPENDIX: JOB TYPE CHARACTERISTICS -----	73

PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Integrated Avionics Electronic Warfare (EW) Equipment and Component specialty (326X3A/B). The report was originally requested by HQ ATC/TTQG and 3400 TCHTW/TTGX to obtain occupational data for use in evaluating the effectiveness of current training for personnel maintaining EW systems on the F-15. An additional request was made by HQ SAC/LGMA to include 326X3 personnel who maintain F/FB-111 Avionics EW equipment in order to examine the utilization of these personnel. Authority for conducting occupational surveys is contained in AFR 35-2. Computer printouts from which this report was produced are available for use by operations and training officials.

The Air Force occupational survey program has been in existence since 1956 when initial research was undertaken by the Air Force Human Resources Laboratory (AFHRL) undertook initial research to develop a methodology for collecting and analyzing occupational information. In 1967, an operational occupational survey program was established within Air Training Command and surveys were produced annually for 12 specialties. In 1972, the program was expanded to conduct occupational analyses of 51 career fields annually. In late 1976, the program was again expanded to include the survey of officer utilization fields, to permit special management applications projects, and to support interservice or joint service occupational analysis.

The survey instrument used in the present project was developed by Chief Master Sergeant Robert Wing, Inventory Development Specialist. Computer programming support was provided by Mr. Robert Vance. Second Lieutenant Randall Agee analyzed the survey data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Jimmy L. Mitchell, Chief, Airman Career Ladder Analysis Section, Occupational Analysis Branch, USAF Occupational Measurement Center, Randolph AFB, Texas 78150.

Copies of this report are distributed to air staff, major commands, and other interested training and management personnel (see distribution list). Additional copies may be requested by contacting the USAF Occupational Measurement Center, Attention: Chief, Occupational Analysis Branch (OMY), Randolph AFB, Texas 78150.

This report has been reviewed and is approved.

PAUL T. RINGENBACH, Col, USAF
Commander
USAF Occupational Measurement
Center

WALTER E. DRISKILL, Ph.D.
Chief, Occupational Analysis Branch
USAF Occupational Measurement
Center

SUMMARY OF RESULTS

1. Survey Objectives: This report was requested by HQ ATC/TTQG and 3400 TCHTW/TTGX for occupational survey data for use in evaluating current training of F-15 Electronic Warfare Maintenance personnel (AFS 326X3A/B). An additional request was received from HQ SAC/LGMA to examine the utilization of personnel who maintain F/FB-111 EW systems.

2. Survey Coverage: Job inventory booklets were administered worldwide to members of AFS 326X3 who held 3-, 5-, or 7-skill levels. A total of 394 acceptable booklets were received, resulting in a 77 percent sample. All using major commands and paygrade groups were represented in the sample.

3. Job Structure: The job structure pattern obtained in this survey was moderately diverse. Three clusters and two independent job types were identified. One cluster of two similar job types contains B-shred personnel performing technical maintenance on the F-15 EW system. A diverse cluster of five job types contains A-shred personnel performing technical maintenance on the four F/FB-111 EW systems. The remaining job groups provide management, administrative record keeping, and technical training support services. Insufficient support was found for recommending the shredding of 7-skill level personnel.

4. AFR 39-1 Specialty Descriptions: The jobs of personnel performing technical activities were accurately summarized in the current Specialty Descriptions.

5. MAJCOM Analysis: The only pronounced MAJCOM differences appear to be within the A-shred. SAC is the largest user of infrared systems and digital processors associated with radar homing and warning, while TAC and USAFE appear to be the largest users of EW pods. B-shred personnel are concentrated in the tactical air forces (TAC, USAFE, and PACAF), since they are almost exclusive users of the F-15.

6. Training Analysis: The results of this survey are generally supportive of the training documents for both shreds as they are currently written; however, the B-shred STS and POI appear to be supported better than the A-shred documents. All four documents have substantial numbers of tasks not referenced. Training personnel are encouraged to review the computer products accompanying this report to determine whether additional areas of training should be included in future STSs and POIs.

7. Implications: The job structure pattern within this AFSC is consistent with the official career ladder structure as defined by AFR 39-1. There is a large group of B-shred personnel performing similar jobs maintaining F-15 EW systems. One of the A-shred groups, the EW Pods Maintenance group, should be useful to SAC as they establish component repair functions at some bases where its F-111s are located. Shredding 7-skill level personnel would be difficult to justify based on the small numbers of 7-skill level personnel assigned to technical jobs.

OCCUPATIONAL SURVEY REPORT
INTEGRATED AVIONICS ELECTRONIC WARFARE EQUIPMENT
AND COMPONENT SPECIALTY
(AFSC 326X3A/B)

INTRODUCTION

This is a report of an occupational survey of the Integrated Avionics Electronic Warfare (EW) Equipment and Component specialty (AFSC 326X3A/B) completed by the Occupational Analysis Branch, USAF Occupational Measurement Center, in November 1981. This is the first occupational survey of this specialty conducted by USAFOMC.

Objectives

This project was initially requested by HQ ATC/TTQG and 3400 TCHTW/TTGX for occupational survey information to use in evaluating the effectiveness of current training provided to F-15 avionics EW maintenance personnel. A second request came from HQ SAC for information on the tasks related to EW Pod maintenance on F-111s. At the time of the request SAC was planning a component repair function to include EW Pod maintenance on F-111s in their inventory. One additional issue was raised during analysis of the data: whether 7-skill level members should be shredded to aircraft system as are the 3- and 5-skill level 326X3 personnel. Members point out that the lack of predictability in assignment sometimes results in members who have worked as an apprentice and specialist on one system being assigned at the technician level as a first-line supervisor, a supposedly knowledgeable technician, and a trainer of 3- and 5-skill level personnel, on the other aircraft system. The technological level of the F-15 is quite advanced relative to the F/FB-111, since the F-15 is substantially more recent in design. The result is that technicians changing systems for the first time experience the difficulty of: (1) learning about a totally new aircraft, (2) supervising personnel who have had formal training on an aircraft system that the supervisor has not had, and (3) acting as an OJT trainer for apprentices when the technician has not yet learned about the aircraft.

Background

Historically, the 326X3 specialty was created in April 1979. Prior to that time, these personnel were designated as AFSC 326X1E, Integrated Avionics Component Specialty, ECM, PEN-AIDS, RHAW, and Associated AGE, F-15/16, F/FB-111. As currently structured, the ladder has three shreds at the 3- and 5-skill levels. The A-shred personnel maintain systems on F/FB-111 aircraft. The B-shred personnel maintain systems of the F-15. A C-shred exists for personnel assigned to EW equipment on the F-16; however, at the time this survey was conducted, no personnel were assigned to the C-shred, since the EW equipment for the F-16 was still in the research and acquisition stages when the data for this report were being collected.

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

The basic job of 326X3 personnel, as described by AFR 39-1, has two primary responsibilities--maintaining components of EW systems, and maintaining the computerized test stations used in the malfunction analysis and repair of the EW systems. This generally includes inspecting, troubleshooting, repairing, modifying, programming, and calibrating EW equipment at the intermediate (between the flightline and depot) level of maintenance. To enter the career ladder, personnel must attend one of two basic technical school courses (3ABR32633A [F/FB-111] or 3ABR32633B [F-15]) taught at Lowry AFB CO. These courses are 102 and 107 days in length, respectively, with approximately 90 A-shred and 70 B-shred graduates entering the Integrated Avionics EW Equipment and Component specialty each year.

Members of the 326X3 specialty are assigned primarily to the operational commands: TAC, USAFE, PACAF, and SAC, but a few are assigned to ATC for support in technical training for the operational commands. TAC personnel make up 49 percent of all 326X3 personnel. USAFE and PACAF contain another 29 percent. SAC and ATC each have almost 11 percent of the assigned personnel.

The remainder of this report will focus upon (1) survey methodology, (2) job structure within the specialty, (3) analysis of skill level (DAFSC), experience level (AFMS), and MAJCOM groupings, (4) and an examination of training issues.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-326-428B. A tentative task list was formulated during visits with technical school personnel to include tasks suggested by the specialty training standard and other career ladder documents. The tentative task list was refined and validated by subsequent visits to operational units that have 326X3 personnel assigned. From this process a final inventory was developed consisting of 473 tasks grouped under 13 duty headings.

The 326X3 inventory consisted of three sections: (1) biographical information, such as name, SSAN, number of months on current job, and number of months military service; (2) a background section which included questions about such items as job satisfaction, equipment used, type of organization, job title, and training courses completed, and (3) a task section listing all tasks which could be performed by career ladder personnel. Respondents first checked the tasks they performed and then rated each task checked on a nine-point scale showing relative time spent on that task as compared to all other tasks checked. The rating scale ranged from one (very small amount of time spent), to nine (very large amount of time spent), with a rating of five representing an average amount of time spent performing a task. To determine the relative amount of time spent on each task, all of the individual's ratings were assumed to account for 100 percent of his or her

time on the job. The ratings were then summed and each task rating was divided by the total number of task responses and multiplied by 100. This procedure provides a basis for comparing tasks, not only in terms of percent members performing, but also in terms of average percent time spent.

Survey Administration

From November 1980 to March 1981, job inventories were administered to all DAFSC 326X3 personnel at the 3-, 5-, and 7-skill levels who were eligible to participate in the survey. This included 466 members assigned to 19 operational units both in CONUS and overseas locations by local consolidated base personnel offices. Members eligible to participate in the survey were selected from Uniform Airmen Record (UAR) data tapes generated by the Air Force Human Resources Laboratory (AFHRL). The eligible members list excluded personnel with less than six months on the job, personnel anticipating retirement within six months, and personnel who were involved in PCS moves.

Data Processing and Analysis

Once job inventories are returned from the field, they are prepared so that task responses and background information can be optically scanned. Biographical information (such as name, base, AUTOVON extension) are keypunched onto disks and entered directly into the computer. Once both sets of data are entered into the computer, the task, background and biographical information are merged to form a complete case record for each respondent. Computer generated programs using Comprehensive Occupational Data Analysis Programs (CODAP) techniques are then applied to the data.

CODAP produces job descriptions for respondents based on their responses to specific inventory tasks. Computer-generated job descriptions are available for DAFSC, TAFMS, and MAJCOM groups, and include such information as percent members performing each task, the average percent time spent performing each task, and the cumulative average percent time spent by all members for each task in the inventory.

An integral element of the USAF occupational analysis program is to examine the structure of specialties in terms of what people are actually doing in the field, rather than how official career ladder documents say they are organized. This is accomplished by performing cluster analysis of survey respondents. Those members who perform similar tasks and spend similar amounts of time on those tasks are grouped together. A special analysis is then performed on the jobs and background data for each group of respondents. Once the structure is clarified, comparisons can be made to the official career ladder documents to identify discrepancies in training or utilization policies.

Survey Sample

Personnel were selected to participate in this survey so as to ensure an accurate representation across all MAJCOM and paygrade groups. In this study, all eligible personnel with DAFSC 326X3 with 3-, 5-, and 7-skill levels were solicited for their responses. Table 1 reflects the major command distribution of personnel assigned to the 326X3 specialty as of January 1981. Table 2 reflects the percentage distribution by paygrade. Table 3 reflects the distribution of the survey sample in terms of TAFMS groups. Overall, a representative sample was obtained, with 394 respondents sampled from the 515 members of this career field (77 percent).

Task Factor Administration

In addition to completing the job inventory, selected senior 326X3 personnel were also asked to complete a second booklet for either training emphasis or task difficulty ratings. Task difficulty and training emphasis rating booklets are processed separately from the job inventories. This information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty: Each senior NCO completing a task difficulty booklet was asked to rate each task in the inventory on a nine-point scale from extremely low to extremely high in difficulty relative to the other tasks. Difficulty is defined as the length of time required for an average member to learn to perform that task. Task difficulty data were solicited independently from experienced 7-skill level NCOs stationed worldwide. Further, the task difficulty data were obtained as two data sets; one set from personnel assigned to bases where F/FB-111s were located, and the other from personnel assigned to bases where F-15s were located.

The interrater reliability among the 14 DAFSC 32673 raters who worked at F/FB-111 bases was .37. The interrater reliability of the 12 DAFSC 32673 raters assigned to F-15 bases was .88. These reliabilities are considered acceptable by normal reliability criterion. Ratings in these two sets of data were then adjusted so that tasks of average difficulty have ratings of 5.0 and a standard deviation of 1.30. The resulting sets of data are rank orderings of tasks indicating a degree of difficulty for each task in the inventory for F/FB-111 personnel and for F-15 personnel.

Training Emphasis: Individuals selected to complete training emphasis booklets were asked to rate all of the tasks on a ten-point scale from zero, indicating that no training is required, to nine, indicating that extremely concentrated training is required. Training emphasis is a rating of tasks indicating which areas should receive emphasis in structured training for first enlistment personnel. Structured training is defined as training provided through resident technical schools, Field Training Detachments (FTD), Mobile Training Teams (MTT), formal OJT, or any other organized training method. Training emphasis data were solicited also as two sets of data; from personnel at F/FB-111 bases and from personnel at F-15 bases. The interrater reliability for the 20 DAFSC 32673 raters at F/FB-111 bases was quite good (.95). The tasks they rated for training emphasis had a mean training emphasis rating of 2.60 with a standard deviation of 2.38. The interrater

reliability for the 13 DAFSC 32673 raters at F-15 bases was also quite high (.95). The tasks they rated for training emphasis had a mean training emphasis rating of 2.00 with a standard deviation of 2.35.

When used in conjunction with other factors, such as percent members performing, task difficulty and training emphasis ratings can provide insight into the training requirements of a specialty. This may help validate the lengthening or shortening of specific units of instruction to refine various training programs.

TABLE 1
COMMAND REPRESENTATION OF SURVEY SAMPLE

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED* (N=515)</u>	<u>PERCENT OF SAMPLE (N=394)</u>
TAC	49	48
USAFE	25	25
SAC	11	12
ATC	11	11
PACAF	<u>4</u>	<u>4</u>
	100	100

* AS OF JANUARY 1981

TABLE 2
PAYGRADE REPRESENTATION OF SURVEY SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
AIRMAN	37	44
E-4	31	26
E-5	20	18
E-6	7	8
E-7	5	4

* AS OF JANUARY 1981

TABLE 3
TAFMS* DISTRIBUTION OF SURVEY SAMPLE

	<u>MONTHS ACTIVE FEDERAL MILITARY SERVICE</u>					
	<u>1-48</u>	<u>49-96</u>	<u>97-144</u>	<u>145-192</u>	<u>193-240</u>	<u>241+</u>
NUMBER IN AFS 326X3 SAMPLE	256	55	31	24	24	4
PERCENT OF AFS 326X3 SAMPLE	65%	14%	8%	6%	6%	1%

* TOTAL ACTIVE FEDERAL MILITARY SERVICE

TABLE 4
DISTRIBUTION OF TASK DIFFICULTY AND TRAINING EMPHASIS RATERS
COMPARED TO ASSIGNED 7-SKILL LEVEL PERSONNEL

<u>MAJOR COMMAND</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF TASK DIFFICULTY RATERS</u>	<u>PERCENT OF TRAINING EMPHASIS RATERS</u>
TAC	39	19	37
USAFE	28	35	33
ATC	20	31	9
SAC	10	11	15
PACAF	3	4	6

*ASSIGNED 7-SKILL LEVEL PERSONNEL AS OF JANUARY 1981

CAREER LADDER STRUCTURE

The structure of jobs within the Integrated Avionics Electronic Warfare (EW) Equipment and Component Specialty (AFS326X3) was examined on the basis of similarity of tasks performed and the time spent ratings provided by job incumbents, independent of specialty or other background factors.

For the purpose of organizing individual jobs into similar units of work, an automated job clustering program is used. This hierarchical grouping program is a basic part of the Comprehensive Occupational Data Analysis Program (CODAP) system for job analysis. Each individual job description in the sample is compared to every other job description in terms of tasks performed and the relative amount of time spent on each task in the job inventory. The automated system is designed to locate the two job descriptions with the most similar tasks checked and percent time ratings and combine them to form a composite job description. In successive stages, new members are added to initial groups, or new groups are formed based on the similarity of tasks and percent of time ratings in each individual job description. This procedure is continued until all individuals and groups combine to form a single composite representing the total sample. The resulting analysis of the variety of groups serves to identify: (1) the number and characteristics of the different jobs which exist within the career ladder; (2) the tasks which tend to be performed together by the same respondents; and (3) the breadth or narrowness of the jobs which exist within the Integrated Avionics EW Equipment and Component Specialty.

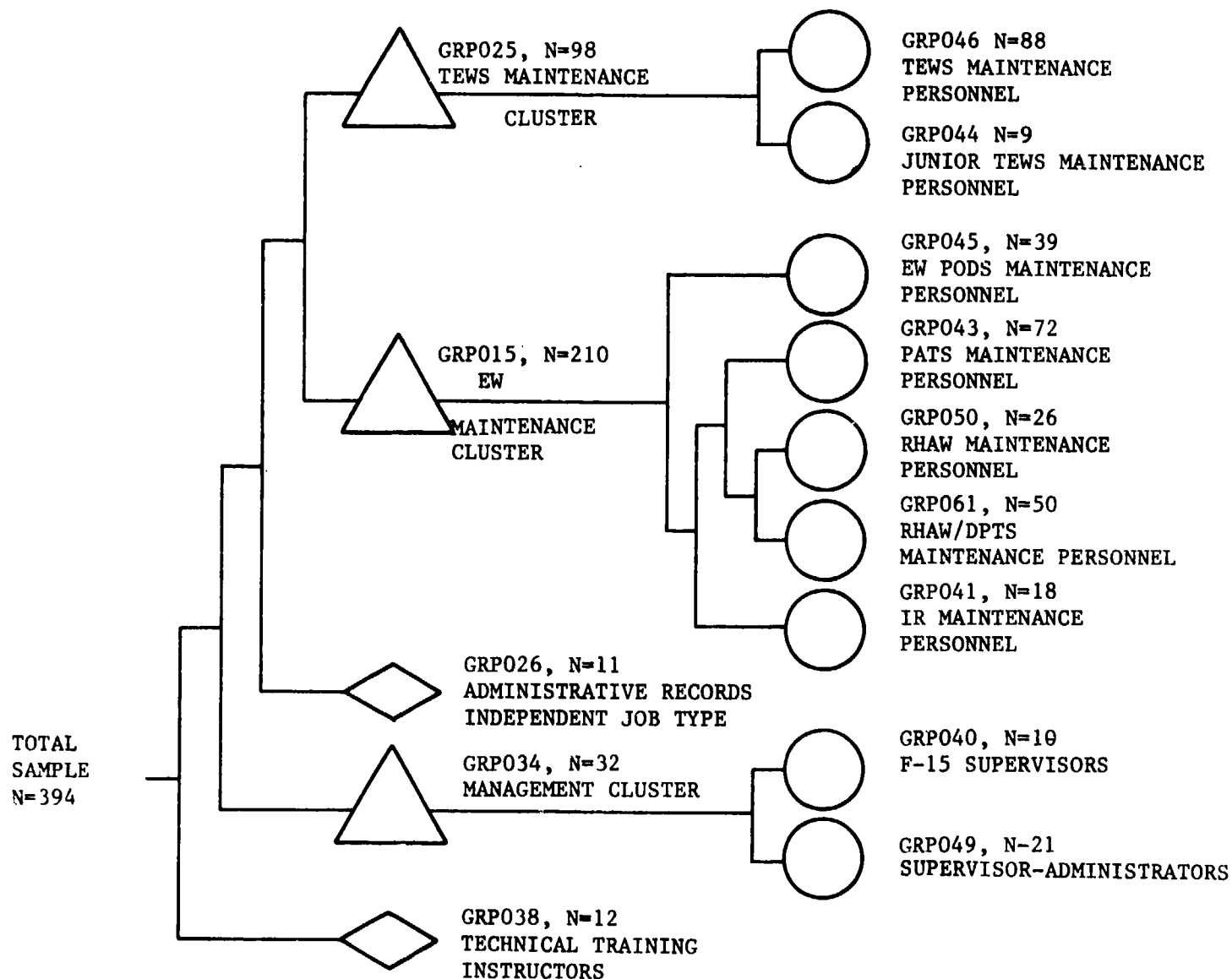
The basic identifying job group used in the hierarchical job analysis process is the Job Type. A job type is a group of individuals who perform many of the same tasks and spend similar amounts of time performing them. When there is a substantial degree of similarity between different job types, they are grouped together and labeled as Clusters. In many career fields, there are specialized job types that are too dissimilar to be grouped into any cluster. These unique groups are labeled Independent Job Types.

The jobs performed by Integrated Avionic EW Equipment and Component personnel are illustrated in Figure 1. Based on the similarity of tasks performed and the amount of time spent performing each task, three clusters and two independent job types were identified. These clusters and independent job types are discussed in detail on the following pages.

I. TACTICAL ELECTRONIC WARFARE SYSTEMS (TEWS) MAINTENANCE CLUSTER (GRP025, N=98)

- a. TEWS Maintenance Personnel (GRP046, N=88)
- b. Junior TEWS Maintenance Personnel (GRP044, N=9)

FIGURE I
JOB STRUCTURE WITHIN THE 326X3 SPECIALTY



- II. ELECTRONIC WARFARE (EW) MAINTENANCE CLUSTER (GRP015, N=210)
 - a. EW Pods Maintenance Personnel (GRP045, N=39)
 - b. Penetration Aids Test Station (PATS) Maintenance Personnel (GRP043, N=72)
 - c. Radar Homing and Warning Maintenance Personnel (GRP050, N=26)
 - d. RHAW/Digital Processor Test Sets (DPTS) Maintenance Personnel (GRP061, N=58)
 - e. Infrared (IR) Test Station Maintenance Personnel (GRP041, N=18)
- III. ADMINISTRATIVE RECORDS INDEPENDENT JOB TYPE (GRP026, N=11)
- IV. MANAGEMENT CLUSTER (GRP034, N=32)
 - a. F-15 Supervisors (GRP040, N=10)
 - b. Supervisor-Administrators (GRP049, N=21)
- V. TECHNICAL TRAINING INSTRUCTORS INDEPENDENT JOB TYPE (GRP038, N=12)

The respondents forming these job types and clusters accounted for 92 percent of the survey sample. The remaining 13 percent did not group with any of the job types or clusters outlined above. Some of the titles held by the remaining 13 percent were: Cable Adapter/Repair, Scheduler, Squadron Disaster Preparedness, Shop Supervisor, Dormitory Manager, Logistics Technician, MAJCOM F-16/ EF-111A Avionics, Quality Assurance Avionics Inspector, Unit Training NCO, and Group CDC Writer. These personnel did not group with any cluster or job type because of either the unique job they performed or the manner in which they perceive their job.

Overview

The job structure analysis process indicates that the 326X3 specialty is moderately diverse in the way jobs are organized, with clear boundaries between the functions performed by each group. The pattern of jobs identified contains two clusters of maintenance personnel, a cluster of supervisors, and two independent job types; one maintaining forms and records related to maintenance, and the other providing resident technical training services.

The two maintenance groups shared some common shop duty characteristics, but were dramatically separated by their technical duties. This is due to the nature of tasks related to maintaining the electronic warfare (EW) line replacement units (LRUs) and the test benches used to isolate the problems in LRUs. There is only one test bench used in maintaining the EW systems on F-15 aircraft. The F-111, however, has four distinct systems, with three requiring a separate test bench each, and one system that requires two test benches. These test benches are factory-provided work stations that generate standardized input signals and have various sensor components and read-out devices that tells the operator what part of an LRU is malfunctioning.

The three remaining job groups provide important support services to the two clusters of maintenance groups. These support services include supervision above the technician-supervisor level, maintenance of records and supply monitoring, and technical training. Five tables at the end of this section present information about the five groups on time spent on duties, background characteristics, and job satisfaction. Additional information on the job types identified within the three clusters may be found in the Appendix.

I. TACTICAL ELECTRONIC WARFARE (EW) SYSTEMS (TEWS) MAINTENANCE CLUSTER (GRP025). The responsibilities of these 98 members include bench checking and repairing, to the component level, LRUs that make up the radar warning receiver (AN/ALR-56) and internal countermeasures jamming receiver transmitters (AN/ALQ-128 and AN/ALQ-135) of the Tactical Electronic Warfare System (TEWS). Most members (78 percent) indicated being assigned at the squadron level. Most of the members held paygrades of E-3 through E-5, and had an average of 30 months active federal military service (AFMS). Ninety-one percent were in the tactical air forces (54 percent in TAC, 23 percent in USAFE, and 14 percent in PACAF), while the remaining nine percent were assigned to ATC.

Some tasks which distinguish members of this cluster include:

- perform test station confidence tests
- determine whether malfunction is in TITE or UUT
- perform AN/ALR-56 low band receiver processor operational tests
- remove or replace AN/ALR-56 low band components
- perform AN/ALR-56 high band receiver operational tests
- remove or replace AN/ALR-56 high band receiver components
- perform AN/ALQ-128 receiver-transmitter operational tests
- isolate AN/ALQ-135 tuning unit malfunctions
- perform disk-to-disk transfer procedures
- isolate TITE frequency synthesizer malfunctions

The job satisfaction indicators for members of this job group were fairly positive.

Two job types were identified within this cluster. The TEWS Maintenance Personnel (88 members) represent the core of this cluster. The other job type contains the Junior TEWS Maintenance Personnel (9 members). The primary distinctions between these two groups is in the seniority of the first group. The two groups performed an average of 141 and 41 tasks, respectively. They averaged 18 months and 11 months, in length of time in their current job, and 53 months and 25 months, in AFMS. The senior group contained 58 percent at the 5-skill level. The junior group, in contrast, had 56 percent at the 3-, and 44 percent at the 5-skill level. The junior personnel had substantially lower job satisfaction indicators than the senior group. Eighty-nine percent of the junior personnel indicated they do not plan to reenlist. Coincidentally, 78 percent of this group work swing or mid shifts regularly. Since this is a rather small group, though, it does not appear to highlight any serious problem in the career field as a whole.

II. ELECTRONIC WARFARE MAINTENANCE CLUSTER (GRP015). The 210 members of this cluster are responsible for maintaining the four major electronic warfare systems found on F-111 aircraft. Five distinct job types were found within this cluster, with each specializing in a unique EW system. The tables at the end of this section show the major commonalities and differences of this cluster from other major job groups within this study. The job types within this cluster are quite distinct and deserve individual discussion. Therefore, the reader is urged to consult both the tables at the end of this section for comparisons of this cluster to other job groups, and the Appendix for data comparing these five job types.

The primary commonality within this cluster is the percent of time spent by all five job types on general avionic aerospace ground equipment (AGE) operation and maintenance. This duty includes tasks such as soldering components to circuit boards, removing or replacing hardware on cables, cleaning and inspection LRUs, packing or unpacking LRUs, and researching technical publications. Members of this cluster performed an average of 89 tasks. Most of the respondents in this cluster held the 5-skill level (61 percent).

Within the cluster, five unique jobs were identified:

a. EW Pods Maintenance Personnel (GRP045). These 39 members are assigned to TAC and USAFE. They are responsible for maintaining pods, which are self-contained radar jamming devices. These pods are mounted externally, primarily on the FB-111A, F-111E, and F-111F. The job satisfaction indicators for this group are generally positive. Thirty-three percent indicate that they plan to reenlist, but much higher percentages (90 percent) feel their talents and training are well utilized, and 80 percent find their jobs interesting.

b. Penetration Aids Maintenance Personnel (GRP043). These 72 members are responsible for maintaining penetration aids found on FB-111A and F-111E aircraft. Penetration aids are electronic devices which confuse hostile radar systems by projecting multiple images or projecting an image that masks a large portion of the hostile radar readout scope. The members of this group use the penetration aids test station to inspect and isolate malfunctions on these devices. Once problems are isolated they remove and replace defective components and realign the unit to standard specifications. The job satisfaction indicators for this group were similar to the positive responses of the previous job type, however, the percent intending to reenlist was somewhat lower (24 percent).

c. Radar Homing and Warning (RHAW) Maintenance Personnel (GRP050). These 26 members are assigned exclusively to TAC. The system they specialize in, AN/APS-109A RHAW, is a set of three subsystems installed in F-111E and FB-111A aircraft. The function of RHAW is to allow the pilot to set the system to scan the radar electromagnetic spectrum and to notify him when a hostile radar has locked on to his aircraft. The three subsystems are the RHAW receiver, the indicator control unit, and the threat display unit. The members of this job type employ two test stations to check these subsystems for proper operation. In addition, they repair and realign any subsystem that is malfunctioning. The job satisfaction indicators for this job type were quite similar to the previously discussed groups. Only 26 percent indicated that they intend to reenlist.

d. RHAW/Digital Processor Test Sets (GRP061). Fifty members make up this group. Members are assigned to all five of the using commands. These personnel maintain a different RHAW system, the AN/ALR-62. This system operates similarly to the previous RHAW, but it contains a digital processor computer which adds flexibility to this system. The aircraft employing this system are the FB-111A, the YFB-111A, and the F-111F. Members of this job type employ an additional test station to maintain this RHAW system. Job satisfaction indicators for this group were fairly positive, but the percent intending to reenlist is higher than for other groups in this cluster (34 percent).

e. Infrared (IR) Maintenance Personnel (GRP041). These 18 members maintain a system that is somewhat different in technology than previously discussed systems. IR is a way of sensing the presence of objects by measuring heat (infrared radiation, which is shorter in wave length and higher in frequency than radar waves) generated by objects, and converting the patterns of infrared radiation into a visible light image for the pilot, allowing him to "see in the dark" or through bad weather in some cases. The technical approach to sensing and converting IR into a useable form involves the use of gases at very low temperatures (cryogenics). The job of these personnel, therefore, includes both electronic circuit maintenance and the maintenance of a scaled down, highly efficient refrigeration system. Members of this job type had lower job satisfaction indicators than any of the other job type in this cluster. Only 28 percent indicated that they plan to reenlist, and only 44 percent were satisfied with the sense of accomplishment gained from their job.

Overall, the members of E W Maintenance Cluster had paygrades ranging from E-3 to E-4. They had an average of 42 months AFMS, and the majority (73 percent) were assigned within the CONUS.

Some tasks which distinguish members of this cluster from other job groups are:

- isolate test station adapter malfunctions
- align AN/ALQ-94 receivers
- remove or replace AN/ALQ-119 EW pod components
- remove or replace test station TRU circuit cards
- perform AN/ALQ-94 receiver operational tests
- program E W pods for mission requirements
- align AN/ALR-62 forward radar receivers
- isolate RHAW test station RF generator malfunctions
- perform IR system operational tests
- align AN/APS-109A indicator control units (ICU)
- align AN/ALR-62 digital processors (DP)

The job satisfaction indicators were generally positive, except for the IR Maintenance Personnel job type. The reenlistment intentions of this group, however, indicate a serious retention problem, with only 29 percent of these 210 members planning to reenlist.

III. ADMINISTRATIVE RECORDS INDEPENDENT JOB TYPE (GRP026).

The job of these 11 members mark a shift away from the technical, maintenance-oriented jobs of the two previous clusters. Table 5 shows that the majority of time on the job for these personnel focuses on maintaining forms and records, and on administrative supply functions. Administrative records personnel maintain logs and files on parts ordered, parts condemned, supplies received, and similar documents. The MAJCOM assignments for this group concentrate in TAC, USAFE, and SAC.

The following list contains tasks which distinguish this independent job type from other job groups in this study. Note that the list contains 12 tasks, all but two of which are of the forms maintenance duty. These 12 tasks are all performed by other groups, but not in such a concentrated way. They comprise half (over 50 percent) of these members' time on the job.

- annotate supply control logs forms (AF Form 2413)
- annotate serviceable tag materiel forms (DD Form 1574)
- maintain daily document register and item surveillance lists (D04)
- annotate reparable item processing tag forms (AFTO Form 350)
- annotate receipt or release of line replacement units (LRU) into or out of shop
- annotate maintenance data collection record form (AFTO Form 349)
- maintain status boards, graphs, or charts
- annotate significant historical data forms (AFTO Form 95)
- verify due-in for maintenance (DIFM) document listings (R-26)
- annotate unserviceable (condemned) tag materiel forms (DD Form 1577)
- annotate unserviceable (reparable) tag materiel forms (DD Form 1577-2)
- annotate issue/turn-in request forms (AF Form 2005)

The job satisfaction responses for this group are substantially lower than for any other group in this study. Fifty-five percent indicated that their jobs use their talents very little or not at all, and 45 percent indicated feeling that way about the utilization of their training. Even though such large proportions feel dissatisfied with aspects of their job, 55 percent plan to reenlist. An hypothesis to explain this finding is that they anticipate their future jobs to increase in responsibility and become more interesting.

V. MANAGEMENT CLUSTER (GRP034). The 32 members of the Management Cluster are responsible for providing first-line and higher level management and supervision for members of this specialty. The average experience level for this group is 170 months TAFMS, and they hold an average pay-grade of E-6. These members also have a low average number of tasks performed (33 tasks).

The responsibilities of this group include direct supervision of 326X3 personnel and evaluating and inspecting the work performed in EW maintenance facilities.

Two job types were identified within this cluster:

a. F-15 Supervisors (GRP040). These ten members are assigned to TAC and USAFE. All indicated that they supervise at least one individual. Their duties include conducting OJT, writing and endorsing APRs, supervising B-shread personnel, and planning work assignments. The most common job title endorsed by these members was shift chief (80 percent).

b. Supervisor/Administrators (GRP049). These 21 members are distributed through all the using commands. Nearly all indicated having at least one subordinate (91 percent). Their jobs are more general than the F-15 supervisors, with more time spent on inspecting and evaluating, and planning and organizing duties. They supervise maintenance on a wider range of aircraft, also. A group of six individuals within this job type identified themselves with the supervision and administrative function within the resident technical training program, but their jobs were similar enough to administrators of operational units to group them with other supervisor-administrators. The most common job titles endorsed by these members are Shift Chief (38 percent), Section Chief (33 percent), Course Supervisor (14 percent), and Instructor Supervisor (14 percent).

Some tasks that distinguish the Management Cluster from other job groups in this sample are:

- review maintenance data or equipment record forms
- prepare APRs
- plan work assignments
- counsel trainees on training progress
- assign maintenance or repair work
- supervise integrated avionics EW equipment and component technicians (AFM 32673)
- perform personnel efficiency evaluations
- endorse airman performance reports (APR)

The job satisfaction indicators for the Management Cluster are fairly positive, although 41 percent indicated feeling dissatisfied with the sense of accomplishment gained from their job. This may be a reflection of the concern of some senior members of this career field that their jobs require them to be involved in training and in paperwork to the exclusion of being available to perform maintenance activities. The majority of dissatisfaction with sense of accomplishment is found in the F-15 Supervisors, with only 30 percent indicating satisfaction. The Supervisor-Administrator group has 57 percent indicating satisfaction. Fifty-three percent of the Management Cluster indicated that they plan to reenlist. This, however, should be interpreted in light of the fact that 34 percent intend to retire with 20 years active military service. Thus only nine percent definitely intend to depart after their current enlistment. A more detailed examination of the distribution of experience shows that 41 percent of the cluster are in their 16 to 20 year period.

VI. TECHNICAL TRAINING INSTRUCTORS INDEPENDENT JOB TYPE (GRP038). The 12 members of this job group are responsible for providing resident technical training for the airman basic residence (ABR) courses on maintaining the F-15 and F/FB-111 EW systems and test stations. Naturally,

all members are assigned to ATC. Seventy-five percent hold the 5-skill level, and the average grade for this group is E-4 to E-5. The average number of tasks they perform is 32. Half of the group are in their first enlistment.

The following list of tasks performed by members of this job group distinguish them from other job groups in this survey sample. The first five tasks are performed by all of the members of this group.

- conduct resident course classroom training
- prepare lesson plans
- administer tests
- write test questions
- score test results
- evaluate training materials
- counsel trainees on training progress
- maintain training materials

This group is one of the most satisfied of all groups in the study. Fifty-eight percent indicated that they will reenlist. One hundred percent feel their talents were well utilized, while 92 percent feel their jobs are interesting and 83 percent feel their training is well utilized.

Relationships among AFS 326X3 Jobs: The Job Difficulty Index

Jobs within the Integrated Avionics Electronic Warfare Equipment and Component Specialty can be compared in a number of ways; Tables 5 through 8 contrast the job groups in terms of time spent, background information, and job attitudes. In addition, the various jobs within the specialty can be compared on the basis of the relative difficulty of the jobs (Table 9).

The relative difficulty of major jobs was calculated, based on a standard equation developed for this purpose by the Air Force Human Relations Laboratory, the Job Difficulty Index (JDI). This index combines several factors including the average number of tasks performed by members of a group, the amount of time spent, and the relative difficulty of the tasks performed. AFHRL research has demonstrated that using these factors to calculate a JDI provides a reliable rank ordering of job difficulty. The JDI values are statistically adjusted (standardized so that the average JDI is equal to 13.0). This facilitates the comparisons among the jobs within the specialty.

JDI values for major AFS 326X3 job groups are displayed in Table 9. The most difficult job is performed by personnel in the Tactical Electronic Warfare Systems (TEWS) maintenance job cluster. The tasks performed are more difficult, on the average, than tasks performed by most of the other groups (Average Task Difficulty Per Unit Time Spent = 5.0).

The Electronic Warfare (EW) maintenance cluster of jobs (F-111 aircraft) has jobs of about average difficulty for the specialty. While they perform fewer tasks, their tasks are almost as difficult as those performed by TEWS Maintenance Personnel (4.9 vs 5.0) ATDPUTS values). The average JDI value for this EW maintenance group is in part a function of the size of the group since 53 percent of all 326X3 personnel are identified in the cluster (thus defining the "average" job).

Other AFS 326X3 jobs are of less than average difficulty. The least difficult job is performed by the small group (3 percent of sample) of Administrative Records personnel. Members of this group perform an average of only 33 tasks, and the tasks are apparently less difficult. Based on this information, the requirement to have AFS 326X3 personnel perform this administrative job might be questioned.

Overall, it would appear that F-15 jobs are more difficult and demanding than those F-111 jobs. In addition, the use of AFS 326X3 personnel to perform an Administrative Records job may not be necessary. As can be seen in Table 7, more of the members of this Administrative Records job group feel their talents and training are not being used (when compared to the more technical F-15 and F-111 job groups). A larger percentage of the Administrative Records job group plan to reenlist.

Summary

Examination of the variation of jobs within the AFS 326X3 career field revealed a series of job groups which closely approximate the existing A and B shredouts, and a supervisory-management 7-skill level group. Two additional specialized independent job types included technical training instructors and a small (N=11, 3 percent of the career field sample) administrative records job. Thus, the grouping of jobs based on the similarity of tasks performed and time spent on those tasks supports the existing formal AFSC structure.

Within the A-shred job cluster, there were five distinct job types distinguished by the specific EW system maintained; this is probably a reflection of the diversity of F-111 EW systems, compared to the single integrated avionics system of the F-15. The B-shred (F-15) jobs were more homogeneous; only two job groups were defined and these differed primarily in terms of experience level and the number of tasks performed.

TABLE 5

RELATIVE PERCENT TIME SPENT ON DUTIES BY CLUSTERS AND INDEPENDENT JOB TYPES

DUTIES	TEWS MAINT N=98		EW MAINT N=210		ADMINISTRATIVE RECORDS N=11		GRP034 MANAGEMENT N=32		TECHNICAL TRAINING INSTRUCTORS N=12	
	MAINT		MAINT		RECORDS		MANAGEMENT		INSTRUCTORS	
A ORGANIZING AND PLANNING	1		1		4		13		6	
B DIRECTING AND IMPLEMENTING	3		3		8		18		11	
C INSPECTING EVALUATING	3		3		4		21		5	
D TRAINING	1		2		1		13		57	
E MAINTAINING FORMS AND RECORDS	8		9		43		11		*	
F PERFORMING ADMINISTRATIVE SUPPLY FUNCTIONS	5		5		33		9		5	
G PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	23		32		4		6		3	
H MAINTAINING INFRARED (IR) TEST STATIONS AND ASSOCIATED LINE REPLACEMENT UNITS (LRU)	*		6		*		1		1	
I MAINTAINING PENETRATION AIDS TEST STATIONS (PATs) AND ASSOCIATED LRUS	*		14		1		*		*	
J MAINTAINING RADAR HOMING AND WARNING (RHAW) TEST STATIONS AND ASSOCIATED LRUS	*		13		-		*		2	
K MAINTAINING DIGITAL PROCESSOR TEST SETS (DPTS) AND ASSOCIATED LRUS	-		4		-		*		1	
L MAINTAINING TACTICAL ELECTRONIC WARFARE SYSTEMS (TEWS) AND TEWS INTERMEDIATE TEST EQUIPMENT (TITE)	54		*		*		3		*	
M ELECTRONIC WARFARE (EW) PODS AND ASSOCIATED TEST EQUIPMENT	1		8		2		2		6	

* INDICATES LESS THAN ONE PERCENT

TABLE 6

BACKGROUND INFORMATION FOR CLUSTERS AND INDEPENDENT JOB TYPES

	F-15 TEWS		F-111 EW		ADMINISTRATIVE		GRP034		TECHNICAL	
	MAINT		MAINT		RECORDS		MANAGEMENT		TRAINING	INSTRUCTORS
NUMBER PERSONNEL IN JOB GROUP	98		210		11		32		12	
AVERAGE NUMBER TASKS PERFORMED	131		89		33		33		32	
AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT	5.0		4.9		3.8		4.4		4.7	
JOB DIFFICULTY INDEX	16.9		13.5		2.0		11.9		6.9	
AVERAGE PAY GRADE	E-4		E-3,E-4		E-4		E-6		E-4,E-5	
DUTY AFSC	20		30		9		-		8	
32633	61		61		73		9		75	
32653	15		8		9		88		17	
32673	4		1		9		3		-	
OTHER										
NOT REPORTED										
DUTY AFSC SUFFIX	-		86		45.5		3.1		58.3	
A	82.7		-		45.5		12.5		33.3	
B										
MAJOR COMMAND	54		51		55		41		100	
TAC	23		26		27		28		-	
USAFE	-		18		18		6		-	
SAC	9		5		-		22		-	
ATC	14		-		-		3		-	
PACAF										
AVERAGE MONTHS TAFMS	50		42		53		170		71	
PERCENT IN FIRST ENLISTMENT	71%		75%		64%		0%		50%	
PERCENT LOCATED IN CONUS	63%		73%		73%		69%		100%	

TABLE 7

ADDITIONAL BACKGROUND INFORMATION FOR CLUSTERS AND INDEPENDENT JOB TYPES

	F-15 TEWS MAINT	F-111 EW MAINT	ADMINISTRATIVE RECORDS	GRP034 MANAGEMENT	TECHNICAL TRAINING INSTRUCTORS
POMO ORGANIZATION					
NOT UNDER POMO	19	39	27	50	92
DEPUTY COMMANDER FOR MAINTENANCE	3	1	-	-	-
AIRCRAFT GENERATION SQUADRON	-	-	-	-	-
EQUIPMENT MAINTENANCE SQUADRON	-	1	9	-	-
COMPONENT REPAIR SQUADRON	72	54	64	47	-
OTHER	4	1	-	3	8
NO RESPONSE	2	5	-	-	-
ADVANCED TRAINING COURSES (PERCENT RESPONDING)					
NONE	58	56	64	34	75
3AZR32673-000 IAEWEC TECHNICIAN F-15	20	3	9	41	8
3AZR32873-002 AN/ALQ-119(V) MAINTENANCE (RESIDENCE)	4	9	9	6	-
4AMF32873-060 AN/ALQ-119(V) MAINTENANCE (FIELD TRAINING COURSE)	5	14	-	63	-
OTHER	9	8	9	9	-
PREVIOUSLY HELD AFSC (PERCENT RESPONDING)					
NONE	50	54	27	-	8
326X0A	-	2	-	9	-
326X0B	3	2	-	16	8
326X1B	9	9	9	31	33
326X1E	30	33	64	56	67
326X3	7	1	-	22	17
OTHER	10	4	18	34	8

TABLE 8

JOB SATISFACTION INFORMATION FOR CLUSTERS AND INDEPENDENT JOB TYPES
(PERCENT MEMBERS RESPONDING)

	F-15 TEWS MAINT	F-111 EW MAINT	ADMINISTRATIVE RECORDS	GRP034 MANAGEMENT	TECHNICAL TRAINING INSTRUCTORS
I FIND MY JOB:					
DULL	13	9	9	16	8
SO-SO	17	15	18	12	-
INTERESTING	70	76	73	72	92
MY JOB UTILIZES MY TALENTS:					
NOT AT ALL OR VERY LITTLE	25	14	55	28	17
FAIRLY WELL OR BETTER	75	86	45	72	83
MY JOB UTILIZES MY TRAINING:					
NOT AT ALL OR VERY LITTLE	33	13	45	25	-
FAIRLY WELL OR BETTER	67	87	55	75	100
THE SENSE OF ACCOMPLISHMENT GAINED FROM MY JOB LEAVES ME:					
DISSATISFIED	28	18	27	41	25
AMBIVALENT	12	14	9	9	-
SATISFIED	60	68	64	50	75
I PLAN TO REENLIST:					
NO (I WILL RETIRE WITH AT LEAST 20 YEARS SERVICE)	1	1	-	34	-
NO OR PROBABLY NO	62	70	45	9	42
YES OR PROBABLY YES	36	29	55	53	58

TABLE 9

JOB DIFFICULTY VALUES FOR 326X3 PERSONNEL IN JOB GROUPS

JOB GROUP	JDI	AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT	AVERAGE NUMBER OF TASKS PERFORMED	PERCENT OF SAMPLE
I TACTICAL ELECTRONIC WARFARE SYSTEMS (TEWS) MAINTENANCE CLUSTER (GRP025, N=98)	16.9	5.0	131	25%
II ELECTRONIC WARFARE (EW) MAINTENANCE CLUSTER (GRP015, N=210)	13.5	4.9	89	53%
III ADMINISTRATIVE RECORDS INDEPENDENT JOB TYPE (GRP026, N=11)	2.0	3.8	33	3%
IV MANAGEMENT CLUSTER (GRP034, N=32)	11.9	4.4	33	8%
V TECHNICAL TRAINING INSTRUCTORS INDEPENDENT JOB TYPE (GRP038, N=12)	6.9	4.7	32	3%
NOT GROUPED				8%

ANALYSIS OF SKILL LEVEL GROUPS

An analysis of survey responses by skill level, or DAFSC, forms a part of each occupational analysis. By dividing respondents into groups according to their DAFSCs, important trends within specialties may be identified. In addition, the DAFSC analysis assists in the evaluation of career ladder documents, such as AFR 39-1 Specialty Descriptions and the Specialty Training Standards (STS).

Since the 326X3 specialty is shredded at the 3-skill level (apprentice) and 5-skill level (specialist), but not at the 7-skill level (technician), separate comparisons were made of groups in each shred.

A-Shred Comparisons

Members of the A-shred are responsible for maintaining line replacement units (LRU) associated with four distinct EW systems of F/FB-111 aircraft. These same personnel are also responsible for maintaining the test stations upon which the LRUs are inspected and repaired. The comparison of duties and tasks performed by apprentice and specialist A-shred personnel reveal very small differences between the two groups (see Table 10). In terms of breadth of jobs, the data indicate that apprentices have a more narrowly defined job than the specialists. Apprentices perform an average of 63 tasks, while specialists perform an average of 83 tasks. Even though most of the tasks performed by the two groups are essentially the same, the percentage of apprentices performing those tasks is higher than the percentage of the specialists. This indicates that the specialists have a greater variety of jobs than do the apprentices.

The apprentices focus a larger proportion of their time on general shop activities than do specialists. These activities include cleaning shop facilities, soldering components, fabricating cables, hooking-up LRUs to test benches, and interpreting schematics (see Table 11). Specialists spend less time performing general shop tasks, but assume supervisory and training responsibilities, such as conducting OJT, scheduling work assignments, counseling personnel, writing APRs, and reviewing maintenance data collection forms (see Tables 12 and 13). Both groups spend about the same amount of time in the more technical aspects of the job; the maintenance of test benches and their related LRUs.

The comparison of the jobs of specialists and technicians shows that the trend of performing fewer general shop duties and more supervisory activities continues (see Tables 14 and 15). The average number of tasks performed by technicians is 115 compared to the specialists' 83 tasks. While technicians obviously perform substantially broader jobs in terms of the number of tasks, the jobs tend to concentrate in the supervisory areas. Technicians spend only a third of the time performing general avionics shop activities as do specialists, but they spend over half of their work time in the supervisory responsibilities of organizing and planning, directing and implementing, inspecting and evaluating, and training.

B-Shred Comparisons

Members of the B-shred are responsible for maintaining LRUs and the test station for the Tactical Electronic Warfare System (TEWS). This test station, called TEWS Intermediate Test Station (TITE), consolidates all of the testing functions for EW systems associated with the F-15 aircraft. The comparison of duties and tasks performed by apprentice and specialist B-shred personnel also reveals very little difference between their jobs. Apprentices perform an average of 89 tasks, while specialists perform an average of 111 tasks (see Table 16). As was seen with the A-shred comparison, the data indicate that B-shred specialists perform a wider variety of tasks than do apprentices. With the B-shred, however, there appears to be no noticeable increase in amount of supervision performed by specialists over the amount indicated by apprentices (see Tables 17 and 18). The proportion of time spent by technicians in the supervisory duties is greater than the amount of time spent by B-shred specialists, although not as great a difference exists as was found with the A-shred specialists and the technician groups (see Tables 14 and 19).

Skill Level Analysis Summary

The patterns seen in duties and tasks performed by apprentices, specialists and technicians in the 326X3 career ladder follows a normal progression seen in most AFSCs. Personnel arriving in the field from technical training are assigned to jobs of relatively limited scope. As apprentices, in both shreds, they are assigned duties that involve a limited number of tasks, focusing on general avionic maintenance activities. While under supervision as apprentices, they gain experience in setting up test stations, performing fault isolation tests, and repairing malfunctioning LRUs. With increasing experience, these personnel are upgraded to specialists, where they have opportunities to broaden their skills by working on a greater variety of technical tasks, while performing fewer general avionic maintenance tasks. With further experience, members are upgraded to the technician skill level. At this level, members perform even less general avionic maintenance, but rather, concentrate their attention on managing the shop activities of apprentices and specialists, training subordinates, and acting as troubleshooters as subordinates operate test stations and repair LRUs.

Evaluation of the Proposal to Shred 7-Skill Level Personnel

During the initial phases of this occupational analysis, suggestions were received from members in the field that the 7-skill level should be shredded in the same fashion as the 3- and 5-skill levels. One way of addressing this question is to examine the 32673 duty AFSC group in light of the distribution of members in various job groups identified in the CAREER LADDER STRUCTURE section of this report.

Table 20 contains the number of members in each of the major job groups identified by the job structure analysis process. The job groups with the greatest numbers of 7-skill level personnel are: (1) the Tactical Electronic

Warfare Maintenance Cluster (the job group with B-shred personnel) containing 14 technicians, (2) the Electronic Warfare Maintenance Cluster (the job group with A-shred personnel) containing 17 technicians, and the Management Cluster containing 28 technicians. Thus, it appears that the 7-skill level members are rather evenly divided between technical and management jobs.

To shred out technicians by the type of weapons system possibly would benefit the 31 members who grouped with A-shred and B-shred specialists and apprentices, but probably would not benefit those performing management jobs. The decision to shred 7-skill level personnel would have substantial impact upon the Air Force personnel management system. The assignments function would be impacted because of the rather small numbers of bases with F/FB-111 or F-15 aircraft. On the other hand, shredding 7-skill level personnel would greatly reduce the need for requalification training.

Clearly, there are costs and benefits to either shredding 7-skill level personnel or leaving the classification system the way it is now. The data from this occupational analysis do not lend clear support for either alternative; however, with such small numbers of NCOs involved, the drawbacks to shredding technicians in this specialty appear to be substantial.

TABLE 10

RELATIVE PRECENT TIME SPENT ON DUTIES BY DAFSC GROUPS

DUTIES	DAFSC				
	32633A** (N=70)	32653A** (N=133)	32633B (N=23)	32653B (N=71)	32673 (N=75)
A ORGANIZING AND PLANNING	1	1	2	2	10
B DIRECTING AND IMPLEMENTING	*	3	3	4	14
C INSPECTING AND EVALUATING	1	3	2	3	17
D TRAINING	1	6	4	4	11
E MAINTAINING FORMS AND RECORDS	9	10	9	10	9
F PERFORMING ADMINISTRATIVE AND SUPPLY FUNCTIONS	5	6	4	6	9
G PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	36	29	27	20	10
H MAINTAINING INFRARED (IR) TEST STATIONS AND ASSOCIATED LINE REPLACEMENT UNITS (LRU)	5	5	*	-	2
I MAINTAINING PENETRATION AIDS TEST STATION (PATS) AND ASSOCIATED LRUs	15	12	-	*	2
J MAINTAINING RADAR HOMING AND WARNING (RHAW) TEST STATIONS AND ASSOCIATED LRUS	15	11	*	*	3
K MAINTAINING DIGITAL PROCESSOR TEST SETS (DPTS) AND ASSOCIATED LRUs	4	4	-	-	2
L MAINTAINING TACTICAL ELECTRONIC WARFARE SYSTEMS	*	*	46	48	9
M ELECTRONIC WARFARE (EW) PODS AND ASSOCIATED TEST EQUIPMENT	6	8	3	3	3

* INDICATES LESS THAN ONE PERCENT

** PERCENTS TOTAL TO LESS THAN ONE HUNDRED PERCENT DUE TO
ROUNDING AND TO RESPONSES OF LESS THAN ONE PERCENT TO SOME DUTIES

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY 32633A PERSONNEL

TASKS	PERCENT PERFORMING (N=70)
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	87
G189 CLEAN SHOP FACILITIES	84
G229 SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	80
G214 REMOVE OR REPLACE CONNECTORS	79
G230 VISUALLY INSPECT AND CLEAN LRUs	77
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	77
F168 ORDER PARTS BY VOICE COMMUNICATION	76
G210 PERFORM TEST STATION CONFIDENCE TESTS	74
G204 PACK OR UNPACK LRUs OR EQUIPMENT	73
G228 SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	73
G206 PERFORM PERIODIC INSPECTIONS	70
G216 REMOVE OR REPLACE LOW VOLTAGE POWER SUPPLIES	70
G181 ALIGN HIGH VOLTAGE POWER SUPPLIES	69
G215 REMOVE OR REPLACE HIGH VOLTAGE POWER SUPPLIES	69
G182 ALIGN LOW VOLTAGE POWER SUPPLIES	64
G218 REMOVE OR REPLACE TEST STATION ADAPTER COMPONENTS	63
G220 REMOVE OR REPLACE TEST STATION TESTER REPLACEABLE UNITS	63
E142 ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	61
G221 REMOVE OR REPLACE TEST STATION TRU CIRCUIT CARDS	61
E132 ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	60

TABLE 12

REPRESENTATIVE TASKS PERFORMED BY 32653A PERSONNEL

TASKS	PERCENT PERFORMING (N=133)
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	88
G189 CLEAN SHOP FACILITIES	83
G214 REMOVE OR REPLACE CONNECTORS	82
G229 SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	80
G230 VISUALLY INSPECT AND CLEAN LRUs	77
G210 PERFORM TEST STATION CONFIDENCE TESTS	77
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	77
G228 SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	75
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG FORMS (AFTO FORM 350)	71
E142 ANNOTATE SIGNIFICANT HISTORY DATA (AFTO FORM 95)	69
G181 ALIGN HIGH VOLTAGE POWER SUPPLIES	69
G215 REMOVE OR REPLACE HIGH VOLTAGE POWER SUPPLIES	69
G206 PERFORM PERIODIC INSPECTIONS	68
G216 REMOVE OR REPLACE LOW VOLTAGE POWER SUPPLIES	68
G204 PACK OR UNPACK LRUS OR EQUIPMENT	68
G220 REMOVE OR REPLACE TEST STATION TESTER REPLACEABLE UNITS	68
E132 ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	67
G186 CLEAN CONTACTS	67
F149 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	65
G182 ALIGN LOW VOLTAGE POWER SUPPLIES	65

TABLE 13

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32633A
AND 32653A PERSONNEL

TASK	PERCENT 32633A PERFORMING (N=70)	PERCENT 32653A PERFORMING (N=133)	DIFFERENCE
F168 ORDER PARTS BY VOICE COMMUNICATION	76	64	+12
* * * * *			
E138 ANNOTATE RECEIPT OR RELEASE OF LINE REPLACEMENT UNITS (LRU) INTO OR OUT OF SHOP	31	50	-19
E143 ANNOTATE SUPPLY CONTROL LOG (AF FORM 2413)	33	53	-20
E141 ANNOTATE SERVICEABLE TAG MATERIEL (DD FORM 1574)	36	56	-20
E134 ANNOTATE MATERIEL DEFICIENCY EXHIBIT (AFTO FORM 114)	10	31	-21
E145 ANNOTATE TECHNICAL ORDER SYSTEM PUBLICATION IMPROVEMENT REPORT AND REPLY (AFTO FORM 22)	19	40	-21
B32 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED MATTERS	3	25	-22
C95 REVIEW MAINTENANCE DATA OR EQUIPMENT RECORD FORMS	10	34	-24
E144 ANNOTATE SYSTEM/EQUIPMENT STATUS RECORD (AFTO FORM 244)	20	44	-24
B27 ASSIGN MAINTENANCE OR REPAIR WORK	7	32	-25
C58 CERTIFY STATUS OF REPARABLE, SERVICEABLE, OR CONDEMNED PARTS	7	32	-25
B46 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	0	26	-26
D118 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	3	29	-26
C89 PREPARE APRs	3	31	-28
B52 SUPERVISE INTEGRATED AVIONICS EW EQUIPMENT AND COMPONENT SPECIALIST (32653A)	0	29	-29
F149 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	36	65	-29
D105 COUNSEL TRAINEES ON TRAINING PROGRESS	4	34	-30
B47 ORIENT NEWLY ASSIGNED PERSONNEL	8	42	-34
D101 CONDUCT OJT	10	44	-34
B49 SUPERVISE APPRENTICE INTEGRATED AVIONICS ELECTRONIC WARFARE (EW) EQUIPMENT AND COMPONENT SPECIALIST (AFSC 32633A)	9	46	-37

TABLE 14

REPRESENTATIVE TASKS PERFORMED BY 32673 PERSONNEL

TASK	PERCENT PERFORMING (N=75)
C89 PREPARE APRs	84
B32 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED MATTERS	80
B47 ORIENT NEWLY ASSIGNED PERSONNEL	80
A2 DETERMINE WORK PRIORITIES	77
F149 INVENTORY SUPPLIES, EQUIPMENT OR TOOLS	76
B56 WRITE CORRESPONDENCE	72
A19 PLAN WORK ASSIGNMENTS	72
D105 COUNSEL TRAINEES ON TRAINING PROGRESS	72
B46 INTERPRET POLICES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	71
A14 PARTICIPATE IN MEETINGS SUCH AS STAFF MEETINGS, BRIEFINGS, CONFERENCES, OR WORKSHOPS	71
C95 REVIEW MAINTENANCE DATA OR EQUIPMENT RECORD FORMS	71
B27 ASSIGN MAINTENANCE OR REPAIR WORK	69
E141 ANNOTATE SERVICEABLE TAG MATERIEL (DD FORM 1574)	69
D118 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	67
C58 CERTIFY STATUS OF REPARABLE, SERVICEABLE, OR CONDEMNED PARTS	67
E142 ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	67
A13 ESTABLISH WORK SCHEDULES	65
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	65
E130 ANNOTATE ISSUE/TURN IN REQUEST (AF FORM 2005)	65
C94 REVIEW CORRESPONDENCE	64

TABLE 15

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32653A
AND 32673 PERSONNEL

TASK	PERCENT 32653A PERFORMING (N=133)	PERCENT 32673 PERFORMING (N=75)	DIFFERENCE
G189 CLEAN SHOP FACILITIES	83	37	+46
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	88	44	+44
G214 REMOVE OR REPLACE CONNECTORS	82	43	+39
G229 SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	80	41	+39
G228 SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	75	37	+38
G210 PERFORM TEST STATION CONFIDENCE TESTS	77	41	+36
G230 VISUALLY INSPECT AND CLEAN LRUs	77	45	+32
G191 FABRICATE CABLES	63	32	+31
I271 PERFORM PATS MAINTENANCE TESTS	41	11	+30
G215 REMOVE OR REPLACE HIGH VOLTAGE POWER SUPPLIES	69	39	+30
* * * * *			
C76 EVALUATE TECHNICAL ORDER IMPROVEMENT REPORTS	2	52	-50
D110 DIRECT OR IMPLEMENT OJT PROGRAMS	7	59	-52
A26 SCHEDULE TEMPORARY DUTY, LEAVES, OR PASSES	3	56	-53
C89 PREPARE APRs	31	84	-53
C86 PERFORM PRODUCTION OR SUPERVISORY INSPECTIONS	3	57	-54
B32 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED MATTERS	25	80	-55
C94 REVIEW CORRESPONDENCE	7	64	-57
A19 PLAN WORK ASSIGNMENTS	14	72	-58
A13 ESTABLISH WORK SCHEDULE	5	65	-60
B56 WRITE CORRESPONDENCE	11	72	-61

TABLE 16

REPRESENTATIVE TASKS PERFORMED BY 32633B PERSONNEL

TASKS	PERCENT PERFORMING (N=23)
G189 CLEAN SHOP FACILITIES	91
G210 PERFORM TEST STATION CONFIDENCE TESTS	91
G230 VISUALLY INSPECT AND CLEAN LRUs	91
L433 PERFORM OPERATIONAL ASSURANCE/FAULT ISOLATION TEST	87
G206 PERFORM PERIODIC INSPECTIONS	87
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	83
G204 PACK OR UNPACK LRUs OR EQUIPMENT	83
L431 PERFORM DISK UPDATE PROCEDURES	83
F168 ORDER PARTS BY VOICE COMMUNICATIONS	78
L432 PERFORM DISK-TO-DISK TRANSFER PROCEDURES	78
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	74
L379 DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	74
E142 ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	74
G186 CLEAN CONTACTS	74
L425 PERFORM AN/ALR-56 HIGH BAND RECEIVER OPERATIONAL TESTS	70
E141 ANNOTATE SERVICEABLE TAG MATERIEL (DD FORM 1574)	70
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	70
E132 ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	65
L426 PERFORM AN/ALR-56 LOW BAND RECEIVER PROCESSOR OPERATIONAL TESTS	65
L437 REMOVE OR REPLACE AN/ALQ-135 CONTROL OSCILLATOR COMPONENTS	65

TABLE 17

REPRESENTATIVE TASKS PERFORMED BY 32653B PERSONNEL

TASK	PERCENT PERFORMING (N=71)
G210 PERFORM TEST STATION CONFIDENCE TESTS	86
L433 PERFORM OPERATIONAL ASSURANCE/FAULT ISOLATION TESTS	84
G189 CLEAN SHOP FACILITIES	83
L379 DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	83
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	79
L390 ISOLATE AN/ALR-56 LOW BAND RECEIVER PROCESSOR MALFUNCTIONS	79
L388 ISOLATE AN/ALQ-135 TUNING UNIT MALFUNCTIONS	79
G204 PACK OR UNPACK LRUs OR EQUIPMENT	79
L382 ISOLATE AN/ALQ-128 RECEIVER TRANSMITTER MALFUNCTIONS	79
L389 ISOLATE AN/ALR-56 HIGH BAND RECEIVER MALFUNCTIONS	79
L446 REMOVE OR REPLACE TEWS DISPLAY COMPONENTS	79
L426 PERFORM AN/ALR-56 LOW BAND RECEIVER PROCESSOR OPERATIONAL TESTS	77
L444 REMOVE OR REPLACE AN/ALR-56 LOW BAND RECEIVER COMPONENTS	77
L363 ALIGN AN/ALR-56 LOW BAND RECEIVER PROCESSORS	77
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES OR HARDWARE	77
L383 ISOLATE AN/ALQ-135 CONTROL OSCILLATOR MALFUNCTIONS	77
L356 ALIGN AN/ALQ-128 RECEIVER TRANSMITTERS	77
L436 REMOVE OR REPLACE AN/ALQ-128 RECEIVER-TRANSMITTER COMPONENTS	77
L400 ISOLATE TITE FREQUENCY SYNTHESIZER MALFUNCTIONS	77
L432 PERFORM DISK-TO-DISK TRANSFER PROCEDURES	77

TABLE 18

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32633B AND
AND 32653B PERSONNEL

TASK	PERCENT 32633B PERFORMING N=23	PERCENT 32653B PERFORMING N=71	DIFFERENCE
G190 ELECTRONICALLY ALIGN TEST STATION ADAPTERS	30	11	+19
G230 VISUALLY INSPECT AND CLEAN LRUs	92	75	+17
C82 PERFORM ACTIVITY INSPECTIONS	26	10	+16
G213 REMOVE OR REPLACE COMPUTER TERMINAL COMPONENTS	57	41	+16
F168 ORDER PARTS BY VOICE COMMUNICATION	78	63	+15
G206 PERFORM PERIODIC INSPECTIONS	87	73	+14

L381 ISOLATE AN/ALQ-128 ELECTRONIC SWITCH MALFUNCTIONS	35	65	-30
L401 ISOLATE TITE HIGH FREQUENCY SWITCH CONTROLLER MALFUNCTIONS	35	65	-30
L365 ALIGN TITE BI PHASE DRAWERS	30	60	-30
L373 ALIGN TITE SAMPLE-AND-HOLD ASSEMBLIES	26	56	-30
D101 CONDUCT OJT	9	39	-30
L446 REMOVE OR REPLACE TEWS DISPLAY COMPONENTS	48	79	-31
L367 ALIGN TITE DISK DRIVES	35	66	-31
L417 PERFORM AN/ALQ-128 ELECTRONIC SWITCH OPERATIONAL TESTS	30	63	-33
E143 ANNOTATE SUPPLY CONTROL LOGS (AF FORM 2413)	26	59	-33
L376 ALIGN TITE TIME DELAY GENERATORS	17	50	-33
L377 ALIGN TITE UNIT UNDER TEST (UUT) COOLER BLOWER DRAWERS	26	61	-35
L387 ISOLATE AN/ALQ-135 SUMMATION NETWORK MALFUNCTIONS	26	61	-35
L382 ISOLATE AN/ALQ-128 RECEIVER TRANSMITTER FUNCTIONS	44	79	-35
L372 ALIGN TITE PROGRAMMABLE THRESHOLD DETECTORS	22	58	-36
B50 SUPERVISE APPRENTICE INTEGRATED AVIONICS EW EQUIPMENT AND COMPONENT SPECIALISTS (AFSC 32633B)	13	51	-38

TABLE 19

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32653B AND
32673 PERSONNEL

TASK	PERCENT 32653B PERFORMING N=71	PERCENT 32673 PERFORMING N=75	DIFFERENCE
L379 DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	83	19	+64
L433 PERFORM OPERATIONAL ASSURANCE/FAULT ISOLATION TESTS	84	21	+63
L388 ISOLATE AN/ALQ-135 TUNING UNIT MALFUNCTIONS	79	19	+60
L390 ISOLATE AN/ALR-56 LOW BAND RECEIVER PROCESSOR MALFUNCTIONS	79	19	+60
L446 REMOVE OR REPLACE TEWS DISPLAY COMPONENTS	79	19	+60
L400 ISOLATE TITE FREQUENCY SYNTHESIZER MALFUNCTIONS	77	17	+60
L407 ISOLATE TITE SPECTRUM ANALYZER SYSTEM MALFUNCTIONS	76	16	+60
L382 ISOLATE AN/ALQ-128 RECEIVER-TRANSMITTER	79	20	+59
L389 ISOLATE AN/ALR-56 HIGH BAND RECEIVER MALFUNCTIONS	79	20	+59
L383 ISOLATE AN/ALQ-135 CONTROL OSCILLATOR MALFUNCTIONS	77	19	+58
* * * * *			
C57 ANALYZE WORKLOAD REQUIREMENTS	8	56	-48
C76 EVALUATE TECHNICAL ORDER IMPROVEMENT REPORTS	4	52	-48
D110 DIRECT OR IMPLEMENT OJT PROGRAMS	10	59	-49
C86 PERFORM PRODUCTION OR SUPERVISORY INSPECTIONS	8	57	-49
C79 EVALUATE WORK SCHEDULES	3	52	-49
A26 SCHEDULE TEMPORARY DUTY, LEAVES, OR PASSES	6	56	-50
C59 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	11	63	-52
A14 PARTICPATE IN MEETINGS, SUCH AS STAFF MEETINGS, BRIEFINGS, CONFERENCES, OR WORKSHOPS	18	71	-53
A13 ESTABLISH WORK SCHEDULES	11	65	-54
C89 PREPARE APRs	24	84	-60

TABLE 20
DISTRIBUTION BY JOB GROUP FOR EACH DUTY AFSC
(NUMBER MEMBERS)

JOB GROUPS	DAFSC				
	32633A (N=70)	32653A (N=133)	32633B (N=23)	32653B (N=71)	32673 (N=75)
TACTICAL ELECTRONIC WARFARE MAINTENANCE CLUSTER	-	-	20	58	14
ELECTRONIC WARFARE MAINTENANCE CLUSTER	62	118	-	1	17
ADMINISTRATIVE RECORDS INDEPENDENT JOB TYPE	1	4	-	4	1
MANAGEMENT CLUSTER	-	-	-	3	28
TECHNICAL TRAINING INSTRUCTORS INDEPENDENT JOB TYPE	-	6	1	3	2
MEMBERS NOT GROUPED	7	5	2	2	13

COMPARISON OF SURVEY DATA TO AFR 39-1 SPECIALTY DESCRIPTIONS

The results of this survey were compared to the AFR 39-1 Specialty Descriptions, dated 30 April 1979. The descriptions in AFR 39-1 are intended to describe, in broad terms, the tasks and duties performed by personnel in the various skill level groups of a career ladder. (There are two descriptions applicable to the Integrated Avionic Electronic Warfare Equipment and Component specialty. One description covers AFSCs 32613, 32633, and 32653. The second description covers AFSC 32673.)

Overall, the AFR 39-1 descriptions accurately summarize the responsibilities of the AFS 326X3 personnel who responded to this survey. The two descriptions clearly distinguish between the primarily maintenance oriented specialist-level functions and the primarily supervisory-managerial oriented technician-level functions.

ANALYSIS OF MAJOR COMMAND DIFFERENCES

In the occupational analysis of Air Force specialties, it is often useful to examine the duties and tasks performed and the background characteristics of respondents grouped according to the dominant major commands (MAJCOM) using personnel with that specialty. In this study of the 326X3 specialty, the MAJCOM analysis is further divided by shreds associated with the two weapons systems; the F/FB-111 and the F-15.

Two commonalities exist among members of the two shreds (see Table 21). First, members of both shreds spend similar amounts of time on supervisory and administrative duties. The only exception to this observation is the greater amount of time devoted to training by ATC. The second area of commonality among using MAJCOMs is the proportion of time spent performing general avionic aerospace ground equipment operator or shop functions. These functions include such diverse tasks as soldering components to circuit boards, fabricating cables, packing and unpacking line replacement units (LRU), cleaning shop facilities, and tracing circuits using technical literature. The first commonality is usually found in the analysis of most Air Force specialties. The second is a common finding associated with the maintenance of avionic systems. These two areas of similarity form a basic core response from which each shred, and MAJCOM groups within those shreds, begin to differentiate.

A-Shred MAJCOM Analysis

Four MAJCOMs employ AFS 326X3A personnel to maintain EW systems on the F/FB-111 aircraft. Table 21 shows the relative percentage of time spent on the job by A-shred personnel assigned to TAC, USAFE, SAC, and ATC. Of the five EW systems associated with F/FB-111 aircraft, two appear to be common to the MAJCOM groups; penetration aids (PATs) and radar homing and warning (RHAW) systems. Apart from these two systems, the focus of

jobs in the four MAJCOM groups appear to be related to three EW systems, EW Pods, Digital Processors associated with some RHAW systems, and Infrared Sensors.

TAC: One hundred and five A-shred respondents indicated that they are assigned to TAC. In addition to duties common to other MAJCOMs, TAC personnel spend a substantial amount of time maintaining EW pods. Fifty percent indicated that they support F-111A aircraft, and another 46 percent indicated that they support F-111Ds (see Table 22). Over half (57 percent) of the TAC respondents indicated having 13-24 months in the service. The same percentage indicated being in their present job less than one year. Even though the job satisfaction indicators for TAC personnel are relatively high, only 28 percent intend to reenlist (see Table 23).

USAFE: Forty-seven A-shred respondents indicated being assigned to USAFE. There is a similarity among USAFE and TAC personnel in that both spend substantial proportions of time on the job maintaining EW pods (see Table 21). USAFE personnel do so, however, at the expense of smaller amounts of time devoted to PATS and basic RHAW systems. There is also some similarity among USAFE and SAC in the proportions of time spent maintaining digital processor (DP) systems. Forty-three percent of the USAFE group support F-111E and F-111F aircraft (see Table 22). USAFE respondents are slightly more senior than TAC personnel, with average paygrades of E-3.7 and E-3.3 respectively. USAFE personnel also have a greater average number of months of active federal military service AFMS (39 months). The job satisfaction responses from A-shred USAFE members are the highest of any MAJCOM group (see Table 23). Ninety-one percent feel their talents are well used by their jobs, and 89 percent feel their training is well used. Eighty-one percent are satisfied with the sense of accomplishment gained from their jobs and feel that their jobs are interesting. Paradoxically, this group is among the lowest in percent intending to reenlist (25 percent).

SAC: Thirty-seven members of the A-shred indicated that they are assigned to SAC. Ninety-five percent of the SAC respondents indicated supporting FB-111A aircraft (see Table 22). In addition to systems previously mentioned as common among all A-shred MAJCOM groups, SAC personnel spend substantial proportions of time on the job maintaining digital processor systems (10 percent) and infrared (IR) sensor systems (13 percent) (see Table 21). As was seen with TAC, SAC personnel are rather inexperienced; with 51 percent of the members in their present job less than 13 months, and 65 percent having two years or less AFMS. The responses to job satisfaction questions by SAC personnel are roughly equal to the responses of A-shred TAC personnel (see Table 23).

ATC: Sixteen A-shred personnel indicated that they are assigned to ATC. This group is somewhat anomalous to most AFS 326X3 groups in that 69 percent indicated they are instructors. The proportions of time spent on the various EW systems, and on administrative duties, are much lower than for the three previous groups; however, this group spends a substantial amount of time performing training activities (31 percent) such as administering tests, conducting classroom instruction, and counseling students (see Table 21). This group is the most senior A-shred MAJCOM group, averaging 66 months AFMS and having an average paygrade of E-4.3 (see Table 22). The job satisfaction responses for this group were mixed (see Table 23).

B-Shred MAJCOM Analysis

Four MAJCOMs employ AFS 326X3B personnel to maintain EW systems on F-15 aircraft: TAC, USAFE, PACAF, and ATC. The F-15 is quite different from the F/FB-111, and as a result, a different pattern emerges when comparing MAJCOM groups. The F/FB-111 is capable of carrying four distinct EW systems: penetration aids, radar homing and warning, infrared sensors, and EW pods, plus a digital processor unit integrated with the RHAW system. The F-15, however, has one primary system, the tactical electronic warfare system (TEWS). In addition, a small percentage of B-shred personnel maintain EW pods attached to some F-15s. Table 21 shows that, unlike the groups within the A-shred, there is little differentiation among B-shred MAJCOM groups by the amount of time spent on specific duties, except for the ATC personnel who devote substantial time to training activities. There are several interesting observations to be drawn from the background information (see Table 22). The number of people in each of the B-shred MAJCOM groups are less than in comparative A-shred groups. B-shred personnel perform higher average numbers of tasks than their A-shred counterparts. Average grades and lengths of service for TAC and USAFE B-shred personnel are higher than for their A-shred complements. The jobs of B-shred personnel appear to be less specialized by aircraft model than is true of A-shred personnel; that is, with A-shred respondents, MAJCOM groups appear to concentrate on a few F/FB-111 models as a rule, while with B-shred respondents, jobs of MAJCOM groups appear, as a rule, to include all four variants of the F-15. This finding is consistent with the findings of the CAREER LADDER STRUCTURE section, which indicates the B-shred jobs are much more homogeneous than are A-shred jobs.

To some degree, the similarity found in job performance data and background information of B-shred MAJCOM groups extend into job satisfaction responses also (see Table 23). Overall, the job satisfaction indicators for B-shred respondents are lower than for A-shred respondents. B-shred respondents indicated that their jobs are interesting, but the jobs do not use their talents and training well. Thirty-seven percent of the USAFE group and half of the PACAF group indicated that their talents are used very little or not at all. Forty-two percent of the TAC group, 37 percent of the USAFE group, and 58 percent of the PACAF group feel that their training is used very little or not at all. Seventy-five percent of the TAC respondents and 83 percent of the PACAF respondents indicated that they will not reenlist. ATC personnel in the B-shred, however, have generally more favorable responses to the job satisfaction questions. Fifty-four percent of ATC respondents plan to reenlist.

Summary

The analysis of MAJCOM groups in the 326X3 specialty have shown a substantial difference between job patterns within each shred. Two separate areas of commonality tie the shreds and MAJCOM groups together. One area of commonality, found within most Air Force specialties, is the proportion of time devoted to supervisory and administrative responsibilities. Roughly 25 percent of job time for each of the MAJCOM groups (except ATC) is devoted to supervisory and administrative activities (ATC personnel devote more time

to training, since this is a MAJCOM mission). The other area of commonality among the MAJCOM groups is the amount of time devoted to general avionic AGE activities. Performance of tasks in this area is common to each group and proportions of time devoted to these functions range from 16 percent for A-shred ATC and B-shred USAFE personnel (who are somewhat senior to other respondents) to 36 percent for A-shred TAC personnel.

Between the shreds, there is a substantial difference in the degree of specialization. Three groups, TAC, USAFE, and SAC, are distinguished by specific F/FB-111 aircraft models. In the B-shred, however, the association of F-15 aircraft models to specific MAJCOM groups is less distinct. In addition, A-shred groups are more diverse in time spent performing duties associated with specific EW systems, but B-shred respondents basically have one duty beyond supervision-administration and general avionic AGE activities. That duty involves maintenance of TEWS components and the TEWS Intermediate Test Equipment (TITE). Overall, A-shred personnel appear much more satisfied with their jobs according to the job satisfaction responses; but paradoxically, have quite low intentions of reenlisting (see Table 23).

TABLE 21

RELATIVE PERCENT TIME SPENT ON DUTIES BY MAJOR COMMAND GROUPS

	A-SHRED				B-SHRED			
	TAC (N=105)	USAFE (N=47)	SAC (N=37)	ATC (N=16)	TAC (N=52)	USAFE (N=19)	PACAF (N=12)	ATC (N=1)
<u>SUPERVISORY DUTIES:</u>								
A ORGANIZING AND PLANNING	1	1	2	3	2	1	1	2
B DIRECTING AND IMPLEMENTING	2	2	2	4	3	4	2	8
C INSPECTING AND EVALUATING	2	2	4	3	3	2	2	4
D TRAINING	2	1	2	31	1	1	*	22
<u>ADMINISTRATIVE DUTIES:</u>								
E MAINTAINING FORMS AND RECORDS	10	10	10	3	10	11	12	6
F PERFORMING ADMINISTRATIVE AND SUPPLY FUNCTIONS	7	5	6	4	7	4	4	4
<u>AVIONIC MAINTENANCE DUTIES:</u>								
G PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	36	31	26	16	25	16	22	19
I MAINTAINING PENETRATION AIDES TEST STATION (PATS) AND ASSOCIATED LRUs	14	11	13	9	*	0	0	0
J MAINTAINING RADAR HOMING AND WARNING (RHAW) TEST STATIONS AND ASSOCIATED LRUs	14	9	12	9	1	0	0	1
M ELECTRONIC WARFARE (EW) PODS AND ASSOCIATED TEST EQUIPMENT	9	13	*	5	2	2	*	6
K MAINTAINING DIGITAL PROCESSOR TEST SETS AND ASSOCIATED LRUs	1	7	10	4	0	0	0	0
H MAINTAINING INFRARED (IR) TEST STATIONS AND ASSOCIATED LINE REPLACEMENT UNITS (LRU)	2	6	13	8	*	0	0	0
L MAINTAINING TACTICAL ELECTRONIC WARFARE SYSTEMS (TEWS) AND TEWS INTERMEDIATE TEST EQUIPMENT (TITE)	*	0	0	*	45	59	56	27

*INDICATES LESS THAN ONE PERCENT

TABLE 22

BACKGROUND INFORMATION FOR MAJOR COMMAND GROUPS

	A-SHRED				B-SHRED			
	TAC	USAFE	SAC	ATC	TAC	USAFE	PACAF	ATC
NUMBER MEMBERS	105	47	37	16	52	19	12	13
AVERAGE NUMBER TASKS PERFORMED	75	80	75	74	107	105	122	78
AVERAGE GRADE	3.3	3.7	3.3	4.3	3.6	4.1	3.3	3.5
DUTY AFSC								
32633A	43	21	38	6	-	-	-	-
32653A	57	77	62	88	-	-	-	-
32633B	-	-	-	6	25	-	33	46
32653B	-	-	-	-	73	95	67	54
32673	-	2	-	-	2	5	-	-
MONTHS IN CAREER FIELD	23	36	23	50	24	31	26	26
MONTHS FEDERAL MILITARY SERVICE	29	39	26	66	37	58	33	38
AIRCRAFT SUPPORTED								
DO NOT SUPPORT AIRCRAFT	0	0	0	6	4	11	0	8
F-15A	1	0	0	0	94	90	33	46
F-15B	0	0	0	0	89	90	25	39
F-15C	0	0	0	0	46	100	100	31
F-15D	0	0	0	0	44	79	92	31
EB-111A	0	0	0	19	0	0	0	0
EF-111A	1	0	0	13	0	0	0	0
F-111A	50	17	3	75	0	0	0	0
FB-111A	6	4	95	94	0	0	0	0
YFB-111A	0	0	3	13	0	0	0	0
F-111D	46	4	0	81	0	0	0	0
F-111E	1	43	0	75	0	0	0	0
F-111F	0	43	0	75	0	0	0	0

TABLE 23

JOB SATISFACTION INFORMATION OF MAJOR COMMAND GROUPS
(PERCENT RESPONDING)

	A-SHRED				B-SHRED			
	TAC N=105	USAFE N=47	SAC N=37	ATC N=16	TAC N=52	USAFE N=19	PACAF N=12	ATC N=13
<u>HOW DO YOU FIND YOUR JOB:</u>								
DULL	11	11	8	6	16	16	25	8
SO-SO	12	8	16	19	15	26	17	15
INTERESTING	76	81	76	75	69	58	58	77
NO RESPONSE	1	0	0	0	0	0	0	0
<u>HOW WELL DOES YOUR JOB UTILIZE YOUR TALENTS:</u>								
NOT AT ALL OR VERY LITTLE	18	9	19	19	25	37	50	8
FAIRLY WELL TO PERFECTLY	82	91	78	81	75	63	50	92
NO RESPONSE	0	0	3	0	0	0	0	0
<u>HOW WELL DOES YOUR JOB UTILIZE YOUR TRAINING:</u>								
NOT AT ALL OR VERY LITTLE	14	11	16	0	42	37	58	8
FAIRLY WELL TO PERFECTLY	86	89	81	100	56	63	42	92
NO RESPONSE	0	0	3	0	2	0	0	0
<u>HOW SATISFIED ARE YOU WITH THE SENSE OF ACCOMPLISHMENT GAINED FROM YOUR JOB:</u>								
DISSATISFIED	22	11	19	31	33	26	42	15
AMBIVALENT	14	8	11	19	9	16	17	8
SATISFIED	64	81	65	50	58	58	33	77
NO RESPONSE	0	0	5	0	0	0	8	0
<u>DO YOU PLAN TO REENLIST:</u>								
NO OR PROBABLY NO	72	75	76	63	75	53	83	46
YES OR PROBABLY YES	28	25	24	31	25	47	17	54
NO RESPONSE	0	0	0	6	0	0	0	0

ANALYSIS OF EXPERIENCE (TAFMS) GROUPS

In addition to the analyses of job structure, skill level, and MAJCOM groups, respondents were also examined on the basis of months of Total Active Federal Military Service (TAFMS). This analysis aids in determining how jobs and job perceptions change over time, and can help describe the nature of jobs more junior personnel can expect to perform as their careers progress.

Since the Integrated Avionics Electronic Warfare Equipment and Component specialty is shredded by aircraft, a strategy was developed for analyzing A- and B-shred respondents separately. Members of each shred were categorized by first job (those with one to 24 months AFMS), first enlistment (one to 48 months AFMS), and second enlistment 49 to 96 months AFMS). A single group of career personnel (97+ months AFMS) was used, since the vast majority of members beyond 96 months AFMS have already been upgraded to the 7-skill level and have, therefore, lost their A- or B-shred.

Patterns in the relative amount of time spent on duties by members in each shred are generally the same (see Tables 24 and 25). Members in each experience group spend about the same relative amount of time on their jobs maintaining forms and records and performing administrative and supply activities. In both shreds, members with the greatest lengths of experience spend greater proportions of time on their jobs involved with supervisory and administrative activities such as directing avionic maintenance programs, evaluating personnel performance, and planning and organizing activities. Members with less experience spend a greater proportion of time on the job involved with technical activities.

The greatest difference between members of the two shreds lies in the difference between the F-15 and F/FB-111 aircraft. The F-15, having one primary EW system, is maintained by a single test station. Thus, all B-shred personnel supporting the F-15 aircraft spend a greater proportion of their time within one duty. The F/FB-111, in contrast, may contain up to four distinct and independently functioning EW systems. Thus, A-shred members supporting the F/FB-111 divide their time among multiple duties. By summing the percentages of relative time allocated to technical duties for first job personnel in the A-shred, for example, and comparing it to the percentage of relative time spent by B-shred first job respondents, little difference is found between the proportion of time either shred spends on technical duties (81 percent and 83 percent, respectively).

This tendency of personnel to shift from technical to more administrative and supervisory jobs is supported by the job groups identified in the CAREER LADDER STRUCTURE section. Table 26 shows the numbers of members in experience groups in each of the job groups. The bulk of first job and first and second enlistment personnel are identified by the job structure analysis procedure as members of the TEWS Maintenance Cluster and the Electronic Warfare Maintenance Cluster. More of the Career experience group members appear in the Management Cluster than in either of the two technical maintenance groups.

Job Satisfaction Comparisons

An important part of the analysis of experience groups within any Occupational Survey Report involves the job satisfaction of members of those groups. Reported job interest, perceived utilization of talents and training, satisfaction with sense of accomplishment gained, and reenlistment intentions are presented in Table 27 for A- and B-shred members of first job and first enlistment groups. The responses of second enlistment and career groups are also included, irrespective of shredout. Along with these data, Table 27 contains a comparative sample of Air Force personnel in related career fields who were surveyed during 1980. (These career fields are Mission Equipment Maintenance specialites and include the 302X0, 307X0, 308X0, 322X2A/B/C, and 427X3 career ladders.) There is little difference between the A-shred and B-shred personnel in percentages of each experience group who perceive their jobs as interesting, who feel their talents are being well utilized, and who are satisfied with the sense of accomplishment they gain from their jobs. Relative to the comparative sample, all four groups of AFS 326X3 personnel have greater percentages responding favorably on these job satisfaction questions. In regard to perceptions of how well training is utilized, however, there are substantial differences among these groups. Across the board, higher percentages of A-shred personnel responded favorably to the question of how well their training is being utilized than the comparative sample.

In contrast, all four groups of B-shred personnel have lower proportions indicating their jobs utilize their training well than do the comparative sample. The most striking differences can be seen in the first enlistment groups. Eighty-seven percent of A-shred personnel feel their training is well utilized by their jobs compared to 70 percent of the 1980 sample responding that way, and only 42 percent of the B-shred respondents feeling that their training is well utilized.

Even though the bulk of job satisfaction indicators are more positive for AFS 326X3 personnel than for the comparative sample, all of the AFS 326X3 groups have lower percentages planning to reenlist. Within the first enlistment group, B-shred have the lowest percent planning to reenlist.

First Enlistment Personnel

A detailed examination of tasks performed by first enlistment personnel in each shred highlights the findings of previous analyses: that the jobs performed by B-shred first enlistment personnel are a great deal more similar to one another than are the jobs performed by A-shred first enlistment personnel. Table 26 and Figures 2 and 3 show that nearly all of the first enlistment personnel work in very similar positions, while there is a much wider range of jobs being performed by first enlistment members of the A-shred. This high degree of similarity in B-shred personnel can be seen in the different patterns of tasks performed by first enlistment members of each shred. In Table 28, practically all of the tasks common to A-shred personnel involve general avionic AGE operator or shop duties, such as soldering electronic components, interpreting schematics and diagrams, and isolating (general) test station malfunctions. The only other tasks common to substantial numbers of A-shred first enlistment respondents involve completing forms,

ordering parts, and similar non-technical activities. In contrast, tasks representative of B-shred personnel (see Table 27) include both general avionic AGE tasks and shred-specific technical duties, such as performing disk-to-disk transfers, isolating AN/ALQ-135 tuning unit malfunctions, and removing or replacing AN/ALR-56 high band receiver components. Thus, the data indicate that the technical tasks of A-shred first enlistment personnel are performed by smaller subgroups, resulting in diverse jobs, while the technical tasks of B-shred personnel are more uniformly spread among the majority of B-shred first enlistees.

Analysis of the background characteristics of first enlistment respondents indicates two major differences between these groups. First, members of the B-shred appear somewhat more senior to A-shred personnel. Although there is little difference in months AFMS (26 and 25 months, respectively), B-shred respondents reported having a higher average paygrade (E-3.9 and E-3.3, respectively) and a higher percentage holding the 5-skill level (71 percent and 59 percent, respectively). The second major background difference between the shreds appears to be that B-shred first enlistees perform a greater average number of tasks than do A-shred first enlistees (103 tasks and 74 tasks, respectively). This may be a consequence of the more diverse job structure of A-shred respondents. Since they perform a higher average number of tasks, B-shred personnel have a higher job difficulty index than A-shred respondents.

The diversity of A-shred jobs compared to B-shred jobs is also demonstrated in the percentage of each shred supporting particular variants of aircraft. Among the B-shred, percentages supporting the four variants of the F-15 range from a low of 55 percent to a high of 77 percent. With the F/FB-111, however, percentages of A-shred first enlistment members supporting a particular variant of the F/FB-111 range from a low of 11 percent up to 35 percent. The data imply that there is little chance of an individual supporting more than one or two models of the F/FB-111, but that over half of the first enlistment B-shred respondents can and do support all four F-15s. Table 31 contains lists of test equipment used by first enlistment members of each shred. High voltage test probes, pressure regulators, frequency dip meters, high voltage toroids, pressure/temperature test sets, and stroboscopes are used almost exclusively by A-shred personnel, and line printers, disk exercisers, and display printers are used exclusively by B-shred respondents.

TABLE 24

RELATIVE PERCENT TIME SPENT ON DUTIES BY FIRST JOB AND FIRST ENLISTMENT
AFS 326X3A PERSONNEL

<u>DUTY</u>	<u>FIRST JOB</u>	<u>FIRST ENLISTMENT</u>	<u>SECOND ENLISTMENT</u>	<u>CAREER</u>
<u>SUPERVISORY RESPONSIBILITIES:</u>				
A ORGANIZING AND PLANNING	1	1	4	9
B DIRECTING AND IMPLEMENTING	1	2	5	13
C INSPECTING AND EVALUATING	2	2	4	16
D TRAINING	1	3	13	11
<u>ADMINISTRATIVE RESPONSIBILITIES:</u>				
E MAINTAINING FORMS AND RECORDS	9	10	10	9
F PERFORMING ADMINISTRATIVE AND SUPPLY FUNCTIONS	6	6	7	9
<u>TECHNICAL RESPONSIBILITIES:</u>				
G PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	36	33	21	11
I MAINTAINING PENETRATION AIDS TEST STATIONS (PATS) AND ASSOCIATED LRUs	15	14	6	2
J MAINTAINING RADAR HOMING AND WARNING (RHAW) TEST STATIONS AND ASSOCIATED LRUs	15	13	9	3
M ELECTRONIC WARFARE (EW) PODS AND ASSOCIATED TEST EQUIPMENT	6	7	12	3
H MAINTAINING INFRARED (IR) TEST STATIONS AND ASSOCIATED LINE REPLACEMENT UNITS (LRU)	5	5	5	2
K MAINTAINING DIGITAL PROCESSOR TEST SETS (DPTS) AND ASSOCIATED LRUs	4	4	4	1
L MAINTAINING TACTICAL ELECTRONIC WARFARE SYSTEMS (TEWS) AND TEWS INTERMEDIATE TEST EQUIPMENT (TITE)	*	*	*	10

* INDICATES LESS THAN ONE PERCENT

TABLE 25

RELATIVE PERCENT TIME SPENT ON DUTIES BY FIRST JOB AND FIRST ENLISTMENT
AFS 326X3B PERSONNEL

<u>DUTY</u>	<u>FIRST JOB</u>	<u>FIRST ENLISTMENT</u>	<u>SECOND ENLISTMENT</u>	<u>CAREER</u>
<u>SUPERVISORY RESPONSIBILITIES:</u>				
A ORGANIZING AND PLANNING	*	1	1	9
B DIRECTING AND IMPLEMENTING	1	3	3	13
C INSPECTING AND EVALUATING	1	2	3	16
D TRAINING	*	3	3	11
<u>ADMINISTRATIVE RESPONSIBILITIES:</u>				
E MAINTAINING FORMS AND RECORDS	10	10	12	9
F PERFORMING ADMINISTRATIVE AND SUPPLY FUNCTIONS	4	5	5	9
<u>TECHNICAL RESPONSIBILITIES:</u>				
L MAINTAINING TACTICAL ELECTRONIC WARFARE SYSTEMS (TEWS) AND TEWS INTERMEDIATE TEST EQUIPMENT (TITE)	55	49	48	10
G PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	27	23	18	11
M ELECTRONIC WARFARE (EW) PODS AND ASSOCIATED TEST EQUIPMENT	1	2	6	6
J MAINTAINING RADAR HOMING AND WARNING (RHAW) TEST STATIONS AND ASSOCIATED LRUs	*	*	*	3
H MAINTAINING INFRARED (IR) TEST STATIONS AND ASSOCIATED LINE REPLACEMENT UNITS	*	*	-	2
I MAINTAINING PENETRATION AIDS TEST STATIONS (PATs) AND ASSOCIATED LRUs	-	*	-	2
K MAINTAINING DIGITAL PROCESSOR TEST SETS (DPTS) AND ASSOCIATED LRUs	-	-	-	1
* INDICATES LESS THAN ONE PERCENT				

TABLE 2.

DISTRIBUTION OF EXPERIENCE GROUP MEMBERS BY JOB GROUP
(NUMBER OF MEMBERS)

JOB GROUP	FIRST JOB		FIRST ENLISTMENT		SECOND ENLISTMENT		CAREER (N=81)
	A (N=100)	B (N=45)	A (N=175)	B (N=79)	A (N=44)	B (N=15)	
I. TEWS MAINTENANCE CLUSTER (N=98)	-	43	-	68	-	13	17
Ia. TEWS MAINTENANCE PERSONNEL (N=88)	-	32	-	59	-	12	15
Ib. JUNIOR TEWS MAINTENANCE PERSONNEL (N=9) (MEMBERS CLUSTERED BUT NOT JOB TYPED)	-	6	-	8	-	1	1
	-	5	-	1	-	-	2
II. ELECTRONIC WARFARE MAINTENANCE CLUSTER (N=210)	90	-	158	-	35	1	16
IIa. EW POD MAINTENANCE PERSONNEL (N=39)	11	-	28	-	9	1	2
IIb. PATS MAINTENANCE PERSONNEL (N=72)	39	-	62	-	6	-	4
IIc. RHAW MAINTENANCE PERSONNEL (N=26)	18	-	21	-	5*	-	-
IId. RHAW/DPTS MAINTENANCE PERSONNEL (N=50)	15	-	31	-	10	-	9
IIe. IR MAINTENANCE PERSONNEL (N=18) (MEMBERS CLUSTERED BUT NOT JOB TYPED)	5	-	13	-	4	-	1
	2	-	3	-	2	-	-
III. ADMINISTRATIVE RECORDS INDEPENDENT JOB TYPE (N=11)	1	1	3	4	3**	-	1
IV. MANAGEMENT CLUSTER (N=32)	-	-	-	-	-	1	31
IVa. F-15 SUPERVISORS (N=10)	-	-	-	-	-	1	9
IVb. SUPERVISORS ADMINISTRATORS (N=21) (MEMBER CLUSTERED BUT NOT JOB TYPED)	-	-	-	-	-	-	21
	-	-	-	-	-	-	1
V. TECHNICAL TRAINING INSTRUCTOR INDEPENDENT JOB TYPE (N=12)	-	-	3	3	3	-	3
MEMBERS NOT GROUPING INTO CLUSTERS	9	1	11	4	3	-	13

NOTES:

* THIS GROUP OF FIVE MEMBERS CONTAINS FOUR MEMBERS WITH DAFSC 32653A, ONE MEMBER WITH DAFSC 32673.

** TWO MEMBERS OF THIS GROUP HOLD DAFSC 32653A, THE OTHER MEMBER HOLDS DAFSC 32673.

FIGURE 2

DISTRIBUTION OF FIRST ENLISTMENT AFS 326X3A PERSONNEL

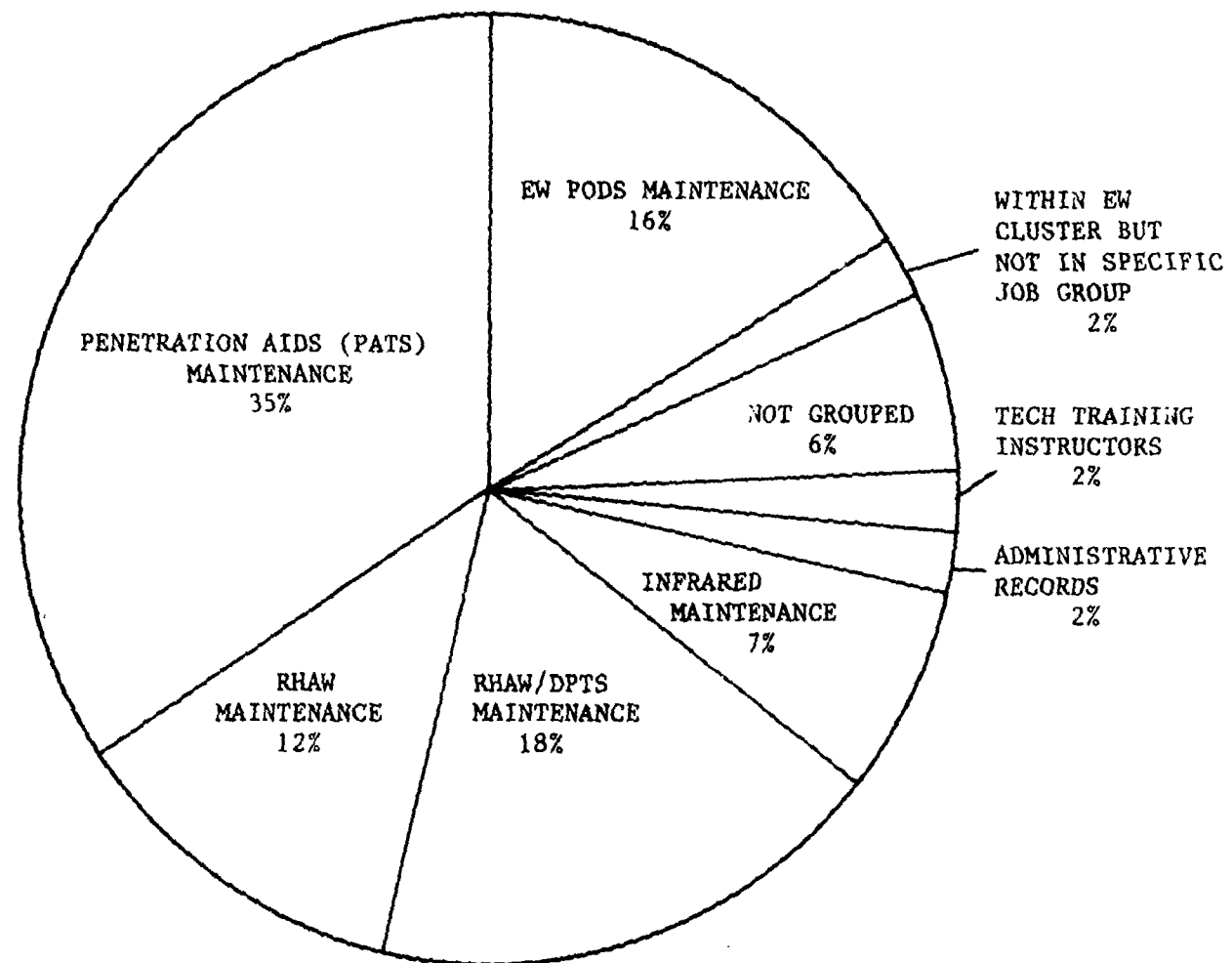


FIGURE 3

DISTRIBUTION OF FIRST ENLISTMENT AFS 326X3B
PERSONNEL IN JOB GROUPS

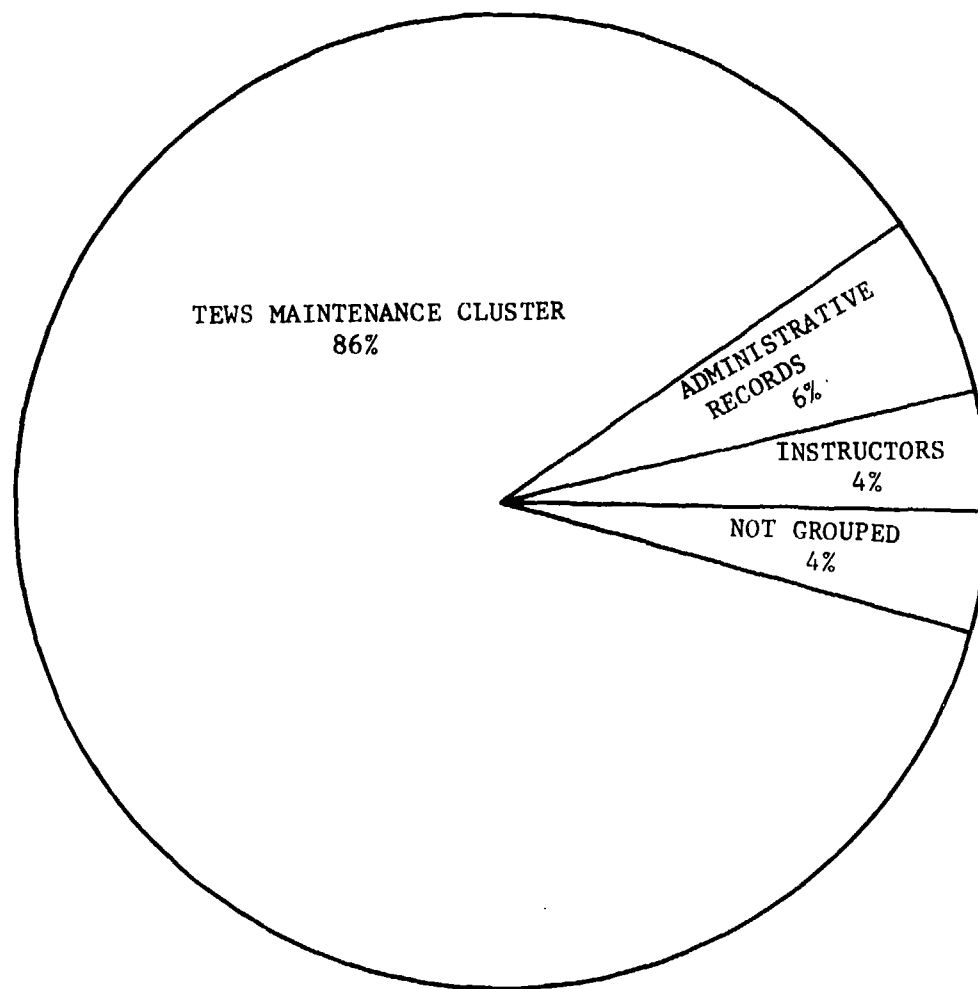


TABLE 27

JOB SATISFACTION COMPARISONS
(PERCENT RESPONDING)

	PERCENT FINDING JOBS INTERESTING	PERCENT FEELING JOB UTILIZES TALENTS WELL	PERCENT FEELING JOB UTILIZES TRAINING WELL	PERCENT SATISFIED WITH SENSE OF ACCOMPLISHMENT	PERCENT PLANNING TO REENLIST
<u>1-24 MONTHS AFMS</u>					
AFS 326X3A (N=143)	74%	84%	87%	66%	29%
AFS 326X3B (N=97)	73%	80%	71%	68%	30%
1980 COMPARATIVE DATA (N=555)*	63%	68%	76%	58%	39%
<u>1-48 MONTHS AFMS</u>					
AFS 326X3A (N=251)	79%	85%	87%	67%	25%
AFS 326X3B (N=171)	68%	71%	42%	55%	23%
1980 COMPARATIVE DATA (N=1,374)*	56%	63%	70%	51%	33%
<u>49-96 MONTHS AFMS</u>					
AFS 326X3 (N=54)	65%	74%	74%	65%	41%
1980 COMPARATIVE DATA (N=853)*	61%	69%	71%	57%	48%
<u>97+ MONTHS AFMS</u>					
CURRENT SURVEY: AFS 326X3 (N=80)	74%	78%	81%	58%	58%
1980 COMPARATIVE DATA: (N=1,426)*	70%	76%	75%	62%	67%

* NOTE: MISSION EQUIPMENT MAINTENANCE SPECIALTIES STUDIED IN 1980 INCLUDE AFSS 302X0, 307X0, 308X0, 322X2A/B/C AND 427X3.

TABLE 28

REPRESENTATIVE TASKS PERFORMED BY FIRST ENLISTMENT
(1-48 MONTHS AFMS) PERSONNEL HOLDING AFS 326X3A

TASKS	PERCENT FIRST ENLISTMENT PERFORMING (N=171)
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	90
G189 CLEAN SHOP FACILITIES	85
G229 SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS OR PLUGS	83
G214 REMOVE OR REPLACE CONNECTORS	82
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	79
G230 VISUALLY INSPECT AND CLEAN LRUs	78
G210 PERFORM TEST STATION CONFIDENCE TESTS	77
G228 SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	75
G204 PACK OR UNPACK LRUs OR EQUIPMENT	73
G216 REMOVE OR REPLACE LOW VOLTAGE POWER SUPPLIES	72
G206 PERFORM PERIODIC INSPECTIONS	71
G181 ALIGN HIGH VOLTAGE POWER SUPPLIES	71
G215 REMOVE OR REPLACE HIGH VOLTAGE POWER SUPPLIES	71
F168 ORDER PARTS BY VOICE COMMUNICATION	69
G220 REMOVE OR REPLACE TEST STATION TESTER REPLACEABLE UNITS (TRU)	69
E142 ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	67
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	66
G186 CLEAN CONTACTS	66
E132 ANNOTATE MAINTENANCE DATA COLLECTION (AFTO FORM 349)	65
G218 REMOVE OR REPLACE TEST STATION ADAPTER COMPONENTS	65
G221 REMOVE OR REPLACE TEST STATION TRU CARDS	64
G222 REMOVE OR REPLACE TEST STATION TRU CIRCUIT ELEMENTS, SUCH AS RESISTORS, CAPACITORS, OR TRANSFORMERS	63
G199 ISOLATE TEST STATION ADAPTER MALFUNCTIONS	62
G191 FABRICATE CABLES	59
E130 ANNOTATE ISSUE/TURN IN REQUEST (AF FORM 2005)	57

TABLE 29

**REPRESENTATIVE TASKS PERFORMED BY FIRST ENLISTMENT
(1-48 MONTHS AFMS) PERSONNEL HOLDING AFS 326X3B**

TASKS	PERCENT FIRST ENLISTMENT PERFORMING (N=75)
G189 CLEAN SHOP FACILITIES	88
L433 PERFORM OPERATIONAL ASSURANCE/FAULT ISOLATION TESTS	85
G210 PERFORM TEST STATION CONFIDENCE TESTS	85
G204 PACK OR UNPACK LRUs OR EQUIPMENT	81
G230 VISUALLY INSPECT AND CLEAN LRUs	81
L379 DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	80
L431 PERFORM DISK UPDATE PROCEDURES	79
L432 PERFORM DISK-TO-DISK TRANSFER PROCEDURES	77
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	76
G206 PERFORM PERIODIC INSPECTIONS	76
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	76
L426 PERFORM AN/ALR-56 LOW BAND RECEIVER PROCESSOR OPERATIONAL TESTS	75
L388 ISOLATE AN/ALQ-135 TUNING UNIT MALFUNCTIONS	75
G186 CLEAN CONTACTS	75
L407 ISOLATE TITE SPECTRUM ANALYZER SYSTEM MALFUNCTIONS	75
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	73
L444 REMOVE OR REPLACE AN/ALR-56 LOW BAND RECEIVER COMPONENTS	73
L425 PERFORM AN/ALR-56 HIGH BAND RECEIVER OPERATIONAL TESTS	73
L437 REMOVE OR REPLACE AN/ALQ-135 CONTROL OSCILLATOR COMPONENTS	73
L390 ISOLATE AN/ALR-56 LOW BAND RECEIVER PROCESSOR MALFUNCTIONS	73
G214 REMOVE OR REPLACE CONNECTORS	73
L383 ISOLATE AN/ALQ-135 CONTROL OSCILLATOR MALFUNCTIONS	73
L389 ISOLATE AN/ALR-56 HIGH BAND RECEIVER MALFUNCTIONS	73
L442 REMOVE OR REPLACE AN/ALR-56 HIGH BAND RECEIVER COMPONENTS	72
L424 PERFORM AN/ALQ-135 TUNING UNIT OPERATIONAL TESTS	72

TABLE 30

BACKGROUND CHARACTERISTICS OF FIRST ENLISTMENT AFS 326X3 PERSONNEL

	<u>A-SHRED</u>	<u>B-SHRED</u>
NUMBER MEMBERS:	171	75
AVERAGE NUMBER TASKS PERFORMED:	74	103
JOB DIFFICULTY INDEX:	12.1	13.5
AVERAGE GRADE:	E-3.3	E-3.9
DUTY AFSC: (PERCENT MEMBERS)		
32633	41	29
32653	59	71
AVERAGE NUMBER MONTHS ACTIVE FEDERAL MILITARY SERVICE:	25	26
PERCENT ASSIGNED IN THE CONUS:	81	72
WORK SCHEDULE:		
DAY SHIFT	40	45
SWING SHIFT	30	24
MID SHIFT	24	18
12 HOUR DAY	-	1
ROTATING 8 HOUR SHIFT	1	-
VARIABLE DEPENDING ON WORKLOAD AND SEASON	4	8
OTHER	1	4
AIRCRAFT MAINTAINED: (BY AT LEAST 10 PERCENT OF GROUP)		
F-15A	*	77
F-15B	-	72
F-15C	-	59
F-15D	-	55
F-111A	35	-
FB-111A	29	-
F-111D	29	-
F-111E	13	-
F-111F	11	-

TABLE 31

TEST EQUIPMENT USED BY AT LEAST TEN PERCENT OF FIRST
ENLISTMENT AFS 326X3A AND AFS 326X3B PERSONNEL

	PERCENT MEMBERS OF SHRED RESPONDING
<u>A-SHRED</u>	
RADIO FREQUENCY (RF) COUPLERS	78
HIGH VOLTAGE TEST PROBES	67
RADAR MODULATION SIMULATOR (RMS) VOLTMETER	44
PRESSURE REGULATORS	35
FREQUENCY DIP METERS	32
SPECTRUM ANALYZERS	32
HIGH VOLTAGE TOROIDS	25
PRESSURE/TEMPERATURE TEST SETS	22
PHASE SENSITIVE VOLTMETERS	16
STROBESCOPIES	16
AC/DC INSTRUMENT CALIBRATION SYSTEM	15
<u>B-SHRED</u>	
SPECTRUM ANALYZERS	92
LINE PRINTERS	87
DISK EXERCISERS	71
RADIO FREQUENCY (RF) COUPLERS	57
DISPLAY PRINTERS	44
PHASE SENSITIVE VOLTMETERS	20
RADAR MODULATION SIMULATOR (RMS) VOLTMETERS	13
AC/DC INSTRUMENT CALIBRATION SYSTEM	11

TRAINING ANALYSIS

Occupational survey data is one of several sources of information which can be used to help make training programs more relevant and meaningful to the needs of the Air Force. The four most commonly used types of occupational survey information are the percent of first enlistment respondents performing each of the tasks covered by the job inventory, the percent of personnel in the survey using various pieces of equipment, the ratings by senior NCOs of the relative difficulty of tasks and the relative emphasis that should be placed on each task for first enlistment training. These sets of information can be used in evaluating the Specialty Training Standards (STS) and the Plan of Instruction (POI) for each specialty or shred covered in an occupational survey.

Personnel at the Technical Training Center, Lowry AFB CO, provided matchings of the job inventory to four training documents to be examined in this study: the POI for course 3ABR32633A, dated November 1980; the STS 326X3A, dated April 1979; the POI for course 3ABR32633B, dated December 1980, and the STS 326X3B, dated April 1979. Technical training personnel were instructed to identify, for each major element of the POIs and STSs, all of the tasks in the job inventory related to each element. Then, by reviewing the percent first enlistment personnel performing each task, and the task difficulty and training emphasis ratings for each task, training personnel may make judgments such as whether performance standards are appropriate, whether sufficient or excessive time is being allocated to instructional units, or whether particular elements should be retained, expanded, or eliminated from training documents. Further, tasks not referenced to training documents, but performed by substantial numbers of first enlistees, may indicate additional areas which should be incorporated into training programs.

AFS 326X3A Training

Analysis of Training Emphasis: Twenty experienced 7-skill level Integrated Avionics EW Equipment and Component NCOs assigned to Air Force installations supporting F/FB-111 aircraft were asked to rate tasks in the job inventory for the degree of emphasis they feel should be placed upon the tasks in first enlistment training. Tasks associated with F-15 aircraft were excluded for these NCOs, since their experience of supervising personnel maintaining F/FB-111 aircraft make them best qualified to evaluate F/FB-111 EW tasks. The ratings from these NCOs were processed to produce an ordered listing ranked to show which tasks should have the highest to lowest emphasis in first enlistment training. The average rating for all tasks included in the job inventory was 2.60, with a standard deviation of 2.38. Tasks receiving ratings of 4.98 or higher may be considered to have relatively high training emphasis. (For a more complete description of these ratings, see the section on Task Factor Administration in the INTRODUCTION.

Tasks receiving the highest ratings for first enlistment training primarily involve the isolation of malfunctions in penetration aids and radar homing and warning test stations and associated line replacement units. Other tasks receiving fairly high ratings involve technical avionic maintenance activities

such as interpreting schematics, soldering electronic circuitry components, and repairing cables. Table 32 contains 26 tasks which exemplify the tasks receiving the highest training emphasis ratings. The relative ranking of these tasks indicates that the senior NCOs in the field are most concerned that first enlistment personnel be trained in the isolation of malfunctions on test stations and LRUs, particularly in the malfunctions of RHAW and PATS systems. Referring back to Table 26, Distribution of Experience Group Members by Job Group, in the ANALYSIS OF EXPERIENCE GROUPS, these training emphasis ratings are understandable, since the PATS Maintenance Personnel, RHAW Maintenance Personnel, and RHAW/DPTS Maintenance Personnel job groups contain over two-thirds of first enlistment personnel in this shred.

By contrast to the tasks rated highest in training emphasis, these senior NCOs rated forms and records tasks, supply tasks, and remove or replace and alignment technical tasks as requiring the least amount of emphasis for first enlistment training. Table 33 contains 19 tasks which illustrate the nature of tasks rated lowest in training emphasis by these raters. Tasks in this list are of two types, either they are not very difficult to learn to perform, (see following section on Task Difficulty), or they are performed by relatively few respondents in their first enlistment. For example, the removal or replacement of chaff ejector hardware has a quite low training emphasis rating and is performed by only one percent of A-shred first enlistment respondents.

Analysis of Task Difficulty: The same group of tasks previously discussed were rated by a separate group of 14 senior AFS 32673 personnel to evaluate the difficulty level of each task relative to other tasks rated. This group of raters, also, was selected from bases supporting F/FB-111 aircraft. Difficulty was defined as the amount of time required for the average job incumbent to learn to perform the task. Their ratings were processed to produce an ordered listing of all tasks in terms of the relative difficulty. The ratings were then adjusted so that the average difficulty rating is 5.0 with a standard deviation of 1.0. Thus, tasks with ratings of 6.0 or higher can be considered as above average in difficulty. (For a more complete description of task difficulty ratings, see the section on Task Factor Administration in the INTRODUCTION).

For the most part, tasks which received the highest ratings for first enlistment training emphasis are also the tasks receiving above average task difficulty ratings. Comparison of the task difficulty ratings in Tables 32 and 33 show that tasks perceived as most difficult received higher training emphasis ratings. These are generally the most technically demanding tasks performed by A-shred first enlistment personnel. By comparison, tasks receiving lower training emphasis ratings tend to receive average or lower task difficulty ratings. The exceptions to these findings are: (1) tasks of a non-technical nature performed by substantial numbers of first enlistment members, such as maintaining maintenance data collection records; (2) manual tasks such as some soldering tasks and operating desoldering equipment; and (3) mechanical tasks associated with maintaining cryogenic systems of infrared sensors. Tasks such as these received average or below average difficulty ratings.

Analysis of the Specialty Training Standard 326X3A; The 326X3A Specialty Training Standard (STS) was compared with the survey data for first enlistment and 5-skill level A-shred personnel. Each paragraph was reviewed using training emphasis, task difficulty, and percent members performing information, according to the guidelines of ATCR 52-22. Overall, the items of the STS are fairly well supported by occupational survey data. In the cases of EW Pod maintenance and infrared sensor LRU and test station performance standards, the percent performing data does not meet the strict interpretation of ATCR 52-22 of at least 30 percent first enlistment performing; however, the high training emphasis ratings and the knowledge that these tasks are performed by relatively small, but important job groups provides support for retaining current performance standard ratings.

A review of tasks not referenced to any of the STS paragraphs reveals that 45 tasks which received high training emphasis ratings were not matched. Of these 45 tasks, 10 are performed by 30 percent or more of the first enlistment respondents. Training personnel should review the list of tasks not referenced to determine: (1) whether the task is actually described by an existing paragraph, or (2) whether the task or groups of tasks indicates a need for training that is absent in the current STS. A cursory examination of the tasks not referenced (see Table 34) indicates that most of the tasks could probably be used to lend support for STS paragraphs describing maintenance of LRUs or test stations for the radar homing and warning, penetration aids, digital processor, EW pods, and infrared systems.

Analysis of the 326X3A Plan of Instruction: The Plan of Instruction for course 3ABR32633a, dated December 1980, was also evaluated, using tasks matched by training personnel to the criterion objectives (CO) and task difficulty ratings, training emphasis ratings, and percent of first enlistment A-shred personnel performing information. The occupational survey data is basically supportive of the COs requiring a performance measurement of students. In several instances, particular performance-measured COs do not have tasks annotated to them; however, these COs are within units of instruction which have related COs which are well supported. For example, Block II, unit 3, COs "a" and "b" do not have tasks which lend support, but COs "c" and "d" of the same unit have tasks annotated which also imply that the student be proficient in the previous objectives.

As was noted in the 326X3 STS, a substantial number of tasks from the job inventory were not matched to specific COs of the POI. Of the 82 tasks not referenced which received above average training emphasis ratings, 37 tasks were performed by more than 30 percent of first enlistment personnel (see Table 35). Again, training personnel are encouraged to review these tasks not referenced to the POI to determine whether any unreferenced tasks can be used to support existing COs, or if the unreferenced tasks indicate a need for additional COs to be developed.

AFS 326X3B Training

Analysis of Training Emphasis: Thirteen experienced AFS 32673 NCOs assigned to bases supporting F-15 aircraft rated tasks in the job inventory for the degree of emphasis they believe should be placed upon the tasks in first enlistment training. Following the strategy used in obtaining ratings from F/FB-111 NCOs, these F-15 NCOs rated all of the tasks in the job inventory which are not primarily associated with maintaining F/FB-111 EW components and test benches. The ratings by these 13 NCOs were processed to produce an ordered listing ranked to show which tasks should have the highest to lowest emphasis in first enlistment training programs. The average rating for all tasks included in the job inventory was 2.00, and the standard deviation was 2.35. Tasks receiving ratings of 4.35 or higher may be considered to have relatively high training emphasis. (For a more complete description of these ratings, see the section on Task Factor Administration in the INTRODUCTION.

Tasks rated highest by the NCOs assigned to F-15 bases are quite different from the ones rated highest by the A-shred supervisors. The vast majority of high training emphasis tasks for B-shreds first enlistees involve maintenance procedures associated with Tactical Electronic Warfare System (TEWS) line replacement units (LRU) and with the TEWS Intermediate Test Equipment (TITE) (see Table 36).

TEWS maintenance tasks primarily involve the alignment of the three major LRUs, the AN/ALR-56 receivers and receiver processor, the AN/ALQ-128 receiver transmitter, and the AN/ALQ-135 tuning unit. TITE maintenance tasks primarily involve programming the TITE to test LRUs and to demonstrate confidence in the test station. The only tasks performed which show any similarity to the A-shred listing of high training emphasis tasks involve general avionic maintenance tasks, such as repairing cable assemblies and interpreting system diagrams; and administrative tasks, such as annotating history, maintenance, data collection, and item processing tag forms.

In contrast to A-shred tasks, the B-shred high training emphasis tasks are generally performed by high percentages of first enlistment B-shred personnel. For example, of the 25 high training emphasis tasks appearing in Table 36, 22 are performed by at least 50 percent of first enlistment B-shred respondents. This is a result of the similarity of B-shred jobs relative to the A-shred job structure.

Tasks receiving the lowest training emphasis ratings may be grouped into two categories (see Table 37). First, there are general avionic maintenance tasks, such as operating and servicing shop hoists, and removing and replacing compressed gas bottles. These tasks are easy to learn and are probably best taught in on-the-job training (OJT). The second group of low training emphasis tasks are supervisory or administrative in nature, such as preparing replies to inspection reports, maintaining MMICS workcenter listings, and drafting budget requirements. Tasks such as these are seldom performed by first enlistment personnel. Most of the tasks receiving low training emphasis ratings are, incidentally, performed by very small percentages of the first enlistment respondents. This observation lends validity to the ratings of these NCOs.

Analysis of Task Difficulty: The tasks discussed in the previous section were presented to a separate group of 12 senior NCOs assigned to units supporting F-15 aircraft. These tasks were rated in terms of relative difficulty, with difficulty defined as the length of time necessary for the average job incumbent to learn to perform the tasks. Their ratings were processed to produce an ordered listing of all tasks in terms of relative difficulty. These ratings were then adjusted so that the average difficulty rating is 5.0, and the standard deviation is 1.0. Tasks receiving ratings of 6.0 or higher can be considered as above average in difficulty. (For a more complete description of task difficulty, see the section on Task Factor Administration in the INTRODUCTION.

As was seen in the case of A-shred personnel, the tasks receiving the highest training emphasis from B-shred NCOs generally received the highest task difficulty ratings also. A comparison of the task difficulty ratings of tasks appearing in Tables 36 and 37 shows that NCOs assigned to F-15 bases perceive that the most difficult part of jobs performed by B-shred personnel involves isolating malfunctions and aligning TEWS LRUs and programming TITE to perform malfunction isolation tests of TEWS components. In contrast, the tasks perceived as least difficult involve performing administrative responsibilities, such as annotating maintenance record forms and performing general avionics maintenance activities, such as performing test station confidence tests and servicing shop hoists.

Analysis of the Specialty Training Standard 326X3B: The 326X3B Specialty Training Standard (STS) was compared with the survey data for first enlistment and 5-skill level B-shred personnel. Each paragraph was reviewed using training emphasis, task difficulty, and percent members performing information, according to the guidelines of ATCR 52-22.

The items of the STS associated with the maintenance of TEWS LRUs and TITE were well supported by survey data. Most of the STS items were matched with tasks performed by 30 to 75 percent of the first enlistment and 5-skill level respondents.

The technical area not clearly supported by data from this study is paragraph 16. Tasks related to this paragraph were not matched to the STS; however, a review of the percent performing data for first enlistment and 5-skill level personnel reveals that maintenance of EW pods is performed by a very small percentage of B-shred personnel. Only five of 27 tasks related to maintaining the AN/ALQ-119 EW pod and the AN/ALE-28 chaff ejector are performed by 10 percent or more first enlistment B-shred personnel.

A review of tasks not matched to the STS, with the exception of the previously mentioned tasks associated with EW Pods, is an indication of the thoroughness of the matching between the job inventory and the STS. Only five unmatched tasks are rated above average in training emphasis (see Table 38); of these, only four are performed by more than 30 percent of first enlistment personnel. Four of these tasks appear to be administrative in nature and may lend support to STS paragraphs 4 and 8. The fifth task is a general avionics AGE shop activity which may not have a clear position within the STS. Training personnel are encouraged to review these tasks to determine whether they are relevant to existing STS items.

Analysis of the 326X3B Plan of Instruction: The Plan of Instruction (POI) for course 3ABR32633B, dated December 1980, was evaluated using the occupational survey data with tasks matched by training personnel to criterion objectives (CO) of the POI. All of the COs which have a performance measurement were evaluated by examining the percent of first enlistment respondents and first job respondents performing related tasks.

Overall, the COs of this POI are well supported. For example, in Block VIII, unit 3, there are three COs. Under the block heading 24 tasks are matched, all of which are performed by 45 percent or more first enlistment respondents, and by 43 percent or more first job respondents. The tasks associated with this POI block clearly support its retention as an important part of training personnel to perform the job they will encounter within the first four years of their Air Force career.

There are two units of the POI, however, which are not clearly supported by survey data. In the unit associated with the Technical Order System, Block III, unit 5, there are five COs, three of which have performance measurements. Only one CO, II5D, has a task matched to it. In the unit associated with test station maintenance, Block VIII, unit 1, there are four COs which have performance measurements. One of the four COs has a single task matched with it which well supports its retention. The other three have no tasks matched. The absence of tasks matched to the COs of these two units of instruction does not necessarily mean that the units should be reduced or otherwise altered.

Sixteen tasks rated above average in training emphasis were not matched with the COs of this POI (see Table 39). Of these 16 tasks, four are performed by less than 30 percent of the first enlistment B-shred respondents. Half of the 16 tasks involve general avionic AGE shop tasks. Another seven tasks appear to be primarily administrative in nature, involving annotating forms and maintaining files. Training personnel are encouraged to review these tasks not matched to the POI to ascertain that they are not taught in the ABR course. Further, it should be determined whether these tasks should be included in the POI or whether they are part of follow-on training of graduates from the ABR course.

Summary

The analysis of training documents for these two shreds highlights some of the major differences found in the CAREER LADDER STRUCTURE section. The ordered listing of tasks by training emphasis produced by NCOs at F-15 bases is substantially different from the listing produced by supervisors of A-shred personnel. This is primarily due to the nature of the differences in equipment maintained by the two shreds. Since the A-shred is organized around five distinct jobs, the percent of first enlistment personnel performing in these jobs is much lower than the first enlistees performing tasks in the B-shred. As a consequence, the guidelines of ATCR 52-22 should be tempered by training emphasis more in the case of A-shred matches to the STS and POI than in the case of B-shred matches to those documents.

Review of the STSs and POIs shows that the matches to the B-shred training documents are more complete than the matches to A-shred documents. Training personnel for both shreds are encouraged to review the STSs and POIs using the data provided in Training Extracts supplementing this report. Particular emphasis should be placed in reviewing the tasks not referenced to the STSs and POIs to determine whether the unmatched tasks indicate additional training needs.

TABLE 32

EXAMPLE A-SHRED TASKS RATED ABOVE AVERAGE IN TRAINING EMPHASIS
BY SENIOR AFS 326X3 RATERS

TASKS	TRAINING EMPHASIS*	TASK DIFFICULTY*	PERCENT FIRST ENLISTMENT MEMBERS PERFORMING (N=171)
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	7.80	6.04	75
G228 SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	7.55	5.99	75
I265 ISOLATE PATS SWITCHING MALFUNCTIONS	7.40	6.44	40
I263 ISOLATE PATS RF EVALUATION UNIT MALFUNCTIONS	7.10	6.83	40
J293 DETERMINE WHETHER MALFUNCTION IS IN RHAW TEST STATION OR LRU _s UNDER TEST	7.10	6.71	30
G229 SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	7.05	5.02	83
J307 ISOLATE RHAW TEST STATION RF GENERATOR MALFUNCTIONS	6.85	6.62	32
I259 ISOLATE AN/ALQ-94 RECEIVER MALFUNCTIONS	6.75	6.18	39
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES OR HARDWARE	6.70	5.47	90
I254 ALIGN PATS RF GENERATORS	6.65	7.28	39
K338 DETERMINE WHETHER MALFUNCTION IS IN DPTS OR LRU _s UNDER TEST	6.50	6.70	22
J309 ISOLATE RHAW TEST STATION SWITCHING MALFUNCTIONS	6.45	6.39	26
E132 ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	6.35	3.50	65
G201 OPERATE ELECTRIC DESOLDERING EQUIPMENT	6.35	4.07	48
K340 ISOLATE AN/ALR-62 DP MALFUNCTIONS	6.20	6.41	19
I260 ISOLATE PATS COUNTER-TIMER MALFUNCTIONS	6.00	6.77	33
K352 PERFORM DPTS OPERATIONAL TESTS	6.00	5.84	20
M454 ISOLATE SEMIAUTOMATIC SUPPORT EQUIPMENT (SASE) MALFUNCTIONS	5.50	6.26	16
M459 PERFORM AN/ALQ-119 EW POD PERIODIC INSPECTION	5.50	6.08	20
H235 ISOLATE CRYOGENIC CONVERTER LRU MALFUNCTIONS	5.45	5.48	21
H243 PERFORM IR SYSTEM OPERATIONAL TESTS	5.45	4.98	23
J291 ALIGN RHAW TEST STATION SWITCHING VIDEO SIMULATORS	5.40	6.72	25
M467 PROGRAM EW PODS FOR MISSION REQUIREMENTS	5.40	6.34	18
M470 REMOVE OR REPLACE AN/ALQ-119 EW POD COMPONENTS	5.35	6.07	20
H248 REMOVE OR REPLACE CRYOGENIC CONVERTER COMPONENTS	5.25	5.05	21
K334 ALIGN AN/ALR-62 CONTROL INDICATORS (CI)	5.25	5.56	23

* TASK DIFFICULTY AND TRAINING EMPHASIS RATINGS IN THESE TWO COLUMNS WERE
OBTAINED FROM SENIOR 326X3 NCOs ASSIGNED TO BASES WHICH SUPPORT F/FB-111
AIRCRAFT

THE AVERAGE TRAINING EMPHASIS RATING IS 2.60, AND THE STANDARD DEVIATION IS 2.38, SO
TASKS RATED 4.98 OR HIGHER ARE CONSIDERED HIGH TRAINING EMPHASIS TASKS.

TABLE 33

EXAMPLE A-SHRED TASKS RATED BELOW AVERAGE IN TRAINING EMPHASIS
BY SENIOR AFS 326X3 RATERS

TASKS	TRAINING EMPHASIS*	TASK DIFFICULTY*	PERCENT FIRST ENLISTMENT MEMBERS PERFORMING (N=171)
J330 REMOVE OR REPLACE AN/APS-109A ICU COMPONENTS	2.55	5.13	22
G207 PERFORM FROM BURNER OPERATIONAL TESTS	2.45	5.15	6
J277 ALIGN AN/ALR-41 RECEIVER DATA ANALYSIS UNITS (RDAU)	2.45	7.52	16
J285 ALIGN CARD READER TYPE TESTER CONTROL UNITS (TCU)	2.45	6.00	19
M449 ISOLATE AN/ALE-28 CHAFF EJECTOR MALFUNCTIONS	2.45	4.45	2
J331 REMOVE OR REPLACE AN/APS-109A RACK ASSEMBLY COMPONENTS	2.35	4.51	15
M468 REMOVE OR REPLACE AN/ALE-28 CHAFF EJECTOR HARDWARE	2.30	6.72	1
F179 VERIFY SUPPLY DUE-OUT VALIDATION LISTINGS (M-30)	2.25	4.24	11
F153 MAINTAIN EQUIPMENT STATUS REPORTS	1.70	4.04	16
F164 MAINTAIN TOOL CRIBS	.85	4.78	12
G180 ADJUST PRINTERS	.85	4.72	1
C93 PREPARE REPLIES TO INSPECTION REPORTS	.80	5.61	1
E129 ANNOTATE EQUIPMENT DISCREPANCIES (AF FORM 2421)	.70	3.97	11
F159 MAINTAIN PREVENTIVE MAINTENANCE INSPECTION (PMI) LISTINGS	.65	4.49	7
E126 ANNOTATE CUSTODIAN REQUEST/RECEIPT (AF FORM 601B)	.60	4.48	4
F169 PREPARE ELECTRONIC WARFARE ACCOUNTABILITY/ RELIABILITY REPORTS	.45	4.95	1
B29 CONDUCT BRIEFINGS	.25	4.38	3
A9 DRAFT BUDGET OR FINANCIAL REQUIREMENTS	0	5.50	**
B45 INITIATE PERSONNEL ACTION REQUESTS	0	3.76	2

* TASK DIFFICULTY AND TRAINING EMPHASIS RATINGS IN THESE TWO COLUMNS WERE OBTAINED
FROM SENIOR 326X3 NCOs ASSIGNED TO BASES WHICH SUPPORT F/FB-111 AIRCRAFT

** INDICATES LESS THAN ONE PERCENT RESPONDING

TABLE 34

TASKS NOT REFERENCED TO STS 326X3A

TASKS	TRAINING EMPHASIS*	TASK DIFFICULTY*	PERCENT FIRST ENLISTMENT AFS 326X3A PERSONNEL PERFORMING (N=171)
J293 DETERMINE WHETHER MALFUNCTION IS IN RHAW TEST STATION OR LRUs UNDER TEST	7.10	6.71	30
I256 DETERMINE WHETHER MALFUNCTION IS IN PATS OR LRUs UNDER TEST	7.05	6.81	41
J307 ISOLATE RHAW TEST STATION RF GENERATOR MALFUNCTIONS	6.85	6.62	32
K338 DETERMINE WHETHER MALFUNCTION IS IN DPTS OR LRUs UNDER TEST	6.50	6.70	22
G201 OPERATE ELECTRIC DESOLDERING EQUIPMENT	6.35	4.07	48
J289 ALIGN RHAW TEST STATION RF GENERATORS	6.35	6.95	36
G222 REMOVE OR REPLACE TEST STATION TRU CIRCUIT ELEMENTS, SUCH AS RESISTORS, CAPACITORS, OR TRANSFORMERS	6.25	4.88	63
G224 REMOVE OR REPLACE TEST STATION TRU SEMI-CONDUCTOR DEVICES	6.05	5.10	53
J279 ALIGN AN/ALR-62 FORWARD RADAR RECEIVERS	5.95	6.62	29
J297 ISOLATE AN/ALR-62 RF TEST BAY MALFUNCTIONS	5.85	6.68	18
J325 REMOVE OR REPLACE AN/ALR-62 AFT RADAR RECEIVERS	5.85	5.48	25
J278 ALIGN AN/ALR-62 AFT RADAR RECEIVERS	5.75	5.48	29
K343 ISOLATE DPTS CORE MEMORY MALFUNCTIONS	5.75	6.51	15
J306 ISOLATE RHAW TEST STATION LRU EIMULATOR MALFUNCTIONS	5.70	5.85	21
I267 PERFORM AN/ALQ-94 BUFFER OPERATIONAL TESTS	5.65	4.83	36
K346 ISOLATE DPTS DP/CI INTERFACE ASSEMBLY MALFUNCTIONS	5.60	5.88	14
J327 REMOVE OR REPLACE AN/ALR-62 RACK ASSEMBLY COMPONENTS	5.55	4.68	18
K353 REMOVE OR REPLACE AN/ALR-62 CI COMPONENTS	5.55	4.69	21
I274 REMOVE OR REPLACE AN/ALQ-94 RACK ASSEMBLY COMPONENTS	5.50	4.69	21
J314 PERFORM AN/ALR-62 RACK ASSEMBLY CONTINUITY CHECKS	5.50	4.46	21
M454 ISOLATE SEMIAUTOMATIC SUPPORT EQUIPMENT (SASE) MALFUNCTIONS	5.50	6.26	16

* TASK DIFFICULTY AND TRAINING EMPHASIS RATINGS IN THESE TWO COLUMNS WERE OBTAINED FROM SENIOR 326X3 NCOs ASSIGNED TO BASES WHICH SUPPORT F/FB-111 AIRCRAFT.

NOTE: THESE 21 TASKS ARE AMONG 45 TASKS RECEIVING ABOVE AVERAGE TRAINING EMPHASIS RATINGS, BUT WERE NOT REFERENCED TO SPECIFIC STS PARAGRAPHS.

TABLE 35

TASKS NOT REFERENCED TO POI 3ABR32633A

TASKS	TRAINING EMPHASIS*	TASK DIFFICULTY*	PERCENT FIRST ENLISTMENT AFS 326X3A PERSONNEL PERFORMING (N=171)
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	7.80	6.04	79
G228 SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	7.55	5.99	75
I262 ISOLATE PATS RF EVALUATION UNIT MALFUNCTIONS	7.15	7.14	34
J293 DETERMINE WHETHER MALFUNCTIONS IS IN RHAW TEST STATION OR LRUs UNDER TEST	7.10	< 71	30
G229 SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	7.05	5.02	83
I256 DETERMINE WHETHER MALFUNCTION IS IN PATS OR LRUs UNDER TEST	7.05	6.81	41
J307 ISOLATE RHAW TEST STATION RF GENERATOR MALFUNCTIONS	6.85	6.62	32
I226 ISOLATE PATS VIDEO EVALUATION UNIT MALFUNCTIONS	6.80	6.89	35
I257 ISOLATE AN/ALQ-94 BUFFER MALFUNCTIONS			
K338 DETERMINE WHETHER MALFUNCTION IS IN DPTS OR LRUs UNDER TEST	6.50	6.70	22
J309 ISOLATE RHAW TEST STATION SWITCHING MALFUNCTIONS	6.45	6.39	26
G201 OPERATE ELECTRIC DESOLDERING EQUIPMENT	6.35	4.07	48
I264 ISOLATE PATS RMS MALFUNCTIONS	6.35	6.57	32
J289 ALIGN RHAW TEST STATION RF GENERATORS	6.35	6.95	36
G222 REMOVE OR REPLACE TEST STATION TRU CIRCUIT ELEMENTS, SUCH AS RESISTORS, CAPACITORS, OR TRANSFORMERS	6.25	4.88	63
G197 ISOLATE PULSE GENERATOR MALFUNCTIONS	6.20	6.38	54
J308 ISOLATE RHAW TEST STATION RMS MALFUNCTIONS	6.20	6.41	25
E142 ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	6.15	3.53	67
I255 ALIGN PATS VIDEO EVALUATION UNITS	6.15	7.40	34
G223 REMOVE OR REPLACE TEST STATION TRU INTEGRATED CIRCUITS	6.10	5.69	55
J326 REMOVE OR REPLACE AN/ALR-62 FORWARD RADAR RECEIVER COMPONENTS	6.10	6.19	27
G224 REMOVE OR REPLACE TEST STATION TRU SEMICONDUCTOR DEVICES	6.05	5.10	53
E144 ANNOTATE SYSTEM/EQUIPMENT STATUS RECORD (AFTO FORM 244)	6.00	3.76	33
G199 ISOLATE TEST STATION ADAPTER MALFUNCTIONS	6.00	5.47	62

* TASK DIFFICULTY AND TRAINING EMPHASIS RATINGS IN THESE TWO COLUMNS WERE OBTAINED FROM SENIOR 326X3 NCOs ASSIGNED TO BASES WHICH SUPPORT F/FB-111 AIRCRAFT.

NOTE: THESE 24 TASKS ARE AMONG 82 TASKS RECEIVING ABOVE AVERAGE TRAINING EMPHASIS RATINGS, BUT WERE NOT REFERENCED TO SPECIFIC POI CRITERION OBJECTIVES.

TABLE 36

**EXAMPLE B-SHRED TASKS RATED ABOVE AVERAGE IN TRAINING EMPHASIS
BY SENIOR AFS 326X3 RATERS**

TASKS	TRAINING EMPHASIS	TASK DIFFICULTY*	PERCENT FIRST ENLISTMENT AFS 326X3A MEMBERS PERFORMING (N=75)
L379 DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	7.38	7.86	80
L362 ALIGN AN/ALR-56 HIGH BAND RECEIVERS	7.00	6.67	68
L363 ALIGN AN/ALR-56 LOW BAND RECEIVER PROCESSORS	6.92	6.74	69
L431 PERFORM DISK UPDATE PROCEDURES	6.85	5.55	79
L361 ALIGN AN/ALQ-135 TUNING UNITS	6.77	6.55	69
L415 OPERATE COMPUTER CONSOLES TO GENERATE ENGLISH LANGUAGE (ELAN) TROUBLESHOOTING PROGRAMS	6.77	7.25	53
L432 PERFORM DISK-TO-DISK TRANSFER PROCEDURES	6.77	5.15	77
L356 ALIGN AN/ALQ-128 RECEIVER TRANSMITTERS	6.69	6.55	71
L367 ALIGN TITE DISK DRIVES	6.62	6.99	57
L388 ISOLATE AN/ALQ-135 TUNING UNIT MALFUNCTIONS	6.54	6.21	75
L428 PERFORM DIGITAL PROCESSING OSCILLOSCOPE HARMONIZATION PROCEDURES	6.54	7.30	60
L433 PERFORM OPERATIONAL ASSURANCE/FAULT ISOLATION TESTS	6.46	4.65	85
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	6.31	6.73	76
L398 ISOLATE TITE DISC SYSTEM MALFUNCTIONS	6.31	5.74	63
E132 ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFOT FORM 349)	6.23	4.50	68
L359 ALIGN AN/ALQ-135 FINAL TRAVELING WAVE TUBE (TWT) POWER SUPPLIES	6.15	6.14	53
L435 PERFORM UUT BUILD-MERGE PROCEDURES	6.08	6.44	37
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	6.00	5.58	76
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	5.85	4.02	73
G210 PERFORM TEST STATION CONFIDENCE TESTS	5.54	3.95	85
E142 ANNOTATE SIGNIFICATN HISTORICAL DATA (AFTO FORM 95)	5.31	3.99	71
G199 ISOLATE TEST STATION ADAPTER MALFUNCTIONS	5.23	5.49	57
L372 ALIGN TITE PROGRAMMABLE THRESHOLD DETECTORS	4.92	6.48	49
L412 ISOLATE TITE 40 KHZ INVERTER MALFUNCTIONS	4.85	4.85	57
G198 ISOLATE PUNCH TAPE READER MALFUNCTIONS	4.62	5.12	49

* TASK DIFFICULTY AND TRAINING EMPHASIS RATINGS IN THESE TWO COLUMNS WERE OBTAINED FROM SENIOR 326X3 NCOs ASSIGNED TO BASES WHICH SUPPORT F-15 AIRCRAFT.

THE AVERAGE TRAINING EMPHASIS RATING IS 2.00, AND THE STANDARD DEVIATION IS 2.35, SO TASKS RATED 4.35 OR HIGHER ARE CONSIDERED HIGH TRAINING EMPHASIS TASKS.

TABLE 37

EXAMPLE B-SHRED TASKS RATED BELOW AVERAGE IN TRAINING EMPHASIS
BY SENIOR AFS 326X3 RATERS

TASKS	TRAINING EMPHASIS*	TASK DIFFICULTY*	PERCENT FIRST ENLISTMENT AFS 326X3 PERSONNEL PERFORMING (N=75)
F150 MAINTAIN ADMINISTRATIVE OR RECORDS FILES	1.61	4.17	13
C68 EVALUATE MAINTENANCE OF PUBLICATION LIBRARIES	1.46	4.55	3
C93 PREPARE REPLIES TO INSPECTION REPORTS	1.31	5.15	4
D110 DIRECT OR IMPLEMENT OJT PROGRAMS	1.31	4.96	5
F153 MAINTAIN EQUIPMENT STATUS REPORTS	1.23	4.26	15
F167 OPERATE COMPUTER REMOTE TERMINALS	1.23	5.22	35
B27 ASSIGN MAINTENANCE OR REPAIR WORK	1.15	3.72	16
G203 OPERATE SHOP HOISTS	1.15	3.31	8
G212 REMOVE OR REPLACE COMPRESSED GAS BOTTLES	1.00	3.90	1
E126 ANNOTATE CUSTODIAN REQUEST/RECEIPT (AF FORM 601B)	.92	4.68	3
G227 SERVICE SHOP HOISTS	.92	2.83	5
C83 PERFORM DEFICIENCY ANALYSES	.85	4.30	7
C69 EVALUATE MAINTENANCE PRODUCTION REPORTS	.77	4.80	3
F157 MAINTAIN MMICS WORK CENTER LISTINGS	.77	4.06	1
F175 TYPE RECORDS, REPORTS, OR CORRESPONDENCE	.77	4.52	7
E136 ANNOTATE PME CERTIFICATION LABEL (AFTO FORM 108)	.54	3.91	8
F169 PREPARE ELECTRONIC WARFARE ACCOUNTABILITY RELIABILITY REPORTS	.54	5.08	3
E131 ANNOTATE JOB/STATUS DOCUMENT (AF FORM 264)	.39	3.98	4
E133 ANNOTATE MAINTENANCE PREPLAN (AF FORM 2406)	.31	3.95	1
A9 DRAFT BUDGET OR FINANCIAL REQUIREMENTS	0	6.35	3
B30 CONDUCT STAFF MEETINGS	0	4.75	4
B45 INITIATE PERSONNEL ACTION REQUESTS	0	3.91	1
C61 EVALUATE BUDGET OR FINANCIAL REQUIREMENTS	0	5.32	1

* TASK DIFFICULTY AND TRAINING EMPHASIS RATINGS IN THESE TWO COLUMNS WERE OBTAINED FROM SENIOR 326X3 NOCs ASSIGNED TO BASES WHICH SUPPORT F-15 AIRCRAFT.

TABLE 38

TASKS NOT REFERENCED TO STS 326X3B

TASKS	TRAINING EMPHASIS*	TASK DIFFICULTY*	PERCENT
			FIRST ENLISTMENT AFS 326X3B PERSONNEL PERFORMING (N=75)
E130 ANNOTATE ISSUE/TURN IN REQUEST (AF FORM 2005)	5.38	3.79	61
E143 ANNOTATE SUPPLY CONTROL LOG (AF FORM 2413)	4.77	3.81	44
G202 OPERATE PROGRAMMABLE READ ONLY MEMORY (PROM) BURNERS	4.54	4.77	32
F163 MAINTAIN TECHNICAL ORDER FILES	4.46	5.03	13
F171 PREPARE MATERIAL DEFICIENCY REPORTS	4.46	5.00	36

* TASK DIFFICULTY AND TRAINING EMPHASIS RATINGS IN THESE TWO COLUMNS WERE OBTAINED FROM SENIOR 326X3 NCOs ASSIGNED TO BASES WHICH SUPPORT F-15 AIRCRAFT.

NOTE: THESE FIVE TASKS WERE THE ONLY TASKS RECEIVING ABOVE AVERAGE TRAINING EMPHASIS RATINGS WHICH WERE NOT MATCHED TO STS 326X3B.

TABLE 39

TASKS NOT REFERENCED RATED TO POI 3ABR326X3B

TASKS		TRAINING EMPHASIS*	TASK DIFFICULTY*	PERCENT FIRST ENLISTMENT AFS 326X3B PERSONNEL PERFORMING (N=75)
L379	DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	7.38	7.86	80
G192	INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	6.31	6.73	76
G225	REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	6.00	5.58	76
G214	REMOVE OR REPLACE CONNECTORS	5.69	5.49	73
E130	ANNOTATE ISSUE/TURN IN REQUEST (AF FORM 2005)	5.38	3.79	61
E144	ANNOTATE SYSTEM/EQUIPMENT STATUS RECORD (AFTO FORM 244)	5.31	4.29	29
G199	ISOLATE TEST STATION ADAPTER MALFUNCTIONS	5.23	5.49	73
C95	REVIEW MAINTENANCE DATA OR EQUIPMENT RECORD FORMS	5.00	4.49	24
G229	SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	4.92	5.15	64
E143	ANNOTATE SUPPLY CONTROL LOGS (AF FORM 2413)	4.77	3.81	41
D101	CONDUCT OJT	4.69	5.04	23
G198	ISOLATE PUNCH TAPE READER MALFUNCTIONS	4.62	5.12	49
G202	OPERATE PROGRAMMABLE READ ONLY MEMORY (PROM) BURNERS	4.54	4.77	32
G163	MAINTAIN TECHNICAL ORDER FILES	4.46	5.03	13
F171	PREPARE MATERIAL DEFICIENCY REPORTS	4.46	5.00	36
G186	CLEAN CONTACTS	4.38	4.01	75

* TASK DIFFICULTY AND TRAINING EMPHASIS RATINGS IN THESE TWO COLUMNS WERE OBTAINED FROM SENIOR 326X3 NCOs ASSIGNED TO BASES WHICH SUPPORT F-15 AIRCRAFT.

NOTE: THESE 16 TASKS ARE ALL OF THE TASKS RECEIVING ABOVE AVERAGE RATINGS FROM AFS 326X3 NCOs ASSIGNED TO BASES SUPPORTING F-15 AIRCRAFT.

IMPLICATIONS

This is the first occupational survey of the Integrated Electronic Warfare (EW) Equipment and Component specialty since its creation in April 1979. The primary purpose of the study was to obtain survey data on the tasks performed by personnel maintaining EW systems associated with the F-15 aircraft. Additional issues in this survey were: (1) a request by personnel in SAC to obtain information about the utilization of personnel maintaining EW systems of the F/FB-111; and (2) suggestions of field supervisors that the shredout of this specialty be extended through the 7-skill level.

The job structure analysis process shows that the utilization pattern within this career field supports the existing formal AFSC structure. The absence of overlap between the two technical clusters of jobs will allow trainers to use the job descriptions of these groups to help define the training needs cited in the initial requests for this study.

Analysis of the training and utilization of F-15 personnel reveals that their jobs are quite similar. This is due to the fact that almost all of the EW systems of the F-15 are tested and repaired using a single test station, the Tactical Electronic Warfare (TEWS) Intermediate Test Equipment (TITE). A review of the items in the STS and POI for F-15 personnel shows substantial support for currently included items. Tasks not referenced to these documents primarily involve general avionic shop activities and maintenance data collection activities. Trainers are encouraged to review these tasks to determine whether they are appropriate for residential training or are more appropriate for OJT or some other formal training activity.

A review of the utilization of F/FB-111 personnel indicates that job groups are distinguished by specific test stations used and maintained by job incumbents. Within these job groups, there are several MAJCOM distinctions. The variants of the F-111 used by TAC and USAFE appear to employ Electronic Warfare Pods, while the variants used by SAC appear to employ Infrared sensors and Digital Processors integrated into Radar Homing and Warning equipment. Detailed information regarding each of these job groups can be found in the Appendix to this report. The information on tasks performed by the EW Pods Maintenance group may be of particular interest to SAC in planning their component repair function (see pages A7 and A8 of the Appendix).

In evaluating the question of whether 7-skill level personnel should be shredded, a careful examination of technician's positions within the job structure was made. Members holding 7-skill levels were found in both clusters performing technical jobs and in the management cluster. Shredding 7-skill level personnel by aircraft system may benefit those members performing technical jobs, but with the small number of technicians in this specialty, shredding would severely limit assignment flexibility.

APPENDIX A:
JOB TYPE CHARACTERISTICS

REPRESENTATIVE TASKS PERFORMED BY MEMBERS
OF THE TEWS MAINTENANCE CLUSTER
(GPO026, N=98)

TASKS	PERCENT MEMBERS PERFORMING
G210 PERFORM TEST STATION CONFIDENCE TESTS	96
L433 PERFORM OPERATIONAL ASSURANCE/FAULT ISOLATION TESTS	94
L379 DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	94
L431 PERFORM DISC UPDATE PROCEDURES	92
L432 PERFORM DISC-TO-DISC TRANSFER PROCEDURES	91
G189 CLEAN SHOP FACILITIES	90
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	90
L426 PERFORM AN/ALR-56 LOW BAND RECEIVER PROCESSOR OPERATIONAL TESTS	89
L444 REMOVE OR REPLACE AN/ALR-56 LOW BAND RECEIVER COMPONENTS	89
L425 PERFORM AN/ALR-56 HIGH BAND RECEIVER OPERATIONAL TESTS	89
G230 VISUALLY INSPECT AND CLEAN LRUS	89
L364 ALIGN TEWS DISPLAYS	89
L442 REMOVE OR REPLACE AN/ALR-56 HIGH BAN RECEIVER COMPONENTS	88
L388 ISOLATE AN/ALQ-135 TUNING UNIT MALFUNCTIONS	88
G206 PERFORM PERIODIC INSPECTIONS	88
G204 PACK OR UNPACK LRUS OR EQUIPMENT	88
L389 ISOLATE AN/ALR-56 HIGH BAND RECEIVER MALFUNCTIONS	88
L390 ISOLATE AN/ALR-56 LOW BAND RECEIVER PROCESSOR MALFUNCTIONS	87
L424 PERFORM AN/ALQ-135 TUNING UNIT OPERATIONAL TESTS	87
L437 REMOVE OR REPLACE AN/ALQ-135 CONTROL OSCILLATOR COMPONENTS	87
L436 REMOVE OR REPLACE AN/ALQ-128 RECEIVER TRANSMITTER COMPONENTS	87
L356 ALIGN AN/ALQ-128 RECEIVER TRANSMITTERS	87
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	87
L434 PERFORM TEWS DISPLAY OPERATIONAL TESTS	87
L392 ISOLATE TEWS DISPLAY MALFUNCTIONS	87
L363 ALIGN AN/ALR-56 LOW BAND RECEIVER PROCESSORS	86
L383 ISOLATE AN/ALQ-135 CONTROL OSCILLATOR MALFUNCTIONS	86
L407 ISOLATE TITE SPECTRUM ANALYZER SYSTEM MALFUNCTIONS	86
L418 PERFORM AN/ALQ-128 RECEIVER TRANSMITTER OPERATIONAL TESTS	85
L443 REMOVE OR REPLACE AN/ALR-56 LOW BAND PROCESSOR COMPONENTS	85
L382 ISOLATE AN/ALQ-128 RECEIVER TRANSMITTER MALFUNCTIONS	85
G214 REMOVE OR REPLACE CONNECTORS	85
G186 CLEAN CONTACTS	85
L362 ALIGN AN/ALR-56 HIGH BAND RECEIVERS	85
L399 ISOLATE TITE DTU MALFUNCTIONS	85
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	84
L419 PERFORM AN/ALQ-135 CONTROL OSCILLATOR OPERATIONAL TESTS	84

Ia. TEWS MAINTENANCE PERSONNEL (GPO046)

NUMBER MEMBERS: 88 PERCENT OF CLUSTER: 90%

MAJOR COMMAND DISTRIBUTION: TAC-50%, USAFE-24%, PACAF-16%, ATC-10%

SKILL LEVEL DISTRIBUTION: 32653-64%, 32673-16%, 32633-16%, Other-4%

AIRCRAFT AFSC SUFFIX: B-81%

PERCENT WHO SUPERVISE: 36% (24% have 1-4 subordinates, 10% have 5-8 subordinates)

AVERAGE GRADE: E-4

AVERAGE TIME IN PRESENT JOB: 18 MONTHS

AVERAGE TIME IN CAREER FIELD: 31 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 53 MONTHS

PERCENT ASSIGNED OVERSEAS: 40%

PERCENT WHO FIND THEIR JOBS INTERESTING: 71%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 73%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 69%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 59%

PERCENT PLANNING TO REENLIST: 37%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 46%
SWING SHIFT (1600-2400) - 30%
MID SHIFT (2400-0800) - 17%
12 HR DAY - 2%
12 HR NIGHT - 1%
VARIABLE (WORKLOAD/SEASON) - 4%

<u>AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS</u>	<u>PERCENT</u>
AN/ALN-61 INFRARED TEST STATION	4
AN/ASM-423 PENETRATION AIDS TEST STATION	3
AN/ASM-411 RADAR HOMING AND WARNING TEST STATION	6
AN/ASM-411A RADAR HOMING AND WARNING TEST STATION	2
AN/ALM-185 DIGITAL PROCESSOR TEST STATION	1
AN/ALM-173 TACTICAL ELECTRONIC WARFARE TEST STATION	81
AN/ALM-126B E W POD TEST STATION	19
AN/ALM-126C E W POD TEST STATION	3

AIRCRAFT WORKED ON:

F-15A - 78%	EB-111A - 0	YFB-111A - 0
F-15B - 71%	EF-111A - 0	F-111D - 0
F-15C - 66%	F-111A - 0	F-111E - 0
F-15D - 61%	FB-111A - 0	F-111F - 0

JOB DIFFICULTY INDEX - 17.8

AVERAGE DIFFICULTY PER UNIT TIME SPENT - 5.0

AVERAGE NUMBER TASKS PERFORMED - 141

PRIMARY DUTIES

PERCENT TIME SPENT

L MAINTAINING TACTICAL ELECTRONIC WARFARE SYSTEMS (TEWS) AND TEWS INTERMEDIATE TEST EQUIPMENT (TITE)	55
G PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	23
E MAINTAINING FORMS AND RECORDS	7

REPRESENTATIVE TASKS

PERCENT PERFORMING

L379 DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	97
G210 PERFORM TEST STATION CONFIDENCE TESTS	97
L432 PERFORM DISC-TO-DISC TRANSFER PROCEDURES	97
L433 PERFORM OPERATIONAL ASSURANCE/FAULT ISOLATION TESTS	95
L431 PERFORM DISC UPDATE PROCEDURES	95
L388 ISOLATE AN/ALQ-135 TUNING UNIT MALFUNCTIONS	92
L383 ISOLATE AN/ALQ-135 CONTROL OSCILLATOR MALFUNCTIONS	92
L407 ISOLATE TITE SPECTRUM ANALYZER SYSTEM MALFUNCTIONS	92
L389 ISOLATE AN/ALR-56 HIGH BAND RECEIVER MALFUNCTIONS	92
L399 ISOLATE TITE DTU MALFUNCTIONS	92
L364 ALIGN TEWS DISPLAYS	92
L392 ISOLATE TEWS DISPLAY MALFUNCTIONS	92
L390 ISOLATE AN/ALR-56 LOW BAND RECEIVER PROCESSOR MALFUNCTIONS	91
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	91
G214 REMOVE OR REPLACE CONNECTORS	91
L424 PERFORM AN/ALQ-135 TUNING UNIT OPERATIONAL TESTS	91
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	91
G230 VISUALLY INSPECT AND CLEAN LRUS	91
L434 PERFORM TEWS DISPLAY OPERATIONAL TESTS	91
L403 ISOLATE TITE INPUT/OUTPUT CAGE MALFUNCTIONS	91
L395 ISOLATE TITE COAXIAL SWITCHING MALFUNCTIONS	91
G189 CLEAN SHOP FACILITIES	90
L357 ALIGN AN/ALQ-135 CONTROL OSCILLATORS	90
L356 ALIGN AN/ALQ-128 RECEIVER TRANSMITTERS	90
L382 ISOLATE AN/ALQ-128 RECEIVER TRANSMITTER MALFUNCTIONS	90

1b. JUNIOR TEWS MAINTENANCE PERSONNEL (GPO044)

NUMBER MEMBERS: 9

PERCENT OF CLUSTER: 10%

MAJOR COMMAND DISTRIBUTION: TAC-89%, USAFE-11%

SKILL LEVEL DISTRIBUTION: 32653-55%, 32633-45%

AIRCRAFT AFSC SUFFIX: B-100%

PERCENT WHO SUPERVISE: NONE

AVERAGE GRADE: E-3

AVERAGE TIME IN PRESENT JOB: 11 MONTHS

AVERAGE TIME IN CAREER FIELD: 22 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 25 MONTHS

PERCENT ASSIGNED OVERSEAS: 11%

PERCENT WHO FIND THEIR JOBS INTERESTING: 56%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 89%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 44%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 56%

PERCENT PLANNING TO REENLIST: 11%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 22%
SWING SHIFT (1600-2400) - 33%
MID SHIFT (2400-0800) - 45%

AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS

PERCENT

AN/ALN-61	INFRARED TEST STATION	-
AN/ASM-423	PENETRATION AIDS TEST STATION	-
AN/ASM-411	RADAR HOMING AND WARNING TEST STATION	-
AN/ASM-411A	RADAR HOMING AND WARNING TEST STATION	-
AN/ALM-185	DIGITAL PROCESSOR TEST STATION	11
AN/ALM-173	TACTICAL ELECTRONIC WARFARE TEST STATION	44
AN/ALM-126B	E W POD TEST STATION	11
AN/ALM-126C	E W POD TEST STATION	-

AIRCRAFT WORKED ON:

F-15A - 89%	EB-111A - 0	YFB-111A - 0
F-15B - 100%	EF-111A - 0	F-111D - 0
F-15C - 56%	F-111A - 0	F-111E - 0
F-15D - 44%	FB-111A - 0	F-111F - 0

JOB DIFFICULTY INDEX - 7.9

AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT - 4.7

AVERAGE NUMBER TASKS PERFORMED - 41

PRIMARY DUTIES

PERCENT TIME SPENT

L	MAINTAINING TACTICAL ELECTRONIC WARFARE SYSTEMS (TEWS) AND TEWS INTERMEDIATE TEST EQUIPMENT (TITE)	54
G	PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	21
E	MAINTAINING FORMS AND RECORDS	15

REPRESENTATIVE TASKS

PERCENT PERFORMING

L444	REMOVE OR REPLACE AN/ALR-56 LOW BAND RECEIVER COMPONENTS	100
G189	CLEAN SHOP FACILITIES	89
L433	PERFORM OPERATIONAL ASSURANCE/FAULT ISOLATION TESTS	89
L426	PERFORM AN/ALR-56 LOW BAND RECEIVER PROCESSOR OPERATIONAL TESTS	89
G210	PERFORM TEST STATION CONFIDENCE TESTS	89
L425	PERFORM AN/ALR-56 HIGH BAND RECEIVER OPERATIONAL TESTS	89
L442	REMOVE OR REPLACE AN/ALR-56 HIGH BAND RECEIVER COMPONENTS	89
L436	REMOVE OR REPLACE AN/ALQ-128 RECEIVER TRANSMITTER COMPONENTS	89
G206	PERFORM PERIODIC INSPECTIONS	89
E132	ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	78
E139	ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	78
L418	PERFORM AN/ALQ-128 RECEIVER TRANSMITTER OPERATIONAL TESTS	78
E142	ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	78
G192	INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	78
L443	REMOVE OR REPLACE AN/ALR-56 LOW BAND PROCESSOR COMPONENTS	78
L437	REMOVE OR REPLACE AN/ALQ-135 CONTROL OSCILLATOR COMPONENTS	78
E141	ANNOTATE SERVICEABLE TAG MATERIEL (DD FORM 1574)	67
L379	DETERMINE WHETHER MALFUNCTION IS IN TITE OR UUT	67
L356	ALIGN AN/ALQ-128 RECEIVER TRANSMITTERS	67
G230	VISUALLY INSPECT AND CLEAN LRUS	67
G204	PACK OR UNPACK LRUS OR EQUIPMENT	67
L363	ALIGN AN/ALR-56 LOW BAND RECEIVER PROCESSORS	67
L446	REMOVE OR REPLACE TEWS DISPLAY COMPONENTS	67
L364	ALIGN TEWS DISPLAYS	67
L388	ISOLATE AN/ALQ-135 TUNING UNIT MALFUNCTIONS	56

REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF
THE ELECTRONIC WARFARE MAINTENANCE CLUSTER
(GPO015, N=210)

TASKS	PERCENT MEMBERS PERFORMING
G225 REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	95
G229 SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	88
G214 REMOVE OR REPLACE CONNECTORS	88
G230 VISUALLY INSPECT AND CLEAN LRUS	86
G189 CLEAN SHOP FACILITIES	85
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	85
G228 SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	83
G210 PERFORM TEST STATION CONFIDENCE TESTS	83
G181 ALIGN HIGH VOLTAGE POWER SUPPLIES	78
G216 REMOVE OR REPLACE LOW VOLTAGE POWER SUPPLIES	78
G215 REMOVE OR REPLACE HIGH VOLTAGE POWER SUPPLIES	78
G206 PERFORM PERIODIC INSPECTIONS	77
G204 PACK OR UNPACK LRUS OR EQUIPMENT	77
F168 ORDER PARTS BY VOICE COMMUNICATION	74
G182 ALIGN LOW VOLTAGE POWER SUPPLIES	74
G220 REMOVE OR REPLACE TEST STATION TESTER REPLACEABLE UNITS (TRU)	74
E142 ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	73
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	73
G218 REMOVE OR REPLACE TEST STATION ADAPTER COMPONENTS	71
E132 ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	70
G199 ISOLATE TEST STATION ADAPTER MALFUNCTIONS	70
G221 REMOVE OR REPLACE TEST STATION TRU CIRCUIT CARDS	70
G222 REMOVE OR REPLACE TEST STATION TRU CIRCUIT ELEMENTS, SUCH AS RESISTORS, CAPACITORS, OR TRANSFORMERS	69
G186 CLEAN CONTACTS	68
G195 ISOLATE LOW VOLTAGE POWER SUPPLY MALFUNCTIONS	66
G191 FABRICATE CABLES	65
E130 ANNOTATE ISSUE/TURN IN REQUEST (AF FORM 2005)	64
G194 ISOLATE HIGH VOLTAGE POWER SUPPLY MALFUNCTIONS	64
G205 PERFORM CORROSION CONTROL	63
G223 REMOVE OR REPLACE TEST STATION TRU INTEGRATED CIRCUITS	62
G224 REMOVE OR REPLACE TEST STATION TRU SEMICONDUCTOR DEVICES	60
E141 ANNOTATE SERVICEABLE TAG MATERIEL (DD FORM 1574)	58
G197 ISOLATE PULSE GENERATOR MALFUNCTIONS	58
F149 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	57
G183 ALIGN PULSE GENERATORS	56

IIa. EW PODS MAINTENANCE PERSONNEL (GP0045)

NUMBER MEMBERS: 39 PERCENT OF CLUSTER: 19%

MAJOR COMMAND DISTRIBUTION: TAC-59%, USAFE-41%

SKILL LEVEL DISTRIBUTION: 32653-72%, 32633-20%, 32673-8%

AIRCRAFT AFSC SUFFIX: A-80%, B-3%

PERCENT WHO SUPERVISE: 39% (28% have 1-4 subordinates, 8% have 5-8 subordinates)

AVERAGE GRADE: E-4

AVERAGE TIME IN PRESENT JOB: 26 MONTHS

AVERAGE TIME IN CAREER FIELD: 34 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 44 MONTHS

PERCENT ASSIGNED OVERSEAS: 41%

PERCENT WHO FIND THEIR JOBS INTERESTING: 80%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 90%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 90%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 77%

PERCENT PLANNING TO REENLIST: 33%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 41%
 SWING SHIFT (1600-2400) - 31%
 MID SHIFT (2400-0800) - 23%
 VARIABLE (WORKLOAD/SEASON) - 5%

<u>AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS</u>		<u>PERCENT</u>
AN/ALN-61	INFRARED TEST STATION	13
AN/ASM-423	PENETRATION AIDS TEST STATION	8
AN/ASM-411	RADAR HOMING AND WARNING TEST STATION	3
AN/ASM-411A	RADAR HOMING AND WARNING TEST STATION	-
AN/ALM-185	DIGITAL PROCESSOR TEST STATION	3
AN/ALM-173	TACTICAL ELECTRONIC WARFARE TEST STATION	5
AN/ALM-126B	E W POD TEST STATION	57
AN/ALM-126C	E W POD TEST STATION	74

AIRCRAFT WORKED ON:

F-15A - 5%	EB-111A - 0	YF-111A - 0
F-15B - 3%	EF-111A - 0	F-111D - 8%
F-15C - 3%	F-111A - 0	F-111E - 18%
F-15D - 3%	FB-111A - 5%	F-111F - 13%

JOB DIFFICULTY INDEX - 11.3

AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT - 4.8

AVERAGE NUMBER TASKS PERFORMED - 67

PRIMARY DUTIES

PERCENT TIME SPENT

M	ELECTRONIC WARFARE (EW) PODS AND ASSOCIATED TEST EQUIPMENT	37%
G	PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	31%
E	MAINTAINING FORMS AND RECORDS	9%

REPRESENTATIVE TASKS

PERCENT PERFORMING

M459	PERFORM AN/ALQ-119 EW POD PERIODIC INSPECTIONS	100
M470	REMOVE OR REPLACE AN/ALQ-119 EW POD COMPONENTS	100
G225	REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	100
M451	ISOLATE AN/ALQ-119 EW POD MALFUNCTIONS	97
M458	PERFORM AN/ALQ-119 EW POD OPERATIONAL TESTS	97
M467	PROGRAM EW PODS FOR MISSION REQUIREMENTS	97
G203	OPERATE SHOP HOISTS	97
M447	ALIGN AN/ALQ-119 PODS	95
M457	PERFORM AN/ALQ-119 EW POD COOLONAL PUMP CHECKS	95
M460	PERFORM AN/ALQ-119 EW POD POWER SUPPLY CHECKS	92
M453	ISOLATE EW POD TEST STATION MALFUNCTIONS	92
G206	PERFORM PERIODIC INSPECTIONS	90
G189	CLEAN SHOP FACILITIES	90
G214	REMOVE OR REPLACE CONNECTORS	90
M454	ISOLATE SEMIAUTOMATIC SUPPORT EQUIPMENT (SASE) MALFUNCTIONS	87
M465	PERFORM SASE PERIODIC INSPECTIONS	87
M466	PERFORM SASE SELF-TEST VERIFICATION PROCEDURES	87
M456	PERFORM AN/ALQ-119 CONTROL BOX OPERATIONAL TESTS	85
F168	ORDER PARTS BY VOICE COMMUNICATION	82
G229	SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	79
M461	PERFORM AN/ALQ-119 EW POD TWT HY-POT TESTS	79
M462	PERFORM DISC DUPLICATION	79
M463	PERFORM MISSION DATA TAPE DUPLICATION	79
M452	ISOLATE EW POD COLDPLATE LIQUID COOLING (PCLC) SYSTEM MALFUNCTIONS	77
G192	INTERPRETS SYSTEM DIAGRAMS OR SCHEMATICS	74

IIB. PENETRATION AIDS MAINTENANCE PERSONNEL (GPO043)

NUMBER MEMBERS: 72 PERCENT OF CLUSTER: 34%

MAJOR COMMAND DISTRIBUTION: TAC-62%, USAFE-18%, SAC-14%, ATC-6%

SKILL LEVEL DISTRIBUTION: 32653-58%, 32633-36%, 32673-4%

AIRCRAFT AFSC SUFFIX: A-92%

PERCENT WHO SUPERVISE: 19% (17% have 1-4 subordinates)

AVERAGE GRADE: E-3, E-4

AVERAGE TIME IN PRESENT JOB: 16 MONTHS

AVERAGE TIME IN CAREER FIELD: 26 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 33 MONTHS

PERCENT ASSIGNED OVERSEAS: 18%

PERCENT WHO FIND THEIR JOBS INTERESTING: 79%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 90%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 92%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 65%

PERCENT PLANNING TO REENLIST: 24%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 37%
SWING SHIFT (1600-2400) - 31%
MID SHIFT (2400-0800) - 31%
VARIABLE (WORKLOAD/SEASON) - 1%

<u>AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS</u>		<u>PERCENT</u>
AN/ALN-61	INFRARED TEST STATION	10
AN/ASM-423	PENETRATION AIDS TEST STATION	75
AN/ASM-411	RADAR HOMING AND WARNING TEST STATION	17
AN/ASM-411A	RADAR HOMING AND WARNING TEST STATION	6
AN/ALM-185	DIGITAL PROCESSOR TEST STATION	6
AN/ALM-173	TACTICAL ELECTRONIC WARFARE TEST STATION	-
AN/ALM-126B	E W POD TEST STATION	-
AN/ALM-126C	E W POD TEST STATION	-

AIRCRAFT WORKED ON:

F-15A - 0	EB-111A - 1%	YFB-111A - 1%
F-15B - 0	EF-111A - 1%	F-111D - 43%
F-15C - 0	F-111A - 29%	F-111E - 10%
F-15D - 0	FB-111A - 25%	F-111F - 7%

JOB DIFFICULTY INDEX - 13.0

AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT - 4.9

AVERAGE NUMBER TASKS PERFORMED - 77

PRIMARY DUTIES

PERCENT TIME SPENT

G	PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	39
I	MAINTAINING PENETRATION AIDS TEST STATIONS (PATS) AND ASSOCIATED LRUS	34
E	MAINTAINING FORMS AND RECORDS	10

REPRESENTATIVE TASKS

PERCENT PERFORMING

G225	REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	96
I251	ALIGN AN/ALQ-94 RECEIVERS	94
I250	ALIGN AN/ALQ-94 POWER AMPLIFIERS	94
G216	REMOVE OR REPLACE LOW VOLTAGE POWER SUPPLIES	94
G199	ISOLATE TEST STATION ADAPTER MALFUNCTIONS	93
I256	DETERMINE WHETHER MALFUNCTION IS IN PATS OR LRUs UNDER TEST	92
G215	REMOVE OR REPLACE HIGH VOLTAGE POWER SUPPLIES	92
I270	PERFORM AN/ALQ-94 RECEIVER OPERATIONAL TESTS	90
I265	ISOLATE PATS SWITCHING MALFUNCTIONS	90
I257	ISOLATE AN/ALQ-94 BUFFER MALFUNCTIONS	90
I258	ISOLATE AN/ALQ-94 POWER AMPLIFIER MALFUNCTIONS	90
G230	VISUALLY INSPECT AND CLEAN LRUs	90
G229	SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	90
G181	ALIGN HIGH VOLTAGE POWER SUPPLIES	90
G182	ALIGN LOW VOLTAGE POWER SUPPLIES	90
G192	INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	89
I259	ISOLATE AN/ALQ-94 RECEIVER MALFUNCTIONS	89
G214	REMOVE OR REPLACE CONNECTORS	89
G189	CLEAN SHOP FACILITIES	88
I275	REMOVE OR REPLACE AN/ALQ-94 RECEIVER COMPONENTS	88
I268	PERFORM AN/ALQ-94 POWER AMPLIFIER OPERATIONAL TESTS	88
G228	SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	88
I276	REMOVE OR REPLACE PATS RELAYS	88
G222	REMOVE OR REPLACE TEST STATION TRU CIRCUIT ELEMENTS, SUCH AS RESISTORS, CAPACITORS, OR TRANSFORMERS	88
G220	REMOVE OR REPLACE TEST STATION TESTER REPLACEABLE UNITS (TRU)	88

IIc. RADAR HOMING AND WARNING (RHAW) MAINTENANCE PERSONNEL (GPO050)

NUMBER MEMBERS: 26

PERCENT OF CLUSTER: 12%

MAJOR COMMAND DISTRIBUTION: TAC-100%

SKILL LEVEL DISTRIBUTION: 32633-50%, 32653-46%, 32673-4%

AIRCRAFT AFSC SUFFIX: A-85%

PERCENT WHO SUPERVISE: 19% (15% have 1-4 subordinates)

AVERAGE GRADE: E-3

AVERAGE TIME IN PRESENT JOB: 18 MONTHS

AVERAGE TIME IN CAREER FIELD: 25 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 33 MONTHS

PERCENT ASSIGNED OVERSEAS: NONE

PERCENT WHO FIND THEIR JOBS INTERESTING: 69%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 77%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 81%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 69%

PERCENT PLANNING TO REENLIST: 26%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 54%
SWING SHIFT (1600-2400) - 15%
(MID SHIFT (2400-0800) - 31%

AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS

PERCENT

AN/ALN-61	INFRARED TEST STATION	8
AN/ASM-423	PENETRATION AIDS TEST STATION	8
AN/ASM-411	RADAR HOMING AND WARNING TEST STATION	61
AN/ASM-411A	RADAR HOMING AND WARNING TEST STATION	27
AN/ALM-185	DIGITAL PROCESSOR TEST STATION	4
AN/ALM-173	TACTICAL ELECTRONIC WARFARE TEST STATION	-
AN/ALM-126B	E W POD TEST STATION	-
AN/ALM-126C	E W POD TEST STATION	-

AIRCRAFT WORKED ON:

F-15A - 0	EB-111A - 0	YF-111A - 0
F-15B - 0	EF-111A - 0	F-111D - 73%
F-15C - 0	F-111A - 23%	F-111E - 0
F-15D - 0	FB-111A - 4%	F-111F - 0

JOB DIFFICULTY INDEX: 13.5

AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT: 4.9

AVERAGE NUMBER TASKS PERFORMED: 84

PRIMARY DUTIES

PERCENT TIME SPENT

J	MAINTAINING RADAR HOMING AND WARNING (RHAW) TEST STATIONS AND ASSOCIATED LRUs	44%
G	PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	32%
E	MAINTAINING FORMS AND RECORDS	9%

REPRESENTATIVE TASKS

PERCENT PERFORMING

G192	INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	100
J283	ALIGN AN/APS-109A INDICATOR CONTROL UNITS (ICU)	100
J299	ISOLATE AN/APS-109A FORWARD RADAR RECEIVER MALFUNCTIONS	100
J282	ALIGN AN/APS-109A FORWARD RADAR RECEIVERS	100
J300	ISOLATE AN/APS-109A ICU MALFUNCTIONS	100
G225	REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	100
J281	ALIGN AN/APS-109A AFT RADAR RECEIVERS	100
J298	ISOLATE AN/APS-109A AFT RADAR RECEIVER MALFUNCTIONS	100
G230	VISUALLY INSPECT AND CLEAN LRUs	96
J284	ALIGN AN/APS-109A VIDEO SIGNAL PROCESSORS (VSP)	96
J329	REMOVE OR REPLACE AN/APS-109A FORWARD RADAR RECEIVER COMPONENTS	96
J333	REMOVE OR REPLACE AN/APS-109A VSP COMPONENTS	96
J301	ISOLATE AN/APS-109A THREAT DISPLAY UNIT (TDU) MALFUNCTIONS	96
J330	REMOVE OR REPLACE AN/APS-109A ICU COMPONENTS	96
J328	REMOVE OR REPLACE AN/APS-109A AFT RADAR RECEIVER COMPONENTS	96
G229	SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	96
J332	REMOVE OR REPLACE AN/APS-109A TDU COMPONENTS	96
J302	ISOLATE AN/APS-109A VSP MALFUNCTIONS	92
J317	PERFORM AN/APS-109A FORWARD RADAR RECEIVER OPERATIONAL TESTS	92
G228	SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	92
C189	CLEAN SHOP FACILITIES	88
J318	PERFORM AN/APS-109A ICU OPERATIONAL TESTS	88
G211	PREPARE TEST STATIONS FOR MOBILITY SHIPMENTS	88
J316	PERFORM AN/APS-109A AFT RADAR RECEIVER OPERATIONAL TESTS	88
J321	PERFORM AN/APS-109A TDU OPERATIONAL TESTS	88

IIId. RAHW/DIGITAL PROCESSOR TEST SETS (DPTS) MAINTENANCE PERSONNEL (GPO061)

NUMBER MEMBERS: 50

PERCENT OF CLUSTER: 24%

MAJOR COMMAND DISTRIBUTION: USAFE-38%, SAC-32%, TAC-24%, ATC-6%

SKILL LEVEL DISTRIBUTION: 32653-60%, 32633-20%, 32673-20%

AIRCRAFT AFSC SUFFIX: A-74%

PERCENT WHO SUPERVISE: 46% (32% have 1-4 subordinates, 8% have 5-8 subordinates)

AVERAGE GRADE: E-4

AVERAGE TIME IN PRESENT JOB: 30 MONTHS

AVERAGE TIME IN CAREER FIELD: 48 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 60 MONTHS

PERCENT ASSIGNED OVERSEAS: 36%

PERCENT WHO FIND THEIR JOBS INTERESTING: 80%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 88%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 88%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 78%

PERCENT PLANNING TO REENLIST: 34%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 42%
SWING SHIFT (1600-2400) - 38%
MID SHIFT (2400-0800) - 14%
VARIABLE (WORKLOAD/SEASON) - 2%
OTHER - 4%

<u>AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS</u>		<u>PERCENT</u>
AN/ALN-61	INFRARED TEST STATION	32
AN/ASM-423	PENETRATION AIDS TEST STATION	32
AN/ASM-411	RADAR HOMING AND WARNING TEST STATION	66
AN/ASM-411A	RADAR HOMING AND WARNING TEST STATION	78
AN/ALM-185	DIGITAL PROCESSOR TEST STATION	74
AN/ALM-173	TACTICAL ELECTRONIC WARFARE TEST STATION	-
AN/ALM-126B	E W POD TEST STATION	10
AN/ALM-126C	E W POD TEST STATION	4

AIRCRAFT WORKED ON:

F-15A - 0	EB-111A - 2%	YFB-111A - 4%
F-15B - 0	EF-111A - 2%	F-111D - 10%
F-15C - 0	F-111A - 30%	F-111E - 24%
F-15D - 0	FB-111A - 36%	F-111F - 26%

JOB DIFFICULTY INDEX - 17.2

AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT - 5.0

AVERAGE NUMBER TASKS PERFORMED - 133

PRIMARY DUTIES

PERCENT TIME SPENT

J	MAINTAINING RADAR HOMING AND WARNING (RHAW) TEST STATIONS AND ASSOCIATED LRUs	26
G	PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	26
K	MAINTAINING DIGITAL PROCESSOR TEST SETS (DPTS) AND ASSOCIATED LRUs	16
E	MAINTAINING FORMS AND RECORDS	8

REPRESENTATIVE TASKS

PERCENT PERFORMING

J279	ALIGN AN/ALR-62 FORWARD RADAR RECEIVERS	96
J293	DETERMINE WHETHER MALFUNCTION IS IN RHAW TEST STATION OR LRUs UNDER TEST	96
J278	ALIGN AN/ALR-62 AFT RADAR RECEIVERS	96
G230	VISUALLY INSPECT AND CLEAN LRUs	96
J313	PERFORM AN/ALR-62 FORWARD RADAR RECEIVER OPERATIONAL TESTS	94
J296	ISOLATE AN/ALR-62 FORWARD RADAR RECEIVER MALFUNCTIONS	94
J326	REMOVE OR REPLACE AN/ALR-62 FORWARD RADAR RECEIVER COMPONENTS	94
J325	REMOVE OR REPLACE AN/ALR-62 AFT RADAR RECEIVER	94
K338	DETERMINE WHETHER MALFUNCTION IS IN DPTS OR LRUs UNDER TEST	94
G228	SOLDER COMPONENTS, SUCH AS INTEGRATED CIRCUITS, OR SEMICONDUCTORS	94
K334	ALIGN AN/ALR-62 CONTROL INDICATORS (CI)	94
G225	REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	94
K349	PERFORM AN/ALR-62 CI OPERATIONAL TESTS	94
J307	ISOLATE RHAW TEST STATION RF GENERATOR MALFUNCTIONS	94
J289	ALIGN RHAW TEST STATION RF GENERATORS	94
K336	ALIGN AN/ALR-62 INDICATOR PANELS (IP)	94
G192	INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	92
J312	PERFORM AN/ALR-62 AFT RADAR RECEIVER OPERATIONAL TESTS	92
J295	ISOLATE AN/ALR-62 AFT RADAR RECEIVER MALFUNCTIONS	92
K340	ISOLATE AN/ALR-62 DP MALFUNCTIONS	92
K350	PERFORM AN/ALR-62 DP OPERATIONAL TESTS	92
K335	ALIGN AN/ALR-62 DIGITAL PROCESSORS (DP)	92
K339	ISOLATE AN/ALR-62 CI MALFUNCTIONS	92
G229	SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	92

11e. INFRARED (IR) MAINTENANCE PERSONNEL (GPO041)

NUMBER MEMBERS: 18

PERCENT OF CLUSTER: 9%

MAJOR COMMAND DISTRIBUTION: SAC-61%, USAFE-39%

SKILL LEVEL DISTRIBUTION: 32653-72%, 32633-22%, OTHER-6%

AIRCRAFT AFSC SUFFIX: A-83%

PERCENT WHO SUPERVISE: 22% (17% have 1-4 subordinates)

AVERAGE GRADE: E-3, E-4

AVERAGE TIME IN PRESENT JOB: 27 MONTHS

AVERAGE TIME IN CAREER FIELD: 35 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 38 MONTHS

PERCENT ASSIGNED OVERSEAS: 44%

PERCENT WHO FIND THEIR JOBS INTERESTING: 67%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 78%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 67%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 44%

PERCENT PLANNING TO REENLIST: 28%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 44%
 SWING SHIFT (1600-2400) - 28%
 MID SHIFT (2400-0800) - 17%
 VARIABLE (WORKLOAD/SEASON) - 6%
 ROTATING 8-HOUR SHIFTS - 5%

AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS

PERCENT

AN/ALN-61	INFRARED TEST STATION	78
AN/ASM-423	PENETRATION AIDS TEST STATION	33
AN/ASM-411	RADAR HOMING AND WARNING TEST STATION	6
AN/ASM-411A	RADAR HOMING AND WARNING TEST STATION	6
AN/ALM-185	DIGITAL PROCESSOR TEST STATION	6
AN/ALM-173	TACTICAL ELECTRONIC WARFARE TEST STATION	-
AN/ALM-126B	E W POD TEST STATION	11
AN/ALM-126C	E W POD TEST STATION	17

AIRCRAFT WORKED ON:

F-15A - 0	EB-111A - 6%	YFB-111A - 0
F-15B - 0	EF-111A - 0	F-111D - 0
F-15C - 0	F-111A - 11%	F-111E - 11%
F-15D - 0	FB-111A - 56%	F-111F - 17%

JOB DIFFICULTY INDEX - 10.6

AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT - 4.6

AVERAGE NUMBER TASKS PERFORMED - 71

PRIMARY DUTIES

PERCENT TIME SPENT

H	MAINTAINING INFRARED (IR) TEST STATIONS AND ASSOCIATED LINE REPLACEMENT UNITS (LRU)	38%
G	PERFORMING GENERAL AVIONIC AGE OPERATOR OR SHOP DUTIES	27%
E	MAINTAINING FORMS AND RECORDS	9%

REPRESENTATIVE TASKS

PERCENT PERFORMING

H237	ISOLATE SEARCH TRACK SCANNER MALFUNCTIONS	100
H244	PERFORM IR SYSTEM PURGE AND SERVICING PROCEDURES	100
H234	ALIGN SEARCH TRACK SCANNERS	100
H249	REMOVE OR REPLACE SEARCH TRACK SCANNER COMPONENTS	100
H246	PERFORM SEARCH TRACK SCANNER OPERATIONAL TESTS	100
H243	PERFORM IR SYSTEM OPERATIONAL TESTS	100
H235	ISOLATE CRYOGENIC CONVERTER LRU MALFUNCTIONS	100
H240	PERFORM CRYOGENIC CONVERTER OPERATIONAL TESTS	100
H239	PERFORM CRYOGENIC CONVERTER BAKEOUT PROCEDURES	100
H242	PERFORM IR SYSTEM BAKEOUT PROCEDURES	94
H248	REMOVE OR REPLACE CRYOGENIC CONVERTER COMPONENTS	94
H247	PERFORM STATION CRYOGENIC PURGE AND BAKEOUT PROCEDURES	94
H231	ALIGN CRYOGENIC CONVERTER LRU COMPONENTS	94
G230	VISUALLY INSPECT AND CLEAN LRUS	94
H238	ISOLATE TEST STATION CRYOGENIC AND HEAT LOAD ASSEMBLY MALFUNCTIONS	94
H241	PERFORM HEAT LOAD ASSEMBLY CALIBRATION/VERIFICATION CHECKS	94
G229	SOLDER COMPONENTS, SUCH AS RELAYS, RESISTORS, OR PLUGS	94
G212	REMOVE OR REPLACE COMPRESSED GAS BOTTLES	94
H233	ALIGN IR TEST STATION TRUS OTHER THAN CRYOGENIC CONVERTERS	89
G225	REPAIR CABLE ASSEMBLIES, SUCH AS REPLACING PINS, WIRES, OR HARDWARE	89
G204	PACK OR UNPACK LRUs OR EQUIPMENT	89
H245	PERFORM IR TEST STATION MINIMUM PERFORMANCE TESTS	89
G205	PERFORM CORROSION CONTROL	89
H236	ISOLATE IR TEST STATION MALFUNCTIONS	89
G214	REMOVE OR REPLACE CONNECTORS	89

REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF
THE ADMINISTRATIVE RECORDS INDEPENDENT JOB TYPE
(GPO026, N=11)

TASKS	PERCENT MEMBERS PERFORMING
E141 ANNOTATE SERVICEABLE TAG MATERIEL (DD FORM 1574)	100
E143 ANNOTATE SUPPLY CONTROL LOGS (AF FORM 2413)	91
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	91
E147 ANNOTATE UNSERVICEABLE (CONDEMNED) TAG MATERIEL (DD FORM 1577)	91
E130 ANNOTATE ISSUE/TURN IN REQUEST (AF FORM 2005)	91
F152 MAINTAIN DAILY DOCUMENT REGISTER AND ITEM SURVEILLANCE LISTS (DO4)	82
E138 ANNOTATE RECEIPT OR RELEASE OF LINE REPLACEMENT UNITS (LRU) INTO OR OUT OF SHOP	82
F162 MAINTAIN STATUS BOARDS, GRAPHS, OR CHARTS	82
F176 VERIFY DUE-IN FORM MAINTENANCE (DIFM) DOCUMENT LISTINGS (R-26)	82
E148 ANNOTATE UNSERVICEABLE (REPARABLE) TAG MATERIEL (DD FORM 1577-2)	82
F177 VERIFY PRIORITY MONITOR REPORTS (D-18)	82
E132 ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	73
F179 VERIFY SUPPLY DUE-OUT VALIDATION LISTINGS (M-30)	73
E142 ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	64
F149 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	64
B27 ASSIGN MAINTENANCE OR REPAIR WORK	55
E128 ANNOTATE DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT (DD FORM 1348-1)	45
F168 ORDER PARTS BY VOICE COMMUNICATION	45
A14 PARTICIPATE IN MEETINGS, SUCH AS STAFF MEETINGS, BRIEFINGS, CONFERENCES, OR WORKSHOPS	45
F151 MAINTAIN BENCH STOCK PARTS OR EQUIPMENT LEVELS	36
G189 CLEAN SHOP FACILITIES	36
B33 DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	36
A2 DETERMINE WORK PRIORITIES	36
E137 ANNOTATE PUNCH CARD TRANSCRIPT (AF FORM 1530)	36
C58 CERTIFY STATUS OF REPARABLE, SERVICEABLE, OR CONDEMNED PARTS	36
F160 MAINTAIN PROPERTY CUSTODIAN AUTHORIZATION/CUSTODY RECEIPT LISTINGS (CACRL)	36
B47 ORIENT NEWLY ASSIGNED PERSONNEL	36
C89 PREPARE APRs	36
B56 WRITE CORRESPONDENCE	36
F150 MAINTAIN ADMINISTRATIVE OR RECORDS FILES	27

REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF
THE MANAGEMENT CLUSTER
(GPO034, N=32)

TASKS	PERCENT MEMBERS PERFORMING
C89 PREPARE APRs	100
A19 PLAN WORK ASSIGNMENTS	97
A2 DETERMINE WORK PRIORITIES	94
B32 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED MATTERS	94
C95 REVIEW MAINTENANCE DATA OR EQUIPMENT RECORD FORMS	91
D105 COUNSEL TRAINEES ON TRAINING PROGRESS	91
A13 ESTABLISH WORK SCHEDULES	91
B47 ORIENT NEWLY ASSIGNED PERSONNEL	88
B46 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	84
C94 REVIEW CORRESPONDENCE	84
B27 ASSIGN MAINTENANCE OR REPAIR WORK	84
D118 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	84
A1 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	84
C59 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	81
F149 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	81
A26 SCHEDULE TEMPORARY DUTY, LEAVES, OR PASSES	81
A14 PARTICIPATE IN MEETINGS, SUCH AS STAFF MEETINGS, BRIEFINGS, CONFERENCES, OR WORKSHOPS	81
B56 WRITE CORRESPONDENCE	78
D113 EVALUATE OJT TRAINERS OR TRAINEES	78
C65 EVALUATE INDIVIDUALS FOR RECOGNITION	78
E144 ANNOTATE SYSTEM/EQUIPMENT STATUS RECORD (AFTO FORM 244)	78
E141 ANNOTATE SERVICEABLE TAG MATERIEL (DD FORM 1574)	75
E139 ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	75
E143 ANNOTATE SUPPLY CONTROL LOGS (AF FORM 2413)	75
C57 ANALYZE WORKLOAD REQUIREMENTS	75
E130 ANNOTATE ISSUE/TURN IN REQUEST (AF FORM 2005)	75
D101 CONDUCT OJT	72
C58 CERTIFY STATUS OF REPARABLE, SERVICEABLE, OR CONDEMNED PARTS	72
E132 ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	72
C79 EVALUATE WORK SCHEDULES	72
C88 PERFORM SELF-INSPECTIONS	72
A8 DEVELOP WORK METHODS OR PROCEDURES	72
D110 DIRECT OR IMPLEMENT OJT PROGRAMS	72
E148 ANNOTATE UNSERVICEABLE (REPARABLE) TAG MATERIEL (DD FORM 1577-2)	72

IVa. F-15 SUPERVISORS (GPO040)

NUMBER MEMBERS: 10

PERCENT OF CLUSTER: 31%

MAJOR COMMAND DISTRIBUTION: TAC-60%, USAF-40%

SKILL LEVEL DISTRIBUTION: 32673-70%, 32653-30%

AIRCRAFT AFSC SUFFIX: B-40%

PERCENT WHO SUPERVISE: 100% (50% have 1-4 subordinates, 40%
have 5-8 subordinates)

AVERAGE GRADE: E-5, E-6

AVERAGE TIME IN PRESENT JOB: 15 MONTHS

AVERAGE TIME IN CAREER FIELD: 40 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 147 MONTHS

PERCENT ASSIGNED OVERSEAS: 44%

PERCENT WHO FIND THEIR JOBS INTERESTING: 60%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 40%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 70%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 30%

PERCENT PLANNING TO REENLIST: 50%

PERCENT WHO PLAN TO RETIRE WITH 20 YEARS ACTIVE SERVICE: 20%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 60%
SWING SHIFT (1600-2400) - 20%
MID SHIFT (2400-0800) - 20%

AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS

PERCENT

AN/ALN-61	INFRARED TEST STATION	10
AN/ASM-423	PENETRATION AIDS TEST STATION	10
AN/ASM-411	RADAR HOMING AND WARNING TEST STATION	-
AN/ASM-411A	RADAR HOMING AND WARNING TEST STATION	10
AN/ALM-185	DIGITAL PROCESSOR TEST STATION	-
AN/ALM-173	TACTICAL ELECTRONIC WARFARE TEST STATION	90
AN/ALM-126B	E W POD TEST STATION	20
AN/ALM-126C	E W POD TEST STATION	-

AIRCRAFT WORKED ON:

F-15A - 80%	EB-111A - 0	YFB-111A - 0
F-15B - 60%	EF-111A - 0	F-111D - 0
F-15C - 40%	F-111A - 0	F-111E - 0
F-15D - 40%	FB-111A - 0	F-111F - 10%

JOB DIFFICULTY INDEX - 10.2

AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT - 4.3

AVERAGE NUMBER TASKS PERFORMED - 88

PRIMARY DUTIES

PERCENT TIME SPENT

B	DIRECTING AND IMPLEMENTING	19%
C	INSPECTING AND EVALUATING	17%
E	MAINTAINING FORMS AND RECORDS	15%
D	TRAINING	10%

REPRESENTATIVE TASKS

PERCENT PERFORMING

C95	REVIEW MAINTENANCE DATA OR EQUIPMENT RECORD FORMS	100
B27	ASSIGN MAINTENANCE OR REPAIR WORK	100
D118	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	100
C89	PREPARE APRS	100
A19	PLAN WORK ASSIGNMENTS	90
E141	ANNOTATE SERVICEABLE TAG MATERIEL (DD FORM 1574)	90
E148	ANNOTATE UNSERVICEABLE (REPARABLE) TAG MATERIEL (DD FORM 1577-2)	90
D105	COUNSEL TRAINEES ON TRAINING PROGRESS	90
A2	DETERMINE WORK PRIORITIES	90
F149	INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	90
E132	ANNOTATE MAINTENANCE DATA COLLECTION RECORD (AFTO FORM 349)	90
A13	ESTABLISH WORK SCHEDULES	90
E139	ANNOTATE REPARABLE ITEM PROCESSING TAG (AFTO FORM 350)	90
B32	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED MATTERS	90
E130	ANNOTATE ISSUE/TURN IN REQUEST (AF FORM 2005)	90
B53	SUPERVISE INTEGRATED AVIONICS EW EQUIPMENT AND COMPONENT SPECIALISTS (AFSC 32653B)	80
D101	CONDUCT OJT	80
C58	CERTIFY STATUS OF REPARABLE, SERVICEABLE, OR CONDEMNED PARTS	80
E143	ANNOTATE SUPPLY CONTROL LOGS (AF FORM 2413)	80
B50	SUPERVISE APPRENTICE INTEGRATED AVIONICS EW EQUIPMENT AND COMPONENT SPECIALISTS (AFSC 32633B)	70
B46	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	70
C59	ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	70
E144	ANNOTATE SYSTEM/EQUIPMENT STATUS RECORD (AFTO FORM 244)	70
E142	ANNOTATE SIGNIFICANT HISTORICAL DATA (AFTO FORM 95)	70
E138	ANNOTATE RECEIPT OR RELEASE OF LINE REPLACEMENT UNITS (LRU) INTO OR OUT OF SHOP	70

IVb. SUPERVISORS-ADMINISTRATORS (GP0049)

NUMBER MEMBERS: 21

PERCENT OF CLUSTER: 66%

MAJOR COMMAND DISTRIBUTION: ATC-33%, TAC-29%, USAFE-24%, SAC-9%, PACAF-5%

SKILL LEVEL DISTRIBUTION: 32673-95%, OTHER-5%

AIRCRAFT AFSC SUFFIX: A-5%

PERCENT WHO SUPERVISE: 91% (33% have 5-8 subordinates, 29% have 1-4 subordinates, 24% have 9-20 subordinates)

AVERAGE GRADE: E-6

AVERAGE TIME IN PRESENT JOB: 26 MONTHS

AVERAGE TIME IN CAREER FIELD: 83 MONTHS

AVERAGE TIME ACTIVE FEDERAL MILITARY SERVICE: 179 MONTHS

PERCENT ASSIGNED OVERSEAS: 29%

PERCENT WHO FIND THEIR JOBS INTERESTING: 76%

PERCENT WHO FEEL THEIR TALENTS ARE WELL UTILIZED: 86%

PERCENT WHO FEEL THEIR TRAINING IS WELL UTILIZED: 76%

PERCENT WHO ARE SATISFIED WITH SENSE OF ACCOMPLISHMENT: 57%

PERCENT PLANNING TO REENLIST: 57%

PERCENT PLANNING TO RETIRE AFTER 20 YEARS ACTIVE SERVICE: 38%

WORK SCHEDULE: DAY SHIFT (0800-1600) - 52%
SWING SHIFT (1600-2400) - 24%
MID SHIFT (2400-0800) - 5%
VARIABLE (WORKLOAD/SEASON) - 19%

AT LEAST SIX MONTHS EXPERIENCE ON TEST STATIONS

PERCENT

AN/ALN-61	INFRARED TEST STATION	52
AN/ASM-423	PENETRATION AIDS TEST STATION	48
AN/ASM-411	RADAR HOMING AND WARNING TEST STATION	48
AN/ASM-411A	RADAR HOMING AND WARNING TEST STATION	28
AN/ALM-185	DIGITAL PROCESSOR TEST STATION	19
AN/ALM-173	TACTICAL ELECTRONIC WARFARE TEST STATION	24
AN/ALM-126B	E W POD TEST STATION	29
AN/ALM-126C	E W POD TEST STATION	14

AIRCRAFT WORKED ON:

F-15A - 24%	EB-111A - 0	YFB-111A - 0
F-15B - 19%	EF-111A - 5%	F-111D - 24%
F-15C - 9%	F-111A - 9%	F-111E - 29%
F-15D - 5%	FB-111A - 29%	F-111F - 14%

JOB DIFFICULTY INDEX - 12.9

AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT - 4.4

AVERAGE NUMBER TASKS PERFORMED - 113 TASKS

PRIMARY DUTIES

PERCENT TIME SPENT

C	INSPECTING AND EVALUATING	24%
B	DIRECTING AND IMPLEMENTING	18%
D	TRAINING	16%
A	ORGANIZING AND PLANNING	14%

REPRESENTATIVE TASKS

PERCENT PERFORMING

C89	PREPARE APRs	100
A19	PLAN WORK ASSIGNMENTS	100
C94	REVIEW CORRESPONDENCE	100
B47	ORIENT NEWLY ASSIGNED PERSONNEL	100
B32	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED MATTERS	95
A2	DETERMINE WORK PRIORITIES	95
D105	COUNSEL TRAINEES ON TRAINING PROGRESS	95
C65	EVALUATE INDIVIDUALS FOR RECOGNITION	95
D110	DIRECT OR IMPLEMENT CJT PROGRAMS	95
A1	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT OR SUPPLIES	95
B46	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	90
C79	EVALUATE WORK SCHEDULES	90
A13	ESTABLISH WORK SCHEDULES	90
C59	ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	90
A14	PARTICIPATE IN MEETINGS, SUCH AS STAFF MEETINGS, BRIEFINGS, CONFERENCES, OR WORKSHOPS	90
A8	DEVELOP WORK METHODS OR PROCEDURES	90
D113	EVALUATE CJT TRAINERS OR TRAINEES	90
C57	ANALYZE WORKLOAD REQUIREMENTS	90
C78	EVALUATE USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	90
A26	SCHEDULE TEMPORARY DUTY, LEAVES, OR PASSES	90
C76	EVALUTE TECHNICAL ORDER IMPROVEMENT REPORTS	90
B56	WRITE CORRESPONDENCE	86
C95	REVIEW MAINTENANCE DATA OR EQUIPMENT RECORD FORMS	86
C88	PERFORM SELF-INSPECTIONS	86
A7	DEVELOP SELF-INSPECTION PROGRAMS	86

REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF THE
TECHNICAL TRAINING INSTRUCTORS INDEPENDENT JOB TYPE
(GPO038, N=12)

TASKS	PERCENT MEMBERS PERFORMING
D102 CONDUCT RESIDENT COURSE CLASSROOM TRAINING	100
D120 PREPARE LESSON PLANS	100
D98 ADMINISTER TESTS	100
D125 WRITE TEST QUESTIONS	100
D123 SCORE TESTS	100
D114 EVALUATE TRAINING MATERIALS	92
D105 COUNSEL TRAINEES ON TRAINING PROGRESS	92
D116 EVALUATE TRAINING PROGRESS OF CLASSROOM STUDENTS	83
D118 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	83
D115 EVALUATE TRAINING METHODS OR TECHNIQUES	75
D109 DEVELOP TRAINING AIDS	67
D104 CONDUCT SECURITY TRAINING	67
D107 DETERMINE RESIDENT COURSE TRAINING REQUIREMENTS	58
D103 CONDUCT SAFETY TRAINING	58
A14 PARTICIPATE IN MEETINGS, SUCH AS STAFF MEETINGS, BRIEFINGS, CONFERENCES, OR WORKSHOPS	58
D108 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED MATTERS	58
D108 DEVELOP RESIDENT COURSE OR CAREER DEVELOPMENT COURSE (CDC) CURRICULUM MATERIALS	50
D124 SELECT INDIVIDUALS FOR SPECIALIZED TRAINING	50
C65 EVALUATE INDIVIDUALS FOR RECOGNITION	50
D122 PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	42
B46 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	42
F149 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	42
A11 ESTABLISH PERFORMANCE STANDARDS	42
B47 ORIENT NEWLY ASSIGNED PERSONNEL	42
E145 ANNOTATE TECHNICAL ORDER SYSTEM PUBLICATION IMPROVEMENT REPORT AND REPLY (AFTO FORM 22)	42
B54 SUPERVISE INTEGRATED AVIONICS EW EQUIPMENT AND COMPONENT TECHNICIANS (AFSC 32673)	33
A19 PLAN WORK ASSIGNMENTS	33
G192 INTERPRET SYSTEM DIAGRAMS OR SCHEMATICS	33
M452 ISOLATE EW POD COLDPLATE LIQUID COOLING (PCLC) SYSTEM MALFUNCTIONS	33
F175 TYPE RECORDS, REPORTS, OR CORRESPONDENCE	33
B49 SUPERVISE APPRENTICE INTEGRATED AVIONICS ELECTRONIC WARFARE (EW) EQUIPMENT AND COMPONENT SPECIALISTS (AFSC 32633A)	25
D111 DIRECT OR IMPLEMENT TRAINING PROGRAMS OTHER THAN OJT	25
A8 DEVELOP WORK METHODS OR PROCEDURES	25
B42 IMPLEMENT SECURITY PROGRAMS	25
F163 MAINTAIN TECHNICAL ORDER FILES	25