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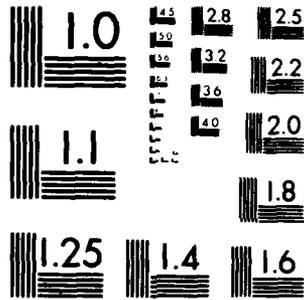
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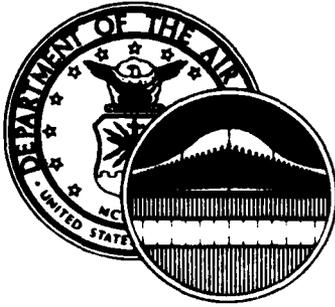
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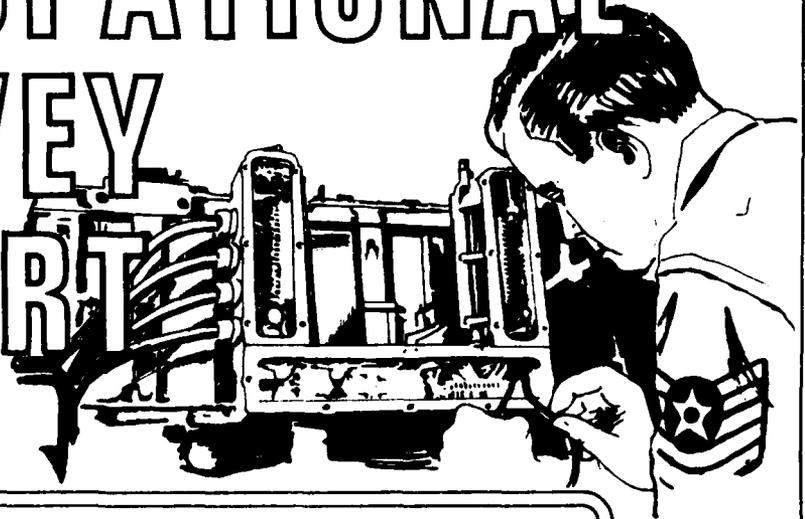


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UNITED STATES AIR FORCE

AD A108708

OCCUPATIONAL SURVEY REPORT



SPACE COMMUNICATIONS SYSTEMS
EQUIPMENT SPECIALTY

AFSC 304X6
AFPT 90-304-422
VOL IV OF IV
NOVEMBER 1981

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

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PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Space Communications System Equipment (AFS 304X6) career ladder. The report was prepared for AFMPC/MPCRQ in response to their request for occupational data on the tasks and jobs performed by 304X0, 304X4, and 304X6 personnel, with primary emphasis on the possible merger of the three career ladders. Authority for conducting surveys is contained in AFR 35-2. Computer outputs from which this report was produced are available for use by operating 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 (Air Force Systems Command) to develop a methodology for gathering and analyzing occupational information. In 1967, an operational occupational survey program was established within the Air Training Command and surveys were produced annually for 12 enlisted specialties. In 1972, the program was expanded to conduct occupational surveys covering 51 career fields annually. In late 1975, 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 First Lieutenant Julia Hoskins, Inventory Development Specialist. First Lieutenant Gordon Curphy 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 Ladders Analysis Section, Occupational Analysis Branch, USAF Occupational Measurement Center, Randolph AFB, Texas 78150.

Copies of this report are available to air staff sections, major commands, and other interested training and management personnel upon request to the USAF Occupational Measurement Center, attention to the Chief, Occupational Survey Branch (OMY), Randolph AFB, Texas 78150.

This report has been reviewed and is approved.

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SUMMARY OF RESULTS

1. Survey Coverage: Inventory booklets were administered to Space Communications Systems Equipment (AFS 304X6) personnel worldwide. Survey results are based on the responses from 361 AFS 304X6 incumbents (59 percent of assigned). A majority of the incumbents surveyed were assigned to AFCC.
2. Career Ladder Structure: DAFSC 304X6 personnel were found to be performing a wide variety of jobs. Space Communications Systems Personnel and 2045th SATCOM Group Personnel make up a majority of the 304X6 personnel surveyed, and they perform jobs involving earth terminal maintenance or operation functions. A somewhat smaller number of 304X6 personnel were found to be performing jobs involving supervision, administration, or training. Nine of these nontechnical jobs were found, and examples include those 304X6 personnel working in job control, at resident technical schools, or in quality control.
3. Career Ladder Progression: Three-skill level personnel spend roughly one-fourth of their time performing earth terminal operations, with the remainder of their time being spent on earth terminal maintenance duties. DAFSC 30456 personnel spend a somewhat lower percentage of time on these operations and maintenance duties, and also report spending about twice as much job time performing supervisory functions. Seven-skill level personnel are firstline supervisors, and divide their time performing supervisory and earth terminal operations and maintenance duties.
4. TAFMS Groups: The typical trend of an increasing percentage of time spent on supervisory tasks with increasing months TAFMS was noted. A review of job satisfaction data revealed 304X6 first-termers (1-48 months TAFMS) and second-termers (49-96 months TAFMS) are somewhat more satisfied than their counterparts in other related career ladders. In addition, it appears that similar percentages of 304X6 first-termers maintain the most common DSCS, TACSATCOM, and AFSATCOM terminals as 304X6 second-termers and career personnel.
5. Analysis of CONUS Versus Overseas Groups: Overall, the jobs performed by these two DAFSC 30456 groups were fairly similar. However, a higher percentage of overseas incumbents were identified as performing various types of earth terminal maintenance tasks.
6. Training Analysis: The 3-, 5-, and 7-skill level AFR 39-1 Specialty Descriptions were found to provide a clear overview of the 304X6 career ladder. The STS, dated April 1977, appears to be comprehensive based on occupational survey data.
7. Implications: Managers and trainers need to look at the possibility of moving 304X6 operator personnel to the proposed new Space Operations Specialty (AFS 308X1), since it appears that sending personnel to a maintenance oriented technical school and then assigning them to an operator job is a waste of training dollars. In addition, managers and trainers should look at the feasibility of creating a separate AFSC for job control in the 30XXX career field.

OCCUPATIONAL SURVEY REPORT
SPACE COMMUNICATIONS SYSTEMS EQUIPMENT SPECIALTY
(AFS 304X6)

INTRODUCTION

This is a report of an occupational survey of the Space Communications Systems Equipment (AFS 304X6) specialty, completed by the Occupational Analysis Branch, USAF Occupational Measurement Center, in September 1981. The survey was initiated at the request of AFMPC/MPCRPO in order to provide inputs for a possible merger of three radio maintenance specialties (AFSs 304X0, 304X4, and 304X6) into a common specialty. In order to properly address this issue, personnel in all three specialties were surveyed using a common job inventory. The feasibility of merging the three specialties and other types of analyses across the three career ladders are presented in a combined report (AFPT 90-304-422, Volume I). This report concentrates primarily on the results relating to the Space Communications Systems Equipment (AFS 304X6) specialty. Detailed results of the Wideband Communications Equipment (AFS 304X0) and Ground Radio Communications (AFS 304X4) specialties are provided in two separate reports (AFPT 90-304-422, Volumes II and III).

Background

As outlined in the current AFR 39-1 Specialty Descriptions, Space Communications Systems Equipment personnel are responsible for installing, maintaining, and operating the ground equipment associated with communications satellites. Some of the functions 304X6 personnel perform include calculating timing and orbital parameters for spacecraft acquisition and tracking, establishing communications links with distant earth terminals via communications spacecraft, operating earth terminal control consoles, and maintaining earth terminal equipment. These incumbents work at roughly 20 different operating locations worldwide, primarily at Communications Squadrons or Groups or Combat Communications Groups.

The 304X6 career ladder has a rather brief history, as the ladder was created in July of 1972. In April of 1981, an A, B, and C shred were created at the 3-skill level to accommodate a channelization of 3ABR training. The A shred is for Defense Satellite Communications Systems (DSCS) training, the B shred for AFSATCOM training, and the C shred for Ground Mobile Forces (GMF) equipment training.

Formal training for personnel entering the 304X6 specialty is available at Keesler Technical Training Center (KTTC) and Ft. Gordon VA., with approximately 240 incumbents finishing both courses. All 304X6 personnel first attend the 83-day course at KTTC, and then go on to Ft. Gordon for approximately 75-days. Upon completion of these courses, graduates are awarded a 3-skill level and are assigned to various units worldwide.

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Objectives

This report will examine the Space Communications Systems Equipment (AFS 304X6) primarily on the basis of the tasks performed by the survey respondents. Please note that the survey instrument utilized for this report was a combined 304X0, 304X4, and 304X6 survey. The results of the 304X0, 304X4 and joint 304X0, 304X4, and 304X6 analyses are presented in three separate reports (AFPT 90-304-422 Volumes I, II, and III). It is highly recommended that users of this report also examine the other three reports in order to better assess the 304X6 speciality. Topics discussed in this report include: (1) development and administration of the survey instrument; (2) the jobs performed by 304X6 personnel; (3) CONUS versus overseas differences; (4) comparisons of the job structure to current AFR 39-1 Specialty Descriptions and the Specialty Training Standard (STS); and (5) job satisfaction and other related background data.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-304-422. As a starting point, the Inventory Development Specialist and Instructors from each specialty at Keesler AFB MS reviewed the tasks listed in the 1975 304X0, the 1976 304X4, and the 1976 304X6 job inventories for currency. They then reviewed all pertinent career ladder publications and directives for additional radio related tasks. Then 304X0, 304X4, and 304X6 personnel at Andrews AFB MD, Tinker AFB OK, Robins AFB GA, and Offutt AFB NE reviewed this tentative task list for completeness and accuracy. The resulting task list was reviewed again by Keesler Technical Training Instructors from all three AFSCs who sat in a face-to-face encounter to insure the tasks were representative of the jobs performed by 304X0, 304X4, and 304X6 personnel. This encounter helped to insure that the skills and knowledges needed to perform a task were the same, regardless of the equipment associated with the task. For example, wiring diagrams of SHF radio equipment using amplifiers were presented during the encounter, and the Training Instructors debated on whether the skills and knowledges needed to isolate malfunctions on one type of equipment was essentially the same as with other types of equipment. If the skills and knowledges were similar, then only one task was written, such as "isolate AM receiver malfunctions". Another example of this type of commonality discussion centered around components of various systems. In this study there was a consensus that most components removed and replaced required the same skill no matter what system they were located in. For example, the task "adjust limiter components" indicates that the skill is the same no matter what equipment it is located in.

This process resulted in a final job inventory of 863 tasks grouped under 23 duty headings. In addition, a background section was included which asked for information about each respondent, such as grade, Total Active Federal Military Service (TAFMS), duty title, job interest, and the type of radio system maintained or operated.

Job Inventory Administration

During the period October 1980 through February 1981, Consolidated Base Personnel Offices in operational units worldwide administered the inventory to approximately 50 percent of the job incumbents holding a DAFSC of 304X0, 304X4, or 304X6. These job incumbents were identified using AFMPC personnel data tapes available through the Air Force Human Resources Laboratory (AFHRL).

Each individual who filled out an inventory first completed an identification and biographical information section and then checked each task performed in their current job. After checking all tasks performed, each member then rated each of these tasks on a nine-point scale showing relative time spent on the task as compared to all other tasks checked. The ratings ranged from one (very small amount of time spent) through five (about average time spent) to nine (very large amount time spent).

To determine relative time spent for each task checked by a respondent, all of an incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task is then divided by the total task ratings and multiplied by 100. This procedure provides a basis for comparing tasks in terms of both percent members performing and relative percent time spent.

Task Factor Administration

In addition to completing the job inventory, selected senior 304X6 personnel were also asked to complete a second booklet for task difficulty. The task difficulty 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 all of the tasks on a nine-point scale from extremely low to extremely high as to the relative difficulty of that task. Difficulty is defined as the length of time it requires an average member to learn to do that task. Task difficulty data was independently solicited from experienced 7- or 9-skill level personnel stationed worldwide in each specialty. The interrater reliability (as assessed through components of variance of standard group means) for the 38 DAFSC 304X6 raters who returned booklets was .90, which suggest high agreement. Ratings were then adjusted so that tasks of average difficulty have ratings of 5.0. The resulting data is a rank ordering of tasks indicating a degree of difficulty for each task in the inventory.

Job Difficulty Index. After computing the task difficulty index for each item, it is then possible to compute a Job Difficulty Index (JDI) for the job groups identified in the survey analysis. This index provides a relative measure of which jobs, when compared to other jobs identified, are more or less difficult. An equation using the number of tasks performed and the average difficulty per unit time spent as variables are the basis for the JDI. This index ranges from one for very easy jobs to 25 for very difficult jobs. The data are adjusted so that the average job difficulty index is 13.00.

Thus, the more time a group spends performing difficult tasks, and the more tasks they perform, the higher will be their job difficulty index. The JDI ratings for the 304X6 career ladder can be found in the CAREER LADDER STRUCTURE section of this report.

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

Survey Sample

Personnel were selected to participate in this survey so as to insure an accurate representation across all career ladders, MAJCOMs, and paygrade groups. In this study, approximately 600 incumbents with a 304X6 DAFSC who were available for sampling were asked for their responses. Table 1 reflects the percentage of personnel sampled in the 304X6 career ladder by MAJCOMs. Table 2 reflects the percentage distribution by paygrade for the 304X6 career ladder. Table 3 reflects the distribution of the survey sample in terms of TAFMS groups. Overall a representative sample was obtained, with 367 of the 609 respondents (59 percent) assigned to the 304X6 career ladder sampled.

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. Other biographical information (such as name, base, autovon extension) is keypunched onto disks and entered directly into the computer. Once both sets of data are in the computer, they are merged to form a complete case record for each respondent. Computer generated programs using Comprehensive Occupational Data Analysis Programs (CODAP) techniques were 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 groups, TAFMS groups, and MAJCOM groups, and include such information as percent members performing each task, the average percent time spent performing each task, the percent members utilizing various pieces of equipment, and the cumulative average percent time spent by all members for each task in the inventory.

TABLE 1
 COMMAND DISTRIBUTION OF SURVEY SAMPLE

<u>MAJOR COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
AFCC	83	85
ATC	6	11
OTHER	<u>11</u>	<u>4</u>
TOTAL	100	100
TOTAL 304X6 ASSIGNED: 609		
TOTAL 304X6 SURVEYED: 361		
PERCENT OF ASSIGNED IN SAMPLE: 59%		

TABLE 2
 PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
AIRMAN	31	22
E-4	24	24
E-5	22	25
E-6	16	19
E-7	<u>7</u>	<u>10</u>
TOTAL	100	100

TABLE 3
 TAFMS DISTRIBUTION OF SURVEY SAMPLE

	<u>MONTHS TAFMS</u>			<u>TOTAL</u>
	<u>1-48</u>	<u>49-96</u>	<u>97+</u>	
NUMBER IN SAMPLE	147	50	164	361
PERCENT OF 304X6 SAMPLE	41%	14%	45%	100%

CAREER LADDER STRUCTURE

Many times an in-depth description of the different kinds of work accomplished by the personnel in a particular specialty may be needed. Although the AFR 39-1 Specialty Descriptions and the 304X6 Specialty Training Standard (STS) provide a general overview of the type of work performed and equipment maintained, many times management and training personnel need more specific data for making specialty related decisions. Descriptions of the different types of jobs performed and the types of equipment maintained or operated by the personnel performing these various jobs provides management with a much more powerful tool for decision making.

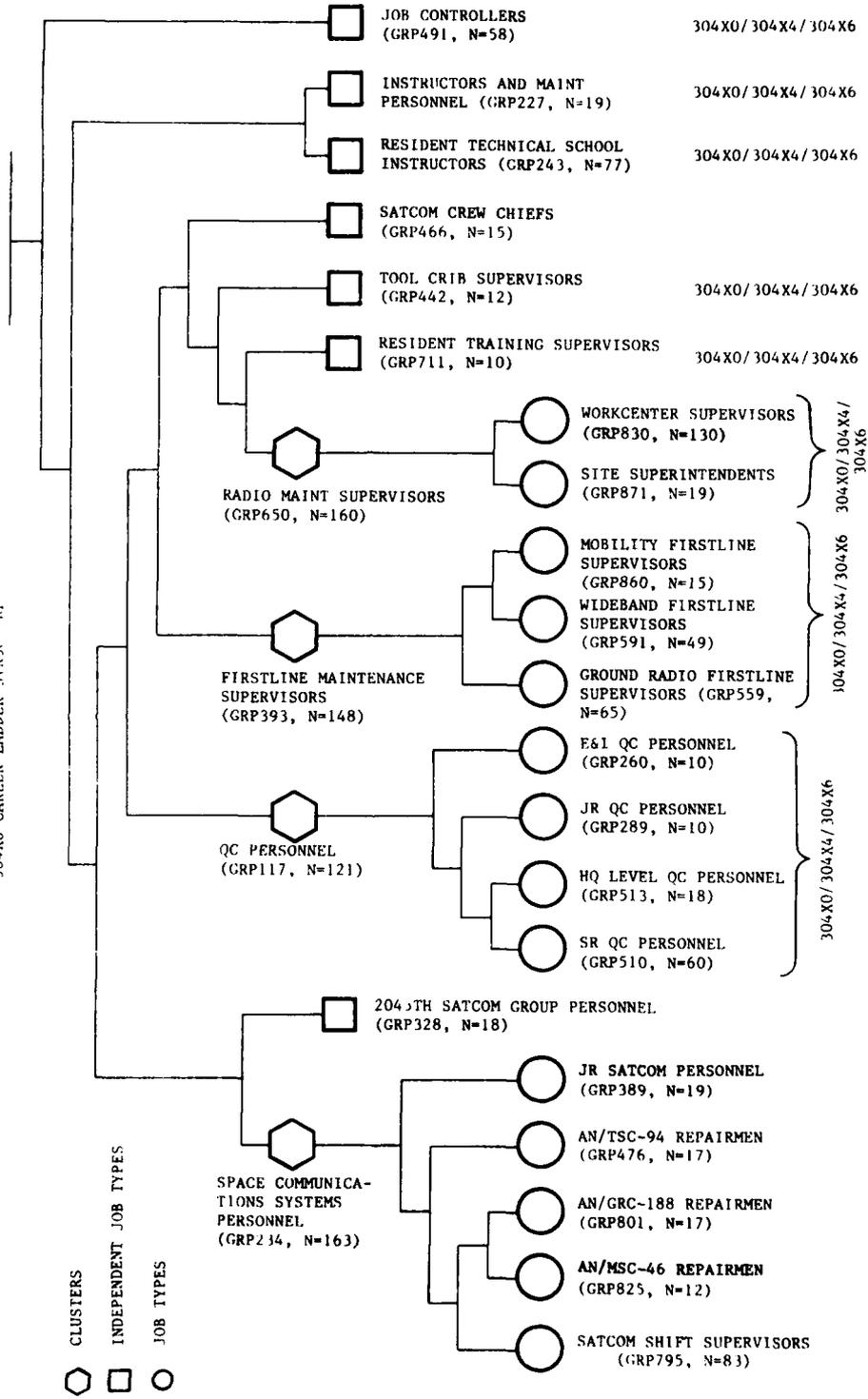
The analysis performed in this section is designed to describe the major types of jobs performed by personnel in the 304X6 specialty (such as job control, quality control, AN/MS-46 maintenance, etc). This analysis is based primarily upon the tasks performed and the time spent ratings provided by 304X6 respondents, rather than on 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 and percent of time ratings in each individual job description. This procedure is continued until all individuals and groups are combined to form a single composite representing the total sample. The resulting analysis of groups of jobs serves to identify: (1) the number and characteristics of the different jobs which exist within the career ladders; (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 Space Communication Systems Equipment career ladder.

The basic identifying group used in the hierarchical job structuring 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 Space Communication Systems Equipment career ladder incumbents are illustrated in Figure 1. Based on the similarity of tasks performed and the amount of time spent performing each task, four clusters and seven independent job types were identified. These clusters and independent job types are on the following pages:

FIGURE 1
304X6 CAREER LADDER STRUCTURE



- I. SPACE COMMUNICATIONS SYSTEMS PERSONNEL (GRP234, N=163)
 - a. SATCOM Shift Supervisors (GRP795, N=83)
 - b. AN/MSC-46 Repairmen (GRP825, N=12)
 - c. AN/GRC-188 Repairmen (GRP801, N=17)
 - d. AN/TSC-94 Repairmen (GRP476, N=17)
 - e. Junior SATCOM Repairmen (GRP389, N=14)

- II. 2045th SATELLITE COMMUNICATIONS GROUP PERSONNEL (GRP328, N=18)

- III. QUALITY CONTROL PERSONNEL (GRP117, N=121)
 - a. Senior Quality Control Personnel (GRP510, N=60)
 - b. HQ Level Quality Control Personnel (GRP513, N=18)
 - c. Junior Quality Control Personnel (GRP289, N=10)
 - d. E&I Quality Control Personnel (GRP260, N=10)

- IV. FIRSTLINE MAINTENANCE SUPERVISORS (GRP393, N=148)
 - a. Ground Radio Firstline Supervisors (GRP559, N=65)
 - b. Wideband Firstline Supervisors (GRP591, N=49)
 - c. Mobility Firstline Supervisors (GRP860, N=15)

- V. RADIO MAINTENANCE SUPERVISORS (GRP650, N=160)
 - a. Site Superintendents (GRP871, N=19)
 - b. Workcenter Supervisors (GRP830, N=130)

- VI. RESIDENT TRAINING SUPERVISORS (GRP711, N=10)

- VII. TOOL CRIB SUPERVISORS (GRP442, N=12)

- VIII. SATELLITE COMMUNICATIONS (SATCOM) CREW CHIEFS (GRP466, N=15)

- IX. RESIDENT TECHNICAL SCHOOL INSTRUCTORS (GRP243, N=77)

- X. INSTRUCTORS AND MAINTENANCE PERSONNEL (GRP227, N=19)

- XI. JOB CONTROLLERS (GRP491, N=58)

The DAFSC 304X6 respondents forming these job types and clusters account for 74 percent of the 304X6 survey sample. The remaining 26 percent did not group with any of the clusters or job types described above. Some of the titles held by the remaining 26 percent include: AFSATCOM Ground Maintenance, Space Comm System Equipment Operator, Space Communications Technician, Aerospace Communications, and Student. These personnel did not group with any cluster or job type because of either the unique job they perform or in the manner in which they perceive their job.

Overview

Generally, the career ladder is fairly heterogeneous, with a variety of space communications systems maintenance, operations, administrative, and supervisory type jobs being performed by 304X6 personnel. However, these jobs can be roughly divided into two general functional areas. The first functional area includes all those 304X6 personnel who are performing the various technical aspects of space communications systems operations or maintenance. This functional area includes only two major job groups, but the combined personnel of these two groups make up a majority of the 304X6 personnel sampled. These two major job groups include Space Communications Systems Personnel and 2045th Satellite Communications Group Personnel, and the key differentiating factor between these two major job groups is the differing amount of time spent on either space communications systems maintenance or operations duties.

The second functional area includes the remaining nine major job groups, in which most of these incumbents spend a majority of their job time on various aspects of training, supervision, or administrative type duties rather than on space communications systems operations or maintenance. Since most of these incumbents do not perform "hands-on" equipment operations or maintenance, the key differentiating factor for the personnel in these nine major job groups is the differing amounts of time spent on various supervisory, administrative, or training related tasks. In addition, it is important to note that most of the major job groups in this functional area are also comprised of substantial percentages of both DAFSC 304X0 and 304X4 personnel.

The data analyzed for this section is presented in two different ways. First, a brief narrative description of each cluster and independent job type is presented below. This narrative description is designed to give an overview for each of the major job groups identified. In addition to the overview, there are three types of tables at the end of this section which also provide pertinent data for each major job group. These tables can be particularly useful for gathering more in-depth information or for making quick comparisons between major job groups.

As stated earlier, there are three types of tables at the end of this section which provide information about each of the clusters and independent job types. These tables can help to identify differences in the types of work performed, equipment maintained, job satisfaction, etc. for each major job group. Tables 4 and 5 provide the relative percent time spent on duties, and can help to identify the maintenance, supervisory, or administrative functions that different groups concentrate on performing. For example, Table 4 reveals that 2045th SATCOM Group Personnel spend 24 percent of their job time performing satellite operations functions, while QC Personnel spend less than one percent of their job time performing the same duty. Tables 6 and 7 provide selected background information and helps to reveal equipment differences, TAFMS differences, and paygrade differences between major job groups. For example, Table 6 reveals that 55 percent of Space Communications Systems Personnel maintain the AN/FSC-78, while no 2045th SATCOM Group Personnel report maintaining the same piece of equipment. Finally, Tables 8 and 9 reveal job satisfaction differences for the personnel in the major job groups, and can be particularly useful in pointing out which

types of jobs have potential morale problems. An examination of these last two tables reveals that 2045th SATCOM Group Personnel and Job Controllers have somewhat lower job satisfaction indicators than the other major job groups identified.

Also included in this report are two appendices concerning the Space Communications Systems Equipment career ladder structure. Appendix A lists various duty, background, and job satisfaction information about the job types identified within each of the clusters reported in this section, as well as providing a brief narrative description for the job types identified. Appendix B lists common tasks performed by the personnel in each major job group, and when used in conjunction with the data presented in this section, they can provide additional insight about the type of work personnel in a particular job perform.

I. SPACE COMMUNICATIONS SYSTEMS PERSONNEL (GRP234). This cluster of 163 personnel is responsible for maintaining and operating various types of Defense Satellite Communications System (DSCS), Air Force Satellite Communications System (AFSATCOM), Tactical Satellite Communications System (TACSATCOM), and Ground Mobile Forces (GMF) earth terminals. This involves calculating orbital and timing parameters, establishing communications links with distant earth terminals via satellite, and maintaining and modifying earth terminal equipment. Typical tasks performed by these incumbents include:

- perform periodic maintenance inspections (PMI) on tracking systems
- configure patch panels for digital operations
- establish orderwire contact for distant terminals
- bleed or pressurize systems
- perform tracking functions

Some of the more common types of equipment operated or maintained by these personnel are the fixed AN/FSC-78 and the mobile AN/MSC-46 DSCS terminals and the AN/GRC-188, which is a lightweight, transportable TACSATCOM terminal set. These incumbents perform a fairly difficult job (JDI equals 17.7) and 47 percent are located overseas. These respondents have fairly average job satisfaction indicators with the exception of reenlistment intentions, with a somewhat above average 51 percent planning to reenlist.

II. 2045th SATELLITE COMMUNICATIONS GROUP PERSONNEL (GRP328). These 18 incumbents are primarily earth terminal operators at Brandwine AFS MD. These personnel operate the AN/GRC-189 TACSATCOM terminal, which is used with synchronous orbit communications satellites. It is interesting to note that these incumbents perform very few maintenance tasks other than those which involve general maintenance functions, such as cleaning work areas. Instead, these incumbents perform primarily operator tasks, such as:

- establish communications links through spacecraft
- schedule satellite users
- review mission data for premission setups
- perform tracking functions
- perform acquisition functions

These incumbents are fairly junior, with 56 percent holding the 3-skill level and 89 percent still in their first enlistment. An examination of job satisfaction data for these incumbents reveals these personnel have among the poorest satisfaction indicators of all major job groups. Only 28 percent of these incumbents feel their training is being utilized at least fairly well and only 11 percent plan to reenlist.

III. QUALITY CONTROL PERSONNEL (GRP117). This is a major job group with notable percentages of personnel from all three specialties represented. As the title indicates, the personnel in this cluster are responsible for performing the quality control functions at their assigned locations. Consequently, these incumbents spend very little job time performing radio maintenance or operations, but instead evaluate the various aspects of radio maintenance and operations. The tasks commonly performed by these incumbents are primarily evaluative in nature and include:

- evaluate compliance with performance standards
- evaluate capability of equipment
- evaluate inspection reports or procedures
- schedule inspections
- prepare deficiency reports

Somewhat expectedly, these incumbents are fairly senior, averaging 170 months TAFMS and 73 percent hold DAFSC 30470, 30474, or 30476. A review of job satisfaction data for these incumbents reveals 72 percent perceive their job as interesting and 55 percent plan to reenlist.

IV. FIRSTLINE MAINTENANCE SUPERVISORS (GRP393). This cluster of 143 incumbents is also made up of personnel from all three specialties. These personnel appear to be the immediate supervisors at a variety of radio maintenance facilities, and seem to divide their time between supervisory and maintenance functions. Most of these respondents are either senior 5-skill level or 7-skill level personnel who either do not have enough seniority to perform only supervisory functions, or due to manning problems at the site, still must perform maintenance duties to insure optimum mission capabilities. Many of the tasks these incumbents perform are training related, such as:

- conduct OJT
- maintain training records, charts or graphs
- conduct proficiency training
- establish performance standards for subordinates
- adjust automatic gain control (AGC) components

These personnel supervise an average of four people, and perform a fairly difficult job (JDI equals 18.9). These personnel appear to be fairly happy with their job, with 81 percent perceiving their training is utilized at least fairly well and 61 percent plan to reenlist.

V. RADIO MAINTENANCE SUPERVISORS (GRP650) This fairly large cluster of 160 respondents primarily holds DAFSC 304X4, but a notable percentage of DAFSC 304X6 and 304X0 personnel can also be found in this major job group. These incumbents are the middle level supervisors and managers at various ground radio, radio relay, and satellite communications sites located worldwide. Since these incumbents are middle level supervisors,

they spend most of their job time performing supervisory functions and very little time on radio maintenance or operations. Typical tasks performed by these senior NCOs include:

- interpret policies, procedures, or directives for subordinates
- prepare APRs
- determine requirements for space, personnel, equipment or supplies
- schedule leaves or passes
- plan work assignments

As stated earlier, the personnel performing this job are fairly senior, averaging 208 months TAFMS and having an average paygrade of E-6 or E-7. These respondents have somewhat above average job satisfaction indicators, with 80 percent finding their job interesting and 86 percent perceiving their talents are utilized at least fairly well.

VI. RESIDENT TRAINING SUPERVISORS (GRP711). The ten personnel in this independent job type are among the most senior of all major job groups, averaging 219 months TAFMS and having an average paygrade of E-7. These incumbents are the course supervisors of many of the various 304X0, 304X4, and 304X6 courses taught at Keesler AFB MS, and in many cases are also conducting resident course classroom training. Typical tasks performed by these incumbents include:

- evaluate training methods or techniques
- assign resident course instructors
- conduct resident course classroom training
- evaluate progress of students
- schedule leaves or passes

As expected, very few of these incumbents report maintaining any type of radio equipment, but instead supervise the personnel who instruct resident technical school students on the techniques and principles used to maintain various types of radio equipment. Job satisfaction data reveals these incumbents are fairly satisfied with their job, with 80 percent finding their job interesting and 40 percent planning to reenlist.

VII. TOOL CRIB SUPERVISORS (GRP442). Seventy-five percent of the 12 personnel in this independent job type are assigned overseas. These incumbents do not maintain radio equipment, but instead supervise the tool and supply functions at various radio maintenance facilities. Typical tasks performed by these incumbents include:

- prepare requisitions for parts, tools, or supplies
- direct supply functions or tool crib operations
- maintain tool cribs
- research supply catalogs
- maintain historical records

Forty-one percent of these incumbents hold DAFSC 304X0, 34 percent hold DAFSC 304X4, and 17 percent hold DAFSC 304X6. These respondents are fairly senior, averaging 187 months TAFMS and having an average paygrade of E-6. A review of job satisfaction data reveals that while a somewhat lower than average percentage of these incumbents find their job interesting (66 percent), a fairly high percentage of personnel plan to reenlist (75 percent).

VIII. SATELLITE COMMUNICATIONS (SATCOM) CREW CHIEFS (GRP466). All of the 15 personnel in this independent job type hold DAFSC 304X6, with 73 percent holding the 7-skill level. These incumbents seem to be the firstline supervisors at various DSCS, AFSATCOM, and TACSATCOM locations, but the majority appear to be working at DSCS sites. Being firstline supervisors, these personnel are responsible not only for earth terminal maintenance and operation functions, but also for conducting OJT at their respective sites. Typical tasks performed by a majority of the personnel in this major job group include:

- counsel trainees on training progress
- direct operational crew activities
- direct maintenance crew activities
- determine work priorities
- conduct upgrade training

Only 27 percent of these incumbents are located overseas and these personnel report supervising an average of seven people. Overall, job satisfaction for these personnel appears to be about average, with only 67 percent perceiving their talents are utilized at least fairly well, but 53 percent report planning to reenlist.

IX RESIDENT TECHNICAL SCHOOL INSTRUCTORS (GRP243). This independent job type of 77 personnel consists of substantial percentages of personnel from all three specialties. These incumbents are primarily stationed at Keesler AFB MS and are responsible for conducting the various 304X0, 304X4, and 304X6 resident courses located there. Almost all of the tasks these incumbents perform are training related, and include:

- score tests
- conduct resident course classroom training
- counsel trainees on training progress
- conduct remedial training
- procure training aids, space, or equipment

Twenty-two percent of these personnel are in their first enlistment. In addition, examination of job satisfaction data reveals these incumbents are fairly satisfied, with 76 percent finding their job interesting and 60 percent planning to reenlist.

X. INSTRUCTORS AND MAINTENANCE PERSONNEL (GRP227). This independent job type of 19 personnel is primarily made up of 304X6 instructors, but notable percentages of DAFSC 304X0 and 304X4 personnel are also in this major job group. These incumbents perform a job very similar to Resident Technical School Instructors described earlier, in that both major job groups are responsible for conducting resident course classroom training. However, these incumbents differ from the previous major job group in that they perform approximately three times more tasks, most of which are maintenance oriented. Representative tasks performed by these respondents include:

- conduct remedial training
- evaluate training methods or techniques
- read meters to determine equipment operation or signal quality
- conduct resident course classroom training
- configure patch panels for analog operations

These incumbents are fairly senior, averaging 129 months TAFMS and only 21 percent are in their first enlistment. Overall, this is one of the most satisfied of all major job groups, with 95 percent of these personnel perceiving their job utilizes their talents at least fairly well and 89 percent perceiving their training is being utilized at least fairly well.

XI. JOB CONTROLLERS (GRP491). This independent job type of 58 personnel performs the lowest average number of tasks of all major job groups (12), most of which involve administrative functions. These incumbents perform the job control functions at various radio sites throughout the world. This job primarily involves monitoring the status of radio equipment and coordinating with the proper maintenance personnel to fix any equipment problems that may occur. Typical tasks performed by these respondents include:

- maintain status boards and charts
- compile maintenance data
- prepare status reports
- determine work priorities
- coordinate work activities with other units or agencies

Fifty percent of these personnel hold DAFSC 304X4, and 37 percent hold DAFSC 304X0. A review of job satisfaction data reveals these incumbents are fairly dissatisfied with their job, with only 21 percent perceiving their training is utilized at least fairly well, and only 48 percent perceive their talents are utilized at least fairly well.

Summary

The 304X6 specialty is fairly heterogeneous, with a wide variety of jobs being performed by Space Communications Systems Equipment personnel. These jobs range from primarily maintenance functions to operations duties and finally to jobs which involve administrative or supervisory duties. However, these jobs can be divided into two functional areas, with the first area comprising a majority of the 304X6 sample. This functional area involves the two major job groups, Space Communications Systems Personnel and 2045th SATCOM Group Personnel, who are spending a majority of their job time primarily performing earth terminal operations or maintenance duties. The second functional area involves the remaining nine major job groups, and these groups all tend to concentrate on performing supervisory, administrative, or training type duties. It is important to note that substantial percentages of DAFSC 304X0 and 304X4 personnel are found in many of the major job groups in this functional area.

It is interesting to note that job satisfaction data varies greatly across the major job groups identified. Firstline Maintenance Supervisors, Radio Maintenance Supervisors, and Instructors and Maintenance Personnel appear to be among the most satisfied of the eleven major job groups identified. Job Controllers and 2045th SATCOM Group Personnel appear to be the most dissatisfied of all major job groups, with low percentages of the personnel in both of these major job groups finding their job interesting or planning to reenlist. Management needs to be aware of these jobs with low job satisfaction and try to find ways to improve them.

TABLE 4

RELATIVE PERCENT TIME SPENT ON DUTIES BY MAJOR JOB GROUPS

DUTIES	SPACE	2045th	QC	FIRSTLINE	RADIO	RES
	COMM SYS PERS (GRP234, N=163)	SAICOM GROUP PERS (GRP328, N=18)	PERS (GRP117, N=121)	MAINT SUPVs (GRP393, N=148)	MAINT SUPVs (GRP650, N=160)	TNG SUPVs (GRP711, N=10)
ORGANIZING AND PLANNING	2	1	16	9	21	17
DIRECTING AND IMPLEMENTING	4	1	12	10	20	21
INSPECTING AND EVALUATING	2	*	31	7	19	15
TRAINING	4	3	7	9	13	37
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	2	?	16	8	9	4
PERFORMING SUPPLY FUNCTIONS	2	2	5	6	7	3
PERFORMING EQUIPMENT OPERATION FUNCTIONS	14	26	2	5	1	*
PERFORMING SATELLITE OPERATION FUNCTIONS	3	24	*	*	*	*
PERFORMING GENERAL MAINTENANCE FUNCTIONS	11	17	3	9	3	*
MAINTAINING ANTENNA SYSTEMS	4	1	*	1	*	*
MAINTAINING RECEIVERS TO INCLUDE RECEIVE PORTION OF TRANSCEIVERS	7	3	*	9	1	*
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	11	3	*	7	1	*
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	5	*	*	3	*	*
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	1	*	*	*	*	*
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	1	2	*	*	*	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	*	*	*	2	*	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*	*	*
MAINTAINING MODEMS	3	2	*	*	*	*
MAINTAINING TRACKING SYSTEMS	7	1	*	*	*	*
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	*	*	*
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	11	2	*	8	*	*
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	1	*	1	1	*	*
PERFORMING SUPPORT FUNCTIONS	4	8	2	4	2	*

*DENOTES LESS THAN ONE PERCENT

TABLE 5

RELATIVE PERCENT TIME SPENT ON DUTIES BY MAJOR JOB GROUPS

DUTIES	TOOL CRIB SUPVs (GRP442, N=12)		SATCOM CREW CHIEFS (GRP466, N=15)		RES TECH SCHOOL INST (GRP243, N=77)		INST AND MAINT PERS (GRP227, N=19)		JOB CONTROL (GRP491, N=58)	
ORGANIZING AND PLANNING	13		13		3		5		28	
DIRECTING AND IMPLEMENTING	18		16		9		9		16	
INSPECTING AND EVALUATING	10		8		3		6		5	
TRAINING	7		18		69		35		5	
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	12		4		2		3		38	
PERFORMING SUPPLY FUNCTIONS	18		3		1		3		3	
PERFORMING EQUIPMENT OPERATION FUNCTIONS	3		10		*		11		*	
PERFORMING SATELLITE OPERATION FUNCTIONS	*		4		*		*		*	
PERFORMING GENERAL MAINTENANCE FUNCTIONS	8		6		2		7		*	
MAINTAINING ANTENNA SYSTEMS	*		*		*		*		*	
MAINTAINING RECEIVERS TO INCLUDE RECEIVE PORTION OF TRANSCIEVERS	*		1		1		6		*	
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCIEVERS	*		2		*		3		*	
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*		*		2		4		*	
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*		*		1		3		*	
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	*		*		*		*		*	
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	1		*		*		*		*	
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*		*		*		*		*	
MAINTAINING MODEMS	*		2		*		*		*	
MAINTAINING TRACKING SYSTEMS	*		4		*		*		*	
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*		*		*		*		*	
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	1		3		*		3		*	
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	3		*		*		*		*	
PERFORMING SUPPORT FUNCTIONS	6		2		*		1		4	

*DENOTES LESS THAN ONE PERCENT

TABLE 6

BACKGROUND INFORMATION FOR MAJOR JOB GROUPS

	SPACE		2045th		QC		FIRST-		RADIO		RES	
	COMM	SATCOM	SATCOM	GROUP	PERS	PERS	MAINT	SUPVs	MAINT	SUPVs	TNG	SUPVs
AVERAGE NUMBER OF TASKS PERFORMED:	141	42	8.0	10.8	38	164	18.9	83	50	12.2		
JOB DIFFICULTY INDEX:	17.7	8.0	10.8					14.0				
AVERAGE PAYGRADE:	E-4	E-3/E-4	E-6	E-5/E-6	E-6	E-5/E-6	E-6/E-7	E-6/E-7				
PERCENT LOCATED OVERSEAS:	47%	-	38%	58%	38%	58%	48%					
DAFSC												
30436	24%	56%	-	-	-	-	2%	2%	-	-	-	-
30456	61%	44%	2%	3%	2%	3%	2%	2%	10%	10%	10%	10%
30476	15%	-	4%	2%	4%	2%	6%	6%	10%	10%	20%	20%
304X0	-	-	-	27%	27%	46%	22%	22%	20%	20%	50%	50%
304X4	-	-	-	65%	65%	49%	64%	64%	50%	50%	10%	10%
OTHER	-	-	-	2%	2%	-	4%	4%	-	-	-	-
AVERAGE NUMBER OF PERSONNEL SUPERVISED:	1	-	1	4	1	4	6	10				
AVERAGE MONTHS TAFMS:	78	30	170	149	170	149	208	219				
PERCENT IN FIRST ENLISTMENT:	46%	89%	5%	5%	5%	5%	-	-				
PERCENT MAINTAINING/OPERATING THE FOLLOWING EQUIPMENT:												
AN/FSC-78	55%	-	3%	-	3%	-	5%	-				
AN/HSC-46	26%	-	-	-	-	-	2%	-				
AN/FSC-54	9%	-	-	-	-	-	-	-				
AN/TSC-88	7%	-	-	1%	-	1%	-	-				
AN/TSC-101	-	-	-	-	-	-	-	-				
AN/TSC-102	-	-	-	-	-	-	-	-				
AN/GRC-188	11%	-	-	1%	-	1%	-	-				
AN/GRC-189	-	-	-	-	-	-	-	-				
AN/GRC-190	-	100%	-	-	-	-	-	-				
AN/TSC-96	-	17%	-	-	-	-	-	-				
AN/TSC-94	11%	-	3%	3%	3%	3%	-	-				
AN/TSC-100	-	-	-	-	-	-	-	-				
AN/FCC-98 (DIGITAL)	53%	6%	-	2%	-	2%	6%	6%				
AN/UCC-4	33%	6%	-	8%	-	8%	5%	5%				

TABLE 7

BACKGROUND INFORMATION FOR MAJOR JOB GROUPS

	TOOL CRIB SUPVs	SATCOM CREW CHIEFS	RES TECH SCHOOL INST	INST AND MAINT PERS	JOB CONTROL
AVERAGE NUMBER OF TASKS PERFORMED:	56	78	18	63	12
JOB DIFFICULTY INDEX:	9.3	13.6	7.6	12.3	5.5
AVERAGE PAYGRADE:	E-6	E-6	E-5	E-5	E-4
PERCENT LOCATED OVERSEAS:	75%	27%	3%	11%	33%
DAFSC	-	-	-	-	-
30436	17%	27%	10%	16%	3%
30456	-	73%	6%	32%	5%
30476	41%	-	33%	31%	37%
304X0	34%	-	51%	21%	50%
304X4	8%	-	-	-	5%
OTHER	-	-	-	-	-
AVERAGE NUMBER OF PERSONNEL SUPERVISED:	3	7	-	2	-
AVERAGE MONTHS TAFMS:	187	179	120	129	76
PERCENT IN FIRST ENLISTMENT:	8%	-	22%	21%	39%
PERCENT MAINTAINING/OPERATING THE FOLLOWING EQUIPMENT:					
AN/FSC-78	-	53%	1%	11%	2%
AN/MSC-46	8%	13%	3%	11%	-
AN/TSC-54	-	-	-	16%	2%
AN/TSC-88	-	13%	-	5%	2%
AN/TSC-101	-	-	-	-	-
AN/TSC-102	-	7%	-	-	-
AN/GRC-188	-	13%	-	-	-
AN/GRC-189	-	13%	-	5%	-
AN/GRC-190	-	-	-	5%	-
AN/TSC-86	-	7%	-	-	-
AN/TSC-94	-	13%	-	-	-
AN/TSC-100	-	-	-	-	-
AN/FCC-98 (DIGITAL)	-	47%	1%	16%	-
AN/UCC-4	8%	20%	4%	21%	2%

TABLE 8

JOB SATISFACTION AND RELATED DATA FOR MAJOR JOB GROUPS
(PERCENT MEMBERS RESPONDING)*

	SPACE			2045th			FIRST-			RADIO			RES		
	COMM	SYS	PERS	SATCOM	GROUP	PERS	LINE	MAINT	SUPVs	MAINT	SUPVs	TNG	SUPVs	SUPVs	
<u>I FIND MY JOB:</u>															
DULL	12			22			12			8					
SO-SO	10			17			9			12				20	
INTERESTING	76			61			78			80				80	
<u>MY JOB UTILIZES MY TALENTS:</u>															
NOT AT ALL TO VERY LITTLE	20			39			18			14				20	
FAIRLY WELL OR BETTER	80			61			81			86				80	
<u>MY JOB UTILIZES MY TRAINING:</u>															
NOT AT ALL TO VERY LITTLE	20			72			18			22				20	
FAIRLY WELL OR BETTER	80			28			81			78				70	
<u>I PLAN TO REENLIST:</u>															
NO, PLANNING TO RETIRE	3			-			16			36				30	
NO OR PROBABLY NO	46			83			22			16				20	
YES OR PROBABLY YES	51			11			55			47				40	

*NOTE: COLUMNS MAY NOT ADD TO 100 PERCENT DUE TO "NO RESPONSE"

TABLE 9

JOB SATISFACTION AND RELATED DATA FOR MAJOR JOB GROUPS
(PERCENT MEMBERS RESPONDING)*

	<u>TOOL CRIB SUPVs</u>	<u>SATCOM CREW CHIEFS</u>	<u>RES TECH SCHOOL INST</u>	<u>INST AND MAINT PERS</u>	<u>JOB CONTROL</u>
<u>I FIND MY JOB:</u>					
DULL	17	7	13	5	24
SO-SO	17	27	8	16	17
INTERESTING	66	66	76	79	59
<u>MY JOB UTILIZES MY TALENTS:</u>					
NOT AT ALL TO VERY LITTLE	25	33	20	5	52
FAIRLY WELL OR BETTER	75	67	79	95	48
<u>MY JOB UTILIZES MY TRAINING:</u>					
NOT AT ALL TO VERY LITTLE	33	20	21	11	79
FAIRLY WELL OR BETTER	67	80	76	89	21
<u>I PLAN TO REENLIST:</u>					
NO, PLANNING TO RETIRE	25	40	10	11	3
NO OR PROBABLY NO	-	7	29	37	52
YES OR PROBABLY YES	75	53	60	52	45

*NOTE: COLUMNS MAY NOT ADD TO 100 PERCENT DUE TO "NO RESPONSE"

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups forms a part of each occupational analysis. This analysis should be used to help identify differences and similarities among skill level groups in the 304X6 specialty, and to note how the job performed by various skill level groups changes with increasing skill levels. This analysis can be particularly helpful by comparing the findings of the duties and tasks performed by 3-, 5-, and 7-skill level personnel with those described in various career ladder documents, such as the AFR 39-1 Specialty Descriptions and the 304X6 Specialty Training Standard (STS).

The DAFSC analysis of the 304X6 specialty will discuss the duties and tasks common to the 3-, 5-, and 7-skill level groups, as well as highlighting the tasks which best differentiate the incumbents holding each skill level.

Skill Level Comparisons

As in many career ladders, the job performed by 3-skill personnel is primarily technically oriented, with these incumbents spending very little time performing supervisory or administrative functions. These personnel report spending approximately 90 percent of their job time performing radio equipment maintenance or operator functions, with one duty, performing equipment operation functions, comprising 20 percent of their total job time (see Table 10). This appears to be realistic with the 304X6 career ladder structure, since most DAFSC 304X6 personnel can be found in jobs involving either earth terminal maintenance, such as Space Communications System Personnel or primarily satellite operations, such as the 2045th Satellite Communications Group Personnel (see Table 11). Table 12 lists those tasks which are performed by the highest percentages of 3-skill level respondents. These tasks primarily involve satellite earth terminal operation functions, and include configuring patch panels for analog operations, establishing orderwire contact with distant terminals, or performing alternate circuit routing at patch and test facilities.

At the 5-skill level, Table 10 reveals the percentage of time spent on duties changes somewhat, with approximately twice as much job time (22 percent) spent performing supervisory and training duties with a corresponding decrease in the amount of time spent performing equipment maintenance or operations functions. However, it is important to point out that 5-skill level personnel are still primarily performing a technical operator/maintainer type of job, and a majority of these personnel can be found in the same major job groups as 3-skill level incumbents. A review of the tasks performed by DAFSC 30456 personnel (Table 13) reveals many of the same operator oriented tasks that were reported for DAFSC 30436 personnel, such as performing switchovers of equipment subassemblies to redundant equipment, performing preoperational checks of equipment, or establishing communications links through spacecraft. Overall, there appears to be great similarity between DAFSC 30436 and 30456 personnel when examining both the tasks and jobs performed by high percentages of both skill level groups.

Even though the most common tasks performed by 3- and 5-skill level personnel are very similar, some differences do exist. Table 14 lists the tasks which best differentiate these two skill level groups, and reveals that several operator type tasks, such as configuring patch panels for analog operations or reading meters to determine equipment operation or signal quality are performed by somewhat higher percentages of DAFSC 30436 personnel. On the other hand, a higher percentage of DAFSC 30456 personnel perform earth terminal maintenance or supervisory tasks, such as isolating malfunctions in echo suppressors, performing system modifications, or conducting OJT.

The duties and tasks performed by 7-skill level personnel tends to indicate that these incumbents appear to be the firstline supervisors of the 340X6 career ladder, and spend approximately one-half of their job time performing supervisory duties and the remainder spent performing radio maintenance or operations duties (Table 10). However, an examination of the most common tasks performed by these incumbents reveals supervisory tasks, such as counseling personnel on personal or military matters, determining work priorities, or preparing APRs are performed by at least 50 percent of DAFSC 30476 personnel (see Table 15).

When comparing DAFSC 30456 and 30476 personnel, Table 10 reveals 7-skill level personnel spend substantially more job time performing supervisory duties and are found in more supervisory type jobs, such as Satellite Communications Crew Chiefs and Instructors and Maintenance Personnel (see Table 11). Table 16 lists the tasks which best differentiate 5- and 7-skill level incumbents. Earth terminal maintenance tasks, such as adjusting local oscillator components, performing PMIs on parabolic antennas, or performing PMIs on tracking systems are performed by somewhat higher percentages of DAFSC 30456 personnel. Somewhat expectedly, supervisory type tasks, such as preparing APRs, planning work assignments, or developing work methods or procedures are performed by substantially higher percentages of DAFSC 30476 personnel.

Summary

As expected, the amount of time spent by personnel in the 304X6 specialty performing supervisory type duties increases with increasing skill levels. Overall, the job performed by both 3- and 5-skill level personnel is fairly similar, with both groups spending a majority of their job time performing earth terminal maintenance or operations duties. However, 5-skill level personnel report spending approximately twice as much time on supervisory related duties than 3-skill level personnel. The similarities between the tasks and jobs performed by DAFSC 30456 and 30476 personnel are not as great as between DAFSC 30436 and 30456 personnel. Seven-skill level personnel appear to be firstline supervisors, and roughly divide their time equally between supervisory and technical duties, while DAFSC 30456 personnel spend most of their job time performing radio equipment maintenance and operations functions.

TABLE 10
RELATIVE PERCENT TIME SPENT ON DUTIES BY
304X6 SKILL LEVEL GROUPS

DUTIES	3-SKILL LEVEL PERSONNEL (N=82)	5-SKILL LEVEL PERSONNEL (N=187)	7-SKILL LEVEL PERSONNEL (N=92)
ORGANIZING AND PLANNING	3	4	12
DIRECTING AND IMPLEMENTING	4	6	12
INSPECTING AND EVALUATING	2	3	9
TRAINING	2	9	16
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	3	4	6
PERFORMING SUPPLY FUNCTIONS	2	3	4
PERFORMING EQUIPMENT OPERATION FUNCTIONS	20	14	8
PERFORMING SATELLITE OPERATION FUNCTIONS	5	4	5
PERFORMING GENERAL MAINTENANCE FUNCTIONS	11	10	5
MAINTAINING ANTENNA SYSTEMS	3	3	1
MAINTAINING RECEIVERS TO INCLUDE RECEIVE PORTION OF TRANSCEIVERS	6	5	4
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	4	4	2
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	2	2	*
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	2	1	*
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	*	*	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	*	*	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*
MAINTAINING MODEMS	4	3	1
MAINTAINING TRACKING SYSTEMS	5	4	3
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	9	7	4
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	*	1	*
PERFORMING SUPPORT FUNCTIONS	5	4	2

*DENOTES LESS THAN ONE PERCENT

TABLE 11
DAFSC DISTRIBUTION OF MAJOR JOB GROUPS

MAJOR JOB GROUPS	DAFSC			
	30436	30456	30476	OTHER*
SPACE COMMUNICATIONS SYSTEMS PERSONNEL	39	100	24	-
2045th SATCOM GROUP PERSONNEL	10	8	-	-
QUALITY CONTROL PERSONNEL	-	3	5	113
FIRSTLINE MAINTENANCE SUPERVISORS	-	5	3	140
RADIO MAINTENANCE SUPERVISORS	3	3	9	145
RESIDENT TRAINING SUPERVISORS	-	1	1	8
TOOL CRIB SUPERVISORS	-	2	-	10
SATCOM CREW CHIEFS	-	4	11	-
RESIDENT TECHNICAL SCHOOL INSTRUCTORS	-	8	5	64
INSTRUCTORS AND MAINTENANCE PERSONNEL	-	3	6	10
JOB CONTROLLERS	-	2	4	52
NOT GROUPED	<u>30</u>	<u>48</u>	<u>25</u>	
TOTAL	82	187	92	

*NOTE: THE "OTHER" COLUMN DOES NOT ADD DUE TO THE FACT THAT AFS 304X0 AND AFS 304X4 PERSONNEL ARE INCLUDED HERE

TABLE 12

REPRESENTATIVE TASKS PERFORMED BY DAFSC 30436 AIRMEN

TASKS	PERCENT MEMBERS PERFORMING (N=82)
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	89
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	84
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	83
G155 OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	73
G163 PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	70
W836 CLEAN MAINTENANCE WORK AREAS	67
G146 CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	62
G162 PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	62
G147 CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	62
I206 PERFORM CORROSION CONTROL	57
G152 ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	56
K279 ADJUST PARAMETRIC OR LOW NOISE AMPLIFIER COMPONENTS	55
G159 PERFORM CIRCUIT FAULT ISOLATION PROCEDURES AT PATCH AND TEST FACILITIES	54
I219 REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	54
G148 CONFIGURE PATCH PANELS FOR RADIO FREQUENCY (RF) OPERATIONS	51
G157 PERFORM ALTERNATE CIRCUIT ROUTING AT PATCH AND TEST FACILITIES	51
I191 CONSTRUCT SHOP CABLES OR TEST PLUGS	51
K274 ADJUST DOWN CONVERTER COMPONENTS	50
I192 CRATE OR UNCRATE COMPONENTS OR MODULES	49
I195 INSPECT SAFETY OF EQUIPMENT	48
G149 CONFIGURE PATCH PANELS FOR SPECIAL TEST OPERATIONS	48
S618 ADJUST TRACKING RECEIVER COMPONENTS	48
H178 PERFORM TRACKING FUNCTIONS	46
K273 ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	46
I196 INSTALL OR REMOVE MOUNTING HARDWARE	45
I220 REMOVE OR REPLACE MECHANICAL COMPONENTS	45
H173 ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	44
S630 PERFORM PMIs ON TRACKING SYSTEMS	44
L349 ADJUST LIQUID COOLING SYSTEM COMPONENTS	44
S617 ADJUST TRACKING DOWN CONVERTER COMPONENTS	44
E120 MAKE ENTRIES ON MAINTENANCE FORMS	41

TABLE 13

REPRESENTATIVE TASKS PERFORMED BY DAFSC 30456 AIRMEN

TASKS	PERCENT MEMBERS PERFORMING (N=187)
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	78
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	76
G163 PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	73
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	69
G162 PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	67
G155 OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	64
I206 PERFORM CORROSION CONTROL	61
I219 REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	61
I191 CONSTRUCT SHOP CABLES OR TEST PLUGS	59
G152 ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	56
K279 ADJUST PARAMETRIC OR LOW NOISE AMPLIFIER COMPONENTS	55
H173 ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	53
I220 REMOVE OR REPLACE MECHANICAL COMPONENTS	53
G147 CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	52
E120 MAKE ENTRIES ON MAINTENANCE FORMS	52
D89 CONDUCT OJT	51
K274 ADJUST DOWN CONVERTER COMPONENTS	51
I195 INSPECT SAFETY OF EQUIPMENT	50
H178 PERFORM TRACKING FUNCTIONS	50
S630 PERFORM PMIs ON TRACKING SYSTEMS	50
I208 PERFORM SYSTEM MODIFICATIONS	50
I221 REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	50
I192 CRATE OR UNCRATE COMPONENTS OR MODULES	50
G149 CONFIGURE PATCH PANELS FOR SPECIAL TEST OPERATIONS	50
F141 PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	49
H176 PERFORM ACQUISITION FUNCTIONS	49
B46 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	48
I183 BLEED OR PRESSURIZE SYSTEMS	48
I215 REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	48
G159 PERFORM CIRCUIT FAULT ISOLATION PROCEDURES AT PATCH AND TEST FACILITIES	47
S617 ADJUST TRACKING DOWN CONVERTER COMPONENTS	47

TABLE 14

REPRESENTATIVE TASKS WHICH BEST DIFFERENTIATE DAFSC 30436
AND 30456 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 30436 PERSONNEL (N=92)	DAFSC 30456 PERSONNEL (N=187)	DIFFERENCE
CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	62	43	+19
OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	83	69	+14
READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	89	76	+13
PERFORM ALTERNATE CIRCUIT ROUTING AT PATCH AND TEST FACILITIES	51	40	+11
MAINTAIN CODE LISTS	10	20	-10
ISOLATE MALFUNCTIONS IN SOLID STATE FM MODULATORS	9	19	-10
ADJUST GROUP OR LEVEL REGULATOR COMPONENTS	15	26	-11
WRITE TEST QUESTIONS	-	11	-11
ISOLATE MALFUNCTIONS IN TWO WIRE/FOUR WIRE CONVERSION AND TERMINATION CIRCUITS	7	19	-12
ALIGN FM SHF TRANSMITTERS, EXCITERS, OR UP CONVERTERS	16	28	-12
ISOLATE MALFUNCTIONS IN LIQUID COOLING SYSTEMS	24	37	-13
SECURE CLASSIFIED MATERIALS	24	38	-14
COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	27	41	-14
ISOLATE MALFUNCTIONS IN ECHO SUPPRESSORS	7	22	-15
MAINTAIN STATUS BOARDS OR CHARTS	21	37	-16
SUPERVISE SPACE COMMUNICATION SYSTEMS EQUIPMENT OPERATOR/SPECIALIST (AFSC 30456)	20	36	-16
DIRECT MAINTENANCE CREW ACTIVITIES	9	27	-18
DETERMINE WORK PRIORITIES	18	38	-20
PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	29	49	-20
PERFORM SYSTEM MODIFICATIONS	29	50	-21
CONDUCT UPGRADE TRAINING	15	37	-22
CONDUCT PROFICIENCY TRAINING	11	35	-24
CONDUCT OJT	23	51	-28

TABLE 15

REPRESENTATIVE TASKS PERFORMED BY DAFSC 30476 AIRMEN

TASKS	PERCENT MEMBERS PERFORMING (N=92)
B29 COUNSEL PERSONNEL ON PERSONEL OR MILITARY RELATED PROBLEMS	70
D96 COUNSEL TRAINEES ON TRAINING PROGRESS	63
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	62
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	61
A5 DETERMINE WORK PRIORITIES	61
C82 PREPARE APRs	61
D97 DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	58
A19 PLAN WORK ASSIGNMENTS	57
G155 OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	57
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	57
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	55
A7 DEVELOP WORK METHODS OR PROCEDURES	54
B51 SUPERVISE APPRENTICE SPACE COMMUNICATIONS SYSTEMS EQUIPMENT OPERATOR/SPECIALISTS (AFSC 30436)	53
B45 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	53
D89 CONDUCT OJT	52
G162 PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	51
D107 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	50
B58 SUPERVISE SPACE COMMUNICATIONS SYSTEMS EQUIPMENT OPERATOR/SPECIALISTS (AFSC 30456)	50
D91 CONDUCT PROFICIENCY TRAINING	50
G163 PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	49
B60 WRITE CORRESPONDENCE	47
D95 CONDUCT UPGRADE TRAINING	47
I195 INSPECT SAFETY OF EQUIPMENT	47
C64 EVALUATE CAPABILITY OF EQUIPMENT	46
I207 PERFORM SAFETY INSPECTIONS	46
A25 SCHEDULE LEAVES OR PASSES	46
G146 CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	45
C66 EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	43
G147 CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	43
E117 MAINTAIN STATUS BOARDS OR CHARTS	42

TABLE 16

REPRESENTATIVE TASKS WHICH BEST DIFFERENTIATE DAFSC 30456
AND 30476 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 30456 PERSONNEL (N=187)	DAFSC 30476 PERSONNEL (N=92)	DIFFERENCE
CLEAN MAINTAINCE WORK AREAS	65	24	+41
REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	61	34	+27
PERFORM CORROSION CONTROL	61	38	+23
ADJUST LOCAL OSCILLATOR COMPONENTS	35	12	+23
ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	45	23	+22
PERFORM PMIs ON PARABOLIC ANTENNAS	40	18	+22
REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	50	29	+21
ADJUST CARRIER LEVEL DETECTOR COMPONENTS	35	15	+20
ISOLATE MALFUNCTIONS IN SATELLITE TRACKING ANTENNA ROTATING EQUIPMENT	44	25	+19
MAKE ENTRIES ON MAINTENANCE FORMS	52	34	+18
PERFORM PMIs ON TRACKING SYSTEMS	50	32	+18
PERFORM PMIs ON ATOMIC FREQUENCY STANDARDS	36	19	+17
ISOLATE MALFUNCTIONS IN DIGITAL TO BPSK MODEMS	40	23	+17
PLAN BRIEFINGS	11	33	-22
SCHEDULE USE OF EQUIPMENT	14	37	-23
DETERMINE WORK PRIORITIES	38	61	-23
ANALYZE WORKLOAD REQUIREMENTS	8	32	-24
INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	28	53	-25
SUPERVISE SPACE COMMUNICATIONS SYSTEMS EQUIPMENT OPERATOR/TECHNICIANS (AFSC 30476)	5	30	-25
ASSIGN PERSONNEL TO DUTY POSITIONS	14	39	-25
INDORSE AIRMAN PERFORMANCE REPORTS (APR)	8	34	-26
COUNSEL TRAINEES ON TRAINING PROGRESS	34	63	-29
WRITE CORRESPONDENCE	16	47	-31
SCHEDULE LEAVES OR PASSES	13	45	-32
PREPARE APRs	28	61	-33
DEVELOP WORK METHODS OR PROCEDURES	21	54	-33
PLAN WORK ASSIGNMENTS	22	56	-34
COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	33	69	-36

ANALYSIS OF EXPERIENCE (TAFMS) GROUPS

In addition to the skill level analysis, survey respondents were also examined on the basis of months of Total Active Federal Military Service (TAFMS). This analysis can help to determine how jobs and job perceptions change over time, and also to describe the types of jobs and tasks more junior personnel can look forward to performing in the future. Also included in this section is an in-depth analysis of 304X6 first enlistment (1-48 months TAFMS) personnel, which examines the types of tasks performed, equipment maintained, test equipment used, and most common jobs performed by these personnel.

Table 17 presents the relative time spent on duties by six different TAFMS groups, and reveals the different types of earth terminal functions personnel in each TAFMS group concentrate on performing. As expected, no major deviations from the usual pattern of increasing time spent on supervisory duties with increasing months TAFMS were noted. Generally, more junior airmen spend more time performing technical earth terminal operations or maintenance functions, such as performing equipment operation functions, performing general maintenance functions, or maintaining transmitters to include transmit portion of transceivers, while senior incumbents spend more time on directing and implementing or organizing and planning type duties.

Background Analysis

In addition to examining the duty changes that occur in the 304X6 specialty as TAFMS increases, changes in the equipment maintained or operated, the number of tasks performed, and the other background data changes can also be noted. Table 18 presents nine different types of background data for first-term (1-48 months TAFMS), second-term (49-96 months TAFMS), and career (97+ months TAFMS) 304X6 personnel. Several interesting trends can be noted in Table 18, one of which is the average number of tasks performed. DAFSC 304X6 second enlistment personnel perform the highest average number of tasks (122), and also report the highest percentages of personnel maintaining the three types of DSCS terminals when compared to the other two TAFMS groups. In addition, it is interesting to note the shift in the percentage of personnel entering the specialty through retraining or resident technical school. Junior incumbents are much more likely to enter the career ladder by attending resident technical school training, while an increasing percentage of more senior personnel entered the 304X6 specialty through retraining from another Air Force specialty.

Job Satisfaction Analysis

Job satisfaction indices for personnel in the three TAFMS groups described above (1-48, 49-96, 97+ months) were also examined. Job interest, perceived utilization of talents or training, and reenlistment intentions are presented in Table 19, along with the comparative sample for personnel from all related career ladders analyzed in 1980. (These comparative sample career ladders include ones from the 30XXX, 32XXX, and 42XXX career fields).

When compared to the comparative sample, 304X6 first-termers appear to be somewhat more satisfied with their job than comparative sample first termers, with slightly higher percentages of 304X6 personnel finding their job interesting, planning to reenlist, etc. The same trend can also be noted for second-termers, with slightly higher percentages of 304X6 personnel finding their job interesting or perceiving their job utilizes their talents or training. However, an examination of career personnel reveals that somewhat lower percentages of 304X6 personnel are satisfied with their job than comparative sample career personnel.

First Enlistment Personnel

Since various issues (primarily training) play such a key role for first enlistment personnel, these incumbents were additionally examined on the basis of the most common tasks and jobs performed and the most common types of test equipment used. Table 20 lists the most common tasks performed by 304X6 first-termers (1-48 months TAFMS). Generally, these most common tasks involve some technical aspect of earth terminal operations or maintenance, such as performing corrosion control, configuring patch panels for digital operations, adjusting parametric or low noise amplifier components, or establishing communications links through spacecraft.

Although the tasks listed in Table 20 are characteristic of most first-term personnel, other functions performed by these incumbents vary somewhat depending on the job they perform. Figure 2 presents the distribution of 304X6 first-term personnel across the job groups identified in the career ladder structure section. As expected, a substantial percentage of 304X6 first enlistment personnel are identified in either the Space Communications Systems Personnel or the 2045th Satellite Communications Group Personnel major job groups. Tasks which are typically performed by first-termers in the major groups listed above include:

Satellite Communications Systems Personnel

- configure patch panels for digital operations
- perform preoperational checks of equipment
- adjust down converter components
- adjust parametric or low noise amplifier components

2045th Satellite Communications Group Personnel

- establish communications links through spacecraft
- perform acquisitions functions
- perform tracking functions

In addition to the analysis of tasks, various types of test equipment utilized by first-termers were examined. Table 21 reveals that test equipment such as spectrum analyzers, oscilloscopes, multimeters, and bit error rate test sets are utilized by fairly high percentages of 304X6 first enlistment personnel. Table 21 also reveals that test equipment, such as flutter meters, circuit board testers, tube testers, and Leisk analyzers are among the types of test equipment utilized by low percentages of 304X6 first-termers, and probably should not be included into the curriculum of any formal 304X6 training.

TABLE 17

RELATIVE PERCENT TIME SPENT ON DUTIES BY 304X6 TAFMS GROUPS

DUTIES	TAFMS						
	1-48 MOS (N=147)	49- 96 MOS (N=50)	97- 144 MOS (N=60)	145- 192 MOS (N=54)	193- 240 MOS (N=39)	241+ MOS (N=10)	
ORGANIZING AND PLANNING	2	5	7	9	14	16	
DIRECTING AND IMPLEMENTING	3	5	8	11	15	14	
INSPECTING AND EVALUATING	*	4	5	8	11	15	
TRAINING	6	6	8	18	17	9	
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	4	4	4	7	6	9	
PERFORMING SUPPLY FUNCTIONS	3	3	3	4	4	2	
PERFORMING EQUIPMENT OPERATION FUNCTIONS	18	13	12	10	7	7	
PERFORMING SATELLITE OPERATION FUNCTIONS	6	3	3	4	3	5	
PERFORMING GENERAL MAINTENANCE FUNCTIONS	12	10	9	6	4	2	
MAINTAINING ANTENNA SYSTEMS	3	3	2	1	1	1	
MAINTAINING RECEIVERS TO INCLUDE RECEIVE PORTION OF TRANSCEIVERS	6	6	5	3	3	2	
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	8	8	7	4	4	3	
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	4	4	4	3	1	*	
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	2	1	1	*	*	*	
MAINTAINING COMMUNICATIONS OR CONTROL CONSOLES	2	1	2	*	*	*	
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	*	*	*	*	*	*	
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*	*	*	
MAINTAINING MODEMS	3	3	3	2	*	7	
MAINTAINING TRACKING SYSTEMS	5	5	4	4	1	2	
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	*	*	*	
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	8	8	8	4	2	3	
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	1	1	1	*	*	*	
PERFORMING SUPPORT FUNCTIONS	5	4	3	2	1	*	

*DENOTES LESS THAN ONE PERCENT

TABLE 18

BACKGROUND INFORMATION FOR DAFSC 304X6
FIRST-TERM, SECOND-TERM, AND CAREER PERSONNEL

	1-48 MOS TAFMS PERSONNEL (N=147)	49-96 MOS TAFMS PERSONNEL (N=50)	97+ MOS TAFMS PERSONNEL (N=168)
AVERAGE NUMBER OF TASKS PERFORMED:	92	122	101
AVERAGE NUMBER OF PERSONNEL SUPERVISED:	-	1	3
PERCENT LOCATED OVERSEAS:	43%	40%	33%
PERCENT MAINTAINING EQUIPMENT UTILIZING MICROPROCESSOR TECHNOLOGY:	44%	40%	43%
<hr/>			
PERCENT ENTERING CAREER LADDER THROUGH RESIDENT TRAINING:	82%	48%	15%
PERCENT ENTERING CAREER LADDER THROUGH RETRAINING:	1%	30%	76%
PERCENT COMPLETING AT LEAST ONE OVERSEAS REMOTE TOUR:	4%	12%	36%
<hr/>			
PERCENT OPERATING/MAINTAINING THE FOLLOWING TYPES OF TERMINALS:			
DSCS TERMINALS			
AN/FSC-78	34%	42%	46%
AN/MSC-46	18%	20%	14%
AN/TSC-54	8%	14%	6%
AFSATCOM TERMINALS			
AN/TSC-88	13%	12%	8%
AN/TSC-101	-	2%	1%
TACSATCOM TERMINALS			
AN/GRC-188	10%	6%	8%
AN/GRC-189	13%	8%	4%
AN/GRC-190	5%	4%	2%
GROUND MOBILE SUPPORT TERMINALS			
AN/TSC-94	11%	10%	7%
<hr/>			
PERCENT MAINTAINING THE FOLLOWING TYPES OF MULTIPLEX EQUIPMENT:			
AN/FCC-58	1%	2%	-
AN/FCC-98 (DIGITAL)	40%	32%	36%
AN/UCC-4	29%	28%	19%
OTHER	18%	22%	20%

TABLE 19

JOB SATISFACTION AND RELATED DATA FOR 304X6 FIRST-TERM, SECOND-TERM, CAREER, AND COMPARATIVE SAMPLE PERSONNEL*
(PERCENT MEMBERS RESPONDING)**

	MONTHS TAFMS					
	1-48		49-96		97+	
	304X6 (N=147)	1980 COMP* SAMPLE (N=1,374)	304X6 (N=50)	1980 COMP* SAMPLE (N=853)	304X6 (N=163)	1980 COMP* SAMPLE (N=1,426)
<u>I FIND MY JOB:</u>						
DULL	18	24	14	17	15	14
SO-SO	12	20	12	22	20	16
INTERESTING	68	56	72	61	64	69
<u>MY JOB UTILIZES MY TALENTS:</u>						
NOT AT ALL TO VERY LITTLE	22	37	22	31	22	24
FAIRLY WELL OR BETTER	68	63	78	69	67	76
<u>MY JOB UTILIZES MY TRAINING:</u>						
NOT AT ALL TO VERY LITTLE	29	30	24	28	34	25
FAIRLY WELL OR BETTER	71	69	76	72	65	74
<u>I PLAN TO REENLIST:</u>						
NO, PLANNING TO RETIRE	1	***	-	***	18	***
NO OR PROBABLY NO	63	66	50	51	25	31
YES OR PROBABLY YES	35	33	50	48	57	68

*INCLUDES CAREER LADDERS IN THE 30XXX, 32XXX, and 42XXX CAREER FIELDS

**NOTE: COLUMNS MAY NOT ADD TO 100 PERCENT DUE TO "NO RESPONSE"

***"NO, PLANNING TO RETIRE" DATA WAS NOT COLLECTED IN 1980.

TABLE 20

REPRESENTATIVE TASKS PERFORMED BY 304X6 AIRMEN WITH 1-48 MOS TAFMS

TASKS	PERCENT MEMBERS PERFORMING (N=147)
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	84
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	82
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	76
G163 PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	76
W836 CLEAN MAINTENANCE WORK AREAS	70
G155 OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	68
G162 PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	67
I206 PERFORM CORROSION CONTROL	63
I191 CONSTRUCT SHOP CABLES OR TEST PLUGS	62
I219 REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	61
G147 CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	61
G152 ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	61
G146 CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	57
H178 PERFORM TRACKING FUNCTIONS	56
H173 ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	55
G159 PERFORM CIRCUIT FAULT ISOLATION PROCEDURES AT PATCH AND TEST FACILITIES	54
K279 ADJUST PARAMETRIC OR LOW NOISE AMPLIFIER COMPONENTS	54
H176 PERFORM ACQUISITION FUNCTIONS	54
G149 CONFIGURE PATCH PANELS FOR SPECIAL TEST OPERATIONS	52
I220 REMOVE OR REPLACE MECHANICAL COMPONENTS	52
I192 CRATE OR UNCRATE COMPONENTS OR MODULES	51
G148 CONFIGURE PATCH PANELS FOR RADIO FREQUENCY (RF) OPERATIONS	50
K274 ADJUST DOWN CONVERTER COMPONENTS	50
E120 MAKE ENTRIES ON MAINTENANCE FORMS	49
G157 PERFORM ALTERNATE CIRCUIT ROUTING AT PATCH AND TEST FACILITIES	49
K273 ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	48
I221 REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	48
I195 INSPECT SAFETY OF EQUIPMENT	46
S630 PERFORM PMIs ON TRACKING SYSTEMS	46
I183 BLEED OR PRESSURIZE SYSTEMS	45
I208 PERFORM SYSTEM MODIFICATIONS	45
I204 ISOLATE MALFUNCTIONS IN SYSTEMS TO SPECIFIC EQUIPMENT	44
L349 ADJUST LIQUID COOLING SYSTEM COMPONENTS	44
L348 ADJUST HIGH VOLTAGE POWER SUPPLY COMPONENTS	44
S621 ISOLATE MALFUNCTIONS IN ANTENNA DRIVE MOTORS	44

TABLE 21

TYPES OF TEST EQUIPMENT UTILIZED BY
DAFSC 304X6 FIRST-TERM PERSONNEL
(PERCENT MEMBERS UTILIZING)

<u>TEST EQUIPMENT</u>	<u>1-48 MOS TAFMS PERSONNEL (N=147)</u>
MULTIMETERS	95
OSCILLOSCOPES	90
SPECTRUM ANALYZERS	87
POWER METERS	83
RF SIGNAL GENERATORS	78
BUILT-IN TEST EQUIPMENT	77
POWER SUPPLIES	76
FREQUENCY SELECTIVE VOLTMETERS	72
VOLTAGE MEASURING	72
BIT ERROR RATE TEST SETS	70
AUDIO FREQUENCY SIGNAL GENERATORS	67
FREQUENCY MEASURING SETS	67
POWER AMPLIFIERS	53
VSWR METERS	50
HIGH VOLTAGE PROBES	49
PRESSURE GAUGES	49
NOISE GENERATORS	48
DISTORTION ANALYZERS	48
NOISE MEASURING SETS	43
VACUUM PUMPS	42
TELEPHONE TEST SETS	40
TELETYPE TEST SETS	30
MODULATION/DEVIATION METERS	25
LOGIC PROBES	14
CAPACITOR TEST SETS	-
CIRCUIT BOARD TESTERS	-
FLUTTER METERS	-
INSULATION TEST SETS	-
JITTER METERS	-
LEISK ANALYZERS	-
SEMICONDUCTOR TESTERS	-
TIME DOMAIN REFLECTOMETERS	-
TUBE TESTERS	-

"-"DENOTES LESS THAN TEN PERCENT

ANALYSIS OF MAJOR COMMAND DIFFERENCES

An analysis of the tasks and duties performed by first enlistment (1-48 months TAFMS) MAJCOM groups can provide additional insight to management and training personnel as to the different training requirements for various MAJCOM personnel. In the 304X6 specialty, only two MAJCOMs have more than five percent of the first-termers assigned to them, with approximately 90 percent assigned to AFCC and the remainder to ATC. Since there were so few first-termers assigned to ATC (14) in the survey sample, a meaningful analysis of differences between major command groups can not be accomplished for the 304X6 specialty. With so many people assigned to AFCC, the First Enlistment Personnel section in the ANALYSIS OF EXPERIENCE (TAFMS) GROUPS should provide managers and training personnel with the types of equipment maintained, test equipment utilized, and job satisfaction data necessary to make training decisions for AFCC first enlistment personnel.

COMPARISON OF SURVEY DATA TO AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data for the 304X6 career ladder were compared to AFR 39-1 Specialty Descriptions, dated 30 April 1981 (for DAFSC 30416, 30436, and 30456) and 1 June 1977 (for DAFSC 30476). These descriptions are intended to give a broad overview of the duties and tasks required to be performed by the various skill level personnel. Overall, the 3-, 5-, and 7-skill level descriptions were found to provide a clear, concise overview of the major duties and tasks performed by 304X6 incumbents.

ANALYSIS OF CONUS VERSUS OVERSEAS GROUPS

A comparison was made between the tasks performed and various background data for the DAFSC 30456 personnel who were assigned within the CONUS versus those who were assigned to overseas locations. This analysis is primarily designed to determine what technical aspects of earth terminal operations or maintenance are different between CONUS and overseas locations. This section can be useful to management and training personnel by highlighting the task, equipment, and job satisfaction differences between CONUS and overseas locations.

Overall, the jobs and tasks performed by these two groups of personnel are very similar, with the operations and maintenance functions associated with communications satellite earth terminals making up a majority of their job time. Some task differences were noted, however, particularly for DAFSC 30456 personnel assigned overseas. Table 22 lists the tasks which best differentiate DAFSC CONUS and overseas personnel, and reveals that training or mobility type tasks, such as conducting remedial training, loading or unloading support equipment on aircraft, or evaluating the progress of students seem to be performed by higher percentages of CONUS respondents. Several earth terminal maintenance and operations tasks, on the other hand, seem to be more indicative of overseas respondents, and include bleeding or pressurizing systems, performing PMIs on liquid cooling systems, or configuring patch panels for spread spectrum operations.

Table 23 provides various background data for both DAFSC 30456 CONUS and overseas respondents, and helps to highlight some additional differences between these two groups. It is interesting to note that CONUS personnel are more senior (averaging 80 months TAFMS), which is somewhat unusual when compared to other specialties. When examining the various work areas where CONUS and overseas personnel are located, it is interesting to note that a substantially higher percentage of overseas personnel are working at mobile DSCS terminals. This is further verified by the fact that substantially higher percentages of overseas respondents operate or maintain the AN/MS-46, which is a mobile DSCS terminal. Differences can also be noted in the TACSATCOM terminals operated or maintained, with a higher percentage of CONUS personnel maintaining the AN/GRC-189, while overseas incumbents report utilizing the AN/GRC-188. Finally, although some job satisfaction differences can be noted between these two groups, these overall are fairly slight, and no substantial differences can be noted.

TABLE 22

REPRESENTATIVE TASKS WHICH BEST DIFFERENTIATE DAFSC 30456 CONUS AND OVERSEAS PERSONNEL.
(PERCENT MEMBERS PERFORMING)

TASKS	CONUS PERSONNEL (N=108)	OVERSEAS PERSONNEL (N=79)	DIFFERENCE
WRITE TEST QUESTIONS	19	-	+19
EVALUATE PROGRESS OF STUDENTS	31	14	+17
CONDUCT RESIDENT COURSE CLASSROOM TRAINING	17	1	+16
SCORE TESTS	19	3	+16
CONDUCT REMEDIAL TRAINING	28	13	+15
ADMINISTER TESTS	19	5	+14
COUNSEL TRAINEES ON TRAINING PROGRESS	40	27	+13
ASSIGN ON-THE-JOB TRAINING (OJT) TRAINERS	17	4	+13
ADJUST SUPER HIGH FREQUENCY (SHF) MIXER COMPONENTS	21	9	+12
INSTALL OR REMOVE MOBILE COMMUNICATIONS EQUIPMENT	17	5	+12
LOAD OR UNLOAD SUPPORT EQUIPMENT ON AIRCRAFT	14	3	+11
INVENTORY AND OPERATIONALLY CHECK WAR READINESS SUPPLY KITS (WRSK)	13	3	+10
REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	28	55	-27
ISOLATE MALFUNCTIONS IN ANTENNA DRIVE MOTORS	32	59	-27
PERFORM CORROSION CONTROL	50	77	-27
ALIGN TRACKING SYSTEMS	30	57	-27
ADJUST GROUP OR LEVEL REGULATOR COMPONENTS	14	42	-28
PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	27	56	-29
ISOLATE MALFUNCTIONS IN SOLID STATE FM MODULATORS	6	35	-29
ADJUST PILOT TONE AMPLIFIER COMPONENTS	10	39	-29
ISOLATE MALFUNCTIONS IN SATELLITE TRACKING ANTENNA ROTATING EQUIPMENT	31	60	-29
PERFORM SITE SECURITY DUTIES	17	47	-30
PERFORM TIMING TRANSFERS	7	38	-31
ESTABLISH ORDERWIRE CONTACT WITH TERMINALS	43	74	-31
PERFORM PMIs ON LIQUID COOLING SYSTEMS	22	53	-31
PERFORM SYSTEM MODIFICATIONS	37	68	-31
ADJUST SYNC OR PILOT GENERATOR COMPONENTS	13	44	-31
ADJUST PARAMETERS OR LOW NOISE AMPLIFIER COMPONENTS	41	73	-32
BLEED OR PRESSURIZE SYSTEMS	33	67	-34
CONFIGURE PATCH PANELS FOR SPREAD SPECTRUM OPERATIONS	14	54	-40

TABLE 23

JOB SATISFACTION AND BACKGROUND INFORMATION FOR DAFSC 30456
CONUS AND OVERSEAS PERSONNEL

	CONUS PERSONNEL (N=108)	OVERSEAS PERSONNEL (N=79)
AVERAGE NUMBER OF TASKS PERFORMED:	96	127
AVERAGE MONTHS TAFMS:	80	64
PERCENT FINDING JOB INTERESTING:	65%	63%
PERCENT PERCEIVING THEIR TALENTS ARE UTILIZED AT LEAST FAIRLY WELL:	71%	63%
PERCENT PERCEIVING THEIR TRAINING IS UTILIZED AT LEAST FAIRLY WELL:	70%	76%
PERCENT PLANNING TO REENLIST:	43%	48%
PERCENT WORKING IN THE FOLLOWING AREAS:		
AFSATCOM TERMINAL (FIXED)	24%	28%
AFSATCOM TERMINAL (MOBILE)	8%	14%
DSCS TERMINAL (FIXED)	49%	48%
DSCS TERMINAL (MOBILE)	6%	29%
TACSATCOM TERMINAL	22%	18%
PERCENT OPERATING/MAINTAINING THE FOLLOWING DSCS TERMINALS:		
FSC-78	44%	32%
MSC-46	5%	38%
TSC-56	6%	14%
PERCENT OPERATING/MAINTAINING TSC-88 AFSATCOM TERMINALS:	17%	11%
PERCENT OPERATING/MAINTAINING GRC-188 TACSATCOM TERMINALS:	2%	19%
PERCENT OPERATING/MAINTAINING GRC-189 TACSATCOM TERMINALS:	11%	-
PERCENT OPERATING/MAINTAINING TSC-94 GROUND MOBILE SUPPORT TERMINALS:	14%	9%
PERCENT MAINTAINING THE FOLLOWING MULTIPLEX EQUIPMENT:		
AN/FCC-98 (DIGITAL)	33%	53%
AN/UCC-4	19%	41%
OTHER	24%	19%

TRAINING ANALYSIS

Occupational survey data is just one of the many sources of information which can be used to help make training programs more meaningful and relevant to students. Factors provided in occupational surveys which may be used in evaluating training are the percentage of first enlistment personnel performing tasks, the percentage of first enlistment personnel maintaining equipment, the percentage of first enlistment personnel utilizing test equipment, the percentage of first enlistment personnel utilizing electronic principles, and task difficulty ratings. These factors can be used in evaluating the Specialty Training Standard (STS) for the 304X6 specialty. Technical school personnel at Keesler AFB MS matched inventory tasks to areas of instruction outlined in the STS, dated April 1977. A complete computer listing of the percent members performing and task difficulty ratings for each task along with the matching STS paragraph and subparagraph has been forwarded to technical school and MAJCOM training personnel for their use in reviewing training documents. A summary of that information is described below.

Analysis of Task Difficulty

The relative difficulty of each task in the job inventory was assessed through ratings of 38 experienced 7- and 9-skill level Space Communication Systems Equipment NCOs. These tasks were processed to produce an ordered listing of all tasks in terms of their relative difficulty and were standardized to have an average difficulty of 5.0 (68 percent of all 863 tasks have ratings between 4.0 and 6.0). It is important to note that this task difficulty task listing is somewhat different than the task listing presented in this section of AFPT 90-304-422, Vol I. The task difficulty analysis in this report uses only the ratings from 304X6 task difficulty raters, while the AFPT 90-304-422, Vol I task difficulty analysis utilizes the combined ratings from the personnel in three specialties (AFSs 304X0, 304X4, and 304X6). Because the personnel in different specialties may view the difficulty of tasks somewhat differently, it is important to use only specialty specific raters when analyzing training documents, such as the specialty STS. Therefore, the analysis of task difficulty and that of the STS will only use the ratings of 304X6 personnel. (For a more complete description of these ratings, see the Task Factor Administration section in the INTRODUCTION).

In order to help insure that the 304X6 raters reflect the same perceptions as the rest of the career ladder concerning task difficulty, it is necessary that a representative sample of task difficulty raters be obtained. Table 24 reveals the major command distribution of the task difficulty raters versus the same distribution of all the personnel assigned to the 304X6 specialty, and reveals a representative sample of task difficulty raters was obtained. Having a representative sample is extremely important, especially when the personnel in different major commands utilize or maintain different types of equipment, because a large overrepresentation of one major command may lead to spurious task difficulty ratings. This was not the case with the 304X6 task difficulty ratings.

Table 25 lists the tasks rated the most difficult by 304X6 task difficulty raters. Almost all of these tasks involve supervision or the isolation of malfunctions in specific pieces of equipment, such as multiplexers or MODEMS. Examples of these most difficult tasks include isolating malfunctions in digital to BPSK MODEMS, isolating malfunctions in tube type pulse position modulation multiplexers, or drafting budget or financial requirements. Overall, very few of either 304X6 first enlistment or total sample personnel perform those tasks rated the most difficult. However, it is interesting to note that even though the percentages are low, about equal percentages of first enlistment and total sample personnel are performing the maintenance tasks rated above average in difficulty.

Most of the tasks rated about average in difficulty are also maintenance oriented, but seem to involve more adjusting rather than the isolation of malfunctions in equipment (see Table 26). Some of these tasks rated about average in difficulty include adjusting duplexer or duplexer components, establishing communication links through spacecraft, or adjusting antenna select circuit components. Generally, a higher overall percentage of both all 304X6 and 304X6 first enlistment personnel perform those tasks rated average in difficulty than those rated high in difficulty.

Table 27 lists the tasks rated the least difficult by senior 304X6 personnel. Generally, these tasks involve routine maintenance, administrative functions, or aspects of tactical communications. Examples of these relatively easy tasks include maintaining household plumbing, clearing mobility work areas, or scoring tests. As expected, many of these relatively easy tasks are performed by high percentages of 304X6 first-termers and 304X6 total sample personnel.

Analysis of the Specialty Training Standard

The 304X6 Specialty Training Standard (STS), dated April 1977 was reviewed for first enlistment (1-48 months TAFMS) and 5- and 7-skill level Space Communications Systems Equipment personnel. Subject matter specialists at the Keesler Technical Training Center assisted in the analysis by matching job inventory tasks to specific paragraphs in the STS. Each paragraph in the STS was then analyzed using task difficulty and percent members performing vectors to determine if the paragraph had job inventory justification for being in the STS. For the 304X6 specialty, the STS was found to give a broad overview of the career ladder, and all STS paragraphs appear to be well justified based on occupational data.

TABLE 24

MAJOR COMMAND REPRESENTATION OF TASK DIFFICULTY RATERS

<u>MAJOR COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF TASK DIFFICULTY RATERS</u>
AFCC	83	80
ATC	6	13
OTHER	<u>11</u>	<u>7</u>
TOTAL	100	100

NUMBER OF 304X6 TASK DIFFICULTY RATERS = 38

TABLE 25

REPRESENTATIVE TASKS RATED THE MOST DIFFICULT BY DAFSC 304X6 RATERS

TASKS	TASK DIFFICULTY	PERCENT OF FIRST ENLISTMENT PERSONNEL PERFORMING (N=147)	PERCENT OF TOTAL SAMPLE 304X6 PERSONNEL PERFORMING (N=361)
A8	DRAFT BUDGET OR FINANCIAL REQUIREMENTS	1	7
K279	ADJUST PARAMETRIC OR LOW NOISE AMPLIFIER COMPONENTS	54	51
K296	ISOLATE MALFUNCTIONS IN PARAMETRIC OR LOW NOISE AMPLIFIERS	42	40
R605	ISOLATE MALFUNCTIONS IN DIGITAL TO BPSK MODEMS	32	33
R606	ISOLATE MALFUNCTIONS IN DIGITAL TO QPSK MODEMS	35	35
C63	EVALUATE BUDGET OR FINANCIAL REQUIREMENTS	*	6
L203	ISOLATE MALFUNCTIONS IN RADIO RELAY PECULIAR TEST EQUIPMENT	*	1
S629	ISOLATE MALFUNCTIONS IN TRACKING SYSTEMS	40	40
L379	ISOLATE MALFUNCTIONS IN FM SOLID STATE SHF TRANSMITTERS, EXCITERS, OR UP CONVERTERS	21	21
C85	WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS	1	1
M452	ISOLATE MALFUNCTIONS IN TUBE TYPE PULSE DURATION MODULATION MULTIPLIXERS	1	1
K297	ISOLATE MALFUNCTIONS IN PHASE CORRELATORS	5	6
D93	ISOLATE MALFUNCTIONS IN TUBE TYPE POSITION MODULATION MULTIPLIXERS	1	1
M453	CONDUCT RESIDENT COURSE CLASSROOM TRAINING	4	10
S627	ISOLATE MALFUNCTIONS IN TRACKING RECEIVERS	40	39
R598	ADJUST DIGITAL TO QUADRATURE SHIFT KEYING (QPSK) MODEM COMPONENTS	21	18
S625	ISOLATE MALFUNCTIONS IN MAGIC T NETWORKS	38	33
S628	ISOLATE MALFUNCTIONS IN TRACKING SERVO CONTROLS	39	37
S620	ALIGN TRACKING SYSTEMS	27	39
M455	ISOLATE MALFUNCTIONS IN TUBE TYPE TIME DIVISION MULTIPLIXERS	1	2
J254	ISOLATE MALFUNCTIONS IN FEEDHORN ASSEMBLIES	15	14
L387	ISOLATE MALFUNCTION IN SHF POWER AMPLIFIERS	27	28
R603	ISOLATE MALFUNCTIONS IN DC TO RF FSK MODEMS	5	5
R604	ISOLATE MALFUNCTIONS IN DC TO RF PSK MODEMS	8	7
J261	ISOLATE MALFUNCTIONS IN DC TO MFSK MODEMS	5	5
M451	ISOLATE MALFUNCTIONS IN SATELLITE TRACKING ANTENNA ROTATING EQUIPMENT	38	36
J262	ISOLATE MALFUNCTIONS IN TUBE TYPE CODED MODULATION MULTIPLIXERS	2	2
L380	ISOLATE MALFUNCTIONS IN TRANSMIT MULTICOUPLERS OR ANTENNA COUPLERS	6	5
L382	ISOLATE MALFUNCTIONS IN FM SOLID STATE UHF TRANSMITTERS EXCITERS, OR UP CONVERTERS	5	6
	ISOLATE MALFUNCTIONS IN FM TUBE TYPE SHF TRANSMITTERS OR EXCITERS	8	8

* DEMOTES LESS THAN ONE PERCENT

TABLE 26

TASKS RATED ABOUT: AVERAGE IN DIFFICULTY BY DAESC 304X6 RATERS

TASKS	TASK DIFFICULTY	FIRST ENLISTMENT PERSONNEL PERFORMING (N=147)	PERCENT OF TOTAL SAMPLE 304X6 PERSONNEL PERFORMING (N=361)
M444 ISOLATE MALFUNCTIONS IN TUBE TYPE E-AND-M SIGNALING AND CONTROL CIRCUITS	5.03	5	5
E122 PREPARE DEFICIENCY REPORTS	5.03	15	16
M438 ISOLATE MALFUNCTIONS IN SOLID STATE PILOT TONE AMPLIFIERS	5.03	9	10
I211 REMOVE OR REPLACE ELECTROMECHANICAL COMPONENTS, SUCH AS SHAFTS OR GEARS, USING SOLDERING METHODS	5.02	21	18
U755 ISOLATE MALFUNCTIONS IN SOLID STATE AUDIO AMPLIFIERS	5.02	8	8
0503 ISOLATE MALFUNCTIONS IN AIC CONSOLE RECEIVER CONTROL CIRCUITS	5.02	*	*
F143 PREPARE SUPPLY DIFFICULTY REPORTS, SUCH AS QUALITY DEFICIENCY REPORTS (QDRS)	5.01	6	12
J229 ADJUST DUPLEXER OR DUPLEXER COMPONENTS	5.01	10	8
M431 ISOLATE MALFUNCTIONS IN GROUP OR LEVEL REGULATORS	5.01	12	12
M476 ISOLATE MALFUNCTIONS IN POLAR DC POWER SUPPLIES	5.01	9	8
V822 INSTALL OR REMOVE INTERMEDIATE DISTRIBUTION FRAMES (IDF)	5.01	1	1
U749 ISOLATE MALFUNCTIONS IN PATCH PANELS	5.00	36	31
J225 ADJUST ANTENNA SELECT CIRCUIT COMPONENTS	5.00	17	13
U707 ADJUST FREQUENCY DIVERSITY COMBINER COMPONENTS	5.00	2	1
U726 ADJUST ULTRA HIGH FREQUENCY (UHF) MIXER COMPONENTS	4.99	5	3
U694 ADJUST AUTOMATIC FREQUENCY CONTROL (AFC) COMPONENTS	4.99	21	19
H173 ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	4.99	55	47
B32 DIRECT DESTRUCTION OF CLASSIFIED MATERIALS	4.99	41	39
K272 ADJUST AMPLITUDE MODULATION (AM) DETECTOR COMPONENTS	4.98	5	13
D92 CONDUCT REMEDIAL TRAINING	4.97	16	14
U705 ADJUST EQUIPMENT ALARM CIRCUIT COMPONENTS OTHER THAN AUTOMATIC FAULT SENSING AND SWITCHING NETWORK COMPONENTS	4.97	9	21
U715 ADJUST MULTIPLIER COMPONENTS	4.97	12	10
M422 ISOLATE MALFUNCTIONS IN SOLID STATE SYNC OR PILOT GENERATORS	4.96	8	8
A20 PREPARE JOB DESCRIPTIONS	4.96	14	14
0515 ISOLATE MALFUNCTIONS IN LEVEL SELECT CIRCUITS	4.96	2	9
U727 ADJUST VERY HIGH FREQUENCY (VHF) MIXER COMPONENTS	4.94	1	2
	4.94	2	1

* DENOTES LESS THAN ONE PERCENT

TABLE 27

TASKS RATED THE LEAST DIFFICULT BY DAFSC 304X6 PERSONNEL

TASKS	TASK DIFFICULTY	PERCENT OF FIRST ENLISTMENT PERSONNEL PERFORMING (N=147)	PERCENT OF TOTAL SAMPLE 304X6 PERSONNEL PERFORMING (N=361)
P553 SET UP OR REMOVE PUBLIC ADDRESS SYSTEMS	2.89	*	*
A6 DEVELOP ORGANIZATIONAL CHARTS	2.87	4	9
I205 LACE CABLE ASSEMBLIES OR INTERNAL WIRING	2.82	18	17
W859 PERFORM SITE SECURITY DUTIES	2.81	29	24
W842 MAINTAIN HOUSEHOLD FUEL LINES	2.68	*	*
V813 CONSTRUCT SITE LATRINES	2.65	2	2
V833 SKIRT BUILDINGS	2.64	*	*
V834 SKIRT VANS	2.64	*	*
W841 MAINTAIN HOUSEHOLD AIR LINES	2.63	*	2
W843 MAINTAIN HOUSEHOLD PLUMBING	2.63	2	2
F138 MAINTAIN OFFICE SUPPLIES	2.62	6	11
V815 CONSTRUCT WALKWAYS FOR SITES	2.53	2	2
I209 POSITION SAFETY EQUIPMENT	2.52	17	21
W840 MAINTAIN DINING AREA EQUIPMENT	2.44	3	2
E117 MAINTAIN STATUS BOARDS OR CHARTS	2.44	28	34
W852 OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	2.40		
I196 INSTALL OR REMOVE MOUNTING HARDWARE	2.38	40	35
D109 SCORE TESTS	2.35	40	40
B46 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	2.33	6	12
D86 ADMINISTER TESTS	2.24	38	43
W839 LUBRICATE VAN OR TRAILER CHASSIS	2.24	6	13
I210 REMOVE OR REPLACE DESICCANTS	2.19	15	13
A25 SCHEDULE LEAVES OR PASSES	2.01	8	10
I192 CRATE OR UNCRATE COMPONENTS OR MODULES	2.00	2	21
W837 CLEAR MOBILITY WORK AREAS	1.71	51	44
W853 PAINT EQUIPMENT OR FACILITIES	1.44	11	9
W836 CLEAN MAINTENANCE WORK AREAS	1.23	36	28
A2 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	1.00	70	55
	1.00	2	14

* DENOTES LESS THAN ONE PERCENT

ANALYSIS OF WRITE-IN COMMENTS

Respondents are invited to write in any comments relative to their job in back of their job inventory booklet. In this survey, a fairly small amount of write-in comments addressed a range of career ladder irritants. Generally, these comments involve job control, the AN/TSC-88 van, or assignment dissatisfaction.

Although there have been a number of proposals to create a separate AFSC for job control, none have been implemented yet. It appears that in the Communications-Electronics career field (30XXX) there would be enough job control slots to justify a separate specialty. The philosophy of sending personnel to fairly lengthy technical schools and then utilizing them in job control seems to be a tremendous waste of training dollars. In addition, these personnel are typically the least satisfied in the career ladder. A specific comment about job control includes:

"Although I have been told that working in job control is within the 304X6 career ladder, I definitely disagree. Except for three months, I have spent my entire time in SATCOM in job control. I have gained nothing by being in job control. I am intensely dissatisfied with my present situation."

Two comments refer to the potential misutilization of personnel or assignment dissatisfaction. These comments include:

"The end line is that I spend 95 percent of my "work" bored to tears. When maintenance needs to be done, my tech school training (or lack of) was so poor that I would not know where to begin. I have settled for being strictly an operator. I will be glad to cross-train; and if, at some future date, I am ordered back to SATCOM, I will do all I can to take a discharge instead."

"Although assigned to a DSCS fixed terminal site, I do not maintain or supervise the maintenance of the site. My primary job is Ground Safety NCO - due to the overabundance of MSGts assigned, one authorized and seven assigned."

The final two write-in comments concern the maintenance of the AN/TSC-88 van, which include the following:

"... I am now assigned to an AFSATCOM TSC-88 van, which does not utilize my previous DSCS FSC-78 training, as our present level of maintenance is organizational (black box). There are 291XXs operating the terminal. I personally feel this is a gross waste of training. I find my present job very dissatisfying, very boring. However, I was very happy on the DSCS terminal, which I found to be a challenge and a benefit to my training and career. AFSATCOM is a waste of DSCS training."

"I perform black box maintenance on an AN/TSC-88 van. With the training I have and the OJT experience, this duty assignment is a total abuse of AF resources, manpower, and training. If most of the other career fields are managed like this, it is no wonder the AF has a retention problem. If my training and experience were being utilized, the duty assignment might be more satisfying..."

Although these comments point to some specific irritants in the career ladder, overall, the number of write-in comments was relatively low (roughly one percent). In other words, some of these comments may reflect individual differences rather than the feelings of the total career ladder.

COMPARISON TO PREVIOUS SURVEY

The results of this 304X6 survey were compared to those of a previous Occupational Survey Report, AFPT 90-304-200, dated March 1976. This analysis can help identify changes in the career ladder due to new missions, changing management policies, new operational equipment, etc. Generally, the two studies report relatively consistent findings, with differences appearing in the following areas:

A thorough analysis of the tasks and jobs performed by 304X6 personnel reveals that on the whole, the career ladder has remained relatively stable over the last five years. However, some jobs and tasks which are performed in the 1981 report were not identified in the 1976 report, and these are presented in Table 28. Table 28 reveals those jobs listed in the 1976 report and the comparable jobs identified in the CAREER LADDER STRUCTURE section of this report. All of the 1976 jobs reported were also identified in 1981, however, Quality Control Personnel and Job Controllers were not found in the 1976 report. This may be due to the fact that the 1976 study consisted of a smaller sample size than the 1981 report, and because of that fact these personnel may have been missed in the 1976 sample.

Table 29 presents the job satisfaction data trends that have occurred between 1976 and 1981. Overall, about the same percentages of 1976 and 1981 5-skill level personnel find their job interesting or perceive their job utilizes their talents and training at least fairly well. However, a substantially higher percentage (17 percent) of 1981 DAFSC 30456 personnel plan to reenlist than 1976 5-skill level personnel. Overall, 1976 and 1981 7-skill level personnel responded about the same to the job interest, reenlistment intentions, and perceived utilization of talents questions. However, ten percent more 1981 7-skill level personnel perceive their job utilizes their training at least fairly well than similar 1976 personnel.

TABLE 28

A COMPARISON OF THE MAJOR JOB GROUPS IDENTIFIED IN THE
1976 AND 1981 OSRs

1976 CLUSTERS AND INDEPENDENT JOB TYPES	1981 CLUSTERS AND INDEPENDENT JOB TYPES
OPERATOR/REPAIRMAN CLUSTER	SPACE COMMUNICATIONS SYSTEMS PERSONNEL 2045th SATCOM GROUP PERSONNEL
MANAGEMENT/SUPERVISION CLUSTER	FIRSTLINE MAINTENANCE SUPERVISORS RADIO MAINTENANCE SUPERVISORS RESIDENT TRAINING SUPERVISORS SATCOM CREW CHIEFS TOOL CRIB SUPERVISORS QC PERSONNEL
INSTRUCTOR INDEPENDENT JOB TYPE	RESIDENT TECHNICAL SCHOOL INSTRUCTORS INSTRUCTORS AND MAINTENANCE PERSONNEL JOB CONTROLLERS
EARTH TERMINAL HELPER INDEPENDENT JOB TYPE	SPACE COMMUNICATIONS SYSTEMS PERSONNEL

TABLE 29

A COMPARISON OF JOB SATISFACTION DATA FOR VARIOUS DAFSC 304X6 GROUPS
 IN THE 1976 AND 1981 OSRs
 (PERCENT MEMBERS RESPONDING)

	<u>DAFSC 30456</u>		<u>DAFSC 30476</u>	
	<u>1976</u>	<u>1981</u>	<u>1976</u>	<u>1981</u>
FINDS JOB INTERESTING:	66	64	70	69
UTILIZES TALENTS WELL:	71	68	78	72
UTILIZES TRAINING WELL:	68	73	57	67
REENLISTMENT INTENTIONS:	27	44	57	55

IMPLICATIONS

The Space Communication Systems Equipment career ladder is fairly heterogeneous, with a wide variety of jobs performed by 304X6 personnel. A majority of these personnel were performing an earth terminal maintenance, operations, or a combination of maintenance and operations type of job. The remainder of the 304X6 personnel were performing a nontechnical job involving administration, supervisory, or training.

An issue that surfaced in this report is the fact that a number of 304X6 personnel seem to be performing a job that almost exclusively involves satellite operation functions rather than earth terminal maintenance. The use of 304X6 personnel in this capacity seems to be a tremendous waste of training dollars, since all incumbents entering the career ladder must first attend a fairly lengthy maintenance oriented technical school. By being an earth terminal operator, these incumbents utilize very little of the maintenance training they received. In addition to training problems, serious retention problems will probably occur with these personnel due to the fact that the personnel performing an earth terminal operator job probably expected to perform a maintenance job instead. This problem could probably be solved by moving these operator slots to the new AFSC (308X1) being created for the operations personnel formerly in the 308X0 specialty. A review of 304X6 and 308X0 operator tasks reveals that they are very similar, although different types of satellite systems are involved. This could help alleviate the retention problem that 304X6 operators now have due to the fact that if this job were moved to an operator specialty (such as 308X1), new incumbents coming into the career ladder would not expect to perform a maintenance job. In addition, training dollars would probably be saved since these personnel would not attend a fairly lengthy maintenance technical school first, but instead could probably go to a somewhat shorter operator school.

Another issue which concerns the 304X6 career ladder involves the use of 304X6 personnel in job control slots. The 304X6 personnel performing this type of job are fairly dissatisfied, and in addition, this job appears to be a waste of valuable training dollars. By creating a separate AFSC for job control in the 30XXX career field, the necessity of sending the personnel to a fairly lengthy radio, radar, crypto, etc. technical school could be a thing of the past. Instead, they could perhaps be sent to a job control school which would be much more job relevant by training personnel for a job control type job instead of a CE maintenance job. In addition, new incumbents coming into the job control AFSC would not expect to perform a maintenance job, and this should help increase overall job satisfaction.

APPENDIX A

Job Type Descriptions

Listed below are brief descriptions of the job types identified in the Space Communication System Equipment CAREER LADDER STRUCTURE section. Generally, the clusters all appear to be fairly heterogeneous, with a variety of related jobs identified in each cluster. As with the CAREER LADDER STRUCTURE section, the data in Appendix A is presented in two ways. First, a very brief narrative description is provided for each job type. Second, duty, background, and job satisfaction tables are provided so that easy comparisons can be made between the job types in any one cluster. (For a further explanation of the job types identified, see the CAREER LADDER STRUCTURE section of this report.)

Space Communications Systems Personnel

This is a relatively heterogeneous cluster of five job types. The differentiating factors between these job types appear to be the type of equipment maintained or the average number of tasks performed. SATCOM Shift Supervisors supervise an average of two personnel, perform the highest average number of tasks (185), and primarily maintain the AN/FSC-78 or AN/MSC-46 DSCS terminals. AN/MSC-46 Repairmen maintain also both the AN/MSC-46 and AN/FSC-78 DSCS terminals, but only perform an average of 89 tasks. In addition, these personnel seem to be fairly satisfied, with 84 percent finding their job interesting and 92 percent perceiving their job utilizes their talents at least fairly well. AN/GRC-188 Repairmen also report maintaining the AN/FSC-88 DSCS terminal, but 29 percent also report maintaining the AN/GRC-188 TACSATCOM terminal. Overall, these incumbents are the least satisfied, with only 30 percent planning to reenlist. AN/TSC-94 Repairmen are working for Ground Mobile Forces (GMF) and maintaining the AN/TSC-94 Ground Mobile Support Terminals. It is interesting to note only six percent of these incumbents are stationed overseas, and only 35 percent are in their first enlistment. Junior SATCOM Repairmen appear to be trainees located at both Offutt AFB NE and Ft. Gordon VA. These incumbents only perform 62 tasks, 78 percent are in their first enlistment, and 71 percent maintain the AN/FSC-78 DSCS terminal. (For more information about these job types see Tables I, II, and III.)

Quality Control Personnel

Personnel from the 304X0, 304X4, and 304X6 specialties can be found in the job types in this cluster. The average number of tasks performed, the level assigned, and the type of mission evaluated appear to be the biggest differentiators of the personnel in these job types. Senior Quality Control Personnel appear to be personnel experienced in quality control and are located at a variety of wideband, ground radio, and space communication system locations. These personnel perform an average of 36 tasks, and 62 percent plan to reenlist. Fifty percent of Headquarters Level Quality Control Personnel are working in a headquarters staff position. These respondents are among the most senior, averaging 202 months TAFMS and 89 percent find their job interesting. Junior Quality Control Personnel appear to be personnel who have recently been assigned to a quality control position. They perform a low average number of tasks (13) and only 60 percent find their

job interesting. Finally Engineering and Installation Quality Control Personnel are responsible for insuring that the installation or removal of equipment is done correctly. These personnel are relatively junior (average TAFMS of 153 months) and only 40 percent believe their training is utilized at least fairly well. (For more information about these job types see Tables VII, VIII, and IX.)

Firstline Maintenance Supervisors

As with Quality Control Personnel, 304X0, 304X4, and 304X6 personnel can also be found in these three job types. The differentiating factors for the three job types appear to be the type of unit assigned, the average number of tasks performed, and the types of equipment maintained. Ground Radio Firstline Supervisors are working at a number of fixed ground radio locations and roughly divide their time between supervisory and maintenance duties. These incumbents maintain a variety of ground radio equipment, and it is interesting to note that 65 percent plan to reenlist. Wideband Firstline Supervisors are primarily working at fixed wideband communications sites overseas. These personnel also roughly divide their time between supervisory and maintenance duties and perform an average of 178 tasks. In addition, these incumbents are fairly satisfied, with 62 percent planning to reenlist and 82 percent finding their job interesting. Mobility Firstline Supervisors are primarily 304X6 personnel working at mobile or tactical communications units. These incumbents perform a very high average number of tasks (237) and 53 percent are located overseas. These incumbents are relatively dissatisfied, with only 67 percent finding their job interesting and only 47 percent plan to reenlist. (For more information about these types see Tables X, XI, and XII.)

Radio Maintenance Supervisors

The two job types in this cluster are also made up of 304X0, 304X4, and 304X6 personnel. The average number of tasks performed, the time spent performing supervisory duties, and the average months TAFMS seem to be the biggest discriminators between these two groups. Site Superintendents spend about 90 percent of their job time on supervisory duties, and average 240 months TAFMS. Fifty-eight of these incumbents are located overseas, and generally, these incumbents perform more of a management job than the other job type in this cluster. In addition, these incumbents seem to be very satisfied with their job, with 84 percent finding their talents at least fairly well. Workcenter Supervisors perform an average of 87 tasks and appear to be the middle level supervisors at a variety of ground radio, wideband, and space communication system workcenters. These incumbents only average 204 months TAFMS, and 78 percent find their job interesting. (For more information about these job types see Tables XIII, XIV, and XV.)

TABLE I
RELATIVE PERCENT TIME SPENT ON DUTIES BY SPACE COMMUNICATIONS SYSTEMS PERSONNEL JOB TYPES

DUTY	SATCOM SHIFT SUPERVISORS (GRP795, N=83)	AN/HSC- 46 REP (GRP825, N=12)	AN/GRC- 188 REP (GRP801, N=17)	AN/TSC- 94 REP (GRP476, N=17)	JUNIOR SATCOM PERSONNEL (GRP389, N=14)
ORGANIZING AND PLANNING	2	1	*	2	1
DIRECTING AND IMPLEMENTING	4	3	1	5	1
INSPECTING AND EVALUATING	2	*	*	2	
TRAINING	3	4	*	4	1
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	1	3	*	2	1
PERFORMING SUPPLY FUNCTIONS	2	2	1	4	
PERFORMING EQUIPMENT OPERATION FUNCTIONS	10	13	15	13	28
PERFORMING SATELLITE OPERATION FUNCTIONS	2	2	3	5	3
PERFORMING GENERAL MAINTENANCE FUNCTIONS	10	14	12	10	17
MAINTAINING ANTENNA SYSTEMS	4	4	2	4	1
MAINTAINING RECEIVERS TO INCLUDE RECEIVE PORTION OF TRANSCIEVERS	7	8	6	5	6
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCIEVERS	12	13	12	6	6
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	4	1	5	4	4
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	1	*	*	*	3
MAINTAINING COMMUNICATION OR CONTR. CONSOLES	1	1	1	*	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	*	*	*	*	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*	*
MAINTAINING MODEMS	3	*	6	3	5
MAINTAINING TRACKING SYSTEMS	7	10	8	3	3
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	*	*
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	13	8	15	4	7
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	*	*	*	7	*
PERFORMING SUPPORT FUNCTIONS	3	4	2	7	5

*DENOTES LESS THAN ONE PERCENT

TABLE II

BACKGROUND INFORMATION FOR SPACE COMMUNICATIONS SYSTEMS PERSONNEL JOB TYPES

	SATCOM SHIFT SUPERVISORS	AN/MSC-46 REP	AN/GRC-188 REP	AN/TSC-94 REP	JUNIOR SATCOM REP
AVERAGE NUMBER OF TASKS PERFORMED:	185	89	107	121	62
JOB DIFFICULTY INDEX:	20.8	13.7	15.9	15.8	10.9
AVERAGE PAYGRADE:	E-4/E-5	E-4	E-4/E-5	E-4	E-3/E-4
PERCENT LOCATED OVERSEAS:	59%	50%	53%	6%	14%
DAFSC					
30436	17%	33%	41%	-	57%
30456	64%	50%	59%	77%	43%
30476	19%	17%	-	23%	-
304X0	-	-	-	-	-
304X4	-	-	-	-	-
OTHER	-	-	-	-	-
AVERAGE NUMBER OF PERSONNEL SUPERVISED:					
	2%	1	-	1	-
AVERAGE MONTHS TAFMS:	85	66	82	72	39
PERCENT IN FIRST ENLISTMENT:	42%	58%	41%	35%	78%
PERCENT MAINTAINING THE FOLLOWING EQUIPMENT:					
DSCS TERMINALS					
AN/FSC-78	60%	58%	82%	6%	71%
AN/MSC-46	33%	33%	18%	18%	14%
AN/TSC-54	8%	-	6%	-	-
AFSATCOM TERMINALS					
AN/TSC-88	75	-	6%	6%	14%
AN/TSC-101	-	-	6%	-	-
AN/TSC-102	-	-	-	-	-
TACSATCOM TERMINALS					
AN/GRC-188	8%	8%	29%	-	-
AN/GRC-189	-	-	-	-	-
AN/GRC-190	-	-	-	-	-
GROUND MOBILE SUPPORT TERMINALS					
AN/TSC-86	-	-	-	-	-
AN/TSC-94	4%	-	-	77%	-
AN/TSC-100	-	-	-	-	-
MULTIPLEXERS					
AN/FCC-98 (DIGITAL)	60%	42%	94%	-	71%
AN/UCC-4	36%	33%	35%	-	29%
OTHER	23%	33%	18%	77%	14%

TABLE III

JOB SATISFACTION AND RELATED DATA FOR SPACE COMMUNICATIONS SYSTEMS
PERSONNEL JOB TYPES
(PERCENT MEMBERS RESPONDING)*

	<u>SATCOM SHIFT SUPERVISORS</u>	<u>AN/MSC-46 REP</u>	<u>AN/GRC-188 REP</u>	<u>AN/TSC-94 REP</u>	<u>JUNIOR SATCOM REP</u>
<u>I FIND MY JOB:</u>					
DULL	12	8	24	6	7
SO-SO	10	8	-	12	14
INTERESTING	76	84	76	76	79
<u>MY JOB UTILIZES MY TALENTS:</u>					
NOT AT ALL TO VERY LITTLE	17	8	24	18	29
FAIRLY WELL OR BETTER	83	92	76	82	71
<u>MY JOB UTILIZES MY TRAINING:</u>					
NOT AT ALL TO VERY LITTLE	19	17	24	18	21
FAIRLY WELL OR BETTER	81	83	76	82	79
<u>I PLAN TO REENLIST:</u>					
NO, PLANNING TO RETIRE	2	-	6	-	-
NO OR PROBABLY NO	40	58	64	41	43
YES OR PROBABLY YES	58	42	30	59	57

*NOTE: COLUMNS MAY NOT ADD TO 100 PERCENT DUE TO "NO RESPONSE"

TABLE IV

RELATIVE PERCENT TIME SPENT ON DUTIES BY
QUALITY CONTROL PERSONNEL JOB TYPES

DUTIES	SENIOR QUALITY CONTROL PERSONNEL (GRP510, N=6)	HQ LEVEL QUALITY CONTROL PERSONNEL (GRP513, N=18)	JUNIOR QUALITY CONTROL PERSONNEL (GRP289), N=10)	E&I QUALITY CONTROL PERSONNEL (GRP260, N=10)
ORGANIZING AND PLANNING	14	23	9	20
DIRECTING AND IMPLEMENTING	10	15	8	18
INSPECTING AND EVALUATING	31	37	47	7
TRAINING	8	3	4	2
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	22	12	18	17
PERFORMING SUPPLY FUNCTIONS	2	2	3	18
PERFORMING EQUIPMENT OPERATION FUNCTIONS	2	*	*	2
PERFORMING SATELLITE OPERATION FUNCTIONS	*	*	*	*
PERFORMING GENERAL MAINTENANCE FUNCTIONS	4	*	2	2
MAINTAINING ANTENNA SYSTEMS	*	*	*	*
MAINTAINING RECEIVERS TO INCLUDE RECEIVE PORTION OF TRANSCEIVERS	*	*	*	1
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMITTER PORTION OF TRANSCEIVERS	*	*	1	*
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	*	*	*
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	*	*	*
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	*	*	*	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	*	*	*	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*
MAINTAINING MODEMS	*	*	*	*
MAINTAINING TRACKING SYSTEMS	*	*	*	*
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	*
MAINTAINING COMMON OR MISCELLANEOUS	*	*	*	*
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	*	*	1	*
PERFORMING SUPPORT FUNCTIONS	1	*	1	6

*DENOTES LESS THAN ONE PERCENT

TABLE V

BACKGROUND INFORMATION FOR QUALITY CONTROL PERSONNEL JOB TYPES

	<u>SENIOR QUALITY CONTROL PERSONNEL</u>	<u>HQ LEVEL QUALITY CONTROL PERSONNEL</u>	<u>JUNIOR QUALITY CONTROL PERSONNEL</u>	<u>E&I QUALITY CONTROL PERSONNEL</u>
AVERAGE NUMBER OF TASKS PERFORMED:	36	28	13	43
JOB DIFFICULTY INDEX:	10.5	12.2	9.3	8.8
AVERAGE PAYGRADE:	E-6	E-6/E-7	E-6	E-5/E-6
PERCENT LOCATED OVERSEAS:	38%	28%	20%	50%
<hr/>				
DAFSC				
30430	-	-	-	-
30450	7%	-	-	10%
30470	23%	33%	20%	10%
30434	-	-	-	-
30454	13%	-	10%	60%
30474	50%	61%	70%	20%
30436	-	-	-	-
30456	2%	-	-	-
30476	2%	6%	-	-
OTHER	3%	-	-	-
<hr/>				
AVERAGE NUMBER OF PERSONNEL SUPERVISED:	1	-	-	-
AVERAGE MONTHS TAFMS:	169	202	178	153
PERCENT IN FIRST ENLISTMENT:	5%	-	10%	10%
<hr/>				
PERCENT WORKING IN THE FOLLOWING AREAS:				
E&I UNIT	5%	6%	10%	20%
EVALUATION AND INSPECTION TEAMS	18%	28%	20%	-
HEADQUARTERS STAFF	8%	50%	10%	-
QUALITY CONTROL	75%	28%	70%	10%

TABLE VI

JOB SATISFACTION AND RELATED DATA FOR QUALITY CONTROL PERSONNEL JOB TYPES
(PERCENT MEMBERS RESPONDING)*

	<u>SENIOR QUALITY CONTROL PERSONNEL</u>	<u>HQ LEVEL QUALITY CONTROL PERSONNEL</u>	<u>JUNIOR QUALITY CONTROL PERSONNEL</u>	<u>E&I QUALITY CONTROL PERSONNEL</u>
<u>I FIND MY JOB:</u>				
DULL	7	11	-	40
SO-SO	10	-	40	-
INTERESTING	81	89	60	60
<u>MY JOB UTILIZES MY TALENTS:</u>				
NOT AT ALL TO VERY LITTLE	8	17	30	40
FAIRLY WELL OR BETTER	90	83	70	60
<u>MY JOB UTILIZES MY TRAINING:</u>				
NOT AT ALL TO VERY LITTLE	17	22	40	60
FAIRLY WELL OR BETTER	83	78	54	40
<u>I PLAN TO REENLIST:</u>				
NO, PLANNING TO RETIRE	23	33	20	20
NO OR PROBABLY NO	15	22	30	30
YES OR PROBABLY YES	62	45	50	50

*NOTE: COLUMNS MAY NOT ADD TO 100 PERCENT DUE TO "NO RESPONSE"

TABLE VII

RELATIVE PERCENT TIME SPENT ON DUTIES BY FIRSTLINE MAINTENANCE SUPERVISORS
AND RADIO MAINTENANCE SUPERVISORS JOB TYPES

A9

DUTIES	FIRSTLINE MAINTENANCE SUPERVISORS			RADIO MAINTENANCE SUPERVISORS		
	GROUND RADIO FIRSTLINE SUPERVISORS (GRP559, N=65)	WIDE BAND FIRSTLINE SUPERVISORS (GRP591, N=49)	MOBILITY FIRSTLINE SUPERVISORS (GRP860, N=13)	SITE SUPERINTENDENTS (GRP871, N=19)	WORKCENTER SUPERVISORS (GRP830, N=130)	
ORGANIZING AND PLANNING	10	6	9	32	19	
DIRECTING AND IMPLEMENTING	11	7	9	24	19	
INSPECTING AND EVALUATING	8	5	8	23	19	
TRAINING	9	8	8	9	13	
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	6	4	5	6	10	
PERFORMING SUPPLY FUNCTIONS	7	6	5	1	7	
PERFORMING EQUIPMENT OPERATION FUNCTIONS	3	6	6	*	1	
PERFORMING SATELLITE OPERATION FUNCTIONS	*	*	2	*	*	
PERFORMING GENERAL MAINTENANCE FUNCTIONS	8	9	7	*	2	
MAINTAINING ANTENNA SYSTEMS	1	*	3	*	*	
MAINTAINING RECEIVERS TO INCLUDE RECEIVE PORTION OF TRANSCEIVERS	8	11	3	*	*	
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	7	7	5	*	*	
MAINTAINING VOICE FREQUENCY MULTIPLIXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	7	3	*	*	
MAINTAINING TELETYPE MULTIPLIXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	1	1	*	*	
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	1	*	*	*	*	
MAINTAIN AUDIO OR FACSIMILE EQUIPMENT	2	*	*	*	*	
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*	*	
MAINTAINING MODEMS	*	*	1	*	*	
MAINTAINING TRACKING SYSTEMS	*	*	1	*	*	
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	*	*	
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	5	11	3	*	*	
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	*	*	4	*	*	
PERFORMING SUPPORT FUNCTIONS	3	3	6	1	1	

*DENOTES LESS THAN ONE PERCENT

TABLE IX

JOB SATISFACTION AND RELATED DATA FOR FIRSTLINE MAINTENANCE SUPERVISORS AND RADIO MAINTENANCE SUPERVISORS JOB TYPES
(PERCENT MEMBERS RESPONDING)*

	FIRSTLINE MAINTENANCE SUPERVISORS			RADIO MAINTENANCE SUPERVISORS		
	MAINTENANCE SUPERVISORS		MOBILITY SUPERVISORS	MAINTENANCE SUPERVISORS		WORKCENTER SUPERVISORS
	GROUND RADIO SUPERVISORS	WIDE BAND SUPERVISORS	FIRSTLINE SUPERVISORS	SITE SUPER-INTENDENTS		
<u>I FIND MY JOB:</u>						
DULL	14	12	13	-	10	
SO-SO	9	4	20	16	12	
INTERESTING	75	82	67	84	78	
<u>MY JOB UTILIZES MY TALENTS:</u>						
NOT AT ALL TO VERY LITTLE	25	10	33	5	17	
FAIRLY WELL OR BETTER	75	88	67	95	83	
<u>MY JOB UTILIZES MY TRAINING:</u>						
NOT AT ALL TO VERY LITTLE	22	14	13	16	24	
FAIRLY WELL OR BETTER	78	84	87	84	76	
<u>I PLAN TO REENLIST:</u>						
NO, PLANNING TO RETIRE	14	18	20	32	37	
NO OR PROBABLY NO	21	18	33	16	17	
YES OR PROBABLY YES	65	62	47	52	46	

*NOTE: COLUMNS MAY NOT ADD TO 100 PERCENT DUE TO "NO RESPONSE"

APPENDIX B

TABLE I

REPRESENTATIVE TASKS PERFORMED BY SPACE COMMUNICATIONS SYSTEMS PERSONNEL
(GRP234, N=163)

TASKS	PERCENT MEMBERS PERFORMING
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	98
G163 PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	96
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	96
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	90
K279 ADJUST PARAMETRIC OR LOW NOISE AMPLIFIER COMPONENTS	90
G155 OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	87
G162 PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	83
K274 ADJUST DOWN CONVERTER COMPONENTS	83
I206 PERFORM CORROSION CONTROL	81
S630 PERFORM PMIs ON TRACKING SYSTEMS	79
G147 CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	79
I219 REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	78
I191 CONSTRUCT SHOP CABLES OR TEST PLUGS	78
I220 REMOVE OR REPLACE MECHANICAL COMPONENTS	77
S617 ADJUST TRACKING DOWN CONVERTER COMPONENTS	77
G152 ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	77
K296 ISOLATE MALFUNCTIONS IN PARAMETRIC OR LOW NOISE AMPLIFIERS	77
S618 ADJUST TRACKING RECEIVER COMPONENTS	77
L349 ADJUST LIQUID COOLING SYSTEM COMPONENTS	76
I183 BLEED OR PRESSURIZE SYSTEMS	74
S629 ISOLATE MALFUNCTIONS IN TRACKING SYSTEMS	74
G149 CONFIGURE PATCH PANELS FOR SPECIAL TEST OPERATIONS	72
S626 ISOLATE MALFUNCTIONS IN TRACKING DOWN CONVERTERS	72
S620 ALIGN TRACKING SYSTEMS	71
S619 ADJUST TRACKING SERVO CONTROL COMPONENTS	71
L348 ADJUST HIGH VOLTAGE POWER SUPPLY COMPONENTS	71
G148 CONFIGURE PATCH PANELS FOR RADIO FREQUENCY (RF) OPERATIONS	69
S628 ISOLATE MALFUNCTIONS IN TRACKING SERVO CONTROLS	69
G146 CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	69
G159 PERFORM CIRCUIT FAULT ISOLATION PROCEDURES AT PATCH AND TEST FACILITIES	67
H178 PERFORM TRACKING FUNCTIONS	67
L342 ADJUST DRIVER, INTERMEDIATE POWER, OR TRANSMIT INTER-FACILITY LINK AMPLIFIER COMPONENTS	67
K304 ISOLATE MALFUNCTIONS IN SOLID STATE DOWN CONVERTERS	66
S614 ADJUST ANTENNA DRIVE MOTOR COMPONENTS	66
H173 ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	66
H176 PERFORM ACQUISITION FUNCTIONS	66

TABLE II

REPRESENTATIVE TASKS PERFORMED BY 2045TH SATELLITE
COMMUNICATIONS GROUP PERSONNEL
(GRP328, N=18)

TASKS	PERCENT MEMBERS PERFORMING
H173 ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	100
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	94
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	94
H175 MONITOR SPACECRAFT TRANSPONDERS FOR TIME, POWER, OR FREQUENCY SHARING CONTROL	89
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	83
H176 PERFORM ACQUISITION FUNCTIONS	83
G162 PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	83
I191 CONSTRUCT SHOP CABLES OR TEST PLUGS	83
H180 SCHEDULE SATELLITE USERS	83
W836 CLEAN MAINTENANCE WORK AREAS	78
H178 PERFORM TRACKING FUNCTIONS	72
H179 REVIEW MISSION DATA FOR PREMISSION SETUPS	72
I193 DETERMINE CRYSTAL FREQUENCY FOR DESIRED OPERATING FUNCTION BOXES	72
G146 CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	72
I192 CRATE OR UNCRATE COMPONENTS OR MODULES	72
I195 INSPECT SAFETY OF EQUIPMENT	67
G147 CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	67
W852 OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	61
G148 CONFIGURE PATCH PANELS FOR RADIO FREQUENCY (RF) OPERATIONS	56
I219 REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	56
W859 PERFORM SITE SECURITY DUTIES	50
I196 INSTALL OR REMOVE MOUNTING HARDWARE	50
G166 RUN TEST TAPES	50
H181 UPDATE STATION JOURNALS	44
G163 PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	44
I204 ISOLATE MALFUNCTIONS IN SYSTEMS TO SPECIFIC EQUIPMENT	44
G159 PERFORM CIRCUIT FAULT ISOLATION PROCEDURES AT PATCH AND TEST FACILITIES	44
I206 PERFORM CORROSION CONTROL	44
W862 SECURE CLASSIFIED MATERIALS	39
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	39
E120 MAKE ENTRIES ON MAINTENANCE FORMS	39
E112 COMPILE MAINTENANCE DATA	39
F141 PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	39
D89 CONDUCT OJT	39
G152 ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	39

TABLE III

REPRESENTATIVE TASKS PERFORMED BY QUALITY CONTROL PERSONNEL
(GRP117, N=121)

TASKS	PERCENT MEMBERS PERFORMING
C66 EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	82
C64 EVALUATE CAPABILITY OF EQUIPMENT	80
B60 WRITE CORRESPONDENCE	79
C71 EVALUATE INSPECTION REPORTS OR PROCEDURES	76
A24 SCHEDULE INSPECTIONS	69
C68 EVALUATE EQUIPMENT OPERATIONAL, MAINTENANCE, OR REPAIR REPORTS	67
E123 PREPARE EVALUATION REPORTS	66
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	64
E121 PREPARE ACTIVITY REPORTS	58
E113 DISTRIBUTE CORRESPONDENCE, TECHNICAL INFORMATION, OR DIRECTIVES	58
C73 EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	56
A11 ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	53
E122 PREPARE DEFICIENCY REPORTS	52
B45 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	50
E114 MAINTAIN CORRESPONDENCE FILES	49
C75 EVALUATE SAFETY PROGRAMS	47
A9 DRAFT SUPPLEMENTS OR CHANGES TO DIRECTIVES	47
A7 DEVELOP WORK METHODS OR PROCEDURES	45
C65 EVALUATE CAUSES OF MISSION ABORTS OR OPERATIONAL DISCREPANCIES	45
C85 WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS	45
D97 DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	44
E116 MAINTAIN PUBLICATION FILES	42
C74 EVALUATE PROCEDURES FOR STORAGE, INVENTORY, OR INSPECTION OF PROPERTY ITEMS	40
I195 INSPECT SAFETY OF EQUIPMENT	40
E118 MAINTAIN TECHNICAL ORDER (TO) FILES	40
A15 PLAN BRIEFINGS	40
I207 PERFORM SAFETY INSPECTIONS	39
F145 REVIEW TABLE OF ALLOWANCES (TA)	37
D106 EVALUATE TRAINING METHODS OR TECHNIQUES	36
A4 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	36
E126 PREPARE REQUISITIONS FOR TECHNICAL ORDERS	36
B29 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	36
A5 DETERMINE WORK PRIORITIES	35
C61 ANALYZE WORKLOAD REQUIREMENTS	34
C62 COMPARE PRODUCTION AGAINST PRODUCTION STANDARDS	33

TABLE IV

REPRESENTATIVE TASKS PERFORMED BY FIRSTLINE MAINTENANCE SUPERVISORS
(GRP393, N=148)

TASKS	PERCENT MEMBERS PERFORMING
A5 DETERMINE WORK PRIORITIES	95
D97 DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	95
D89 CONDUCT OJT	94
B29 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	91
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	91
D107 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	89
B46 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	89
E120 MAKE ENTRIES ON MAINTENANCE FORMS	88
C82 PREPARE APRs	88
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	88
D96 COUNSEL TRAINEES ON TRAINING PROGRESS	88
F142 PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	87
F141 PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	84
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	84
A19 PLAN WORK ASSIGNMENTS	82
D91 CONDUCT PROFICIENCY TRAINING	82
B45 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	82
A7 DEVELOP WORK METHODS OR PROCEDURES	82
D95 CONDUCT UPGRADE TRAINING	80
D98 DETERMINE OJT TRAINING REQUIREMENTS	79
I195 INSPECT SAFETY OF EQUIPMENT	78
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	78
I207 PERFORM SAFETY INSPECTIONS	78
A12 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	76
A4 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	76
I206 PERFORM CORROSION CONTROL	76
I215 REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO- MINIATURE COMPONENTS USING SOLDERING METHODS	76
E115 MAINTAIN HISTORICAL RECORDS	74
A25 SCHEDULE LEAVES OR PASSES	74
I191 CONSTRUCT SHOP CABLES OR TEST PLUGS	74
W852 OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	74
W836 CLEAN MAINTENANCE WORK AREAS	73
F144 RESEARCH SUPPLY CATALOGS	72
E117 MAINTAIN STATUS BOARDS OR CHARTS	72

TABLE V

REPRESENTATIVE TASKS PERFORMED BY RADIO MAINTENANCE SUPERVISORS
(GRP650, N=160)

TASKS	PERCENT MEMBERS PERFORMING	
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	98
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	96
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	94
C82	PREPARE APRs	93
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	89
A25	SCHEDULE LEAVES OR PASSES	89
A2	ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	89
A5	DETERMINE WORK PRIORITIES	88
A19	PLAN WORK ASSIGNMENTS	87
A1	ASSIGN PERSONNEL TO DUTY POSITIONS	87
A12	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	86
C71	EVALUATE INSPECTION REPORTS OR PROCEDURES	83
A7	DEVELOP WORK METHODS OR PROCEDURES	83
C80	INDORSE AIRMAN PERFORMANCE REPORTS (APR)	79
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	77
E114	MAINTAIN CORRESPONDENCE FILES	77
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	77
A11	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	76
C73	EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	75
D87	ASSIGN ON-THE-JOB TRAINING (OJT) TRAINERS	75
D98	DETERMINE OJT TRAINING REQUIREMENTS	74
B35	DIRECT MAINTENANCE OF ADMINISTRATIVE, PUBLICATION, OR TECHNICAL ORDER FILES	74
C66	EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	72
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	71
C83	SELECT INDIVIDUALS FOR SPECIALIZED TRAINING	71
B44	INITIATE PERSONNEL ACTION REQUESTS	71
B41	IMPLEMENT SAFETY PROGRAMS	70
C68	EVALUATE EQUIPMENT OPERATIONAL, MAINTENANCE, OR REPAIR REPORTS	69
C79	EVALUATE WORK SCHEDULES	69
A10	ESTABLISH EQUIPMENT MAINTENANCE REQUIREMENTS	66
C61	ANALYZE WORKLOAD REQUIREMENTS	66
E117	MAINTAIN STATUS BOARDS OR CHARTS	66
C69	EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR RECLASSIFICATION	66
B33	DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	66
C64	EVALUATE CAPABILITY OF EQUIPMENT	65

TABLE VI

REPRESENTATIVE TASKS PERFORMED BY RESIDENT TRAINING SUPERVISORS
(GRP711, N=10)

TASKS	PERCENT MEMBERS PERFORMING
B29 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	100
D106 EVALUATE TRAINING METHODS OR TECHNIQUES	100
D107 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	100
C82 PREPARE APRs	100
D88 ASSIGN RESIDENT COURSE INSTRUCTORS	100
D93 CONDUCT RESIDENT COURSE CLASSROOM TRAINING	100
D105 EVALUATE PROGRESS OF STUDENTS	90
D96 COUNSEL TRAINEES ON TRAINING PROGRESS	90
D86 ADMINISTER TESTS	90
A19 PLAN WORK ASSIGNMENTS	90
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	90
A25 SCHEDULE LEAVES OR PASSES	90
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	90
A4 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	90
D109 SCORE TESTS	80
C66 EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	80
A7 DEVELOP WORK METHODS OR PROCEDURES	80
D99 DETERMINE RESIDENT COURSE TRAINING REQUIREMENTS	70
D108 PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	70
D91 CONDUCT PROFICIENCY TRAINING	70
A12 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	70
B45 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	70
C71 EVALUATE INSPECTION REPORTS OR PROCEDURES	70
A2 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	70
D110 WRITE TEST QUESTIONS	60
B52 SUPERVISE CIVILIAN PERSONNEL	60
C84 WRITE CIVILIAN PERFORMANCE RATINGS OR SUPERVISORY APPRAISALS	60
B60 WRITE CORRESPONDENCE	60
E114 MAINTAIN CORRESPONDENCE FILES	60
C83 SELECT INDIVIDUALS FOR SPECIALIZED TRAINING	60
D95 CONDUCT UPGRADE TRAINING	60
A15 PLAN BRIEFINGS	60
A5 DETERMINE WORK PRIORITIES	60
A11 ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	60
D101 DEVELOP RESIDENT COURSE OR CAREER DEVELOPMENT COURSE (CDC) CURRICULUM MATERIALS	50

TABLE VII

REPRESENTATIVE TASKS PERFORMED BY TOOL CRIB SUPERVISORS
(GRP442, N=12)

TASKS	PERCENT MEMBERS PERFORMING
F142 PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	100
C82 PREPARE APRs	100
A5 DETERMINE WORK PRIORITIES	100
F141 PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	92
B29 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	92
B46 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	83
W852 OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	83
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	83
B45 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	75
E115 MAINTAIN HISTORICAL RECORDS	75
E117 MAINTAIN STATUS BOARDS OR CHARTS	75
A19 PLAN WORK ASSIGNMENTS	75
E113 DISTRIBUTE CORRESPONDENCE, TECHNICAL INFORMATION, OR DIRECTIVES	67
B38 DIRECT SUPPLY FUNCTIONS OR TOOL CRIB OPERATIONS	67
F144 RESEARCH SUPPLY CATALOGS	67
F138 MAINTAIN OFFICE SUPPLIES	67
E120 MAKE ENTRIES ON MAINTENANCE FORMS	67
E114 MAINTAIN CORRESPONDENCE FILES	58
F128 COORDINATE EQUIPMENT CALIBRATION WITH PRECISION MEASUREMENT EQUIPMENT LABORATORIES (PMEL)	58
F134 MAINTAIN BENCHSTOCKS	58
B34 DIRECT MAINTENANCE CREW ACTIVITIES	58
B35 DIRECT MAINTENANCE OF ADMINISTRATIVE, PUBLICATION, OR TECHNICAL ORDER FILES	58
D97 DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	58
D96 COUNSEL TRAINEES ON TRAINING PROGRESS	58
I207 PERFORM SAFETY INSPECTIONS	58
F145 REVIEW TABLE OF ALLOWANCES (TA)	58
A2 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	58
E112 COMPILE MAINTENANCE DATA	50
B56 SUPERVISE RADIO RELAY EQUIPMENT (WIDEBAND COMMUNICATIONS EQUIPMENT) SPECIALISTS (AFSC 30450)	50
B33 DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	50
W848 MAINTAIN TOOL CRIBS	50
D107 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	50
C73 EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	50
F139 MAINTAIN PMEL CALIBRATION CHARTS	42
A4 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	42

TABLE VIII

REPRESENTATIVE TASKS PERFORMED BY SATELLITE COMMUNICATIONS CREW CHIEFS
(GRP466, N=15)

TASKS	PERCENT MEMBERS PERFORMING
D96 COUNSEL TRAINEES ON TRAINING PROGRESS	100
B29 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	100
D95 CONDUCT UPGRADE TRAINING	93
D97 DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	93
D107 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	87
D89 CONDUCT OJT	87
D91 CONDUCT PROFICIENCY TRAINING	87
A25 SCHEDULE LEAVES OR PASSES	87
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	87
B58 SUPERVISE SPACE COMMUNICATIONS SYSTEMS EQUIPMENT OPERATOR/SPECIALISTS (AFSC 30456)	80
A19 PLAN WORK ASSIGNMENTS	80
A5 DETERMINE WORK PRIORITIES	80
C82 PREPARE APRs	80
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	73
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	73
I207 PERFORM SAFETY INSPECTIONS	73
B51 SUPERVISE APPRENTICE SPACE COMMUNICATIONS SYSTEMS EQUIPMENT OPERATOR/SPECIALISTS (AFSC 30436)	67
B36 DIRECT OPERATIONAL CREW ACTIVITIES	67
B34 DIRECT MAINTENANCE CREW ACTIVITIES	67
D87 ASSIGN ON-THE-JOB TRAINING (OJT) TRAINERS	67
B45 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	67
A7 DEVELOP WORK METHODS OR PROCEDURES	67
I195 INSPECT SAFETY OF EQUIPMENT	67
G163 PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	67
D98 DETERMINE OJT TRAINING REQUIREMENTS	60
G155 OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	60
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	60
D102 DIRECT OR IMPLEMENT OJT PROGRAMS	60
B46 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	60
F142 PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	60
A12 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	53
A10 ESTABLISH EQUIPMENT MAINTENANCE REQUIREMENTS	53
H173 ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	53
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	53
B44 INITIATE PERSONNEL ACTION REQUESTS	53
B30 DIRECT CONTROL OF CLASSIFIED MATERIALS	53

TABLE IX

REPRESENTATIVE TASKS PERFORMED BY RESIDENT TECHNICAL SCHOOL INSTRUCTORS
(GRP243, N=77)

TASKS	PERCENT MEMBERS PERFORMING
D109 SCORE TESTS	100
D93 CONDUCT RESIDENT COURSE CLASSROOM TRAINING	97
D86 ADMINISTER TESTS	95
D105 EVALUATE PROGRESS OF STUDENTS	92
D96 COUNSEL TRAINEES ON TRAINING PROGRESS	79
D110 WRITE TEST QUESTIONS	65
D107 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	61
D97 DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	58
D92 CONDUCT REMEDIAL TRAINING	58
B29 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	56
B46 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	48
D106 EVALUATE TRAINING METHODS OR TECHNIQUES	40
D108 PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	29
C66 EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	25
D101 DEVELOP RESIDENT COURSE OR CAREER DEVELOPMENT COURSE (CDC) CURRICULUM MATERIALS	25
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	25
G162 PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	22
D91 CONDUCT PROFICIENCY TRAINING	19
D103 DIRECT OR IMPLEMENT TRAINING PROGRAMS OTHER THAN OJT	18
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	18
B45 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	18
D99 DETERMINE RESIDENT COURSE TRAINING REQUIREMENTS	17
I195 INSPECT SAFETY OF EQUIPMENT	16
E118 MAINTAIN TECHNICAL ORDER (TO) FILES	13
C64 EVALUATE CAPABILITY OF EQUIPMENT	13
D111 WRITE TRAINING REPORTS	12
E120 MAKE ENTRIES ON MAINTENANCE FORMS	12
B60 WRITE CORRESPONDENCE	12
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	10
A7 DEVELOP WORK METHODS OR PROCEDURES	10
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	10
M427 ALIGN FREQUENCY DIVISION MULTIPLEXERS	10
A15 PLAN BRIEFINGS	10
A4 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	9
B41 IMPLEMENT SAFETY PROGRAMS	9

TABLE X

REPRESENTATIVE TASKS PERFORMED BY INSTRUCTORS AND MAINTENANCE PERSONNEL
(GRP227, N=19)

TASKS	PERCENT MEMBERS PERFORMING
D105 EVALUATE PROGRESS OF STUDENTS	95
D106 EVALUATE TRAINING METHODS OR TECHNIQUES	95
D86 ADMINISTER TESTS	89
D108 PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	89
D92 CONDUCT REMEDIAL TRAINING	89
D96 COUNSEL TRAINEES ON TRAINING PROGRESS	89
D109 SCORE TESTS	89
G156 OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	84
D110 WRITE TEST QUESTIONS	84
G165 READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	84
D93 CONDUCT RESIDENT COURSE CLASSROOM TRAINING	79
D107 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	79
G164 PERFORM TURN-ON OR TURN-OFF PROCEDURES	79
D91 CONDUCT PROFICIENCY TRAINING	68
D97 DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	68
B46 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	68
B29 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	68
B45 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	63
I195 INSPECT SAFETY OF EQUIPMENT	63
G162 PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	53
D99 DETERMINE RESIDENT COURSE TRAINING REQUIREMENTS	53
A7 DEVELOP WORK METHODS OR PROCEDURES	53
I207 PERFORM SAFETY INSPECTIONS	53
D111 WRITE TRAINING REPORTS	47
G146 CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	47
C66 EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	42
D89 CONDUCT OJT	42
D94 CONDUCT SPECIAL TRAINING CONFERENCES OR BRIEFINGS	42
C64 EVALUATE CAPABILITY OF EQUIPMENT	42
G155 OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	42
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	42
N464 ADJUST FREQUENCY SHIFT CONVERTER COMPONENTS	42
N463 ADJUST FREQUENCY SHIFT KEYSER COMPONENTS	42
D95 CONDUCT UPGRADE TRAINING	37
G147 CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	37

TABLE XI
 REPRESENTATIVE TASKS PERFORMED BY JOB CONTROLLERS
 (GRP491, N=58)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
E117 MAINTAIN STATUS BOARDS OR CHARTS	97
A5 DETERMINE WORK PRIORITIES	88
A3 COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	86
E112 COMPILE MAINTENANCE DATA	69
E120 MAKE ENTRIES ON MAINTENANCE FORMS	67
E127 PREPARE STATUS REPORTS	53
B28 COORDINATE CANNIBALIZATION OF EQUIPMENT PARTS WITH APPROPRIATE AGENCIES	48
B33 DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	41
A15 PLAN BRIEFINGS	40
B34 DIRECT MAINTENANCE CREW ACTIVITIES	31
D89 CONDUCT OJT	31
F130 COORDINATE REPAIR OF EQUIPMENT WITH VENDORS OR OTHER AGENCIES	28
W862 SECURE CLASSIFIED MATERIALS	28
B30 DIRECT CONTROL OF CLASSIFIED MATERIALS	22
D97 DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	19
D107 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	17
C82 PREPARE APRs	17
E116 MAINTAIN PUBLICATION FILES	17
B37 DIRECT PERMISSION CHECKOUT OF EQUIPMENT OR MATERIALS	14
W836 CLEAN MAINTENANCE WORK AREAS	14
A24 SCHEDULE INSPECTIONS	14
W852 OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	14
E118 MAINTAIN TECHNICAL ORDER (TO) FILES	10
A21 PREPARE MAINTENANCE ACTIVITY SCHEDULES	10
E113 DISTRIBUTE CORRESPONDENCE, TECHNICAL INFORMATION, OR DIRECTIVES	10
D96 COUNSEL TRAINEES ON TRAINING PROGRESS	10
A26 SCHEDULE USE OF EQUIPMENT	9
B55 SUPERVISE MILITARY PERSONNEL WITH AFSs OTHER THAN 304X0, 304X4, OR 304X6	9
A4 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	9
A19 PLAN WORK ASSIGNMENTS	9
C61 ANALYZE WORKLOAD REQUIREMENTS	9
C64 EVALUATE CAPABILITY OF EQUIPMENT	9
B29 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	9
A22 PREPARE MAINTENANCE SCHEDULES	9
G151 ESTABLISH COMMUNICATION USER PRIORITIES	7

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