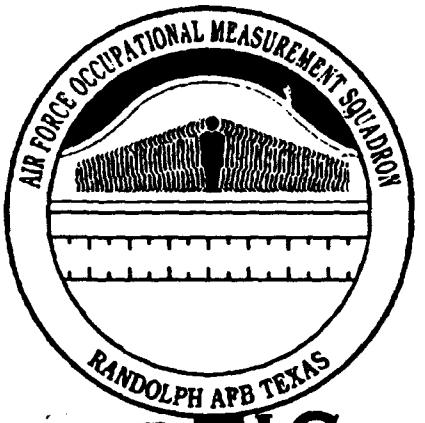

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

GROUND RADIO COMMUNICATIONS

AFSC 2E1X3
(FORMERLY AFSC 304X4)

AFPT 90-304-976

APRIL 1994

OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION and TRAINING COMMAND
1550 5th STREET EAST
RANDOLPH AFB, TEXAS 78150-4449

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PREFACE

This report presents the results of an Air Force Occupational Survey of the AFSC 2E1X3, Ground Radio Communications career ladder (formerly AFSC 304X4). Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

Mr Don Cochran, Inventory Development Specialist, developed the survey instrument; Mr James B. Keeth, Occupational Analyst, analyzed the data and wrote the final report. Mr Wayne Fruge provided computer programming support, and Mr Richard G. Ramos provided administrative support. Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron, reviewed and approved this report for release.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the Air Force Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB Texas, 78150-4449 (DSN 487-6623).

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SUMMARY OF RESULTS

1. *Survey Coverage*: The Ground Radio Communications (AFSC 2E1X3) career ladder was surveyed to obtain current job and task data for use in updating career ladder training documents and the tech school training program. Survey results are based on data collected from 2,251 AFSC 2E1X3 personnel. This represents 57 percent of the total assigned population.

2. *Specialty Jobs:* Structure analysis of the AFSC 2E1X3 data reflects a very diverse job structure, with 1 cluster and 10 jobs identified. Fifty-one percent of the survey sample grouped into one core cluster of Ground Radio Equipment Maintenance. These personnel primarily maintained a wide variety of Ultra High Frequency (UHF)/Very High Frequency (VHF)/High Frequency (HF) equipment, as well as mobile and contingency equipment and missile radio communications equipment. Two smaller maintenance jobs were also identified which specialized around either Public Address (PA) systems maintenance or HF systems maintenance. Nonmaintenance jobs identified included Supervision and Management, Quality Control, Maintenance Job Control, Maintenance Training, Land Mobile Radio (LMR) Management, Logistic Support, Tech School Instructor, and Engineering and Installation (E&I).

3. *Career Ladder Progression*: Normal career ladder progression within the AFSC 2E1X3 career ladder is evident. Three-skill level personnel spend the vast majority of their job time performing technical tasks involving maintenance of a wide variety of ground radio communications equipment. At the 5-skill level, personnel are still heavily involved with ground radio communications equipment maintenance, but begin to become involved with support jobs, such as Quality Control, Maintenance Job Control, and Maintenance Training. Seven-skill level personnel reflect a shift toward supervisory and management work, although 35 percent are still involved with ground radio equipment maintenance. Smaller percentages work in many of the support jobs. The 9-skill level personnel are primarily the managers of the career ladder, with very little technical work noted.

4. *AFMAN 36-2108 Specialty Descriptions*: The 3- and 5-skill level Specialty Descriptions in AFMAN 36-2108 provide a broad and generally accurate description of the technical job of ground radio equipment repair and maintenance of UHF, VHF, and HF equipment and PA systems. However, very little mention is made of support jobs performed by 5-skill level personnel, such as Quality Control or Maintenance Job Control. The 7-skill level description accurately reflects the added supervisory, directing, and inspection functions at that level, as well as the continued performance of technical functions. The 9-skill level description accurately reflects the supervisory and management nature of this job.

5. *Training Analysis*: Overall, the 2E1X3 Specialty Training Standard (STS), dated February 1988, with changes, was generally supported by the Occupational Survey Report (OSR) data. Subject-matter experts, however, should carefully review the STS for possible fine-tuning of content and proficiency codes, since this is a very diverse career ladder and personnel work on many different systems and pieces of equipment (both fixed and mobile). Equipment data

presented in this OSR should be helpful in any review performed. As for the basic 3-skill level awarding course, it appears to be doing a good job in preparing young airmen for their first assignment as Ground Radio Communications Specialists. The course is using common ground radio equipment and test equipment in teaching the basics of ground radio repair and maintenance. While some minor adjustments could be made to the course, overall it is supported by the OSR data.

6. *Job Satisfaction Analysis*: In general, job satisfaction among AFSC 2E1X3 personnel is fairly high, with no serious satisfaction problems noted. Personnel working in the PA Systems Maintenance and Maintenance Job Control jobs had the lowest job satisfaction of any jobs identified.

7. *Implications*: The current AFSC 2E1X3 career ladder structure reflects a great deal of diversity within the career ladder. Most of this is the result of the wide variety of ground radio communications equipment being maintained by career ladder incumbents. Three jobs were identified which involved equipment maintenance, with about 60 percent of the career ladder incumbents working in the core cluster of Ground Radio Equipment Maintenance and two jobs specializing on HF equipment or PA systems. In addition to these three maintenance jobs, seven support jobs and a supervision and management job were identified. Overall job progression is normal. AFMAN 36-2108 *Specialty Descriptions* broadly describe the maintenance jobs and tasks being performed, but do not cover many of the support jobs and tasks. Job satisfaction is fairly high among career ladder incumbents. Both the STS and the Plan of Instruction are generally supported by OSR data, but should be given a thorough review due to the wide diversity of equipment involved.

OCCUPATIONAL SURVEY REPORT (OSR)
GROUND RADIO COMMUNICATIONS CAREER LADDER
(AFSC 2E1X3)

INTRODUCTION

This is a report of an occupational survey of the Ground Radio Communications career ladder conducted by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron. The survey was requested by the AFSC 2E1X3 Training Manager at the Keesler Technical Training Center. Data gathered through this OSR will be used by the technical school to review their training courses and related training documents in light of equipment and utilization changes, which have occurred since the last OSR in 1986.

Background

As described in the AFMAN 36-2108 *Specialty Descriptions* for AFSC 2E1X3, 3- and 5-skill level members are responsible for installing, maintaining, and repairing fixed and transportable transmitters, receivers, transceivers, and related equipment, including: amplitude modulation (AM), frequency modulation (FM), single-side band, and multiple side band applicable to point-to-point, ground-to-air, facsimile, low frequency (LF), high frequency (HF), very high frequency (VHF), and ultra high frequency (UHF) systems; radio frequency amplifiers; recorders; keying and signal devices; generation and display equipment, and base radio systems. They also maintain public address (PA) systems, and a variety of consoles, from air traffic control consoles to small tactical types. The 7-skill level craftsman performs many of the same kinds of tasks as the 3- and 5-skill levels, but also performs supervisory duties, as well as administrative and supply functions necessary to manage a shop. Those 7-skill levels in "craftsman" positions are more likely to perform, or check, the more technical jobs, such as establishing and maintaining a system of accountability for equipment; supervisory followup inspections; and determining repair procedures necessary to correct defective equipment. Those in a "supervisory" position plan, schedule, evaluate, and supervise ground radio communications support activities and perform technical review of ground radio communications support functions.

Initial 3-skill level training for AFSC 2E1X3 personnel is currently provided through a 23-week, 4-day course at Keesler AFB MS. This course covers such topics as the operation, installation, inspection, testing, adjustment, calibration, alignment, troubleshooting, and organizational maintenance and repair of ground radio communications equipment (GRCE), including:

(1) Single channel (UHF/VHF) transmitters
(2) Single channel (UHF/VHF) receivers
(3) Multichannel (HF) receivers
(4) Multichannel (UHF/VHF/HF) transceivers
(5) Multichannel (UHF/VHF/HF) recorders
(6) Multichannel (UHF/VHF/HF) communications consoles
(7) Associated test equipment

Also taught are electronic principles, special circuits and digital communications, and maintenance data collection documentation.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) AFPT 90-304-976, dated September 1992. The Inventory Developer prepared a tentative task list by reviewing pertinent career ladder publications and directives and the previous JI and OSR. This task list was further refined and validated through personal interviews with 98 subject-matter experts (SMEs) representing a variety of major commands (MAJCOMs) at the following locations:

BASE	UNIT VISITED
Keesler AFB MS	3300d Technical Training Wing 1839th Engineering and Installation Group 3380th Communications Squadron
Tyndall AFB FL	325th Communications Squadron 1st Air Force Southeast Air Defense Sector
Patrick AFB FL	21st Combat Communications Squadron 22d Combat Communications Squadron 23d Combat Communications Squadron 45th Communications Squadron
Cape Canaveral AFS FL	45th Maintenance Squadron
Brooks AFB TX	6906th Electronic Security Squadron

Kelly AFB TX	6993d Electronic Security Squadron
Altus AFB OK	443d Communications Squadron
Ellsworth AFB SD	28th Communications Squadron
Bergstrom AFB TX	602d Air Control Center Squadron 712th Air Support Operations Center 67th Communications Squadron
Andrews AFB MD	89th Communications Group
Brandywine MD	Det 2, 89th Communications Group
Davidsonville MD	OL-C, 89th Communications Group

The resulting JI contained a comprehensive listing of 715 tasks grouped under 15 duty headings, with a background section requesting such information as grade, MAJCOM, job title, time in present job, time in service, job satisfaction, GRCE operated and/or maintained, auxiliary equipment used, general shop or test equipment used, vehicles used, and forms used.

Survey Administration

Military Personnel Flights at operational bases worldwide administered the inventory to 3,457 DAFSC 2E1X3 personnel holding a 3-, 5-, 7-, or 9-skill level. Personnel excluded from taking the survey included the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time inventories were administered to the field; and (4) personnel in their job less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Military Personnel Center (AFMPC).

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in the member's current job. After checking all tasks performed, each individual then rated each task on a 9-point scale showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of the member's time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100

to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

The final AFSC 2E1X3 survey sample includes responses from 2,251 job incumbents. Table 1 reflects the distribution, by MAJCOM, of assigned AFSC 2E1X3 personnel as of October 1992. The 2,251 respondents in the final sample represent 57 percent of all assigned AFSC 2E1X3 personnel. Table 2 reflects the distribution by paygrade. As shown by both tables, the survey sample accurately reflects the overall AFSC 2E1X3 population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 2E1X3 personnel (generally E-6 or E-7 technicians) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). These booklets were processed separately from the JIs. This information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty (TD): Each individual completing a TD booklet was asked to rate all inventory tasks on a 9-point scale (from extremely low to extremely high) as to the relative difficulty of each task. Difficulty is defined as the length of time required by the average incumbent to learn to do the task. TD data were independently collected from 97 experienced 7-skill level personnel stationed worldwide. Interrater reliability was calculated and found acceptable. Ratings were standardized so tasks have an average difficulty rating of 5.00, with a standard deviation of 1.00. The resulting data yield essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Training Emphasis (TE): Individuals completing TE booklets were asked to rate tasks on a 10-point scale from no training required to extremely high amount of training emphasis. TE is a rating of which tasks require emphasis in structured training for first-term personnel. Structured training is defined as training provided by resident technical schools, field training detachments, mobile training teams, formal OJT, or any other organized training method. TE data were independently collected from 98 experienced 7-skill level personnel stationed worldwide. As with TD ratings, the interrater reliability was computed and found to be acceptable, indicating there was sufficient agreement among raters as to which tasks require some form of structured training. In this specialty, tasks rated high in training emphasis have ratings of 3.65 and above, with an average rating of 2.20. As was discussed in the TD section above, TE data may also be used to rank order tasks, indicating those tasks which senior NCOs in the field consider the most important for first-enlistment airmen to be trained to perform.

TABLE 1

MAJCOM REPRESENTATION OF SURVEY SAMPLE

MAJCOM	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
ACC	33	31
USAFE	13	15
PACAF	11	11
AFIC	10	8
AMC	9	10
AETC	6	7
AFC4A	6	5
AFMC	4	5
AF ELEMENTS (OTHER)	3	3
AFSPACECOM	2	2
OTHER	3	3

TOTAL ASSIGNED = 3,978
TOTAL SURVEYED = 3,455
TOTAL IN SAMPLE = 2,251
PERCENT OF ASSIGNED IN SAMPLE = 57%
PERCENT OF SURVEYED IN SAMPLE = 65%

* As of October 1992

TABLE 2

PAYGRADE DISTRIBUTION OF SAMPLE

PAYGRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
E-1 TO E-3	9	8
E-4	27	28
E-5	29	30
E-6	18	18
E-7	13	13
E-8	4	3

* As of October 1992

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide good insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting AFS entry-level jobs.

SPECIALTY JOBS
(Career Ladder Structure)

Each USAF occupational analysis begins with an examination of the career ladder structure. The structure of jobs within the Ground Radio Communications career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

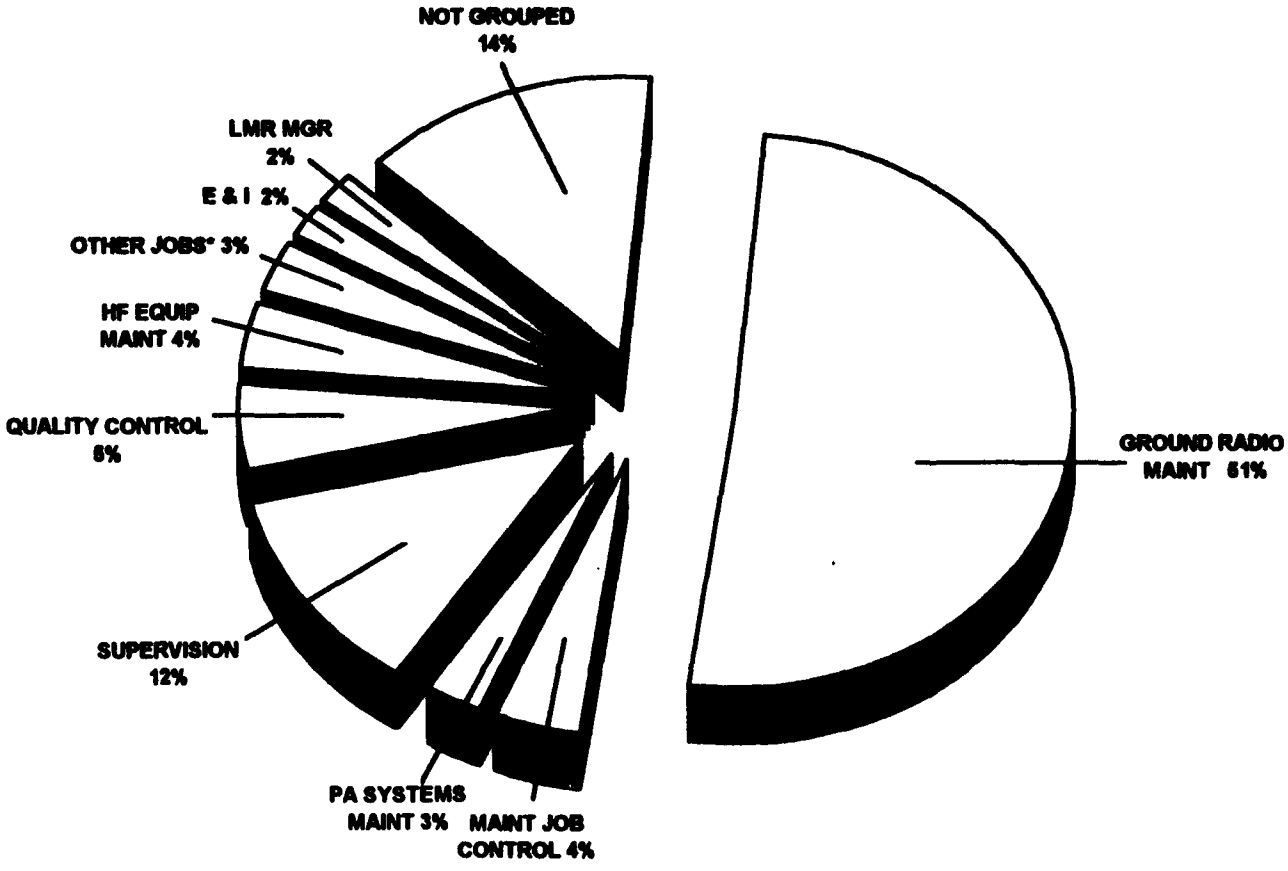
Each individual in the sample performs a set of tasks called a job. A hierarchical grouping program, which is a basic part of the Comprehensive Occupational Data Analysis Program (CODAP) system, creates an individual job description for each respondent (all the tasks performed by that individual and the relative amount of time spent on those tasks). It then compares each job description to every other job description in terms of tasks performed and the relative amount of time spent on each task in the JI. The automated system locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a composite job description. In successive stages, the system adds new members to initial groups, or forms new groups based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

When there is a substantial degree of similarity between jobs, they are grouped together and identified as a cluster. Specialized jobs too dissimilar to fit within a cluster are labeled as independent jobs. The job structure resulting from this grouping process (the various jobs and clusters within the career ladder) can be used to evaluate the accuracy of career ladder documents (Career Field Education and Training Plans (CFETP), AFMAN 36-2108 Specialty Descriptions, and Specialty Training Standards (STS)) and to gain a better understanding of current utilization patterns.

Overview of Specialty Jobs

Based on the similarity of tasks performed and the amount of time spent performing each task, 1 cluster and 10 jobs were identified within the AFSC 2E1X3 survey sample. A listing of these jobs is provided below and illustrated in Figure 1. The stage (ST) number shown beside each title references computer-generated information; the letter "N" stands for the number of personnel in each group.

AFSC 2E1X3 CAREER LADDER JOBS
(N=2,251)



* OTHER JOBS INCLUDES MAINT TNG, LOGISTIC SUPPORT, AND TECH SCHOOL INSTRUCTOR

FIGURE 1

I. GROUND RADIO EQUIPMENT MAINTENANCE CLUSTER (STG055, N=1,140)

II. HF EQUIPMENT MAINTENANCE (STG045, N=101)

III. PUBLIC ADDRESS (PA) SYSTEMS MAINTENANCE (STG136, N=64)

IV. SUPERVISION AND MANAGEMENT (STG199, N=274)

V. QUALITY CONTROL (STG138, N=102)

VI. MAINTENANCE JOB CONTROL (STG144, N=94)

VII. MAINTENANCE TRAINING (STG409, N=13)

VIII. LAND MOBILE RADIO (LMR) MANAGEMENT (STG301, N=48)

IX. LOGISTIC SUPPORT (GRP050, N=17)

X. TECHNICAL SCHOOL INSTRUCTOR (STG255, N=20)

XI. ENGINNERING AND INSTALLATION (E&I) (STG098, N=51)

The respondents forming these groups account for 86 percent of the survey sample. The remaining 14 percent are performing tasks or a series of tasks which do not group with any of the defined jobs. Examples of job titles for these people include Equipment Control Officer, Network Operator, Class A Telephone Manager, Vehicle Control NCO, Systems Flight Executive, Research Technician, Technical Security NCO, and Small Computer Technician.

Group Descriptions

The following paragraphs contain brief descriptions of the 1 cluster and 10 jobs identified through the career ladder structure analysis. Also presented are two tables which reflect the time incumbents spend on duties and selected background data for each group. Table 3 presents the relative time spent by respondents in each job across each duty listed in the JI. Table 4 displays selected background information, such as DAFSC distributions across each group, average months in service (i.e., Total Active Federal Military Service (TAFMS)), and average number of tasks performed. Also included is Appendix A at the back of this OSR, which lists representative tasks performed by members of each group.

Another way to illustrate these jobs is to summarize tasks performed into groups of tasks (task modules). This allows for a very concise display of where job incumbents spend most of their time and thus develops a comprehensive overview of each job. The display shows the

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY 2E1X3 JOB GROUPS

DUTIES		GRD RADIO EQUIP MAINT (STG055)	HF EQUIP MAINT (STG045)	PA SYSTEMS MAINT (STG136)	SUPVRS AND MGRS (STG199)	QUALITY CONTROL (STG138)	MAINT JOB CONTROL (STG144)
A	ORGANIZING AND PLANNING	6	4	9	25	17	20
B	DIRECTING AND IMPLEMENTING	4	2	5	17	9	9
C	INSPECTING AND EVALUATING	5	2	5	21	31	9
D	TRAINING	4	4	4	10	8	8
E	PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	11	11	13	13	18	12
F	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ACTIVITIES	9	8	4	5	5	38
G	PERFORMING CONTRACT ADMINISTRATIVE ACTIVITIES, SUCH AS GRCE, ADPE, AND LAND MOBILE RADIOS (LMRs)	*	-	1	*	2	*
H	INSTALLING GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE) AND AUXILIARY EQUIPMENT	3	*	2	*	2	*
I	MAINTAINING GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)	14	26	7	1	2	*
J	MAINTAINING AUXILIARY EQUIPMENT	12	8	4	*	1	*
K	PERFORMING SHOP MAINTENANCE OF GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE) AND AUXILIARY EQUIPMENT	14	20	6	*	*	*
L	PERFORMING COMPONENT SHOP MAINTENANCE	6	9	2	*	*	*
M	PERFORMING MOBILE OPERATIONS ACTIVITIES	7	3	2	4	3	3
N	MAINTAINING MISSILE OR ALERT RADIO COMMUNICATIONS SYSTEMS AND EQUIPMENT	*	-	*	*	*	*
O	INSTALLING AND MAINTAINING PUBLIC ADDRESS (PA) SYSTEMS	4	*	36	1	*	*

* Denotes Less than 1 percent

\- Denotes Duty Not Performed

** Columns may not add exactly to 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY 2E1X3 JOB GROUPS

	DUTIES	MAINT TRNG (STG409)	LMR MGRS (STG301)	LOGISTIC SUPPORT (GRP050)	TECH SCHOOL INSTR (STG255)	E&I (STG098)
A	ORGANIZING AND PLANNING	10	18	29	5	5
B	DIRECTING AND IMPLEMENTING	6	6	8	4	6
C	INSPECTING AND EVALUATING	13	10	15	4	5
D	TRAINING	31	6	5	52	7
E	PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	7	26	30	15	6
F	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ACTIVITIES	28	*	6	-	-
G	PERFORMING CONTRACT ADMINISTRATIVE ACTIVITIES, SUCH AS GRCE, ADPE, AND LAND MOBILE RADIOS (LMRs)	-	28	4	-	*
H	INSTALLING GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE) AND AUXILIARY EQUIPMENT	1	1	1	*	60
I	MAINTAINING GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)	*	1	*	12	3
J	MAINTAINING AUXILIARY EQUIPMENT	-	2	-	3	3
K	PERFORMING SHOP MAINTENANCE OF GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE) AND AUXILIARY EQUIPMENT	-	*	-	4	1
L	PERFORMING COMPONENT SHOP MAINTENANCE	-	-	-	*	-
M	PERFORMING MOBILE OPERATIONS ACTIVITIES	4	1	2	1	2
N	MAINTAINING MISSILE OR ALERT RADIO COMMUNICATIONS SYSTEMS AND EQUIPMENT	-	-	-	-	*
O	INSTALLING AND MAINTAINING PUBLIC ADDRESS (PA) SYSTEMS	-	-	-	-	1

* Denotes Less than 1 percent
- Denotes Duty Not Performed
** Columns may not add exactly to 100 percent due to rounding

TABLE 4

SELECTED BACKGROUND DATA FOR 2E1X3 CAREER LADDER JOBS

	GRD RADIO EQUIP MAINT (STG055)	HF EQUIP MAINT (STG045)	PA SYSTEMS MAINT (STG136)	SUPVRS AND MGRS (STG199)	QUALITY CONTROL (STG138)	MAINT JOB CONTROL (STG144)
NUMBER IN GROUP	1,140	101	64	274	102	94
PERCENT OF SAMPLE	51%	4%	3%	12%	5%	4%
PERCENT IN CONUS	61%	45%	77%	58%	67%	56%
DAFSC DISTRIBUTION						
2E133	11%	27%	8%	0%	0%	1%
2E153	63%	66%	59%	5%	35%	54%
2E173	26%	7%	33%	72%	60%	45%
2E190	0%	0%	0%	23%	5%	0%
PREDOMINANT PAYGRADE(S)	E-4/E-5	E-4	E-4/E-5	E-6/E-7	E-5/E-6	E-5
AVERAGE MONTHS IN CAREER FIELD	92	59	104	182	153	118
AVERAGE MONTHS IN SERVICE (TAFMS)	103	71	115	207	168	128
PERCENT IN FIRST ENLISTMENT	17%	40%	10%	0%	0%	6%
AVERAGE NUMBER OF TASKS PERFORMED	131	40	59	92	72	61
PERCENT SUPERVISING	52%	27%	42%	95%	40%	52%

TABLE 4 (CONTINUED)

SELECTED BACKGROUND DATA FOR 2E1X3 CAREER LADDER JOBS

	MAINT TRNG (STG409)	LMR MGRS (STG301)	LOGISTIC SUPPORT (GRP050)	TECH SCHOOL INSTR (STG255)	E&I (STG098)
NUMBER IN GROUP	13	48	17	20	51
PERCENT OF SAMPLE	1%	2%	1%	1%	2%
PERCENT IN CONUS	85%	69%	53%	100%	92%
DAFSC DISTRIBUTION					
2E133	0%	4%	0%	0%	6%
2E153	54%	56%	29%	40%	63%
2E173	46%	38%	65%	60%	31%
2E190	0%	2%	6%	0%	0%
PREDOMINANT PAYGRADE(S)	E-5	E-4/E-5/E-6	E-6/E-7	E-5/E-6	E-4/E-5
AVERAGE MONTHS IN CAREER FIELD	114	124	155	154	94
AVERAGE MONTHS IN SERVICE (TAFMS)	135	135	187	160	107
PERCENT IN FIRST ENLISTMENT	0%	2%	0%	0%	10%
AVERAGE NUMBER OF TASKS PERFORMED	51	70	38	46	59
PERCENT SUPERVISING	8%	44%	41%	5%	55%

* Less than 1 Percent

number of tasks included in a module, the percent time spent on tasks in that module, a cumulative amount of time spent on the listed modules, the weighted average time spent on each individual task within the module, and finally, an average percentage of members performing the particular task module. These modules were identified through CODAP co-performance clustering, which presents the average probability that if you perform one task you also perform a second task or a group of related tasks. The probabilities are calculated on the actual coperformance of tasks by respondents in this survey sample. Representative task modules are listed as a part of the job description. The list of modules with respective tasks is presented in Appendix B.

I. GROUND RADIO EQUIPMENT MAINTENANCE CLUSTER (STG055, N=1,140). This cluster of jobs represents the core work of the career ladder. Fifty-one percent of career ladder personnel work in these jobs and are responsible for maintaining a wide range of base communications equipment and systems, including PA systems, Air Traffic Control (ATC) Services facilities, ATC radio maintenance, ground air transmitters/receivers, and the Tactical Air Control System. They operationally check, align, isolate, remove, replace, install, and bench check every equipment item and component of a ground radio communications system. These are the broadest jobs of any identified, with personnel performing an average of 131 tasks. Examples of tasks performed include:

operationally check UHF or VHF equipment
isolate malfunctions within UHF or VHF equipment
align UHF or VHF equipment or subassemblies
operationally check HF equipment
align or adjust internal circuitry of GRCE
remove or replace UHF or VHF equipment subassemblies
isolate malfunctions within HF equipment
bench check UHF or VHF transceivers or subassemblies
align or adjust external controls of GRCE
align or adjust power amplifiers
bench check UHF or VHF equipment components

Representative task modules for this cluster include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0002	UHF/VHF Equipment	11	8	8	.76	70%
0003	HF Equipment	18	11	19	.62	65%
0001	Supply Ordering	6	3	22	.55	59%
0004	Recorders-Reproducers	7	3	25	.41	46%
0005	Communications Consoles	11	4	29	.37	42%
0006	PA Systems	14	4	33	.30	35%
0009	FM Equipment	6	2	35	.30	33%

The modules clearly display the wide diversity of equipment maintained by personnel in this cluster and show the predominant concentration on UHF, VHF, and HF equipment.

Personnel working in this cluster are fairly experienced, with only 17 percent in their first-enlistment, and 63 percent holding a 5-skill level. The average TAFMS for these incumbents is 103 months, and the predominant paygrades of the job incumbents are E-4 and E-5.

Within this large cluster, two distinct jobs were identified and warrant discussion. These were the (1) Contingency and Mobile Equipment Maintenance job (STG298, N=255) and (2) the Missile Radio Maintenance job (STG256, N=30).

Personnel in the Contingency and Mobile Equipment Maintenance job are involved with UHF, VHF, and HF equipment, but perform more mobile operations tasks. These include such tasks as:

operationally check mobile GRCE
pack mobility or contingency equipment for shipment or movement
set up or tear down mobile antenna systems
fire weapons for proficiency
operationally check mobile antenna systems
erect tents
set up or tear down mobile communications vans
install station grounds for vans or shelters
transport mobility or contingency equipment to or from deployed locations
align or adjust mobile antenna systems
don or doff chemical warfare personal protective clothing

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0003	HF Equipment	18	11	11	.60	74%
0002	UHF/VHF Equipment	11	6	17	.56	70%
0001	Supply Ordering	6	3	20	.51	62%
0009	FM Equipment	6	3	23	.47	59%
0023	Mobile Operations	54	22	45	.42	51%

These modules clearly indicate the primary work is with HF, UHF, and VHF equipment. However, 22 percent of the job time is spent on the 54 tasks comprising the Mobile Operations module, confirming a heavy involvement with mobility and contingency tasks.

These modules clearly indicate the primary work is with HF, UHF, and VHF equipment. However, 22 percent of the job time is spent on the 54 tasks comprising the Mobile Operations module, confirming a heavy involvement with mobility and contingency tasks.

Members in the Missile Radio Maintenance job were all assigned to missile bases, such as Malmstrom, F.E. Warren, Ellsworth, Grand Forks, Minot, and Whiteman AFBs. Tasks which distinguish these personnel from others in the cluster involve survivable low-frequency communications systems (SLFCSs) and low frequency (LF) equipment tasks, such as:

align or adjust SLFCSs
service SLFCSs
operationally check SLFCSs
remove or replace SLFCS components
isolate malfunctions within SLFCSs or components
operationally check LF equipment
monitor SLFCS operation
isolate malfunctions within LF equipment
bench check LF receivers or subassemblies
align LF equipment or subassemblies
remove or replace LF system LRUs
remove or replace LF equipment subassemblies

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0051	Survivable Low-Frequency Comm Systems (SLFCS)	6	10	10	1.64	97%
0050	LF Equipment	8	10	20	1.21	83%
0002	UHF/VHF Equipment	11	8	28	.68	71%

These task modules clearly show the predominant work done by these personnel focuses primarily on SLFCSs and LF equipment, with UHF and VHF equipment being worked on to a slightly less degree.

II. HF EQUIPMENT MAINTENANCE (STG045, N=101). Unlike the core job described above, this fairly narrow job (average tasks performed is 40) is limited primarily to the maintenance of HF equipment. Very little time is spent on the maintenance of VHF or UHF equipment. Only 4 percent of the survey sample fell into this job. Commonly performed tasks include:

operationally check HF equipment
align HF equipment or subassemblies
isolate malfunctions within HF equipment
remove or replace HF equipment subassemblies
bench check HF equipment components
remove or replace HF equipment discrete components
bench check HF exciters or subassemblies
bench check HF power amplifiers or subassemblies
remove or replace HF system LRUs
bench check HF transmitters or subassemblies
bench check HF receivers or subassemblies

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0003	HF Equipment	18	39	39	2.18	61%
0010	Side-Band Equipment	4	3	42	.67	26%
0001	Supply Ordering	6	4	46	.66	27%

The HF Equipment module data above clearly show how specialized this job is, with 39 percent of the job time spent on the 18 tasks in that module.

Personnel in this cluster average 71 months TAFMS, with 40 percent in their first enlistment. Sixty-six percent hold the 5-skill level. The predominant paygrade of job incumbents is E-4. Fifty-five percent are assigned overseas.

III. PUBLIC ADDRESS (PA) SYSTEMS MAINTENANCE (STG136, N=64). This job primarily involves the maintenance of PA systems. It is very specialized in that job incumbents spend 36 percent of their time in Duty O, Installing and Maintaining Public Address (PA) Systems (see Table 3). Commonly performed tasks include:

set up or tear down portable PA systems
operationally check PA systems
operate PA systems projection printers
transport PA systems or equipment to or from deployed locations
align or adjust PA systems
fabricate audio cables for PA systems

conduct location surveys for PA systems
bench check PA system components
coordinate support requests for PA systems with appropriate agencies
isolate malfunctions within PA systems to LRUs
remove or replace PA system LRUs
install fixed PA systems processors
remove or replace PA system discrete components

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0006	PA Systems	14	33	33	2.37	78%
0001	Supply Ordering	6	3	36	.48	35%
0002	UHF/VHF Equipment	11	5	41	.41	33%

The task module data show that the largest percent of the job time (33 percent) is spent on the 14 tasks comprising the PA Systems task module, with much smaller amounts of time being spent on UHF/VHF equipment tasks. This reflects a rather specialized job centering on the maintenance or operation of PA systems.

Fifty-nine percent of those holding this job have a 5-skill level and average 115 months TAFMS. Only 10 percent are in their first enlistment. Seventy-seven percent are assigned to the CONUS.

IV. SUPERVISION AND MANAGEMENT (STG199, N=274). Unlike the first three technically oriented jobs above, personnel in this job primarily perform supervisory and management tasks. Very few technical tasks are performed. Sixty-three percent of their job time is spent in Duties A through C (see Table 3). Commonly performed tasks include:

participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting
counsel personnel on personal or military-related matters
write EPRs
coordinate maintenance or supply problems with appropriate agencies
write recommendations for awards or decorations
conduct performance feedback worksheet (PFW) evaluation sessions
establish performance standards for subordinates
supervise ground radio communications technicians (AFSC 30474)
interpret policies, directives or procedures for subordinates

determine or establish work priorities
evaluate personnel for promotion, demotion, reclassification, or special awards

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0014	Supervision	48	44	44	.91	67%
0019	Budget	4	2	46	.59	50%
0020	Meetings and Briefings	4	2	48	.59	45%
0021	Contingency Planning	4	2	50	.49	42%
0016	Supply/Equipment Requirements	12	6	56	.47	43%
0015	On-The-Job Training (OJT)	12	5	61	.46	43%
0018	Safety-Security Programs	7	3	64	.43	41%
0017	Inspection/Quality Control	17	7	71	.40	38%

The task module data show a highly specialized job in that 44 percent of the job time is spent in one module (Supervision), with smaller amounts of time being spent on the other areas. Most of the modules listed are functions normally handled only by supervisors.

Personnel performing this job hold a 7-skill level (72 percent) or the 9-skill level (23 percent) (see Table 4). None are in their first enlistment, and personnel average 207 months time in service. Ninety-five percent indicate they supervise one or more personnel. Predominant paygrades are E-6 and E-7.

V. QUALITY CONTROL (STG138, N=102). This job is primarily an inspection function involving quality control or quality assurance programs. Personnel in this job hold such titles as Quality Control Inspector, Maintenance Inspector, or Quality Assurance Inspector. Thirty-one percent of their job time is spent in Duty C, Evaluating and Inspecting (see Table 3). Commonly performed tasks include:

write inspection reports
analyze maintenance or inspection reports
implement quality control or assurance programs
evaluate quality control or assurance procedures
evaluate maintenance or use of equipment, tools, supplies, or workspace
evaluate deficiency, service, or status reports, such as materiel deficiency reports (MDRs)
evaluate safety or security programs

evaluate serviceability of equipment, tools, or supplies
compile information for records or reports
plan workcenter inspections of facilities or equipment
conduct staff assistance visits (SAVs)

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0017	Inspection/Quality Control	17	23	23	1.33	69%
0018	Safety-Security Programs	7	5	28	.65	39%
0020	Meetings and Briefings	4	2	30	.52	39%
0014	Supervision	48	23	53	.48	33%
0015	On-The-Job Training (OJT)	12	5	58	.41	31%

As expected, the Inspection/Quality Control module is the most predominant module for this group, with inspection and quality control tasks in the module being performed by an average of 69 percent of group members.

Sixty percent of these personnel hold the 7-skill level, with the average time in service for the group being 168 months. None are in their first enlistment.

VI. MAINTENANCE JOB CONTROL (STG144, N=94). This job primarily involves scheduling and tracking maintenance discrepancies. Use of CAMs involves 38 percent of their job time, the highest percent of any job identified. Common job titles for personnel in this job include Maintenance Controller, Job Controller, and Plans and Scheduling. Commonly performed tasks include:

access core automated maintenance system (CAMS) menus and data screens
analyze CAMS data
coordinate maintenance or supply problems with appropriate agencies
track equipment maintenance discrepancies in CAMS
assign maintenance and repair work
change CAMS errors noted during daily verification process
create equipment maintenance discrepancies in CAMS
maintain preventive maintenance inspection (PMI) listings
close or close out completed maintenance discrepancies in CAMS
change CAMS job standard narratives
verify accuracy of daily inputs in CAMS

perform CAMS inquiries to monitor delayed discrepancies prior to, during, or after scheduling maintenance
perform CAMS inquiries for uncompleted maintenance event listings

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0022	CAMS	40	42	42	1.06	52%
0014	Supervision	48	28	70	.58	36%

The predominant module for this job is the CAMS module, where members spend 42 percent of their job time performing 40 CAMS tasks.

Most of these 94 personnel hold the 5- or 7-skill level, with the predominant paygrade being E-5. Average time in service is 128 months. Only 6 percent are in their first enlistment.

VII. MAINTENANCE TRAINING (STG409, N=13). This job essentially involves ensuring that ground radio communications personnel within the workcenter are trained to do their job. Basically, personnel in this job work within a workcenter, rather than at the technical school. They look at formal training each shop member has received, identify additional training needed (whether on current or new equipment), and schedule appropriate training for the individual. Thirty-one percent of the job time is spent on Duty D, Training. Commonly performed tasks include:

perform CAMS inquiries for training status
maintain training database in CAMS
evaluate effectiveness of training programs
schedule personnel for training
brief unit staff personnel on training programs or matters
update CAMS workcenter training products
maintain training records, charts, graphs, or files
evaluate progress of trainees
update CAMS personnel data files
create maintenance personnel records in CAMS
conduct CAMS training
plan training, such as OJT, qualification training, or ancillary training
schedule training in CAMS

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0015	On-The-Job Training (OJT)	12	17	17	1.40	60%
0022	CAMS	40	31	48	.77	30%

Not surprisingly, the top task module for this job involves OJT. While CAMS is also a major module, the average percent members performing those tasks is much smaller, compared to those performing OJT-related tasks.

Personnel in this job perform an average of 51 tasks. All hold either a 5- or 7-skill level. Predominant paygrade of the group members is E-5. Average TAFMS is 135 months. None are in their first enlistment.

VIII. LAND MOBILE RADIO (LMR) MANAGEMENT (STG301, N=48). This job primarily involves the management of mobile radios, pagers, cellular phones, and networking at a base or MAJCOM. Much of the job involves the monitoring of contracts dealing with this equipment. In fact, the most time spent by personnel in this job is on Duty G, Performing Contract Administrative Activities, such as for GRCE, ADPE, and LMRs (28 percent). Commonly performed tasks include:

monitor maintenance contract agreements
coordinate maintenance or supply problems with appropriate agencies
perform QAE performance evaluations
draft inputs to performance work statements (PWSs)
write statements of work (SOWs)
research PWSs
write SOWs
research SOWs
prepare requisitions for local purchase of supply items
maintain GRCE contract files
prepare changes or amendments for contract data requirement lists
prepare and process call orders
coordinate obtaining parts with base supply
draft budget requirements

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0056	Contract Management	31	28	28	.91	48%
0016	Supply/Equipment Requirements	12	11	39	.88	53%
0019	Budget	4	3	42	.73	51%
0001	Supply Ordering	6	4	46	.72	45%
0014	Supervision	48	24	70	.50	35%

Contract management is the predominant task module for this job, with 28 percent of the total job time spent on the 31 tasks in that module.

Ninety-four percent of these job incumbents hold the 5- or 7-skill level. Average time in service is 135 months. Only 2 percent indicated they are in their first enlistment. Most are in paygrades E-4, E-5, or E-6.

IX. LOGISTIC SUPPORT (GRP050, N=17). When new systems are programmed to be acquired by a workcenter or base, the logistic support section is responsible for ensuring that all materials and supplies are ordered, that funding has been projected by the shop, training scheduled, and that manning slots are on the books. Much of this job involves coordinating among many different agencies and tracking the money for equipment and supplies. A little over half the job time is spent in Duty E, Performing General Administrative and Supply Activities (30 percent) and Duty A, Organizing and Planning (29 percent). Commonly performed tasks include:

compile information for records or reports
participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting
draft budget requirements
evaluate budget requirements
determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies
coordinate maintenance or supply problems with appropriate agencies
maintain administrative files
validate supply transaction listings or rosters, such as D04, D18, D19, D-23, or M-30

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0019	Budget	4	7	7	1.81	53%
0016	Supply/Equipment Requirements	12	15	22	1.22	36%
0020	Meetings and Briefings	4	3	25	.78	31%
0001	Supply Ordering	6	4	29	.65	25%
0014	Supervision	48	31	60	.65	25%

The task modules listed above account for 60 percent of the total job time of personnel performing this job.

Sixty-five percent of the personnel in this job hold a 7-skill level. None are in their first enlistment. Average time in service is 187 months, and the predominant paygrades for job incumbents are E-6 and E-7. Average number of tasks performed is 38.

X. TECHNICAL SCHOOL INSTRUCTOR (STG255, N=20). As contrasted to the Maintenance Training job, personnel in this job are all assigned to Keesler AFB MS and are responsible for providing formal training to career ladder incumbents. Fifty-two percent of their time is spent in Duty D, Training. Commonly performed tasks include:

conduct resident course classroom training
prepare lesson plans
develop lesson plans
administer or score tests
evaluate progress of trainees
write or revise training materials
write test questions
supervise students undergoing training
construct or develop training aids
evaluate trainers or trainees
counsel trainees on training progress
develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0024	Technical School Training	21	34	34	1.62	50%
0015	On-The-Job Training (OJT)	12	14	48	1.20	40%

As expected, the predominant modules for this job are both training modules. The Technical School Training module clearly distinguishes this job from the Maintenance Training job.

Personnel in this job hold a 5- or 7-skill level, with an average time in service of 160 months and a predominant paygrade of E-5 or E-6. None are in their first enlistment.

XI. ENGINEERING AND INSTALLATION (E&I) (STG098, N=51). Personnel in this job perform a large number of installation tasks, with very little troubleshooting or repair work being accomplished. The job entails dispatching personnel in a team to perform the initial setup of ground communications systems. Once installed, standard maintenance and repair functions are handled by personnel in the core Ground Radio Equipment Maintenance cluster described above. Group members spend a great deal of time TDY. Most are stationed at E&I squadrons at Patrick, McClellan, Keesler, and Yokota AFBs. Sixty percent of their job time is spent in Duty H, Installing GRCE and Auxiliary Equipment. Commonly performed tasks include:

assemble or wire equipment components for installation
install communications consoles, including launch control consoles
install communications patch panels
install multiple-channel UHF or VHF transceivers
install battery backup systems
perform preinstallation checks of GRCE or auxiliary equipment
install single-channel UHF or VHF exciters
install single-channel UHF or VHF power amplifiers
install single-channel UHF or VHF transmitters
install multicouplers
install battery chargers
install multiple-channel high-frequency (HF) exciters
test GRCE following installation
inspect completed installation of GRCE

Representative task modules for this job include:

TM	MODULE TITLE	NO. OF TASKS	PERCENT TIME SPENT SUM	CUM	AVG	AVG PCT MBRS PERF
0049	Engineering and Installation (E&I)	76	60	60	.78	40%
0001	Supply Ordering	6	3	63	.44	25%

As expected, the E&I module is the primary module. Sixty percent of the job time is spent on the 76 tasks comprising this module, indicating a very specialized job.

Sixty-three percent of these personnel hold a 5-skill level. Only 10 percent are in their first enlistment. Average time in service is 107 months, and the predominant paygrade of group members is E-4 or E-5.

Comparison of Current Jobs to Previous Survey Findings

The results of the specialty job analysis were compared to those of the last Ground Radio Communications OSR published in 1986. As shown in Table 5, eight jobs in the current study were also identified in 1986. Three jobs, however, were identified in this survey but not identified in the 1986 survey. These were the Maintenance Training, Land Mobile Radio Management, and Logistic Support jobs. One job, Supply Personnel, was identified in the 1986 survey, but was not identified as a distinct group in the present study. In both surveys, a large group of Ground Radio Maintenance personnel were identified as the core job. This core job comprised 49 percent of the 1986 sample, compared to 51 percent of the 1993 sample.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may be used to evaluate how well career ladder documents, such as the CFETP, AFMAN 36-2108 *Specialty Descriptions*, and the STS, reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups.

A typical pattern of progression is noted within the AFSC 2E1X3 career ladder. Personnel at the 3- and 5-skill levels work in the technical jobs of the career ladder and spend most of their time on technical tasks involving the maintenance of ground radio equipment. As incumbents

TABLE 5

COMPARISON OF JOB GROUPS IN CURRENT STUDY
VERSUS 1986 STUDY

1993 Study (N=2,251)	1986 Study (N=2,398)
Ground Radio Equipment Maintenance HF Equipment Maintenance PA Systems Maintenance	Ground Radio Maintenance Personnel
Supervision and Management	Supervisory Cluster
Quality Control	Quality Control IJT
Maintenance Job Control	Maintenance Job Control
Engineering and Installation (E&I)	Engineering and Installation (E&I)
Tech School Instructor	Tech Training
Maintenance Training	Not Identified
Land Mobile Radio (LMR) Management	Not Identified
Logistic Support	Not Identified
Not Identified	Supply Personnel

TABLE 6

DISTRIBUTION OF SKILL-LEVEL MEMBERS
ACROSS CAREER LADDER JOBS
(PERCENT MEMBERS RESPONDING)

JOB		DAFSC 2E133 (N=191)	DAFSC 2E153 (N=1,122)	DAFSC 2E173 (N=854)	DAFSC 2E190 (N=84)
I.	Ground Radio Equipment Maintenance	65	64	35	0
II.	HF Equipment Maintenance	14	6	1	0
III.	PA Systems Maintenance	3	3	2	0
IV.	Supervision and Management	0	1	23	75
V.	Quality Control	0	3	7	6
VI.	Maintenance Job Control	*	5	5	0
VII.	Maintenance Training	0	1	1	0
VIII.	Land Mobile Radio (LMR) Management	1	2	2	1
IX.	Logistic Support	0	*	1	1
X.	Tech School Instructor	0	1	1	0
XI.	Engineering and Installation (E&I)	2	3	2	0
XII.	Ungrouped	15	11	20	17

TABLE 7

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)**

	DUTIES	DAFSC 2E133 (N=191)	DAFSC 2E153 (N=1,122)	DAFSC 2E173 (N=854)	DAFSC 2E190 (N=84)
A	ORGANIZING AND PLANNING	3	7	17	29
B	DIRECTING AND IMPLEMENTING	*	4	10	18
C	INSPECTING AND EVALUATING	1	5	14	26
D	TRAINING	1	5	9	6
E	PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	10	13	14	9
F	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ACTIVITIES	8	10	7	1
G	PERFORMING CONTRACT ADMINISTRATIVE ACTIVITIES, SUCH AS FOR GRCE, ADPE, AND LAND MOBILE RADIOS (LMRs)	*	1	2	2
H	INSTALLING GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE) AND AUXILIARY EQUIPMENT	-	5	3	*
I	MAINTAINING GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)	17	12	5	*
J	MAINTAINING AUXILIARY EQUIPMENT	11	9	4	*
K	PERFORMING SHOP MAINTENANCE OF GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE) AND AUXILIARY EQUIPMENT	19	11	4	*
L	PERFORMING COMPONENT SHOP MAINTENANCE	7	5	2	*
M	PERFORMING MOBILE OPERATIONS ACTIVITIES	9	6	5	5
N	MAINTAINING MISSILE OR ALERT RADIO COMMUNICATIONS SYSTEMS AND EQUIPMENT	*	*	*	-
O	INSTALLING AND MAINTAINING PUBLIC ADDRESS (PA) SYSTEMS	5	5	2	*

* Denotes less than 1 percent
** Columns may not add exactly to 100 percent due to rounding
\- Denotes duty is not performed

move up to the 7-skill level, higher percentages work in the Supervision and Management job, but many personnel still spend some time maintaining equipment or work in several of the seven support jobs. At the 9-skill level, the largest percent of personnel grouped in the Supervision and Management job, with very little time spent on technical duties (see Tables 6 and 7).

Skill-Level Descriptions

DAFSC 2E133. The 191 airmen in the 3-skill level group, representing 8 percent of the survey sample, spend most of their job time maintaining GRCE and auxiliary equipment (see Table 7). Sixty-five percent are working in the core Ground Radio Equipment Maintenance cluster, with 14 percent working in the HF Equipment Maintenance job (see Table 6).

Table 8 lists representative tasks performed by all 3-skill level job incumbents. Most tasks listed relate to Duty I (Maintaining GRCE) and Duty K (Performing Shop Maintenance of GRCE and Auxiliary Equipment) With the wide diversity of equipment to be maintained by ground radio personnel, it is not surprising that the percentages of members performing any of the tasks listed are not high (65 percent or less).

DAFSC 2E153. The 1,122 airmen in the 5-skill level group represent 50 percent of the total survey sample. As with 3-skill level personnel, the largest percentages of these incumbents are working in the Ground Radio Equipment Maintenance core cluster. However, several shifts in jobs performed are noted. A decrease is seen in the performance of the HF Equipment Maintenance job and a broadening into areas such as Quality Control, Maintenance Job Control, and Maintenance Training is noted (see Table 6).

Representative tasks performed by 5-skill level incumbents are listed in Table 9. Table 10 reflects those tasks which best differentiate 5-skill level personnel from their 3-skill level counterparts. All tasks in the table show a negative value, indicating that 5-skill level personnel are also performing all the technical tasks that 3-skill level respondents perform. The major difference between the two groups, as seen in Table 10, is that 5-skill level personnel perform a broader range of tasks, many being supervisory or training tasks. As with the 3-skill level group, 5-skill level personnel are also quite diversified in their work, as evident by the fact that low percentages of group members (68 percent and less) are performing the top tasks.

DAFSC 2E173. Seven-skill level personnel represent 38 percent of the survey sample. Unlike their junior counterparts at the 3- and 5-skill levels, higher percentages of these personnel are working in the Supervisory and Management job (23 percent vs 0 and 3 percent, respectively). However, 35 percent of 7-skill level personnel are still working in the core Ground Radio Equipment Maintenance cluster (see Table 6). Table 11 lists the most time-consuming tasks performed by 7-skill level personnel. Most of these involve supervisory functions. Table 12 shows those tasks which best differentiate the 5- and 7-skill levels. As expected, the key difference is a much greater emphasis on supervisory functions at the 7-skill level.

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY 2E133 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=191)
I374	Operationally check UHF or VHF equipment	65
K507	Align UHF or VHF equipment or subassemblies	64
I361	Isolate malfunctions within UHF or VHF equipment	62
K538	Bench check UHF or VHF transceivers or subassemblies	60
I372	Operationally check HF equipment	59
K559	Remove or replace UHF or VHF equipment subassemblies	58
K568	Solder communications equipment components, other than high-reliability soldering	57
F198	Access core automated maintenance system (CAMS) menus and data screens	55
I349	Align or adjust power amplifiers	54
K537	Bench check UHF or VHF receivers or subassemblies	54
L581	Bench check UHF or VHF equipment components	54
I359	Isolate malfunctions within HF equipment	53
K505	Align HF equipment or subassemblies	52
I346	Align or adjust internal circuitry of GRCE	52
I345	Align or adjust external controls of GRCE	50
K536	Bench check UHF or VHF power amplifiers or subassemblies	50
E184	Research microfiche files for supply requisition data	46
K557	Remove or replace HF equipment subassemblies	45
I364	Isolate malfunctions within power amplifiers	44
L611	Remove or replace UHF or VHF equipment discrete components	42
M640	Fabricate RF cables	40
J465	Operationally check recorder-reproducers	40
E185	Research technical orders to identify components or items of equipment	39
L579	Bench check HF equipment components	37
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	37
E190	Store or secure equipment, tools, or supplies	36

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY 2E153 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=1,122)
F198	Access core automated maintenance system (CAMS) menus and data screens	68
K568	Solder communications equipment components, other than high reliability soldering	64
I359	Isolate malfunctions within HF equipment	63
I372	Operationally check HF equipment	62
D103	Conduct OJT	61
I374	Operationally check UHF or VHF equipment	60
I361	Isolate malfunctions within UHF or VHF equipment	58
K505	Align HF equipment or subassemblies	58
K557	Remove or replace HF equipment subassemblies	56
A6	Coordinate maintenance or supply problems with appropriate agencies	55
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	55
I346	Align or adjust internal circuitry of GRCE	55
I349	Align or adjust power amplifiers	54
K507	Align UHF or VHF equipment or subassemblies	54
E184	Research microfiche files for supply requisition data	54
K559	Remove or replace UHF equipment subassemblies	52
A8	Determine or establish work priorities	51
I364	Isolate malfunctions within power amplifiers	51
I387	Remove or replace HF system LRUs	51
I345	Align or adjust external controls of GRCE	50
K538	Bench check UHF or VHF transceivers or subassemblies	49
E185	Research technical orders to identify components or items of equipment	48
E183	Process due-in-from maintenance (DIFM) items	48
E143	Coordinate obtaining parts with base supply	47
L579	Bench check HF equipment components	47
I389	Remove or replace UHF or VHF system LRUs	46
L581	Bench check UHF or VHF equipment components	46
F206	Clear or close out completed maintenance discrepancies in CAMS	45
K550	Perform corrosion prevention on GRCE	45
E190	Store or secure equipment, tools, or supplies	44
I367	Lubricate mechanical parts of GRCE	44
I398	Visually inspect station grounds	44
A2	Assign maintenance and repair work	43
K537	Bench check UHF or VHF receivers or subassemblies	43
D126	Maintain training records, charts, graphs, or files	43
F220	Perform CAMS inquiries for training status	42
K536	Bench check UHF or VHF power amplifiers or subassemblies	42

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 2E133 AND DAFSC 2E153 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		2E133 (N=191)	2E153 (N=1,122)	DIFFERENCE
D103	Conduct OJT	20	61	-41
B39	Counsel personnel on personal or military-related matters	4	42	-38
A8	Determine or establish work priorities	14	51	-37
A6	Coordinate maintenance or supply problems with appropriate agencies	18	55	-37
A2	Assign maintenance and repair work	7	43	-36
C95	Write EPRs	3	37	-34
C65	Conduct performance feedback worksheet (PFW) evaluation sessions	3	35	-32
D108	Counsel trainees on training progress	3	34	-31
D121	Evaluate progress of trainees	2	33	-31
D126	Maintain training records, charts, graphs, or files	12	43	-31
C66	Conduct self-inspections	13	41	-29
F220	Perform CAMS inquiries for training status	14	42	-28
E183	Process due-in-from maintenance (DIFM) items	22	48	-26
D128	Plan training, such as OJT, qualification training or ancillary training	1	26	-25
C78	Evaluate personnel for compliance with performance standards or technical orders	2	27	-25
E193	Validate supply transaction listings or rosters, such as D04, D18, D19, D-23, or M-30	5	30	-25
A28	Plan or schedule work assignments or priorities	4	28	-24
B54	Initiate technical order improvement reports	5	29	-24
B38	Conduct supervisory orientations of newly assigned personnel	2	25	-23
C97	Write recommendations for awards or decorations	0	23	-23

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY 2E173 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=854)
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	84
A6	Coordinate maintenance or supply problems with appropriate agencies	73
B39	Counsel personnel on personal or military-related matters	73
C95	Write EPRs	70
C65	Conduct performance feedback worksheet (PFW) evaluation sessions	67
A8	Determine or establish work priorities	64
C66	Conduct self-inspections	64
D126	Maintain training records, charts, graphs, or files	59
C97	Write recommendations for awards or decorations	58
A17	Establish performance standards for subordinates	56
D103	Conduct OJT	56
B38	Conduct supervisory orientations of newly assigned personnel	56
F198	Access core automated maintenance system (CAMS) menus and data screens	55
B55	Interpret policies, directives, or procedures for subordinates	54
A2	Assign maintenance and repair work subordinates	54
A33	Review drafts of regulations, manuals, or other directives	53
E141	Compile information for records or reports	52
A7	Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies	52
C98	Write replies to inspection reports	52
A34	Schedule personnel for leaves, temporary duty (TDY), or passes	52
B59	Supervise Ground Radio Communications Specialists (AFSC 30454)	51
C62	Analyze maintenance or inspection reports	51
D121	Evaluate progress of trainees	51
D108	Counsel trainees on training progress	51
C78	Evaluate personnel for compliance with performance standards or technical orders	50
E143	Coordinate obtaining parts with base supply	50
E164	Maintain administrative files	49
A28	Plan or schedule work assignments or priorities	49
E186	Review CA/CRLs	48
C93	Review preventive maintenance schedules	46
A21	Establish work schedules	46
C79	Evaluate personnel for promotion, demotion, reclassification, or special awards	45
E184	Research microfiche files for supply requisition data	45

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 2E153 AND DAFSC 2E173 PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		2E153 (N=1,122)	2E173 (N=854)	DIFFERENCE
I359	Isolate malfunctions within HF equipment	63	33	30
K505	Align HF equipment or subassemblies	58	30	28
K568	Solder communications equipment components, other than high-reliability soldering	64	37	27
I372	Operationally check HF equipment	62	36	26
K557	Remove or replace HF equipment subassemblies	56	30	26
I361	Isolate malfunctions within UHF or VHF equipment	58	35	23
K507	Align UHF or VHF equipment or subassemblies	54	31	23
I349	Align or adjust power amplifiers	54	31	23
I346	Align or adjust internal circuitry of GRCE	55	33	22
I367	Lubricate mechanical parts of GRCE	44	22	22
I374	Operationally check UHF or VHF equipment	60	38	22
K559	Remove or replace UHF or VHF equipment subassemblies	52	30	22
K550	Perform corrosion prevention on GRCE	45	23	22
L579	Bench check HF equipment components	47	26	21
I364	Isolate malfunctions within power amplifiers	51	30	21
I345	Align or adjust external controls of GRCE	50	30	20
I387	Remove or replace HF system LRUs	51	31	20
A34	Schedule personnel for leaves, temporary duty (TDY), or passes	11	52	-41
C97	Write recommendations for awards or decorations	23	58	-35
A33	Review drafts of regulations, manuals, or other directives	18	53	-35
A4	Assign sponsors for newly assigned personnel	7	41	-34
C98	Write replies to inspection reports	19	52	-33
C95	Write EPRs	37	70	-33
C65	Conduct performance feedback worksheet (PFW) evaluation sessions	35	67	-32

TABLE 12 (CONTINUED)

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 2E153 AND DAFSC 2E173 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		2E153 (N=1,122)	2E173 (N=854)	DIFFERENCE
B38	Conduct supervisory orientations of newly assigned personnel	25	56	-31
B55	Interpret policies, directives, or procedures for subordinates	23	54	-31
A21	Establish work schedules	15	46	-31
B39	Counsel personnel on personal or military-related matters	42	73	-31
A17	Establish performance standards for subordinates	26	56	-30
A3	Assign personnel to duty positions	8	39	-30
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	55	84	-29

DAFSC 2E190. Nine-skill level personnel spend most of their time on supervisory and management tasks. Commonly performed tasks are presented in Table 13. Table 14 displays the task differences between the 9-skill level and 7-skill level groups. Not surprisingly, the main differences can be seen in the performance of many technical tasks at the 7-skill level and the performance of management tasks at the 9-skill level. In addition, Table 6 reflects that 9-skill level personnel are found primarily in the Supervisory and Management job, with a few members found in the Quality Control, LMR Management, and Logistic Support jobs.

Summary

Progression in this career ladder follows a regular pattern of highly technical job focus at the lo skill levels, with a broadening into supervision at the 7-skill level. Emphasis is seen in pe ning primarily the core job of ground radio equipment maintenance at the 3- and 5-skill levels, with some broadening into support areas at the 5-skill level. Craftsmen at the 7-skill level are beginning to shift to supervision tasks, but a good deal of their job time is still spent in the technical arena. The 9-skill level personnel are primarily managers of the career ladder. This progression is easily seen in Table 6 and serves the career ladder by providing a regular progression from 3-skill level to the 9-skill level.

ANALYSIS OF AFMAN 36-2108 SPECIALTY DESCRIPTIONS

Survey data were compared to the AFMAN 36-2108 *Specialty Descriptions* for Ground Radio Communications Specialists, Technicians, and Superintendents, effective 30 April 1991. These specialty descriptions are intended to provide a broad overview of the duties and responsibilities of each skill level.

The 3- and 5-skill level specialty description is generally accurate in describing the technical job of Ground Radio Equipment Repair, HF Equipment Maintenance, and PA Systems Maintenance. However, almost no mention is made of support jobs performed by 5-skill level personnel, such as Quality Control or Maintenance Job Control. The 7-skill level description accurately reflects the added supervisory, directing, and inspection functions at that level, as well as the continued performance of technical functions. The 9-skill level specialty description accurately reflects the supervisory and management nature of this job. The Specialty Descriptions should be carefully reviewed against the job structure described in the SPECIALTY JOBS section of this OSR to ensure that all technical and support functions are adequately covered in sufficient detail.

TABLE 13

REPRESENTATIVE TASKS PERFORMED BY 2E190 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=84)
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	93
B39	Counsel personnel on personal or military-related matters	93
A33	Review drafts of regulations, manuals, or other directives	88
C97	Write recommendations for awards or decorations	88
B61	Supervise military personnel with AFSCs other than 304X4s	82
C95	Write EPRs	82
A6	Coordinate maintenance or supply problems with appropriate agencies	80
A3	Assign personnel to duty positions	79
C79	Evaluate personnel for promotion, demotion, reclassification, or special awards	77
B37	Conduct staff meetings or briefings	77
C65	Conduct performance feedback worksheet (PFW) evaluation sessions	77
B38	Conduct supervisory orientations of newly assigned personnel	76
B55	Interpret policies, directives, or procedures for subordinates	75
A34	Schedule personnel for leaves, temporary duty (TDY), or passes	75
C62	Analyze maintenance or inspection reports	74
A8	Determine or establish work priorities	73
A32	Prepare agenda for meetings, such as staff meetings, conferences, workshops, or symposiums	73
A26	Plan or prepare briefings	71
A7	Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies	71
A17	Establish performance standards for subordinates	71
A13	Draft budget requirements	70
C99	Write staff studies, surveys, or special reports, other than training reports	68
A15	Establish organizational policies, such as operating instructions (OIs), or standard operating procedures (SOPs)	68
A35	Write job descriptions	68
C87	Indorse enlisted performance reports (EPRs)	67
E141	Compile information for records or reports	65
A14	Draft supplements or changes to governing directives	65
B46	Draft recommendations for policy changes in personnel or equipment	65
C71	Evaluate job descriptions	65

TABLE 14

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 2E173 AND DAFSC 2E190 PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		2E173 (N=854)	2E190 (N=84)	DIFFERENCE
D103	Conduct OJT	56	13	43
F198	Access core automated maintenance system (CAMS) menus and data screens	55	17	38
E191	Turn in equipment, tools, or supplies	41	5	36
K568	Solder communications equipment components, other than high-reliability soldering	37	2	35
B59	Supervise Ground Radio Communications Specialists (AFSC 30454)	51	18	33
I398	Visually inspect station grounds	35	2	33
E185	Research technical orders to identify components or items of equipment	37	5	32
E184	Research microfiche files for supply requisition data	45	13	32
I374	Operationally check UHF or VHF equipment	38	6	32
I346	Align or adjust internal circuitry of GRCE	33	1	32
I372	Operationally check HF equipment	36	5	31
E186	Review CA/CRLs	48	17	31
I359	Isolate malfunctions within HF equipment	33	2	31
I361	Isolate malfunctions within UHF or VHF equipment	35	4	31
B37	Conduct staff meetings or briefings	29	77	-48
A32	Prepare agenda for meetings, such as staff meetings, conferences, workshops, or symposiums	27	73	-46
B61	Supervise military personnel with AFSCs other than 304X4	38	82	-44
C87	Indorse enlisted performance reports (EPRs)	26	67	-41
A3	Assign personnel to duty positions	38	79	-41
C99	Write staff studies, surveys, or special reports, other than training reports	28	68	-40
C71	Evaluate job descriptions	26	65	-39
A14	Draft supplements or changes to governing directives	27	65	-38
B53	Initiate personnel action requests	19	57	-38
B46	Draft recommendations for policy changes in personnel or equipment	28	65	-37

TABLE 14 (CONTINUED)

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 2E173 AND DAFSC 2E190 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		2E173 (N=854)	2E190 (N=84)	DIFFERENCE
A13	Draft budget requirements	34	70	-36
A33	Review drafts of regulations, manuals, or other directives	53	88	-35
C79	Evaluate personnel for promotion, demotion, reclassification, or special awards	45	77	-32
C68	Evaluate budget requirements	30	62	-32
A35	Write job descriptions	36	68	-32
A11	Develop organizational or functional charts	20	51	-31

TRAINING ANALYSIS

Occupational survey data represent one of many sources of information which are used to assist in the development of training programs for career ladder personnel. OSR data useful to training personnel include job descriptions for the various jobs performed within a career ladder, distribution of personnel across career ladder jobs, percentages of personnel performing specific tasks, percentages of personnel maintaining specific equipment or systems, as well as the difficulty of tasks and TE ratings gathered from senior members of the career ladder.

TE and TD Data

TE and TD data are secondary factors that can help technical school personnel decide which entry-level training tasks to emphasize. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide training personnel with a rank-ordering of those tasks considered important for first-enlistment airman training (TE) and a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To help training personnel focus on tasks which are most appropriate for entry-level training, an additional factor, the Automated Training Indicator (ATI), was assigned to each task in the inventory. A computer program considered percent first-enlistment members performing, TE and TD ratings, and the Course Training Decision Logic Table found in AETCR 52-22, Atch 1, and assigned an ATI value to each task corresponding to the 18 training decisions on the table. The decision table and explanation of ATIs precede the listing of tasks in descending order of ATI in the Training Extract. Training personnel should focus on tasks with an ATI of 18, which suggests these tasks should be in the entry-level course.

Tasks having the highest TE ratings are listed in Table 15. Included for each task are the percentage of first-job and first-enlistment personnel performing and the TD rating. As illustrated by the tasks listed, most apply to the routine maintenance of UHF, VHF, and HF equipment, and most are considered of average or above difficulty.

Table 16 lists the tasks having the highest TD ratings. The percentages of first-job, first-enlistment, 5-, and 7-skill level personnel performing, and the TE rating are also included for each task. The majority of tasks with high difficulty are not performed by high percentages of any group, but five tasks have fairly high TE ratings. Many of the tasks with high TD values are related to isolating malfunctions and high level management functions.

TABLE 15

DAFSC 2E1X3 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	TSK DIFF
I361	Isolate malfunctions within UHF or VHF equipment	6.78	65	63	6.49
I374	Operationally check UHF or VHF equipment	6.48	67	65	4.10
I359	Isolate malfunctions with HF equipment	6.48	54	57	6.82
K537	Bench check UHF or VHF receivers or subassemblies	6.44	60	55	5.27
K538	Bench check UHF or VHF transceivers or subassemblies	6.36	64	59	5.62
K539	Bench check UHF or VHF transmitters or subassemblies	6.32	56	51	5.48
K507	Align UHF or VHF equipment or subassemblies	6.32	64	62	5.85
K536	Bench check UHF or VHF power amplifiers or subassemblies	6.26	54	51	5.51
I349	Align or adjust power amplifiers	6.11	51	59	6.17
I364	Isolate malfunctions within power amplifiers	6.10	45	52	6.68
K505	Align HF equipment or subassemblies	6.10	50	55	6.35
K568	Solder communications equipment components, other than high-reliability soldering	6.09	48	61	4.32
I372	Operationally check HF equipment	6.05	62	63	4.24
I346	Align or adjust internal circuitry of GRCE	5.96	51	56	6.07
K529	Bench check HF transceivers or subassemblies	5.96	37	39	5.70
L581	Bench check UHF or VHF equipment components	5.90	56	53	5.55
K527	Bench check HF power amplifiers or subassemblies	5.89	34	40	5.83
L579	Bench check HF equipment components	5.78	32	40	5.69
J411	Align or adjust recorder-reproducers	5.78	31	37	6.07

TE MEAN = 2.20; SD = 1.45 (High TE = 3.65)
TD MEAN = 5.00; SD = 1.00

TABLE 15 (CONTINUED)

DAFSC 2E1X3 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	TSK DIFF
J426	Isolate malfunctions within communications consoles to LRUs	5.77	11	22	6.17
K528	Bench check HF receivers or subassemblies	5.76	32	31	5.52
L595	Perform high-reliability soldering of integrated circuits	5.76	15	20	6.58
K530	Bench check HF transmitters or subassemblies	5.72	21	20	5.80
J437	Isolate malfunctions within recorder-reproducers to LRUs	5.69	19	25	5.86
K526	Bench check HF exciters or subassemblies	5.66	35	34	5.66
I345	Align or adjust external controls of GRCE	5.65	49	54	5.13
J453	Operationally check communications consoles	5.62	26	37	4.67
I381	Operationally check side-band equipment	5.59	16	16	4.45
K512	Align recorder-reproducer subassemblies	5.53	20	32	6.17
J406	Align or adjust communications consoles	5.53	21	30	6.13
J465	Operationally check recorder-reproducers	5.41	33	39	4.14
I366	Isolate malfunctions within side-band equipment	5.38	14	15	6.81
J415	Isolate malfunctions to land lines	5.36	26	36	5.13
I389	Remove or replace UHF or VHF system LRUs	5.35	38	38	3.46
I358	Isolate malfunctions within FM equipment	5.29	24	26	6.83
L575	Bench check communications console components	5.26	16	26	5.43
I371	Operationally check FM equipment	5.23	25	27	4.21
J427	Isolate malfunctions within communications patch panels	5.21	18	26	5.44

TE MEAN = 2.20; SD = 1.45 (High TE = 3.65)
TD MEAN = 5.00; SD = 1.00

TABLE 16

DAFSC 2E1X3 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIFF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	DAFSC 2E153	DAFSC 2E173	TNG EMP
D110	Develop career development course (CDC) or curricula materials	7.56	0	1	1	2	0.13
D112	Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)	7.53	0	0	2	4	0.16
I357	Isolate malfunctions within DF equipment	7.41	3	5	5	2	1.92
G263	Write SOWs	7.24	1	0	2	4	0.31
I360	Isolate malfunctions within LF equipment	7.16	4	4	11	5	3.63
I355	Isolate malfunctions within computer equipment	7.14	4	5	11	9	2.86
I356	Isolate malfunctions within electronic counter-countermeasures (ECCM) equipment	7.10	5	5	6	3	2.03
C94	Write civilian performance appraisals	7.07	0	0	1	6	0.21
I362	Isolate malfunctions within microwave equipment	7.05	0	3	4	3	2.05
A13	Draft budget requirements	7.04	0	1	7	34	0.46
H274	Install communications consoles, including launch control consoles	6.94	2	8	6	5	2.49
I365	Isolate malfunctions within SATCOM equipment	6.91	7	8	15	11	3.21
I363	Isolate malfunctions within multiplex equipment	6.91	0	3	6	4	3.07
A16	Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	6.89	0	4	16	43	0.39
C77	Evaluate modified or prototype equipment	6.87	1	1	5	16	0.43
C97	Write recommendations for awards or decorations	6.86	1	1	23	58	1.33
D131	Prepare specialty training packages (STPs) or quality training packages (QTPs)	6.86	0	0	2	4	0.24

TD MEAN = 5.00; SD = 1.00
TE MEAN = 2.20; SD = 1.45 (High TE = 3.65)

TABLE 16 (CONTINUED)

DAFSC 2E1X3 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIFF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	DAFSC 2E153	DAFSC 2E173	TNG EMP
I358	Isolate malfunctions within FM equipment	6.83	24	26	25	15	5.29
I359	Isolate malfunctions within HF equipment	6.82	54	57	63	33	6.48
I366	Isolate malfunctions within side-band equipment	6.81	14	15	24	14	5.38
A7	Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies	6.80	3	8	26	52	0.86
G235	Develop GRCE contract management indexes	6.78	0	0	1	1	0.06
A5	Conduct requirements surveys for installation of GRCE or auxiliary equipment	6.77	2	5	14	28	0.57
G237	Draft GRCE contract management amendments or changes	6.76	1	0	2	3	0.13
C68	Evaluate budget requirements	6.70	1	0	6	30	0.40
I364	Isolate malfunctions within power amplifiers	6.68	45	52	51	30	6.10
D111	Develop equipment training programs	6.68	1	1	11	17	0.93
G249	Prepare changes or amendments for contract data requirement lists	6.62	1	1	3	5	0.12
G234	Certify commercial service contracts for GRCE	6.61	1	0	3	5	0.20
C70	Evaluate equipment development or modification data	6.59	0	1	6	19	0.33
L595	Perform high-reliability soldering of integrated circuits	6.58	15	20	26	14	5.76

TD MEAN = 5.00; SD = 1.00
TE MEAN = 2.20; SD = 1.45 (High TE = 3.65)

Various lists of tasks, accompanied by TE and TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TD and TE ratings, see the Task Factor Administration in the SURVEY METHODOLOGY section of this report.

First-Enlistment Personnel

In this study, there are 287 members in their first enlistment (1-48 months TAFMS), representing 13 percent of the survey sample. As displayed in Table 17, approximately 95 percent of their duty time is devoted to technical or administrative and supply functions. Figure 2 shows how all first-enlistment personnel are distributed across the jobs identified in the SPECIALTY JOBS section of this report. Of the 1 cluster and 10 jobs identified, first-enlistment personnel are found in the 1 cluster and 4 of the 10 jobs (see Figure 2). Of the 287 first-enlistment personnel, 194 members work in the Ground Radio Equipment Repair cluster (68 percent), and 41 members work in the HF Equipment Maintenance job (14 percent). Very few members work in the PA Systems Maintenance (7 people or 2 percent), E&I (5 people or 2 percent), or Maintenance Job Control (6 people or 2 percent) jobs.

Table 18 displays commonly performed tasks for first-enlistment personnel. Most involve the routine maintenance of ground radio communications systems and components. Table 19 sorts the most commonly performed tasks for first-enlistment personnel (many of which are listed in Table 18) into the various maintenance functions performed. This display gives a somewhat different picture of the overall job functions being performed by first-enlistment personnel.

Equipment Usage

Personnel in Ground Radio Maintenance utilize and maintain a large and diverse number of systems and equipment in the performance of their jobs. It is important to identify this equipment, and more important, to determine which of these items should be trained. Equipment utilization data are presented for first-job and first-enlistment personnel in Tables 20 through 24. MAJCOM equipment utilization data are presented in Tables 25 through 29. By examining MAJCOM equipment utilization patterns and differences, and the equipment used by first-enlistment personnel (the target group for basic skills training), it is possible for trainers to identify which items of equipment would be good candidates for hands-on training in the 3-skill level ABR course and which would be better suited for OJT training. The tables include only those items of equipment, vehicles, and forms maintained or used by at least 10 percent of personnel in any MAJCOM or in the first-job or first-enlistment groups. A full computer listing of all equipment items and associated percent members utilizing is supplied in computer extracts to this OSR. These extracts are supplied to all training and functional managers.

TABLE 17

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY FIRST-ENLISTMENT AFSC 2E1X3 PERSONNEL**

DUTY		PERCENT TIME SPENT
A	ORGANIZING AND PLANNING	3
B	DIRECTING AND IMPLEMENTING	*
C	INSPECTING AND EVALUATING	1
D	TRAINING	1
E	PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	10
F	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ACTIVITIES	8
G	PERFORMING CONTRACT ADMINISTRATIVE ACTIVITIES, SUCH AS FOR GRCE, ADPE, AND LAND MOBILE RADIOS (LMRs)	*
H	INSTALLING GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE) AND AUXILIARY EQUIPMENT	6
I	MAINTAINING GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)	17
J	MAINTAINING AUXILIARY EQUIPMENT	11
K	PERFORMING SHOP MAINTENANCE OF GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE) AND AUXILIARY EQUIPMENT	18
L	PERFORMING COMPONENT SHOP MAINTENANCE	7
M	PERFORMING MOBILE OPERATIONS ACTIVITIES	8
N	MAINTAINING MISSILE OR ALERT RADIO COMMUNICATIONS SYSTEMS AND EQUIPMENT	*
O	INSTALLING AND MAINTAINING PUBLIC ADDRESS (PA) SYSTEMS	5

* Denotes less than 1 percent

** Total time spent does not add up to 100 percent due to rounding

FIRST-ENLISTMENT PERSONNEL JOBS
(N=287)

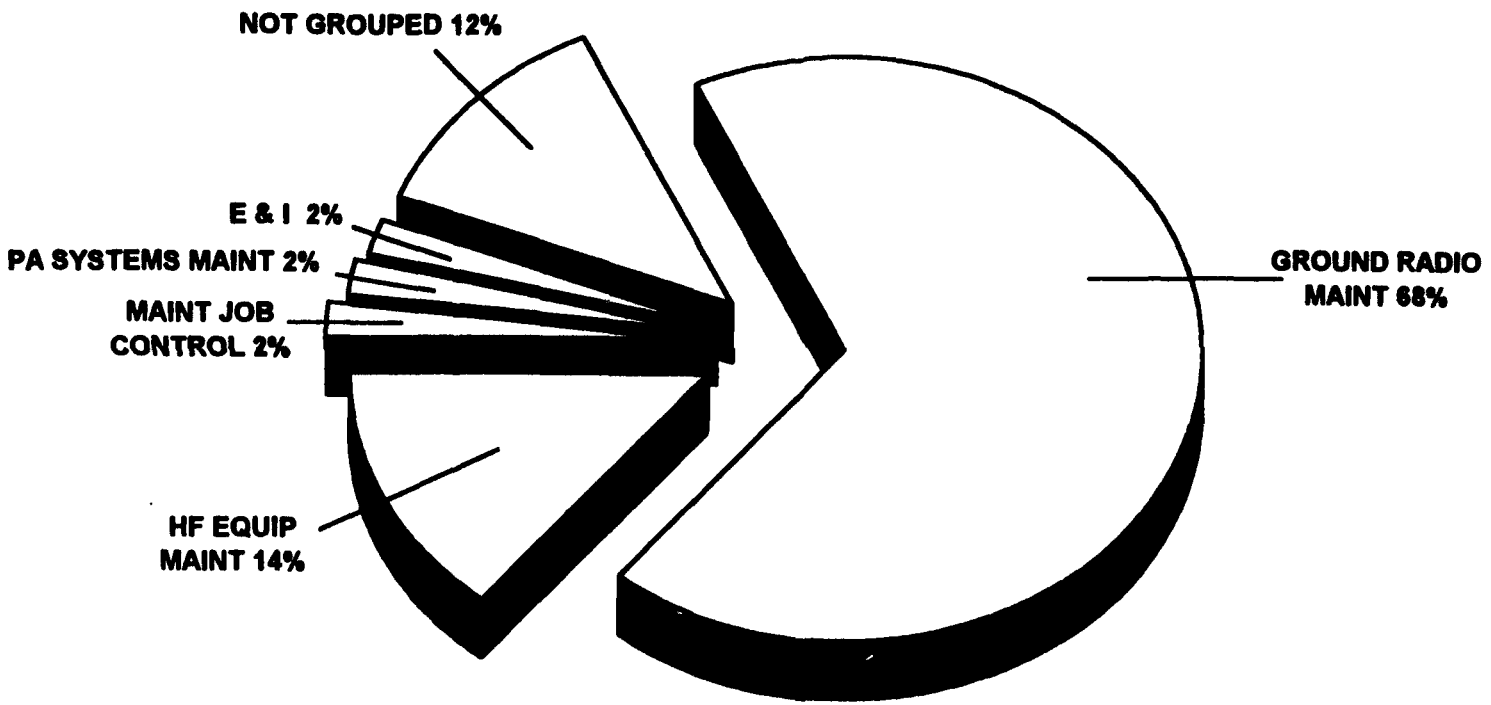


FIGURE 2

TABLE 18

MOST COMMONLY PERFORMED TASKS FOR
FIRST-ENLISTMENT 2E1X3 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=287)
I374	Operationally check UHF or VHF equipment	65
I372	Operationally check HF equipment	63
I361	Isolate malfunctions within UHF or VHF equipment	63
K507	Align UHF or VHF equipment or subassemblies	62
F198	Access core automated maintenance system (CAMS) menus and data screens	61
K568	Solder communications equipment components, other than high-reliability soldering	61
K538	Bench check UHF or VHF transceivers or subassemblies	59
I349	Align or adjust power amplifiers	59
I359	Isolate malfunctions within HF equipment	57
K559	Remove or replace UHF or VHF equipment subassemblies	56
I346	Align or adjust internal circuitry of GRCE	56
K505	Align HF equipment or subassemblies	55
K537	Bench check UHF or VHF receivers or subassemblies	55
I345	Align or adjust external controls of GRCE	54
L581	Bench check UHF or VHF equipment components	53
I364	Isolate malfunctions within power amplifiers	52
K539	Bench check UHF or VHF transmitters assemblies	51
K536	Bench check UHF or VHF power amplifiers or subassemblies	51
K557	Remove or replace HF equipment subassemblies	47
E184	Research microfiche files for supply requisition data	45
L611	Remove or replace UHF or VHF equipment discrete components	43
E185	Research technical orders to identify components or items of equipment	41
M640	Fabricate RF cables	41
I367	Lubricate mechanical parts of GRCE	41
L579	Bench check HF equipment components	40
K527	Bench check HF power amplifiers or subassemblies	40
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	39
J465	Operationally check recorder-reproducers	39
K529	Bench check HF transceivers or subassemblies	39
E190	Store or secure equipment, tools, or supplies	38
F206	Clear or close out completed maintenance discrepancies in CAMS	38
K550	Perform corrosion prevention on GRCE	38
I389	Remove or replace UHF or VHF system LRUs	38
O706	Operate PA systems	37
J411	Align or adjust recorder-reproducers	37
J453	Operationally check communications consoles	37
J415	Isolate malfunctions to land lines	36
O712	Set up or tear down portable PA systems	35
L609	Remove or replace HF equipment discrete components	35

TABLE 19

COMMON FUNCTIONS PERFORMED BY FIRST-ENLISTMENT PERSONNEL

Operationally check:

UHF or VHF equipment (65%)
HF equipment (63%)
recorders-reproducers (39%)
communications consoles (37%)
communications patch panels (32%)
land lines (31%)
PA systems (29%)
ATC tower light guns (29%)
FM equipment (27%)
mobile GRCE (22%)

Align or adjust:

UHF or VHF equipment or subassemblies (62%)
power amplifiers (59%)
internal circuitry (56%)
HF equipment or subassemblies (55%)
external controls (54%)
recorders-reproducers (37%)
PA systems (33%)
recorder-reproducer subassemblies (32%)
communications consoles (30%)
FM equipment or subassemblies (23%)

Isolate malfunctions:

UHF or VHF equipment (63%)
HF equipment (57%)
power amplifiers (52%)
to land lines (36%)
within FM equipment (26%)

Bench check:

UHF or VHF transceivers or subassemblies (59%)
UHF or VHF receivers or subassemblies (55%)
UHF or VHF equipment components (53%)
UHF or VHF transmitters subassemblies (51%)
UHF or VHF power amplifiers or subassemblies (51%)

TABLE 19 (CONTINUED)

COMMON FUNCTIONS PERFORMED BY FIRST-ENLISTMENT PERSONNEL

Bench check (continued):

HF equipment components (40%)
HF power amplifiers or subassemblies (40%)
HF transceivers or subassemblies (39%)
HF exciters or subassemblies (34%)
HF receivers or subassemblies (31%)
antenna coupler components (30%)
PA system components (28%)
HF transmitters or subassemblies (20%)

Remove or replace:

UHF or VHF equipment subassemblies (56%)
HF equipment subassemblies (47%)
UHF or VHF equipment discrete components (43%)
UHF or VHF system LRUs (38%)
HF equipment discrete components (35%)
HF equipment LRUs (33%)

CAMS-related tasks:

access CAMS menus and data screens (61%)
clear or close out completed maintenance discrepancies in CAMS (38%)
create equipment maintenance discrepancies in CAMS (27%)
analyze CAMS data (26%)
start or stop CAMS job following events (24%)

General Tasks:

solder communications equipment components, other than high-reliability soldering (61%)
research microfiche files for supply requisition data (45%)
research technical orders to identify components or items of equipment (41%)
fabricate RF cables (41%)
lubricate mechanical parts of GRCE (41%)
participate in meetings (39%)
store or secure equipment, tools, or supplies (38%)
perform corrosion prevention on GRCE (38%)
operate PA systems (37%)
set up or tear down portable PA systems (35%)
visually inspect station grounds (33%)

TABLE 19 (CONTINUED)

COMMON FUNCTIONS PERFORMED BY FIRST-ENLISTMENT PERSONNEL

General Tasks (continued):

coordinate obtaining parts with base supply (32%)
maintain bench stock levels (29%)
fabricate audio cables for PA systems (28%)
conduct OJT (28%)
assemble or wire equipment components for installation (27%)
process due-in-from maintenance (DIFM) items (27%)
inventory CTKs (24%)
set up or tear down mobile antenna systems (23%)
turn in equipment, tools, or supplies (23%)
transport PA systems or equipment to or from deployed locations (22%)
pack mobility or contingency equipment for shipment or movement (21%)
maintain PMI listings (21%)
maintain PME calibration schedules (20%)
maintain technical order files (20%)

TABLE 20

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE FIRST-ENLISTMENT AFSC 2E1X3 PERSONNEL

	1ST JOB (N=121)	1ST ENL (N=287)
POWER AMPLIFIERS		
AM-7223, HF Power Amplifier (.5 kw)	30	36
AM-6155, UHF Power Amplifier	31	33
AM-6154, VHF Power Amplifier	19	24
AM-7224, HF Power Amplifier (1 kw)	13	15
RECEIVERS		
AN-GRR-24, UHF Single-Channel Receiver	57	52
AN-GRR-23, VHF Single-Channel Receiver	46	43
R-2174 (P)/URR, HF Radio Receiver	17	20
TRANSCEIVERS		
AN-GRC-171, UHF Multiple-Channel Transceiver	60	54
AN-GRC-211, VHF Multiple-Channel Transceiver	48	45
RT-1446, HF Transceiver	41	44
AN-PRC-113, UHF/VHF Portable Radio Transceiver	43	41
AN-TRC-176, UHF/VHF Transportable Radio Transceiver	40	33
AN-URC-119, HF Transceiver	32	26
AN-PRC-77, Low-Band VHF Transceiver	17	18
AN-PRC-104, HF Backpack Radio	15	16
AN-TRC-177, HAVE QUICK Timing Set	12	15
AN-VRC-46, FM Multiple-Channel Transceiver	14	11
618T, HF Transceiver	13	11
TRANSMITTERS		
AN/GRT-22, UHF Single-Channel Transmitter	51	47
AN/GRT-21, VHF Single-Channel Transmitter	42	41
EXCITERS		
(None above 10%)		

TABLE 20 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE FIRST-ENLISTMENT AFSC 2E1X3 PERSONNEL

	1ST JOB (N=121)	1ST ENL (N=287)
REPRODUCERS		
RP-343, Audio Reproducer	4	11
RECORDERS-REPRODUCERS		
AN/GSH-57, Channel Recorder (40 Channel)	36	37
AN/GSH-56, Channel Recorder (20 Channel)	27	32
CDD-1000, Automated Terminal Information System (ATIS)	17	14
AN/GSH-59, Solid-State Recorder-Reproducer	12	12
SYSTEMS		
AN/GSC-37, Communications Control and Distribution System (CCDS)	9	11
MOBILE COMMUNICATIONS		
AN/GRC-206, Mobile Communications Pallet	14	10
ANTENNAS		
Sloping Vee Antenna	21	15
AS-3482 Log Periodic Antenna	11	10
ANTENNA COUPLERS		
CU-547, UHF Antenna Coupler	32	36
CU-2310, HF Antenna Coupler	37	33
CU-2274, VHF Antenna Coupler	19	19
CONSOLES		
OJ-314, Tower Control Console	34	34

TABLE 20 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE FIRST-ENLISTMENT AFSC 2E1X3 PERSONNEL

	1ST JOB (N=121)	1ST ENL (N=287)
CONTROL GROUPS		
OK-423, Remote Control Unit	24	27
TRANSLATORS		
618Z-4, RF Translator	5	10
TEST SETS		
AN/GRM-115, UHF Radio Test Set	23	21
STATUS DISPLAYS		
(None above 1 Percent)		
TELEPHONES AND TELEPHONE SETS		
TA-312, Field Telephone	26	22
SB-22, Field Telephone Switchboard	14	12
C-8024, Telephone Set	7	11
MISCELLANEOUS		
SDU-4A, Tower Light Gun	29	29
OA-447/FSA-4, Patch Panel	15	14
313J-2, Dial Pulse Control	6	11
313K-2, Allotter Preset	6	10
313L-1, Frequency Register	6	10
914H-1, Remote Control Unit	5	10

TABLE 21

GENERAL SHOP OR TEST EQUIPMENT USED BY
10 PERCENT OR MORE FIRST-ENLISTMENT AFSC 2E1X3 PERSONNEL

EQUIPMENT	1ST JOB (N=121)	1ST ENL (N=287)
Digital Multimeter	98	96
Frequency Counter	98	94
Oscilloscope	98	93
Analog Multimeter	92	90
Dummy Load	92	90
Wattmeter	94	89
Distortion Analyzer	91	88
Voltmeter	89	88
Signal Audio Frequency Generator	86	87
Direct Current (DC) Power Supply	87	84
Signal Radio Frequency Generator	82	82
Decibel Meter	81	74
Spectrum Analyzer	74	73
Impedance Matching Device	68	70
Impedance Bridge	53	59
Power Meter	62	59
Megohmmeter	61	54
Diode/Transistor Tester	47	48
Frequency Meter	45	44
Octopus	23	31
Sweep Generator	31	26
Insulation Test Set	24	21
Tube Tester	19	21
Transmitter Test Panel	26	20
Torque Wrench	26	20
Oscillator Test Panel	23	18
Frequency Selective Voltmeter (FSV)	14	18
Logic Probe Device	17	17
Pulse Generator	20	15
Solid-State Device Tester	14	13

TABLE 22

AUXILIARY EQUIPMENT USED BY
10 PERCENT OR MORE FIRST-ENLISTMENT AFSC 2E1X3 PERSONNEL

EQUIPMENT	1ST JOB (N=121)	1ST ENL (N=287)
Antenna Coupler	69	66
Head and Hand Sets	65	61
Speaker	46	52
Keyer	40	38
Audio Frequency Amplifier	36	37
Public Address Amplifier	31	37
Public Address System	31	34
Power Supply Unit	30	30
Telephone Patch Panel	29	29
Oscillator	34	28
Deguaser	22	26
Microphone Unit	23	24
Amplifier Mixer	24	23
Radio Control	17	22
Mixer, Other than Amplifier Mixer	24	22
Preamplifier	20	22
Modulator	25	18
Music System	14	16
Emergency Lights	16	15
Receiver/Harmonic Filter	21	15
Power Panel	17	15
Antenna Control	15	14
Facsimile Equipment	7	14
Demodulator	15	13
Power Generator	18	13
Computer Equipment	12	12
Antenna Filter	15	12
Control Monitor	7	10
Mobile Communications Control	13	10
Code Phone Recorder	9	10
Surge Suppressor	12	10
Switchboard, Other Than Switchboard Console	9	10
Tuning Unit	12	10

TABLE 23

VEHICLES USED BY 10 PERCENT OR MORE
FIRST-ENLISTMENT AFSC 2E1X3 PERSONNEL

VEHICLE	1ST JOB (N=121)	1ST ENL (N=287)
Pickup Truck	45	47
6-Passenger Carry All	36	37
M-35	37	24
Metro Van	16	24
M-923	31	20
M-925	31	20
M-1008	28	20
M-1009	27	19
M-998	17	12
M-1028	18	12
XM-720	14	11
1 1/2 Ton Truck	12	10

TABLE 24

FORMS USED BY 10 PERCENT OR MORE
FIRST-ENLISTMENT AFSC 2E1X3 PERSONNEL

EQUIPMENT	1ST JOB (N=121)	1ST ENL (N=287)
AFTO Form 350 (Reparable Item Processing Tag)	95	90
AFTO Form 349 and 349-3 (Maintenance Data Collection Record)	89	87
AF Form 623 and 623A (On-The-Job Training Record)	64	75
DD Form 1574 (Serviceable Tag/Label Series Forms)	64	74
DD Form 1577 (Unserviceable Tag/Label Series Forms)	65	72
AF Form 2005 (Issue/Turn-In Request)	60	69
AF Form 1297 (Temporary Issue Receipt)	52	60
AF Form 1800 (Operator's Inspection Guide and Trouble Report (Gene Purpose Vehicles))	59	60
AF Form 2413 (Supply Control Log)	48	55
AFTO Form 22, 27, 110, 131 (Technical Order System Forms)	35	44
DD Form 1348-6 (DOD Single Line Item Requisition System Document)	31	43
DD Form 1575 (Suspended Tag/Label Series Forms)	36	41
DD Form 1348-1 (DOD Single Line Item Release/Receipt Document)	24	35
AF Form 797 (Job Qualification Standard Continuation/Command JQS)	23	28
AF Form 9 (Request for Purchase)	15	20
AF Form 332 (Base Civil Engineer Work Request)	10	18
AFTO Form 95 (Significant Historical Data)	15	15
AF Form 3215 (Comm-Computer Systems Requirements Document)	8	12
DD Form 1149 (Requisition and Invoice/Shipping Document)	12	10

TABLE 25

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
POWER AMPLIFIERS						
AM-7223, HF Power Amplifier (.5 kw)	36	32	36	32	1	41
AM-6155, UHF Power Amplifier	27	24	20	25	0	31
AM-6154, VHF Power Amplifier	14	19	18	21	0	31
AM-7224, HI wer Amplifier (1 kw)	10	9	22	19	1	3
AM-6987, UHF Power Amplifier	4	2	0	4	13	1
AM-7175, URC Power Amplifier	3	1	2	5	1	2
208U-3, Linear Power Amplifier	4	6	12	14	0	8
208U-10, HF Power Amplifier	4	5	11	14	0	3
RECEIVERS						
AN-GRR-24, UHF Single-Channel Receiver	45	38	30	37	28	51
AN-GRR-23, VHF Single-Channel Receiver	36	34	29	33	0	49
R-2174 (P)/URR, HF Radio Receiver	9	15	18	26	61	22
AN/FLR-9, Countermeasures Receiver Set	0	0	0	0	25	2
WJ-8618, Multiple-Channel Receiver	1	0	0	0	42	10

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
TRANSCEIVERS						
AN/GRC-171, UHF Multiple-Channel Transceiver	54	38	36	40	17	49
AN/GRC-211, VHF Multiple-Channel Transceiver	36	34	30	34	0	46
RT-1446, HF Transceiver	39	36	41	39	3	56
AN/PRC-113, UHF/VHF Portable Radio Transceiver	36	35	32	30	7	31
AN/TRC-176, UHF/VHF Transportable Radio Transceiver	31	28	20	13	14	10
AN/URC-119, HF Transceiver	34	23	23	23	1	15
AN/PRC-77, Low-Band VHF Transceiver	14	27	16	17	0	5
AN/PRC-104, HF Backpack Radio	16	14	19	11	1	6
AN/TRC-177, HAVE QUICK Timing Set	9	26	7	2	1	7
AN/TRC-179, Transceiver	0	16	0	0	0	0
AN/VRC-46, FM Multiple-Channel Transceiver	12	6	11	5	0	2
618T, HF Transceiver	14	5	7	7	0	1
AN/PRC-66, UHF Transceiver	2	3	1	10	0	0
AN/URC-92, HF Transceiver	6	1	4	5	15	2
AN/URC-110, UHF/VHF Transceiver	3	1	14	10	5	2
AN/WSC-3, UHF Transceiver	0	0	2	3	22	0
LST-5, UHF/VHF Portable Transceiver	11	0	6	15	4	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
TRANSMITTERS						
AN/GRT-22, UHF Single-Channel Transmitter	42	38	29	37	0	50
AN/GRT-21, VHF Single-Channel Transmitter	32	34	29	34	0	48
T-1108, VHF Transmitter	4	6	5	3	0	15
T-1109, UHF Transmitter	5	7	5	3	0	15
EXCITERS						
310V-1, HF Exciter	4	4	10	14	0	3
REPRODUCERS						
RP-343, Audio Reproducer	9	12	16	11	0	18
RECORDERS-REPRODUCERS						
AN/GSH-57, Channel Recorder (40 Channel)	28	28	18	30	1	44
AN/GSH-56, Channel Recorder (20 Channel)	28	29	30	33	1	31
CDD-1000, Automated Terminal Information System (ATIS)	12	15	9	20	0	16
AN/GSH-59, Solid-State Recorder-Reproducer	9	15	9	9	1	10
AN/GTH-3, Telephone Analysis Position	0	0	0	0	15	6

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
RECORDERS-REPRODUCERS (CONTINUED)						
AN/TNH-21, Recorder-Reproducer	0	0	0	0	44	11
AN/TNH-25, Recorder-Reproducer	0	0	0	0	65	9
RD-466, Recorder-Reproducer	0	0	0	0	38	0
SYSTEMS						
AN/GRC-212, Scope Signal III	3	15	7	11	0	3
AN/GSC-37, Communications Control and Distribution System (CCDS)	7	17	14	9	0	12
AN/GSC-42, AF Satellite Communications (AFSATCOM) System	11	1	0	8	0	0
AN/GSQ-206, General Purpose Collection Position (GPCP)	0	0	1	0	16	7
AN/TRN-42, Runway Surveillance Unit	5	18	0	1	0	14
AN/URC-117, Ground Wave Emergency Network (GWEN)	11	0	0	14	0	6
AN/URM-202, Survivable Low-Frequency Comm System (SLFCS)	10	1	0	7	0	6
Flight Data Input/Output (FDIO) System	3	0	0	6	0	2
MOBILE MUNICATIONS						
AN/GRC-206, Mobile Communications Pallet	11	5	9	7	0	7
AN/MRC-107, Mobile Communications System	11	0	0	6	0	1
AN/MRC-108, Mobile Communications System	4	0	7	6	0	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
ANTENNAS						
Sloping Vee Antenna	18	8	13	9	5	9
AS-3482 Log Periodic Antenna	7	10	10	7	5	5
ANTENNA COUPLERS						
CU-547, UHF Antenna Coupler	30	28	20	31	1	35
CU-2310, HF Antenna Coupler	31	26	28	25	3	38
CU-2274, VHF Antenna Coupler	15	4	9	22	0	17
CONSOLES						
AN/GSA-135, Airport Control Tower Console	2	11	1	1	0	1
OJ-314, Tower Control Console	27	20	18	31	0	48
CONTROL GROUPS						
OK-423, Remote Control Unit	23	15	24	19	1	36

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
TRANSLATORS						
618Z-4, RF Translator	4	7	16	19	0	3
789R-1, IF Translator	2	3	7	10	0	3
789T-1, IF Translator	3	4	9	13	0	3
TEST SETS						
AN/GRM-115, UHF Radio Test Set	22	17	20	14	2	21
976R-1, Test Set	3	3	11	15	0	3
979X-1, Test Set	3	5	14	16	0	3
STATUS DISPLAYS						
(None above 1 Percent)						
TELEPHONES AND TELEPHONE SETS						
TA-312, Field Telephone	29	21	15	22	9	20
SB-22, Field Telephone Switchboard	11	4	3	13	0	17
C-8024, Telephone Set	3	6	20	20	0	3
TA-838TT, Telephone Set	8	1	5	1	0	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
MISCELLANEOUS						
AN/UXC-7, Lightweight Digital Facsimile	7	1	4	4	0	1
CODAN Monitor Panel	2	0	6	7	0	27
C-10639/G, Automatic Lockout Device	7	0	4	3	0	19
C11012, Remote Control Unit	6	7	5	10	0	6
SDU-4A, Tower Light Gun	22	24	18	27	0	33
OA-447/FSA-4, Patch Panel	8	17	12	9	1	17
184Z-11, Antenna Matrix	3	4	11	10	1	4
313J-2, Dial Pulse Control	3	6	18	17	0	3
313K-2, Allotter Preset	2	6	17	17	0	3
313L-1, Frequency Register	2	6	17	17	0	3
914H-1, Remote Control Unit	2	6	16	15	1	3
914H-2, Remote Control Unit	2	5	14	15	0	3

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
POWER AMPLIFIERS						
AM-7223, HF Power Amplifier (.5 kw)	6	38	3	20	61	0
AM-6154, VHF Power Amplifier	4	27	2	28	11	4
AM-6155, UHF Power Amplifier	4	31	7	20	11	0
AM-7224, HF Power Amplifier (1 kw)	0	23	3	13	25	0
AM-6987, UHF Power Amplifier	0	4	0	0	0	0
AM-7175, URC Power Amplifier	0	3	17	0	72	5
208U-3, Linear Power Amplifier	2	7	0	0	0	0
208U-10, HF Power Amplifier	2	8	0	2	0	0
RECEIVERS						
AN-GRR-24, UHF Single-Channel Receiver	7	46	14	22	11	0
AN-GRR-23, VHF Single-Channel Receiver	7	42	3	22	11	0
R-2174 (P)/URR, HF Radio Receiver	2	16	2	2	0	5
AN/FLR-9, Countermeasures Receiver Set	0	0	0	0	0	0
WJ-8618, Multiple-Channel Receiver	0	1	0	0	0	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
TRANSCEIVERS						
AN/GRC-171, UHF Multiple-Channel Transceiver	9	43	0	22	14	0
AN/GRC-211, VHF Multiple-Channel Transceiver	7	42	0	22	11	0
RT-1446, HF Transceiver	5	35	7	18	69	0
AN/PRC-113, UHF/VHF Portable Radio Transceiver	2	35	10	15	81	0
AN/TRC-176, UHF/VHF Transportable Radio Transceiver	1	21	0	0	61	0
AN/URC-119, HF Transceiver	3	22	5	13	36	0
AN/PRC-77, Low-Band VHF Transceiver	0	17	0	7	64	0
AN/PRC-104, HF Backpack Radio	0	7	10	0	61	0
AN/TRC-177, HAVE QUICK Timing Set	1	5	0	0	3	0
AN/TRC-179, Transceiver	0	0	0	0	0	0
AN/VRC-46, FM Multiple-Channel Transceiver	0	3	3	0	6	0
618T, HF Transceiver	0	0	0	0	6	0
AN/PRC-66, UHF Transceiver	0	5	0	0	14	0
AN/URC-92, HF Transceiver	0	0	0	7	3	0
AN/URC-110, UHF/VHF Transceiver	0	1	3	2	44	9
AN/WSC-3, UHF Transceiver	0	0	2	0	0	0
LST-5, UHF/VHF Portable Transceiver	1	7	44	0	72	14

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
TRANSMITTERS						
AN/GRT-22, UHF Single-Channel Transmitter	7	45	14	22	11	0
AN/GRT-21, VHF Single-Channel Transmitter	7	41	3	22	11	0
T-1108, VHF Transmitter	3	5	0	5	6	0
T-1109, UHF Transmitter	3	5	0	5	6	0
EXCITERS						
310V-1, HF Exciter	0	7	0	0	0	0
REPRODUCERS						
RP-343, Audio Reproducer	1	21	0	13	0	0
RECORDERS-REPRODUCERS						
AN/GSH-57, Channel Recorder (40 Channel)	6	24	0	22	11	0
AN/GSH-56, Channel Recorder (20 Channel)	6	37	0	22	0	0
CDD-1000, Automated Terminal Information System (ATIS)	4	21	0	4	8	0
AN/GSH-59, Solid-State Recorder-Reproducer	0	19	0	5	6	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
RECORDERS-REPRODUCERS (CONTINUED)						
AN/GTH-3, Telephone Analysis Position	0	0	0	0	0	0
AN/TNH-21, Recorder-Reproducer	0	0	0	0	0	0
AN/TNH-25, Recorder-Reproducer	0	0	0	0	0	0
RD-466, Recorder-Reproducer	0	1	0	0	0	0
SYSTEMS						
AN/GRC-212, Scope Signal III	4	14	0	0	0	0
AN/GSC-37, Communications Control and Distribution System (CCDS)	0	7	0	15	0	0
AN/GSC-42, AF Satellite Communications (AFSATCOM) System	0	7	0	2	0	0
AN/GSQ-206, General Purpose Collection Position (GPCP)	0	0	0	0	0	0
AN/TRN-42, Runway Surveillance Unit	0	7	0	0	0	0
AN/URC-117, Ground Wave Emergency Network (GWEN)	0	7	0	2	0	0
AN/URM-202, Survivable Low-Frequency Comm System (SLFCS)	0	4	0	4	0	0
Flight Data Input/Output (FDIO) System	1	17	0	0	0	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
MOBILE COMMUNICATIONS						
AN/GRC-206, Mobile Communications Pallet	0	3	0	0	31	0
AN/MRC-107, Mobile Communications System	0	0	0	0	19	0
AN/MRC-108, Mobile Communications System	0	0	0	0	14	0
ANTENNAS						
Sloping Vee Antenna	1	4	12	2	21	0
AS-3482 Log Periodic Antenna	2	13	2	0	6	0
ANTENNA COUPLERS						
CU-547, UHF Antenna Coupler	2	31	0	20	11	0
CU-2310, HF Antenna Coupler	5	23	3	20	53	0
CU-2274, VHF Antenna Coupler	1	2	2	18	11	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
CONSOLES						
AN/GSA-135, Airport Control Tower Console	0	7	0	4	0	0
OJ-314, Tower Control Console	6	39	0	22	11	0
CONTROL GROUPS						
OK-423, Remote Control Unit	5	43	0	13	11	0
TRANSLATORS						
618Z-4, RF Translator	1	8	0	0	0	0
789R-1, IF Translator	0	3	0	0	0	0
789T-1, IF Translator	0	7	0	^	0	0
TEST SETS						
AN/GRM-115, UHF Radio Test Set	0	16	2	4	56	0
976R-1, Test Set	0	9	0	0	0	0
979X-1, Test Set	0	7	0	0	0	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
STATUS DISPLAYS						
(None above 1 Percent)						
TELEPHONES AND TELEPHONE SETS						
TA-312, Field Telephone	1	21	8	5	56	14
SB-22, Field Telephone Switchboard	0	20	0	0	11	0
C-8024, Telephone Set	1	7	2	0	0	0
TA-838TT, Telephone Set	1	0	5	0	36	0
MISCELLANEOUS						
AN/UXC-7, Lightweight Digital Facsimile	0	3	12	0	47	0
CODAN Monitor Panel	0	1	0	11	0	0
C-10639/G, Automatic Lockout Device	1	7	0	5	0	0
C11012, Remote Control Unit	4	7	0	7	14	0
SDU-4A, Tower Light Gun	3	31	0	18	19	0
OA-447/FSA-4, Patch Panel	4	7	0	5	3	0
184Z-11, Antenna Matrix	2	8	0	0	0	0
313J-2, Dial Pulse Control	0	10	0	0	0	0
313K-2, Allotter Preset	0	9	0	0	0	0

TABLE 25 (CONTINUED)

GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)
OPERATED AND/OR MAINTAINED
BY 10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL OF ANY MAJCOM

	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
MISCELLANEOUS (CONTINUED)						
313L-1, Frequency Register	0	10	0	0	0	0
914H-1, Remote Control Unit	1	7	0	0	0	0
914H-2, Remote Control Unit	0	6	0	0	0	0

TABLE 26

GENERAL SHOP OR TEST EQUIPMENT USED BY
10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

EQUIPMENT	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
Digital Multimeter	79	69	76	77	82	79
Frequency Counter	76	66	75	76	79	75
Oscilloscope	76	67	75	76	82	75
Analog Multimeter	74	64	71	71	70	70
Dummy Load	77	63	70	73	39	75
Wattmeter	75	63	70	70	42	73
Distortion Analyzer	72	64	73	72	62	72
Voltmeter	69	64	71	71	71	69
Signal Audio Frequency Generator	70	60	70	74	76	70
Direct Current (DC) Power Supply	68	60	70	65	63	62
Signal Radio Frequency Generator	72	60	70	75	75	69
Decibel Meter	61	50	53	63	58	55
Spectrum Analyzer	59	54	55	61	71	60
Impedance Matching Device	54	48	52	55	37	50
Impedance Bridge	46	48	46	48	32	48
Power Meter	49	42	53	52	26	45
Megohmmeter	52	42	42	42	31	38
Diode/Transistor Tester	37	28	43	39	25	40
Frequency Meter	31	26	32	33	26	27
Octopus	23	18	30	34	29	38
Sweep Generator	18	18	18	20	44	19
Res-Capacitance-Inductance (RCI) Bridge	5	4	9	7	6	7
Logic Probe Device	16	12	16	13	29	19
Frequency Selective Voltmeter (FSV)	11	12	25	28	11	10
Pulse Generator	22	9	11	11	22	10
Field Strength Meter	4	2	2	5	12	3

TABLE 26 (CONTINUED)

GENERAL SHOP OR TEST EQUIPMENT USED BY
10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

EQUIPMENT	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
Oscillator Test Panel	12	9	17	10	6	17
Transmitter Test Panel	15	12	11	14	3	10
Insulation Test Set	22	20	19	15	6	12
Bit Error Rate (BERT) Tester	4	2	9	5	5	2
Solid-State Device Tester	12	6	17	13	10	13
Tube Tester	17	14	12	21	2	13
Time Domain Reflectometer (TDR)	6	5	4	10	45	3
Torque Wrench	21	11	10	16	17	7
Transmission Impairment Measurement Set (TIMS)	5	7	16	13	5	6

TABLE 26 (CONTINUED)

GENERAL SHOP OR TEST EQUIPMENT USED BY
10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

EQUIPMENT	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
Digital Multimeter	66	69	88	51	89	77
Frequency Counter	45	64	56	29	86	50
Oscilloscope	50	65	58	42	89	68
Analog Multimeter	51	64	42	58	72	41
Dummy Load	48	62	64	31	86	55
Wattmeter	45	59	73	29	89	45
Distortion Analyzer	36	54	44	38	83	18
Voltmeter	43	61	71	42	78	27
Signal Audio Frequency Generator	43	62	54	44	75	50
Direct Current (DC) Power Supply	32	59	61	36	83	45
Signal Radio Frequency Generator	42	60	51	27	83	41
Decibel Meter	36	51	44	36	58	32
Spectrum Analyzer	37	59	61	29	75	32
Impedance Matching Device	27	49	24	35	28	14
Impedance Bridge	31	49	20	33	33	18
Power Meter	28	43	34	20	58	14
Megohmmeter	40	39	15	15	53	27
Diode/Transistor Tester	11	47	17	24	19	9
Frequency Meter	16	30	32	9	31	18
Octopus	4	33	8	27	17	5
Sweep Generator	20	20	19	9	14	9
Res-Capacitance-Inductance (RCI) Bridge	7	6	5	2	11	0
Logic Probe Device	9	13	25	11	8	14
Frequency Selective Voltmeter (FSV)	12	20	8	2	3	9
Pulse Generator	12	10	19	4	14	14

TABLE 26 (CONTINUED)

GENERAL SHOP OR TEST EQUIPMENT USED BY
10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

EQUIPMENT	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
Field Strength Meter	6	3	19	2	3	0
Oscillator Test Panel	4	16	5	7	11	0
Transmitter Test Panel	5	10	5	5	8	9
Insulation Test Set	11	22	3	4	17	0
Bit Error Rate (BERT) Tester	18	3	20	2	6	9
Solid-State Device Tester	8	10	14	5	8	0
Tube Tester	4	23	5	2	6	9
Time Domain Reflectometer (TDR)	22	7	7	0	0	5
Torque Wrench	24	21	17	5	14	0
Transmission Impairment Measurement Set (TIMS)	8	9	10	0	0	0

TABLE 27

AUXILIARY EQUIPMENT USED BY
10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

EQUIPMENT	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
Antenna Coupler	54	47	50	56	40	51
Head and Hand Sets	52	41	48	49	53	49
Speaker	41	39	40	48	44	46
Keyer	30	22	38	28	9	25
Audio Frequency Amplifier	32	28	30	31	26	30
Public Address Amplifier	30	43	32	39	26	33
Public Address System	26	40	27	38	22	33
Power Supply Unit	27	24	29	28	28	22
Telephone Patch Panel	26	24	27	28	23	25
Oscillator	21	17	21	15	24	17
Deguaser	24	23	20	22	46	22
Microphone Unit	22	21	20	24	18	30
Amplifier Mixer	19	21	16	24	12	25
Radio Control	23	20	30	20	11	19
Mixer, Other than Amplifier Mixer	14	11	12	14	12	19
Preamplifier	17	16	18	17	20	20
Modulator	15	8	9	10	15	6
Music System	13	16	10	12	22	14
Emergency Lights	14	11	14	10	11	3
Power Panel	13	11	12	8	21	6
Antenna Control	14	13	19	16	22	6
Facsimile Equipment	10	22	15	8	11	5
Demodulator	12	6	6	10	38	12
Power Generator	14	9	8	12	6	3
Computer Equipment	9	11	13	15	41	7
Antenna Filter	12	6	8	12	22	9

TABLE 27 (CONTINUED)

AUXILIARY EQUIPMENT USED BY
10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

EQUIPMENT	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
Control Monitor	13	11	14	17	9	14
Mobile Communications Control	14	7	9	6	6	6
Surge Suppressor	11	6	9	13	13	5
Switchboard, Other Than Switchboard Console	12	5	11	12	4	9
Converter	7	8	9	7	16	4
Cryptographic Equipment	10	7	5	11	16	10
Receiver/Harmonic Filter	8	5	7	6	12	6
Switching Group	2	2	5	4	11	6
Master Timing System	2	1	2	3	26	5
Primary Alerting System	6	11	7	2	1	3
Teletypewriter	9	4	2	1	9	4
Telephone (RAP) Terminal	4	2	4	1	3	2
Code Phone Recorder	7	5	7	6	7	6

TABLE 27 (CONTINUED)

AUXILIARY EQUIPMENT USED BY
10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

EQUIPMENT	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
Antenna Coupler	5	41	39	24	67	41
Head and Hand Sets	4	40	49	29	69	45
Speaker	4	52	42	29	56	41
Keyer	4	30	19	16	39	32
Audio Frequency Amplifier	4	43	25	20	50	14
Public Address Amplifier	3	45	42	35	28	32
Public Address System	2	41	25	27	31	32
Power Supply Unit	2	30	31	22	42	23
Telephone Patch Panel	4	31	29	18	25	32
Oscillator	3	19	12	5	14	0
Deguaser	0	15	12	9	11	0
Microphone Unit	2	26	27	22	17	18
Amplifier Mixer	3	21	17	15	11	5
Radio Control	4	23	14	9	28	36
Mixer, Other than Amplifier Mixer	3	21	19	11	8	9
Preamplifier	2	19	24	16	33	5
Modulator	3	7	14	2	6	14
Music System	1	26	5	16	8	5
Emergency Lights	2	5	8	2	22	27
Power Panel	3	7	7	4	25	23
Antenna Control	2	26	14	7	31	18
Facsimile Equipment	1	3	24	0	56	14
Demodulator	2	5	14	4	3	23
Power Generator	2	9	17	9	44	9
Computer Equipment	4	21	15	2	50	14

TABLE 27 (CONTINUED)

AUXILIARY EQUIPMENT USED BY
10 PERCENT OR MORE AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

EQUIPMENT	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
Antenna Filter	3	7	20	5	31	9
Control Monitor	2	16	10	5	17	5
Mobile Communications Control	1	1	17	2	14	0
Surge Suppressor	2	12	10	5	36	23
Switchboard, Other Than Switchboard Console	2	10	3	4	42	0
Converter	3	7	7	4	11	5
Cryptographic Equipment	1	3	15	2	61	5
Receiver/Harmonic Filter	2	1	12	2	8	0
Switching Group	1	2	3	0	3	0
Master Timing System	1	4	2	2	3	0
Primary Alerting System	1	6	0	4	0	0
Teletypewriter	1	1	5	5	14	32
Telephone (RAP) Terminal	2	1	3	2	14	0
Code Phone Recorder	2	7	14	2	0	0

TABLE 28

VEHICLES USED BY 10 PERCENT OR MORE
AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

VEHICLES	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
Pickup Truck	50	33	50	46	41	35
6-Passenger Carry All	40	40	36	27	47	22
M-35	38	12	20	4	16	0
Metro Van	17	37	20	26	11	19
M-923	29	11	13	1	0	0
M-925	28	13	14	1	0	0
M-1008	31	14	15	10	4	0
M-1009	32	15	10	5	13	0
M-998	17	5	14	9	1	0
M-1028	18	8	7	0	1	0
XM-720	22	8	12	0	6	0
1 1/2 Ton Truck	10	11	6	5	23	3
Flat Bed	3	5	4	1	14	2
Forklift	12	9	13	6	23	1
M-101	11	5	5	1	2	0
M-151	3	1	2	0	1	0
Station Wagon	9	8	4	10	5	4
V41 Line Truck	2	4	2	0	1	0
2 1/2 Ton Truck	10	6	4	3	5	2
Over 2 1/2 Ton Truck	6	5	4	1	1	1

TABLE 28 (CONTINUED)

VEHICLES USED BY 10 PERCENT OR MORE
AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

VEHICLES	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
Pickup Truck	60	53	19	53	56	0
6-Passenger Carry All	65	38	37	42	64	9
Station Wagon	28	7	8	4	6	18
Metro Van	23	40	31	18	22	14
M-35	7	0	12	5	11	0
M-923	1	0	2	0	3	0
M-925	1	0	0	5	3	0
M-998	0	0	0	0	33	0
M-1008	5	0	12	2	33	0
M-1009	6	0	8	5	19	0
M-1028	3	0	7	0	3	0
XM-720	1	0	2	2	3	0
Flat Bed	8	0	0	4	6	0
Forklift	21	5	8	4	39	0
M-101	1	0	0	4	11	0
M-151	1	0	0	0	14	0
V41 Line Truck	13	1	0	0	0	0
1 1/2 Ton Truck	28	6	7	7	19	14
2 1/2 Ton Truck	8	2	10	4	11	9
Over 2 1/2 Ton Truck	1	2	17	0	11	18

TABLE 29

FORMS USED BY 10 PERCENT OR MORE
AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

FORMS	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
AF Form 9 (Request for Purchase)	42	41	46	57	32	50
AF Form 103 (Base Civil Engineering Work Clearance Request)	3	4	5	4	4	6
AF Form 126 (Custodian Request Log)	30	33	33	32	29	25
AF Form 264 (MMICS Job/Status Document)	8	7	11	11	4	12
AF Form 332 (Base Civil Engineer Work Request)	32	44	38	45	27	51
AF Form 601 (Equipment Action Request)	35	37	41	38	34	40
AF Form 623 and 623A (On-The-Job Training Record)	85	84	87	87	86	80
AF Form 797 (Job Qualification Standard Continuation/Command JQS)	51	53	44	56	41	56
AF Form 1098 (Special Task Certification and Recurring Training)	24	18	17	22	24	34
AF Form 1261 (Communications-Computer system (C-CS) Acceptance, Commissioning and Removal Certificate)	11	15	13	15	15	15
AF Form 1297 (Temporary Issue Receipt)	79	82	82	86	79	78
AF Form 1800 (Operator's Inspection Guide and Trouble Report (General Purpose Vehicles))	72	66	68	68	54	46
AF Form 1996 (Adjust Stock Level)	13	15	20	19	25	17
AF Form 2005 (Issue/Turn-In Request)	78	81	79	78	89	77
AF Form 2413 (Supply Control Log)	62	62	64	66	25	46
AF Form 2415 (Quality Control Checksheet)	26	24	21	20	24	22
AF Form 2419 (Routing and Review of Quality Control Reports)	32	30	28	28	33	23
AF Form 2420 (Quality Control Inspection Summary)	23	18	15	20	20	13
AF Form 2426 (Training Request and Completion Notification) 29	20	25	19	18	22	
AF Form 2520 (Repair Cycle Control Log)	9	8	11	11	5	9
AF Form 3215 (Comm-Computer Systems Requirements Document)	31	49	37	40	16	38
AFTO Form 22, 27, 110, 131 (Technical Order System Forms)	63	62	57	57	66	64
AFTO Form 95 (Significant Historical Data)	36	38	32	31	16	24

TABLE 29 (CONTINUED)

FORMS USED BY 10 PERCENT OR MORE
AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

FORMS	ACC (N=698)	USAFE (N=327)	PACAF (N=256)	AMC (N=220)	AIA (N=170)	ATC (N=162)
AFTO Form 244 and 245 (Industrial/Support Equipment Record)	2	1	0	0	1	12
AFTO Form 349 and 349-3 (Maintenance Data Collection Record)	73	69	78	69	81	70
AFTO Form 350 (Reparable Item Processing Tag)	80	75	80	80	88	78
DD Form 200 (Financial Liability Investigation of Property Loss)	4	5	4	3	5	2
DD Form 398 (DOD Personnel Security Questionnaire (PSQ))	8	9	8	8	42	14
DD Form 1149 (Requisition and Invoice/Shipping Document)	22	13	21	23	31	23
DD Form 1348-1 (DOD Single Line Item Release/Receipt Document)	56	56	61	60	56	56
DD Form 1348-6 (DOD Single Line Item Requisition System Document)	64	64	65	68	73	68
DD Form 1387-2 (Special Handling Data/Certification)	8	2	5	3	5	2
DD Form 1574 (Serviceable Tag/Label Series Forms)	75	72	74	80	84	75
DD Form 1575 (Suspended Tag/Label Series Forms)	49	50	46	47	61	45
DD Form 1577 (Unserviceable Tag/Label Series Forms)	75	74	73	80	84	74

TABLE 29 (CONTINUED)

FORMS USED BY 10 PERCENT OR MORE
AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

FORMS	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
AF Form 9 (Request for Purchase)	36	51	8	42	72	0
AF Form 103 (Base Civil Engineering Work Clearance Request)	30	2	2	5	6	0
AF Form 126 (Custodian Request Log)	12	25	7	27	44	0
AF Form 264 (MMICS Job/Status Document)	3	7	0	4	3	0
AF Form 332 (Base Civil Engineer Work Request)	25	51	7	40	47	0
AF Form 601 (Equipment Action Request)	16	43	7	38	50	0
AF Form 623 and 623A (On-The-Job Training Record)	77	87	10	87	75	27
AF Form 797 (Job Qualification Standard Continuation/ Command JQS)	68	52	10	44	56	23
AF Form 1261 (Communications-Computer System (C-CS) Acceptance, Commissioning and Removal Certificate)	43	21	0	11	3	0
AF Form 1098 (Special Task Certification and Recurring Training)	46	17	7	22	33	9
AF Form 1297 (Temporary Issue Receipt)	68	80	19	78	92	27
AF Form 1800 (Operator's Inspection Guide and Trouble Report (General Purpose Vehicles))	60	70	8	67	72	0
AF Form 1996 (Adjust Stock Level)	1	17	5	13	28	0
AF Form 2005 (Issue/Turn-In Request)	36	75	15	56	83	0
AF Form 2413 (Supply Control Log)	9	59	10	47	61	5
AF Form 2415 (Quality Control Checksheet)	4	23	8	20	22	0
AF Form 2419 (Routing and Review of Quality Control Reports)	1	29	3	18	11	9
AF Form 2420 (Quality Control Inspection Summary)	0	19	3	15	6	0

TABLE 29 (CONTINUED)

FORMS USED BY 10 PERCENT OR MORE
AFSC 2E1X3 PERSONNEL IN ANY MAJCOM

FORMS	AFC4A (N=107)	AFMC (N=107)	AF ELEM OTHER (N=59)	AFSPACECOM (N=55)	AFSOC (N=36)	AF ELEM EUROPE (N=22)
AF Form 2426 (Training Request and Completion Notification)	8	18	0	24	22	0
AF Form 2520 (Repair Cycle Control Log)	0	6	0	4	6	0
AF Form 3215 (Comm-Computer Systems Requirements Document)	15	48	3	35	47	0
AFTO Form 22, 27, 110, 131 (Technical Order System Forms)	22	50	10	36	47	14
AFTO Form 95 (Significant Historical Data)	2	26	7	11	44	0
AFTO Form 244 and 245 (Industrial/Support Equipment Record)	0	1	0	0	6	0
AFTO Form 349 and 349-3 (Maintenance Data Collection Record)	3	56	5	35	69	0
AFTO Form 350 (Reparable Item Processing Tag)	26	71	17	45	89	5
DD Form 200 (Financial Liability Investigation of Property Loss)	10	7	3	2	8	0
DD Form 398 (DOD Personnel Security Questionnaire (PSQ))	9	1	22	11	31	5
DD Form 1149 (Requisition and Invoice/Shipping Document)	20	17	5	16	53	5
DD Form 1348-1 (DOD Single Line Item Release/Receipt Document)	23	59	10	35	69	41
DD Form 1348-6 (DOD Single Line Item Requisition System Document)	18	71	14	45	83	41
DD Form 1387-2 (Special Handling Data/Certification)	2	0	2	0	22	0
DD Form 1574 (Serviceable Tag/Label Series Forms)	42	74	15	56	86	5
DD Form 1575 (Suspended Tag/Label Series Forms)	21	48	12	31	56	0
DD Form 1577 (Unserviceable Tag/Label Series Forms)	39	75	15	51	81	5

Specialty Training Standard (STS)

A comprehensive review of STS 2E1X3, dated February 1988, was made by comparing survey data to STS elements. Technical school personnel from the 81st Training Wing at Keesler AFB MS matched JI tasks to appropriate STS sections and subsections. A complete computer listing displaying the percent members performing tasks, TE and TD ratings for each task, along with the STS matchings, has been forwarded to the technical school for their review of the training documents. A complete computer listing for equipment items and forms has also been forwarded to the school.

Typically, STS sections and subsections matched to tasks which have sufficiently high TE and TD ratings, and are performed by at least 20 percent of personnel in appropriate experience or skill-level groups (such as first-enlistment (1-48 months TAFMS) and 5- and 7-skill level groups), are considered to be supported and should be considered for inclusion in the STS. Likewise, paragraphs having tasks with less than 20 percent performing across all of the criterion groups should be considered for deletion from the STS.

General STS paragraphs, such as Career Ladder Progression, Security, Air Force Occupational Safety and Health (AFOSH), USAF Graduate Evaluation Program, Supervision, and Training (paragraphs 1 through 6) were not reviewed. Paragraphs 7 through 14 were thoroughly reviewed against the OSR data. Most were, in general, supported, in that tasks matched to the STS paragraphs generally had at least 20 percent of one criterion group performing the matched tasks. However, SMEs should carefully review the STS for possible fine-tuning of content and proficiency codes, in light of the fact that this is a very diverse career ladder and personnel work on many different systems and pieces of equipment (both fixed and mobile). Equipment data presented earlier should be helpful in any review performed.

Table 30 lists several examples of STS paragraphs which need to be reviewed by SMEs, either because they do not meet the 20 percent performing criteria or the 3-skill level course proficiency code is not supported by the data. For example, paragraphs 10f, 13a(11), 13a(12), 13c(11), and 13c(12) need to be reviewed for deletion in future revisions due to small percentages (less than 20 percent) performing related tasks. Proficiency codes for paragraphs 10b, 12b, and 13a(8) should be carefully reviewed. In paragrah 10b, only 6 percent of first-enlistment personnel perform related tasks, but the course teaches the item to the "2b" level. In paragraph 12b, 38 percent of first-enlistment personnel perform related tasks, yet the item is not taught at all in the course. Paragraph 13a(8) is similar, in that 32 percent of first-enlistment personnel perform related items, yet the item is not taught in the 3-skill level course. Perhaps a knowledge level for these items would be appropriate rather than the dash currently shown.

Paragraph 10 covers test equipment used to maintain ground radio equipment. Most of the items listed in this paragraph are well supported by the OSR data. However, two pieces of test equipment should be considered for deletion due to low percent members using them. These items are the tube tester (10c(6)(a)) and the integrated circuit tester (10c(6)(c)). In addition, several items listed in the "Test Equipment" portion of the background section of the JI show

TABLE 30

EXAMPLES OF STS ITEMS NOT SUPPORTED BY OSR DATA

STS REFERENCE/TASKS		3-LVL COURSE PROF CODE	TNG EMP	PERCENT MEMBERS PERFORMING			TSK DIF
				1ST ENL (N=98)	5-SKILL LEVEL (N=219)	7-SKILL LEVEL (N=135)	
10b.	Select proper support equipment to maintain ground radio equipment	2b					
	E189 Select support equipment to maintain GRCE		1.84	6	14	21	4.67
10f.	*Schedule test equipment for calibration*	-					
	E188 Schedule test or support equipment for calibration		2.04	9	18	13	3.44
12b.	Perform corrosion control on equipment	-					
	K550 Perform corrosion prevention on GRCE		4.85	38	45	23	3.52
13a(8).	Communications patch panel	-					
	J454 Operationally check communications patch panels		4.82	32	29	17	3.94
13a(11).	Facsimile	-					
	J457 Operationally check facsimile systems		3.10	10	12	7	4.22

TABLE 30 (CONTINUED)

EXAMPLES OF STS ITEMS NOT SUPPORTED BY OSR DATA

STS REFERENCE/TASKS		3-LVL COURSE PROF CODE	TNG EMP	PERCENT MEMBERS PERFORMING			TSK DIF
				1ST ENL (N=98)	5-SKILL LEVEL (N=219)	7-SKILL LEVEL (N=135)	
13a(12).	FSK tone keyer/converter	-					
	J461 Operationally check keyers or converters		3.19	8	9	5	3.92
13c(11).	Facsimile	-					
	J430 Isolate malfunctions within facsimile systems to LRUs		3.05	5	9	5	5.68
13c(12).	FSK tone keyer/converter	-					
	J430 Isolate malfunctions within keyers or converters to LRUs		3.17	5	6	4	5.15

more than 20 percent of the criteria groups using these items, but were not listed. OSR data for all "test equipment" items listed should be closely reviewed to determine if any additional items need to be added to this paragraph.

Tasks not matched to any element of the STS are listed at the end of the STS computer listing. Table 31 lists examples of tasks which were performed by 20 percent or more of criterion groups, but not matched to any STS item. Training personnel and SMEs should review these and other unreferenced tasks to determine their appropriateness in being included in the STS. These unreferenced tasks cover a wide variety of areas across the career ladder.

Plan of Instruction (POI)

POI G3ABR2E133 000, Apprentice Ground Radio Communications Specialist, dated 6 June 1989, was reviewed against the extensive equipment lists presented above, the tasks performed by first-job and first-enlistment personnel, TE and TD ratings, and the job structure described in the SPECIALTY JOBS section of the OSR. POI blocks, units of instruction, and criterion objectives were compared against the standard set forth in Attachment 1, AETCR 52-22, dated 17 February 1989 (30 percent or more of the criterion first-enlistment group performing tasks or using equipment trained, along with sufficiently high TE and TD task ratings). Per this guidance, behavioral objectives in the course which do not meet these criteria must be considered for elimination from the formal course if not justified on some other acceptable basis.

Because of the general nature of the task statements in the JI, a thorough examination of the POI using task data was difficult. Thus, the review of POI objectives relied almost exclusively on a comparison of equipment lists from the OSR to those equipment items used in each block of the course. Because of the extreme diversity in equipment and systems across the career ladder, it is obvious the 3-skill level basic course can not teach each and every piece of equipment. This would result in overtraining of 3-skill level personnel. It is more important that the 3-skill level course teach representative systems and let each local workcenter conduct extensive OJT on the equipment items or systems located at that particular base.

Following a review of equipment taught in each block of the course, the 3-skill level course for this AFSC appears to train young airmen to maintain the most common pieces of equipment found in the field. A complete discussion of Blocks XIV through XIX is presented below. Blocks I though XIII pertain to Electronics Principles training and were not reviewed.

Block XIV presents an introduction to ground radio and covers AM receiver principles. Primary equipment used to teach this block are the AN/GRR-23 and AN/GRR-24 receivers, which are VHF and UHF single-channel receivers. The use of these two UHF and VHF receivers is well supported by the OSR data, in that 43 percent and 52 percent of first-enlistment personnel reported operating or maintaining these receivers.

TABLE 31

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE 2E1X3 GROUP MEMBERS BUT NOT REFERENCED TO STS

TASKS		PERCENT MEMBERS PERFORMING				
		1ST ENL (N=287)	DAFSC 2E153 (N=1,122)	DAFSC 2E173 (N=854)	TNG EMP*	TSK DIF**
K568	Solder communications equipment components, other than high-reliability soldering	61	64	37	6.09	4.32
M640	Fabricate RF cables	41	40	23	4.87	3.05
J462	Operationally check land lines	31	30	20	4.57	3.57
O702	Fabricate audio cables for PA systems	28	30	19	3.97	3.29
O712	Set up or tear down portable PA systems	35	33	21	3.83	3.26
O706	Operate PA systems	37	34	21	3.69	3.01
M636	Don or doff chemical warfare personal protective clothing	26	35	28	3.68	3.16

* TE MEAN = 2.20; SD = 1.45 (High TE = 3.65)

** TD MEAN = 5.00; SD = 1.00

Block XV covers VHF and UHF AM transmitters. Primary equipment used to support this block include the AN/GRT-21 and AN/GRT-22 UHF and VHF single-channel transmitters. The use of both transmitters is also well supported by the OSR data, with 41 percent and 47 percent of first-enlistment personnel responding that they operate or maintain these transmitters.

Block XVI covers VHF and UHF AM transceivers. Primary equipment used in support of this block include the AN/GRC-171 and AN/GRC-211 UHF and VHF multiple-channel transceivers. Their use in the course is well supported in that 54 percent and 45 percent of first-enlistment personnel indicated they operate or maintain these transceivers. There are, however, two other radio transceivers which are used by 30 percent or more of first-enlistment personnel and should be considered for addition to this block of the course. These are the AN/PRC-113 UHF/VHF portable radio transceiver (maintained or operated by 41 percent of first-enlistment personnel) and the AN/TRC-176 UHF/VHF transportable radio transceiver (maintained or operated by 33 percent of first-enlistment personnel).

Block XVII covers Control Tower Communications Systems and Recorder-Reproducers. The primary two pieces of equipment used in this block include the AN/GSH-56/57 recorder-reproducers and the OJ-314 tower control console. As with other blocks in the course, the use of this equipment is well supported by the data.

Block XVIII covers HF communications and uses the radio RT-1446 URC and RACAL R-2174(P) URR HF receivers. Also used are the AM-7223 HF power amplifier (.5 kw) and CU-2310/URC HF antenna coupler. All items are well supported by OSR data.

The final block of the course, Block XIX, covers equipment troubleshooting and documentation. As with most of the other blocks, this area of the course is well supported by the data.

In conclusion, the basic 3-skill level course for this AFSC appears to be doing a good job in preparing young airmen for their first assignment as ground radio communications specialists. The course is using the most common ground radio equipment and test equipment in teaching the basics of ground radio repair and maintenance. While some minor adjustments could be made to the course, overall it appears to be well supported by the data collected from this occupational survey.

JOB SATISFACTION ANALYSIS

An examination of responses to the job satisfaction questions can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. The survey booklet included questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were then analyzed by making several

comparisons: (1) among TAFMS groups of the Ground Radio Communications career ladder and a comparative sample of personnel from other Mission Equipment Maintenance career ladders surveyed in 1992 (AFSCs 305X4, 404X0, 411X0A, 452X5, 454X5, 454X6, 457X0, 457X2, and 463X0); (2) between current and previous survey experience groups; and (3) across specialty groups identified in the SPECIALTY JOBS section of the report.

Table 32 compares first-enlistment (1-48 months TAFMS), second-enlistment (49-96 months TAFMS), and career (97+ months TAFMS) group data to corresponding enlistment groups from other Mission Equipment Maintenance AFSCs surveyed during the previous calendar year. These data give a relative measure of how the job satisfaction of AFSC 2E1X3 personnel compares with similar Air Force specialties. Ground Radio Communications personnel reported very similar job satisfaction to members of the comparative sample. Overall, satisfaction for all three TAFMS groups in AFSC 2E1X3 is fairly high, with no serious satisfaction problems noted.

Comparison of job satisfaction indicator responses of the current survey TAFMS groups to TAFMS groups in the AFSC 304X4 1986 survey (see Table 33) indicates that generally the 1993 responses are higher than the 1986 responses of AFSC 304X4 respondents. Biggest improvements can be seen in the "Perceived Use of Training" and "Reenlistment Intentions" categories for the 1-48 month TAFMS group.

An examination of job satisfaction data can also reveal the influences performing certain jobs may have on overall job satisfaction. Table 34 presents job satisfaction data for the major jobs identified in the career ladder structure for AFSC 2E1X3. Job satisfaction indicators for the PA Systems Maintenance and Maintenance Job Control jobs were the lowest for any of the jobs identified.

IMPLICATIONS

From the standpoint of data gathered during this OSR, the AFSC 2E1X3 career ladder structure reflects a wide diversity and variety of jobs performed and equipment maintained by career ladder members. Almost 60 percent of the members spend their time in a maintenance job, while the remaining members work either in a supervisory or management job, or in one of several support jobs. Overall job progression is normal and shows a distinct pattern as one moves from the 3-skill level to the 9-skill level. AFMAN 36-2108 *Specialty Descriptions* broadly describe the maintenance jobs and tasks being performed, but make very little mention of support jobs performed by career ladder personnel. Job satisfaction is fairly high, and no serious problem areas were noted. A thorough review of both the STS and the POI should be conducted by SMEs, using both job and equipment data to ensure that appropriate training requirements are identified.

TABLE 32

JOB SATISFACTION INDICATORS FOR AFSC 2E1X3 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	2E1X3 (N=287)	COMP SAMPLE (N=3,272)	2E1X3 (N=626)	COMP SAMPLE (N=2,917)	2E1X3 (N=1,337)	COMP SAMPLE (N=6,421)
EXPRESSED JOB INTEREST:						
INTERESTING	82	74	75	72	77	75
SO-SO	10	16	14	17	14	16
DULL	8	10	11	11	9	9
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	87	80	81	80	83	82
NONE TO VERY LITTLE	13	20	19	20	17	18
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	90	86	77	81	72	79
NONE TO VERY LITTLE	10	14	23	19	28	21

Comparative data are from AFSCs 305X4, 404X0, 411X0A, 452X5, 454X5, 454X6, 457X0, 457X2, and 463X0 surveyed in 1992

TABLE 32 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2E1X3 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	2E1X3 (N=287)	COMP SAMPLE (N=3,272)	2E1X3 (N=626)	COMP SAMPLE (N=2,917)	2E1X3 (N=1,337)	COMP SAMPLE (N=6,421)
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	79	74	70	72	70	73
NEUTRAL	12	12	10	11	10	10
DISSATISFIED	9	14	20	17	20	17
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	73	59	77	70	73	75
NO OR PROBABLY NO	27	41	23	30	7	7
WILL RETIRE	0	0	0	0	20	18

Comparative data are from AFSCs 305X4, 404X0, 411X0A, 452X5, 454X5, 454X6, 457X0, 457X2, and 463X0 surveyed in 1992

TABLE 33

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2E1X3
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	1993 2E1X3 (N=287)	1986 304X4 (N=997)	1993 2E1X3 (N=626)	1986 304X4 (N=479)	1993 2E1X3 (N=1,337)	1986 304X4 (N=917)
EXPRESSED JOB INTEREST:						
INTERESTING	82	74	75	73	77	75
SO-SO	10	15	14	16	14	13
DULL	8	11	11	11	9	12
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	87	80	81	76	83	79
NONE TO VERY LITTLE	13	20	19	24	17	21
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	90	74	77	70	72	67
NONE TO VERY LITTLE	10	26	23	30	28	33

TABLE 33 (CONTINUED)

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2E1X3
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	1993 2E1X3 (N=287)	1986 304X4 (N=997)	1993 2E1X3 (N=626)	1986 304X4 (N=479)	1993 2E1X3 (N=1,337)	1986 304X4 (N=917)
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	72	68	70	65	70	67
NEUTRAL	12	12	10	11	10	9
DISSATISFIED	9	20	20	24	20	24
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	73	49	77	71	73	89
NO OR PROBABLY NO	27	50	23	27	7	9
WILL RETIRE	0	0	o	0	20	2

TABLE 34

JOB SATISFACTION INDICATORS FOR AFSC 2E1X3 JOB GROUPS
(PERCENT MEMBERS RESPONDING)*

	GRD RADIO EQUIP MAINT (STG055)	HF EQUIP MAINT (STG045)	PA SYSTEMS MAINT (STG136)	SUPVRS AND MGRS (STG199)	MAINT QUALITY CONTROL (STG138)	JOB CONTROL (STG144)
EXPRESSED JOB INTEREST:						
INTERESTING	81	76	61	80	79	65
SO-SO	11	14	16	15	15	19
DULL		10	23	5	6	16
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	87	86	69	88	85	72
NONE TO VERY LITTLE	13	14	31	12	15	28
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	87	82	56	78	77	53
NONE TO VERY LITTLE	13	18	44	22	23	47

* Columns may not add up to 100 percent due to rounding or nonresponse

TABLE 34 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2E1X3 JOB GROUPS
(PERCENT MEMBERS RESPONDING)*

	GRD RADIO EQUIP MAINT (STG055)	HF EQUIP MAINT (STG045)	PA SYSTEMS MAINT (STG136)	SUPVRS AND MGRS (STG199)	MAINT QUALITY CONTROL (STG138)	JOB CONTROL (STG144)
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATIS' IED	75	74	53	72	74	56
NEUTRAL	10	11	13	8	10	18
DISSATISFIED	15	15	34	20	16	26
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	80	80	75	57	80	79
NO OR PROBABLY NO	15	19	13	8	6	9
WILL RETIRE	5	1	9	35	14	12
NO RESPONSE	0	0	3	0	0	0

* Columns may not add up to 100 percent due to rounding or nonresponse

TABLE 34 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2E1X3 JOB GROUPS
(PERCENT MEMBERS RESPONDING)*

	TECH MAINT TRNG (STG409)	LMR MGRS (STG301)	LOGISTIC SUPPORT (GRP050)	SCHOOL INSTR (STG255)	E&I (STG098)
EXPRESSED JOB INTEREST:					
INTERESTING	85	81	76	80	76
SO-SO	15	15	18	10	14
DULL	0	4	6	10	10
PERCEIVED USE OF TALENTS:					
FAIRLY WELL TO PERFECT	93	77	77	80	73
NONE TO VERY LITTLE	7	23	23	20	27
PERCEIVED USE OF TRAINING:					
FAIRLY WELL TO PERFECT	69	54	47	95	57
NONE TO VERY LITTLE	31	46	53	5	41

* Columns may not add up to 100 percent due to rounding or nonresponse

TABLE 34 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2E1X3 JOB GROUPS
(PERCENT MEMBERS RESPONDING)*

	TECH MAINT TRNG (STG409)	LMR MGRS (STG301)	LOGISTIC SUPPORT (GRP050)	SCHOOL INSTR (STG255)	E&I (STG098)
SENSE OF ACCOMPLISHMENT FROM JOB:					
SATISFIED	92	77	53	85	82
NEUTRAL	0	4	24	0	2
DISSATISFIED	8	19	23	15	16
REENLISTMENT INTENTIONS:					
YES OR PROBABLY YES	69	77	59	75	82
NO OR PROBABLY NO	23.	10	18	5	16
WILL RETIRE	8	13	23	20	2

* Columns may not add up to 100 percent due to rounding or nonresponse

APPENDIX A

REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF CAREER LADDER JOBS

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TABLE A1

GROUND RADIO EQUIPMENT MAINTENANCE CLUSTER
(STG055, N=1,140)

TYPICAL TASKS		PERCENT
K568	Solder communications equipment components, other than high-reliability soldering	83
I374	Operationally check UHF or VHF equipment	81
I361	Isolate malfunctions with UHF or VHF equipment	80
I372	Operationally check HF equipment	79
K507	Align UHF or VHF equipment or subassemblies	78
I359	Isolate malfunctions within HF equipment	78
I346	Align or adjust internal circuitry of GRCE	76
K559	Remove or replace UHF or VHF equipment subassemblies	76
K505	Align HF equipment or subassemblies	75
F198	Access core automated maintenance system (CAMS) menus and data screens	74
K538	Bench check UHF or VHF transceivers or subassemblies	74
I349	Align or adjust power amplifiers	73
K557	Remove or replace HF equipment subassemblies	72
I345	Align or adjust external controls of GRCE	69
D103	Conduct OJT	69
I364	Isolate malfunctions within power amplifiers	68
I387	Remove or replace HF system LRUs	68
I389	Remove or replace UHF or VHF system LRUs	67
E184	Research microfiche files for supply requisition data	66
K537	Bench check UHF or VHF receivers or subassemblies	63
E185	Research technical orders to identify components or items of equipment	63
K536	Bench check UHF or VHF power amplifiers or subassemblies	63
E183	Process due-in-from maintenance (DIFM) items	63
L579	Bench check HF equipment components	62
K529	Bench check HF transceivers or subassemblies	61
A6	Coordinate maintenance or supply problems with appropriate agencies	61
K550	Perform corrosion prevention on GRCE	60
L611	Remove or replace UHF or VHF equipment discrete components	60

TABLE A2

HF EQUIPMENT MAINTENANCE
(STG045, N=101)

TYPICAL TASKS		PERCENT
I372	Operationally check HF equipment	93
K505	Align HF equipment or subassemblies	92
I359	Isolate malfunctions within HF equipment	89
K557	Remove or replace HF equipment subassemblies	78
L579	Bench check HF equipment components	74
K568	Solder communications equipment components, other than high-reliability soldering	70
I349	Align or adjust power amplifiers	69
F198	Access core automated maintenance system (CAMS) menus and data screens	69
L609	Remove or replace HF equipment discrete components	63
K526	Bench check HF exciters or subassemblies	63
I387	Remove or replace HF system LRUs	59
I364	Isolate malfunctions within power amplifiers	55
K527	Bench check HF power amplifiers or subassemblies	55
I367	Lubricate mechanical parts of GRCE	51
I346	Align or adjust internal circuitry of GRCE	48
D103	Conduct OJT	48
I345	Align or adjust external controls of GRCE	42
K530	Bench check HF transmitters or subassemblies	42
K528	Bench check HF receivers or subassemblies	41
E184	Research microfiche files for supply requisition data	39
K550	Perform corrosion prevention on GRCE	36
I381	Operationally check side-band equipment	33
E143	Coordinate obtaining parts with base supply	32
A6	Coordinate maintenance or supply problems with appropriate agencies	31
F206	Clear or close out completed maintenance discrepancies in CAMS	31
I398	Visually inspect station grounds	31
E185	Research technical orders to identify components or items of equipment	30
I366	Isolate malfunctions within side-band equipment	30

TABLE A3

PUBLIC ADDRESS (PA) SYSTEMS MAINTENANCE
(STG136, N=64)

TYPICAL TASKS		PERCENT
O706	Operate PA systems	95
O712	Set up or tear down portable PA systems	94
O707	Operationally check PA systems	92
O696	Align or adjust public address (PA) systems	88
O702	Fabricate audio cables for PA systems	88
O699	Conduct location surveys for PA systems	84
O697	Bench check PA system components	83
O715	Transport PA systems or equipment to or from deployed locations	75
O704	Isolate malfunctions within PA systems to LRUs	73
O701	Coordinate support requests for PA systems with appropriate agencies	70
K568	Solder communications equipment components, other than high-reliability soldering	68
O703	Install fixed PA systems	64
O709	Remove or replace PA system discrete components	64
D103	Conduct OJT	61
O710	Remove or replace PA system LRUs	59
O700	Coordinate purchases of PA systems or equipment with appropriate agencies	58
I374	Operationally check UHF or VHF equipment	56
E143	Coordinate obtaining parts with base supply	55
A8	Determine or establish work priorities	55
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	52
O714	Supply press feeds to news media	48
A2	Assign maintenance and repair work	48
I361	Isolate malfunctions within UHF or VHF equipment	48
B39	Counsel personnel on personal or military-related matters	47
A6	Coordinate maintenance or supply problems with appropriate agencies	45
A18	Establish procedures for accountability of equipment, tools or supplies	42
E184	Research microfiche files for supply requisition data	42
K507	Align UHF or VHF equipment or subassemblies	42
E190	Store or secure equipment, tools, or supplies	41

TABLE A4

SUPERVISION AND MANAGEMENT
(STG199, N=274)

	TYPICAL TASKS	PERCENT
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	97
B39	Counsel personnel on personal or military-related matters	97
C95	Write EPRs	92
C65	Conduct performance feedback worksheet (PFW) evaluation sessions	91
A6	Coordinate maintenance or supply problems with appropriate agencies	90
C97	Write recommendations for awards or decorations	90
B38	Conduct supervisory orientations of newly assigned personnel	87
A17	Establish performance standards for subordinates	84
B55	Interpret policies, directives, or procedures for subordinates	82
A8	Determine or establish work priorities	82
A34	Schedule personnel for leaves, temporary duty (TDY), or passes	82
A33	Review drafts of regulations, manuals, or other directives	81
C62	Analyze maintenance or inspection reports	80
C79	Evaluate personnel for promotion, demotion, reclassification, or special awards	79
C66	Conduct self-inspections	78
A7	Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies	77
A3	Assign personnel to duty positions	77
A4	Assign sponsors for newly assigned personnel	76
C98	Write replies to inspection reports	74
B60	Supervise Ground Radio Communications Technicians (AFSC 30474)	72
B52	Initiate actions required due to substandard performance of personnel	71
A35	Write job descriptions	71
B61	Supervise military personnel with AFSCs other than 304X4	70
A21	Establish work schedules	68
E141	Compile information for records or reports	68
A28	Plan or schedule work assignments or priorities	65
A16	Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	63
C63	Analyze workload requirements	63
A26	Plan or prepare briefings	62
A13	Draft budget requirements	62
E164	Maintain administrative files	61
C87	Indorse enlisted performance reports (EPRs)	60
D126	Maintain training records, charts, graphs, or files	60

TABLE A5

QUALITY CONTROL
(STG138, N=102)

TYPICAL TASKS		PERCENT
C62	Analyze maintenance or inspection reports	94
C78	Evaluate personnel for compliance with performance standards or technical orders	89
C81	Evaluate quality control or assurance procedures	89
C96	Write inspection reports	88
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	85
B48	Implement quality control or assurance programs	84
C69	Evaluate deficiency, service, or status reports, such as materiel deficiency reports (MDRs)	84
C75	Evaluate maintenance or use of equipment, tools, supplies, or workspace	83
E141	Compile information for records or reports	80
A33	Review drafts of regulations, manuals, or other directives	78
C84	Evaluate technical order improvement reports	77
A16	Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	75
A31	Plan workcenter inspections of facilities or equipment	74
C66	Conduct self-inspections	74
C85	Identify problem areas using deficiency, service, or status reports, such as MDRs	71
E187	Review deficiency, service, or status reports, such as MDRs	68
C82	Evaluate safety or security programs	67
C67	Conduct staff assistance visits (SAVs)	65
E152	Evaluate serviceability of equipment, tools, or supplies	64
E156	Inspect equipment, tools, or supplies, other than CTKs or GRCE	64
A12	Develop self-inspection program checklists	64
A22	Monitor time compliance technical order (TCTO) modifications	64
C98	Write replies to inspection reports	61
F198	Access core automated maintenance system (CAMS) menus and data screens	61

TABLE A6

MAINTENANCE JOB CONTROL
(STG144, N=94)

	TYPICAL TASKS	PERCENT
F198	Access core automated maintenance system (CAMS) menus and data screens	100
A6	Coordinate maintenance or supply problems with appropriate agencies	86
F199	Analyze CAMS data	84
F200	Change CAMS errors noted during daily verification process	78
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	74
F228	Track equipment maintenance discrepancies in CAMS	73
A8	Determine or establish work priorities	71
F201	Change CAMS job standard narratives	70
A2	Assign maintenance and repair work	69
A26	Plan or prepare briefings	69
E174	Maintain preventive maintenance inspection (PMI) listings	68
F222	Perform CAMS inquiries to monitor delayed discrepancies prior to, during, or after scheduling maintenance	67
F206	Clear or close out completed maintenance discrepancies in CAMS	66
F232	Verify accuracy of daily inputs in CAMS	66
F209	Create equipment maintenance discrepancies in CAMS	65
F221	Perform CAMS inquiries for uncompleted maintenance event listings	63
C93	Review preventive maintenance schedules	63
F205	Change equipment maintenance schedules in CAMS	62
B40	Direct development or maintenance of status indicators, such as boards, graphics, or charts	61
F220	Perform CAMS inquiries for training status	61
F210	Create equipment preventive maintenance inspection (PMI) schedules in CAMS	60
F208	Create equipment identification numbers in CAMS	60
F204	Change CAMS workcenter event narratives	60

TABLE A7

MAINTENANCE TRAINING
(STG409, N=13)

	TYPICAL TASKS	PERCENT
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	100
F198	Access core automated maintenance system (CAMS) menus and data screens	92
F220	Perform CAMS inquiries for training systems	92
F219	Maintain training database in CAMS	92
F199	Analyze CAMS data	92
D118	Evaluate effectiveness of training programs	92
D134	Schedule personnel for training	92
D102	Brief unit staff personnel on training programs or matters	92
C66	Conduct self-inspections	92
F207	Conduct CAMS training	85
F230	Update CAMS workcenter training products	77
D126	Maintain training records, charts, graphs, or files	77
D123	Evaluate training materials or aids	77
C97	Conduct staff assistance visits (SAVs)	69
D121	Evaluate progress of trainees	69
C96	Write inspection reports	69
D128	Plan training, such as OJT, qualification training, or ancillary training	69
F213	Determine CAMS training requirements	69
A16	Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	69
F211	Create maintenance personnel records in CAMS	62
D122	Evaluate trainers or trainees	62
C62	Analyze maintenance or inspection reports	62
A12	Develop self-inspection program checklists	62
A31	Plan workcenter inspections of facilities or equipment	62

TABLE A8

LAND MOBILE RADIO (LMR) MANAGEMENT
(STG301, N=48)

	TYPICAL TASKS	PERCENT
G244	Monitor maintenance contract agreements	94
A6	Coordinate maintenance or supply problems with appropriate agencies	87
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	87
E164	Maintain administrative files	87
A8	Determine or establish work priorities	85
G247	Perform QAE performance evaluations	77
G249	Prepare changes or amendments for contract data requirement lists	75
E175	Maintain property custody authority/custody receipt listings (CA/CRLs)	73
E141	Compile information for records or reports	71
E180	Prepare requisitions for local purchase of supply items	71
E143	Coordinate obtaining parts with base supply	71
G238	Draft inputs to performance work statements (PWSs)	71
E186	Review CA/CRLs	71
C66	Conduct self-inspections	71
G233	Brief functional area chiefs or unit staff personnel on status of active GRCE contracts and contract changes	67
A13	Draft budget requirements	67
A2	Assign maintenance and repair work	65
G241	Maintain GRCE contract files	65
E191	Turn in equipment, tools, or supplies	63
G251	Process call orders	62
G248	Prepare call orders	62
G259	Research PWSs	62
E149	Evaluate changes in equipment allowances or authorizations	62
E193	Validate supply transaction listings or rosters, such as D04, D18, D19, D-23, or M-30	62
G243	Maintain GRCE invoice files	60
E174	Maintain preventive maintenance inspection (PMI) listings	60
E190	Store or secure equipment, tools, or supplies	60
A26	Plan or prepare briefings	60

TABLE A9

LOGISTIC SUPPORT
(GRP050, N=17)

	TYPICAL TASKS	PERCENT
E141	Compile information for records or reports	88
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	88
A13	Draft budget requirements	88
E164	Maintain administrative files	88
C68	Evaluate budget requirements	82
A6	Coordinate maintenance or supply problems with appropriate agencies	76
A7	Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies	71
C66	Conduct self-inspections	65
A15	Establish administrative files	65
E193	Validate supply transaction listings or rosters, such as D04, D18, D19, D-23, or M-30	59
A33	Review drafts of regulations, manuals, or other directives	59
E175	Maintain property custody authority/custody receipt listings (CA/CRLs)	47
E143	Coordinate obtaining parts with base supply	47
A26	Plan or prepare briefings	47
E165	Maintain automated data processing equipment (ADPE)	47
A19	Establish publication libraries	47
E186	Review CA/CRLs	41
E191	Turn in equipment, tools, or supplies	41
A12	Develop self-inspection program checklists	41
C99	Write staff studies, surveys, or special reports, other than training reports	41
E196	Write letters of justification for supply-related matters	41
A16	Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	41
E180	Prepare requisitions for local purchase of supply items	41
A32	Prepare agenda for meetings, such as staff meetings, conferences, workshops, or symposiums	41

TABLE A10

TECHNICAL SCHOOL INSTRUCTOR
(STG255, N=20)

	TYPICAL TASKS	PERCENT
D130	Prepare lesson plans	100
D113	Develop lesson plans	100
D100	Administer or score tests	100
D104	Conduct resident course classroom training	90
D121	Evaluate progress of trainees	90
D139	Write test questions	90
A23	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	90
D138	Write or revise training materials	85
D108	Counsel trainees on training progress	75
D107	Construct or develop training aids	70
D137	Supervise students undergoing training	65
B39	Counsel personnel on personal or military-related matters	65
D125	Inspect training aids for operation or suitability	65
D123	Evaluate training materials or aids	60
D112	Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)	60
D132	Prepare student withdrawal or entry forms	60
D122	Evaluate trainers or trainees	55
I374	Operationally check UHF or VHF equipment	55
D124	Evaluate training methods or techniques	50
I372	Operationally check HF equipment	50

TABLE A11

ENGINEERING AND INSTALLATION (E&I)
(STG098, N=51)

TYPICAL TASKS		PERCENT
H264	Assemble or wire equipment components for installation	96
H274	Install communications consoles, including launch control consoles	80
H265	Inspect completed installation of GRCE	78
H275	Install communications patch panels	78
H305	Install multiple-channel UHF or VHF transceivers	76
H343	Test GRCE following installation	75
H310	Install power supply systems	75
H271	Install battery backup systems	73
H328	Install single-channel UHF or VHF receivers	71
H339	Perform preinstallation checks of GRCE or auxiliary equipment	65
D103	Conduct OJT	65
H327	Install single-channel UHF or VHF power amplifiers	63
H282	Install fixed remote control units	63
H272	Install battery chargers	63
H292	Install multiple-channel high-frequency (HF) exciters	63
H330	Install single-channel UHF or VHF transmitters	61
H288	Install multicouplers	61
H293	Install multiple-channel HF power amplifiers	61
H326	Install single-channel UHF or VHF exciters	59
H295	Install multiple-channel HF transceivers	59
C95	Write EPRs	57
H306	Install multiple-channel UHF or VHF transmitters	57
H304	Install multiple-channel UHF or VHF receivers	57
H286	Install microphones or microphone jacks	57
B39	Counsel personnel on personal or military-related matters	57
H294	Install multiple-channel HF receivers	57
H302	Install multiple-channel UHF or VHF exciters	55
H303	Install multiple-channel UHF or VHF power amplifiers	55
H342	Test fixed communications sites	53
H281	Install fixed antenna systems	53
H329	Install single-channel UHF or VHF transceivers	53

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APPENDIX B

LISTING OF MODULES AND TASK STATEMENTS

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These Task Modules (TMs) were developed in order to organize and summarize the extensive task information for this specialty. The TMs were derived by statistical clustering of the tasks in terms of which tasks are performed by the same incumbents. For example, if an individual performs one VHF or UHF task, the probability is very high that he or she also will perform other VHF or UHF tasks. Thus, the group of VHF or UHF tasks can be considered a "natural group" of associated or related tasks (see TM 0002 below). The statistical clustering generally approximates these "natural groupings."

The title of each TM is our best estimate as to the generic subject content of the group of tasks. The TMs are useful for organizing the task data into meaningful units and as a way to concisely summarize the extensive job data. However, TMs are only one way to organize the information. Other strategies may also be valid.

0001 Supply Ordering

1	E143	Coordinate obtaining parts with base supply
2	E183	Process due-in-from maintenance (DIFM) items
3	E184	Research microfiche files for supply requisition data
4	E185	Research technical orders to identify components or items of equipment
5	E190	Store or secure equipment, tools, or supplies
6	E191	Turn in equipment, tools, or supplies

0002 UHF/VHF Equipment Maintenance

1	I361	Isolate malfunctions within UHF or VHF equipment
2	I374	Operationally check UHF or VHF equipment
3	I389	Remove or replace UHF or VHF system LRUs
4	K507	Align UHF or VHF equipment or subassemblies
5	K536	Bench check UHF or VHF power amplifiers or subassemblies
6	K537	Bench check UHF or VHF receivers or subassemblies
7	K538	Bench check UHF or VHF transceivers or subassemblies
8	K539	Bench check UHF or VHF transmitters subassemblies
9	K559	Remove or replace UHF or VHF equipment subassemblies
10	L581	Bench check UHF or VHF equipment components
11	L611	Remove or replace UHF or VHF equipment discrete components

0003 HF Equipment Maintenance

1	I345	Align or adjust external controls of GRCE
2	I346	Align or adjust internal circuitry of GRCE
3	I349	Align or adjust power amplifiers
4	I359	Isolate malfunctions within HF equipment
5	I364	Isolate malfunctions within power amplifiers

0003 HF Equipment Maintenance (Continued)

6	I367	Lubricate mechanical parts of GRCE
7	I372	Operationally check HF equipment
8	I387	Remove or replace HF system LRUs
9	K505	Align HF equipment or subassemblies
10	K526	Bench check HF exciters or subassemblies
11	K527	Bench check HF power amplifiers or subassemblies
12	K528	Bench check HF receivers or subassemblies
13	K529	Bench check HF transceivers or subassemblies
14	K550	Perform corrosion prevention on GRCE
15	K557	Remove or replace HF equipment subassemblies
16	K568	Solder communications equipment components, other than high-reliability soldering
17	L579	Bench check HF equipment components
18	L609	Remove or replace HF equipment discrete components

0004 Recorder-Reproducer Maintenance

1	J411	Align or adjust recorder-reproducers
2	J437	Isolate malfunctions within recorder-reproducers to LRUs
3	J465	Operationally check recorder-reproducers
4	J493	Remove or replace recorder-reproducer LRUs
5	K512	Align recorder-reproducer subassemblies
6	L589	Bench check recorder-reproducer components
7	L619	Remove or replace recorder-reproducer discrete components

0005 Communications Console Maintenance

1	J406	Align or adjust communications consoles
2	J415	Isolate malfunctions to land lines
3	J426	Isolate malfunctions within communications consoles to LRUs
4	J427	Isolate malfunctions within communications patch panels
5	J453	Operationally check communications consoles
6	J454	Operationally check communications patch panels
7	J462	Operationally check land lines
8	J482	Remove or replace communications console LRUs
9	J499	Test land lines
10	L575	Bench check communications console components
11	L602	Remove or replace communications console discrete components

0006 PA System Maintenance

1	O696	Align or adjust public address (PA) systems
2	O697	Bench check PA system components
3	O699	Conduct location surveys for PA systems
4	O700	Coordinate purchases of PA systems or equipment with appropriate agencies
5	O701	Coordinate support requests for PA systems with appropriate agencies
6	O702	Fabricate audio cables for PA systems
7	O703	Install fixed PA systems
8	O704	Isolate malfunctions within PA systems to LRUs
9	O706	Operate PA systems
10	O707	Operationally check PA systems
11	O709	Remove or replace PA system discrete components
12	O710	Remove or replace PA system LRUs
13	O712	Set up or tear down portable PA systems
14	O715	Transport PA systems or equipment to or from deployed locations

0007 ATC Tower Light Guns Maintenance

1	J402	Align ATC tower light guns
2	J416	Isolate malfunctions within ATC tower light guns
3	J445	Operationally check ATC tower light guns
4	J472	Remove or replace ATC tower light guns
5	K517	Bench check ATC tower light guns

0008 ATIS Maintenance

1	J400	Adjust ATISs
2	J417	Isolate malfunctions within ATISs to LRUs
3	J446	Operationally check ATISs
4	J473	Remove or replace ATIS LRUs
5	K518	Bench check ATISs or subassemblies
6	K551	Remove or replace ATIS subassemblies

0009 FM Equipment Maintenance

1	I358	Isolate malfunctions within FM equipment
2	I371	Operationally check FM equipment
3	I386	Remove or replace FM system LRUs

0009 FM Equipment Maintenance (Continued)

4	K504	Align FM equipment or subassemblies
5	K525	Bench check FM equipment or subassemblies
6	K556	Remove or replace FM equipment subassemblies

0010 Side-Band Equipment Maintenance

1	I366	Isolate malfunctions within side-band equipment
2	I381	Operationally check side-band equipment
3	I396	Remove or replace side-band system LRUs
4	K513	Align side-band equipment or subassemblies

0011 Power Supply Equipment Maintenance

1	K542	Bench check power supply equipment or subassemblies
2	K561	Remove or replace power supply equipment subassemblies
3	L588	Bench check power supply unit components
4	L606	Remove or replace equipment power supply unit discrete components

0012 Antenna Coupler Maintenance

1	K553	Remove or replace dummy load antenna subassemblies
2	L569	Bench check antenna coupler components
3	L570	Bench check antenna tuning unit components
4	L596	Remove or replace antenna coupler discrete components

0013 Tool Crib/Bench Check

1	E152	Evaluate serviceability of equipment, tools, or supplies
2	E155	Inspect consolidated tool kits (CTKs)
3	E156	Inspect equipment, tools, or supplies, other than CTKs or GRCE
4	E157	Inventory CTKs
5	E158	Inventory GRCE
6	E159	Inventory equipment, tools, or supplies, other than CTKs or GRCE
7	E161	Issue or log turn-ins of GRCE
8	E162	Issue or log turn-ins of test equipment
9	E163	Issue or log turn-ins of equipment, tools, or supplies, other than CTKs, GRCE, or test equipment

0013 Tool Crib/Bench Check (Continued)

10	E166	Maintain bench stock levels
11	E173	Maintain precision measurement equipment (PME) calibration schedules
12	E188	Schedule test or support equipment for calibration
13	E192	Validate bench stock listings (S04)

0014 Supervision

1	A2	Assign maintenance and repair work
2	A3	Assign personnel to duty positions
3	A4	Assign sponsors for newly assigned personnel
4	A6	Coordinate maintenance or supply problems with appropriate agencies
5	A8	Determine or establish work priorities
6	A9	Develop equipment utilization or maintenance schedules
7	A12	Develop self-inspection program checklists
8	A15	Establish administrative files
9	A16	Establish organizational policies, such as operating instructions (OIs) or standing operating procedures (SOPs)
10	A17	Establish performance standards for subordinates
11	A21	Establish work schedules
12	A23	Participate in meetings such as staff meetings, briefings, conferences, or workshops, other than conducting
13	A24	Plan equipment or facility maintenance requirements
14	A26	Plan or prepare briefings
15	A28	Plan or schedule work assignments or priorities
16	A33	Review drafts of regulations, manuals, or other directives
17	A34	Schedule personnel for leaves, temporary duty (TDY), or passes
18	A35	Write job descriptions
19	B36	Adjust daily maintenance plans to meet operational commitments
20	B38	Conduct supervisory orientations of newly assigned personnel
21	B39	Counsel personnel on personal or military-related matters
22	B41	Direct GRCE repair activities
23	B42	Direct GRCE shop maintenance
24	B44	Direct maintenance of administrative or publication files
25	B45	Direct utilization of equipment
26	B46	Draft recommendations for policy changes in personnel or equipment
27	B52	Initiate actions required due to substandard performance of personnel
28	B53	Initiate personnel action requests
29	B55	Interpret policies, directives, or procedures for subordinates
30	B59	Supervise Ground Radio Communications Specialists (AFSC 30454)
31	B60	Supervise Ground Radio Communications Technicians (AFSC 30474)
32	B61	Supervise military personnel with AFSCs other than 304X4
33	C62	Analyze maintenance or inspection reports
34	C63	Analyze workload requirements

0014 Supervision (Continued)

35	C65	Conduct performance feedback worksheet (PFW) evaluation sessions
36	C66	Conduct self-inspections
37	C71	Evaluate job descriptions
38	C79	Evaluate personnel for promotion, demotion, reclassification, or special awards
39	C87	Indorse enlisted performance reports (EPRs)
40	C95	Write EPRs
41	C97	Write recommendations for awards or decorations
42	C98	Write replies to inspection reports
43	D101	Assign on-the-job training (OJT) trainers or supervisors
44	D103	Conduct OJT
45	D126	Maintain training records, charts, graphs, or files
46	D136	Select personnel for specialized training
47	E141	Compile information for records or reports
48	E164	Maintain administrative files

0015 On-The-Job Training (OJT)

1	D108	Counsel trainees on training progress
2	D109	Determine training requirements, such as OJT or resident course training requirements
3	D114	Direct or implement training programs
4	D118	Evaluate effectiveness of training programs
5	D120	Evaluate personnel for training needs
6	D121	Evaluate progress of trainees
7	D122	Evaluate trainers or trainees
8	D123	Evaluate training materials or aids
9	D124	Evaluate training methods or techniques
10	D128	Plan training, such as OJT, qualification training, or ancillary training
11	D129	Prepare job qualification standards (JQSs)
12	D134	Schedule personnel for training

0016 Supply/Equipment Requirements

1	A7	Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies
2	A18	Establish procedures for accountability of equipment, tools, or supplies
3	E146	Establish requirements for equipment, tools, or supplies
4	E148	Establish supply requirements
5	E149	Evaluate changes in equipment allowances or authorizations
6	E153	Evaluate supply problems
7	E172	Maintain organizational equipment or supply records or listings

0016 Supply/Equipment Requirements (Continued)

8	E175	Maintain property custody authority/custody receipt listings (CA/CRLs)
9	E180	Prepare requisitions for local purchase of supply items
10	E186	Review CA/CRLs
11	E193	Validate supply transaction listings or rosters, such as D04, D18, D19, D-23 or M-30
12	E196	Write letters of justification for supply-related matters

0017 Inspection/Quality Control

1	A20	Establish work methods, production controls, or inspection procedures
2	A22	Monitor time compliance technical order (TCTO) modifications
3	A27	Plan or schedule maintenance or inspections of GRCE
4	A31	Plan workcenter inspections of facilities or equipment
5	B48	Implement quality control or assurance programs
6	B51	Implement work methods, production controls, or inspection procedures
7	C69	Evaluate deficiency, service, or status reports, such as materiel deficiency reports (MDRs)
8	C75	Evaluate maintenance or use of equipment, tools, supplies, or workspace
9	C78	Evaluate personnel for compliance with performance standards or technical orders
10	C80	Evaluate procedures for storage, inventory, or inspection of property items
11	C81	Evaluate quality control or assurance procedures
12	C84	Evaluate technical order improvement reports
13	C85	Identify problem areas using deficiency, service, or status reports, such as MDRs
14	C88	Initiate deficiency, service, or status reports, such as MDRs
15	C96	Write inspection reports
16	E150	Evaluate equipment storage procedures
17	E187	Review deficiency, service, or status reports such as MDRs

0018 Safety/Security Programs

1	A30	Plan safety or security programs
2	B49	Implement safety or security programs
3	C72	Evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) program standards
4	C82	Evaluate safety or security programs
5	C91	Perform safety inspections of facilities or equipment
6	D105	Conduct safety or security training
7	D127	Plan safety or security training

0019 Budget

1	A13	Draft budget requirements
2	A14	Draft supplements or changes to governing directives
3	B47	Implement cost-reduction programs
4	C68	Evaluate budget requirements

0020 Meetings and Briefings

1	A32	Prepare agenda for meetings, such as staff meetings, conferences, workshops, or symposiums
2	B37	Conduct staff meetings or briefings
3	C99	Write staff studies, surveys, or special reports, other than training reports
4	E197	Write minutes of briefings or conferences

0021 Contingency Planning

1	A10	Develop inputs to mobility, disaster preparedness, unit emergency, or alert plans
2	A29	Plan personnel or equipment deployments
3	B56	Maintain or update contingency plans
4	C76	Evaluate mobility, disaster preparedness, unit emergency, or alert plans

0022 CAMS

1	C74	Evaluate maintenance data collection (MDC) reports
2	C92	Review MDC reports
3	C93	Review preventive maintenance schedules
4	D102	Brief unit staff personnel on training programs or matters
5	E174	Maintain preventive maintenance inspection (PMI) listings
6	F198	Access core automated maintenance system (CAMS) menus and data screens
7	F199	Analyze CAMS data
8	F200	Change CAMS errors noted during daily verification process
9	F201	Change CAMS job standard narratives
10	F202	Change CAMS performing workcenter codes
11	F203	Change CAMS work unit codes
12	F204	Change CAMS workcenter event narratives
13	F205	Change equipment maintenance schedules in CAMS
14	F206	Clear or close out completed maintenance discrepancies in CAMS
15	F207	Conduct CAMS training
16	F208	Create equipment identification numbers in CAMS
17	F209	Create equipment maintenance discrepancies in CAMS

0022 CAMS (Continued)

18	F210	Create equipment preventive maintenance inspection (PMI) schedules in CAMS
19	F211	Create maintenance personnel records in CAMS
20	F212	Defer equipment maintenance discrepancies in CAMS
21	F213	Determine CAMS training requirements
22	F214	Establish CAMS automated historical reports
23	F215	Establish CAMS job standard narratives
24	F216	Establish equipment maintenance schedules in CAMS
25	F217	Implement CAMS workcenter training programs
26	F218	Input supply data in CAMS
27	F219	Maintain training data base in CAMS
28	F220	Perform CAMS inquiries for training status
29	F221	Perform CAMS inquiries for uncompleted maintenance event listings
30	F222	Perform CAMS inquiries to monitor delayed discrepancies prior to, during, or after scheduling maintenance
31	F223	Perform CAMS interface with base supply systems
32	F224	Schedule equipment maintenance discrepancies in CAMS
33	F225	Schedule training in CAMS
34	F226	Start or stop CAMS job following events
35	F227	Track CAMS job following events
36	F228	Track equipment maintenance discrepancies in CAMS
37	F229	Update CAMS automated historical reports
38	F230	Update CAMS workcenter training products
39	F231	Update CAMS personnel data files
40	F232	Verify accuracy of daily inputs in CAMS

0023 Mobile Operations

1	J399	Adjust antenna system guy wires or elements
2	M627	Align or adjust mobile antenna systems
3	M628	Assign members to mobility positions
4	M629	Conduct mobility exercise or deployment site surveys
5	M630	Conduct mobility surveillance visits
6	M631	Conduct mobility training
7	M632	Control or clean weapons
8	M633	Coordinate mobility exercise or contingency requirements with appropriate agencies
9	M634	Develop mobility inspection checklists
10	M635	Dig trenches
11	M636	Don or doff chemical warfare personal protective clothing
12	M637	Erect tents
13	M638	Establish mobility workcenters during mobility exercises or deployments
14	M639	Evaluate mobility exercise or deployment after-action report inputs
15	M640	Fabricate RF cables
16	M641	Fire weapons for proficiency

17	M642	Identify chemical warfare agents
18	M643	Identify equipment or personnel requirements for mobility exercises or deployments
19	M644	Inspect mobility bags or kits
20	M645	Inspect packed or palletized mobility or contingency equipment prior to transport
21	M646	Install or remove mobilizers on mobile communications vans or shelters
22	M647	Install station grounds for vans or shelters
23	M648	Install vehicle-mounted antenna systems
24	M649	Install vehicle-mounted cryptographic equipment
25	M650	Install vehicle-mounted GRCE
26	M651	Isolate malfunctions within mobile antenna systems to LRUs
27	M652	Lay electrical or communications cables
28	M653	Level mobile communications vans
29	M654	Maintain workcenter pyramid recall plans
30	M655	Monitor mobility deployments kits
31	M656	Operationally check mobile antenna systems
32	M657	Operationally check mobile GRCE
33	M658	Operationally check mobilizers or transporters
34	M659	Pack mobility or contingency equipment for shipment or movement
35	M660	Palletize mobility or contingency equipment for shipment or movement
36	M661	Participate in mobility exercise planning meetings
37	M662	Perform decontamination procedures for chemical warfare agents
38	M663	Perform operator maintenance on mobilizers or transporters
39	M664	Perform operator maintenance on mobile generators
40	M665	Perform operator maintenance on portable generators
41	M666	Perform site security
42	M667	Prepare mobility exercise or deployment after-action reports
43	M668	Prepare sites at deployed locations
44	M669	Prepare workcenter pyramid recall plans
45	M670	Remove or replace jack stands
46	M671	Remove or replace mobile antenna system LRUs
47	M672	Schedule deployments of mobile communications systems
48	M673	Set up or tear down field telephone systems
49	M674	Set up or tear down mobile antenna systems
50	M675	Set up or tear down mobile communications vans
51	M677	Set up or tear down shelters
52	M678	Set up site security
53	M679	Transport mobility or contingency equipment to or from deployed locations
54	M680	Visually inspect mobile antenna systems

0024 Tech School Training

1	D100	Administer or score tests
2	D104	Conduct resident course classroom training
3	D106	Conduct training conferences or briefings
4	D107	Construct or develop training aids
5	D110	Develop career development course (CDC) or curricula materials
6	D112	Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)
7	D113	Develop lesson plans
8	D115	Establish or maintain study reference files
9	D116	Establish procedures for accountability of students
10	D117	Establish training requirements for instructors
11	D119	Evaluate performance of instructors
12	D125	Inspect training aids for operation or suitability
13	D130	Prepare lesson plans
14	D131	Prepare specialty training packages (STPs) or quality training packages (QTPs)
15	D132	Prepare student withdrawal or entry forms
16	D133	Procure training aids, space, or equipment
17	D135	Schedule special classes, such as classes to implement changes or modifications of equipment
18	D137	Supervise students undergoing training
19	D138	Write or revise training materials
20	D139	Write test questions
21	D140	Write training reports

0025 SATCOM Equipment Maintenance

1	I353	Align or adjust SATCOM systems or equipment
2	I365	Isolate malfunctions within SATCOM equipment
3	I380	Operationally check SATCOM equipment
4	I395	Remove or replace SATCOM system LRUs
5	K545	Bench check SATCOM equipment or subassemblies
6	L592	Bench check SATCOM equipment components
7	L622	Remove or replace SATCOM equipment discrete components

0026 Cryptographic Equipment Maintenance

1	J407	Align or adjust cryptographic equipment
2	J428	Isolate malfunctions within cryptographic equipment to LRUs
3	J455	Operationally check cryptographic equipment
4	J484	Remove or replace cryptographic equipment LRUs
5	K520	Bench check cryptographic equipment or subassemblies

0027 Facsimile Equipment Maintenance

1	H280	Install facsimile systems
2	J430	Isolate malfunctions within facsimile systems to LRUs
3	J457	Operationally check facsimile systems
4	J486	Remove or replace facsimile equipment LRUs
5	K503	Align facsimile equipment or subassemblies
6	K524	Bench check facsimile equipment or subassemblies
7	K555	Remove or replace facsimile equipment subassemblies
8	L578	Bench check facsimile system components
9	L607	Remove or replace facsimile system discrete components

0028 Battery Charger and Back Up Systems Maintenance

1	J404	Align or adjust battery backup systems
2	J421	Isolate malfunctions within backup power supplies to LRUs
3	J422	Isolate malfunctions within battery backup systems to LRUs
4	J423	Isolate malfunctions within battery chargers to LRUs
5	J449	Operationally check backup power supplies
6	J450	Operationally check battery chargers
7	J477	Remove or replace backup power supply LRUs
8	J478	Remove or replace battery backup system LRUs
9	J479	Remove or replace battery charger LRUs
10	L572	Bench check battery charger components
11	L599	Remove or replace battery charger discrete components

0029 Intercom Maintenance

1	J409	Align or adjust intercom systems
2	J433	Isolate malfunctions within intercom systems to LRUs
3	J460	Operationally check intercom systems
4	J489	Remove or replace intercom equipment LRUs
5	L582	Bench check intercom system components
6	L612	Remove or replace intercom equipment discrete components

0030 Communications and Phone Patch Systems Maintenance

1	J436	Isolate malfunctions within phone patch systems to LRUs
2	J464	Operationally check phone patch systems
3	J483	Remove or replace communications patch panels
4	J492	Remove or replace phone patch equipment LRUs
5	L587	Bench check phone patch system components
6	L603	Remove or replace communications patch panel discrete components
7	L618	Remove or replace phone patch equipment discrete components

0031 Radio-Telephone Systems Maintenance

1	I351	Align or adjust radio-telephone systems
2	I378	Operationally check radio-telephone systems
3	I393	Remove or replace radio-telephone system LRUs
4	K510	Align radio-telephone equipment or subassemblies
5	K563	Remove or replace radio-telephone equipment subassemblies

0032 Fixed Antenna Systems Maintenance

1	J408	Align or adjust fixed antenna systems
2	J431	Isolate malfunctions within fixed antenna systems to LRUs
3	J458	Operationally check fixed antenna systems
4	J487	Remove or replace fixed antenna system LRUs
5	L608	Remove or replace fixed antenna system discrete components

0033 Keyers and Converters Maintenance

1	J434	Isolate malfunctions within keyers or converters to LRUs
2	J461	Operationally check keyers or converters
3	J490	Remove or replace keyers or converters
4	L583	Bench check keyer or converter components
5	L613	Remove or replace keyer or converter discrete components

0034 Automatic Recording and Keying Systems Maintenance

1	J418	Isolate malfunctions within automatic keying systems to LRUs
2	J419	Isolate malfunctions within automatic recording systems to LRUs
3	J474	Remove or replace automatic keying equipment LRUs
4	J475	Remove or replace automatic recording equipment LRUs
5	L571	Bench check automatic recording system components
6	L598	Remove or replace automatic recording equipment discrete components

0035 Signal Conditioning Equipment Maintenance

1	J438	Isolate malfunctions within signal conditioning equipment to LRUs
2	J466	Operationally check signal conditioning equipment
3	J494	Remove or replace signal conditioning equipment LRUs
4	L593	Bench check signal conditioning equipment components
5	L623	Remove or replace signal conditioning equipment discrete components

0036 Radio-Teletype Equipment Maintenance

1	I352	Align or adjust radio-teletype systems
2	I379	Operationally check radio-teletype systems
3	I394	Remove or replace radio-teletype system LRUs
4	K511	Align radio-teletype equipment or subassemblies
5	K544	Bench check radio-teletype equipment or subassemblies
6	K564	Remove or replace radio-teletype equipment subassemblies

0037 Switchboard Maintenance

1	J420	Isolate malfunctions within automatic switchboards to LRUs
2	J440	Isolate malfunctions within switchboards, other than automatic switchboards, to LRUs
3	J448	Operationally check automatic switchboards
4	J468	Operationally check switchboards, other than automatic switchboards
5	J476	Remove or replace automatic switchboard LRUs
6	J495	Remove or replace switchboard LRUs, other than automatic switchboard LRUs
7	K514	Align switchboard equipment or subassemblies
8	K546	Bench check switchboard equipment or subassemblies
9	K565	Remove or replace switchboard equipment subassemblies
10	L594	Bench check switchboard equipment components
11	L626	Remove or replace switchboard discrete components

0038 ECCM Equipment Maintenance

1	I356	Isolate malfunctions within electronic counter-countermeasures (ECCM) equipment
2	I369	Operationally check ECCM equipment
3	I384	Remove or replace ECCM equipment LRUs
4	K523	Bench check ECCM equipment or subassemblies
5	K554	Remove or replace ECCM equipment subassemblies

0039 Computer Equipment Maintenance

1	H276	Install computer equipment
2	I344	Align or adjust computer equipment
3	I355	Isolate malfunctions within computer equipment
4	I368	Operationally check computer equipment
5	I383	Remove or replace computer equipment line replaceable units (LRUs)
6	K519	Bench check computer equipment or subassemblies
7	L576	Bench check computer equipment components
8	L604	Remove or replace computer equipment discrete components

0040 Direction Finding (DF) Equipment Maintenance

1	I357	Isolate malfunctions within DF equipment
2	I370	Operationally check DF equipment
3	I385	Remove or replace DF system LRUs
4	K501	Align DF control units or subassemblies
5	K502	Align DF receivers or subassemblies
6	K521	Bench check DF control units or subassemblies
7	K522	Bench check DF receivers or subassemblies
8	K552	Remove or replace DF equipment subassemblies

0041 VDT Equipment Maintenance

1	J412	Align or adjust video display terminals (VDTs)
2	J444	Isolate malfunctions within VDTs to LRUs
3	J471	Operationally check VDTs
4	J498	Remove or replace VDT LRUs
5	K516	Align VDT subassemblies
6	K548	Bench check VDT subassemblies
7	K566	Remove or replace VDT subassemblies

0042 Master Timing Systems Maintenance

1	J410	Align or adjust master timing systems
2	J435	Isolate malfunctions within master timing systems to LRUs
3	J463	Operationally check master timing systems
4	J491	Remove or replace master timing system LRUs
5	K508	Align master timing system subassemblies
6	K540	Bench check master timing systems or subassemblies
7	K560	Remove or replace master timing system subassemblies
8	L584	Bench check master timing system components
9	L614	Remove or replace master timing system discrete components

0043 Broadcasting Systems

1	J405	Align or adjust broadcasting systems
2	J425	Isolate malfunctions within broadcasting systems to LRUs
3	J452	Operationally check broadcasting systems
4	J481	Remove or replace broadcasting equipment LRUs

0044 Branching Amplifiers Maintenance

1	J424	Isolate malfunctions within branching amplifiers to LRUs
2	J451	Operationally check branching amplifiers
3	J480	Remove or replace branching amplifier LRUs
4	L574	Bench check branching amplifier components
5	L601	Remove or replace branching amplifier discrete components

0045 Data Link Systems Maintenance

1	J429	Isolate malfunctions within data link systems to LRUs
2	J456	Operationally check data link systems
3	J485	Remove or replace data link system LRUs
4	L577	Bench check data link system components
5	L605	Remove or replace data link system discrete components

0046 Multiplex Equipment Maintenance

1	I348	Align or adjust multiplex equipment
2	I363	Isolate malfunctions within multiplex equipment
3	I376	Operationally check multiplex equipment
4	I391	Remove or replace multiplex system LRUs
5	L586	Bench check multiplex system components
6	L617	Remove or replace multiplex equipment discrete components

0047 Microwave Equipment Maintenance

1	I347	Align or adjust microwave systems or equipment
2	I362	Isolate malfunctions within microwave equipment
3	I375	Operationally check microwave equipment
4	I390	Remove or replace microwave system LRUs
5	K541	Bench check microwave equipment or subassemblies
6	L585	Bench check microwave equipment components
7	L616	Remove or replace microwave equipment discrete components

0048 Radio-Telegraph Equipment Maintenance

1	I350	Align or adjust radio-telegraph systems
2	I377	Operationally check radio-telegraph systems
3	I392	Remove or replace radio-telegraph system LRUs
4	K509	Align radio-telegraph equipment or subassemblies
5	K543	Bench check radio-telegraph equipment or subassemblies
6	K562	Remove or replace radio-telegraph equipment subassemblies

0049 Engineering and Installation (E&I)

1	H264	Assemble or wire equipment components for installation
2	H265	Inspect completed installation of GRCE
3	H266	Inspect fixed communications sites
4	H267	Install air traffic control (ATC) tower light guns
5	H268	Install audio line conditioning systems
6	H269	Install automated terminal information systems (ATISs)
7	H270	Install automatic keying equipment
8	H271	Install battery backup systems
9	H272	Install battery chargers
10	H273	Install branching amplifiers
11	H274	Install communications consoles, including launch control consoles
12	H275	Install communications patch panels
13	H277	Install cryptographic equipment, other than vehicle-mounted cryptographic equipment
14	H278	Install data link systems
15	H281	Install fixed antenna systems
16	H282	Install fixed remote control units
17	H283	Install frequency shift exciters
18	H284	Install intercommunications (intercom) systems
19	H285	Install keyers or converters
20	H286	Install microphones or microphone jacks
21	H287	Install microwave systems or equipment
22	H288	Install multicouplers
23	H289	Install multiple-channel frequency modulation (FM) receivers
24	H290	Install multiple-channel FM transceivers
25	H291	Install multiple-channel FM transmitters
26	H292	Install multiple-channel high-frequency (HF) exciters
27	H293	Install multiple-channel HF power amplifiers
28	H294	Install multiple-channel HF receivers
29	H295	Install multiple-channel HF transceivers
30	H296	Install multiple-channel HF transmitters
31	H297	Install multiple-channel low-frequency (LF) exciters
32	H298	Install multiple-channel LF power amplifiers
33	H299	Install multiple-channel LF receivers
34	H300	Install multiple-channel LF transceivers

35	H301	Install multiple-channel LF transmitters
36	H302	Install multiple-channel ultra high-frequency (UHF) or very high-frequency (VHF) exciters
37	H303	Install multiple-channel UHF or VHF power amplifiers
38	H304	Install multiple-channel UHF or VHF receivers
39	H305	Install multiple-channel UHF or VHF transceivers
40	H306	Install multiple-channel UHF or VHF transmitters
41	H307	Install multiple-channel recorder-reproducers
42	H308	Install multiplex equipment
43	H309	Install phone patch systems
44	H310	Install power supply systems
45	H311	Install radio frequency (RF) line conditioning equipment
46	H312	Install radio-telegraph systems
47	H313	Install radio-teletype systems
48	H314	Install satellite communications (SATCOM) systems or equipment
49	H316	Install single-channel HF exciters
50	H317	Install single-channel HF power amplifiers
51	H318	Install single-channel HF receivers
52	H319	Install single-channel HF transceivers
53	H320	Install single-channel HF transmitters
54	H321	Install single-channel LF exciters
55	H322	Install single-channel LF power amplifiers
56	H323	Install single-channel LF receivers
57	H324	Install single-channel LF transceivers
58	H325	Install single-channel LF transmitters
59	H326	Install single-channel UHF or VHF exciters
60	H327	Install single-channel UHF or VHF power amplifiers
61	H328	Install single-channel UHF or VHF receivers
62	H329	Install single-channel UHF or VHF transceivers
63	H330	Install single-channel UHF or VHF transmitters
64	H331	Install single-channel recorder-reproducers
65	H332	Install single-channel side-band exciters
66	H333	Install single-channel side-band power amplifiers
67	H334	Install single-channel side-band receivers
68	H335	Install single-channel side-band transceivers
69	H336	Install single-channel side-band transmitters
70	H337	Install station grounds, other than for vans or shelters
71	H338	Install target transmitters
72	H339	Perform preinstallation checks of GRCE or auxiliary equipment
73	H340	Perform TCTO modifications to GRCE prior to installation
74	H341	Test circuitry of GRCE systems
75	H342	Test fixed communications sites
76	H343	Test GRCE following installation

0050 LF Equipment Maintenance

1	I360	Isolate malfunctions within LF equipment
2	I373	Operationally check LF equipment
3	I388	Remove or replace LF system LRUs
4	K506	Align LF equipment or subassemblies
5	K533	Bench check LF receivers or subassemblies
6	K558	Remove or replace LF equipment subassemblies
7	L580	Bench check LF equipment components
8	L610	Remove or replace LF equipment discrete components

0051 Survivable Low-Frequency Comm Systems (SLFCS) Maintenance

1	N681	Align or adjust survivable low-frequency communications systems (SLFCSs)
2	N685	Isolate malfunctions within SLFCSs or components
3	N687	Monitor SLFCS operations
4	N690	Operationally check SLFCSs
5	N693	Remove or replace SLFCS components
6	N695	Service SLFCSs

0052 Bench Check LF Equipment

1	K531	Bench check LF exciters or subassemblies
2	K532	Bench check LF power amplifiers or subassemblies
3	K534	Bench check LF transceivers or subassemblies
4	K535	Bench check LF transmitters or subassemblies

0053 Missile Launch Control Consoles Maintenance

1	N683	Isolate malfunctions within hardened antenna systems to LRUs
2	N684	Isolate malfunctions within missile launch control console systems
3	N686	Monitor missile launch control console operations
4	N689	Operationally check missile launch control consoles or components
5	N691	Remove or replace hardened antenna system LRUs
6	N692	Remove or replace missile launch control console components
7	N694	Service missile launch control consoles

0054 Simultaneous Language Translation Systems (SLTSs) Maintenance

1	O698	Bench check simultaneous language translation systems (SLTSs)
2	O705	Isolate malfunctions within SLTSs to LRUs
3	O708	Operationally check SLTSs
4	O711	Remove or replace SLTS LRUs
5	O713	Set up or tear down SLTSs

0055 Target Transmitters Maintenance

1	J401	Adjust target transmitters
2	J442	Isolate malfunctions within target transmitters to LRUs
3	J470	Operationally check target transmitters
4	J497	Remove or replace target transmitter LRUs
5	K515	Align target transmitters or subassemblies
6	K547	Bench check target transmitters or subassemblies

0056 Contract Management

1	G233	Brief functional area chiefs or unit staff personnel on status of active GRCE contracts and contract changes
2	G234	Certify commercial service contracts for GRCE
3	G235	Develop GRCE contract management indexes
4	G236	Document GRCE contract management quality assurance evaluator (QAE) training
5	G237	Draft GRCE contract management amendments or changes
6	G238	Draft inputs to performance work statements (PWSs)
7	G239	Draft inputs to statements of work (SOWs)
8	G240	Initiate contract renewal actions for GRCE
9	G241	Maintain GRCE contract files
10	G242	Maintain GRCE contract management indexes
11	G243	Maintain GRCE invoice files
12	G244	Monitor maintenance contract agreements
13	G245	Participate in request for proposal (RFP) meetings
14	G246	Participate in source selection meetings
15	G247	Perform QAE performance evaluations
16	G248	Prepare call orders
17	G249	Prepare changes or amendments for contract data requirement lists
18	G250	Prepare contract movement orders to, from, or between overseas locations
19	G251	Process call orders
20	G252	Process engineering change proposals
21	G253	Process GRCE contract management indexes
22	G254	Process GRCE contract renewal actions
23	G255	Process invoices for GRCE

0056 Contract Management (Continued)

24	G256	Process new product announcements for GRCE
25	G257	Process PWSs
26	G258	Process SOWs or SOW amendments
27	G259	Research PWSs
28	G260	Research SOWs
29	G261	Review contract management responsibility transfers (CMRTs)
30	G262	Verify commercial service contract specifications for GRCE
31	G263	Write SOWs

0057 Tasks not Clustered

1	A1	Assign government vehicles
2	A5	Conduct requirements surveys for installation of ground radio communications equipment (GRCE) or auxiliary equip
3	A11	Develop organizational or functional charts
4	A19	Establish publication libraries
5	A25	Plan layouts of facilities
6	B40	Direct development or maintenance of status indicators, such as boards, graphs, or charts
7	B43	Direct installation of GRCE associated systems, such as facsimile, rekeyers, or teletype systems
8	B50	Implement suggestion programs
9	B54	Initiate technical order improvement reports
10	B57	Supervise civilian personnel
11	B58	Supervise Apprentice Ground Radio Communications Specialists (AFSC 30434)
12	C64	Complete USAF Graduate Evaluation Program forms or questionnaires
13	C67	Conduct staff assistance visits (SAVs)
14	C70	Evaluate equipment development or modification data
15	C73	Evaluate layouts of facilities
16	C77	Evaluate modified or prototype equipment
17	C83	Evaluate suggestions
18	C86	Indorse civilian performance appraisals
19	C89	Investigate accidents or incidents
20	C90	Participate in technical order verification conferences
21	C94	Write civilian performance appraisals
22	D111	Develop equipment training programs
23	E142	Complete accident report forms
24	E144	Develop equipment checklists
25	E145	Establish quality standards for inspections of repaired items or equipment
26	E147	Establish requirements for local GRCE maintenance procedures or work cards
27	E151	Evaluate repair capability lists
28	E154	Initiate cannibalization requests
29	E160	Issue or log turn-ins of CTKs

30	E165	Maintain automated data processing equipment (ADPE)
31	E167	Maintain communications-computer systems installation (CSIR) records
32	E168	Maintain communications-electronics facility records (CEFRs)
33	E169	Maintain daily status records on support equipment
34	E170	Maintain equipment time change requirements
35	E171	Maintain inspection cards on items requiring periodic inspections
36	E176	Maintain publication libraries or files, other than technical order files
37	E177	Maintain security forms on safes, records, or for rooms
38	E178	Maintain technical order files
39	E179	Participate in TCTO meetings
40	E181	Prepare technical order improvement reports
41	E182	Process cannibalization requests
42	E189	Select support equipment to maintain GRCE
43	E194	Validate TCTOs
44	E195	Verify receipt of TCTO changes
45	H279	Install direction finding (DF) systems, other than mobile DF systems
46	H315	Install signal conditioning equipment
47	I354	Calibrate built-in test equipment (BITE)
48	I382	Perform TCTO modifications of installed GRCE
49	I397	Test station grounds
50	I398	Visually inspect station grounds
51	J403	Align or adjust antenna preamplifiers
52	J413	Align transponders
53	J414	Calibrate special test equipment
54	J432	Isolate malfunctions within generators
55	J439	Isolate malfunctions within signal shifters to LRUs
56	J441	Isolate malfunctions within switching groups to LRUs
57	J443	Isolate malfunctions within transponders to LRUs
58	J447	Operationally check automatic recording systems
59	J459	Operationally check generators
60	J467	Operationally check signal shifters
61	J469	Operationally check switching groups
62	J488	Remove or replace generators
63	J496	Remove or replace switching group LRUs
64	J500	Update port assignment software commands for electronic switching systems (ESSs)
65	K530	Bench check HF transmitters or subassemblies
66	K549	Fabricate test adapters
67	K567	Service test equipment
68	L573	Bench check BITE components
69	L590	Bench check remote control unit components
70	L591	Bench check rotating antenna equipment components
71	L595	Perform high-reliability soldering of integrated circuits
72	L597	Remove or replace antenna tuning unit discrete components
73	L600	Remove or replace BITE discrete components
74	L615	Remove or replace microphone discrete components

75	L620	Remove or replace remote control unit discrete components
76	L621	Remove or replace rotating antenna equipment discrete components
77	L624	Remove or replace signal shifter discrete components
78	L625	Remove or replace special test equipment discrete components
79	M676	Set up or tear down mobile DF systems
80	N682	Inspect hardened antenna systems
81	N688	Operationally check hardened antenna systems
82	O714	Supply press feeds to news media

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