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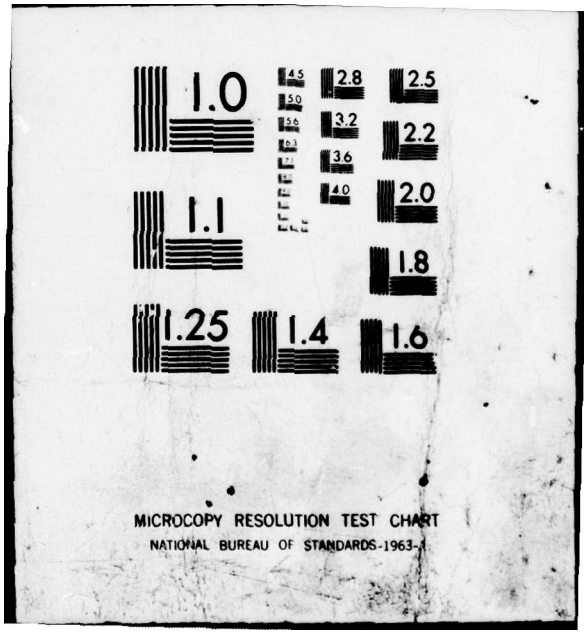
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OCCUPATIONAL SURVEY REPORT

LEVEL II

ELECTRONIC-MECHANICAL COMMUNICATIONS AND CRYPTOGRAPHIC EQUIPMENT SYSTEMS CAREER LADDER

AFSCs 30631, 30651, 30671, AND 30692

AFPT 90-306-367

JUL 1979

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
RANDOLPH AFB TEXAS 78148

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TABLE OF CONTENTS

PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Electronic-Mechanical Communications and Cryptographic Equipment Systems career ladder (AFSCs 30631, 30651, 30671, and 30692). The project was directed by USAF Program Technical Training, Volume II, dated February 1978. Authority for conducting occupational surveys is contained in AFR 35-2. Computer outputs from which this report was produced are available for use by operating and training officials.

The survey instrument was developed by Mr. James L. Slovak, Inventory Development Specialist. Captain Michael D. Hill and Mr. James B. Keeth, Occupational Survey Analysts, analyzed the data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Jimmy L. Mitchell, Chief, Airman Career Ladders Analysis Section, Occupational Survey Branch, USAF Occupational Measurement Center, Randolph AFB, Texas 78148.

Computer programs for analyzing the occupational data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL) and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Copies of this report are available to air staff sections, major commands, and other interested training and management personnel upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Randolph AFB, Texas 78148.

This report has been reviewed and is approved.

BILLY C. McMASTER, COL, USAF
Commander
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Chief, Occupational Survey Branch
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SUMMARY OF RESULTS

1. Survey Coverage: Inventory booklets were administered to DAFSC 306X1 personnel during the period August 1978 through February 1979. Survey results are based on responses from 675 of the 713 incumbents assigned, or 95 percent of the total assigned career ladder population.

2. Career Ladder Structure: Three clusters and six independent job types were identified within the career ladder. The clusters consisted of Digital Subscriber Terminal Equipment (DSTE) repairmen, DSTE first line supervisors, and DSTE maintenance supervisors and managers. The independent job groups consisted of DSTE personnel who specialized in the maintenance of a particular piece of equipment or in the maintenance of equipment in a particular configuration. These independent job groups included Junior Card Punch Repairmen, AE Configuration Repairmen, DSCSS/DIN and Strawhat System Specialists, Cryptographic Repairmen, Job Controllers, and Technical Instructors.

3. Career Ladder Progression: Jobs performed by 3- and 5-skill level personnel were technical in nature, with heavy emphasis on card punch, cryptographic equipment, general maintenance, and administrative functions. Seven-skill level respondents spent 68 percent of their time performing management-related functions, with the remaining 32 percent being spent on technical tasks. Nine-skill level incumbents were primarily involved in managerial tasks and spent only four percent of their time performing technical tasks.

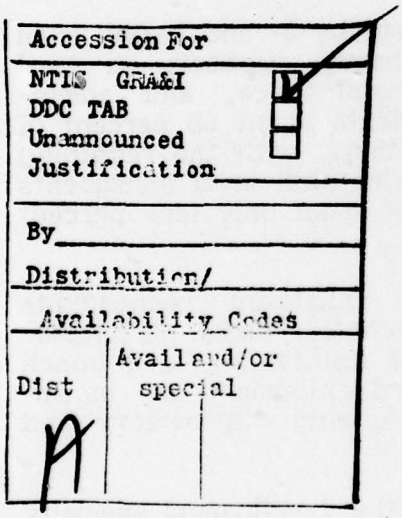
4. AFMS Differences: First and second enlistment respondents reflected few differences in the types of technical tasks performed. Both spent the major percentage of their time maintaining card punch and cryptographic equipment. From the third enlistment on, incumbents spent the majority of their time performing supervisory and managerial tasks.

5. AFR 39-1 Review: With the exception of the 7-skill level specialty description, AFR 39-1 was fairly accurate in portraying all jobs and major tasks performed by 306X1 personnel. The supervisory role of the 7-skill level should be more completely addressed in any future revision of the AFR 39-1 specialty descriptions.

6. STS Review: STS 306X1 provided a generally accurate and complete description of the tasks performed by career ladder respondents; however, the match between the STS and survey data indicated some refinements to the STS could be made. Computer products were furnished to the technical training school for this purpose.

7. Comparison to Previous Study: Both this and the earlier 1975 survey reflected similar career ladder structures. However, there has been a noticeable shift toward more supervisory and less technical tasks at the 7-skill level since the last study. As a result, 3- and 5- skill level personnel are performing a wider variety of technical tasks.

8. Implications: The heterogeneous nature of the career field and the specialization which has resulted has serious implications in terms of supervision, assignment policy, training, and future consolidation. However, the introduction of new equipment in the 1980s will serve to create a more homogeneous career field by reducing the equipment inventory. Until the new equipment is on board and operational, any changes to the 306X1 career ladder should be undertaken with caution.



OCCUPATIONAL SURVEY REPORT
ELECTRONIC-MECHANICAL COMMUNICATIONS AND CRYPTOGRAPHIC EQUIPMENT SYSTEMS CAREER LADDER
(AFSCs 30631, 30651, 30671, AND 30692)

INTRODUCTION

This is a report of an occupational survey of personnel in the Electronic-Mechanical Communications and Cryptographic Equipment Systems career ladder completed by the Occupational Survey Branch, USAF Occupational Measurement Center, in June 1979. This occupational survey report (OSR) was initiated by HQ USAF/LG to obtain comparative data on the AFS 306X1 career ladder.

The career ladder was originally created in March 1969 as AFSC 306X0F. In October 1973, all personnel in the 306X0F shredout began direct conversion to the 306X1 career field. The initial AFS 306X1 occupational survey report was published in September 1975 and provided policy makers with the first occupational data available on positions in the 306X1 career ladder.

Since the publication of the 1975 occupational survey report, no major changes have taken place in the 306X1 career ladder. Personnel are still working with the same types of equipment; however, much of this equipment is nearing obsolescence and is due for replacement. The 306X1 ladder is currently 114 percent manned worldwide with 530 of the total 624 authorizations (85 percent) belonging to Air Force Communication Systems (AFCS).

This report examines the Electronic-Mechanical Communications and Cryptographic Equipment Systems career ladder based on tasks performed by survey respondents. Topics covered in this report include: 1) development and administration of the survey instrument; 2) the job structure found within the career ladder and its relationship to skill level and experience level groupings; 3) an analysis of the difficulty of tasks performed; 4) an analysis of CONUS versus overseas groups 5) comparisons of the job structure with current career ladder documents such as the AFR 39-1 specialty descriptions and the Specialty Training Standard (STS); 6) comparison of the results of this study with the results from the previous study; and 7) the implications of this occupational survey report.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-306-367. Using the survey instrument from the 1975 study as the basis for the new task inventory, the previous task list was expanded and refined. Under the current task inventory bank (CTIB) concept, previous task inventories are kept on file and continuously updated and crosschecked with subject matter specialists as changes occur in the career ladder. The CTIB concept facilitates a more economical approach to inventory development, eliminating the necessity of building a complete new inventory each time a career ladder is resurveyed. The resulting AFS 306X1 CTIB inventory incorporated 982 tasks grouped under 22 duty headings and a background section including such information as grade, TAFMS, duty title, and job interest.

Inventory Administration

The job inventory was administered worldwide to all job incumbents holding DAFSC 306X1. Personnel were identified on a computer mailing list from personnel data tapes maintained by the Air Force Human Resources Laboratory (AFHRL). Consolidated Base Personnel Offices at all operational bases administered the inventory to 306X1 personnel from August 1978 to February 1979.

Each individual surveyed was given careful instructions to insure standardization of responses. Respondents first completed an identification and biographical information section (background section), and then proceeded to check each task performed in their current job. After checking the tasks performed, the incumbent then rated each task on a nine-point scale as to relative time spent on that task as compared to all other tasks checked. The ratings ranged from one (very-small amount of time spent) through five (about-average time spent) to nine (very-large amount of time spent). To determine relative time spent for each task checked by a respondent, all of his ratings were assumed to account for 100 percent of the time he spent on the job. These ratings were summed and then each task rating was divided by the total task responses. The resulting quotient was then multiplied by 100. This somewhat involved procedure provided the basis for comparing tasks not only in terms of percent members performing a particular task but also in terms of the average percent time spent performing any given task or group of tasks.

Survey Sample

All DAFSC 306X1 personnel were selected to participate in this survey. Table 1 reflects the percentage distribution, by major command, of assigned personnel in the AFS 306X1 career ladder as of December 1978. Also reflected is the distribution of personnel in the final survey sample. The 675 respondents who made up the final sample represented 95 percent of the 713 members assigned to the Electronic-Mechanical Communications and Cryptographic Equipment Systems career ladder.

Tables 2 and 3 reflect the distribution of the survey sample in terms of DAFSC and TAFMS groups. These sampling distributions indicate the survey sample is representative of the overall career ladder population.

TABLE 1

COMMAND REPRESENTATION OF THE SURVEY SAMPLE

COMMAND	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
AFSC	85	77
USAFSS	6	7
ATC	4	4
ADC	1	2
OTHER	4	10
TOTAL	100	100

TOTAL ASSIGNED - 713
TOTAL SAMPLED - 675
PERCENT SAMPLED - 95%

* BASED ON THE SEVEN MONTH PROJECTED FIGURES FROM THE DECEMBER 1978 REPORT OF AIRMEN MANNING DATA (PMC - P657)

TABLE 2

DAFSC REPRESENTATION OF THE SURVEY SAMPLE

DAFSC	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
30631	5	5
30651	65	62
30671	30	25
30692	*	7
OTHER	-	1

* ALL 306X0, 306X1, AND 306X2 PERSONNEL MERGE AT THE 9-SKILL LEVEL TO FORM AFS 30692. CONSEQUENTLY, TO AVOID CONFUSION, THE PERCENTAGE OF 30692 PERSONNEL ASSIGNED WORLDWIDE WAS NOT REPORTED.

TABLE 3

SURVEY DISTRIBUTION BY MONTHS IN SERVICE

	1-24	25-48	49-96	97+	OTHER*
NUMBER IN SAMPLE	97	179	130	250	13
PERCENT OF SAMPLE	15%	27%	19%	37%	2%

* PERSONNEL WHO DID NOT INDICATE TAFMS ON THE JOB INVENTORY

CAREER LADDER STRUCTURE

A key aspect of the occupational survey program is to examine the job structure of career ladders on the basis of what people are actually doing in the field, rather than on the basis or how official career ladder documents say it is structured. This analysis of actual job structure is made possible by the use of the Comprehensive Occupational Data Analysis Programs (CODAP). By using CODAP, job functions are identified on the basis of similarity in tasks performed and relative time spent performing these tasks. Using the job structure as a starting point, it is possible to describe the career ladder as it presently exists and evaluate the related career ladder documents, such as AFR 39-1 Specialty Descriptions and the Specialty Training Standard.

The career ladder structure analysis process consists of determining the functional job structure of career ladder personnel in terms of job types, clusters, and independent job types. The basic group used in the hierarchical job structure is the job type. A job type is a group of individuals who perform many of the same tasks and who spend similar amounts of time performing these tasks. A cluster is a group of job types which have a substantial degree of similarity. Finally, there are groups of individuals who form specialized job types which are too dissimilar to be grouped into any cluster. These unique groups are labeled independent job types.

The job structure of the 306X1 career ladder was determined by analyzing the jobs performed by the 675 survey respondents. This analysis identified three primary clusters or groups of jobs performed by 306X1 personnel: (1) DSTE First Line Supervisors; (2) DSTE Repairmen; and (3) DSTE Maintenance Supervisors and Managers. Within the DSTE Repairmen and the DSTE Maintenance Supervisors and Managers clusters, a number of distinct job types were further identified. In addition, six independent job types were also identified.

The breakdown of jobs performed by the respondents in this survey are as listed below and illustrated in Figure 1. GRP numbers are shown with each group as a cross-reference to computer printed summaries used in the analysis of the survey data.

I. DSTE First Line Supervisors Cluster (GRP113, N=109)

II. DSTE Repairmen Cluster (GRP118, N=265)

III. Junior Card Punch Repairmen Independent Job Type (GRP143, N=16)

IV. AE Configuration Repairmen Independent Job Type (GRP79, N=11)

V. DSSCS/DIN and Strawhat System Specialists Independent Job Type (GRP45, N=41)

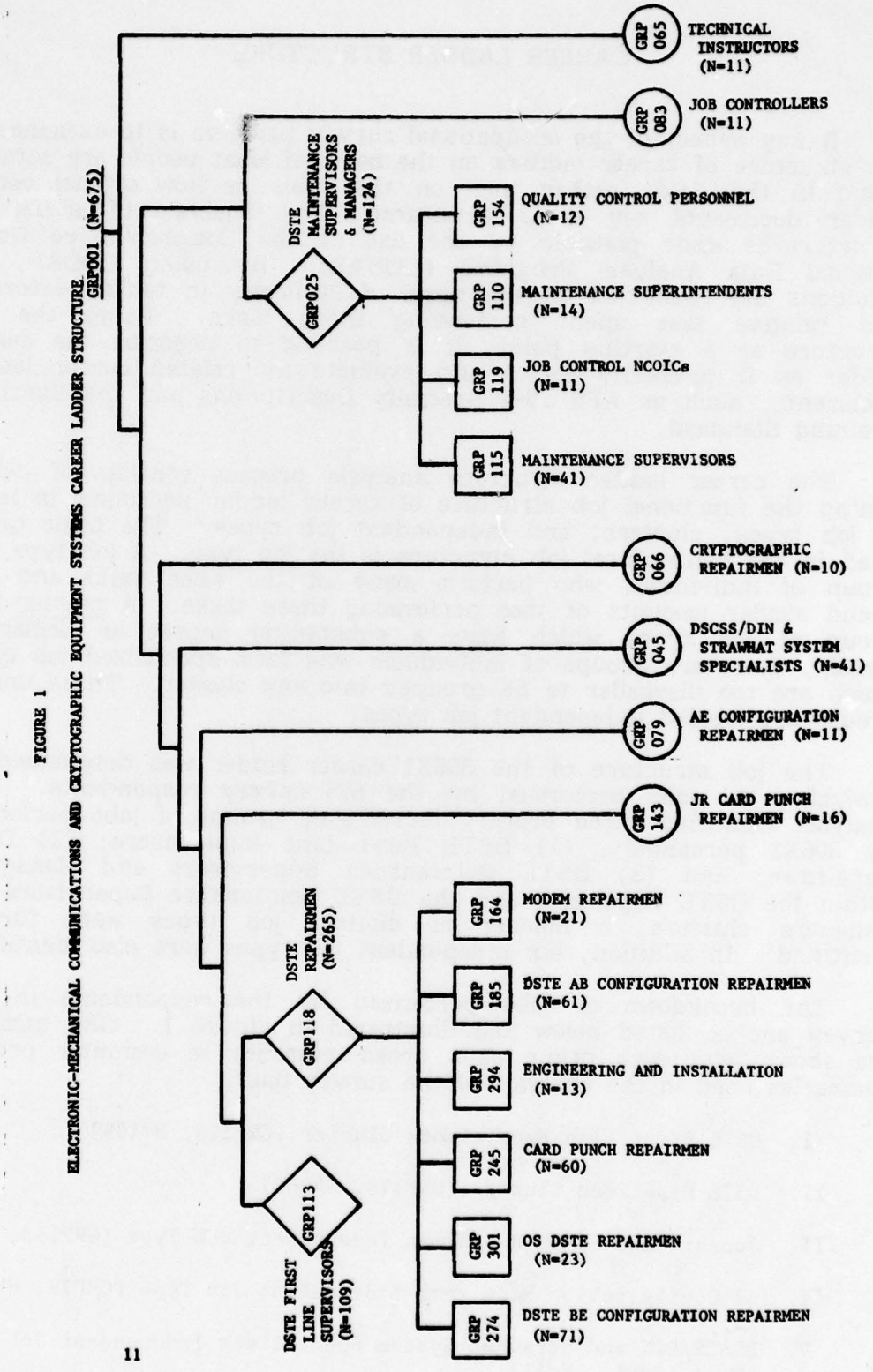


FIGURE 1

ELECTRONIC-MECHANICAL COMMUNICATIONS AND CRYPTOGRAPHIC EQUIPMENT SYSTEMS CAREER LADDER STRUCTURE

VI. Cryptographic Repairmen Independent Job Type (GRP66, N=10)

VII. DSTE Maintenance Supervisors and Managers Cluster (GRP25, N=124)

VIII. Job Controllers Independent Job Type (GRP83, N=11)

IX. Technical Instructors Independent Job Type (GRP65, N=11)

Eighty-nine percent of the respondents in the sample were found to perform jobs roughly equivalent to the nine clusters and independent job types listed. The remaining 11 percent performed jobs different from those described above. These remaining individuals primarily called themselves DSTE maintenance personnel. However, due to the variance in percent time spent on tasks and in the number of tasks performed, they did not group with the clusters or independent job types. They are referred to as "isolates" because they were found to perform an assortment of tasks just unique enough that they were not included in any identifiable job group.

Group Descriptions

Descriptions of each of these primary job clusters and independent job types are presented below. The relative percent of time spent on each duty by members of each of the clusters and independent job types is shown in Table 4, with background information for each of these groups shown in Table 5. Table 6 shows the perception of each of these groups in terms of how interesting they find their job and the degree to which they perceive their talents and training are being used.

Cluster and Independent Job Type Descriptions

I. DSTE FIRST LINE SUPERVISORS (GRP113). These individuals are the technical experts in the field. They supervise, conduct OJT, oversee maintenance activities, and generally insure that digital subscriber terminal equipment (DSTE) is properly maintained. The group is composed of 109 personnel who account for 16 percent of the 306X1 respondents to the survey. These personnel perform an average of 199 tasks, more than any other cluster or independent job type in the study. This high average number of tasks performed is due to the fact that this group performs both technical and supervisory tasks.

Although these personnel are assigned to a number of different DSTE locations and configurations, there are several common tasks performed by large percentages of these personnel regardless of their organizational assignment. Typically, these tasks include scheduling work assignments, isolating RO-313/G low speed card punch malfunctions, conducting OJT, locating maintenance information in technical

orders or commercial publications, attending group or shop level maintenance meetings, and making entries on maintenance data collection forms.

Within this cluster are three subgroups. The first of these is a group of 16 individuals consisting primarily of 7-skill level mobile DSTE and overseas personnel who perform a higher average number of tasks (224) than any other group. Fifty-one percent of their time is spent on supervision and administration functions.

The second subgroup, the largest of the three (consisting of 70 individuals), indicated they devote less time (37 percent) to management and administrative functions. Although these individuals perform many of the same supervisory tasks which characterize the two other subgroups, they function primarily as DSTE technicians.

Conversely, the remaining subgroup of 12 personnel showed a greater relative percent time spent (58 percent) on adminstration and supervision tasks than either of the others. This subgroup consisted of 83 percent 7-skill level personnel and only 25 percent of the subgroup members were stationed overseas. Typical tasks included supervising 30651 personnel, drafting correspondence, directing maintenance activities, scheduling work assignments, and analyzing maintenance data reports.

II. DSTE REPAIRMEN (GRP118). This cluster of 265 incumbents comprised 39 percent of the survey sample. The majority of these incumbents were in their first enlistment, held a 5-skill level, and did not supervise other personnel. Most were performing organizational maintenance on DSTE equipment in communication groups or squadrons. The basic job involved the maintenance of card punches, printers, cryptographic devices, tape readers, and card readers. Incumbents performed a wide spectrum of tasks ranging from cleaning or lubricating equipment, performing periodic maintenance inspections (PMIs), isolating malfunctions, and performing mechanical adjustments.

Six job type groups were identified within the overall cluster. All groups maintained terminal DSTE systems with several groups also maintaining other systems such as mobile DSTE, DSSCS/DIN, IATS, or 465L. The six job types included:

A. DSTE BE Configuration Repairmen (GRP274). Incumbents in this group maintained all major DSTE equipment. However, the highest percentage of their time (18 percent) was spent maintaining high and low speed card punches. Over a third of the members (37 percent) indicated they maintained mobile DSTE systems.

B. Overseas DSTE Repairmen (GRP301). These incumbents functioned primarily as AB configuration repairmen overseas. Many of their tasks were the same tasks performed by members of IIA above. However, fewer members performed maintenance of high speed card or high speed paper tape punches.

C. Card Punch Repairmen (GRP245). These incumbents clearly specialized in the maintenance of both high and low speed card punches, with 25 percent of their time spent performing maintenance on this equipment. Only four percent of their time was spent maintaining paper tape punches.

D. Engineering and Installation Team Members (GRP294). These members specialized in the removal and installation of card punch equipment. Unlike the other subgroups in this cluster, 69 percent are assigned at the field maintenance (intermediate) level.

E. DSTE AB Configuration Repairmen (GRP185). These airmen specialized in the maintenance of low speed card punch equipment. They spent little time on the maintenance of paper tape punches.

F. MODEM and DSTE Repairmen (GRP164). Members of this group primarily performed PMIs on, made adjustments on, or repaired low speed wireline MODEM equipment. But their jobs also included maintenance of cryptographic devices, printers, and paper tape punches.

III. JUNIOR CARD PUNCH REPAIRMEN INDEPENDENT JOB TYPE (GRP143). The 16 personnel in this independent job type performed primarily as card punch specialists. The majority of their time (29 percent) was spent maintaining the RO-312/G high speed and the RO-313/G low speed card punches. A major difference between the Card Punch Repairmen job type (Group IIc) and members of this group involved the number of tasks performed; the Junior Card Punch Repairmen averaged only 69 tasks performed, whereas the Card Punch Repairmen averaged 115 tasks performed. Due to the large number of cross-trainees in this group (25 percent versus five percent for the Card Punch Repairmen), the Junior Card Punch Repairmen had a higher average TAFMS. However, the job type was designated "Junior" Card Punch Repairmen on the basis of a lower total time in the career field (22 months versus 27 months for the Card Punch Repairmen).

IV. AE CONFIGURATION REPAIRMEN INDEPENDENT JOB TYPE (GRP079). This small group of 11 individuals included personnel who performed few card reader or low and high speed card punch maintenance tasks. In fact, these personnel did not maintain a wide range of equipment. The majority of their time was spent maintaining the following equipment: the C-8120/G common control unit, the KG-13, the RP-154(P)G paper tape reader, and the RP-157/G page printer. Although the average TAFMS for the group was 78 months, 73 percent indicated they had less than 49 months in the career field. This was due to the 27 percent in the group who had retrained from another specialty.

V. DSSCS/DIN AND STRAWHAT SYSTEM SPECIALISTS INDEPENDENT JOB TYPE (GRP045). These personnel performed maintenance on a wide variety of DSTE equipment. The majority of their time was spent trouble-shooting and maintaining the AN/FGR-10 paper tape punch, the AN/FGT-7 paper tape reader, the RO-313/G low speed card punch, and the KG-13. This group was the largest of the independent job types with 41 members. In addition, the group reflected a higher percentage of personnel than any other group performing maintenance on modulator-demodulators (MODEM) and frequency generators, synchronizers, and multiplexers and demultiplexers. Most of these personnel (56 percent) were assigned to USAFSS, carried the duty AFSC of 30651 (80 percent), and were stationed overseas (63 percent).

VI. CRYPTOGRAPHIC REPAIRMEN INDEPENDENT JOB TYPE (GRP066). Personnel in this independent job group were distinguished by the fact that they spent the majority of their time performing KG-13 maintenance tasks (41 percent). Forty percent of these personnel indicated they operated DSTE, IATS, and 465-L systems. Furthermore, they appeared to be a very specialized stateside group (90 percent averaging only 42 tasks performed). The group was very homogeneous, with 16 tasks performed by 70 percent or more of these respondents.

VII. DSTE MAINTENANCE SUPERVISORS AND MANAGERS CLUSTER (GRP025). This cluster of 124 supervisors and managers (18 percent of sample) was distinguished by the large amount of time they spent on management and supervision tasks (76 percent), and on the performance of maintenance administration functions (20 percent). The small number of technical tasks performed by this group clearly distinguishes them as the enlisted managers in the career ladder.

Common tasks performed by these supervisors and managers included coordination with other work centers such as, the Chief of Maintenance, headquarters, technical control centers, and staff agencies; directing maintenance activities and administrative practices; analyzing, inspecting, and evaluating shop operations and procedures; indoctrinating newly assigned personnel; drafting correspondence; and preparation or maintainance of local forms, records, or maintenance operating instructions (MOI).

Four major groups were identified within this cluster. The largest, consisting of 41 members, was the Maintenance Supervisors job type (GRP115). These maintenance supervisors spent the majority of their time performing supervisory and management functions. The few technical tasks which the members of this group performed were among the more difficult tasks in the career ladder. About 50 percent of this group indicated they worked on such equipment as the C-8120 (P)/G CCU, the KG-13, the RP-125/G card reader, and the RP-154 (P)/G paper tape reader. However, they did not spend much time performing these technical tasks.

The remaining three supervisory and management job types were distinguished by a near total absence of technical tasks performed. The Job Control NCOICs job type (GRP119) performed a lower average number of tasks than the maintenance supervisors job type (53 vs 87). Slightly over 50 percent of their average percent of time was spent organizing and planning or directing and implementing maintenance control activities or functions.

The Maintenance Superintendents (GRP110) performed fewer tasks (36) than any of the supervisory and management job types. In addition, this group had a higher average total time in the career field (200 months), TAFMS (276 months), and more 9-skill level personnel than any other group in the study. Over 70 percent of their average percent of time was spent performing a variety of organizing and planning, and directing and implementing tasks.

Finally, the Quality Control job type (GRP154) consisted of individuals who averaged 40 percent of their time in evaluation tasks. Interestingly, this group of quality control personnel consisted primarily of 7-skill level personnel (83 percent) and 75 percent of the individuals in the group indicated they had retrained from another specialty. These airmen were primarily squadron level personnel who performed such tasks as evaluate safety programs or procedures, evaluate check lists, evaluate maintenance publications, and develop quality control procedures.

VIII. Job Controllers Independent Job Type (GRP083). Members of this 11-member group directed, coordinated, and recorded maintenance activity. The majority of their time was spent performing maintenance administrative functions (38 percent) and organizing and planning tasks (31 percent). They were a homogeneous group, with only 10 tasks performed by 50 percent or more of the group members. Job controllers performed few tasks (average 18) and expressed the lowest level of job satisfaction of any group in the study. Forty-six percent of these personnel found their job dull (see Table 6).

IX. Technical Instructors Independent Job Type (GRP065). Technical instructors were distinguished by the large amount of relative time (64 percent) spent conducting training. This group of 11 technical instructors was comprised of personnel from Keesler and Sheppard AFBs. All indicated they held either the 5- or 7-skill level duty AFSC and an average grade of E-5. Technical instructors performed very few technical tasks, with the majority of their time (64 percent) spent on instruction related tasks.

Representative tasks included conduct resident course classroom instruction; prepare lesson plans; develop tasks; administer written, oral, or performance tests; and develop or revise resident training courses or career development courses (CDC).

Job Interest and Perceived Utilization of Talents and Training

The majority of the personnel in the three clusters (DSTE First Line Supervisors, DSTE Repairmen, and DSTE Maintenance Supervisors and Managers) found their jobs interesting. In addition, most felt their jobs utilized their talents and training fairly well or better. Of the six independent job groups, only the Job Controllers reflected a sizable group of personnel who found their job dull. A majority of the Job Controllers felt their job made little or no use of their talents and 82 percent indicated their job made little or no use of their training. However, job interest and perceived utilization of talents and training for the 306X1 career ladder was average in comparison to all other AFSCs surveyed during 1978.

Summary

The job structure of the 306X1 career ladder included three primary clusters of jobs performed by 306X1 personnel. In addition, six independent job types were identified. These groups of individuals performed specialized jobs which were too dissimilar to be grouped into any cluster.

By and large, the majority of the incumbents in this career field performed maintenance of DSTE equipment. The overall job performed was found to be somewhat heterogeneous due to specialization resulting from a wide variety of equipment in different configurations at different locations.

TABLE 4

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

DUTIES	DSTE FIRST LINE SUPVS (GRP113)	DSTE RPRMN (GRP118)	JR CARD PUNCH RPRMN (GRP143)	AE CONFIGURATION RPRMN (GRP079)	DSSCS/DIN & STRAWHAT SYSTEM SPECIALISTS (GRP045)	CRYPTO RPRMN (GRP066)	DSTE MAINT SUPVS & MANAGERS (GRP025)	JOB CONTROLLERS (GRP083)	TECHNICAL INSTRUCTORS (GRP065)
SUPR AND MNGMT FUNCTS									
A ORGANIZING AND PLANNING	8	2	2	3	3	3	25	31	4
B DIRECTING AND IMPLEMENTING	9	2	2	3	2	2	23	15	5
C EVALUATING	5	1	2	2	1	1	18	5	*
D TRAINING	5	1	1	*	1	1	10	5	54
ADMINISTRATIVE FUNCTIONS									
E PERFORMING MAINTENANCE ADMINISTRATION FUNCTIONS	15	7	7	18	6	14	20	38	13
TECHNICAL FUNCTIONS									
F MAINTAIN CONTROL UNITS	4	5	5	7	6	4	1	-	2
G MAINTAINING MODULATOR-DEMODULATORS (MODEM) AND FREQUENCY GENERATORS	3	3	*	4	10	5	*	-	3
H MAINTAINING SYNCHRONIZERS	2	2	*	2	4	5	*	-	*
I MAINTAINING MULTIPLEXERS AND DEMULTIPLEXERS	*	-	-	-	2	-		-	*
J MAINTAINING CRYPTOGRAPHIC DEVICES	6	9	9	15	9	41	1	-	1
K MAINTAINING TRANSMISSION IDENTIFIER GENERATORS (TIG)	*	*	-	2	-	-	*	-	-
L MAINTAINING PAPER TAPE READERS	5	8	10	9	13	5	*	-	1
M MAINTAINING PAPER TAPE PUNCHES	4	8	1	4	7	2	*	-	2

TABLE 4 (CONTINUED)

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

DUTIES	DSTE FIRST LINE SUPVS (GRP113)	DSTE RPRMN (GRP118)	JR CARD PUNCH RPRMN (GRP143)	AE CONFIGURATION RPRMN (GRP079)	DSSCS/DIN & STRAWHAT SYSTEM SPECIALISTS (GRP045)	CRYPTO RPRMN (GRP066)	DSTE MAINT SUPVS & MANAGERS (GRP025)	JOB CONTROLLERS (GRP083)	TECHNICAL INSTRUCTORS (GRP065)
N MAINTAINING PAPER TAPE PRINTERS	*	*	*	-	-	-	*	-	-
O MAINTAINING CARD READERS	5	8	9	1	5	1	*	-	-
P MAINTAINING CARD PUNCHES	10	18	29	3	10	*	*	-	-
Q MAINTAINING PRINTERS	7	10	10	13	6	1	*	-	*
R MAINTAINING TAPE BUFFERS	-	-	-	-	1	-	-	-	-
S MAINTAINING KEYBOARDS, TELETYPES, TELETYPEWRITERS, AND TELEPRINTERS	3	3	1	1	*	-	*	-	3
T MAINTAINING MOBILE DATA TERMINAL (MDT) COMMUNICATIONS CENTRAL	*	*	-	-	*	-	*	-	-
U MAINTAINING ANCILLARY AND TEST	1	1	*	1	3	*	*	-	*
V PERFORMING GENERAL FUNCTIONS	8	12	12	13	10	15	2	6	11

* INDICATES LESS THAN 1 PERCENT

TABLE 5

BACKGROUND INFORMATION BY JOB CLUSTERS AND INDEPENDENT JOB TYPES

	DSTE FIRST LINE SUPVS (GRP113)	DSTE RPRMN (GRP118)	JR CARD PUNCH RPRMN (GRP143)	AE CONFIGURATION RPRMN (GRP079)	DSSCS/DIN & STRAWHAT SYSTEM SPECIALISTS (GRP045)	CRYPTO RPRMN (GRP066)	DSTE MAINT SUPVS & MANAGERS (GRP025)	JOB CONTROLLERS (GRP083)	TECHNICAL INSTRUCTORS (GRP065)
AVERAGE NUMBER OF TASKS PERFORMED	200	130	69	81	134	42	61	18	14
AVERAGE NUMBER OF PERSONNEL SUPERVISED	2	0	0	0	1	1	4	0	0
PERCENT ASSIGNED OVERSEAS	46%	31%	19%	73%	63%	10%	34%	46%	0%
DAFSC									
30631	1%	6%	19%	9%	10%	10%	1%	0%	0%
30651	44%	89%	75%	73%	80%	70%	8%	73%	46%
30671	55%	5%	6%	18%	10%	10%	53%	27%	54%
30692	0%	0%	0%	0%	0%	0%	36%	0%	0%
DAFSC NOT SPECIFIED	-	-	-	-	-	10%	2%	-	-
AVERAGE MOS IN CAREER LADDER	74	32	22	42	36	31	130	64	81
AVERAGE MOS TAFMS	111	43	44	78	58	49	204	78	138
PERCENT IN FIRST ENLISTMENT	19%	69%	56%	27%	61%	50%	3%	46%	9%

*LESS THAN 1 PERCENT

TABLE 6

JOB SATISFACTION INDICES BY JOB CLUSTERS AND INDEPENDENT JOB TYPES

	DSTE FIRST LINE SUPVS (GRP113)	DSTE RPRMN (GRP118)	JR CARD PUNCH RPRMN (GRP143)	AE CONFIGURATION RPRMN (GRP079)	DSSCS/DIN & STRAWHAT SYSTEM SPECIALISTS (GRP045)	CRYPTO RPRMN (GRP066)	DSTE MAINT SUPVS & MANAGERS (GRP025)	JOB CONTROLLERS (GRP083)	TECHNICAL INSTRUCTORS (GRP065)
EXPRESSED JOB INTEREST									
NOT REPORTED	2	0	6	0	2	0	2	0	0
DULL	5	11	19	18	27	10	13	46	9
SO-SO	16	21	12	18	20	10	7	9	27
INTERESTING	77	68	63	64	51	80	78	45	64
PERCEIVED UTILIZATION OF TALENTS									
NOT REPORTED	0	0	0	0	0	0	0	0	0
LITTLE OR NOT AT ALL	17	20	19	36	27	10	18	55	36
FAIRLY WELL TO VERY WELL	72	76	81	64	68	90	56	45	55
EXCELLENTLY TO PERFECTLY	11	4	0	0	5	0	26	0	9
PERCEIVED UTILIZATION OF TRAINING									
NOT REPORTED	0	0	0	0	0	0	0	0	0
LITTLE OR NOT AT ALL	15	15	19	45	34	10	31	82	36
FAIRLY WELL TO VERY WELL	71	76	75	55	66	90	30	9	46
EXCELLENTLY TO PERFECTLY	14	9	6	0	0	0	39	9	18

ANALYSIS OF DAFSC GROUPS

In addition to identifying the job structure of a career ladder, it is important to examine skill level differences and relate these differences back to the job structure. The job descriptions for each skill level are also compared to the career ladder documents such as AFR 39-1 Specialty Descriptions and the Specialty Training Standard (STS) to assess how accurately these documents reflect what career ladder personnel are actually doing in the field.

Table 7 presents the relative percent time spent by skill level groups on each duty. Jobs within the Electronic-Mechanical Communications and Cryptographic Systems career ladder, when sorted according to DAFSC, represent very heterogeneous groupings. As might be expected, the management and supervision duties (A, B, and C) consume a progressively higher portion of time as incumbents move to higher skill levels. Training and Maintenance Administration Duties (D and E) increase (in terms of the amount of time spent) through the 7-skill level and then decline somewhat at the 9-skill level. Although 7-skill level personnel perform some technical tasks, there is a clear distinction between 3- and 5-skill level technical specialists and their 7- and 9-skill level supervisors. These supervisory personnel spent more time on the Supervisory and Administration Duties (A through E) and considerably less time on the technical duties of maintaining control units, Cryptographic Devices, Paper Tape Readers, Paper Tape Punch Card Readers, Card Punches, Printers, and Performing General Functions (duties F, J, L, M, O, P, Q, and V).

Skill Level Descriptions

DAFSC 30631. Only 33 of the 675 respondents were assigned to 3-skill level duty positions. These individuals perform an average of 92 of the 982 tasks in the inventory. Table 7 indicates 81 percent of the relative time spent by the members of this group was devoted to performing technical functions. The majority of the 3-skill level personnel fell into the cluster of DSTE Repairmen (Table 8); however, only 57 tasks were performed by 60 percent or more of these personnel, indicating somewhat heterogeneous work assignments.

The most commonly performed tasks included performing periodic maintenance inspections (PMI) on paper tape readers, card readers, low spread card punches; cleaning or lubricating equipment; performing KG-13 randomizer tests; performing RP-154(P)/G paper tape reader mechanism electro-mechanical adjustments; locating maintenance information in technical publications; and performing other routine maintenance tasks as shown in Table 9.

DAFSC 30651. Airmen at the 5-skill level performed an average of 119 tasks, with 87 of these tasks performed by 50 percent or more of the group. These personnel devoted over three quarters (76 percent) of

their time to technical tasks. This high percentage of time spent on technical tasks indicates they serve essentially as digital subscriber terminal equipment (DSTE) repairmen although personnel work in all the job types shown in the career ladder structure section. Many of the tasks performed (see Table 10) are the same as those performed by 3-skill level apprentices. However, DAFSC 30651 personnel perform a wider variety of tasks including isolating equipment malfunctions, removing and installing equipment components, and making adjustments to equipment. This group also devoted slightly more time to such supervisory and management tasks as coordinating maintenance activities with other work centers and attending group or shop level maintenance meetings.

The tasks which most clearly differentiate between the 3- and 5-skill level personnel are listed in Table 11. This table indicates that a higher percentage of 5-skill level personnel performed each task listed than did the 3-skill level airman. In addition, the higher average number of tasks performed by 5-skill level personnel (119 for 5-skill level versus 93 for the 3-skill level) further indicates that the scope of their job is broader than that of the 3-skill level group.

DAFSC 30671. At the 7-skill level, supervisory, management, and administration tasks became a more important part of the job, comprising approximately 68 percent of the total work time. The high average number of personnel supervised (three) indicated this group functioned more as supervisors than as technicians. Table 12 shows the tasks which are most representative of the tasks performed by 7-skill level personnel.

Differences between 5- and 7-skill level personnel (Table 13) highlight the shift from technical to management, supervision, and training tasks at the 7-skill level. Again, the near absence of technical tasks performed by DAFSC 30671 personnel indicates they are functioning primarily as supervisors, not technicians.

DAFSC 30692. DAFSC 30692 superintendents include personnel from the Electronic-Mechanical Communications and Cryptographic Equipment System ladders (306X0 or 306X1) and the Telecommunication System/Equipment Maintenance Ladder (306X2). Nine-skill level personnel spent almost all their time (96 percent) on management, supervision, and administration tasks (duties A-E). However, the data showed these incumbents to be a very heterogeneous group. Only 30 tasks were performed by 50 percent or more of the DAFSC 30692 personnel, indicating they perform a variety of unique or different jobs. Examples of the types of jobs performed by 30692 personnel included: Maintenance Superintendent, Chief of Maintenance, Commander, and Quality Assurance Superintendent. Table 14 lists representative tasks performed by 9-skill level personnel.

Table 15 reflects that DAFSC 30692 individuals differ from 30671 personnel primarily in the performance of technical and management related tasks. The 9-skill level personnel concentrate much more on

management tasks and have a very low percent of members performing technical tasks.

Summary

These data indicate a marked difference in the tasks performed by the various skill level groups. Both 3- and 5-skill personnel performed primarily technical tasks. However, between the 5- and 7-skill level job there is a marked difference. Unlike 3- and 5-skill level personnel, the 30671 personnel devoted the majority of their time to the performance of supervisory tasks. However, 30671 personnel did perform some technical tasks and these tasks appeared generally more complex than those performed by either 3- or 5-skill level personnel. The 9-skill level personnel spent almost no time on technical tasks (four percent). They performed a wide range of supervisory jobs and in terms of job similarity had less in common with each other than the preceding skill level groups. They were clearly management personnel.

TABLE 7

PERCENT TIME SPENT PERFORMING DUTIES BY DAFSC GROUPS

DUTY	DAFSC 30631 (N=33)	DAFSC 30651 (N=416)	DAFSC 30671 (N=172)	DAFSC 30692 (N=46)
A ORGANIZING AND PLANNING	3	5	15	31
B DIRECTING AND IMPLEMENTING	3	4	14	26
C EVALUATING	2	2	10	20
D TRAINING	1	2	11	7
E PERFORMING MAINTENANCE ADMINISTRATION FUNCTIONS	10	11	18	12
F MAINTAIN CONTROL UNITS	6	5	2	1
G MAINTAINING MODULATOR-DEMODULATORS (MODEM) AND FREQUENCY GENERATORS	2	3	2	1
H MAINTAINING SYNCHRONIZERS	1	2	1	*
I MAINTAINING MULTIPLEXERS AND DEMULTIPLEXERS	*	*	*	-
J MAINTAINING CRYPTOGRAPHIC DEVICES	12	9	3	1
K MAINTAINING TRANSMISSION IDENTIFIER GENERATORS (TIG)	*	*	*	*
L MAINTAINING PAPER TAPE READERS	8	7	3	*
M MAINTAINING PAPER TAPE PUNCHES	6	6	2	-
N MAINTAINING PAPER TAPE PRINTERS	*	*	*	-
O MAINTAINING CARD READERS	7	6	2	-
P MAINTAINING CARD PUNCHES	15	14	5	-
Q MAINTAINING PRINTERS	7	9	4	-
R MAINTAINING TAPE BUFFERS	-	*	*	-
S MAINTAINING KEYBOARDS, TELETYPES, TELETYPEWRITERS AND TELEPRINTERS	2	2	1	-
T MAINTAINING MOBILE DATA TERMINAL (MDT) COMMUNICATIONS CENTRAL	*	*	*	-
U MAINTAINING ANCILLARY AND TEST EQUIPMENT	1	1	1	-
V PERFORMING GENERAL FUNCTIONS	14	11	6	1

* INDICATES LESS THAN 1 PERCENT

TABLE 8

PERCENT MEMBERS PERFORMING CAREER LADDER JOBS BY DAFSC GROUPS

JOB GROUP	TOTAL SAMPLE	DAFSC 30631 (N=33)	DAFSC 30651 (N=416)	DAFSC 30671 (N=172)	DAFSC 30692 (N=46)
DSTE FIRST LINE SUPERVISORS	16	3	11	35	-
DSTE REPAIRMEN	39	45	57	7	-
JUNIOR CARD PUNCH REPAIRMEN	2	9	3	1	-
AE CONFIGURATION REPAIRMEN	2	3	2	1	-
DSSCS/DIN AND STRAWHAT SYSTEM SPECIALISTS	2	12	8	2	-
CRYPTOGRAPHIC REPAIRMEN	2	3	2	1	-
DSTE MAINTENANCE SUPERVISORS AND MANAGERS	18	3	2	38	96
JOB CONTROLLERS	2	-	2	2	-
TECHNICAL INSTRUCTORS	2	-	1	3	-
PERCENT ACCOUNTED FOR IN JOB CLUSTERS	89	78	88	90	96
PERCENT ACCOUNTED FOR IN OTHER JOBS	11	12	12	10	4

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY DAFSC 30631 PERSONNEL
(N=33)

TASK	TITLE	PERCENT MEMBERS PERFORMING
J387	PERFORM KG-13 PMI	91
J388	PERFORM KG-13 RANDOMIZER TESTS	88
F213	PERFORM C-8120(P)/G CCU PMI	88
V974	PROCURE OR REPLACE PAPER, PAPER TAPE, PUNCH CARDS, RIBBONS, OR TAPES ON EQUIPMENT	85
L445	PERFORM RP-154(P)/G PAPER TAPE READER PMI	79
0587	PERFORM RP-152/G CARD READER PMI	79
J379	ISOLATE MALFUNCTIONS WITHIN KG-13	79
L413	ADJUST POWER SUPPLY VOLTAGE LEVELS ON PAPER TAPE READERS	76
V951	CLEAN OR LUBRICATE EQUIPMENT	76
Q660	PERFORM TT-558 LINE PRINTER MECHANICAL ADJUSTMENTS	76
J395	REMOVE OR INSTALL COMPONENTS OF KG-13	73
V962	LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	73
J389	PERFORM KG-13 SECURITY CHANGES, SECURITY CHANGE INSPECTIONS, OR ALARM CHECKS	73
P623	PERFORM RO-313/G LOW SPEED CARD PUNCH PMI	73

TABLE 10

REPRESENTATIVE TASKS PERFORMED BY DAFSC 30651 PERSONNEL

TASK	TITLE	PERCENT MEMBERS PERFORMING
V951	CLEAN OR LUBRICATE EQUIPMENT	84
F213	PERFORM C-8120(P)/G CCU PMI	81
Q660	PERFORM RP-157/G PAGE PRINTER PMIs	78
J379	ISOLATE MALFUNCTIONS WITHIN KG-13	78
L444	PERFORM RP-154(P)/G PAPER TAPE READER MECHANISM ELECTRO-MECHANICAL ADJUSTMENTS	77
Q653	ISOLATE RP-157/G PAGE PRINTER MALFUNCTIONS	77
V960	ISOLATE MALFUNCTIONS IN PC CARDS USING COMMON TEST EQUIPMENT	76
J388	PERFORM KG-13 RANDOMIZER TESTS	76
L413	ADJUST POWER SUPPLY VOLTAGE LEVELS ON PAPER TAPE READERS	75
V962	LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	74
Q675	REMOVE OR INSTALL COMPONENTS OF RP-157/G PAGE PRINTERS	74
L445	PERFORM RP-154(P)/G PAPER TAPE READER PMI	74
J387	PERFORM KG-13 PMI	73

TABLE 11

TASKS WHICH MOST CLEARLY DISTINGUISH BETWEEN 30631 AND 30651 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASK	TITLE	DAFSC 30631	DAFSC 30651	ABSOLUTE DIFFERENCE
J387	PERFORM KG-13 PMI	91	73	18
V974	PROCURE OR REPLACE PAPER, PAPER TAPE, PUNCH CARDS, RIBBONS, OR TAPES ON EQUIPMENT	85	72	13
Q687	REMOVE OR INSTALL RP157/G PAGE PRINTER YOKE ASSEMBLIES	12	44	-32
Q652	ISOLATE MALFUNCTIONS WITHIN POWER SUPPLIES ON PRINTERS	24	52	-27
P648	REMOVE OR INSTALL RO-313/G LOW SPEED CARD PUNCH PICKER OR HOPPER ASSEMBLIES	21	48	-27
Q679	REMOVE OR INSTALL RP-157/G PAGE PRINTER ALTERNATORS	36	63	-27
Q686	REMOVE OR INSTALL RP157/G PAGE PRINTER CLUTCH OR BRAKE ASSEMBLIES	40	66	-26
Q659	PERFORM RP-157/G PAGE PRINTER DIODE HOUSING ADJUSTMENTS	21	47	-26
E174	TYPE CORRESPONDENCE, FORMS, OR REPORTS	9	35	-26
Q681	REMOVE OR INSTALL RP-157/G PAGE PRINTER CHASSIS BRAKE LIMITER ASSEMBLIES	21	46	-25
M541	REMOVE OR INSTALL RO-315/G LOW SPEED PAPER TAPE PUNCH A3 PRINTER INTERPRETERS	3	27	-24
L461	PERFORM UNSCHEDULED OPERATIONAL CHECKS OF RP-154(P)/G PAPER TAPE READERS	45	69	-24
L477	REMOVE OR INSTALL RP-154(P)/G PAPER TAPE READER A2/A5 READER MECHANISMS	42	66	-24
E143	MAINTAIN SUPPLY LOGS	30	54	-24
Q664	PERFORM TIME COMPLIANCE TECHNICAL ORDERS (TCTO) MODIFICATIONS TO RP-157/G PAGE PRINTERS	24	47	-23
P644	REMOVE OR INSTALL RO-313/G LOW SPEED CARD PUNCH PRINTER ASSEMBLIES	30	52	-22

TABLE 12

REPRESENTATIVE TASKS PERFORMED BY DAFSC 30671 PERSONNEL

TASK	TITLE	PERCENT MEMBERS PERFORMING
B44	COUNSEL SUBORDINATES ON PERSONAL OR MILITARY RELATED PROBLEMS	78
B62	ORIENT NEWLY ARRIVED PERSONNEL	76
E133	DRAFT CORRESPONDENCE	74
A2	ATTEND GROUP OR SHOP LEVEL MAINTENANCE MEETINGS	73
D117	MAINTAIN CONSOLIDATED TRAINING RECORD FORMS (AF FORM 623)	71
E136	LOCATE MAINTENANCE INFORMATION IN TECHNICAL ORDERS OR COMMERCIAL PUBLICATIONS	68
E174	TYPE CORRESPONDENCE, FORMS, OR REPORTS	68
A7	COORDINATE MAINTENANCE ACTIVITIES WITH OTHER WORK CENTERS OR WORK LOAD CONTROL SECTIONS	67
A33	SCHEDULE LEAVES OR PASSES	66
D115	INDOCTRINATE NEWLY ASSIGNED PERSONNEL	66
C77	ANALYZE SHOP OPERATIONS AND PROCEDURES	62
B66	SCHEDULE WORK ASSIGNMENTS	61
D102	CONDUCT OJT	60
C79	EVALUATE COMPLIANCE WITH MAINTENANCE DIRECTIVES OR GUIDELINES	60
C76	ANALYZE MAINTENANCE DATA REPORTS	58

TABLE 13

TASKS WHICH MOST CLEARLY DISTINGUISH BETWEEN 30651 AND 30671 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASK	TITLE	DAFSC 30651	DAFSC 30671	ABSOLUTE DIFFERENCE
V951	CLEAN OR LUBRICATE EQUIPMENT	84	43	41
P602	ADJUST POWER SUPPLY VOLTAGE LEVELS ON CARD PUNCHES	72	34	38
L413	ADJUST POWER SUPPLY VOLTAGE LEVELS ON PAPER TAPE READERS	75	37	38
F213	PERFORM C-8120(P)/G CCU PMI	81	44	37
Q660	PERFORM RP-157/G PAGE PRINTER PMIs	78	42	36
O578	ADJUST POWER SUPPLY VOLTAGE LEVELS ON CARD READERS	69	34	35
F176	ADUST POWER SUPPLY VOLTAGE LEVELS ON CONTROL UNITS	67	33	34
E133	DRAFT CORRESPONDENCE	15	74	-59
A33	SCHEDULE LEAVES OR PASSES	8	66	-58
B44	COUNSEL SUBORDINATES ON PERSONAL OR MILITARY RELATED PROBLEMS	23	78	-55
D117	MAINTAIN CONSOLIDATED TRAINING RECORD FORMS (AF FORM 623)	16	71	-55
D118	MAINTAIN CRYPTOGRAPHIC MAINTENANCE AND EXPERIENCE FORMS (DD FORM 1435)	9	61	-52
A13	DETERMINE PROFICIENCY REQUIREMENTS OF PERSONNEL	8	58	-50
C79	EVALUATE COMPLIANCE WITH MAINTENANCE DIRECTIVES OR GUIDELINES	13	60	-47
B66	SCHEDULE WORK ASSIGNMENTS	15	61	-46

TABLE 14

REPRESENTATIVE TASKS PERFORMED BY DAFSC 30692

TASK	TITLE	PERCENT MEMBERS PERFORMING
B44	COUNSEL SUBORDINATES ON PERSONAL OR MILITARY RELATED PROBLEMS	87
A35	SERVE AS MEMBER OF BOARDS, COUNSELS, OR COMMITTEES	83
A2	ATTEND GROUP OR SHOP LEVEL MAINTENANCE MEETINGS	83
B38	ASSIGN PERSONNEL TO DUTY POSITIONS	80
C85	EVALUATE REPORTS	78
A10	COORDINATE WITH CHIEF OF MAINTENANCE ON STAFF FUNCTIONS	78
B62	ORIENT NEWLY ARRIVED PERSONNEL	78
A8	COORDINATE MANPOWER AUTHORIZATIONS	76
A6	COORDINATE MAINTENANCE ACTIVITIES OR REQUIREMENTS WITH HEADQUARTERS	76
A7	COORDINATE MAINTENANCE ACTIVITIES WITH OTHER WORK CENTERS OR WORK LOAD CONTROL SECTIONS	74
E133	DRAFT CORRESPONDENCE	72
A33	SCHEDULE LEAVES OR PASSES	72
C76	ANALYZE MAINTENANCE DATA REPORTS	70
B70	SUPERVISE ELECTRONIC COMMUNICATIONS AND CRYPTOGRAPHIC EQUIPMENT SYSTEMS PERSONNEL (AFSC 306X0)	70
C79	EVALUATE COMPLIANCE WITH MAINTENANCE DIRECTIVES OR GUIDELINES	70

TABLE 15

TASKS WHICH MOST CLEARLY DISTINGUISH BETWEEN 30671 AND 30692 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASK	TITLE	DAFSC 30671	DAFSC 30692	ABSOLUTE DIFFERENCE
Q653	ISOLATE RP-157/G PAGE PRINTER MALFUNCTIONS	49	0	49
V960	ISOLATE MALFUNCTIONS IN PC CARDS USING COMMON TEST EQUIPMENT	48	0	48
F186	ISOLATE C-8120(P)/G CCU MALFUNCTIONS	50	4	46
L420	ISOLATE RP-154(P)/G PAPER TAPE READER MALFUNCTIONS	45	0	45
F237	PERFORM UNSCHEDULED OPERATIONAL CHECKS OF C-8120(P)/G CCU	47	2	45
Q672	PERFORM UNSCHEDULED OPERATIONAL CHECKS OF RP-157/G PAGE PRINTERS	45	0	45
V962	LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	55	11	44
E146	MAKE ENTRIES ON MAINTENANCE DATA COLLECTION FORMS	51	7	44
A28	PLAN OR CONDUCT STAFF MEETINGS	13	65	-52
A8	COORDINATE MANPOWER AUTHORIZATIONS	28	76	-48
B70	SUPERVISE ELECTRONIC COMMUNICATIONS AND CRYPTOGRAPHIC	26	70	-44
A35	SERVE AS MEMBER OF BOARDS, COUNCILS, OR COMMITTEES	42	83	-41
A6	COORDINATE MAINTENANCE ACTIVITIES OR REQUIREMENTS WITH HEADQUARTERS	37	76	-39
A36	WRITE STAFF STUDIES OR SPECIAL REPORTS	26	63	-37
C85	EVALUATE REPORTS	42	78	-36
A12	DETERMINE FACILITIES OR PERSONNEL REQUIRED FOR EMERGENCY MISSIONS SUPPORT	23	59	-36

ANALYSIS OF AFMS GROUPS

In order to determine differences in tasks performed, utilization patterns for respondents in the various AFMS groups were reviewed. As expected, first and second enlistment personnel differed from subsequent enlistment personnel on the percent of time spent performing technically-oriented duties (see Table 16). Beginning with the third enlistment, 306X1 personnel begin devoting over 50 percent of their relative time to nontechnical duties (duties A-E). Referencing Table 20 again, notice the marked increase from the third enlistment on in the percent of time spent performing duties A and B. By the sixth enlistment (AFMS 241+ months), 56 percent of job time is spent performing these duties.

First Enlistment Personnel

First enlistment personnel (1-48 months) performed many of the less difficult technical tasks of inspecting, testing, replacing parts, and performing routine maintenance (see Table 17). In addition, they performed a few of the more difficult technical tasks.

The equipment operated and maintained by 30 percent or more of first enlistment personnel are presented in Tables 18 and 19. Oscilloscopes, extender boards, feeler gauges, digital voltmeters, and multimeters were used by over 90 percent of first enlistment personnel. Equipment maintained by over 70 percent of first enlistment personnel included the RP-157/G Page Printer, RP-152/G Card Reader, RP-154(P)/G Paper Tape Reader, RO-313/G Low Speed Card Punch, C-8120(P)/G CCU, and the KG-13.

In terms of job groups, first enlistment personnel account for the majority of the airmen comprising the following groups:

GROUP	PERCENT OF FIRST ENLISTMENT PERSONNEL
DSTE REPAIRMEN	69
DSSCS/DIN AND STRAWHAT SYSTEM SPECIALISTS	61
JUNIOR CARD PUNCH REPAIRMEN	56
CRYTOGRAPHIC REPAIRMEN	50

TABLE 16

PERCENT TIME SPENT ON DUTIES BY 306X1 AFMS GROUPS

DUTY	MONTHS TOTAL ACTIVE FEDERAL MILITARY SERVICE					
	1-48 (N=276)	49-96 (N=130)	97-144 (N=101)	145-192 (N=49)	193-240 (N=63)	241+ (N=37)
SUPERVISORY AND MANAGEMENT FUNCTIONS						
A ORGANIZING AND PLANNING	4	6	12	12	20	31
B DIRECTING AND IMPLEMENTING	3	5	10	12	19	25
C EVALUATING	2	3	7	10	16	14
D TRAINING	1	3	7	13	12	7
ADMINISTRATIVE FUNCTIONS						
E PERFORMING MAINTENANCE ADMINISTRATION FUNCTIONS	10	13	16	17	17	16
TECHNICAL FUNCTIONS						
F MAINTAIN CONTROL UNITS	5	5	3	2	1	1
G MAINTAINING MODULATOR-DEMODULATORS (MODEM) AND FREQUENCY GENERATORS	3	3	3	2	1	1
H MAINTAINING SYNCHRONIZERS	2	2	2	1	1	1
I MAINTAINING MULTIPLEXERS AND DEMULTIPLEXERS	*	*	*	*	*	-
J MAINTAINING CRYPTOGRAPHIC DEVICES	9	9	4	4	2	1
K MAINTAINING TRANSMISSION IDENTIFIER GENERATORS (TIG)	*	*	*	*	*	*
L MAINTAINING PAPER TAPE READERS	8	7	4	3	1	*
M MAINTAINING PAPER TAPE PUNCHES	6	6	3	2	1	*
N MAINTAINING PAPER TAPE PRINTERS	*	*	*	*	*	
O MAINTAINING CARD READERS	7	5	3	2	1	*
P MAINTAINING CARD PUNCHES	16	12	8	5	2	1
Q MAINTAINING PRINTER	9	8	5	4	1	1
R MAINTAINING TAPE BUFFERS	*	*	*	-	-	-
S MAINTAINING KEYBOARDS, TELETYPES, TELETYPEWRITERS AND TELEPRINTERS	2	2	3	1	*	*
T MAINTAINING MOBILE DATA TERMINAL (MDT) COMMUNICATIONS CENTRAL	*	*	*	-	-	-
U MAINTAINING ANCILLARY AND TEST EQUIPMENT	1	1	1	1	*	-
V PERFORMING GENERAL FUNCTIONS	12	10	7	8	3	1

*LESS THAN 1 PERCENT

TABLE 17

REPRESENTATIVE TASKS PERFORMED BY 306X1 FIRST ENLISTMENT PERSONNEL
(1-48 MONTHS TAFMS)
(N=52)

TASKS		PERCENT MEMBERS PERFORMING	TASK DIFFICULTY RATING
V951	CLEAN OR LUBRICATE EQUIPMENT	88	3.76
F213	PERFORM C-8120(P)/G CCU PMI	84	3.80
Q660	PERFORM RP-157/G PAGE PRINTER PMIs	83	4.64
L444	PERFORM RP-154(P)/G PAPER TAPE READER MECHANISM ELECTRO-MECHANICAL ADJUSTMENTS	82	6.07
V960	ISOLATE MALFUNCTIONS IN PC CARDS USING COMMON TEST EQUIPMENT	82	5.46
V964	PAINT EQUIPMENT	81	2.53
J388	PERFORM KG-13 RANDOMIZER TESTS	80	3.50
Q653	ISOLATE RP-157/G PAGE PRINTER MALFUNCTIONS	80	5.63
J379	ISOLATE MALFUNCTIONS WITHIN KG-13	80	5.52
V962	LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	79	4.07
Q675	REMOVE OR INSTALL COMPONENTS OF RP-157/G PAGE PRINTERS	79	4.98
L445	PERFORM RP-154(P)/G PAPER TAPE READER PMI	78	4.28
V974	PROCURE OR REPLACE PAPER, PAPER TAPE, PUNCH CARDS, RIBBONS, OR TAPES ON EQUIPMENT	79	2.58
L473	REMOVE OR INSTALL COMPONENTS OF RP-154(P)/G PAPER TAPE READERS	78	4.42
L413	ADJUST POWER SUPPLY VOLTAGE LEVELS ON PAPER TAPE READERS	77	3.45
P602	ADJUST POWER SUPPLY VOLTAGE LEVELS ON CARD PUNCHES	77	3.74
J387	PERFORM KG-13 PMI	77	3.71
P617	PERFORM OPERATIONAL CHECKS OF RO-313/G LOW SPEED CARD PUNCHES	77	4.13
P606	ISOLATE RO-313/G LOW SPEED CARD PUNCH MALFUNCTIONS	76	6.74
Q672	PERFORM UNSCHEDULED OPERATIONAL CHECKS OF RP-157/G PAGE	75	4.02
L420	ISOLATE RP-154/(P)/G PAPER TAPE READER MALFUNCTIONS	74	5.48
P624	PERFORM RO-313/G LOW SPEED CARD PUNCH STEPPER ADJUSTMENTS	74	7.28
0586	PERFORM RP-152/G CARD READER MECHANICAL ADJUSTMENTS	74	5.18
P623	PERFORM RO-313/G LOW SPEED CARD PUNCH PMI	73	4.95
0587	PERFORM RP-152/G CARD READER MECHANICAL ADJUSTMENTS	73	3.76
J395	REMOVE OR INSTALL COMPONENTS OF KG-13	73	3.34
P635	REMOVE OR INSTALL COMPONENTS OF RO-313/G LOW SPEED CARD PUNCHES	72	5.46
Q661	PERFORM RP-157/G PAGE PRINTER SIGNAL CODE AND STROBE LIGHT EMITTING ADJUSTMENTS	72	4.98
L461	PERFORM UNSCHEDULED OPERATIONAL CHECKS OF RP-154(P)/G PAPER TAPE READERS	72	4.03
F186	ISOLATE C-8120(P)/G CCU MALFUNCTIONS	72	7.13

TABLE 18

EQUIPMENT OPERATED BY 30 PERCENT OR MORE OF 306X1
FIRST ENLISTMENT PERSONNEL

EQUIPMENT OPERATED	PERCENT OPERATING
OSCILLOSCOPE	95
EXTENDER BOARD	94
FEELER GAUGE	93
DIGITAL VOLTMETER	92
MULTIMETER	91
DC VOLTMETER	85
DECADE RESISTANCE TEST KIT	80
BELT TENSION GAUGE	80
GRAM SCALE	80
ELECTRONIC STROBOSCOPE	79
SOLDERING STATION	76
TORQUE WRENCH	69
VOLT-OHM METER	69
POWER SUPPLY	67
FREQUENCY COUNTER	61
POWER SUPPLY CONTROL TEST CARDS	58
PUSH/PULL INDICATOR	49
VARIABLE DC POWER SUPPLY	44
TACHOMETER	43
AUDIO SIGNAL GENERATOR	31

TABLE 19

EQUIPMENT MAINTAINED BY 30 PERCENT OR MORE OF 306X1
FIRST ENLISTMENT PERSONNEL

EQUIPMENT MAINTAINED	PERCENT MAINTAINING
RP-157/G PAGE PRINTER	83
RP-152/G CARD READER	80
RP-154(P)/G PAPER TAPE READER	79
RO-313/G LOW SPEED CARD PUNCH	78
C-1820(P)/G CCU	74
KG-13	70
RO-312/G HIGH SPEED CARD PUNCH	56
C-7185/G CK	45
RO-315/G LOW SPEED PAPER TAPE PUNCH	43
RO-314/G HIGH SPEED PAPER TAPE PUNCH	41
MD-674(P)/G LOW SPEED WIRELINE MODEM	37
SN-394(V)/G ELECTRICAL SYNCHRONIZER	31

ANALYSIS OF TASK DIFFICULTY

From a listing of personnel identified for the AFS 306X1 job survey, airmen (primarily holding the 7-skill level from various locations and commands) were selected to rate task difficulty. Tasks were rated on a nine-point scale from extremely low to extremely high difficulty. Difficulty was defined as the length of time it would take an average career ladder member to learn to do the task. Interrater reliability (as assessed through components of variance of standardized group means) among the 47 raters was .89. Ratings were adjusted so that tasks of average difficulty had ratings or 5.00.

Of the 982 tasks in the job inventory, 536 were rated above average in difficulty. A sampling of the more difficult tasks performed by 306X1 personnel appears in Table 20. Those tasks rated above average in difficulty involved the isolation of malfunctions or the performance of mechanical adjustments on several DSTE items. However, the majority of these tasks were performed by very few personnel (see Table 20).

Conversely, those tasks rated below average in difficulty were generally performed by a higher percentage of personnel. These tasks include maintaining facilities, maintaining work areas, establishing shop schedules and procedures, performing administrative functions, and accomplishing routine DSTE maintanance. Table 21 presents tasks rated least difficult by 306X1 personnel.

Job Difficulty Index (JDI)

In addition to reviewing the relative difficulty of tasks, it is useful to examine the relative difficulty of jobs. To obtain a relative Job Difficulty Index (JDI), the task difficulty ratings for tasks performed and the time spent on those tasks by specified job groups were entered into a statistically reliable formula which predicts overall job difficulty. The resultant JDIs provide a relative measure of how jobs vary in difficulty when compared to other jobs identified in the sample. The index ranks jobs on a scale of one (for very easy jobs) to 25 (for very difficult jobs). The indices are then adjusted so that the average JDI is 13.00. JDIs were computed for the major job groups identified in the CAREER LADDER STRUCTURE section of this report. These indices are listed in Table 22.

Within the AFS 306X1 survey sample, three job groups (DSTE First Line Supervisors, DSTE Repairmen, and DSCSS/DIN and Strawhat System Repairmen) performed jobs rated above average in difficulty. However, the high job difficulty rating for these three groups was due in large measure to the high average of tasks performed by members of each group (see Table 22). Of these three job groups, only the DSCSS/DIN and Strawhat System Repairmen groups had substantial

percentages of individuals who performed tasks which were above average in difficulty. Examples of these tasks include: Performing RO 313/G Low Speed Card Punch mechanical adjustments and stepper adjustments; Isolating C-8120(P)/G CCU, AN/FGT-7 Paper Tape Reader and AN/EGR-10 Paper Tape Reader malfunctions; and Performing AN/FGT-7 Paper Tape Reader mechanical adjustments.

The job controller independent job type performed the job rated least difficult. Members of this group have a lower average number of tasks performed (18) and their tasks are generally less difficult. Examples of typical tasks include coordinating maintenance activities with work centers or work load control sections; maintaining status boards; and preparing or maintaining job control registers, and equipment status reports.

TABLE 20

MOST DIFFICULT TASKS PERFORMED BY 306X1 PERSONNEL

TASK		TASK INDEX RATING	PERCENT MEMBERS PERFORMING
F180	ISOLATE AN/GGA-21 TELETYPE ROUTING GROUP AMASS 101B	8.44	1
F179	ISOLATE AN/FYC-8 ERROR CORRECTION DEVICE MALFUNCTIONS	8.18	1
F182	ISOLATE AN/GGA-46 OLG MALFUNCTIONS	8.09	1
F183	ISOLATE AN/GGA-6 OUTGOING DESIGNATOR MALFUNCTIONS	8.09	*
F178	ISOLATE ACP-127 AMASS MALFUNCTIONS	7.94	1
F184	ISOLATE AN/GYC-4 ILG MALFUNCTIONS	7.61	1
P624	PERFORM RO-313/G LOW SPEED CARD PUNCH STEPPER ADJUSTMENTS	7.28	56
P627	PERFORM RO313/G LOW SPEED CARD PUNCH MECHANICAL ADJUSTMENTS	7.18	52
F186	ISOLATE C-8120(P)/G CCU MALFUNCTIONS	7.13	60
F185	ISOLATE C-7050/G TELETYPEWRITER CONTROL UNIT MALFUNCTIONS	6.92	*
L414	ISOLATE AN/FGA-17 AUXILIARY PAPER TAPE READER MALFUNCTIONS	6.85	5
I365	ISOLATE SMC-200 MULTIPLEXER MALFUNCTIONS	6.79	4
S706	ISOLATE IBM 557 CARD INTERPRETER MALFUNCTIONS	6.78	2
G284	ISOLATE WECO-207 MODEM MALFUNCTIONS	6.76	3
L415	ISOLATE AN/FGA-9 PAPER TAPE READER MALFUNCTIONS	6.76	2

* LESS THAN 1 PERCENT

TABLE 21

LEAST DIFFICULT TASKS PERFORMED BY 306X1 PERSONNEL

TASK		TASK INDEX	PERCENT MEMBERS PERFORMING
E135	INVENTORY CLASSIFIED DOCUMENT FILES	2.74	30
E168	PREPARE TECHNICIAN AVAILABILITY REPORTS	2.70	20
V967	PERFORM OPERATIONAL TESTS OF SPARE BOARD KITS	2.64	29
V974	PROCURE OR REPLACE PAPER, PAPER TAPE, PUNCH CARDS, RIBBONS, OR TAPES ON EQUIPMENT	2.58	59
E137	MAINTAIN EQUIPMENT STATUS BOARDS	2.58	29
V964	PAINT EQUIPMENT	2.53	62
S703	CONNECT OR DISCONNECT C-7185/G CKs TO OR FROM TAPE OR CARD PUNCHES	2.46	32
E125	ACCOMPLISH DAILY INVENTORY OF ACCOUNTABLE MATERIEL	2.42	30
E160	PREPARE OR REVIEW DAILY PERSONNEL AVAILABILITY REPORTS	2.34	11
E145	MAKE ENTRIES ON DAILY EXCEPTION CARD FORMS (AF FORM 1457)	2.33	1
A33	SCHEDULE LEAVES OR PASSES	2.18	28
A2	ATTEND GROUP OR SHOP LEVEL MAINTENANCE MEETINGS	2.00	67
V982	STENCIL, LETTER, OR INSTALL DECALS ON EQUIPMENT	1.55	44
V953	CLEAN, WAX, OR BUFF FLOORS	1.18	64
V971	POLICE AREAS OUTSIDE SHOP	.54	38

TABLE 22

JOB DIFFICULTY INDICES AND RELATED DATA BY JOB GROUPS

JOB GROUPS	AVERAGE NUMBER OF TASKS PERFORMED	ATDPUTS*	JDI**
I. DSTE FIRST LINE SUPERVISORS	199	4.4	17.8
II. DSTE REPAIRMEN	129	4.5	14.7
III. JUNIOR CARD PUNCH REPAIRMEN	69	4.5	10.3
IV. AE CONFIGURATION REPAIRMEN	81	4.1	9.0
V. DDSC/DIN AND STRAWHAT SYSTEM REPAIRMEN	134	4.7	16.9
VI. CRYPTOGRAPHIC REPAIRMEN	42	4.0	4.3
VII. DSTE MAINTENANCE SUPERVISORS AND MANAGERS	61	4.6	10.3
VIII. JOB CONTROLLERS	18	3.9	1.8
IX. TECHNICAL INSTRUCTORS	14	5.0	9.2

* AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT
** AVERAGE JDI & 13.00

ANALYSIS OF CONUS VERSUS OVERSEAS GROUPS

Comparisons of the tasks performed and background data for the 434 DAFSC 30651 personnel assigned to the Continental United States (CONUS) versus the 241 personnel assigned to overseas locations were examined. In general, tasks performed varied only slightly between CONUS and overseas groups (see Table 23). The primary area where differences were noted involved MODEM and synchronizer functions where higher percentages of overseas personnel performed related tasks. This is to be expected since this equipment is usually maintained by civilian contract personnel within the CONUS, while overseas 306X1 personnel usually maintain MODEM and synchronizer equipment themselves. The additional responsibility for MODEM and synchronizer equipment probably contributes to the higher average number of tasks performed by overseas personnel (114 CONUS vs 129 overseas). In addition, a high percentage of overseas personnel indicated they maintained the following equipment:

EQUIPMENT	PERCENT MAINTAINING EQUIPMENT		
	CONUS	OVERSEAS	DIFFERENCE
SN-394(V)/G ELECTRICAL SYNCHRONIZER	15	66	51
SN-395 ELECTRONICAL SYNCHRONIZER	4	32	28
FREQUENCY COUNTER	53	75	22
KG-13	63	84	21
MD-674(P)/G LOW SPEED WIRELINE MODEM	6	26	20
DSSCS/DIN	6	26	20

Comparison of background data indicated that overseas respondents averaged more time in service (56 months versus 46 months for CONUS respondents) and more time in the career field (42 months versus 33 months) than CONUS 5-skill level personnel. Approximately 83 percent of CONUS-based respondents were assigned to AFCS and less than one percent were assigned to USAFSS. On the other hand, 73 percent of the overseas respondents were assigned to AFSC and 16 percent were assigned to USAFSS. Although the overseas personnel perform a greater number of tasks and work with more equipment, they indicated a higher intention to reenlist, with 51 percent of these members expressing "yes" or "probably yes," compared to 39 percent of the CONUS members.

In summary, overseas DAFSC 30651 personnel differ from CONUS personnel primarily because overseas personnel are more involved with MODEM and synchronizer maintenance tasks. Within the CONUS, these tasks are performed by civilian contract personnel. In addition, a higher percentage of overseas respondents indicated they maintain DSSCS/DIN, frequency counter, and KG-13 equipment.

TABLE 23

TASKS WHICH MOST CLEARLY DISCRIMINATE BETWEEN DAFSC 30651 CONUS AND OVERSEAS GROUPS
(PERCENT MEMBERS PERFORMING)

TASKS		CONUS (N=272)	OVERSEAS (N=146)	DIFFERENCE
G302	PERFORM MD-674(P)/G LOW SPEED WIRE LINE MODEM OUTPUT LEVEL ADJUSTMENTS	14	68	-54
G304	PERFORM MD-674(P)/G LOW SPEED WIRE LINE MODEM POWER SUPPLY VOLTAGE LEVEL ADJUSTMENTS	15	69	-54
G309	PERFORM MD674(P)/G LOW SPEED WIRE LINE MODEM PMIs	14	66	-52
G280	ISOLATE MD-674 (P)/G LOW SPEED WIRE LINE MODEM MALFUNCTIONS	17	69	-52
G268	CHECK OUTPUT DECIBEL (DB) LEVELS ON MD-674(P)/G LOW SPEED WIRE LINE MODEMs	11	59	-48
G299	PERFORM MD-674(P)/G LOW SPEED WIRE LINE MODEM BIAS ADJUSTMENTS	13	60	-47
G327	REMOVE OR INSTALL COMPONENTS OF MD-674(P)/G LOW SPEED WIRE LINE MODEMs	14	60	-46
G267	ADJUST POWER SUPPLY VOLTAGE LEVELS ON MODEM	13	58	-45
G347	PERFORM SN-394(V)/G ELECTRICAL SYNCHRONIZER PMI	15	58	-43
G300	PERFORM MD-674(P)/G LOW SPEED WIRE LINE MODEM CLOCK ADJUSTMENTS	14	55	-41
H339	ISOLATE SN-394(V)/G ELECTRICAL SYNCHRONIZER MALFUNCTIONS	15	51	-36
H361	REMOVE OR INSTALL SN-394(V)/G ELECTRICAL SYNCHRONIZER BLACK LOGIC MODULE ASSEMBLIES	10	45	-35
H362	REMOVE OR INSTALL SN-394(V)/G ELECTRICAL SYNCHRONIZER RED CARD ASSEMLIES	10	44	-34
G301	PERFORM MD-674(P)/G LOW SPEED WIRE LINE MODEM DELAY EQUALIZATION ADJUSTMENTS	12	45	-33
G334	REMOVE OR INSTALL POWER SUPPLIES FROM MODEM	7	40	-33
G332	REMOVE OR INSTALL MD-674(P)/G MODEM MX-73XX/G ASSEMBLY	10	40	-30

COMPARISON OF AFR 39-1 SPECIALTY DESCRIPTIONS WITH SURVEY DATA

The AFR 39-1 specialty descriptions for the 306X1 career ladder were compared to the survey data. The comparison showed the specialty description for AFS 30651 to be a complete and accurate description of these duties and responsibilities. All duties and responsibilities described in the specialty descriptions could be matched to tasks performed by survey respondents.

However, although the AFS 30671 description gives a broad overview of the duties and responsibilities of the career specialty, it concentrates on the technical tasks performed. Referencing Table 7 again, note the amount of time devoted to nontechnical duties (duties A, B, C, D, and E). Fully 68 percent of the 30671 respondents' time was spent performing these nontechnical duties. Therefore, the supervisory and administrative aspect of the 7-skill level job should perhaps receive more emphasis in any future AFR 39-1 specialty description.

COMPARISON OF THE SPECIALTY TRAINING STANDARD (STS) WITH SURVEY RESULTS

A review of the current STS 306X1, dated December 1976, was made for the 3-, 5-, and 7-skill levels. Assistance was provided by subject matter specialists at the technical training school who matched inventory tasks with STS items. Each of the STS subparagraphs containing task knowledge or performance requirements were compared to the survey results. Subparagraphs containing only general information or subject knowledge proficiency level requirements were not evaluated.

Overall, the STS appears to be complete in providing general training requirements. Most STS subparagraphs were supported by the survey data. However, several tasks listed in the inventory were not linked with specific STS items. These tasks might be examined by subject matter specialists to determine whether they are sufficiently important for inclusion in subparagraphs of the STS. Computer printouts reflecting the match between STS items and survey sample responses were furnished to the technical school for this purpose.

COMPARISON OF THE CURRENT STUDY TO THE 1975 STUDY

The results of this survey were compared to those of Occupational Survey Report (OSR) AFPT 90-306-145, dated 5 September 1975. Although the sample size of the previous study was smaller (484 respondents versus 675 respondents in the current sample), the career ladder structure has remained basically the same. AFS 306X1 respondents continue to group into several closely related equipment-oriented job types and clusters of repairmen, first line supervisors, and supervisors.

However, an interesting change has taken place among 7-skill level personnel since the previous study. DAFSC 30671 personnel are devoting more of their time to supervisory functions and are performing fewer technical tasks.

In addition, 3- and 5-skill level personnel present more heterogeneous groupings as a whole than they reflected in the 1975 study. Likewise, the differences among CONUS and overseas DAFSC 30651 personnel are less pronounced in the present study. In the past, due to manning procedures and shortages, overseas personnel were often required to perform a greater variety of tasks than CONUS personnel of similar skill levels. This no longer appears to hold true. The only clear distinction which can now be made between CONUS and overseas DAFSC 30651 personnel is the presence or absence of MODEM and synchronizer maintenance tasks (overseas personnel tend to perform more of these tasks whereas CONUS personnel generally perform less).

Finally, a change in the perception of task difficulty has taken place since the last study. In the previous study, 11 tasks dealing with the maintenance of card punches were considered most difficult and were rated 7.0 or above on the job difficulty index. Personnel now view some tasks involving the maintenance of control units as the most difficult. Interestingly, only two tasks involving the maintenance of card punches were rated 7.0 or above in the most recent survey.

As previously stated, the overall career ladder structure has remained the same since the last study. However, shifts appear to have taken place among 3-, 5-, and 7-skill level jobs due to a reorientation toward more supervisory functions at the 7-skill level.

IMPLICATIONS

Personnel in the Electronic-Mechanical Communications and Cryptographic Equipment Systems (AFS 306X1) career ladder maintain a large variety of equipment. Consequently these personnel tend to specialize in the maintenance of particular pieces of equipment or equipment configurations. This specialization results in a very heterogeneous career field in which personnel perform few tasks in common.

The large inventory of equipment and the resultant career ladder heterogeneity have serious implications for supervision, assignment policy, training, and future consolidations. In the area of supervision, there has been a shift toward the performance of more management and supervisory tasks at the 7-skill level. This shift has taken place since the consolidation of 9-skill level 306X0, X1, and X2 personnel in October 31, 1976, and could have resulted from this consolidation. Since that time some of the supervisory and management responsibility for the career ladder has shifted from 9- to 7-skill level individuals. As a result, 5-skill level individuals perform a higher percentage of tasks previously performed by 7-skill level individuals.

The heterogeneity of this career field may also be a problem in terms of assignment. Due to the large number of types of equipment and the specialization of technicians on specific systems, when personnel are rotated to a unit with dissimilar equipment, they may require extensive OJT.

The large equipment inventory also places some substantial constraints on formal training programs. It is not economically feasible to train a new recruit thoroughly on the maintenance of every piece of equipment in the inventory. Thus, training must be general or limited to representative equipment which implies that an extensive follow-on OJT program is required when the new individual reaches the initial duty station.

Conversations with a number of individuals in the field indicate there is a high probability that new, more advanced equipment will be procured in the near future. This may complicate the training and assignment picture even more, at least until the new equipment is in place at all locations and the existing equipment is eliminated.