

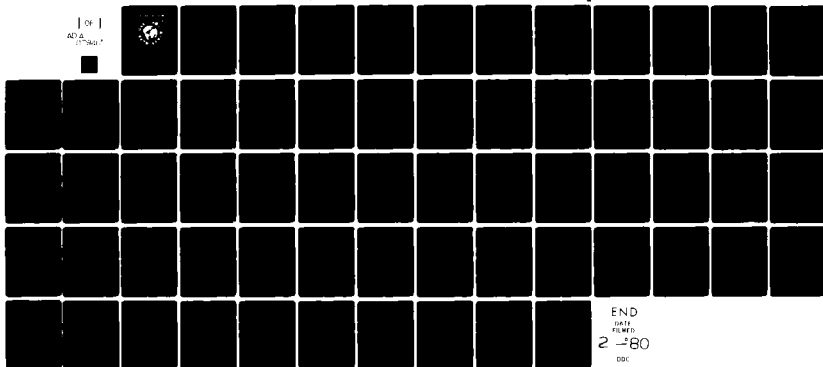
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AIR FORCE OCCUPATIONAL MEASUREMENT CENTER RANDOLPH AFB TX F/6 5/9
AIRCRAFT FUEL SYSTEMS CAREER LADDER, AFS 423X3.(U)
OCT 79 J B KEETH , R L ALTON

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OCCUPATIONAL SURVEY REPORT

LEVEL II



June 2, 1979
Randolph AFB

AIRCRAFT FUEL SYSTEMS CAREER LADDER,	
AES 423X3,	

AFPT-90-423-384

11 OCT 1979

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
RANDOLPH AFB TEXAS 78148

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PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Aircraft Fuel Systems career ladder (AFSCs 42333, 42353, 42373, 42399, and CEM Code 43200). The project was directed by USAF Program Technical Training, Volume Two, 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 occupational survey program within the Air Force has been in existence since 1956 when initial research was undertaken by the Air Force Human Resources Laboratory to develop the methodology for conducting occupational surveys. In 1967, an operational survey program was established within Air Training Command and surveys were produced annually on 12 enlisted specialties. In 1972, the program was expanded to annually produce occupational surveys of 51 career ladders.

The survey instrument was developed by Captain Rita M. Snyder, Inventory Development Specialist. Mr. James B. Keeth and Mr. Robert L. Alton, 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, TX 78148.

Computer programs for analyzing the occupational data were designed by Dr. Raymond E. Christal, Manpower and Personnel Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Computer Programming Branch, Technical Services 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
USAF Occupational Measurement
Center

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

8. Implications: The career ladder has remained relatively stable over the last five years, and no major problems were identified. However, there do appear to be some minor shifts in emphasis in the jobs performed by WRM tank specialists over the years. This group is also the least interested in their job and perceive that their talents and training are poorly used. A review of how 423X3 personnel are utilized in the WRM function may be needed. ←

SUMMARY OF RESULTS

1. Survey Coverage: The Aircraft Fuel Systems career ladder job inventory was administered during the period January through April 1979. Survey results are based on responses from 1,328 of the 2,142 (CEM Code 43200 personnel excluded) personnel assigned, or 62 percent of all assigned career ladder members.

2. Career Ladder Structure: Two job clusters and two independent job types were identified within the career ladder. Fuel Systems Repairmen, representing the largest cluster, form the core of the career ladder and account for 82 percent of the survey sample. The second cluster, Senior Managers, was composed of high level supervisors in the field. Independent job types identified were War Reserve Materiel (WRM) Tank Specialists and Technical Instructors. Overall, the career ladder was found to be very homogeneous in nature, with many common tasks performed across almost all types of jobs. → ✓

3. Career Ladder Progression: Personnel at the 3-, 5-, and 7-skill levels spent the largest percentage of their job time performing technical tasks. Career ladder homogeneity was reflected in the number of common technical tasks performed by 3-, 5-, and 7-skill level groups, with 7-skill level personnel involved in more supervisory, managerial, training, and administrative duties. As in most career ladders, 9-skill level personnel were primarily managers and supervisors.

4. AFMS Groups: As the time in service increased, there was a corresponding increase in performance of duties involving supervision, management, training, and administration while performance of technical duties decreased. First through third enlistment respondents reported a job which was primarily technical. Not until the fifth enlistment did members show a shift to spending a greater amount of their job time in supervisory and managerial functions.

5. CONUS and Overseas Groups: There was little difference noted between tasks performed by these groups. The only noteworthy variance was that overseas personnel spent slightly more of their job time performing tasks pertaining to external fuel tanks.

6. AFR 39-1 Specialty Descriptions: The 9- and 7-skill level specialty descriptions reflect the scope and nature of jobs performed by personnel at those levels. The 3- and 5-skill level description, however, appears to be overly general and brief and may not be as representative of the scope of the job as it could be.

7. Training Analysis: The STS provided a generally complete display of the career ladder functions and tasks. Tasks pertaining to external fuel tanks, however, are not presently included.

OCCUPATIONAL SURVEY REPORT
AIRCRAFT FUEL SYSTEMS CAREER LADDER
(AFSCs 42333, 42353, 42373, 42399, AND CEM CODE 43200)

INTRODUCTION

This is a report of an occupational survey of the Aircraft Fuel Systems career ladder (AFSCs 42333, 42353, 42373, 42399, and CEM Code 43200) completed by the Occupational Survey Branch, USAF Occupational Measurement Center, in October 1979. The survey was requested by the Career Field Training Directorate, Air Training Command (ATC/TTQ), to obtain current comparative data on the AFS 423X3 career ladder.

The only previous occupational survey report pertaining to this ladder was published 1 March 1974 under AFSC 424X0. The AFSC was changed to the present 423X3 designation on 30 April 1976. The 9-skill level designation was changed from AFSC 42396 to AFSC 42399 on 30 April 1977. The ladder was included under Chief Enlisted Manager (CEM) Code 43200 when the code was established in October 1978.

Personnel in this ladder are responsible for the inspection, repair, installation, and modification of aircraft fuel systems and components. The primary entry into this ladder is from Basic Military Training School (BMTS) through the eight week 3ABR42333 course at Chanute AFB IL.

Topics discussed in this report include: (1) survey methodology; (2) the job structure found within the career ladder and how it relates to skill level and experience level groups; (3) comparisons of the job structure and other survey data with career ladder documents, such as AFR 39-1 Specialty Descriptions, Plan of Instruction (POI), and the Specialty Training Standard (STS); (4) an analysis of the difficulty of tasks performed; (5) an analysis of CONUS versus overseas groups; (6) comparison of the current survey with the previous survey; 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 90-423-384. The survey instrument from the 1974 study was used as a basis for development of the new job inventory. The previous task list was reviewed and revised after comprehensive research of career field publications and directives and an

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evaluation of write-in information collected from respondents during the last survey. The task list was then evaluated in the field through personal on-site interviews with 12 subject matter specialists from three bases. The resulting job inventory contained 342 tasks grouped under 12 duty headings and a background section including such information as grade, TAFMS, duty title, and job interest.

Survey Administration

During the period January 1979 through April 1979, consolidated base personnel offices in operational units worldwide administered the inventory to job incumbents holding DAFSC 423X3. These job incumbents were selected from a computer generated mailing list obtained from personnel data tapes maintained by the Air Force Human Resources Laboratory (AFHRL).

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

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

Survey Sample

Personnel were selected to participate in this survey so as to insure proper representation across MAJCOM and DAFSC groups. Table 1 reflects the percentage distribution, by major command, of assigned personnel in the career ladder as of October 1978. Also listed in this table is the percent distribution, by major command, of respondents in the final survey sample. The 1,328 respondents included in the final sample represent 62 percent of the 423X3 career ladder.

Tables 2 and 3 reflect the distribution of the survey sample in terms of DAFSC and AFMS groups. An interesting note about the data in Table 3 is that almost half of the incumbents in this specialty are in their first enlistment. Generally, the MAJCOM, DAFSC, and AFMS distributions indicate that the survey sample was adequate and representative of the 423X3 career ladder population.

TABLE 1
COMMAND REPRESENTATION OF SURVEY SAMPLE 423X3

<u>COMMAND</u>	<u>PERCENT OF PERSONNEL ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
TAC	30%	28%
MAC	19%	20%
SAC	17%	19%
USAFE	15%	14%
ATC	5%	5%
PACAF	5%	4%
ADCOM	4%	4%
AFLC	2%	3%
AFSC	2%	2%
AAC	<u>1%</u>	<u>1%</u>
TOTAL	100%	100%

TOTAL ASSIGNED* - 2,142
TOTAL SAMPLED - 1,328
PERCENT SAMPLED* - 62%

* DOES NOT INCLUDE CEM CODE 43200 PERSONNEL

TABLE 2
DAFSC DISTRIBUTION OF SURVEY SAMPLE

<u>DAFSC</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
42333	8%	8%
42353	56%	53%
42373	18%	27%
42399	18%	10%
CEM CODE 43200*	-	-
NO RESPONSE	-	2%

* CEMs SUPERVISE AIRMEN IN 12 DIFFERENT CAREER LADDERS.
SPECIFIC AUTHORIZATIONS ARE NOT AVAILABLE FOR EACH LADDER.
CEM CODE 43200 RESPONDENTS WHO INDICATED SUPERVISION OF 423X3
PERSONNEL (A CONDITION FOR ELIGIBILITY TO PARTICIPATE IN THE
SURVEY) REPRESENT LESS THAN .5 PERCENT OF THE SURVEY SAMPLE.

TABLE 3
AFMS DISTRIBUTION OF SURVEY SAMPLE

<u>AFMS MONTHS</u>	<u>PERCENT OF SAMPLE</u>
1-48	47%
49-96	15%
97-144	13%
145-192	8%
193-240	10%
241+	7%

CAREER LADDER STRUCTURE

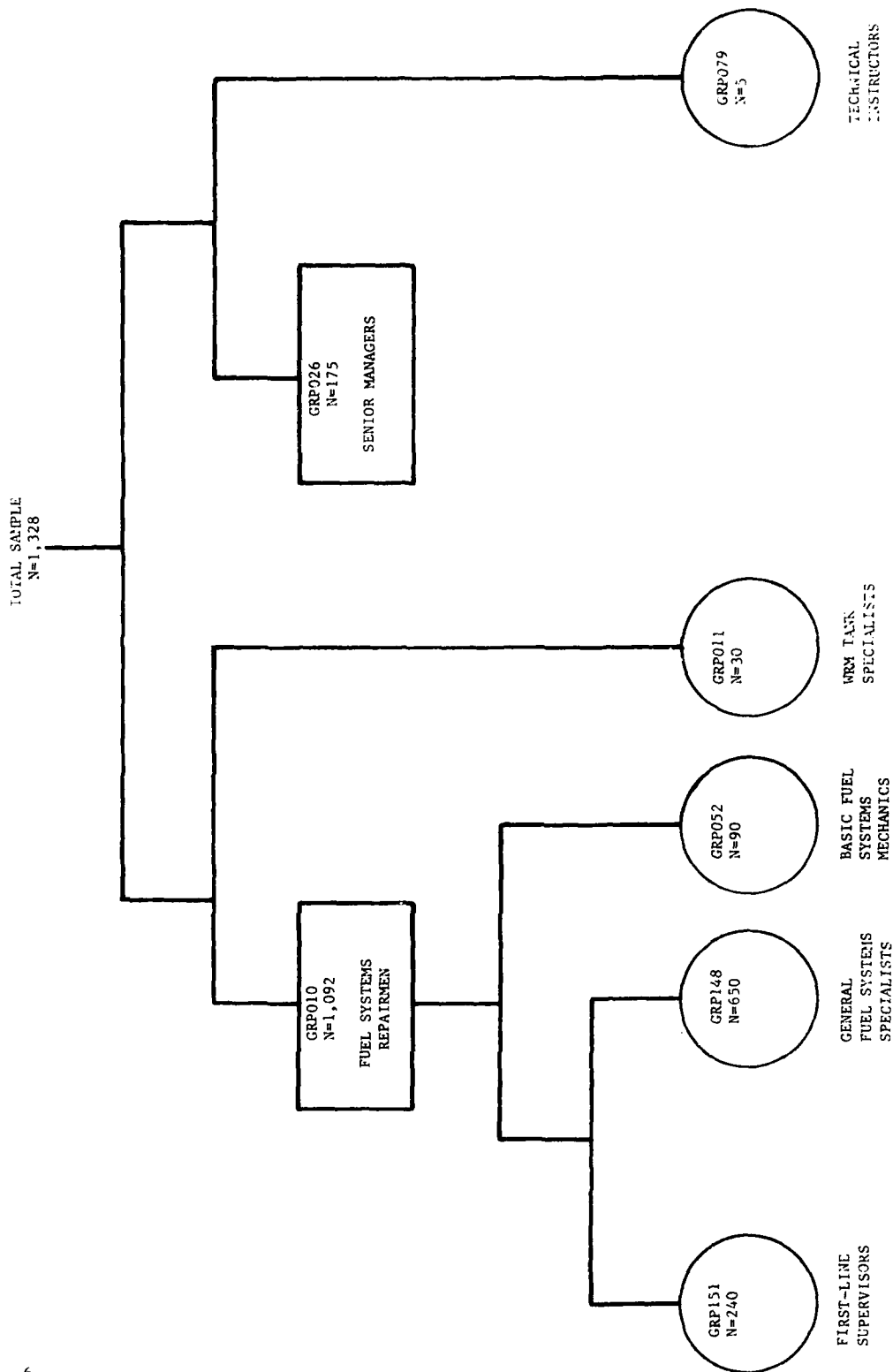
A key aspect of the USAF occupational analysis program is to examine the structure of career ladders -- what people are actually doing in the field, rather than how official career field documents say they are organized. This analysis is made possible by the Comprehensive Occupational Data Analysis Programs (CODAP). CODAP consists of a series of computer programs which generate a number of statistical products used in the analysis of career ladders. The primary product used to analyze career ladders is a hierarchical clustering of all jobs based on the similarity of tasks performed and relative time spent. This process permits identification of the major types of work being performed in the occupation (career ladder) and is analyzed in terms of the job description and background data of each type of job. This information is then used to examine the accuracy and completeness of career ladder documents (AFR 39-1 Specialty Descriptions and Specialty Training Standards) and to formulate an understanding of current utilization patterns.

The basic identifying 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 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 often specialized jobs that are too dissimilar to be grouped into any cluster. These unique groups are labeled Independent Job Types.

Based on the task similarity and relative percent time spent, the best division of the jobs performed in the 423X3 career ladder is illustrated in Figure 1. These job clusters and job types are listed below. The GRP number shown beside each title is a reference to computer printed information included for use by classification and training officials.

- I. FUEL SYSTEMS REPAIRMEN (GRP010, N=1,092)
 - a. First-Line Supervisors (GRP151, N=240)
 - b. General Fuel Systems Specialists (GRP148, N=650)
 - c. Basic Fuel Systems Mechanics (GRP052, N=90)
- II. WRM TANK SPECIALISTS (GRP011, N=30)
- III. SENIOR MANAGERS (GRP026, N=175)
- IV. TECHNICAL INSTRUCTORS (GRP079, N=5)

FIGURE 1
AIRCRAFT FUEL SYSTEMS CAREER LADDER STRUCTURE
AFSC 423X3



Ninety-eight percent of the respondents in the sample performed jobs generally equivalent to the two clusters and two independent job types listed above. The remaining two percent were not associated with any of the above major groups because their jobs were so heterogeneous or unique that they did not group with any of the clusters or independent job types. Some of the job titles representative of these personnel were Acquisition Test Evaluator, Squadron Training NCO/Coordinator, Instructor/Supervisor, and Depot Field Service Coordinator.

Group Descriptions

Brief descriptions of the major groups of jobs performed by personnel in the 423X3 career ladder are given below. Tables 4 and 5 provide selected background information for each of these groups.

I. Fuel Systems Repairmen (GRP010). This cluster represents the core of the career ladder and accounts for 82 percent of the survey sample. The large number of personnel in this group (1,092) indicates the high degree of homogeneity in the career ladder. Although one of the three job types identified within this group was comprised of first-line supervisors, the predominant feature of the overall cluster is the technical aspect of the job they perform. Generally, incumbents spend 81 percent of their job time in duties involving technical tasks, such as removing or installing panels, access doors, fuel cells, pumps, valves, or components; isolating malfunctions on fuel transfer systems, vent or pressurization systems, and engine feed or cross-feed systems; inspecting integral tanks, fuel cells, or engine feed components; and various test procedures. (Additional tasks representative of this cluster are listed in Appendix A, Table I.) Overall, personnel in this large cluster report being satisfied with their jobs, indicating that their talents and training are well utilized and that their jobs are interesting.

As previously mentioned, there were three job types identified within this cluster. The differences in the groups were primarily based on the number of tasks performed and the amount of time spent on those tasks; however, one group of the three stands out due to its supervisory characteristics.

Ia. First-Line Supervisors (GRP151). Members of this job type primarily identify themselves with titles such as Shift Chief, Shift Leader, or NCOIC. Overall, they represent 18 percent of the total sample, or 240 airmen. While their job is still predominantly technical, they spend 39 percent of their job time performing tasks related to supervisory, managerial, training, and administrative duties. The technical tasks which best distinguish this group from other job types in this cluster are mainly above average in difficulty and relate to isolating malfunctions and inspecting various systems or components (see Appendix A, Table II for a display of tasks representative of this job type).

Incumbents perform the highest average number of tasks (186) of any group in the survey sample. The relatively difficult technical tasks performed, coupled with the supervisory aspects of the job (77 percent supervise other personnel), combine to create a job type that reflects the highest JDI rating (18.39) in the study (see Table 26). The difficulty and breadth of the job appears to appeal to most incumbents since the majority find their job interesting (68 percent), 89 percent feel that their talents are utilized fairly well to perfectly, and 92 percent report that their training is utilized fairly well to perfectly. This job satisfaction is further reflected in the relatively high (one of the highest in the study at 67 percent) rate of reported reenlistment intentions.

Ib. General Fuel Systems Specialists (GRP148). This group of 650 airmen comprises the largest percentage of personnel in the cluster (60 percent) and in the total sample (50 percent). Members of this large group devote approximately 88 percent of their relative job time to duties involving the performance of technical tasks. Predominately first-term airmen (68 percent) with an average grade of 3.8 (versus 5.4 for the previously discussed First-Line Supervisors group), they perform an average of 110 tasks, many of which are common with the technical tasks of the First-Line Supervisors group. The major difference between the two job types is the time spent performing supervisory, managerial, training, and administrative tasks (39 percent for First-Line Supervisors versus 12 percent for this group). Common tasks performed by large numbers of group incumbents include removing or installing access panels or doors, grounding equipment, purging tanks or cells, and localizing leak exits. (Additional tasks performed by this group can be found in Appendix A, Table III.)

Within this job type, smaller subgroups were identified which should be mentioned. Two subgroups were notable due to the emphasis on tasks performed which could be related to tactical-type aircraft. One group of 180 airmen perform a series of tasks associated with external fuel tanks. Although some large bomber and cargo aircraft also carry external fuel tanks, the preponderance of aircraft utilizing such tanks are the tactical weapons systems, such as the F-4.

Three subgroups, representing 327 incumbents, performed a series of tasks which identify primarily with large bomber or cargo aircraft. Typical of such tasks are removing or installing firewall shutoff valves, isolating malfunctions of water injection systems, isolating malfunctions of scavenge systems, and, although found to some extent in larger tactical aircraft, isolating malfunctions of engine feed or cross-feed systems. While the airmen discussed above displayed some grouping due to aircraft association, and a few tasks peculiar to certain types of aircraft were evident, by and large, members of the career ladder perform a preponderance of common tasks regardless of the type of aircraft with which they work.

The last noteworthy subgroup within the job type consists of a group of 60 personnel who, while remaining technicians, spent 28 percent of their time in supervisory, training, and administrative related duties. This subgroup differs from the previously discussed First-Line Supervisors group primarily on time spent on technical tasks (72 percent versus 61 percent).

Sixty-one percent of the personnel in this job type reported that their job was interesting. While 86 percent indicated that their training was utilized fairly well to perfectly, only 74 percent felt that their talents were utilized properly. Despite the above average job satisfaction indicators, 50 percent indicated they either will not or probably will not reenlist. This may be a function of the large number of first enlistment personnel in this job type (68 percent).

Ic. Basic Fuel Systems Mechanics (GRP052). The last group in this cluster accounts for 90 people or seven percent of the total sample. With an average grade of E-3, this group is the least experienced of any in the sample, reporting only 27 months average time in the career field and 30 months AFMS (85 percent are in their first enlistment). While largely composed of 3- and 5-skill level first term airmen, eight percent of this group are 7-skill level personnel most of whom are assigned to AFLC Air Logistics Centers. These airmen are assigned to crews performing a relatively few routine tasks while in the depot, but who are involved in more complex tasks when part of a TDY team. Common tasks performed by members of this job type include removing or replacing access panels, grounding equipment, positioning maintenance stands, and connecting and disconnecting Wiggins type fittings (see Appendix A, Table IV for additional representative tasks). Although performing some of the same tasks as other groups in the cluster, the low average number of tasks performed (50 compared to 186 for First-Line Supervisors and 110 for General Fuel Systems Specialists) and the low average task difficulty (at 4.29, lowest in the study) combine to give this group's job the lowest JDI (5.68) of any job type identified (see Table 26). Even though their job is very limited in scope, 54 percent of the people reported that their job was interesting. Sixty-six percent felt that their talents were utilized fairly well to perfectly, 79 percent indicated that their training was properly utilized, and 46 percent said they were likely to reenlist.

II. War Reserve Materiel (WRM) Tank Specialists (GRP011). This small (30 people) independent job type identifies a group of airmen who performed the lowest average number of tasks (33) of any group in the sample. Over 50 percent of their job time was spent on only 27 tasks, most of which were peculiar to caring for external fuel tanks representing overseas WRM assets (83 percent of this group served overseas). Their primary function was to maintain WRM tanks in readiness and included such tasks as preparing external drop tanks for storage, cleaning external tanks, performing continuity checks on external tanks, and inspecting external tanks (additional representative tasks are listed in Appendix A, Table V).

Not surprisingly, this job type reports the lowest job satisfaction of any in the sample, with 70 percent indicating job interest ranging from dull to so-so. Sixty-three percent feel that their talents are not properly utilized, while 60 percent indicate that their training is used little or not at all. Interestingly, however, 67 percent (one of the highest in the study) indicate the likelihood that they will reenlist. This may be accounted for by the fact that with an average time in the career field of 54 months and an average AFMS of 60 months, the majority are beyond the first enlistment and are familiar enough with the career field to recognize the importance of their work and to perceive that there are better jobs to which they can move when they rotate back to CONUS or other assignments.

III. Senior Managers (GRP026). This cluster of 175 NCOs (average grade E-7) represented 13 percent of the survey sample and reported spending 96 percent of their time in duties involving supervision, management, training, and administration. Common tasks for members of this group included counselling personnel on personal problems, evaluating inspection reports or procedures, endorsing or writing airmen performance reports, and interpreting policies, directives, or procedures (more tasks are listed in Appendix A, Table VI). While performing an average of 65 tasks, 94 percent supervised an average of 6.7 people and 79 percent reported that they were serving in the CONUS. Members seem very satisfied with their jobs. Eighty-four percent reported that the job was interesting and their talents and training were utilized fairly well to perfectly (87 and 86 percent respectively).

IV. Technical Instructors (GRP079). This independent job type was composed of five members (average grade E-6) who spent 39 percent of their job time in duties involving training. The average number of tasks performed (36) was next to the lowest of any group in the sample which reflects the very specialized nature of this job. Serving either at the technical training center or with field training detachments, incumbents performed such training oriented tasks as developing course curricula or plans of instruction (POI), writing test questions, and developing lesson plans (see more tasks in Appendix A, Table VII). Although there were additional personnel in the sample who identified themselves as instructors, their failure to group with these members would indicate less average percent time spent on training activities than members of this job type.

Instructors reported the highest job satisfaction of any group in the sample. Every member of the group (100 percent) found their job interesting and felt that it utilized their talents and training fairly well to perfectly.

Summary

Two job clusters and two independent job types were identified within the career ladder. Fuel Systems Repairmen, representing the largest cluster and supporting three job types, form the core of the career ladder and account for 82 percent of the survey sample. The second cluster, Senior Managers, was comprised of personnel who moved sharply away from the technical job and formed the backbone of the management of the career ladder. Two independent job types were formed based on the specialized nature of the functions performed and time spent on them.

Overall, the career ladder is very homogeneous in nature and is composed of personnel who find their jobs interesting, and, except for one group, report high degrees of perceived utilization of talent and training.

TABLE 4

SELECTED BACKGROUND DATA ON CAREER LADDER FUNCTIONAL GROUPS

	GENERAL		BASIC		SENIOR		TECHNICAL	
	FIRST-LINE SUPERVISORS (GRP151)	FUEL SYSTEMS SPECIALISTS (GRP148)	FUEL SYSTEMS MECHANICS (GRP052)	WRM TANK SPECIALISTS (GRP011)	MANAGERS (GRP026)	INSTRUCTORS (GRP079)		
NUMBER IN GROUP	240	650	90	30	175	5		
PERCENT OF SAMPLE	18%	50%	7%	2%	13%	.4%		
PERCENT LOCATED IN CONUS	67%	75%	79%	17%	79%	100%		
DAFSC DISTRIBUTION								
42333	0%	8%	39%	10%	0%	0%		
42353	27%	77%	52%	70%	4%	20%		
42373	68%	15%	8%	20%	25%	80%		
42399	4%	0%	0%	0%	66%	0%		
NOT INDICATED	1%	0%	1%	0%	5%	0%		
AVERAGE GRADE	5.4	3.8	3.0	3.8	7.1	6.2		
AVERAGE TIME IN CAREER FIELD (MONTHS)	123	48	27	54	198	148		
AVERAGE TIME IN SERVICE (MONTHS)	138	53	30	60	225	161		
PERCENT IN FIRST ENLISTMENT	10%	68%	85%	47%	3%	0%		
PERCENT SUPERVISING	77%	21%	6%	23%	94%	20%		
AVERAGE NUMBER OF PERSONS SUPERVISED	4.1	.7	.2	.6	6.7	.4		
AVERAGE NUMBER OF TASKS PERFORMED	186	110	50	33	65	36		

TABLE 5

COMPARISON OF JOB SATISFACTION INDICED BY CAREER LADDER FUNCTIONAL GROUPS
(PERCENT MEMBERS PERFORMING)

	FIRST-LINE SUPERVISORS (GRP151)	GENERAL FUEL SYSTEMS SPECIALISTS (GRP148)	BASIC FUEL SYSTEMS MECHANICS (GRP052)	WRM TANK SPECIALISTS (GRP011)	SENIOR MANAGERS (GRP026)	TECHNICAL INSTRUCTORS (GRP079)
<u>EXPRESSED JOB INTEREST:</u>						
DULL	5	13	18	57	6	0
SO-SO	24	24	28	13	7	0
INTERESTING	68	61	54	30	84	100
NOT REPORTED	3	2	0	0	3	0
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
LITTLE OR NOT AT ALL	11	26	34	63	10	0
FAIRLY WELL TO PERFECTLY	89	74	66	37	87	100
NOT REPORTED	0	0	0	0	3	0
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
LITTLE OR NOT AT ALL	8	12	21	60	13	0
FAIRLY WELL TO PERFECTLY	92	86	79	40	86	100
NOT REPORTED	0	2	0	0	1	0
<u>REENLISTMENT INTENTIONS:</u>						
NO, OR PROBABLY NO	29	50	52	33	41	40
YES, OR PROBABLY YES	67	46	46	67	57	60
NOT REPORTED	4	4	2	0	2	0

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 analysis. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information is also used to evaluate how well career ladder documents, such as AFR 39-1 Specialty Descriptions and the Specialty Training Standard (STS), reflect what career ladder personnel are actually doing in the field.

Table 6 presents the relative percent time spent on each duty across the skill level groups. As personnel progress upward through the skill levels, the amount of time spent in performance of supervision, management, training, and administration tasks (Duties A, B, C, D, and E) increases. Conversely, the amount of time spent on technical tasks was greater for lower skill level personnel and generally decreased as the skill level increased. Even though the time spent in duties involving supervisory, managerial, and technical tasks follows what would be considered normal utilization and progression patterns, it should be noted that there is a common core of technical tasks (see Table 7) performed by a significantly high percentage of personnel across the 423X3 career ladder. This performance of common tasks by 3-, 5-, and 7-skill level airmen reflects a career ladder that is homogeneous in nature until attainment of the 9-skill level.

Skill Level Descriptions

DAFSC 42333. Three-skill level personnel, representing eight percent of the survey sample, performed an average of 75 of the 342 tasks in the job inventory, with 50 tasks occupying over 50 percent of their job time. Members spent 92 percent of their time on technical duties, with 46 percent of that time devoted to preparing aircraft for fuel systems maintenance and removing or installing fuel system components. Common tasks performed included applying 'O' rings to self sealing cell fittings, roping off fuel system repair areas, mixing sealant manually, disconnecting batteries, and removing or installing access panels or tank access doors. Table 8 presents additional representative tasks performed by 3-skill level personnel.

DAFSC 42353. Airmen at the 5-skill level performed an average of 106 tasks, with 69 of those tasks utilizing 50 percent of their time. Even though there was a slight increase in time spent on supervisory and managerial duties, this group's job was still primarily technical (84 percent of their total job time). Many of the tasks performed by this group (see Table 9) are the same as those performed by 3-skill level personnel. However, DAFSC 42353 airmen perform a slightly wider variety of tasks including the more difficult ones relating to isolating malfunctions, inspection, and supervision.

The tasks which most clearly differentiate between the 3- and 5-skill level personnel are listed in Table 10. This table shows that a higher percentage of 5-skill level personnel performed each task listed. In addition, the higher average number of tasks performed by 5-skill level airmen (106 for 5-skill level versus 75 for 3-skill level) indicates that the scope of the 5-skill level job is broader than that of the 3-skill level group.

DAFSC 42373. Personnel at the 7-skill level performed an average of 132 tasks, with 89 tasks requiring 50 percent of their time. Although the amount of time spent in duties involving supervision, management, training (an aggregate of 36 percent), and administration (eight percent) increased considerably over that of the 5-skill level group, the job of the 7-skill level airman is still highly technical (56 percent of total job time). This high time spent in technical functions is higher than for most 7-skill level groups in other career ladders.

While this group is still performing a significant number of technical tasks, those tasks with the highest percent members performing are supervisory in nature and included supervising aircraft fuel systems mechanics, directing shop housekeeping and dock maintenance, and counseling personnel. At the same time, these personnel report a high percentage of members performing relatively simple tasks, such as grounding aircraft or equipment, connecting or disconnecting 'B' nut type fittings, and removing or installing access panels. Table 11 lists additional representative tasks for this group.

Differences between the 5- and 7-skill level groups are reflected by the listing of tasks in Table 12. It is obvious that while as previously reported, both 5- and 7-skill level groups perform technical jobs, the 7-skill level group clearly has the greater responsibility for supervision and management in the career ladder.

DAFSC 42399. As in most career ladders, personnel at the 9-skill level reported performing primarily nontechnical tasks. They performed an average of only 71 tasks (as compared to an average of 132 for 7-skill levels), with 34 tasks accounting for 50 percent of their time. Nine-skill level personnel spent 85 percent of their time in duties involving supervision, management, and training, and nine percent (highest of any of the skill level groups) in duties requiring maintenance of forms and records. As can be seen in Table 6, time spent in duties involving technical tasks was negligible for this group. Predominant tasks performed by group members included attending briefings, counselling personnel on personal problems, advising on supply problems, and endorsing and writing airmen performance reports. Table 13 lists additional representative tasks performed by 9-skill level personnel.

Table 14 shows the large differences in percent members performing technical tasks at the 7-skill level versus the supervisory and managerial tasks at the 9-skill level. Clearly, the 9-skill level personnel are the primary managers in this career ladder.

CEM Code 43200. Although included in the original survey process, due to the restrictions placed on CEM Code 43200 participation, there were insufficient respondents to allow for a meaningful discussion of this group.

Summary

Personnel at the 3- and 5-skill levels spent the largest percentage of their job time performing technical tasks, with the 5-skill level members reporting a slightly broader job which included supervisory responsibilities. Although 7-skill level incumbents' activities in the supervisory and managerial functions were greater than the 5-skill level group, their job was still highly technical (56 percent of their job time). Three-, 5-, and 7-skill level airmen performed many common technical tasks (see Table 15 for representative tasks) which reflects the high degree of homogeneity of the career ladder. Nine-skill level personnel were managers and supervisors, performing almost entirely (94 percent of their job time) supervisory, managerial, training, and administrative tasks.

TABLE 6
AVERAGE PERCENT TIME SPENT PERFORMING DUTIES
FOR SPECIFIED DAFSC GROUPS

DUTIES	TOTAL SAMPLE (N=1,328)	DAFSC 42333 (N=110)	DAFSC 42353 (N=707)	DAFSC 42373 (N=359)	DAFSC 42399 (N=136)
A ORGANIZING AND PLANNING	6	1	2	8	23
B DIRECTING AND IMPLEMENTING	9	2	5	13	26
C EVALUATING	7	2	3	9	28
D TRAINING	3	1	2	6	8
E MAINTAINING FORMS AND RECORDS	6	2	4	8	9
F PREPARING AIRCRAFT FOR FUEL SYSTEMS MAINTENANCE	15	23	18	11	1
G TROUBLESHOOTING AIRCRAFT FUEL SYSTEMS	13	15	16	12	1
H INSPECTING AIRCRAFT FUEL SYSTEMS	9	8	10	9	1
I REMOVING OR INSTALLING FUEL SYSTEMS COMPONENTS	16	23	20	12	1
J REPAIRING AIRCRAFT FUEL SYSTEMS	11	16	14	8	1
K PERFORMING SUPPORT FUNCTIONS	4	6	5	3	*
L PERFORMING ASSIST OR CROSS UTILIZATION TRAINING FUNCTIONS	1	1	1	1	*
TOTAL	100	100	100	100	100

* INDICATES LESS THAN .5 PERCENT

TABLE 7
 REPRESENTATIVE COMMON CORE TASKS PERFORMED
 BY DAFSC 423X3 PERSONNEL

TASKS	PERCENT OF ALL MEMBERS PERFORMING
F154 REMOVE OR REPLACE ACCESS PANELS	76
F139 GROUND EQUIPMENT	75
F138 GROUND AIRCRAFT	75
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	75
F148 POSITION MAINTENANCE STANDS	74
I227 CONNECT OR DISCONNECT WIGGINS TYPE FITTINGS	73
F134 DEPUDDLE TANKS OR CELLS	73
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	73
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	73
I262 REMOVE OR INSTALL TANK ACCESS DOORS	71
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	70
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	70
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	68
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	67
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	67
G164 ISOLATE MALFUNCTIONS OF ENGINE FEED OR CROSS FEED SYSTEMS	67
F132 CLEAN DAMAGED SEALANT AREAS	66

AVERAGE NUMBER OF TASKS PERFORMED - 106

TABLE 8
REPRESENTATIVE TASKS PERFORMED
BY DAFSC 42333 PERSONNEL

TASKS	PERCENT OF 3-SKILL LEVEL MEMBERS PERFORMING
F154 REMOVE OR REPLACE ACCESS PANELS	90
I227 CONNECT OR DISCONNECT WIGGINS TYPE FITTINGS	87
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	85
F134 DEPUDDLE TANKS OR CELLS	85
F148 POSITION MAINTENANCE STANDS	85
F138 GROUND AIRCRAFT	84
I262 REMOVE OR INSTALL TANK ACCESS DOORS	83
F139 GROUND EQUIPMENT	82
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	81
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	81
F132 CLEAN DAMAGED SEALANT AREAS	77
J299 MIX SEALANTS MANUALLY	73
F136 DISCONNECT BATTERIES	71
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	71
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	71
G181 PERFORM KNUCKLE TESTS ON SEALANT	70

AVERAGE NUMBER OF TASKS PERFORMED - 75

TABLE 9
 REPRESENTATIVE TASKS PERFORMED
 BY DAFSC 42353 PERSONNEL

TASKS	PERCENT OF 5-SKILL LEVEL MEMBERS PERFORMING
F154 REMOVE OR REPLACE ACCESS PANELS	89
F148 POSITION MAINTENANCE STANDS	87
F139 GROUND EQUIPMENT	87
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	86
I227 CONNECT OR DISCONNECT WIGGINS TYPE FITTINGS	86
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	86
F138 GROUND AIRCRAFT	86
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	86
F134 DEPUDDLE TANKS OR CELLS	84
I262 REMOVE OR INSTALL TANK ACCESS DOORS	84
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	82
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	82
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	80
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	79
I259 REMOVE OR INSTALL SHUTOFF VALVES	79
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	79
F132 CLEAN DAMAGED SEALANT AREAS	78

AVERAGE NUMBER OF TASKS PERFORMED - 106

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN 3- AND 5-SKILL LEVEL PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 42333 (N=110)	DAFSC 42353 (N=707)	DIFFERENCE
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	44	80	+36
H217 INSPECT VENT OR PRESSURIZATION SYSTEM COMPONENTS	29	64	+35
B51 SUPERVISE APPRENTICE AIRCRAFT FUEL SYSTEMS MECHANICS (AFSC 42333)	6	39	+33
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	49	79	+30
H216 INSPECT TRANSFER SYSTEM COMPONENTS	31	60	+29
H209 INSPECT INTEGRAL TANKS	33	62	+29
B28 DIRECT FUEL SYSTEM DOCK MAINTENANCE	5	33	+28
A10 ORIENT NEWLY ASSIGNED PERSONNEL	6	34	+28
G184 PERFORM MANIFOLD LEAK TESTS	37	65	+28
H204 INSPECT ENGINE FEED COMPONENTS	34	61	+27
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	55	82	+27
D91 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	5	31	+26
B29 DIRECT FUEL SYSTEM REPAIRS IN ISOLATED AREAS	5	29	+24
E118 MAINTAIN SPECIALIST DISPATCH CONTROL LOGS (AF FORM 2430)	10	33	+23
E114 MAINTAIN LEAK CHARTS AND HISTORIES OF AIRCRAFT FUEL LEAKS	14	36	+22
J271 APPLY "O" RINGS TO SELF SEALING CELL FITTINGS	55	40	-15

AVERAGE NUMBER OF TASKS PERFORMED BY 42333 PERSONNEL - 75

AVERAGE NUMBER OF TASKS PERFORMED BY 42335 PERSONNEL - 106

TABLE 11
REPRESENTATIVE TASKS PERFORMED
BY DAFSC 42373 PERSONNEL

TASKS	PERCENT OF 7-SKILL LEVEL MEMBERS PERFORMING
B49 SUPERVISE AIRCRAFT FUEL SYSTEMS MECHANICS (AFSC 42353)	82
B35 DIRECT SHOP HOUSEKEEPING	81
B23 COUNSEL PERSONNEL ON PERSONAL PROBLEMS	80
C74 INSPECT TOOL BOXES OR SPECIAL TOOLS	79
F139 GROUND EQUIPMENT	78
F138 GROUND AIRCRAFT	77
C59 EVALUATE COMPLETED WORK	77
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	76
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	76
G164 ISOLATE MALFUNCTIONS OF ENGINE FEED OR CROSS FEED SYSTEMS	75
F154 REMOVE OR REPLACE ACCESS PANELS	75
C79 WRITE APRs	75
F143 PERFORM FUEL SYSTEM PREPARATION CHECKLISTS	75
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	75
B28 DIRECT FUEL SYSTEM DOCK MAINTENANCE	75
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	74
F134 DEPUDDLE TANKS OR CELLS	74

AVERAGE NUMBER OF TASKS PERFORMED - 132

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN 5- AND 7-SKILL LEVEL PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 42353 (N=707)	DAFSC 42373 (N=359)	DIFFERENCE
B23 COUNSEL PERSONNEL ON PERSONAL PROBLEMS	18	80	+62
C79 WRITE APRs	14	75	+61
B49 SUPERVISE AIRCRAFT FUEL SYSTEMS MECHANICS (AFSC 42353)	29	82	+53
C59 EVALUATE COMPLETED WORK	24	77	+53
C54 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	10	62	+52
A3 ASSIGN PERSONNEL TO DUTY POSITIONS	18	62	+44
B42 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES	11	53	+42
D98 EVALUATE OJT TRAINEES	12	54	+42
A7 DETERMINE WORK PRIORITIES	23	65	+42
C71 EVALUATE WORK SCHEDULES	8	49	+41
D91 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	31	70	+39
A17 SCHEDULE LEAVES OR PASSES	4	43	+39
A6 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	12	49	+37
C53 ANALYZE WORK LOAD REQUIREMENTS	11	46	+35
A18 SCHEDULE PERSONNEL FOR TDY	3	32	+29

AVERAGE NUMBER OF TASKS PERFORMED BY 42353 PERSONNEL - 106

AVERAGE NUMBER OF TASKS PERFORMED BY 42373 PERSONNEL - 132

TABLE 13
 REPRESENTATIVE TASKS PERFORMED
 BY DAFSC 42399 PERSONNEL

TASKS	PERCENT OF 9-SKILL LEVEL MEMBERS PERFORMING
A5 ATTEND BRIEFINGS	99
B23 COUNSEL PERSONNEL ON PERSONAL PROBLEMS	92
A2 ADVISE SUBORDINATES ON SUPPLY PROBLEMS	90
C54 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	87
B45 PARTICIPATE IN STAFF MEETINGS	86
C62 EVALUATE INSPECTION REPORTS OR PROCEDURES	85
B42 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES	84
A8 ESTABLISH OR UPDATE ORGANIZATION POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	84
A10 ORIENT NEWLY ASSIGNED PERSONNEL	84
B38 DRAFT CORRESPONDENCE	83
A6 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	83
C79 WRITE APRs	79
C63 EVALUATE MAINTENANCE DATA COLLECTION INFORMATION	79
A3 ASSIGN PERSONNEL TO DUTY POSITIONS	79
A7 DETERMINE WORK PRIORITIES	79

AVERAGE NUMBER OF TASKS PERFORMED - 71

TABLE 14

TASKS WHICH BEST DIFFERENTIATE BETWEEN 7- AND 9-SKILL LEVEL PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 42373 (N=359)	DAFSC 42399 (N=136)	DIFFERENCE
F139 GROUND EQUIPMENT	78	10	-68
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	76	8	-68
F154 REMOVE OR REPLACE ACCESS PANELS	75	8	-67
F134 DEPUDDLE TANKS OR CELLS	74	8	-66
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	70	6	-64
H206 INSPECT FUEL CELLS	72	13	-59
J299 MIX SEALANTS MANUALLY	62	4	-58
I237 REMOVE OR INSTALL COMPONENTS WITHIN FUEL CELLS	62	6	-56
B45 PARTICIPATE IN STAFF MEETINGS	31	86	+55
B38 DRAFT CORRESPONDENCE	36	83	+47
A8 ESTABLISH OR UPDATE ORGANIZATION POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	38	84	+46
C62 EVALUATE INSPECTION REPORTS OR PROCEDURES	40	85	+45
A18 SCHEDULE PERSONNEL FOR TDY	32	73	+41
C58 EVALUATE BUDGETING AND FINANCIAL REQUIREMENTS	16	54	+38
C76 INVESTIGATE ACCIDENTS OR INCIDENTS	21	58	+37
B21 CONDUCT STAFF MEETINGS	13	49	+36

AVERAGE NUMBER OF TASKS PERFORMED BY 42373 PERSONNEL - 132

AVERAGE NUMBER OF TASKS PERFORMED BY 42399 PERSONNEL - 71

TABLE 15
COMMON TECHNICAL TASKS PERFORMED ACROSS SPECIFIC DAFSC GROUPS
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 42333 (N=110)	DAFSC 43253 (N=707)	DAFSC 42373 (N=359)
F132 CLEAN DAMAGED SEALANT AREAS	77	78	63
F134 DEPUDDLE TANKS OR CELLS	85	84	74
F138 GROUND AIRCRAFT	84	86	77
F139 GROUND EQUIPMENT	82	87	78
F148 POSITION MAINTENANCE STANDS	85	87	72
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	85	86	76
F154 REMOVE OR REPLACE ACCESS PANELS	90	89	75
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	55	82	76
G172 LOCALIZE LEAK EXITS	63	77	67
G181 PERFORM KNUCKLE TESTS ON SEALANT	70	73	62
G193 PERFORM TALCUM POWDER TESTS	61	56	52
H206 INSPECT FUEL CELLS	50	64	72
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	71	86	75
I227 CONNECT OR DISCONNECT WIGGINS TYPE FITTINGS	87	86	71
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	81	86	70
I234 REMOVE OR INSTALL CHECK OR RELIEF VALVES	65	78	62
I237 REMOVE OR INSTALL COMPONENTS WITHIN FUEL CELLS	62	69	62
I245 REMOVE OR INSTALL FUEL CELLS	63	69	62
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	71	82	58
I259 REMOVE OR INSTALL SHUTOFF VALVES	55	79	70
I262 REMOVE OR INSTALL TANK ACCESS DOORS	83	84	66
J299 MIX SEALANTS MANUALLY	73	76	69
J300 MIX SEALANTS USING MACHINES	66	68	62
J304 PREPARE CAVITIES FOR CELL INSTALLATION	49	59	58
K324 CLEAN WORK AREAS	60	69	55

ANALYSIS OF AFMS GROUPS

Utilization patterns for survey respondents in various Active Federal Military Service (AFMS) groups were reviewed to determine if there were differences in tasks performed. As in most career ladders, as the time in service increased, there was a corresponding increase in performance of duties involving supervision, management, training, and administration while performance of duties in the technical areas decreased (see Table 16). Through the third enlistment (97-144 months), the job remained primarily technical, with 64 percent of the job time spent on technical duties. During the fourth enlistment (145-192 months), airmen were still spending 50 percent of their job time in technical duties. At the fifth enlistment, a pronounced shift occurred wherein time spent on supervisory, managerial, training, and administrative tasks increased markedly to account for 76 percent of that group's job time. That trend continued into the sixth enlistment period (241+ months), representing 91 percent of that groups' job time.

First Enlistment Personnel

First enlistment personnel (1-48 months) performed essentially the full range of technical tasks that were performed by the second (46-96 months) and even the third (97-144 months) enlistment groups. The only significant difference between the first and second enlistment groups was the increase in the number of tasks pertaining to supervisory and managerial duties performed by personnel in the second enlistment period. Table 17 lists representative tasks performed by first term airmen.

Special tools used by 20 percent or more of the first job (1-24 months) and first enlistment (1-48 months) personnel are presented in Table 18. The only major difference in tool usage reported between first job and first enlistment personnel was in percent members using alignment tools. Aerospace ground equipment, nonpowered equipment, test, and safety equipment used by first job and first enlistment airmen are listed in Tables 19 and 20. No significant differences in usage of this equipment was reported by field personnel.

TABLE 16
PERCENT TIME SPENT PERFORMING DUTIES BY AFMS GROUPS

DUTIES	MONTHS TAFMS					
	1-48 (N=622)	49-96 (N=204)	97-144 (N=178)	145-192 (N=100)	193-240 (N=127)	241+ (N=127)
A ORGANIZING AND PLANNING	2	4	6	9	17	21
B DIRECTING AND IMPLEMENTING	3	7	11	16	21	26
C EVALUATING	2	5	7	11	20	25
D TRAINING	1	3	5	6	8	9
E MAINTAINING FORMS AND RECORDS	4	5	7	8	10	10
F PREPARING AIRCRAFT FOR FUEL SYSTEMS MAINTENANCE	20	16	14	9	5	2
G TROUBLESHOOTING AIRCRAFT FUEL SYSTEMS	16	15	13	10	5	2
H INSPECTING AIRCRAFT FUEL SYSTEMS	10	10	10	8	5	2
I REMOVING OR INSTALLING FUEL SYSTEMS COMPONENTS	22	17	14	11	5	2
J REPAIRING AIRCRAFT FUEL SYSTEMS	14	12	9	8	3	1
K PERFORMING SUPPORT FUNCTIONS	5	4	3	3	1	*
L PERFORMING ASSIST OR CROSS UTILIZATION TRAINING FUNCTIONS	1	2	1	1	*	*
TOTAL	100	100	100	100	100	100

* INDICATES LESS THAN .5 PERCENT TIME SPENT

TABLE 17

REPRESENTATIVE TASKS PERFORMED BY FIRST ENLISTMENT PERSONNEL
(1-48 MONTHS AFMS)

TASKS	PERCENT MEMBERS PERFORMING (N=622)
F154 REMOVE OR REPLACE ACCESS PANELS	91
F148 POSITION MAINTENANCE STANDS	88
I227 CONNECT OR DISCONNECT WIGGINS TYPE FITTINGS	87
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	87
F139 GROUND EQUIPMENT	87
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	87
F138 GROUND AIRCRAFT	85
F134 DEPUDDLE TANKS OR CELLS	85
I262 REMOVE OR INSTALL TANK ACCESS DOORS	84
I224 CONNECT OR DICONNECT 'B' NUT TYPE FITTINGS	84
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	81
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	80
F132 CLEAN DAMAGED SEALANT AREAS	78
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	77
J299 MIX SEALANTS MANUALLY	77
F137 DRAIN FUEL TANKS OR CELLS	77
I234 REMOVE OR INSTALL CHECK OR RELIEF VALVES	77
I259 REMOVE OR INSTALL SHUTOFF VALVES	76
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	74
G172 LOCALIZE LEAK EXITS	74
F136 DISCONNECT BATTERIES	74
G181 PERFORM KNUCKLE TESTS ON SEALANT	74
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	74
F133 DEFUEL TANKS OR CELLS BY TRANSFERRING FUEL	73
F153 REFUEL TANKS OR CELLS BY TRANSFERRING FUEL	73
G164 ISOLATE MALFUNCTIONS OF ENGINE FEED OR CROSSFEED SYSTEMS	71
F156 TEST ATMOSPHERE OF TANKS OR CELLS	70
F142 NOTIFY FIRE DEPARTMENT OF FUEL SYSTEM MAINTENANCE	70
F143 PERFORM FUEL SYSTEM PREPARATION CHECKLISTS	70
I237 REMOVE OR INSTALL COMPONENTS WITHIN FUEL CELLS	70

AVERAGE NUMBER OF TASKS PERFORMED - 97

TABLE 18
SPECIAL TOOLS USED BY 20 PERCENT OR MORE
OF FIRST JOB AND FIRST ENLISTMENT PERSONNEL
(PERCENT MEMBERS USING)

SPECIAL TOOLS	FIRST JCB (1-24 MOS AFMS) (N=269)	FIRST ENLISTMENT (1-48 MOS AFMS) (N=622)
SEALANT GUNS	84	83
SEALANT MIXING MACHINES	77	77
TORQUE INDICATOR DEVICES	72	72
GUN AND MIXER KITS	69	70
CANVAS TOOL BAGS	67	65
INJECTOR KITS	63	63
RESPIRATOR HOSES	60	62
SEALANT SPATULAS	57	56
IMPACT WRENCHES	48	55
INFLIGHT REFUELING RECEPTACLE TESTERS	52	51
LEAK TRACING DEVICES	48	48
FILLETING NOZZLES	41	42
ERDCO UNITS	36	41
LAMB AIR MOVERS	34	38
INTEGRAL TANK TOOL KITS	36	36
ROLLER/STICHERS	34	36
BOOST PUMP INSTALLATION TOOLS	38	35
LEAK CHECK ADAPTERS	28	26
ALIGNMENT TOOLS	18	26
DEFUELING KITS	18	20

TABLE 19

AEROSPACE GROUND EQUIPMENT AND NONPOWERED EQUIPMENT
USED BY FIRST JOB AND FIRST ENLISTMENT PERSONNEL
(PERCENT MEMBERS USING)

EQUIPMENT USED	FIRST JOB (1-24 MOS AFMS) (N=269)	FIRST ENLISTMENT (1-48 MOS AFMS) (N=622)
AIR COMPRESSORS	81	81
AIR POWERED VACUUM CLEANERS	77	79
HDU-13 HEATER BLOWERS	79	76
MA-1 BLOWERS	71	69
HEATERS FOR TANKS OR CELLS	66	67
AUXILIARY POWER UNITS	60	60
EXHAUST PURGERS	60	58
DRAIN BARRELS	48	56
GENERATOR POWER UNITS	52	53
AIR CONDITIONERS	41	43
MD3 GENERATOR SETS	35	42
FUEL CELL CARTS	35	38
BLOWER FILTERS	25	25
MD4 AUXILIARY POWER UNITS	18	21
PLENUM CHAMBERS	21	18
UPRIGHT DRUM CONTAINERS	12	16
INERT GAS CARTS	12	12
HORIZONTAL DRUM CONTAINERS	11	11
REFRIGERATION UNITS	8	7

TABLE 20

TEST AND SAFETY EQUIPMENT USED BY
FIRST JOB AND FIRST ENLISTMENT PERSONNEL
(PERCENT MEMBERS USING)

TEST OR SAFETY EQUIPMENT	FIRST JOB (1-24 MOS AFMS) (N=269)	FIRST ENLISTMENT (1-48 MOS AFMS) (N=622)
COMBUSTIBLE AND TOXIC GAS INDICATORS	81	83
PRESSURE GAUGES	64	71
RESPIRATORS (FULL FACE, FULL VISION)	65	65
WATER MANOMETERS	65	65
COMBUSTIBLE GAS ALARMS	60	63
COMBUSTIBLE GAS INDICATORS	60	63
RUBBER FUEL CELL SHOES	42	46
MODIFIED FILLER CAPS	31	34
OXYGEN ANALYZERS	39	33
RESPIRATORS (HALF FACE)	35	32
PRESSURE BOXES	27	29
BOOSTER PUMP TEST PLATES	13	20
NITROGEN OXIDE GAS ANALYZERS	21	17
WATER TANKS	5	7
AUTOMATIC SHUT-OFF VALVE KITS	3	3
BOMB BAY TANK TEST KITS	1	1

Job Satisfaction Data

Table 21 presents data reflecting the job interest, perceived utilization of talent and training, and reenlistment intentions of selected AFMS groups. Also, a comparison is made between the 423X3 1-48 month AFMS group and a comparative sample of all other 1-48 month AFMS groups in Mission Equipment Maintenance career ladders surveyed in 1978. The two first enlistment groups reported essentially the same job satisfaction ratings except in perceived utilization of training. While 82 percent of the 423X3 career ladder personnel felt that their training was properly utilized, only 70 percent of the comparative group reported a similar response.

Although all other job satisfaction indicators were above average to very high, only 37 percent of the 423X3 sample first-term airmen indicated they will, or probably will, reenlist. This is comparable to the comparative sample group of other Mission Equipment Maintenance career areas.

TABLE 21

AFMS JOB SATISFACTION DATA
(PERCENT MEMBERS PERFORMING)

	FIRST ENLISTMENT 1-48 MONTHS (N=622)	COMPARATIVE* SAMPLE 1-48 MONTHS (N=13,804)	SECOND ENLISTMENT 49-96 MONTHS (N=204)	BEYOND SECOND ENLISTMENT 97+ MONTHS (N=500)
EXPRESSED JOB INTEREST:				
DULL	15	18	15	7
SO-SO	26	19	28	15
INTERESTING	57	60	55	76
NOT REPORTED	2	3	2	2
PERCEIVED UTILIZATION OF TALENTS:				
LITTLE OR NOT AT ALL	31	33	21	12
FAIRLY WELL TO PERFECTLY	69	66	77	87
NOT REPORTED	0	1	2	1
PERCEIVED UTILIZATION OF TRAINING:				
LITTLE OR NOT AT ALL	17	29	14	12
FAIRLY WELL TO PERFECTLY	82	70	84	88
NOT REPORTED	1	1	2	0
REENLISTMENT INTENTIONS:				
NO, OR PROBABLY NO	60	61	38	28
YES, OR PROBABLY YES	37	36	59	69
NOT REPORTED	3	3	3	3

* COMPARATIVE SAMPLE OF ALL MISSION EQUIPMENT MAINTENANCE CAREER LADDERS SURVEYED IN 1978
(INCLUDED AFSCs 303X2, 306X2, 307X0, 316X0/2, 328XX, 341XX, 361X0, 362X1, 423X2, 443X0E, AND 463X0)

ANALYSIS OF CONUS VERSUS OVERSEAS GROUPS

Comparisons were made of the tasks performed and background data for the 514 DAFSC 42353 personnel assigned to the Continental United States (CONUS) versus the 198 assigned to overseas locations. Both CONUS and overseas respondents performed an average of 106 tasks and, overall, there were only minor variations in tasks performed. Table 22 lists the 15 tasks which best differentiate between CONUS and overseas DAFSC 42353 groups.

One difference noted in the data was that more overseas personnel spent slightly more of their time performing such tasks as pressure checking external fuel tanks, inspecting external tanks, and removing or installing external tank nosecones, tailcones, or pylons. These tasks relate primarily to fighter-type aircraft and correspond to the large member of overseas personnel (79 percent) assigned to tactical air force (USAFE and PACAF) organizations. While 79 percent of the overseas airmen represented tactical air force resources, approximately 83 percent of the CONUS personnel were distributed among SAC, MAC, and TAC.

Comparison of background data reflected that overseas personnel typically averaged more time in the career field (47 months versus 37 months for CONUS) and more time in the service (51 months AFMS versus 42 months AFMS for CONUS). Forty percent of the overseas group identified themselves with external drop tank repair activities (16 percent for CONUS personnel) and 22 percent indicated affiliation with the War Reserve Materiel (WRM) function as opposed to four percent for the CONUS group.

In summary, the only notable difference between DAFSC 42353 CONUS and overseas groups was in relation to performance of tasks pertaining to the tactical air force oriented external fuel tanks.

TABLE 22

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 42353 CONUS AND OVERSEAS PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	CONUS (N=514)	OVERSEAS (N=198)	DIFFERENCE
H212 INSPECT RECEIVER AIRCRAFT AIR REFUELING COMPONENTS	31	51	-20
I258 REMOVE OR INSTALL RAILROAD SEALS	20	35	-15
L338 PERFORM CONTINUITY CHECKS ON EXTERNAL FUEL TANKS	18	32	-14
G180 PERFORM JETTISON TEST ON EXTERNAL FUEL TANK PYLONS	17	31	-14
J317 TEST FUEL FLOW TRANSMITTERS	22	35	-13
J297 MAKE TEMPORARY REPAIRS USING INJECTOR KITS	30	41	-11
B37 DIRECT WRM MAINTENANCE	3	13	-10
C75 INSPECT WRM	7	17	-10
G166 ISOLATE MALFUNCTIONS OF MANIFOLD SCAVENGE SYSTEMS	54	36	+18
G171 ISOLATE MALFUNCTIONS OF WATER INJECTION SYSTEMS	31	15	+16
I230 REMOVE OR INSTALL AIR REFUELING PUMPS	34	19	+15
G195 PERFORM VACUUM AND DYE TESTS	29	14	+15
G177 PERFORM DYE INJECTION TESTS	34	20	+14
I266 REMOVE OR INSTALL WATER INJECTION PUMPS	25	13	+12
G169 ISOLATE MALFUNCTIONS OF TANK SCAVENGE SYSTEMS	44	32	+12

AVERAGE NUMBER OF TASKS PERFORMED BY 42353 CONUS PERSONNEL - 106

AVERAGE NUMBER OF TASKS PERFORMED BY 42353 OVERSEAS PERSONNEL - 106

ANALYSIS OF TASK DIFFICULTY

From a listing of personnel identified for the AFSC 423X3 job survey, technicians holding primarily 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 is defined as the length of time it takes 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 38 raters was .90. Ratings were adjusted so that tasks of average difficulty have ratings of 5.00.

Of the 342 tasks in the job inventory, 188 were rated above average in difficulty. The majority of those tasks dealt with supervision, training, and performance of certain types of fuel systems tests. Numerous tasks related to isolation of malfunctions on fuel systems were also rated above average in difficulty. Tasks rated below average in difficulty were predominately associated with preparing the aircraft for fuel systems maintenance and cleaning parts, components, or facilities. Tables 23 and 24 present the 15 tasks rated most and least difficult respectively, while Table 25 lists tasks rated average in difficulty by 423X3 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. Individual JDIs were computed for the major job groups identified in the CAREER LADDER STRUCTURE section of this report and are listed in Table 26.

Within the 423X3 survey sample, the First-Line Supervisors group performed the job rated most difficult (JDI 18.39), while the Basic Fuel Systems Mechanics group's job was rated least difficult (JDI 5.68). Much of this high variance may be attributed to the large difference in the average number of tasks performed (106 for the first group versus only 50 for the second). However, the difference in the nature of the tasks performed by these two groups undoubtedly was a factor also. The First-Line Supervisors group spent 39 percent of their job time in performance of tasks relating to supervisory and managerial duties, while the Basic Fuel Systems Mechanics group reported only seven percent of their job time was spent in those functions. The supervisory tasks performed were generally above average in difficulty. In

addition, the technical tasks which most distinguished the First-Line Supervisors group from the other job types in the cluster were also mainly above average in difficulty.

While Senior Managers and Technical Instructors have only average JDI values, it should be noted that the tasks they perform have a higher average difficulty (ATDPUTS) than for any other groups. Thus their jobs probably would be considered, along with that of the First-Line Supervisors, as among the most challenging jobs in the specialty.

TABLE 23

THE 15 TASKS RATED AS MOST DIFFICULT BY 423X3 PERSONNEL

TASKS	TASK DIFFICULTY RATING	PERCENT MEMBERS PERFORMING (N=1,328)
C81 WRITE STAFF STUDIES, STUDIES, OR INSPECTION REPORTS	7.55	8
J302 PATCH SELF-SEALING FUEL CELLS	7.17	10
B41 INTERPRET LAYOUT DRAWINGS, DIAGRAMS, BLUE- PRINTS, WIRING, OR SCHEMATIC DIAGRAMS	7.02	25
C61 EVALUATE INDIVIDUALS FOR DEMOTION OR RECLASSIFICATION	7.00	13
F144 PLACE AIRCRAFT ON JIGS	6.87	3
D93 DEVELOP COURSE CURRICULA OR PLANS OF INSTRUCTION (POI)	6.86	5
D95 DEVELOP SPECIALTY TRAINING STANDARDS (STS)	6.84	10
D94 DEVELOP LESSON PLANS	6.84	7
C76 INVESTIGATE ACCIDENTS OR INCIDENTS	6.76	14
I245 REMOVE OR INSTALL FUEL CELLS	6.72	59
D106 WRITE TEST QUESTIONS	6.71	8
C58 EVALUATE BUDGETING AND FINANCIAL REQUIREMENTS	6.69	12
D88 CONDUCT TRAINING CONFERENCES OR BRIEFINGS	6.61	7
G190 PERFORM PRESSURE TESTS ON INTEGRAL TANKS	6.60	47
C80 WRITE CIVILIAN PERFORMANCE RATINGS OR SUPERVISORY APPRAISALS	6.51	8

TABLE 24

THE 15 TASKS RATED AS LEAST DIFFICULT BY 423X3 PERSONNEL

TASKS	TASK DIFFICULTY RATING	PERCENT MEMBERS PERFORMING (N=1,328)
F146 POSITION DRIP PANS	1.86	54
F142 NOTIFY FIRE DEPARTMENT OF FUEL SYSTEM MAINTENANCE	1.95	65
F141 INSTALL SNATCH CABLES	2.27	12
F147 POSITION FIRE EXTINGUISHERS	2.33	56
H199 DIPSTICK TANKS	2.41	16
F149 PUMP CIRCUIT BREAKERS	2.60	45
F136 DISCONNECT BATTERIES	2.62	63
F148 POSITION MAINTENANCE STANDS	2.67	74
F139 GROUND EQUIPMENT	2.67	75
I228 PLACE IDENTIFICATION TAGS ON COMPONENTS	2.67	56
F138 GROUND AIRCRAFT	2.67	75
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	2.75	68
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	2.90	73
K330 POLICE OPEN STORAGE AREAS	2.91	42
K325 FABRICATE GROUND WIRES	2.92	43

TABLE 25
THE 15 TASKS RATED AS AVERAGE IN DIFFICULTY BY 423X3 PERSONNEL

TASKS	TASK DIFFICULTY RATING	PERCENT MEMBERS PERFORMING (N=1,328)
F131 CHECK AIRCRAFT FOR EXPLOSIVES	5.05	31
J317 TEST FUEL FLOW TRANSMITTERS	5.05	19
D83 ASSIGN ON-THE-JOB (OJT) TRAINERS	5.04	19
I244 REMOVE OR INSTALL FUEL CELL INTERCONNECTS	5.04	58
E110 MAINTAIN DAILY PRODUCTION REPORTS	5.04	19
A3 ASSIGN PERSONNEL TO DUTY POSITIONS	5.04	35
J315 REMOVE OR REPLACE ROTARY VANE PUMPS	5.01	14
F153 REFUEL TANKS OR CELLS BY TRANSFERRING FUEL	5.01	62
C54 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	5.00	31
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	5.00	70
B21 CONDUCT STAFF MEETINGS	4.99	10
C66 EVALUATE PROCEDURES FOR STORAGE, INVENTORY, OR INSPECTION OF PROPERTY ITEMS	4.96	20
I255 REMOVE OR INSTALL PRESSURE REGULATORS	4.96	43
K327 OPERATE FUEL CELL SERVICE UNITS	4.95	22
D105 SERVE ON DEBRIEFING TEAMS	4.94	13
B40 IMPLEMENT SUGGESTION PROGRAMS	4.93	20

TABLE 26
JOB DIFFICULTY INDICES AND RELATED DATA BY JOB GROUPS

<u>JOB GROUPS</u>	<u>AVERAGE NUMBER OF TASKS PERFORMED</u>	<u>ATDPUTS*</u>	<u>JDI**</u>
I. FUEL SYSTEMS REPAIRMEN (N=1,092)	118	4.63	13.27
A. FIRST-LINE SUPERVISORS (N=240)	186	4.85	18.39
B. GENERAL FUEL SYSTEMS SPECIALISTS (N=650)	110	4.60	13.05
C. BASIC FUEL SYSTEMS MECHANICS (N=90)	50	4.29	5.68
II. WRM TANK SPECIALISTS (N=30)	33	4.67	5.97
III. SENIOR MANAGERS (N=175)	65	5.28	13.42
IV. TECHNICAL INSTRUCTORS (N=5)	36	5.57	12.21

* AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT

** AVERAGE JDI = 13.00

ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data was compared to the AFR 39-1 Specialty Descriptions for the Aircraft Fuel Systems Mechanic and Technician, dated 1 June 1977, and the Aircraft Accessory Systems Superintendent, dated 31 October 1978. These descriptions are intended to give a broad overview of the duties and tasks performed at each skill level of the specialty.

The specialty description for the superintendent level accurately reflects the almost total supervisory and managerial nature of the job. The 7-skill level description, through inclusion of representative technical tasks, generally displays the technical nature of the job in this career ladder (see Table 6 in DAFSC Group Analysis Section).

The specialty description for the 3- and 5-skill levels, however, appears to be very general (as well as brief) and may not be as representative of the scope of the job as it could be. Paragraph 2a could be modified to better explain structural sealing and tank repair requirements by giving examples of specific tests and leak tracing methods used most, such as performing air hose and bubble tests, manifold leak tests, and leak path analyses on cells and tanks (see additional examples listed in Table 27). It might be beneficial to expand the statement in paragraph 2b, referring to components, to include examples such as fuel probes, pumps, valves, or refueling receptacles. Additionally, there were a series of tasks pertaining to isolating malfunctions on various systems (tasks G160-171) which, while receiving relatively heavy response in the survey (see Table 27), are not mentioned in the 3- and 5-skill level description.

Tasks pertaining to the mixing and testing of sealants (see examples in Table 27) might also be worthy of reference in the description since a high percentage of personnel are responsible for the tasks and are specifically trained in the area. Paragraph 2c appears overly limited in references to aircraft fuel systems. The discussion pertains only to sealant and fails to describe the various types of systems inspections a fuels systems maintenance specialist could anticipate performing. Examples of tasks which might help to clarify this function might include inspecting engine feed or cross-feed components, external tanks, or fuel transfer indicating systems (other examples are listed in Table 27). Additionally, since some personnel in the field perform, in effect, a full time job involving storage and maintenance of WRM external fuel tanks, consideration may be warranted for inclusion of tasks regarding this function, such as preparing external drop tanks for storage and issuing or receiving external tanks. Additional tasks representative of this job can be found in Appendix A, Table IV.

TABLE 27

TASK DATA FOR USE IN AFR 39-1 SPECIALTY DESCRIPTION REVIEW
(PERCENT MEMBERS PERFORMING)

TASKS	TOTAL SAMPLE 423X3	DAFSC 42333	DAFSC 42353	DAFSC 42373
G162 ISOLATE MALFUNCTIONS OF DEFUELING SYSTEMS	38	27	44	43
G163 ISOLATE MALFUNCTIONS OF DUMP SYSTEMS	51	40	59	59
G164 ISOLATE MALFUNCTIONS OF ENGINE FEED OR CROSS FEED SYSTEMS	67	53	76	75
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	70	55	82	76
G166 ISOLATE MALFUNCTIONS OF MANIFOLD SCAVENGE SYSTEMS	41	39	49	40
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	67	49	79	73
G168 ISOLATE MALFUNCTIONS OF REMOVABLE EXTERNAL FUEL TANKS	48	37	55	53
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	67	44	80	74
G171 ISOLATE MALFUNCTIONS OF WATER INJECTION SYSTEMS	22	15	27	21
G173 PERFORM AIR HOSE AND EXTERNAL BUBBLE TESTS	49	49	59	47
G174 PERFORM AIR HOSE AND INTERNAL BUBBLE TESTS	43	37	51	44
G177 PERFORM DYE INJECTION TESTS	23	27	30	15
G182 PERFORM LEAK PATH ANALYSES ON FUEL CELLS	34	30	38	39
G183 PERFORM LEAK PATH ANALYSES ON INTEGRAL TANKS	47	36	56	49
G184 PERFORM MANIFOLD LEAK TESTS	54	37	65	59
G188 PERFORM PRESSURE TESTS ON EXTERNAL TANKS	39	39	45	41
G189 PERFORM PRESSURE TEST ON FUEL CELLS	46	36	54	48
G190 PERFORM PRESSURE TESTS ON INTEGRAL TANKS	47	43	55	49
G193 PERFORM TALCUM POWDER TESTS	50	61	56	52
H202 INSPECT CROSS-FEED COMPONENTS	48	35	53	59
H204 INSPECT ENGINE-FEED COMPONENTS	56	34	61	71
H205 INSPECT EXTERNAL TANKS	49	33	55	57
H206 INSPECT FUEL CELLS	59	50	64	72
H208 INSPECT FUEL TRANSFER INDICATING SYSTEMS	42	31	49	47
H209 INSPECT INTEGRAL TANKS	55	33	62	65
J298 MIX CHEMICAL SOLVENTS OR COATINGS	31	25	37	30
J299 MIX SEALANTS MANUALLY	64	73	76	62
J300 MIX SEALANTS USING MACHINES	58	66	68	58
J318 TEST MIXED SEALANTS FOR CONSISTENCY	38	29	43	45
K323 BUILD OR REPAIR CRATES FOR EXTERNAL TANKS	33	32	38	34
K332 PREPARE EXTERNAL DROP TANKS FOR STORAGE	31	28	34	36

TRAINING ANALYSIS

Occupational survey data is one of the many sources of information which can be used to assist in the development of a training program which is relevant to the needs of personnel working in their first assignment within a career ladder. Factors which may be used in evaluating training are the percent members performing tasks, along with training emphasis and task difficulty ratings. These factors were used in evaluating the Specialty Training Standard (STS) and the Plan of Instruction (POI) for the 423X3 career ladder. Technical school personnel from the Chanute Technical Training Center, Chanute AFB, Illinois, matched inventory tasks to appropriate sections of the STS and POI for course A 423 000. It was this matching upon which comparisons were based. A complete computer listing reflecting the percent members performing, training emphasis ratings, and task difficulty ratings for each task statement, along with the STS and POI matching, has been forwarded to the technical school for their use in any further detailed review of training documents.

Training Emphasis

Training emphasis data is essentially a rank ordering of tasks indicating the recommended emphasis in structured training for first enlistment personnel. Structured training is defined as training provided by resident technical schools, Field Training Detachments (FTD), Mobile Training Teams (MTT), formal OJT, Career Development Courses (CDC), or some other organized training method.

Training emphasis ratings for this survey were collected from 55 experienced 7- or 9-skill level personnel stationed worldwide. These NCOs were asked to evaluate each task in the inventory and rate them on a 10-point scale ranging from zero (no structured training needed) to nine (extremely high training emphasis). The interrater reliability (as assessed through components of variance of standard group means) for those raters was high (.96), indicating that there was good agreement among raters as to which tasks required some form of structured training and which did not. In this career ladder, the average (mean) training emphasis is 3.05, with a standard deviation of 1.80. Therefore, tasks with a rating of 4.85 or above are considered to have a high training emphasis and should be considered as likely candidates for inclusion in initial ABR training courses unless other factors override such consideration.

Table 28 lists the top 30 tasks which the raters indicated as requiring the highest training emphasis. It is interesting to note that although the first six tasks have below average (5.00) task difficulty ratings, they received the highest training emphasis ratings. These tasks appear to be safety oriented and reflect the high degree of importance that safety commands in this career ladder. Another point

of interest found in reviewing the data presented in Table 28 is that none of the top 30 tasks listed has less than 30 percent members performing. This would indicate that all are well suited for common structured training.

Specialty Training Standard

A comprehensive review of STS 423X3, dated June 1978, was made comparing STS items to survey data. STS paragraphs containing general information or having only subject matter knowledge were not evaluated.

Overall, the STS appears to be complete in providing general training requirements, with most STS subparagraphs supported by survey data. One function of the career ladder, however, does not appear to be covered by references in the STS - external fuel tanks. Several tasks which seem peculiar to external fuel tanks were performed by a relatively high percentage of 3-, 5-, and 7-skill level personnel (see Table 29) and were not matched to specific STS references. While the STS contains separate breakdowns for FUEL CELLS and INTEGRAL FUEL TANKS, no such breakdown was provided for external tanks. Based on the substantial activity surrounding this function, these tasks should be reviewed by subject matter specialists and training specialists to determine whether they merit specific reference in the STS. Computer printouts reflecting the match between STS items and survey sample data have been furnished to the technical school for this purpose.

Plan of Instruction

Based on the previously mentioned assistance from technical school subject matter specialists in matching inventory tasks to the 3ABR42333 000 POI, dated 5 December 1978, a computer product was generated displaying the results of that matching process. Information furnished for consideration includes: task difficulty and training emphasis ratings; percent members performing data for 3-, 5-, and 7-skill levels; and percent members performing data for first job (1-24 months) and first enlistment (1-48 months) personnel.

Efforts for a comprehensive review of the matching process were hampered by an unusually large number of tasks which were not identified to any blocks in the POI. It is suggested that technical school training specialists carefully review each of these tasks to determine if instruction is appropriate or, if already being taught, adequate in terms of time allotted.

As in the STS review comments, it may be important to note the significant number of tasks pertaining to external fuel tanks and the high percentage of first job and first enlistment personnel performing them (see Table 29).

TABLE 28

TASKS RATED HIGHEST IN FIRST-TERM TRAINING EMPHASIS FOR 423X3 PERSONNEL

TASKS	TRAINING EMPHASIS	TASK DIFFICULTY	PERCENT MEMBERS PERFORMING		
			42333	FIRST JOB	FIRST ENLST 42353
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	7.00	4.10	85	86	87
F138 GROUND AIRCRAFT	6.80	4.10	84	82	85
F139 GROUND EQUIPMENT	6.76	4.07	82	83	87
F156 TEST ATMOSPHERE OF TANKS OR CELLS	6.64	4.28	56	63	70
F134 DEPUDDLE TANKS OR CELLS	6.51	4.51	85	84	85
F143 PERFORM FUEL SYSTEM PREPARATION CHECKLISTS	6.36	3.85	52	65	70
I245 REMOVE OR INSTALL FUEL CELLS	6.36	6.72	63	63	69
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	6.33	6.48	44	63	74
G172 LOCALIZE LEAK EXITS	6.22	4.87	63	68	74
G176 PERFORM CHEMICAL (SKUNK) TESTS	6.20	5.56	26	28	32
F132 CLEAN DAMAGED SEALANT AREAS	6.18	5.28	77	78	78
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	6.13	5.95	56	68	78
H201 INSPECT CAVITIES	6.09	4.17	40	48	58
G164 ISOLATE MALFUNCTIONS OF ENGINE FEED OR CROSS FEED SYSTEMS	6.04	5.82	53	61	71
H206 INSPECT FUEL CELLS	6.02	5.42	50	55	61
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	5.98	5.94	49	64	74
G189 PERFORM PRESSURE TESTS ON FUEL CELLS	5.93	5.12	36	44	51
F133 DEFUEL TANKS OR CELLS BY TRANSFERRING FUEL	5.91	4.91	59	70	73
F142 NOTIFY FIRE DEPARTMENT OF FUEL SYSTEM MAINTENANCE	5.86	1.15	51	64	70
G159 EVALUATE AND CLASSIFY INTEGRAL TANK LEAKS	5.84	5.18	38	44	53
H198 CLEAN CAVITIES	5.84	3.46	50	54	61
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	5.78	2.75	81	80	81
E115 MAINTAIN MAINTENANCE DATA COLLECTION RECORD FORMS (AFTO FORM 349)	5.76	4.42	24	34	38
F154 REMOVE OR REPLACE ACCESS PANELS	5.76	3.47	90	89	91
H200 INSPECT APPLIED SEALANTS	5.76	4.21	43	49	61
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	5.76	5.15	81	84	87
J304 PREPARE CAVITIES FOR CELL INSTALLATION	5.76	4.14	49	50	58
E123 PREPARE OR ATTACH DANGER FORMS (AF FORM 1492)	5.73	3.41	44	50	57
F151 PURGE TANKS OR CELLS USING EXHAUST PURGE METHOD	5.73	3.91	55	47	49
J299 MIX SEALANTS MANUALLY	5.67	3.78	73	74	77

TABLE 29

EXTERNAL FUEL TANK RELATED TASKS
(PERCENT MEMBERS PERFORMING)

TASKS	423X3	FIRST JOB	FIRST ENLST	42353	42373
I236 REMOVE OR INSTALL COMPONENTS WITHIN EXTERNAL TANKS	54	63	67	67	59
G168 ISOLATE MALFUNCTIONS ON REMOVABLE EXTERNAL FUEL TANKS	37	49	54	55	53
H205 INSPECT EXTERNAL TANKS	33	47	53	55	57
G194 PERFORM TRANSFER CHECKS ON EXTERNAL FUEL TANKS	32	45	53	56	50
I240 REMOVE OR INSTALL EXTERNAL TANK NOSECONES, TAILCONES, OR PYLONS	43	45	46	47	46
G188 PERFORM PRESSURE TESTS ON EXTERNAL TANKS	39	42	46	45	41
H222 PRESSURE CHECK EXTERNAL TANKS	29	38	43	45	44
H213 INSPECT REMOVABLE EXTERNAL TANKS	26	38	40	42	53
J278 CLEAN EXTERNAL TANKS	32	41	39	40	38
K323 BUILD OR REPAIR CRATES FOR EXTERNAL TANKS	32	33	36	38	34
K332 PREPARE EXTERNAL DROP TANKS FOR STORAGE	28	29	33	34	36
L336 ISSUE OR RECEIVE EXTERNAL FUEL TANKS	16	21	22	23	26
I239 REMOVE OR INSTALL EXTERNAL STORES OR DROP TANKS	17	20	22	22	18
G180 PERFORM JETTISON TESTS ON EXTERNAL FUEL TANK PYLONS	18	22	21	21	19
L337 MAINTAIN EXTERNAL FUEL STORAGE AREAS	17	20	21	22	19
L338 PERFORM CONTINUITY CHECKS ON EXTERNAL FUEL TANKS	20	22	21	22	20
L341 SAND OR PAINT EXTERNAL FUEL TANKS	8	15	16	17	13
L342 TRANSPORT EXTERNAL FUEL TANKS	10	15	16	17	18
L339 PERFORM MINOR SHEET METAL REPAIRS ON EXTERNAL FUEL TANKS					
I223 ADJUST EXTERNAL STORES OR DROP TANKS	11	14	13	14	15
	10	13	14	14	12

COMPARISON OF CURRENT SURVEY TO 1974 SURVEY

The results of this survey were compared to those of Occupational Survey Report (OSR) AFPT 90-424-107, dated 1 March 1974. The survey data reflects a career ladder with a very stable history over the past five years. Essentially the same major job types (or recognizable variations of them) were found in both surveys (see Table 30). One example of the stability and similarity is found in the comparison of the job groups of the 1979 First-Line Supervisors and the First-Line Supervisors and Work Leaders (combined for comparison purposes) named in the 1974 OSR. Both groups were recognized as being primarily working technicians, with the 1979 group spending 60 percent of their job time in duties involving technical tasks, while the 1974 group spent approximately 70 percent of their time in these areas.

One minor exception in the high similarity between the two surveys was noted. This involves the job types identified as WRM TANK SPECIALISTS (1979) and WAR READINESS MATERIALS SPECIALISTS (1974). Though similarly titled, the duties performed appear to have experienced a change in emphasis. In 1974, the group spent 39 percent of their job time in duties performing tasks relative to removing or installing fuel systems components and repairing aircraft fuel systems, while only spending 12 percent of their job time performing support-type functions. Conversely, the 1979 group reports spending 26 percent of their job time on duties involving support-type duties, while spending only 20 percent of their job time performing tasks related to removing or installing fuel systems and repairing aircraft fuel systems.

TABLE 30

COMPARISON OF CAREER LADDER STRUCTURES BETWEEN 1974 AND 1979 STUDIES

1979 STUDY (N=1,328)	PERCENT OF SAMPLE	1974 STUDY (N=824)	PERCENT OF SAMPLE
I. FUEL SYSTEMS REPAIRMEN	82		
Ia. FIRST-LINE SUPERVISORS	18	FIRST-LINE SUPERVISORS	17
		WORK LEADERS	2
Ib. GENERAL FUEL SYSTEMS SPECIALISTS	50	GENERAL AIRCRAFT FUEL SYSTEMS MECHANIC	23
		AIRCRAFT FUEL SYSTEMS MAINTENANCE	
		PREPARATION SPECIALISTS	15
		AIRCRAFT FUEL SYSTEMS REMOVAL AND	
		INSTALLATION SPECIALISTS	12
		EXTERNAL TANK SPECIALISTS	5
Ic. BASIC FUEL SYSTEMS MECHANICS	7	APPRENTICE AIRCRAFT FUEL SYSTEMS MECHANICS	3
II. WRM TANK SPECIALISTS	2	WAR READINESS MATERIALS SPECIALISTS	3
III. SENIOR MANAGERS	13	BRANCH AND SQUADRON LEVEL SUPERVISORS	4
IV. TECHNICAL INSTRUCTORS	.4	RESIDENT COURSE INSTRUCTORS OJT TRAINERS AND COURSE SUPERVISORS	16

IMPLICATIONS

During the analysis, no major problems affecting the career ladder were discovered. Generally, the data presents an image of a stable career ladder whose incumbents, overall, rank themselves relatively high in job satisfaction indicators, such as job interest and perceived utilization of talent and training. These job satisfaction indicators were compared with a comparative group of maintenance support career ladders (see Table 21) surveyed in 1978. While reenlistment intent, job interest, and perceived utilization of talent were about equal to the comparative group, it is noteworthy that 82 percent of the 423X3 first-term airmen sample indicate they feel that their training is utilized fairly well to perfectly compared to only 70 percent for the comparative group. This would seem to indicate that training programs in this career ladder generally correspond to the requirements in the field. One small group, WRM Tank Specialists, ran counter to this trend. As noted earlier, members of this group spend much less of their work time in removing or installing fuel systems components or repairing aircraft fuel systems (20 percent) than did the comparable group in the 1974 occupational survey (39 percent). In the present study, WRM Tank Specialists perform fewer tasks (33) than any other group and feel their talents and training are not used. However, they do report an above average intent to reenlist. It might be advantageous to local managers to evaluate external tank maintenance and storage activities to see if some adjustments can be made in the content of the job performed by these 423X3 personnel.

APPENDIX A

TABLE I
REPRESENTATIVE TASKS FOR FUEL SYSTEMS REPAIRMEN
(GRP010)

TASKS	PERCENT MEMBERS PERFORMING
F154 REMOVE OR REPLACE ACCESS PANELS	92
F139 GROUND EQUIPMENT	90
F138 GROUND AIRCRAFT	90
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	90
F148 POSITION MAINTENANCE STANDS	90
I227 CONNECT OR DISCONNECT WIGGINS TYPE FITTINGS	88
F134 DEPUDDLE TANKS OR CELLS	88
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	88
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	87
I262 REMOVE OR INSTALL TANK ACCESS DOORS	85
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	84
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	83
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	82
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	81
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	80
F132 CLEAN DAMAGED SEALANT AREAS	80
G164 ISOLATE MALFUNCTIONS OF ENGINE FEED OR CROSS FEED SYSTEMS	80
I259 REMOVE OR INSTALL SHUTOFF VALVES	79
F137 DRAIN FUEL TANKS OR CELLS	79
G172 LOCALIZE LEAK EXITS	79
F143 PERFORM FUEL SYSTEM PREPARATION CHECKLISTS	78
I234 REMOVE OR INSTALL CHECK OR RELIEF VALVES	78
F142 NOTIFY FIRE DEPARTMENT OF FUEL SYSTEM MAINTENANCE	78
J299 MIX SEALANTS MANUALLY	77
F156 TEST ATMOSPHERE OF TANKS OR CELLS	76
F136 DISCONNECT BATTERIES	76
F153 REFUEL TANKS OR CELLS BY TRANSFERRING FUEL	75
G181 PERFORM KNUCKLE TESTS ON SEALANT	75
F133 DEFUEL TANKS OR CELLS BY TRANSFERRING FUEL	75
I237 REMOVE OR INSTALL COMPONENTS WITHIN FUEL CELLS	72

TABLE II
REPRESENTATIVE TASKS FOR FIRST-LINE SUPERVISORS
(GRP151)

TASKS	PERCENT MEMBERS PERFORMING
B35 DIRECT SHOP HOUSEKEEPING	96
F138 GROUND AIRCRAFT	95
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	95
B43 INVENTORY BENCH STOCK, EQUIPMENT, TOOLS, OR SUPPLIES	94
F143 PERFORM FUEL SYSTEM PREPARATION CHECKLISTS	94
F139 GROUND EQUIPMENT	93
F148 POSITION MAINTENANCE STANDS	93
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	93
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	93
C74 INSPECT TOOL BOXES OR SPECIAL TOOLS	92
G164 ISOLATE MALFUNCTIONS OF ENGINE FEED OR CROSS FEED SYSTEMS	92
F154 REMOVE OR REPLACE ACCESS PANELS	91
F142 NOTIFY FIRE DEPARTMENT OF FUEL SYSTEM MAINTENANCE	91
B49 SUPERVISE AIRCRAFT FUEL SYSTEMS MECHANICS (AFSC 42353)	91
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	91
B23 COUNSEL PERSONNEL ON PERSONAL PROBLEMS	91
H204 INSPECT ENGINE-FEED COMPONENTS	91
E115 MAINTAIN MAINTENANCE DATA COLLECTION RECORD FORMS (AFTO FORM 349)	90
F134 DEPUDDLE TANKS OR CELLS	90
B28 DIRECT FUEL SYSTEM DOCK MAINTENANCE	90
H217 INSPECT VENT OR PRESSURIZATION SYSTEM COMPONENTS	90
E128 REVIEW MAINTENANCE DATA COLLECTION RECORD FORMS (AFTO FORM 349)	90
H206 INSPECT FUEL CELLS	90
F156 TEST ATMOSPHERE OF TANKS OR CELLS	89
C59 EVALUATE COMPLETED WORK	89
H216 INSPECT TRANSFER SYSTEM COMPONENTS	88
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	88
B24 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	88
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	88
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	88

TABLE III

REPRESENTATIVE TASKS FOR GENERAL FUEL SYSTEMS SPECIALISTS
(GRP148)

TASKS	PERCENT MEMBERS PERFORMING
F154 REMOVE OR REPLACE ACCESS PANELS	95
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	95
F148 POSITION MAINTENANCE STANDS	94
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	93
F139 GROUND EQUIPMENT	92
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	92
F138 GROUND AIRCRAFT	92
F134 DEPUDDLE TANKS OR CELLS	92
I227 CONNECT OR DISCONNECT WIGGINS TYPE FITTINGS	92
G165 ISOLATE MALFUNCTIONS OF FUEL TRANSFER SYSTEMS	92
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	90
I262 REMOVE OR INSTALL TANK ACCESS DOORS	90
G167 ISOLATE MALFUNCTIONS OF REFUELING SYSTEMS	88
G170 ISOLATE MALFUNCTIONS OF VENT OR PRESSURIZATION SYSTEMS	87
I259 REMOVE OR INSTALL SHUTOFF VALVES	87
G164 ISOLATE MALFUNCTIONS OF ENGINE FEED OR CROSS FEED SYSTEMS	86
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	86
I234 REMOVE OR INSTALL CHECK OR RELIEF VALVES	85
G172 LOCALIZE LEAK EXITS	85
F132 CLEAN DAMAGED SEALANT AREAS	85
J299 MIX SEALANTS MANUALLY	84
G181 PERFORM KNUCKLE TESTS ON SEALANT	83
F137 DRAIN FUEL TANKS OR CELLS	82
F156 TEST ATMOSPHERE OF TANKS OR CELLS	82
F142 NOTIFY FIRE DEPARTMENT OF FUEL SYSTEM MAINTENANCE	82
F143 PERFORM FUEL SYSTEM PREPARATION CHECKLISTS	81
F153 REFUEL TANKS OR CELLS BY TRANSFERRING FUEL	81
F133 DEFUEL TANKS OR CELLS BY TRANSFERRING FUEL	80
F136 DISCONNECT BATTERIES	79
J300 MIX SEALANTS USING MACHINES	77

TABLE IV
REPRESENTATIVE TASKS FOR BASIC FUEL SYSTEMS MECHANICS
(GRP052)

TASKS	PERCENT MEMBERS PERFORMING
F154 REMOVE OR REPLACE ACCESS PANELS	92
F148 POSITION MAINTENANCE STANDS	87
F139 GROUND EQUIPMENT	86
I227 CONNECT OR DISCONNECT WIGGINS TYPE FITTINGS	84
F150 PURGE TANKS OR CELLS USING BLOW PURGE METHOD	83
F138 GROUND AIRCRAFT	81
F134 DEPUDDLE TANKS OR CELLS	80
F132 CLEAN DAMAGED SEALANT AREAS	78
F136 DISCONNECT BATTERIES	78
I262 REMOVE OR INSTALL TANK ACCESS DOORS	77
I233 REMOVE OR INSTALL BOOST, TRANSFER, OR OVERRIDE PUMPS	73
I224 CONNECT OR DISCONNECT 'B' NUT TYPE FITTINGS	73
F155 ROPE OFF FUEL SYSTEM REPAIR AREAS	71
J299 MIX SEALANTS MANUALLY	71
F137 DRAIN FUEL TANKS OR CELLS	62
K324 CLEAN WORK AREAS	61
I248 REMOVE OR INSTALL FUEL LEVEL CONTROL OR FLOAT VALVES	61
I237 REMOVE OR INSTALL COMPONENTS WITHIN FUEL CELLS	57
I228 PLACE IDENTIFICATION TAGS ON COMPONENTS	56
F143 PERFORM FUEL SYSTEM PREPARATION CHECKLISTS	53
I234 REMOVE OR INSTALL CHECK OR RELIEF VALVES	53
J300 MIX SEALANTS USING MACHINES	52
G172 LOCALIZE LEAK EXITS	51
F133 DEFUEL TANKS OR CELLS BY TRANSFERRING FUEL	50
G181 PERFORM KNUCKLE TESTS ON SEALANT	49
I244 REMOVE OR INSTALL FUEL CELL INTERCONNECTS	49
I245 REMOVE OR INSTALL FUEL CELLS	49
F153 REFUEL TANKS OR CELLS BY TRANSFERRING FUEL	48
I225 CONNECT OR DISCONNECT MARMON CLAMPS	47
F146 POSITION DRIP PANS	44

TABLE V
REPRESENTATIVE TASKS FOR WRM SPECIALISTS
(GRP011)

TASKS	PERCENT MEMBERS PERFORMING
K324 CLEAN WORK AREA	80
K332 PREPARE EXTERNAL DROP TANKS FOR STORAGE	70
B43 INVENTORY BENCH STOCK, EQUIPMENT, TOOLS, OR SUPPLIES	70
L338 PERFORM CONTINUITY CHECKS ON EXTERNAL FUEL TANKS	70
J278 CLEAN EXTERNAL TANKS	60
C74 INSPECT TOOL BOXES OR SPECIAL TOOLS	60
H222 PRESSURE CHECK EXTERNAL TANKS	57
H213 INSPECT REMOVABLE EXTERNAL FUEL TANKS	53
H205 INSPECT EXTERNAL TANKS	50
L342 TRANSPORT EXTERNAL FUEL TANKS	50
L341 SAND OR PAINT EXTERNAL FUEL TANKS	47
C75 INSPECT WRM	47
K323 BUILD OR REPAIR CRATES FOR EXTERNAL TANKS	47
I240 REMOVE OR INSTALL EXTERNAL TANK NOSECONES, TAILCONES, OR PYLONS	43
B22 CONTROL SUPPLIES, PARTS, OR EQUIPMENT	43
K330 POLICE OPEN STORAGE AREAS	43
K325 FABRICATE GROUND WIRES	43
E126 REQUISITION SUPPLIES, EQUIPMENT, OR BENCH STOCK	43
I262 REMOVE OR INSTALL TANK ACCESS DOORS	40
B35 DIRECT SHOP HOUSEKEEPING	40
I236 REMOVE OR INSTALL COMPONENTS WITHIN EXTERNAL TANKS	40
L36 ISSUE OR RECEIVE EXTERNAL TANKS	40
L339 PERFORM MINOR SHEET METAL REPAIRS ON EXTERNAL FUEL TANKS	40
K333 REMOVE, CLEAN, OR REPLACE PARTS OF SPECIAL TOOLS	37
G188 PERFORM PRESSURE TESTS ON EXTERNAL TANKS	37
B24 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	33
I224 CONNECT OR DISCONNECT 'B'NUT TYPE FITTINGS	33
L337 MAINTAIN EXTERNAL FUEL STORAGE AREAS	30
B37 DIRECT WRM MAINTENANCE	30
J268 APPLY CORROSION PREVENTIVE COATINGS	30

TABLE VI
REPRESENTATIVE TASKS FOR SENIOR MANAGERS
(GRP026)

TASKS	PERCENT MEMBERS PERFORMING
A5 ATTEND BRIEFINGS	99
B23 COUNSEL PERSONNEL ON PERSONAL PROBLEMS	95
A2 ADVISE SUBORDINATES ON SUPPLY PROBLEMS	93
A6 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	89
A10 ORIENT NEWLY ASSIGNED PERSONNEL	89
C54 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	87
B42 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES	85
A3 ASSIGN PERSONNEL TO DUTY POSITION	84
C62 EVALUATE INSPECTION REPORTS OR PROCEDURES	83
A8 ESTABLISH OR UPDATE ORGANIZATION POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	82
A1 ACT AS TRAINING ADVISOR	80
C79 WRITE APRs	79
A17 SCHEDULE LEAVES OR PASSES	79
B38 DRAFT CORRESPONDENCE	79
B24 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	78
C64 EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	77
B45 PARTICIPATE IN STAFF MEETINGS	77
A7 DETERMINE WORK PRIORITIES	77
C59 EVALUATE COMPLETED WORK	77
C63 EVALUATE MAINTENANCE DATA COLLECTION INFORMATION	76
B22 CONTROL SUPPLIES, PARTS, OR EQUIPMENT	75
C53 ANALYZE WORK LOAD REQUIREMENTS	74
A14 PLAN OR SCHEDULE SHIFTS OR WORK ASSIGNMENTS	74
A13 PLAN OR PREPARE BRIEFINGS	73
A4 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	73
B39 IMPLEMENT SAFETY OR SECURITY PROGRAMS OR PROCEDURES	70
C67 EVALUATE SAFETY OR SECURITY PROGRAMS	70
A18 SCHEDULE PERSONNEL FOR TDY	70
C71 EVALUATE WORK SCHEDULES	69
A9 ESTABLISH PERFORMANCE STANDARDS	69

TABLE VII
REPRESENTATIVE TASKS FOR TECHNICAL INSTRUCTORS
(GRP079)

TASKS	PERCENT MEMBERS PERFORMING
D93 DEVELOP COURSE CURRICULUM OR PLANS OF INSTRUCTION (POI)	100
D94 DEVELOP LESSON PLANS	100
A5 ATTEND BRIEFINGS	100
D92 DETERMINE TRAINING REQUIREMENTS	80
D96 ESTABLISH OR MAINTAIN STUDY REFERENCE FILES	80
D106 WRITE TEST QUESTIONS	80
D91 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	80
E127 RESEARCH TECHNICAL ORDERS	80
B45 PARTICIPATE IN STAFF MEETINGS	80
C70 EVALUATE TECHNICAL ORDER CHANGES	80
B41 INTERPRET LAYOUT DRAWINGS, DIAGRAMS, BLUEPRINTS, WIRING, OR SCHEMATIC DIAGRAMS	80
D85 ATTEND TRAINING CONFERENCES OR BRIEFINGS	80
B24 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	80
C77 PARTICIPATE IN FIELD EVALUATIONS OR SURVEYS	80
D95 DEVELOP SPECIALTY TRAINING STANDARDS (STS)	60
D90 COUNSEL TRAINEES ON TRAINING PROGRESS	60
D82 ADMINISTER OR SCORE TESTS	60
A1 ACT AS TRAINING ADVISOR	60
B38 DRAFT CORESPONDENCE	60
C59 EVALUATE COMPLETED WORK	60
C62 EVALUATE INSPECTION REPORTS OR PROCEDURES	60
B42 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES	60
D100 INSPECT OR EVALUATE TRAINING AIDS OR EQUIPMENT	60
C72 INITIATE TECHNICAL ORDER CHANGES	60
A8 ESTABLISH OR UPDATE ORGANIZATION POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	60
A10 ORIENT NEWLY ASSIGNED PERSONNEL	60
E117 MAINTAIN ROSTERS	60
A13 PLAN OR PREPARE BRIEFINGS	60
B23 COUNSEL PERSONNEL ON PERSONAL PROBLEMS	60
D87 CONDUCT RESIDENT COURSE CLASSROOM INSTRUCTION	40