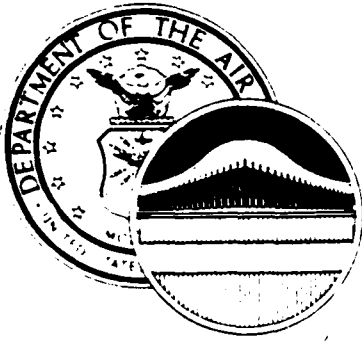


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

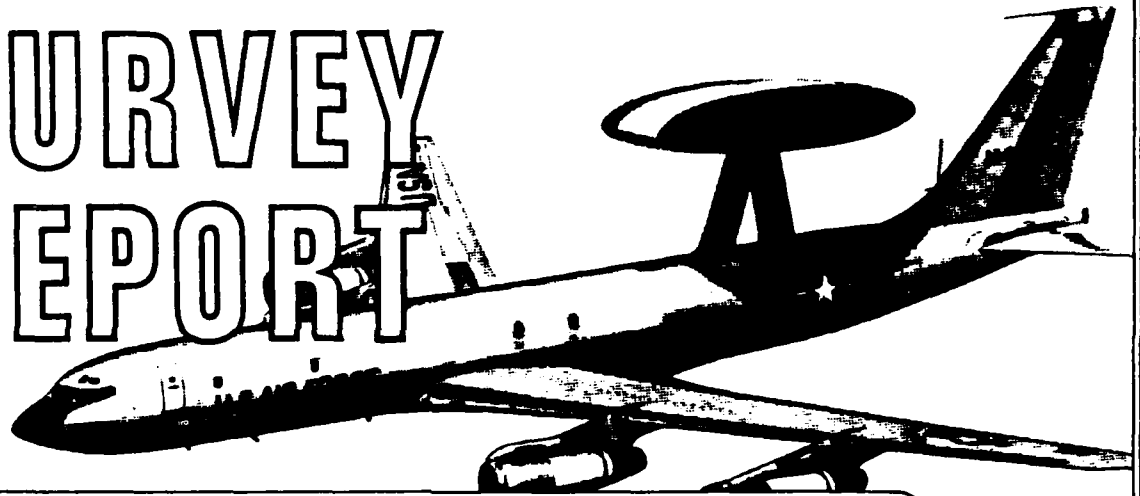


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UNITED STATES AIR FORCE

AD-A149 241

OCCUPATIONAL SURVEY REPORT



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AIRBORNE WARNING AND CONTROL RADAR
CAREER LADDER

AFSC 328X2

AFPT 90-328-498

NOVEMBER 1984

JAN 14 1985

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

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PREFACE

This report presents the results of a detailed Air Force occupational survey of the Airborne Warning and Control Radar career ladder (AFSC 328X2). The project was undertaken at the request of Keesler Technical Training Center, with priority established by the Occupational Analysis Program Priorities Working Group (PWG) in accordance with AFR 35-2. Computer printouts from which this report was produced are available for use by operating and training officials.

The survey instrument was developed by Captain Clint Thatcher, Inventory Development Specialist. Computer programming support for this project was provided by Ms. Rebecca Hernandez. Mr. Hank Dubois, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Major Charles D. Gorman, Chief, Airman Career Ladder Analysis Section, Occupational Analysis Branch, USAF Occupational Measurement Center.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies may be obtained on request to the USAF Occupational Measurement Center, Attention: Chief, Occupational Analysis Branch (OMY), Randolph AFB, Texas 78150-5000.

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SUMMARY OF RESULTS

1. Survey Coverage: Job Inventory booklets were administered to Airborne Warning and Control System (AWACS) Radar personnel (AFS 328X2) worldwide. Survey results are based on the responses of 212 incumbents (65 percent of the assigned personnel).
2. Specialty Jobs: The study identified six jobs--two distinct maintenance jobs and four support jobs. Maintenance personnel are either AWACS Ground Maintenance Specialists or Airborne Radar Technicians (ART). Support jobs involve training, training development, and supervision.
3. Career Ladder Progression: The 328X2 ground maintenance job remains primarily technical through the 7-skill level; however, increasing time spent in management and supervision does appear. Airborne Technicians spend much less time in supervision and management than their ground counterparts at the 7-skill level.
4. AFR 39-1 Specialty Descriptions: Specialty descriptions for both AFSC 328X2 and AFSC 118X2 were reviewed for applicability to the ground maintenance and airborne maintenance jobs, since ART responsibilities were removed from the 328X2 career field in October 1984 and placed under the new specialty, AFSC 118X2, Airborne Radar Systems. Both descriptions provide accurate overviews of the jobs of their respective incumbents.
5. Job Satisfaction: Ground maintenance personnel generally find their jobs less interesting than comparative samples for all experience groups. Utilization of talents and training is also consistently lower than comparable AFSC groups, but 74 percent of those in the 1-48 months time in career field (TICF) group did report using their training in their work. Airborne maintenance incumbents responded favorably to all job satisfaction indicators in all experience groups.
6. Training Analysis: Comparison of the 328X2 STS to survey data suggests a review of unmatched elements related to off-equipment maintenance is necessary. Although little intermediate maintenance is performed, subject-matter specialists indicate certain inventory tasks may be matchable to the off-equipment elements. Computerized listings provided should assist managers in the development of the new STS for AFSC 118X2. The equipment-specific portion of the 328X2 POI generally is supported by survey data. Based on percent members performing and task factors of training emphasis and task difficulty, the simulator approach is appropriate for both ground and airborne personnel. Electronics principles instruction may be an area of training where managers can make adjustments to provide more efficient training for airborne radar maintenance personnel.
7. Implications: Creation of the Airborne Radar Systems Specialty (AFSC 118X2) is supported by analysis of the 328X2 career field. This change in the present classification structure more accurately describes the two distinct jobs having responsibility over the core of the AWAC system.

OCCUPATIONAL SURVEY REPORT
AIRBORNE WARNING AND CONTROL RADAR CAREER LADDER
(AFSC 328X2)

INTRODUCTION

This is an occupational survey report (OSR) of the Airborne Warning and Control Radar career ladder (AFSC 328X2) recently completed by the Occupational Analysis Branch, USAF Occupational Measurement Center. The survey was conducted in response to a request from Keesler Technical Training Center (KTTC) to evaluate current training and its relationship to a classification change whereby those radar technicians on flying status, Airborne Radar Technicians (ART), are to be converted from AFSCs A/K/M 328X2 to AFSCs A/K/M 118X2 within the Aircrew Operations career field. This is the first survey report published for this career ladder as a whole; however, the Airborne Radar Technicians were included in a special survey of E3A crew positions, with results reported in August 1982.

Background

The 328X2 career ladder was created in 1972 from the 301X2 Aircraft Early Warning Radar specialty and was titled Airborne Early Warning Radar. In 1977, aircraft-identifying shreds were adopted, with the A-shred representing EC-121 responsibility and the B-shred representing the E-3A Sentry aircraft. The shreds were deleted from the classification structure in late 1978 when the Sentry became the sole airborne warning and control system (AWACS) in the Air Force. This career ladder merges with five other avionic ladders at the 9-skill level (32899 - Avionic Communication Navigation Superintendent). This report is restricted to the 328X2 ladder and does not include either the superintendent level or the Chief Enlisted Manager (CEM) level (32900 - Avionics Manager).

As described in AFR 39-1 Specialty Descriptions, personnel in the 328X2 career ladder are responsible for inspecting, testing, repairing, modifying, operating, removing and replacing airborne warning and control system (AWACS) surveillance radar and interrogator system components both on- and off-equipment. Aircrew prefixes A, K, and M have been authorized for use with the AFSC and identify aircrew, aircrew instructor, and aircrew examiner personnel on flying status filling E-3A primary crew or overhead positions. Primary entry into this career ladder is from Basic Military Training School (BMTS), then through 36 weeks of principles-centered resident training at Keesler TTC (E3ABR32832-004). In addition, personnel selected for airborne duties receive 16 weeks of training in airborne operation and maintenance-appropriate AWACS systems and 15 weeks of E-3A combat crew training, with both courses conducted at Tinker AFB, Oklahoma. Other prerequisites to airborne duty are medical qualification for flying duty, completion of physiological training, and both basic and water survival training.

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SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-328-498, dated May 1983. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, and tasks from a previous survey instrument for Airborne Radar Technicians. The task list was then evaluated in the field through personal interviews of 27 subject-matter specialists from 2 bases. The resulting job inventory contained a comprehensive listing of 578 tasks grouped under 12 duty headings and a background section containing such information as grade, duty title, time in service, job satisfaction, and special equipment usage.

Survey Administration

From June 1983 through March 1984, Consolidated Base Personnel Offices (CBPO) at operational locations worldwide administered the inventory to job incumbents holding DAFSC 328X2. 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). The administration time for this survey (10 months) is somewhat longer than the average for job inventory administration. Temporary duty away from home station (TDY) within this small career ladder is very extensive, especially for airborne personnel. Accommodation of TDY personnel required an extended administration period to ensure a representative sample of both ground and airborne maintenance personnel among survey respondents.

Each individual who completed the inventory first completed an identification and background section and then checked each task performed in their current job. After checking all tasks performed, each member then rated each of these tasks on a 9-point scale showing 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 amount of time spent) to nine (very large amount of time spent).

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

Survey Sample

As mentioned above, due to the small size of the Airborne Warning and Control Radar career ladder, an effort was made to survey as many of the eligible incumbents as possible. Considered ineligible for survey administration were those incumbents newly assigned to their job (less than 6 weeks), those projected for separation, and those assigned to student or operational training squadrons. Tables 1 through 3 reflect representation across operational and support major commands (MAJCOM), paygrade groups, and aircrew and nonaircrew functional groups. Assigned personnel percentages are as of August 1984. The 212 respondents in the final sample represent 82 percent of the 328X2 career ladder personnel eligible for the survey.

TABLE 1
COMMAND REPRESENTATION OF SURVEY SAMPLE

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
TAC	84	84
ATC	5	9
USAFE	6	3
AFSC	1	1
OTHER	4	3

Total 328X2 Personnel Assigned - 326
 Total 328X2 Personnel Eligible - 260
 Total 328X2 Personnel Sampled - 212
 Percent of Assigned Sampled - 65%
 Percent of Eligible Sampled - 82%

NOTE: Manning figures as of August 1984

TABLE 2
PAYGRADE REPRESENTATION OF SURVEY SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
AIRMAN	34	37
E-4	21	24
E-5	25	19
E-6	12	12
E-7	8	8

TABLE 3

AIRCREW VERSUS NONAIRCREW PERSONNEL
DISTRIBUTION OF SURVEY SAMPLE

	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
AIRCREW (DAFSC = A/K/M 328X2)	28	20
NONAIRCREW (DAFSC = 328X2)	72	80

Task Factor Administration

In addition to completing the job inventory, selected senior 328X2 personnel were also tasked to complete a second booklet for either task difficulty (TD) or training emphasis (TE). The TD and TE booklets are processed separately from the job inventories. The rating information is used in several analyses discussed in this report.

Task Difficulty (TD). Each person completing a TD booklet was asked to rate all inventory tasks on a 9-point scale (from extremely low to extremely high) as to relative difficulty of each task. Difficulty is defined as the length of time required by an average incumbent to learn to do a task. Task difficulty data were independently collected from 38 experienced 5- or 7-skill level 328X2 personnel stationed worldwide. The interrater reliability (as assessed through components of variance of standard group means) was .93, which reflects high agreement among the raters. Ratings were adjusted so tasks of average difficulty would have a 5.0 rating and a standard deviation of 1.0. The resulting data are essentially a rank ordering of tasks, indicating the degree of difficulty for each task in the inventory.

Job Difficulty Index (JDI). After determining the TD index for each task item, a Job Difficulty Index (JDI) was computed for the job groups identified in the survey analysis. The JDI provides a relative measure of which jobs, in comparison to other jobs, are more or less difficult. An equation using the number of tasks performed and the average difficulty per unit time spent (ADPUTS) as variables is the basis for the JDI. Thus, the more time a group spends on difficult tasks and the more tasks group members perform, the higher the JDI. The index ranges from 1.0 for very easy jobs to 25.0 for very difficult jobs. The measurements are adjusted so the average JDI is 13.0.

Training Emphasis (TE). Training emphasis is a rating of which tasks require structured training for first-term personnel. Structured training is defined as training provided at resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal OJT, or any other organized training method. Individuals completing TE booklets were asked to rate on a 10-point scale from no training required to extremely heavy training required. Data were independently collected from 40 experienced 5- and 7-skill level 328X2 personnel stationed worldwide. Three sets of TE data were analyzed. These included TE data as rated by all the raters (40 members) and for two groups within those 40 developed from the type of maintenance performed, ground (22 members) or airborne (18 members). While the interrater reliability of the overall group (as assessed through components of variance of standard group means) was .92, indicating general agreement, a task-by-task review of ratings across maintenance backgrounds indicated there are differences in how two groups perceive first-term training needs. Therefore, the TRAINING ANALYSIS section of this report utilizes TE ratings developed on rater maintenance background.

When used in conjunction with other factors, such as percent members performing, the TD and TE ratings can provide an insight into training requirements. This may help validate the lengthening or shortening of specific units of instruction in various training programs.

SPECIALTY JOBS (Career Ladder Structure)

A key aspect of the USAF Occupational Analysis program is to examine the structure of the career ladders--what people are actually doing in the field, rather than how official career field documents say they are organized. This analysis of actual jobs performed is made possible by the use of the Comprehensive Occupational Data Analysis Program (CODAP) and is based on incumbent task responses. Each person in the survey performs a subset of tasks. A group of individuals, all of whom perform the same or similar tasks and spend similar amounts of time performing those tasks is called a Job Type. Job types having a substantial degree of similarity are grouped and called a Cluster. Specialized job types too dissimilar to fit within a cluster are labeled Independent Job Types. This job information is 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.

Specialty Structure Overview

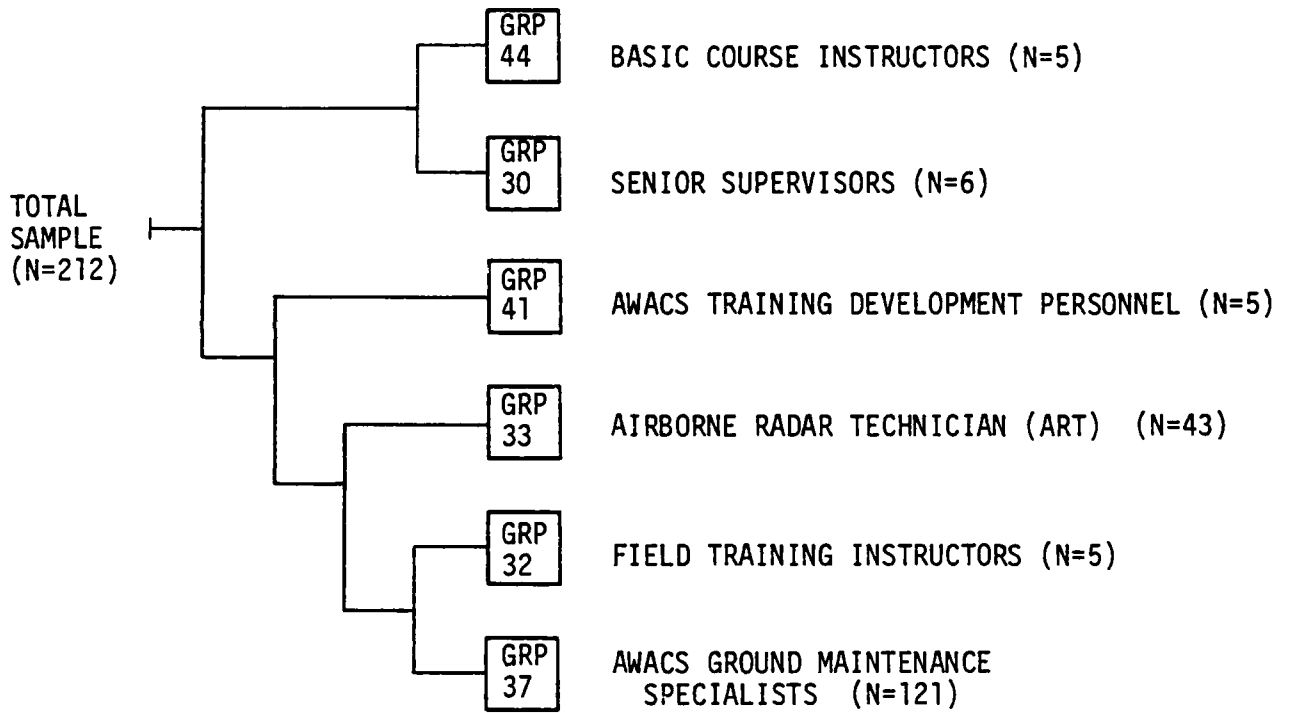
Based on task similarity and the amount of time spent performing each task, the jobs performed by 328X2 personnel separated into six job types, as illustrated in Figure 1. These groups represent two radar maintenance functional areas, ground and airborne, and four support jobs. These six jobs are listed below with a group (GRP) number which is a reference to computer-generated information available for classification and training managers. The letter "N" refers to the number of survey respondents in the group.

- I. AIRBORNE WARNING AND CONTROL SYSTEM (AWACS) GROUND MAINTENANCE SPECIALISTS (GRP37, N=121)
- II. FIELD TRAINING INSTRUCTORS (GRP31, N=5)
- III. AIRBORNE RADAR TECHNICIANS (ART) (GRP33, N=43)
- IV. AWACS TRAINING DEVELOPMENT PERSONNEL (GRP41, N=5)
- V. SENIOR SUPERVISORS (GRP30, N=6)
- VI. BASIC COURSE INSTRUCTORS (GRP44, N=5)

The 328X2 survey respondents forming the above jobs accounted for 87 percent of the sample. The remaining 13 percent, referred to as isolates, were performing tasks or series of tasks that did not group them with any of the defined job groups. Some of the job titles given by respondents which

FIGURE 1

328X2 CAREER LADDER STRUCTURE



□ JOB TYPE

were representative of these isolates included tool room monitor, instructor supervisor, technical writer, product improvement technician, and quality assurance inspector.

Job Descriptions

The following paragraphs describe each of the jobs listed above. The information is limited to a brief description of the people who made up the job groups and a sample of the tasks performed which illustrate the nature of their work. Appendix A contains additional task performance information for each group.

I. AWACS GROUND MAINTENANCE SPECIALISTS (GRP37, N=121). This large group of personnel performs duties associated with ground maintenance of the four major AWACS equipment groups on the E-3A weapons system: mission crew compartment equipment, lower compartment equipment, antenna pedestal equipment, and interrogation system equipment. Eighty-three percent of their job time is spent on these duties, with over 39 percent of their time spent in maintaining mission crew compartment equipment. The principal unit of the mission crew compartment equipment for the technician is the Radar Control and Maintenance Panel (RCMP), which provides technician interface during maintenance testing and manual fault isolation through a keyboard and plasma display. Other system units which they inspect, remove and replace cards and components, and fault isolate include: transmitters and receivers, radar synchronizers, antennae, and radar digital computers.

Many pieces of test or special equipment are used by members of this group, such as antenna pedestal access stand, directional couplers, multimeters, oscilloscopes, torque wrenches, and phase shifters.

Some fairly common tasks performed by this group include:

- install or remove 40-pound SF-6 gas bottles
- weigh 40- or 103-pound SF-6 gas bottles
- install or remove air alarm systems (SDU-34E)
- monitor locations displayed on RCMP
- operate magnetic tape transport for direct load of radar programs
- perform radar turn-off under RCMP control

Within this job, four job variations are identified. First, a small number of these incumbents are recognized as working supervisors (5 members) performing essentially technical duties, but also spending about 10 percent their time performing supervisory tasks. The other three job variations reflect a job enlargement or career field progression within the ground maintenance area--that is, three progressively more responsible job levels can be seen which relate to AFSC skill level progression when compared to the

DAFSC of the respondents. Data reflect that, within the above progression, initial maintenance orientation is to the mission crew compartment equipment, followed by the lower compartment and antenna pedestal systems. Based on tasks performed, this is the largest job in the career ladder--members perform an average of 208 tasks.

The AWACS ground maintenance personnel (N=121) account for 57 percent of the survey sample and average 48 months in service and 36 months in the career field. Sixty-eight percent are in their first enlistment and 52 percent have a DAFSC at the 5-skill level. Additional background data is included in Table 4.

II. FIELD TRAINING INSTRUCTORS (GRP31, N=5). This small group, 2 percent of the survey sample, is involved in E-3A FTD training courses at Tinker AFB, Oklahoma. Courses include special test equipment, maintenance of transmitter and receiver groups and the antenna group, among others. This group is split between 5- and 7-skill level personnel, with an average of 79 months in the career field. Duties include both training and technical maintenance tasks, which is normal for an FTD environment. Frequently performed activities reflecting the nature of their work include:

- conduct field training detachment (FTD) training
- prepare lesson plans
- perform operational IFF checkout procedures
- determine formal aircraft training requirements
- connect and operate radar test sets AN/APM-401
- perform manual trouble analysis of IFF equipment group by RF detector checks
- procure training aids, space, or equipment

These instructor personnel perform an average of 107 tasks, with 50 percent of their job time spent on 41 tasks.

III. AIRBORNE RADAR TECHNICIANS (ART) (GRP33, N=43). This job represents those personnel assigned to the ART aircrew position on the E-3A aircraft. Again, this group of personnel is responsible for airborne maintenance and maintenance operation of E-3 surveillance radar and associated systems. Airborne maintenance of these systems includes such activities as monitoring systems, fault isolation using built-in test (BIT) and fault isolation test (FIT) equipment, and replacement of printed circuit boards. Fifty-one percent of their job time is spent in the performance of inflight crew duties. Associated with this work are coordinating with other crew positions on the status of systems, preflighting, annotating aircraft records, and a wide range of nonmaintenance routine aircrew activities. Examples of tasks unique to this job include:

- decode octal, binary, or decimal readouts
- study technical orders for abnormal and emergency inflight procedures
- participate in crew maintenance debriefings
- maintain current status of flight manuals, safety and operational supplements, and flight crew checklists
- visually inspect condition of navigation equipment racks
- brief mission crew commander (MCC) and air surveillance officer (ASO) on surveillance radar and IFF equipment status
- debrief maintenance personnel on software or equipment malfunctions
- perform preflight checks of LCS, power feeder duct cooling system (PFDCS), and antenna cooling control panels
- prepare or maintain ART inflight log forms (552 AWACW Forms 42 and Form 67)

Thirty-seven percent of the airborne technicians are in their first enlistment, while the entire group averages 106 months in service and 59 months in the career field.

IV. AWACS TRAINING DEVELOPMENT PERSONNEL (GRP41, N=5). These personnel are assigned to the FTD at Tinker AFB and are members of the advanced Radar Maintenance Training Simulator (ARMTS) development team. Their activities involve research, data correlation, and writing of lesson plans for use with the ARMTS training program. The ARMTS is in the aquisition stage and is projected to become operational in FY87. Specific tasks include:

- override system time-out clocks
- monitor locations displayed on RCMP
- perform malfunction analysis using FIT program
- monitor automatic reconfigurations of surveillance radar
- inhibit or enable automatic tests on surveillance radar
- recycle radar programs
- prepare lesson plans
- procure training aids, space, or equipment

These personnel have an average grade of E-6 and a higher experience level than any other job identified--averaging 93 months in the career field.

V. SENIOR SUPERVISORS (GRP30, N=6). These 328X2 personnel make up 3 percent of the survey sample and provide a view of the work done by shop or functional area supervisors. Eighty-three percent of these respondents supervise an average of 14 personnel. Seventy percent of their time is spent in the supervisory functions of organizing, directing, and evaluating, with another 29 percent spent in training and administrative functions. Some fairly unique tasks performed include:

- determine work priorities
- coordinate maintenance with job control
- direct flightline maintenance activities
- direct shop maintenance activities
- select individuals for specialized training
- certify status of reparable, serviceable, or condemned parts
- develop work methods or procedures

These personnel no longer perform technical tasks and refer to themselves as NCOIC AWACS Radar Systems, Maintenance Supervisor, Assistant Shop Supervisor, or Airborne Radar Technician Supervisor.

VI. BASIC COURSE INSTRUCTORS (GRP44, N=5). These personnel are assigned as basic course (ABR328X2-004) instructors at Keesler Technical Training Center. The majority have a DAFSC at the 5-skill level, and their average time in the career field is 49 months. Specific training duties account for 64 percent of their time and include tasks like:

- conduct resident course classroom training
- prepare lesson plans
- administer tests
- develop training aids
- write test questions
- score tests
- evaluate progress of resident course students
- counsel personnel on personal or military-related problems

Forty percent of these instructors are in their first enlistment.

Comparison of Specialty Jobs

In addition to identifying the functions of each job, it is useful to contrast the jobs in terms of background characteristics, job attitudes, and, in some cases, the duties performed. Table 4 presents background data, such as average grade, DAFSC, average time in career field and service, and average number of tasks performed for each of the specialty jobs. Table 5 reflects data pertaining to several job satisfaction indicators. Relative time spent on duties across jobs is displayed in Table 6.

As the four support groups identified make up less than 10 percent of the sample, this comparison discussion is limited to the two maintenance groups, ground and airborne. These two jobs, respectively, represent the classification structure to be in effect at the publication of this report--that is, AFSC 328X2, Airborne Warning and Control Radar, and AFSC 118X2, Airborne Radar Systems.

These two career ladder jobs were compared for difficulty using the Job Difficulty Index (JDI) described in the Task Factor Administration portion of this report. The JDI is based on the number of tasks performed and the relative difficulty of these tasks. The index ranges from 1.0 for very simple jobs to 25.0 for the most demanding. Data in Table 4 reflects a relatively more difficult job in the ground maintenance function (JDI = 16.1) than in the airborne function (JDI = 10.6).

The number of tasks performed in ground maintenance is somewhat larger than in airborne maintenance--an average of 208 tasks versus 156. Also, Table 6 reflects that 51 percent of the Airborne Radar Technicians' (ART) job time is spent performing nonmaintenance flight crew activities. While these crew tasks are critical to mission accomplishment, they are less difficult than those related to radar maintenance. Table 7 has been included to show task differences between the ground and airborne maintainers which represent the significant dissimilarity in the two jobs.

Job satisfaction data across the two maintenance jobs is somewhat diverse (see Table 5). As may be expected, 98 percent of the Airborne Radar Technicians find their job very interesting. Eighty-eight percent of the ARTs indicate they are satisfied with the sense of accomplishment gained from their job--only 52 percent of the Ground Maintenance Specialists indicate the same satisfaction in their job accomplishments. The ground maintenance personnel have much lower opinions of the utilization of their talents and training than do the airborne maintenance personnel.

In summary, analysis of the career ladder structure suggests that the 328X2 career field at the time of its survey was indeed made up of two very distinct jobs, one of ground radar maintenance, and the other of aircrew operations. From a job-related perspective, the decision to split the 328X2 career ladder into two specialties along these lines is supported by survey data.

TABLE 4

SELECTED BACKGROUND INFORMATION FOR 328X2 SPECIALTY JOBS

	AWACS GROUND MAINTENANCE SPECIALISTS (GRP37)		FIELD TRAINING INSTRUCTORS (GRP31)		AIRBORNE RADAR TECHNICIANS (GRP33)		AWACS TRAINING DEVELOPMENT PERSONNEL (GRP41)		SENIOR SUPERVISORS (GRP30)		BASIC COURSE INSTRUCTORS (GRP44)	
	NUMBER IN GROUP	PERCENT OF TOTAL SAMPLE	NUMBER IN GROUP	PERCENT OF TOTAL SAMPLE	NUMBER IN GROUP	PERCENT OF TOTAL SAMPLE	NUMBER IN GROUP	PERCENT OF TOTAL SAMPLE	NUMBER IN GROUP	PERCENT OF TOTAL SAMPLE	NUMBER IN GROUP	PERCENT OF TOTAL SAMPLE
	121		5		43		5		6		5	
	57%		2%		20%		2%		3%		2%	
	88%		100%		79%		100%		33%		100%	
DAFSC DISTRIBUTION (Percent)												
32832	37		-		-		20		-		-	
32852	52		20		54		-		17		80	
32872	11		80		46		80		83		20	
AVERAGE GRADE												
	E-4		E-6		E-5		E-6		E-6		E-5	
AVERAGE MONTHS IN CAREER FIELD	35		79		59		93		70		49	
AVERAGE MONTHS IN SERVICE	48		193		106		169		155		67	
PERCENT IN FIRST ENLISTMENT												
	68%		-		37%		-		17%		40%	
PERCENT SUPERVISING	32%		40%		37%		20%		83%		-	
AVERAGE NUMBER OF TASKS PERFORMED	208		107		156		54		46		21	
JOB DIFFICULTY INDEX (JDI)												
	16.1		13.6		10.6		9.9		7.7		7.0	
(AVERAGE JDI = 13.00)												

TABLE 5

JOB SATISFACTION INFORMATION FOR 328X2 SPECIALTY JOBS
(PERCENT RESPONDING)

	AWACS GROUND MAINTENANCE SPECIALISTS (GRP37)	FIELD TRAINING INSTRUCTORS (GRP31)	AIRBORNE RADAR TECHNICIANS (GRP33)	AWACS TRAINING DEVELOPMENT PERSONNEL (GRP41)	SENIOR SUPERVISORS (GRP30)	BASIC COURSE INSTRUCTORS (GRP44)
<u>HOW DO YOU FIND YOUR JOB:</u>						
DULL	12	-	2	-	17	-
SO-SO	18	20	0	-	33	20
INTERESTING	(69)	80	(98)	100	50	80
<u>HOW WELL DOES YOUR JOB UTILIZE YOUR TALENTS:</u>						
VERY LITTLE OR NOT AT ALL	32	-	7	-	17	-
FAIRLY WELL TO PERFECTLY	(68)	100	(93)	100	83	100
<u>HOW WELL DOES YOUR JOB UTILIZE YOUR TRAINING:</u>						
VERY LITTLE OR NOT AT ALL	28	-	2	-	17	-
FAIRLY WELL TO PERFECTLY	(72)	100	(98)	100	83	100
<u>HOW SATISFIED ARE YOU WITH THE SENSE OF ACCOMPLISHMENT GAINED FROM YOUR JOB:</u>						
DISSATISFIED	28	-	5	-	33	-
AMBIVALENT	20	0	7	-	33	20
SATISFIED	(52)	100	(88)	100	33	80
<u>DO YOU PLAN TO REENLIST:</u>						
NO, WILL PROBABLY RETIRE	3	40	12	20	17	-
NO, OR PROBABLY NO	44	-	21	20	17	20
YES, OR PROBABLY YES	(52)	40	(63)	60	50	80

NOTE: Columns may not add to 100 percent due to "no response" or rounding.

TABLE 6

RELATIVE TIME SPENT ON DUTIES BY 328X2 SPECIALTY JOBS
(PERCENT TIME SPENT)

DUTIES	AWACS GROUND MAINTENANCE SPECIALISTS (GRP37)		FIELD TRAINING INSTRUCTORS (GRP31)		AIRBORNE RADAR TECHNICIANS (GRP33)		AWACS TRAINING DEVELOPMENT PERSONNEL (GRP41)		SENIOR SUPERVISORS (GRP30)		BASIC COURSE INSTRUCTORS (GRP44)	
A. ORGANIZING AND PLANNING	1		2		2		6		31		5	
B. DIRECTING AND IMPLEMENTING	2		6		1		7		27		9	
C. INSPECTING AND EVALUATING	1		2		1		1		12		2	
D. TRAINING	1		16		3		6		10		64	
E. MAKING ENTRIES ON FORMS AND PERFORMING ADMINISTRATIVE FUNCTIONS	5		6		2		3		19		12	
F. MAINTAINING MISSION CREW COMPARTMENT EQUIPMENT	(39)		25		(27)		65		*		1	
G. MAINTAINING LOWER COMPARTMENT EQUIPMENT	20		*		3		4		0		0	
H. MAINTAINING ANTENNA PEDESTAL EQUIPMENT	12		1		1		1		*		0	
I. MAINTAINING INTERROGRATION EQUIPMENT	12		29		7		0		0		0	
J. OPERATING SPECIALIZED EQUIPMENT	6		14		1		8		0		6	
K. PERFORMING INFILIGHT CREW DUTIES	1		0		(51)		0		0		0	
L. PERFORMING MOBILITY TASKS	1		0		1		0		1		0	

* Denotes less than .5 percent

TABLE 7

REPRESENTATIVE TASK DIFFERENCES BETWEEN 328X2 GROUND AND AIRBORNE MAINTENANCE JOBS
(PERCENT MEMBERS PERFORMING)

TASKS	AWACS GROUND MAINTENANCE SPECIALISTS (N=121)	RADAR TECHNICIANS (N=43)	DIFFERENCE
F149 INSTALL AND REMOVE AIR ALARM SYSTEMS (SDU-34/E)	100	0	100
G304 WEIGH 40 OR 103 POUND SF-6 GAS BOTTLES	99	0	99
F160 INSTALL OR REMOVE DEHYDRATOR DESICCANTS	97	0	97
E125 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	96	0	96
F210 PERFORMING KLYSTRON POWER AMPLIFIER (KPA) BURN-INS	83	2	82
J435 CONNECT AND OPERATE MODEL 460B POWER METERS	83	2	82
G246 INSTALL OR REMOVE GROUND DECK PULSERS	81	0	81
G256 INSTALL OR REMOVE KPA FLOATING DECK PULSERS	81	0	81
G249 INSTALL OR REMOVE HV AUXILIARIES	76	0	77
J434 CONNECT AND OPERATE MODEL 42B MICROWATT METERS	78	2	77
J425 CONNECT AND OPERATE ANTENNA CONTROL DRIVE TEST SETS, AN/APM-402	76	0	76
J426 CONNECT AND OPERATE DIGITAL VOLTMETERS	81	6	75
G279 INSTALL OR REMOVE STANDBY POWER DISTRIBUTION BOXES	71	0	71
I381 INSTALL OR REMOVE IFF ANTENNA CONTROLS	69	0	69
F177 INSTALL OR REMOVE SERIES REGULATORS	78	9	69
G248 INSTALL OR REMOVE HIGH POWER MICROWAVES	68	0	68
H306 CONNECT AND OPERATE FC-77 TOP-OFF BOTTLES	60	0	60
H317 INSTALL OR REMOVE BEAM OFFSET PHASE SHIFTERS	60	0	60
H339 INSTALL OR REMOVE PHASE SHIFTER MODULES	60	0	60
F152 INSTALL OR REMOVE BOARD PAIR ASSEMBLIES	87	35	53
I397 INSTALL OR REMOVE 16-TEST POINT MULTIPLEXERS	55	5	52
F223 PERFORM TRANSMITTER HARMONIZATIONS	83	39	43
I396 INSTALL OR REMOVE TARGET PROCESSOR ASSEMBLIES (SRU 1)	83	46	38
I387 INSTALL OR REMOVE MEMORY AND REPORT INTERFACE ASSEMBLIES (SRU 2)	85	65	20
I393 INSTALL OR REMOVE REPLY PROCESSOR CONTROL ASSEMBLIES (SRU 3)	82	63	21

TABLE 7 (CONTINUED)

REPRESENTATIVE TASK DIFFERENCES BETWEEN 328X2 GROUND AND AIRBORNE MAINTENANCE JOBS
(PERCENT MEMBERS PERFORMING)

TASKS	AWACS GROUND MAINTENANCE SPECIALISTS (N=121)	RADAR TECHNICIANS (N=43)	DIFFERENCE
F217 PERFORM RADAR EMERGENCY SHUTDOWNS	66	76	-10
I419 PERFORM TROUBLE ANALYSIS USING OBTM&M MAINTENANCE ADVISORY MESSAGES	69	80	-11
F226 RECYCLE POWER ON DIGITAL RACKS	78	90	-12
I400 INTERPRET IFF FAULT PRIN-OUTS FROM ON-BOARD TEST MONITOR AND MAINTENANCE (OBTM&M)	71	88	-17
I418 PERFORM TROUBLE ANALYSIS USING OBTM&M FALSE ALARMS DEVELOP TRAINING AIDS	57	76	-19
H373 VISUALLY INSPECT CONDITION OF ROTODOME EXTERIOR	33	58	-25
G297 PERFORM VISUAL INSPECTION OF LIQUID COOLING SYSTEMS	65	90	-25
F216 PERFORM RADAR CAPABILITY ASSESSMENTS (RCA) ON SURVEILLANCE RADAR	64	95	-31
F203 OVERRIDE SYSTEM TIME-OUT CLOCKS	48	83	-35
F208 PERFORM COOLING LOSS ACTIONS ON SURVEILLANCE RADAR	50	88	-38
K538 PERFORM FLIGHT TEST FOR NEW EQUIPMENT VALIDATION	0	46	-46
K501 SELECT MISSION COMPUTER TAPES	2	76	-74
K535 PARTICIPATE IN PREMISSION INTELLIGENCE BRIEFINGS	0	72	-72
K531 PARTICIPATE IN CREW OPERATION DEBRIEFINGS	2	76	-74
K532 PARTICIPATE IN GENERAL OR SPECIALIZED MISSION BRIEFINGS	2	88	-86
K551 SELECT MAINTENANCE BREVITY CODES	2	88	-86
K477 DECODE OCTAL, BINARY, OR DECIMAL READOUTS	14	100	-86
K455 ANALYZE EQUIPMENT FOR BEST MISSION CONFIGURATIONS	3	95	-92
K465 COORDINATE WITH ASO ON SENSOR SETTINGS	0	93	-93
K472 COORDINATE WITH MCC ON RADAR OPERATIONS TIMES	0	93	-93
K484 NOTIFY MCC OF STATUS OF VISUAL WARNING DISPLAY UNITS	0	93	-93
K464 COORDINATE WITH ASO ON OPTIMUM IFF CONFIGURATIONS	0	100	-100
K470 COORDINATE WITH MCC ON IFF SURVEILLANCE RADAR EQUIPMENT STATUS INFLIGHT	0	100	-100
K471 COORDINATE WITH MCC ON IFF EQUIPMENT MALFUNCTIONS	0	100	-100

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.

Considering the previously mentioned change to AFR 39-1, effective 31 October 1984, this section will address two sets of DAFSC groups: that group of personnel possessing DAFSC 328X2 without prefixes "A", "K", or "M," and the group of personnel, who at the time of this survey, possessed DAFSC A/K/M 328X2. It is the latter group that, on 31 October 1984, converted to the new specialty A/K/M 118X2, Airborne Radar Systems.

328X2 Airborne Warning and Control Radar

DAFSC 32832/52: These 130 personnel performed a technical job spread across the four maintenance duties; however, two of these duties accounted for over 50 percent of their job time: maintaining mission crew compartment equipment (36 percent) and maintaining lower compartment equipment (18 percent). Three- and five-skill level jobs were heavily loaded in the four maintenance areas, but an examination of Table 8 shows that performance of technical duties remains somewhat similar in the 7-skill level job. For example, at the 7-skill level, the same technical duty occupies the top position for time spent as in the 3-/5-skill level job, even though the percent of time has decreased (maintaining mission crew compartment equipment). Table 9 presents a list of tasks commonly performed by the 3-/5-skill level personnel.

DAFSC 32872: These 40 personnel also perform a technical job (see Table 8), but time spent performing management, supervisory, and training-related work has increased to 39 percent of their job time. The remaining job time is dispersed over a range of technical duties, with the four maintenance duties also accounting for 39 percent of the job time. Table 10 lists tasks performed by this group that reflect both the technical and supervisory aspects of their jobs.

A/K/M 32832/52 Airborne Radar Systems (Converted to A/K/M 118X2 effective 31 Oct 1984)

DAFSC A/K/M 32832/52: This group of 23 personnel (11 percent of the survey sample) makes up 53 percent of the Airborne Radar Technician (ART) job (GRP33) described in the SPECIALTY JOBS section of this report. Two

duty areas accounted for over 80 percent of their job time: 52 performing inflight crew duties (including ground and inflight tasks), and 29 percent maintaining mission crew compartment equipment. Table 11 presents a list of tasks commonly performed by this DAFSC group.

DAFSC A/K/M 32872: Forty DAFSC 32872 personnel possessed a prefix of either A (aircrew), K (aircrew instructor), or M (aircrew standardization/flight examiner). This group spends only 15 percent of their job time in nontechnical duties compared to 39 percent mentioned in the nonaircrew 32872 job description. The 7-skill level airborne group's distribution of job time across technical duties is very similar to that of the A/K/M 32832/52 group, as is shown in Table 8. Table 12 displays tasks representative of the job performed by the senior airborne radar technicians (ART).

TABLE 8

RELATIVE PERCENT TIME SPENT ON DUTIES BY 328X2 SKILL LEVEL GROUPS

DUTIES	32832/52 PERSONNEL		32872 PERSONNEL		A/K/M 32832/52 PERSONNEL		A/K/M 32872 PERSONNEL	
A ORGANIZING AND PLANNING	1		12		1		4	
B DIRECTING AND IMPLEMENTING	3		11		1		3	
C INSPECTING AND EVALUATING	1		5		*		3	
D TRAINING	3		11		1		5	
E MAKING ENTRIES ON FORMS AND PREFORMING ADMINISTRATIVE FUNCTIONS	6		9		2		3	
F MAINTAINING MISSION CREW COMPARTMENT EQUIPMENT (INFLIGHT AND GROUND)	36		21		29		24	
G MAINTAINING LOWER COMPARTMENT EQUIPMENT (INFLIGHT AND GROUND)	18		7		3		2	
H MAINTAINING ANTENNA PEDESTAL EQUIPMENT	10		5		*		*	
I MAINTAINING INTERROGATION (IFF) EQUIPMENT (INFLIGHT AND GROUND)	11		6		8		6	
J OPERATING SPECIALIZED EQUIPMENT	6		7		1		*	
K PERFORMING INFLIGHT CREW DUTIES	3		6		52		49	
L PERFORMING MOBILITY TASKS	1		1		2		1	

* Denotes less than 1 percent

TABLE 9

EXAMPLES OF TASKS PERFORMED BY 32832/52 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=130)
F201 OPERATE AIR ALARM SYSTEMS (SDU-34/E)	88
F149 INSTALL AND REMOVE AIR ALARM SYSTEMS (SDU-34/E)	88
F202 OPERATE MAGNETIC TAPE TRANSPORT FOR DIRECT LOAD OF RADAR PROGRAMS	88
F147 INHIBIT OR ENABLE AUTOMATIC TESTS ON SURVEILLANCE RADARS	87
G304 WEIGH 40 OR 103-POUND SF-6 GAS BOTTLES	86
G285 INSTALL OR REMOVE 103-POUND SF-6 GAS BOTTLES	86
G287 INSTALL OR REMOVE 40-POUND SF-6 GAS BOTTLES	86
E125 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	86
F200 MONITOR LOCATIONS DISPLAYED ON RCMP	85
G231 CONNECT AND OPERATE SF-6 GROUND SERVICE CARTS	85
F219 PERFORM RADAR TURN-ON PROCEDURES	85
F148 INHIBIT OR ENABLE INDIVIDUAL TESTS ON SURVEILLANCE RADARS	85
F218 PERFORM RADAR TURN-OFF UNDER RCMP CONTROL	84
F199 MONITOR LIQUID COOLING SYSTEM (LCS) METERS AND GAUGES	84
F145 FAULT ISOLATE COMPONENTS OF THE TRANSMITTERS USING BIT/FIT	84
F155 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE RADAR CORRELATOR (RDC)	84
J436 CONNECT AND OPERATE MODEL 475 OSCILLOSCOPES	83
F142 FAULT ISOLATE COMPONENTS OF THE ROTODOMES USING BIT/FIT	83
F160 INSTALL OR REMOVE DEHYDRATOR DESICCANTS	83
F212 PERFORM MALFUNCTION ANALYSIS USING FIT PROGRAM	82
F209 PERFORM DIRECT PROGRAM LOADS ON SURVEILLANCE RADAR	82
H365 PERFORM ENTRY AND EXIT PROCEDURES IN ANTENNA PEDESTAL WITH POWER OFF	82
E124 MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	82
F137 ANALYZE MANUAL TEST RESULTS ON SURVEILLANCE RADARS	82
F158 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE ANALOG CABINET	82
F156 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE DIGITAL DOPPLER PROCESSOR (DDP)	82
F198 MONITOR AUTOMATIC RECONFIGURATIONS ON SURVEILLANCE RADAR	81
F138 FAULT ISOLATE COMPONENTS OF THE ANALOG RECEIVERS USING BUILT-IN TEST/FAULT ISOLATION TEST (BIT/FIT)	81
F136 ANALYZE AUTOMATIC TEST RESULTS ON SURVEILLANCE RADARS	80
F146 FAULT ISOLATE SURVEILLANCE RADAR SYSTEMS	80

TABLE 10

EXAMPLE OF TASKS PERFORMED BY 32872 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=40)
B48 WRITE CORRESPONDENCE	65
E118 MAKE ENTRIES ON AF FORMS 623 (ON-THE-JOB TRAINING RECORD)	63
B28 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	63
A7 DETERMINE WORK PRIORITIES	60
B45 SUPERVISE AIRBORNE WARNING AND CONTROL RADAR SPECIALISTS (AFSC 32852)	60
F137 ANALYZE MANUAL TEST RESULTS ON SURVEILLANCE RADARS	57
F136 ANALYZE AUTOMATIC TEST RESULTS ON SURVEILLANCE RADARS	57
E119 MAKE ENTRIES ON AF FORMS 797 (JOB QUALIFICATION STANDARD CONTINUATION)	57
E105 ESCORT VISITORS THROUGH FACILITIES	57
J436 CONNECT AND OPERATE MODEL 475 OSCILLOSCOPES	55
D86 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	55
A17 PLAN OR SCHEDULE WORK ASSIGNMENTS	55
F200 MONITOR LOCATIONS DISPLAYED ON RCMP	55
F212 PERFORM MALFUNCTION ANALYSIS USING FIT PROGRAM	55
F146 FAULT ISOLATE SURVEILLANCE RADAR SYSTEMS	55
F147 INHIBIT OR ENABLE AUTOMATIC TESTS ON SURVEILLANCE RADARS	55
F148 INHIBIT OR ENABLE INDIVIDUAL TESTS ON SURVEILLANCE RADARS	55
F219 PERFORM RADAR TURN-ON PROCEDURES	55
E125 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	55
F218 PERFORM RADAR TURN-OFF UNDER RCMP CONTROL	55
F202 OPERATE MAGNETIC TAPE TRANSPORT FOR DIRECT LOAD OF RADAR PROGRAMS	55
F198 MONITOR AUTOMATIC RECONFIGURATIONS OF SURVEILLANCE RADAR	55
F138 FAULT ISOLATE COMPONENTS OF THE ANALOG RECEIVERS USING BUILT-IN TEST/FAULT ISOLATION TEST (BIT/FIT)	55
F227 RECYCLE RADAR PROGRAMS	55
A8 DEVELOP WORK METHODS OR PROCEDURES	52
C74 WRITE APR	52
F214 PERFORM MANUAL FAULT ANALYSIS	52
B27 CONDUCT OR PARTICIPATE IN STAFF MEETINGS	50
B42 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	50
D85 COUNSEL TRAINEES ON TRAINING PROGRAM	50

TABLE 11

EXAMPLES OF TASKS PERFORMED BY A/K/M 32832/52 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=23)
F199 MONITOR LIQUID COOLING SYSTEM (LCS) METERS AND GAUGES	100
F219 PERFORM RADAR TURN-ON PROCEDURES	100
F218 PERFORM RADAR TURN-OFF UNDER RCMP CONTROL	100
F216 PERFORM RADAR CAPABILITY ASSESSMENTS (RCA) ON SURVEILLANCE RADAR	100
F229 VISUALLY INSPECT CONDITION OF RADAR EQUIPMENT CABINETS	100
F198 MONITOR AUTOMATIC RECONFIGURATIONS OF SURVEILLANCE OF SURVEILLANCE RADAR	100
K477 DECODE OCTAL, BINARY, OR DECIMAL READOUTS	100
F227 RECYCLE RADAR PROGRAMS	100
F228 VISUALLY INSPECT CONDITION OF NAVIGATION EQUIPMENT RACKS	100
G299 PERFORM VISUAL INSPECTION OF SURVEILLANCE RADAR EQUIPMENT IN AFT LOWER LOBES	100
F214 PERFORM MANUAL FAULT ANALYSIS	100
G297 PERFORM VISUAL INSPECTION OF LIQUID COOLING SYSTEMS	100
G298 PERFORM VISUAL INSPECTION OF SF-6 SYSTEMS	100
K530 PARTICIPATE IN CREW MAINTENANCE DEBRIEFINGS	100
F146 FAULT ISOLATE THE SURVEILLANCE RADAR SYSTEMS	100
K475 DEBRIEF MAINTENANCE PERSONNEL ON SOFTWARE OR EQUIPMENT MALFUNCTIONS	100
K479 FILE AIRBORNE RADAR TECHNICIANS (ART) INFLIGHT LOGS IN AIRCRAFT HISTORY BOOKS	100
K549 REVIEW AFTO FORM 781 SERIES FOR AIRCRAFT DISCREPANCIES	100
K460 CONNECT EMERGENCY ESCAPE SLIDES PRIOR TO ENGINE STARTS	100
K552 STUDY TECHNICAL ORDERS FOR ABNORMAL AND EMERGENCY INFLIGHT PROCEDURES	100
K497 REVIEW AIRCRAFT EQUIPMENT HISTORY BOOK	100
K458 BRIEF MISSION CREW COMMANDER (MCC) AND AIR SURVEILLANCE OFFICER (ASO) ON SURVEILLANCE RADAR AND IFF EQUIPMENT STATUS	100
K492 PERFORM PREFLIGHT INSPECTION OF PERSONAL LIFE SUPPORT EQUIPMENT AND OXYGEN EQUIPMENT	100
K499 SECURE ALL LOOSE EQUIPMENT AND GALLEY ITEMS IN AFT SECTION OF AIRCRAFT	100
K493 PERFORM WALKAROUND INSPECTIONS AFTER TAKE-OFF	100
K491 PERFORM PREFLIGHT CHECKS OF LCS, POWER FEEDER DUCT COOLING SYSTEM (RFDCS), AND ANTENNA COOLING CONTROL PANELS	100
K503 TRANSFER SURVEILLANCE RADAR CONTROLS	100
K507 VISUALLY INSPECT FOR INFLIGHT MAINTENANCE SPARES AND TECHNICAL ORDER	100

TABLE 12

EXAMPLES OF TASKS PERFORMED BY A/K/M 32872 PERSONNEL
(NEW AFSC 118X3, EFFECTIVE OCT 84)

TASKS	PERCENT MEMBERS PERFORMING (N=20)
K552 STUDY TECHNICAL ORDERS FOR ABNORMAL AND EMERGENCY INFLIGHT PROCEDURES	100
K498 REVIEW AND SIGN OFF FLIGHT CREW INFORMATION FILE (FCIF)	100
K548 POST CHANGES TO PERSONAL AIRCREW PUBLICATIONS	95
K532 PARTICIPATE IN GENERAL OR SPECIALIZED MISSION BRIEFINGS	95
K477 DECODE OCTAL, BINARY, OR DECIMAL READOUTS	95
K508 ADVISE MAINTENANCE PERSONNEL IN IDENTIFYING AIRCRAFT SYSTEMS MALFUNCTIONS	95
K506 VISUALLY CHECK TO ENSURE PASSENGERS ARE SECURE AND IN POSITION PRIOR TO TAKE-OFF, LANDING, OR AIR REFUELING	95
K491 PERFORM PREFLIGHT CHECKS OF LCS, POWER FEEDER DUCT COOLING SYSTEM (PFDCS), AND ANTENNA COOLING CONTROL PANELS	95
K503 TRANSFER SURVEILLANCE RADAR CONTROLS	95
K504 TURN ON OR TURN OFF POWER TO GALLEY	95
K492 PERFORM PREFLIGHT INSPECTION OF PERSONAL LIFE SUPPORT EQUIPMENT AND OXYGEN EQUIPMENT	95
K475 DEBRIEF MAINTENANCE PERSONNEL ON SOFTWARE OR EQUIPMENT MALFUNCTIONS	95
K490 PERFORM PREFLIGHT CHECK OF FIREFIGHTING EQUIPMENT	95
K482 NOTIFY MCC AND ASO IFF IS OPERATIONAL	95
K473 COORDINATE WITH MCC ON SURVEILLANCE RADAR EQUIPMENT MALFUNCTIONS	95
K478 DISCONNECT EMERGENCY ESCAPE SLIDES AFTER ENGINE SHUTDOWNS	95
K480 NOTIFY FE REAR DOORS CLOSED, ESCAPE SLIDES ENGAGED, AND EMERGENCY LIGHTS ARMED PRIOR TO ENGINE STARTS	95
K481 NOTIFY FE WHEN EMERGENCY LIGHTS ARE OFF AND EMERGENCY ESCAPE SLIDES STOWED AFTER ENGINE SHUTDOWNS	95
K463 COORDINATE WITH ASO ON MANUAL PERFORMANCE INVESTIGATIONS	95
K493 PERFORM WALKAROUND INSPECTIONS AFTER TAKE-OFF	95
K470 COORDINATE WITH MCC ON IFF AND SURVEILLANCE RADAR EQUIPMENT STATUS INFLIGHT	95
K483 NOTIFY MCC COOLING LIGHTS ARE OUT	95
K505 TURN SURVEILLANCE RADAR TO STANDBY USING KEYBOARD ACTIONS	95
K464 COORDINATE WITH ASO ON OPTIMUM IFF CONFIGURATIONS	95
K488 OPERATE EMERGENCY LIGHTS	95
K533 PARTICIPATE IN LIFE SUPPORT TRAINING SEMINARS	95
K486 NOTIFY MCC THAT LCS IS OFF	95
K471 COORDINATE WITH MCC ON IFF EQUIPMENT MALFUNCTIONS	95
K520 OPEN OR CLOSE CREW ENTRANCE DOORS	95

COMPARISON OF SURVEY DATA TO AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data were compared to the March 1984 AFR 39-1 Specialty Description for AFSC 32832/52 and 32872, and to the September 1984 AFR 39-1 Specialty Description for AFSC 11832/52 and 11872. At the time of the occupational survey of the 328X2 career field, the AFR 39-1 Specialty Description for AFSC 328X2 accurately reflected a picture of the AWACS ground maintenance job; however, the job of the airborne radar maintainer was not defined. The AFR 39-1 classification change dated September 1984 (effective 31 October 1984) creating AFS Airborne Radar Systems, 118X2--formerly A/K/M 328X2--does provide a good description of the duties and responsibilities of the airborne radar maintenance job.

JOB SATISFACTION ANALYSIS

Tables 13, 14, and 15 present data reflecting the job interest, perceived utilization of talents and training, and reenlistment intentions of selected 328X2 time in career field (TICF) experience groups. Two DAFSC 328X2 groups are presented within each of three experience groups: ground maintenance (DAFSC 328X2 personnel without prefixes A/K/M), and airborne maintenance (DAFSC A/K/M 328X2 personnel). These two groups are compared to Mission Equipment Maintenance and Aircrew samples from other AFSCs surveyed in 1983.

Regardless of experience group, the job satisfaction indicators of interest and perceived utilization of talents and training are lower for ground maintenance 328X2s than for the mission equipment maintenance comparative sample. Reenlistment intentions for the ground maintenance group are less favorable than those of the comparative sample in the 1-48 and 49-96 months TICF experience groups and are just slightly higher in the 97+ month TICF group.

Job satisfaction among the aircrew (A/K/M 328X2) experience groups is very good--much better than the ground maintenance personnel and generally the same or better than the aircrew comparative sample. The somewhat low reenlistment intentions within all 328X2 groups, both ground and airborne, may be attributable in part to the attractiveness of the civilian job opportunities for personnel with their training and experience.

TABLE 13

JOB SATISFACTION INDICES FOR 1-48 MONTHS T1CF EXPERIENCE GROUPS
(PERCENT MEMBERS RESPONDING)*

	328X2 GROUND PERSONNEL (N=113)	MAINTENANCE COMPARATIVE SAMPLE** (N=738)	328X2 AIRCREW PERSONNEL (N=21)	AIRCREW COMPARATIVE SAMPLE** (N=731)
<u>EXPRESSED JOB INTEREST:</u>				
DULL	14	3	-	-
SO-SO	18	5	-	3
INTERESTING	66	91	100	94
<u>PERCEIVED UTILIZATION OF TALENTS:</u>				
LITTLE OR NOT AT ALL	33	8	-	2
FAIRLY WELL OR BETTER	67	92	100	97
<u>PERCEIVED UTILIZATION OF TRAINING:</u>				
LITTLE OR NOT AT ALL	26	10	-	1
FAIRLY WELL OR BETTER	74	89	100	98
<u>REENLISTMENT INTENTIONS:</u>				
PLAN TO RETIRE	1	2	-	3
PLAN NOT TO REENLIST	49	37	38	10
PLAN TO REENLIST	50	61	57	86

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

** 1983 Comparative Samples taken from:

(MAINT) Mission Equipment Maintenance - AFSC 305X4, 324X0, 328X5, 423X1, 423X5, 464X0
(AIRCREW) Aircrew - AFSC 112X0, 113X0C, 114X0, 115X0

TABLE 14

JOB SATISFACTION INDICES FOR 49-96 MONTHS TICF EXPERIENCE GROUP
(PERCENT MEMBERS RESPONDING)*

	328X2 GROUND PERSONNEL (N=37)	MAINTENANCE COMPARATIVE SAMPLE** (N=424)	328X2 AIRCREW PERSONNEL (N=17)	AIRCREW COMPARATIVE SAMPLE** (N=544)
<u>EXPRESSED JOB INTEREST:</u>				
DULL	8	6	6	2
SO-SO	27	8	-	5
INTERESTING	65	83	94	91
<u>PERCEIVED UTILIZATION OF TALENTS:</u>				
LITTLE OR NOT AT ALL	27	13	18	5
FAIRLY WELL OR BETTER	73	86	82	95
<u>PERCEIVED UTILIZATION OF TRAINING:</u>				
LITTLE OR NOT AT ALL	32	14	6	4
FAIRLY WELL OR BETTER	68	85	94	96
<u>REENLISTMENT INTENTIONS:</u>				
PLAN TO RETIRE	16	21	18	10
PLAN NOT TO REENLIST	22	19	6	7
PLAN TO REENLIST	57	60	71	82

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

** 1983 Comparative Samples taken from:

(MAINT) Mission Equipment Maintenance - AFSC 305X4, 324X0, 328X5, 423X1, 423X5, 464X0
(AIRCREW) Aircrew - AFSC 112X0, 113X0C, 114X0, 115X0

TABLE 15

JOB SATISFACTION INDICES FOR 97+ MONTHS T1CF EXPERIENCE GROUP
(PERCENT MEMBERS RESPONDING)*

	328X2 GROUND PERSONNEL (N=19)	MAINTENANCE COMPARATIVE SAMPLE** (N=346)	328X2 AIRCREW PERSONNEL (N=5)	AIRCREW COMPARATIVE SAMPLE** (N=415)
<u>EXPRESSED JOB INTEREST:</u>				
DULL	11	4	-	2
SO-SO	11	9	-	4
INTERESTING	74	85	100	92
<u>PERCEIVED UTILIZATION OF TALENTS:</u>				
LITTLE OR NOT AT ALL	11	6	-	6
FAIRLY WELL OR BETTER	89	94	100	92
<u>PERCEIVED UTILIZATION OF TRAINING:</u>				
LITTLE OR NOT AT ALL	32	9	-	4
FAIRLY WELL OR BETTER	68	90	100	95
<u>REENLISTMENT INTENTIONS:</u>				
PLAN TO RETIRE	16	20	60	31
PLAN NOT TO REENLIST	11	13	-	10
PLAN TO REENLIST	68	66	40	59

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

** 1983 Comparative Samples taken from:

(MAINT) Mission Equipment Maintenance - AFSC 305X4, 324X0, 328X5, 423X1, 423X5, 464X0
(AIRCREW) Aircrew - AFSC 112X0, 113X0C, 114X0, 115X0

ANALYSIS OF EXPERIENCE GROUPS

The jobs performed by survey respondents in different time in career field (TICF) groups were examined to determine if there were differences in tasks performed. The ground or nonaircrew 328X2 members fit the pattern seen in most career ladders. As time in career field increased, there was a steady increase in performance of duties involving supervision and management tasks, accompanied by a corresponding decrease in technical tasks performed. Some minor variations to this pattern are apparent in Table 16. The performance of administrative functions and operation of specialized equipment remained consistent across the experience groups. Training comprised no more than 9 percent of the job time and was performed predominantly by the 49-96 and 97+ months TICF groups. Another variation noted is the 14 percent drop (from 39 to 25 percent) in time spent maintaining mission crew compartment equipment between 1-48 and 49-96 months TICF groups.

Table 16 also presents the job experience pattern within the aircrew 328X2 personnel. As time in career field increased for these personnel, only minor differences in the jobs performed across groups are evident. The three aircrew experience groups spent 47 to 54 percent of their time performing inflight crew duties (Duty K) and 32 to 34 percent maintaining crew compartment or IFF equipment. No aircrew group spent more than 4 percent of their time in the performance of supervisory, management, or training duties.

1-48 Months TICF Personnel. Figure 2 shows the distribution of 1-48 months-in-the-career-field personnel across the jobs discussed in the SPECIALTY JOBS section of this report. Seventy percent of the 1-48 months TICF 328X2 personnel were AWACS Ground Maintenance Specialists. Sixteen percent were Airborne Radar Technicians (ART). No more than 3 percent of 1-48 months TICF group are found in any of the four support type jobs discussed in the SPECIALTY JOBS section.

Tables 17 and 18 display tasks performed by large numbers of 1-48 months TICF nonaircrew and aircrew personnel, respectively. These 1-48 months TICF groups are most relevant for examining ABR training programs and are highlighted to provide a foundation for examination of career field training.

FIGURE 2

DISTRIBUTION OF 1-48 MONTHS IN CAREER FIELD
PERSONNEL ACROSS CAREER LADDER JOBS
(Percent Members Responding)
(N=134)

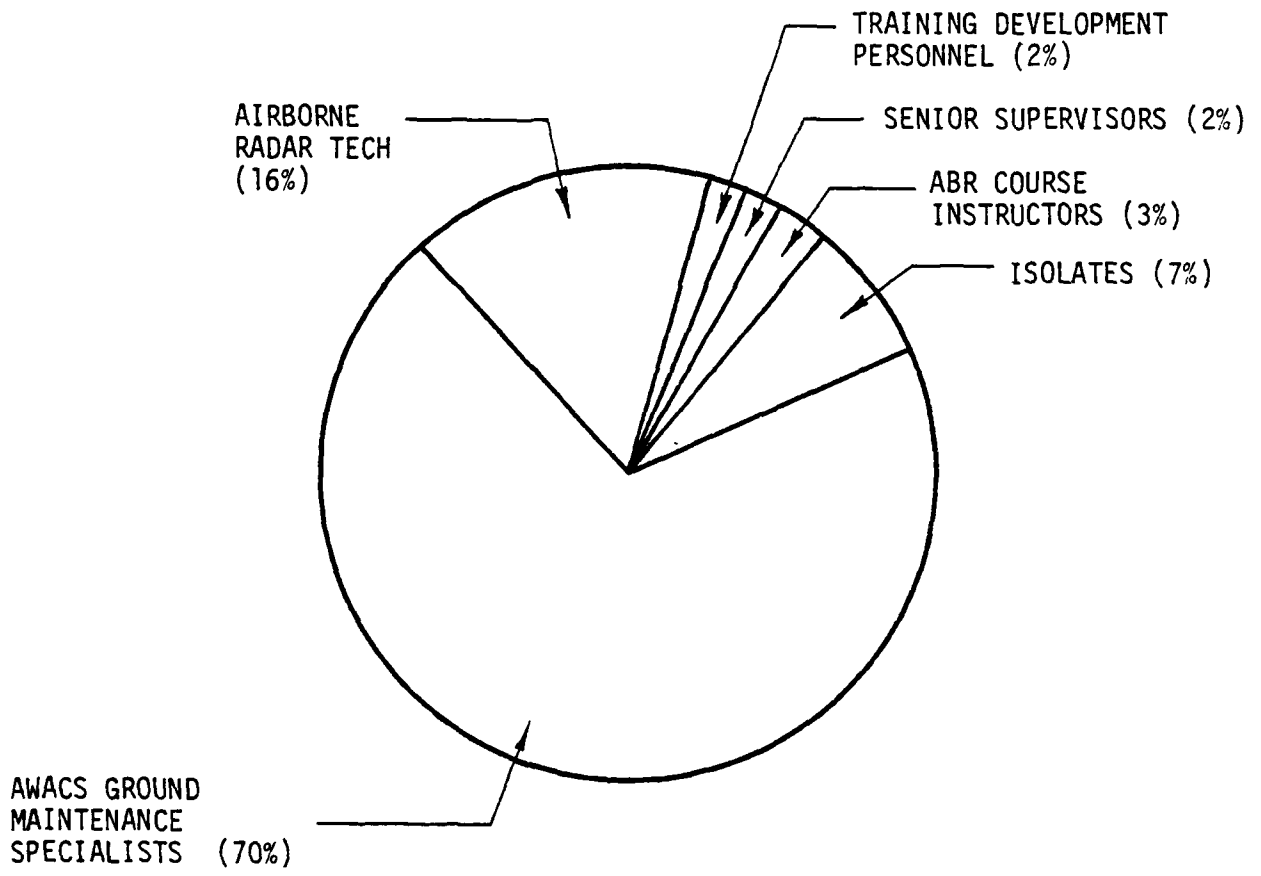


TABLE 16

PERCENT TIME SPENT ON DUTIES BY 328X2 TICF EXPERIENCE GROUPS
(RELATIVE TIME SPENT)

DUTIES	328X2			A/K/M 328X2		
	1-48 (N=113)	49-96 (N=37)	97+ (N=19)	1-48 (N=21)	49-96 (N=17)	97+ (N=5)
A ORGANIZING AND PLANNING	1	6	14	1	4	2
B DIRECTING AND IMPLEMENTING	3	9	10	*	3	2
C INSPECTING AND EVALUATING	*	4	6	*	3	2
D TRAINING	3	9	9	3	2	3
E MAKING ENTRIES ON FORMS AND PREFORMING ADMINISTRATIVE FUNCTIONS	6	8	6	2	3	1
F MAINTAINING MISSION CREW COMPARTMENT EQUIPMENT (INFLIGHT AND GROUND)	39	25	21	27	26	25
G MAINTAINING LOWER COMPARTMENT EQUIPMENT (INFLIGHT AND GROUND)	18	11	6	3	2	3
H MAINTAINING ANTENNA PEDESTAL EQUIPMENT	11	7	3	*	*	1
I MAINTAINING INTERROGATION (IFF) EQUIPMENT (INFLIGHT AND GROUND)	11	10	5	7	7	7
J OPERATING SPECIALIZED EQUIPMENT	6	5	9	*	*	*
K PERFORMING INFLIGHT CREW DUTIES	2	5	10	54	47	54
L PERFORMING MOBILITY TASKS	1	*	1	1	1	*

* Less than 1 percent

TABLE 17

EXAMPLES OF TASKS FREQUENTLY PERFORMED BY 1-48 MONTHS TICF
328X2 NONAIRCREW PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=113)
F201 OPERATE AIR ALARM SYSTEMS (SDU-34/E)	90
F149 INSTALL AND REMOVE AIR ALARM SYSTEMS (SDU-34/E)	89
F202 OPERATE MAGNETIC TAPE TRANSPORT FOR DIRECT LOAD OF RADAR PROGRAMS	89
F147 INHIBIT OR ENABLE AUTOMATIC TESTS ON SURVEILLANCE RADARS	88
E125 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	88
G304 WEIGH 40 OR 103 POUND SF-6 GAS BOTTLES	88
G285 INSTALL OR REMOVE 103-POUND SF-6 GAS BOTTLES	88
G287 INSTALL OR REMOVE 40-POUND SF-6 GAS BOTTLES	88
G231 CONNECT AND OPERATE SF-6 GROUND SERVICE CARTS	88
F148 INHIBIT OR ENABLE INDIVIDUAL TESTS ON SURVEILLANCE RADARS	87
F200 MONITOR LOCATIONS DISPLAYED ON RCMP	86
F219 PERFORM RADAR TURN-ON PROCEDURES	86
F218 PERFORM RADAR TURN-OFF UNDER RCMP CONTROL	85
F199 MONITOR LIQUID COOLING SYSTEM (LCS) METERS AND GAUGES	85
F137 ANALYZE MANUAL TEST RESULTS ON SURVEILLANCE RADARS	85
F212 PERFORM MALFUNCTION ANALYSIS USING FIT PROGRAM	85
F145 FAULT ISOLATE COMPONENTS OF THE TRANSMITTERS USING BIT/FIT	84
J436 CONNECT AND OPERATE MODEL 475 OSCILLOSCOPES	84
F142 FAULT ISOLATE COMPONENTS OF THE ROTODOMES USING BIT/FIT	84
F160 INSTALL OR REMOVE DEHYDRATOR DESICCANTS	84
F155 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE RADAR CORRELATOR (RDC)	84
F136 ANALYZE AUTOMATIC TEST RESULTS ON SURVEILLANCE RADARS	83
F209 PERFORM DIRECT PROGRAM LOADS ON SURVEILLANCE RADAR	83
H365 PERFORM ENTRY AND EXIT PROCEDURES IN ANTENNA PEDESTAL WITH POWER OFF	83
F158 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE ANALOG CABINET	83
E124 MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	82
F156 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE DIGITAL DOPPLER PROCESSOR (DDP)	82
F146 FAULT ISOLATE SURVEILLANCE RADAR SYSTEMS	81
F138 FAULT ISOLATE COMPONENTS OF THE ANALOG RECEIVERS USING BUILT-IN TEST/FAULT ISOLATION TEST (BIT/FIT)	81
F198 MONITOR AUTOMATIC RECONFIGURATIONS OF SURVEILLANCE RADAR	81

TABLE 18

EXAMPLES OF TASKS FREQUENTLY PERFORMED BY 1-48 MONTHS TICF
A/K/M 328X2 AIRCREW PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=21)
K530 PARTICIPATE IN CREW MAINTENANCE DEBRIEFINGS	100
K552 STUDY TECHNICAL ORDERS FOR ABNORMAL AND EMERGENCY INFLIGHT PROCEDURES	100
K549 REVIEW AFTO FORM 781 SERIES FOR AIRCRAFT DISCREPANCIES	100
K477 DECODE OCTAL, BINARY, OR DECIMAL READOUTS	100
K509 ANNOTATE AIRCRAFT WRITE-UPS ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	100
K498 REVIEW AND SIGN OFF FLIGHT CREW INFORMATION FILE (FCIF)	100
K479 FILE AIRBORNE RADAR TECHNICIAN (ART) INFLIGHT LOGS IN AIRCRAFT HISTORY BOOKS	100
K460 CONNECT EMERGENCY ESCAPE SLIDES PRIOR TO ENGINE STARTS	100
K475 DEBRIEF MAINTENANCE PERSONNEL ON SOFTWARE OR EQUIPMENT MALFUNCTIONS	100
K492 PERFORM PREFLIGHT INSPECTION OF PERSONAL LIFE SUPPORT EQUIPMENT AND OXYGEN EQUIPMENT	100
K497 REVIEW AIRCRAFT EQUIPMENT HISTORY BOOK	100
K493 PERFORM WALKAROUND INSPECTIONS AFTER TAKE-OFF	100
K458 BRIEF MISSION CREW COMMANDER (MCC) AND AIR SURVEILLANCE OFFICER (ASO) ON SURVEILLANCE RADAR AND IFF EQUIPMENT STATUS	100
K491 PERFORM PREFLIGHT CHECKS OF LCS, POWER FEEDER DUCT COOLING SYSTEM (PFDCS), AND ANTENNA COOLING CONTROL PANELS	100
K507 VISUALLY INSPECT FOR INFLIGHT MAINTENANCE SPARES AND TECHNICAL ORDER	100
K474 COORDINATE WITH MCC ON SURVEILLANCE RADAR POWER UPS	100
K490 PERFORM PREFLIGHT CHECK OF FIREFIGHTING EQUIPMENT	100
K506 VISUALLY CHECK TO ENSURE PASSENGERS ARE SECURE AND IN POSITION PRIOR TO TAKE-OFF, LANDING, OR AIR REFUELING	100
K482 NOTIFY MCC AND ASO IFF IS OPERATIONAL	100
K503 TRANSFER SURVEILLANCE RADAR CONTROLS	100
K483 NOTIFY MCC COOLING LIGHTS ARE OUT	100
K487 NOTIFY MCC THAT SURVEILLANCE RADAR IS OFF	100
K470 COORDINATE WITH MCC ON IFF AND SURVEILLANCE RADAR EQUIPMENT STATUS INFLIGHT	100
K480 NOTIFY FE REAR DOORS CLOSED, ESCAPE SLIDES ENGAGED, AND EMERGENCY LIGHTS ARMED PRIOR TO ENGINE STARTS	100
K481 NOTIFY FE WHEN EMERGENCY LIGHTS ARE OFF AND EMERGENCY ESCAPE SLIDES STOWED AFTER ENGINE SHUTDOWNS	100
K463 COORDINATE WITH ASO ON MANUAL PERFORMANCE INVESTIGATIONS	100

TRAINING ANALYSIS

Occupational survey data provide information which can assist training managers in the development of training programs relevant to the needs of personnel working in their first assignment within a career ladder. Factors which can be used to evaluate training are the percent of first-job (1-24 months TICF) or first four years in the career field (1-48 months TICF) members performing tasks, along with training emphasis and task difficulty ratings (as discussed in the Task Factor Administration section). These factors were used to examine the Specialty Training Standard (STS) and the Plan of Instruction (POI) for Course 3ABR328X2, Airborne Warning and Control Radar Maintenance Specialist. Training personnel from the 3300 Technical Training Wing, Keelser AFB MS, matched inventory tasks to appropriate sections of the POI and STS. It was this matching upon which comparisons were based. A complete computer listing displaying the percent members performing, training emphasis ratings, and task difficulty ratings for each task statement, along with POI and STS matchings, was forwarded to the school for their use in any further detailed review of training documents.

Training Emphasis and Task Difficulty Data

Training emphasis (TE) and task difficulty (TD) data can be used to provide information on training needs as perceived by experienced technicians within the specialty. Comparisons can then be made between this information and present training programs to determine if course adjustments are needed.

As discussed in the Task Factor Administration section, TE data were collected by maintenance functional area--ground and airborne maintenance--which is most useful in the analysis of 328X2 training documents, since the airborne responsibilities have been withdrawn from the 328X2 career field and now constitute the job performed by Airborne Radar Systems, AFSC 118X2, personnel. Survey data may be used by managers in determining the appropriate direction 118X2 training programs may take. Table 19 illustrates examples of different rating policies across the two maintenance areas.

Twenty-two ground maintenance personnel provided TE ratings on each task within the job inventory. Their ratings resulted in an average rating of 3.42, with a standard deviation of 2.21. All tasks rated 5.63 (the average plus 1 standard deviation) are those considered important in training for personnel new to the career ladder. Eighteen airborne personnel rated the same tasks resulting in an average rating of 2.32 and standard deviation of 1.76. Thus, tasks with a rating of 4.08 are those considered most significant to initial training of Airborne Radar Maintenance personnel.

Thirty-eight senior 328X2 personnel provided ratings for TD information. These ratings are standardized so average TD is 5.00, with a standard deviation of 1.00. Therefore, all tasks rated 6.00 are considered difficult tasks within the 328X2 career ladder. Complete lists of inventory tasks either in the order of relative TD or TE are included in the Analysis Extract and Training Extract. In addition, TD and TE ratings accompany each inventory task displayed in the Training Extract.

Because the TE and TD ratings are the composite opinion of experienced career ladder personnel on training for a 1-48 TICF person, such listings can assist training developers in deciding what tasks should be emphasized in entry-level training. Tasks receiving high ratings on both task factors accompanied by moderate to high personnel performing percentages may warrant resident training. Those tasks receiving high task factor ratings, but low personnel performing percentages, may be more appropriately planned for OJT programs within the career field. Low task factor ratings may highlight tasks best left out of training for new 328X2 personnel, but this decision must be weighed against percent performing data, command concerns, and criticality of the task to readiness, contingency planning, or safety programs.

TABLE 19

EXAMPLES OF TASKS REFLECTING DIFFERENCES ON TRAINING EMPHASIS (TE)
 RATING POLICIES ACROSS GROUND AND AIRBORNE 328X2 GROUPS

TASKS	TE RATINGS	
	GROUND MAINTENANCE PERSONNEL	AIRBORNE MAINTENANCE PERSONNEL
E124 MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	7.45	1.67
E125 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	7.36	1.39
F149 INSTALL OR REMOVE AIR ALARM SYSTEMS (SDU-34/E)	5.95	1.94
F152 INSTALL OR REMOVE BOARD PAIR ASSEMBLIES	6.09	3.89
F188 MANUALLY CALIBRATE BIT TARGET GENERATORS (BTG)	6.18	1.56
F208 PERFORM COOLING LOSS ACTIONS ON SURVEILLANCE RADAR	4.55	5.89
G236 EVACUATE AND PRESSURIZE SF-6 FILLED UNITS	6.27	1.17
G255 INSTALL OR REMOVE KLYSTRON-SOLENOIDS	5.68	1.56
G293 PERFORM LEAK ISOLATION ON SF-6 SYSTEMS	5.41	1.67
H328 INSTALL OR REMOVE INVERTERS	5.00	1.44
H355 INSTALL OR REMOVE SERIES REGULATORS	4.64	1.17
H373 VISUALLY INSPECT CONDITION OF ROTODOME EXTERIOR	4.05	2.89
I403 PERFORM COOLING LOSS ACTIONS ON IFF EQUIPMENT	4.09	5.00
I424 VISUALLY INSPECT IFF ANTENNA EQUIPMENT GROUP	5.14	1.33
J426 CONNECT AND OPERATE DIGITAL VOLTMETERS	5.95	1.56
J436 CONNECT AND OPERATE MODEL 475 OSCILLOSCOPES	6.73	1.50
J454 CONNECT AND OPERATE SIMPSON MODEL 260 MULTIMETERS	6.32	3.89
K455 ANALYZE EQUIPMENT FOR BEST EQUIPMENT CONFIGURATIONS	1.41	5.61
K477 DECODE OCTAL, BINARY, OR DECIMAL READOUTS	1.41	5.56
K502 SET RDC SENSE SWITCHES IN MISSION CONFIGURATIONS	1.50	5.00
K505 TURN SURVEILLANCE RADAR TO STANDBY USING KEYBOARD ACTIONS	1.59	5.39

* Boxed ratings identify high TE ratings:

GROUND = 5.63 or greater

AIRBORNE = 4.08 or greater

Specialty Training Standard (STS)

A review of STS 328X2, dated December 1982, compared STS elements to survey data. STS elements containing general information or subject-matter knowledge requirements were not evaluated. As this career field was reorganized October 1984, removing the A/K/M prefix from the structure, the analysis of the STS will be in two parts: first, as the STS applies to the ground maintenance 328X2 personnel; second, to the A/K/M 328X2 (now A/K/M 118X2) airborne personnel.

STS Relative to 328X2 Ground Maintenance. The technical elements listed in the STS with tasks referenced to them generally were well supported in terms of being performed by a substantial percentage of the 328X2 ground maintenance incumbents. All but a few elements were performed by at least 20 percent of the respondents in their first 48 months in the career field, or at the 5- or 7-skill levels. Technical elements which reflected low percent members performing (less than 20 percent) or were without matched tasks are listed in Table 20. These elements should be reviewed by career ladder managers to determine the appropriateness of their inclusion in the STS. These elements may not have been matched because inventory tasks relative to that item were unclear or omitted. If it is determined tasks were unclear or omitted, it is requested that subject-matter specialists draft the necessary task statements and forward them to USAFOMC/OMYV for inclusion in the next inventory constructed for this specialty.

A number of job inventory tasks were not matched to STS elements. For the most part, these tasks not referenced involve supervision and management, or inflight duties. There were, however, 13 technical tasks not referenced which were performed by over 20 percent of the personnel in their first 48 months in the career field. These tasks are listed in Table 21. Tasks not referenced and performed by 20 percent or more of any of the incumbent groups should be covered by some existing STS elements or a line item should be added to the STS.

TABLE 20

LOW PERFORMANCE OR UNREFERENCED STS ELEMENTS
 RELATIVE TO 328X2 GROUND MAINTENANCE PERSONNEL
 (EXCLUDING KNOWLEDGE ONLY ELEMENTS)

STS ELEMENTS		PERCENT PERFORMING*
11b(6)	CONNECT AND OPERATE PUNCHED TAPE READER	NO MATCH
11b(7)	CONNECT AND OPERATE MEMORY CHIPS PROGRAMMER (PROM)	NO MATCH
11M	REPAIR COAXIAL AND MULTICONDUCTOR CABLES	14
11N	MODIFY EQUIPMENT IN ACCORDANCE WITH APPLICABLE DIRECTIVES AND WORK ORDERS	NO MATCH
12	OFF-EQUIPMENT MAINTENANCE (ALL SUBELEMENTS EXCEPT 12a(2) AND 12c(2))	NO MATCH
13	PREVENTIVE MAINTENANCE	5

* Percent shown is highest percent reported for a task matched to the STS element

TABLE 21

TASKS NOT REFERENCED TO STS PERFORMED BY 328X2 GROUND MAINTENANCE PERSONNEL
(OVER 20 PERCENT MEMBERS PERFORMING)

TASKS	TNG EMPH*	PERCENT MEMBERS PERFORMING		TASK DIFF**
		1-48 MOS TICF (N=113)	DAFSC 32852 (N=78)	
F202 OPERATE MAGNETIC TAPE TRANSPORT FOR DIRECT LOAD OF RADAR PROGRAMS	6.45	89	83	4.68
H365 PERFORM ENTRY AND EXIT PROCEDURES IN ANTENNA PEDESTAL WITH POWER OFF	5.91	83	82	4.66
H366 PERFORM ENTRY AND EXIT PROCEDURES IN ANTENNA PEDESTAL WITH POWER ON	5.82	74	77	4.72
H307 CONNECT AND OPERATE TRACK ASSEMBLY AND MONORAIL TROLLEYS	5.59	77	82	4.97
G304 WEIGH 40 OR 103 POUND SF-6 GAS BOTTLES	5.27	88	83	3.86
F229 VISUALLY INSPECT CONDITION OF RADAR EQUIPMENT CABINETS	5.23	79	76	4.14
G230 AIR FILL SF-6 UNITS	4.91	44	47	4.13
G300 PREFILL HIGH POWER MICROWAVE UNITS	4.77	38	53	4.86
G289 PERFORM DYNAMIC SYSTEM FLOW CHECKS	4.73	27	39	5.99
J453 CONNECT AND OPERATE SF-6 FLOW METERS	4.50	25	32	5.64
H373 VISUALLY INSPECT CONDITION OF ROTODOME EXTERIOR	4.05	24	30	4.35
H312 INSTALL OR REMOVE AIR FILTERS	3.91	27	44	4.68
L557 ACCOMPLISH MOBILITY PROCESSING CHECKLISTS	3.46	18	21	4.00
L567 PACK INDIVIDUAL MOBILITY EQUIPMENT FOR DEPLOYMENT	3.36	26	22	4.54

* Training Emphasis average = 3.42 with a standard deviation = 2.21; high TE = 5.63

** Task Difficulty average = 5.00 with a standard deviation = 1.00; high TD = 6.00

STS Relative to A/K/M 328X2 Airborne Maintenance. Due to the nature of the job performed by the Airborne Radar Technician (ART), several 328X2 STS elements were not supported by survey data. Table 22 lists those elements without matched tasks or with low percent members performing. Analysis of STS elements reflects that Airborne Technicians, as discussed in the SPECIALTY JOBS Section, have a much less maintenance-oriented job. Tasks not referenced to STS elements with high percent members performing were almost all related to aircrew position duties (Duty K). Table 23 lists 20 of those tasks rated highest in first-term training emphasis by senior Airborne Radar Technicians. Managers responsible for development of the new STS for AFSC 118X2 should thoroughly review the entire computerized STS matched with survey data for aircrew personnel.

TABLE 22

LOW PERFORMANCE OR UNREFERENCED STS ELEMENTS RELATIVE TO A/K/M 328X2 AIRBORNE MAINTENANCE PERSONNEL
(EXCLUDING KNOWLEDGE ONLY ELEMENTS)

STS ELEMENTS	PERCENT PERFORMING*
11a CONNECT AND OPERATE SPECIAL GROUND HANDLING AND SERVICING SUPPORT EQUIPMENT USED WITH SURVEILLANCE RADAR AND IFF--11a(2) thru 11a(4)	14
11b CONNECT AND OPERATE TEST EQUIPMENT USED WITH THE SURVEILLANCE RADAR AND INTERROGATOR SYSTEM--11b(6) thru 11b(9)	18
11f(1)(c) OPERATIONALLY CHECK INSTALLED EQUIPMENT ON SURVEILLANCE RADAR BY SPECIAL TEST EQUIPMENT	5
11m REPAIR COAXIAL AND MULTICONDUCTOR CABLES	0
11n MODIFY EQUIPMENT IN ACCORDANCE WITH APPLICABLE DIRECTIVES AND WORK ORDERS	NO MATCH
12 OFF-EQUIPMENT MAINTENANCE (ALL SUBELEMENTS EXCEPT 12a(3) AND 12c(2))	NO MATCH
13 PREVENTIVE MAINTENANCE	5

* Percent shown is highest percent reported for a task matched to the STS element

TABLE 23

EXAMPLES OF TASKS NOT REFERENCED TO STS PERFORMED BY A/K/M 328X2 AIRBORNE MAINTENANCE PERSONNEL

TASKS	TNG EMPH*	PERCENT MEMBERS PERFORMING		TASK DIFF**
		1-48 MOS TICF (N=113)	DAFSC 32852 (N=78)	
K549 REVIEW AFTO FORM 781 SERIES FOR AIRCRAFT DISCREPANCIES	6.22	100	100	3.98
K518 MAINTAIN CURRENT STATUS OF FLIGHT MANUALS, SAFETY AND OPERATIONAL SUPPLEMENTS, AND FLIGHT CREW CHECKLISTS	6.11	91	91	4.56
K552 STUDY TECHNICAL ORDERS FOR ABNORMAL AND EMERGENCY INFLIGHT PROCEDURES	6.11	100	100	4.92
K475 DEBRIEF MAINTENANCE PERSONNEL ON SOFTWARE OR EQUIPMENT MALFUNCTIONS	5.89	100	100	4.46
K508 ADVISE MAINTENANCE PERSONNEL IN IDENTIFYING AIRCRAFT SYSTEMS MALFUNCTIONS	5.83	95	96	4.46
K541 PERFORM OR PRACTICE EMERGENCY AIRCRAFT EGRESS PROCEDURES	5.78	91	100	4.11
K465 COORDINATE WITH ASO ON SENSOR SETTINGS	5.72	95	96	4.39
K542 PERFORM PERSONAL EQUIPMENT INSPECTIONS	5.67	86	91	3.66
K455 ANALYZE EQUIPMENT FOR BEST MISSION CONFIGURATIONS	5.61	95	96	4.94
K492 PERFORM PREFLIGHT INSPECTION OF PERSONAL LIFE SUPPORT EQUIPMENT AND OXYGEN EQUIPMENT	5.56	100	100	3.77
K523 OPERATE FIRE EXTINGUISHERS	5.56	57	59	3.34
K463 COORDINATE WITH ASO ON MANUAL PERFORMANCE INVESTIGATIONS	5.50	100	100	4.45
K509 ANNOTATE AIRCRAFT WRITE-UPS ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	5.44	100	100	3.90
K505 TURN SURVEILLANCE RADAR TO STANDBY USING KEYBOARD ACTIONS	5.39	100	100	3.67
K464 COORDINATE WITH ASO ON OPTIMUM IFF CONFIGURATIONS	5.33	100	100	3.97
K473 COORDINATE WITH MCC ON SURVEILLANCE RADAR EQUIPMENT MALFUNCTIONS	5.33	100	100	4.44
K530 PARTICIPATE IN CREW MAINTENANCE DEBRIEFINGS	5.33	100	100	4.06
K548 POST CHANGES TO PERSONAL AIRCREW PUBLICATIONS	5.33	81	86	4.15
K506 VISUALLY CHECK TO ENSURE PASSENGERS ARE SECURE AND IN POSITION PRIOR TO TAKE-OFF, LANDING, OR AIR REFUELING	5.28	100	100	3.20
K476 DEBRIEF OPERATIONS PERSONNEL ON SOFTWARE OR EQUIPMENT	5.22	67	73	4.41

* Training Emphasis average = 2.32 with a standard deviation = 1.76; high TE = 4.08

** Task Difficulty average = 5.00 with a standard deviation = 1.00; high TD = 6.00

Plan of Instruction (POI)
(E3ABR32832-004)

Based on previously mentioned assistance from technical school subject-matter specialists in matching inventory tasks to the POI, several computer products were generated displaying the results of the matching process. Information contained on computer printouts includes training emphasis (TE) and task difficulty (TD), as well as percent members performing data for airmen in their first job (1-24 months TICF) and first 4 years in the career field (1-48 months TICF). Printouts are available for ground maintenance and airborne maintenance groups, with an additional product available that compares task performance to the POI on both groups.

The 36-week Airborne Warning and Control Radar Maintenance Specialist Course is theory and principles-centered training in the knowledge and technical order maintenance procedures used to perform maintenance of the E-3A surveillance radar and interrogation systems. The course includes 18 weeks of electronics principles training. Basic resident training is conducted without the benefit of actual mission equipment through the use of a computer-directed Radar Maintenance Training Simulator (RMTS) which parallels the Radar Control and Maintenance Panel (RCMP) used onboard the E-3A aircraft for fault isolation, maintenance testing, and systems monitoring. Maintenance training is limited to simulator time and classroom instruction on radar principles and maintenance procedures supported by technical orders and visual aids. Hands-on maintenance training, other than the simulator, is a function of OJT or field training (FTD) at Tinker AFB OK.

As the ABR course is principles centered, there were several POI blocks not referenced with inventory tasks. While these performance objectives generally were broader than the job inventory tasks, they still are in need of review. Some of the areas covered by these blocks include radar principles, RMTS familiarization, functional analysis of the RCMP, analysis of the radar transmitter, and functional analysis of the analog receiver. There were also several objectives without referenced tasks that appeared to be matchable, such as radar turn-on, control, and shutdown procedures; RCMP operation, message interpretation, and control of surveillance radar; special test and trouble analysis procedures; and transmitter and antenna fault isolation procedures.

An analysis of tasks not referenced to the POI revealed that tasks with both a high first-term training emphasis rating and 30 percent or more first-term personnel performing, were related to aircrew inflight or ground duties, or to tasks trainable only in an FTD or OJT mode.

Managers reviewing the computer printouts of the POI matched with survey data will note several tasks matched that are not taught in the basic course and are, in fact, tasks performed or steps taken by technicians to correct a fault or malfunction analyzed in a particular course objective. These maintenance procedures are "performed" in the course through simulator interaction, once identified by the student. The ability to fault isolate

systems or components, to analyze test results, and to perform harmonizations are examples of tasks required of both ground and airborne AWACS technicians. The percent members performing tasks and the corresponding task factor ratings support the POI and indicate training is appropriate for both ground and airborne initial training.

Electronic Principles Training

The above discussion of the 32832 POI related to only AWACS specific training. It did not include analysis of the first 18 weeks of course training in electronics principles. The Occupational Measurement Center recently completed a survey of electronics principles required across several career fields. The survey instrument, referred to as the Electronics Principles Inventory (EPI), is a knowledge-based job inventory which identifies a range of electronics principles personnel need to perform on electronics-oriented jobs. The EPI, administered from December 1982 through July 1983, contained 1,366 questions (tasks) in 63 subject areas.

Table 24 displays the percent of 32852 ground and airborne AWACS technicians reporting use of electronics principles as part of their jobs. Fifty-four of the 63 subject areas were used by 10 percent or more of either the ground or airborne respondents. There were 13 areas where the difference in ground and airborne utilization was greater than 20 percent. Only in 2 of those 13 areas was utilization higher for airborne personnel--FM Systems and Microphones and Sensing Devices--both reflecting the aircrew nature of that group's job. The subject areas of oscilloscopes, logic functions, counters, and signal generators were identified as areas where ground maintenance personnel may require somewhat more intense principles training. Managers should review the electronics principles portion of 32832 training to determine if 18 weeks is appropriate for both ground and airborne assigned personnel.

TABLE 24

ELECTRONICS PRINCIPLES INVENTORY (EPI)
PERCENTAGE OF 32852 PERSONNEL USING PRINCIPLES

SUBJECT AREA*	PERCENT USING	
	GROUND MAINTENANCE (N=42)	AIRBORNE MAINTENANCE (N=21)
MATHEMATICS	83	81
DIRECT CURRENT	100	100
RESISTANCE AND RESISTIVE CIRCUITS	74	71
METERS/MULTIMETERS	93	90
ALTERNATING CURRENT	95	81
INDUCTORS AND INDUCTIVE RESISTANCE	17	14
CAPACITORS AND CAPACITIVE RESISTANCE	52	29
TRANSFORMERS	69	67
MAGNETISM	19	24
RCL CIRCUITS	55	33
TIME CONSTANTS	10	19
FILTERS	71	76
COUPLING	29	48
SOLDERING OR SOLDERLESS CONNECTIONS	67	14
RELAYS	55	57
MICROPHONES AND SENSING DEVICES	12	52
SPEAKERS	0	14
OSCILLOSCOPES	88	14
SEMICONDUCTOR DIODES	33	29
TRANSISTORS	40	38
TRANSISTOR AMPLIFIERS	26	29
SOLID-STATE SPECIAL PURPOSE DEVICES	76	67
OSCILLATORS	64	57
MULTIVIBRATORS	40	29
LIMITERS AND CLAMPERS	17	14
ELECTRON TUBES	10	10
ELECTRON TUBE AMPLIFIERS AND CIRCUITS	14	24
SPECIAL PURPOSE ELECTRON TUBES	45	43
HETERODYNING AND MODULATION-DEMODULATION (MODEMS)	74	81
AM SYSTEMS	2	14
FM SYSTEMS	7	43
NUMBERING SYSTEMS	100	95
LOGIC FUNCTIONS	81	43
BOOLEAU EQUATIONS	40	10
COUNTERS	71	33
TIMING CIRCUITS	52	38

* Subject areas listed in inventory order

TABLE 24 (CONTINUED)

ELECTRONICS PRINCIPLES INVENTORY (EPI)
 PERCENTAGE OF 32852 PERSONNEL USING PRINCIPLES

SUBJECT AREA*	PERCENT USING	
	GROUND MAINTENANCE (N=42)	AIRBORNE MAINTENANCE (N=21)
USE OF SIGNAL GENERATORS	69	33
METER MOVEMENTS	67	71
WAVESHAPING CIRCUITS	67	67
SINGLE OR INDEPENDENT SIDEBAND SYSTEMS	12	14
PULSE MODULATION SYSTEMS	50	29
ANTENNAS	88	86
TRANSMISSION LINES	55	52
WAVEGUIDES AND CAVITY RESONATORS	79	76
MICROWAVE AMPLIFIERS AND OSCILLATORS	83	81
REGISTERS	74	57
STORAGE DEVICES	81	81
DIGITAL-TO-ANALOG AND ANALOG-TO-DIGITAL CONVERTERS	86	95
CABLE FABRICATION	60	10
INPUT/OUTPUT (PERIPHERAL) DEVICES	83	62
PHOTO SENSITIVE DEVICES	10	10
COMPUTERS, MICROPROCESSORS, AND PROGRAMMING	64	81
DB AND POWER RATIOS	76	62

* Subject areas listed in inventory order

NOTE: Boxed areas indicate significant differences in principles utilization. Percent shown is highest percent reported for a task within the subject area.

IMPLICATIONS

Survey data reveal that, at the time of the survey, the 328X2 career field was made up of two very distinct jobs--the AWACS Ground Maintenance Specialist and the Airborne Radar Technicians (ART). Career field documents generally were supported by data--recognizing that a new STS will be developed for Airborne Radar Technicians. Managers should utilize the detailed TRAINING EXTRACT document accompanying this report in that STS development. The basic resident training POI is a good outline for entry-level training of both ground and airborne maintenance diagnostic training. Data collected from the 1983 Electronics Principles (EP) survey indicate a review of EP training provided personnel entering airborne assignments may be appropriate.

From the viewpoint of tasks performed by ground versus airborne technicians, survey data support the classification change creating the Airborne Radar Systems career ladder within the Aircrew Operations career field. Trained resources should be better utilized with separate career ladders--eliminating the loss of experienced ground personnel to crew duties. The effect this change has on the diverse job satisfaction differences in these two jobs should be a matter for future examination.

APPENDIX A
REPRESENTATIVE TASKS FOR SPECIALTY JOBS

TABLE A1
 AWACS GROUND MAINTENANCE SPECIALISTS
 (GRP037)

TASKS	PERCENT MEMBERS PERFORMING (N=121)
F202 OPERATE MAGNETIC TAPE TRANSPORT FOR DIRECT LOAD OF RADAR PROGRAMS	100
F201 OPERATE AIR ALARM SYSTEMS (SDU-34/E)	100
G287 INSTALL OR REMOVE 40-POUND SF-6 GAS BOTTLES	99
F149 INSTALL AND REMOVE AIR ALARM SYSTEMS (SDU-34/E)	99
F147 INHIBIT OR ENABLE AUTOMATIC TESTS ON SURVEILLANCE RADARS	99
G304 WEIGH 40 OR 103 POUND SF-6 GAS BOTTLES	98
G285 INSTALL OR REMOVE 103-POUND SF-6 GAS BOTTLES	98
F200 MONITOR LOCATIONS DISPLAYED ON RCMP	98
F219 PERFORM RADAR TURN-ON PROCEDURES	97
G231 CONNECT AND OPERATE SF-6 GROUND SERVICE CARTS	97
F148 INHIBIT OR ENABLE INDIVIDUAL TESTS ON SURVEILLANCE RADARS	97
F145 FAULT ISOLATE COMPONENTS OF THE TRANSMITTERS USING BIT/ FIT	97
F155 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE RADAR CORRELATOR (RDC)	97
F160 INSTALL OR REMOVE DEHYDRATOR DESICCANTS	97
F218 PERFORM RADAR TURN-OFF UNDER RCMP CONTROL	96
F199 MONITOR LIQUID COOLING SYSTEM (LCS) METERS AND GAUGES	96
E125 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	96
H365 PERFORM ENTRY AND EXIT PROCEDURES IN ANTENNA PEDESTAL WITH POWER OFF	96
F142 FAULT ISOLATE COMPONENTS OF THE ROTODOMES USING BIT/FIT	96
F158 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE ANALOG CABINET	96
F156 INSTALL OR REMOVE CIRCUIT CARD ASSEMBLIES WITHIN THE DIGITAL DOPPLER PROCESSOR (DDP)	96
F212 PERFORM MALFUNCTION ANALYSIS USING FIT PROGRAM	95
F198 MONITOR AUTOMATIC RECONDIGURATIONS OF SURVEILLANCE RADAR	95
J436 CONNECT AND OPERATE MODEL 475 OSCILLOSCOPES	95
F137 ANALYZE MANUAL TEST RESULTS OR SURVEILLANCE RADARS	94

TABLE A2
FIELD TRAINING INSTRUCTORS
(GRP031)

TASKS	PERCENT MEMBERS PERFORMING (N=5)
D100 PREPARE LESSON PLANS	100
I414 PERFORM OPERATIONAL IFF CHECKOUT PROCEDURES	100
I416 PERFORM PREPARATION FOR IFF CHECKOUT PROCEDURES	100
I405 PERFORM MANUAL TROUBLE ANALYSIS OF IFF ANTENNA EQUIPMENT GROUP BY STEERING ERROR FAULTS	100
I406 PERFORM MANUAL TROUBLE ANALYSIS OF IFF ANTENNA EQUIPMENT GROUP BY RF FAULTS	100
I408 PERFORM MANUAL TROUBLE ANALYSIS OF IFF ANTENNA EQUIPMENT GROUP BY POWER LEVEL CHECKS	100
I409 PERFORM MANUAL TROUBLE ANALYSIS OF IFF ANTENNA EQUIPMENT GROUP BY RF DETECTOR CHECKS	100
I420 PERFORM TROUBLE ANALYSIS USING OBTM&M SINGLE TEST POINT INTERROGATIONS	100
J425 CONNECT AND OPERATE ANTENNA CONTROL DRIVE TEST SETS, AN/APM-402	100
J451 CONNECT AND OPERATE RADAR TEST SETS AN/APM-401	100
I399 INTERPRET BLOCK OR SCHEMATIC DIAGRAMS OF IFF SYSTEMS	100
I400 INTERPRET IFF FAULT PRINTOUTS FROM ON-BOARD TEST MONITOR AND MAINTENANCE (OBTM&M)	100
I401 MONITOR IFF STATUS INDICATOR LIGHTS	100
J436 CONNECT AND OPERATE MODEL 475 OSCILLOSCOPES	100
I418 PERFORM TROUBLE ANALYSIS USING OBTM&M FALSE ALARMS	100
I419 PERFORM TROUBLE ANALYSIS USING OBTM&M MAINTENANCE ADVISORY MESSAGES	100
I424 VISUALLY INSPECT IFF ANTENNA EQUIPMENT GROUP	100
J452 CONNECT AND OPERATE RADAR TEST SETS AN/UPM-137	100
J426 CONNECT AND OPERATE DIGITAL VOLTMETERS	100
J434 CONNECT AND OPERATE MODEL 42B MICROWATT METERS	100
I404 PERFORM IFF RACK TURN-OFF PROCEDURES	100
I413 PERFORM MANUAL TROUBLE ANALYSIS OF INTERROGATOR SET UNITS BY VOLTAGE CHECKS	100
I403 PERFORM COOLING LOSS ACTIONS ON IFF EQUIPMENT	100
E118 MAKE ENTRIES ON AF FORMS 623 (ON-THE-JOB TRAINING RECORD)	100
E119 MAKE ENTRIES ON AF FORMS 797 (JOB QUALIFICATION STANDARD CONTINUATION)	100

TABLE A3

AIRBORNE RADAR TECHNICIANS
(GRP033)

TASKS	PERCENT MEMBERS PERFORMING (N=43)
K477 DECODE OCTAL, BINARY, OR DECIMAL READOUTS	100
K475 DEBRIEF MAINTENANCE PERSONNEL ON SOFTWARE OR EQUIPMENT MALFUNCTIONS	100
K491 PERFORM PREFLIGHT CHECKS OF LCS, POWER FEEDER DUCT COOLING SYSTEM (PFDCS), AND ANTENNA COOLING CONTROL PANELS	100
K503 TRANSFER SURVEILLANCE RADAR CONTROLS	100
K473 COORDINATE WITH MCC ON SURVEILLANCE RADAR EQUIPMENT MALFUNCTIONS	100
K482 NOTIFY MCC AND ASO IFF IS OPERATIONAL	100
K470 COORDINATE WITH MCC ON IFF AND SURVEILLANCE RADAR EQUIPMENT STATUS INFLIGHT	100
K464 COORDINATE WITH ASO ON OPTIMUM IFF CONFIGURATIONS	100
K505 TURN SURVEILLANCE RADAR TO STANDBY USING KEYBOARD ACTIONS	100
K486 NOTIFY MCC THAT LCS IS OFF	100
K471 COORDINATE WITH MCC ON IFF EQUIPMENT MALFUNCTIONS	100
K488 OPERATE EMERGENCY LIGHTS	100
F218 PERFORM RADAR TURN-OFF UNDER RCMP CONTROL	98
F219 PERFORM RADAR TURN-ON PROCEDURES	98
K552 STUDY TECHNICAL ORDERS FOR ABNORMAL AND EMERGENCY INFLIGHT PROCEDURES	98
F229 VISUALLY INSPECT CONDITION OF RADAR EQUIPMENT CABINETS	98
F228 VISUALLY INSPECT CONDITION OF NAVIGATION EQUIPMENT RACKS	98
K458 BRIEF MISSION CREW COMMANDER (MCC) AND AIR SURVEILLANCE OFFICER (ASO) ON SURVEILLANCE RADAR AND IFF EQUIPMENT STATUS	98
K498 REVIEW AND SIGN OFF FLIGHT CREW INFORMATION FILE (FCIF)	98
K506 VISUALLY CHECK TO ENSURE PASSENGERS ARE SECURE AND IN POSITION PRIOR TO TAKE-OFF, LANDING, OR AIR REFUELING	98
K492 PERFORM PREFLIGHT INSPECTION OF PERSONAL LIFE SUPPORT EQUIPMENT AND OXYGEN EQUIPMENT	98
K474 COORDINATE WITH MCC ON SURVEILLANCE RADAR POWER UPS	98
K493 PERFORM WALKAROUND INSPECTIONS AFTER TAKE-OFF	98
K490 PERFORM PREFLIGHT CHECK OF FIREFIGHTING EQUIPMENT	98
K463 COORDINATE WITH ASO ON MANUAL PERFORMANCE INVESTIGATIONS	98

TABLE A4
 AWACS TRAINING DEVELOPMENT PERSONNEL
 (GRP041)

TASKS	PERCENT MEMBERS PERFORMING (N=5)
F200 MONITOR LOCATIONS DISPLAYED ON RCMP	100
F212 PERFORM MALFUNCTION ANALYSIS USING FIT PROGRAM	100
F218 PERFORM RADAR TURN-OFF UNDER RCMP CONTROL	100
F198 MONITOR AUTOMATIC RECONFIGURATIONS OF SURVEILLANCE RADAR	100
F219 PERFORM RADAR TURN-ON PROCEDURES	100
F146 FAULT ISOLATE THE SURVEILLANCE RADAR SYSTEMS	100
F147 INHIBIT OR ENABLE AUTOMATIC TESTS ON SURVEILLANCE RADARS	100
F148 INHIBIT OR ENABLE INDIVIDUAL TESTS ON SURVEILLANCE RADARS	100
F227 RECYCLE RADAR PROGRAMS	100
F202 OPERATE MAGNETIC TAPE TRANSPORT FOR DIRECT LOAD OF RADAR PROGRAMS	100
F138 FAULT ISOLATE COMPONENTS OF THE ANALOG RECEIVERS USING BUILT-IN TEST/FAULT ISOLATION TEST (BIT/FIT)	100
F136 ANALYZE AUTOMATIC TEST RESULTS ON SURVEILLANCE RADARS	100
F137 ANALYZE MANUAL TEST RESULTS ON SURVEILLANCE RADARS	100
F209 PERFORM DIRECT PROGRAM LOADS ON SURVEILLANCE RADAR	100
F203 OVERRIDE SYSTEM TIME-OUT CLOCKS	100
F196 MANUALLY CONTROL SURVEILLANCE RADAR USING KEYBOARD ACTIONS	80
F211 PERFORM MALFUNCTION ANALYSIS USING DIGITAL PROCESSING AND CONTROL (DPAC) PROGRAM	80
F214 PERFORM MANUAL FAULT ANALYSIS	80
F199 MONITOR LIQUID COOLING SYSTEM (LCS) METERS AND GAUGES	80
J436 CONNECT AND OPERATE MODEL 475 OSCILLOSCOPES	80
F143 FAULT ISOLATE COMPONENTS OF THE STABLE LOCAL OSCILLATORS (STALO) USING BIT/FIT	80
F144 FAULT ISOLATE COMPONENTS OF THE SYNCHRONIZERS USING BIT/ FIT	80
F145 FAULT ISOLATE COMPONENTS OF THE TRANSMITTERS USING BIT/FIT	80
F141 FAULT ISOLATE COMPONENTS OF THE RADAR DATA CORRELATORS USING BIT/FIT	80
J427 CONNECT AND OPERATE FLUKE MODEL 8060A DIGITAL MULTIMETERS	80

TABLE A5
SENIOR SUPERVISORS
(GRPO30)

TASKS	PERCENT MEMBERS PERFORMING (N=6)
A7 DETERMINE WORK PRIORITIES	100
A5 COORDINATE MAINTENANCE WITH JOB CONTROL	100
A17 PLAN OR SCHEDULE WORK ASSIGNMENTS	83
B46 SUPERVISE AIRBORNE WARNING AND CONTROL RADAR TECHNICIANS (AFSC 32872)	83
B30 DIRECT FLIGHTLINE MAINTENANCE ACTIVITIES	83
B45 SUPERVISE AIRBORNE WARNING ANC CONTROL RADAR SPECIALISTS (AFSC 32852)	83
B36 DIRECT SHOP MAINTENANCE ACTIVITIES	83
A4 COORDINATE MAINTENANCE WITH CIVILIAN CONTRACTOR PERSONNEL	83
E125 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	83
E118 MAKE ENTRIES ON AF FORMS 623 (ON-THE-JOB TRAINING RECORD)	83
D79 ASSIGN ON-THE-JOB (OJT) TRAINERS	83
A8 DEVELOP WORK METHODS OR PROCEDURES	83
E117 MAKE ENTRIES ON AF FORMS 2413 (SUPPLY CONTROL LOG)	83
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	83
B28 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	83
B47 SUPERVISE APPRENTICE AIRBORNE WARNING AND CONTROL RADAR SPECIALISTS (AFSC 32832)	67
B48 WRITE CORRESPONDENCE	67
A16 PLAN OR PREPARE BRIEFINGS	67
A6 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	67
C52 CERTIFY STATUS OF REPAIRABLE, SERVICEABLE, OR CONDEMNED PARTS	67
E119 MAKE ENTRIES ON AF FORMS 797 (JOB QUALIFICATION STANDARD CONTINUATION)	67
C74 WRITE APR	67
A11 ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	67
A12 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	67

TABLE A6
 BASIC COURSE INSTRUCTORS
 (GRP044)

TASKS	PERCENT MEMBERS PERFORMING (N=5)
D83 CONDUCT RESIDENT COURSE CLASSROOM TRAINING	100
D100 PREPARE LESSON PLANS	100
D86 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	100
D77 ADMINISTER TESTS, OTHER THAN FOR AIRCREW MEMBER TRAINING	100
D101 PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	100
D91 DEVELOP TRAINING AIDS	100
B28 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	100
D103 WRITE TEST QUESTIONS	80
D102 SCORE TESTS	80
D90 DEVELOP RESIDENT COURSE OR CAREER DEVELOPMENT COURSE (CDC) CURRICULUM MATERIALS	80
E112 MAINTAIN STANDARD AIR FORCE PUBLICATIONS, REGULATIONS, OR MANUALS	80
D98 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	60
D96 EVALUATE PROGRESS OR RESIDENT COURSE STUDENTS	60
D89 DETERMINE RESIDENT COURSE TRAINING REQUIREMENTS	60
B33 DIRECT MAINTENANCE OF TECHNICAL ORDER (T.O.) LIBRARIES	40
B43 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	40
J434 CONNECT AND OPERATE MODEL 42B MICROWATT METERS	40
J436 CONNECT AND OPERATE MODEL 475 OSCILLOSCOPES	40
E125 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	40
E105 ESCORT VISITORS THROUGH FACILITIES	40
E118 MAKE ENTRIES ON AF FORMS 623 (ON-THE-JOB TRAINING RECORD)	40
E119 MAKE ENTRIES ON AF FORMS 797 (JOB QUALIFICATION STANDARD CONTINUATION)	40
C57 EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	20
F185 INTERPRET BLOCK OR SCHEMATIC DIAGRAMS OF SURVEILLANCE RADAR FUNCTIONAL GROUPS	20
D99 PLAN OJT	20

END

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