

AFHRL-TR-77-64(II)

AIR FORCE



HUMAN

RESOURCES

**HISTORICAL TASK ANALYSIS OF C-130E
MAINTENANCE JOBS**

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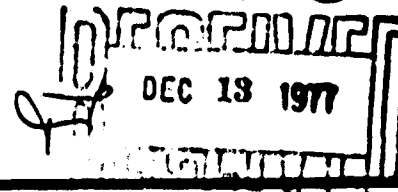
Wright-Patterson Air Force Base, Ohio 45433

September 1977

Final Report for Period June 1976 - June 1977

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This final report was submitted by Boeing Aerospace Company, Seattle, Washington 98124, under contract F33615-76-C-0062, project 1959, with Advanced Systems Division, Air Force Human Resources Laboratory (AFSC), Wright-Patterson Air Force Base, Ohio 45433. Major Duncan L. Dieterly, Personnel and Training Requirements Branch, was the contract monitor.

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

19 REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM	
1 REPORT NUMBER AFHRL TR-77-64(2)-2	2 GOVT ACCESSION NO.	3 RECIPIENT'S CATALOG NUMBER	
4 TITLE (and Subtitle) HISTORICAL TASK ANALYSIS OF C-130 MAINTENANCE JOBS	5 TYPE OF REPORT & PERIOD COVERED Final <i>Rept.</i> June 1976 June 1977	6 PERFORMING ORG. REPORT NUMBER	
7 AUTHOR Fran' Brown Gary A. Walker David H. Wilson	8 CONTRACT OR GRANT NUMBER(s) F33615-76-C-0062	9	
10 PERFORMING ORGANIZATION NAME AND ADDRESS Boeing Aerospace Company Logistics Support and Services Experience Analysis Center P.O. Box 3999, Seattle, Washington 98124	11 PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 63751F 19590001	12	
11 CONTROLLING OFFICE NAME AND ADDRESS HQ Air Force Human Resources Laboratory (AFSC) Brooks Air Force Base, Texas 78235	13 REPORT DATE September 1977	14	
14 MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Advanced Systems Division Air Force Human Resources Laboratory Wright-Patterson Air Force Base, Ohio 45433	15 SECURITY CLASS. (of this report) Unclassified	16	
16 DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.	17	18	
17 DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)	19	20	
18 SUPPLEMENTARY NOTES			
19 KEY WORDS (Continue on reverse side if necessary and identify by block number) Air Force specialist Air Force specialty code cumulative frequencies duty/task	function occupational survey inventory relative frequencies		
20 ABSTRACT (Continue on reverse side if necessary and identify by block number) This concluding HWSA report provides the results of data acquired at Little Rock Air Force Base, Arkansas, wherein 274 airmen personnel encompassing 11 Air Force Specialties completed task inventories against 6,294 C-130 maintenance tasks. Cumulative frequency polygons and histograms portraying duty/task results of each of the 11 AFSCs are also portrayed.			

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Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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INTRODUCTION

It is usually agreed that a considerable amount of the human resources used on a weapon system is in the maintenance fields. The results of a Life Cycle Cost (LCC) analysis ("Life Cycle Cost of C-130E Weapon System")¹ substantiated this finding showing 83% of LCC was for operation and support. Approximately 50% of this was attributed to military and civilian pay. Since this is the case, it is appropriate to attempt to determine the amount of time the maintenance technician is spending on the C-130E.

In order to accomplish the objective, a task analysis was performed for a selected set of AFSCs at a sample base. In addition to gathering quantifiable data of the personnel's perception of the job being performed, this information could be used to validate the initial projected personnel requirements made during the development of the weapon system by the System Program Office (SPO). Unfortunately the historical search did not uncover any SPO personnel requirements document so the comparison could not be made. The following data do provide some clues as to possible areas of high utilization. The task analysis data when contrasted with reliability and maintainability data establish points of high resource utilization.

SCOPE

The acquisition of duty/task data was confined to the 11 selected maintenance Air Force specialists annotated below. Appendix A lists the duties and responsibilities for each of the AFSs. A total of 274 maintenance personnel were inventoried at Little Rock Air Force Base, Arkansas, utilizing Occupational Survey Inventories (OSIs) developed by the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland Air Force Base, Texas. The OSI used for the Aircraft Maintenance Specialist is enclosed as a sample, Appendix B. Skill-level-5 personnel were inventoried subsequent to completion of a pilot study at McChord Air Force Base, Washington, wherein skill levels 3, 5, 7, and 9 were task inventoried. The inventories encompassed a total of 6294 C-130 maintenance tasks accomplished within the three maintenance squadrons, namely: 1) Organizational; 2) Field; and 3) Avionics Maintenance Squadrons. Functional times, i.e., estimated times spent on performing duties at functional categories such as "Performing General Aircraft Maintenance" were acquired.

AFSC/NOMENCLATURE	<u>SAMPLE</u> <u>N</u>
32550 - Automatic Flight Control Systems	16
32551 - Avionics Instrument Systems	20
32850 - Avionics Communications Systems	29
42350 - Aircraft Electrical Systems	27
42351 - Aircraft Environmental Systems	11
42353 - Aircraft Fuel Systems	15
42354 - Aircraft Pneudraulic Systems	11
42650 - Aircraft Propeller System	24
42652 - Jet Engine	50
43151F- Aircraft Maintenance	50
53154 - Corrosion Control	21

METHODOLOGY

The methods used during the preparation, acquisition and analyses of Air Force Specialty (AFS) personnel duties and tasks are illustrated in Figure 1. During the planning and conduct of the C-130E Historical Weapon System Analyses program, attempts were made to generate detailed AFS maintenance duties and tasks. Air Force Manual 39-1 (Enlisted Personnel Airman Classification Manual)² was used as a means of defining the general scope of assigned task responsibilities. It soon became evident that this would not permit the definition of explicit task responsibilities without the use of C-130E technical orders. Tasks described within technical orders (TO) were: 1) too voluminous in nature; 2) would have required extensive time for individual AFSs to use; and 3) were insensitive to which AFSCs were responsible for performing discrete tasks within the TO. A final solution was provided by the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland Air Force Base, Texas. Technical interchanges and interfaces with cognizant members of the Occupational Survey Branch resulted in the release of Occupational Survey Inventories (OSI) and Occupational Survey Reports (OSR) for each of the 11 selected maintenance AFSs evaluated under Phase I of Project 1959. These OSIs provided the most comprehensive AFS duty and task acquisition tool heretofore used by the C-130E study investigators. The OSIs contained discrete sections enabling the acquisition of: 1) background information; 2) maintenance equipment used on the job; 3) training courses completed; and 4) detailed duties/tasks. The latter portion of these OSIs are divided into functional work

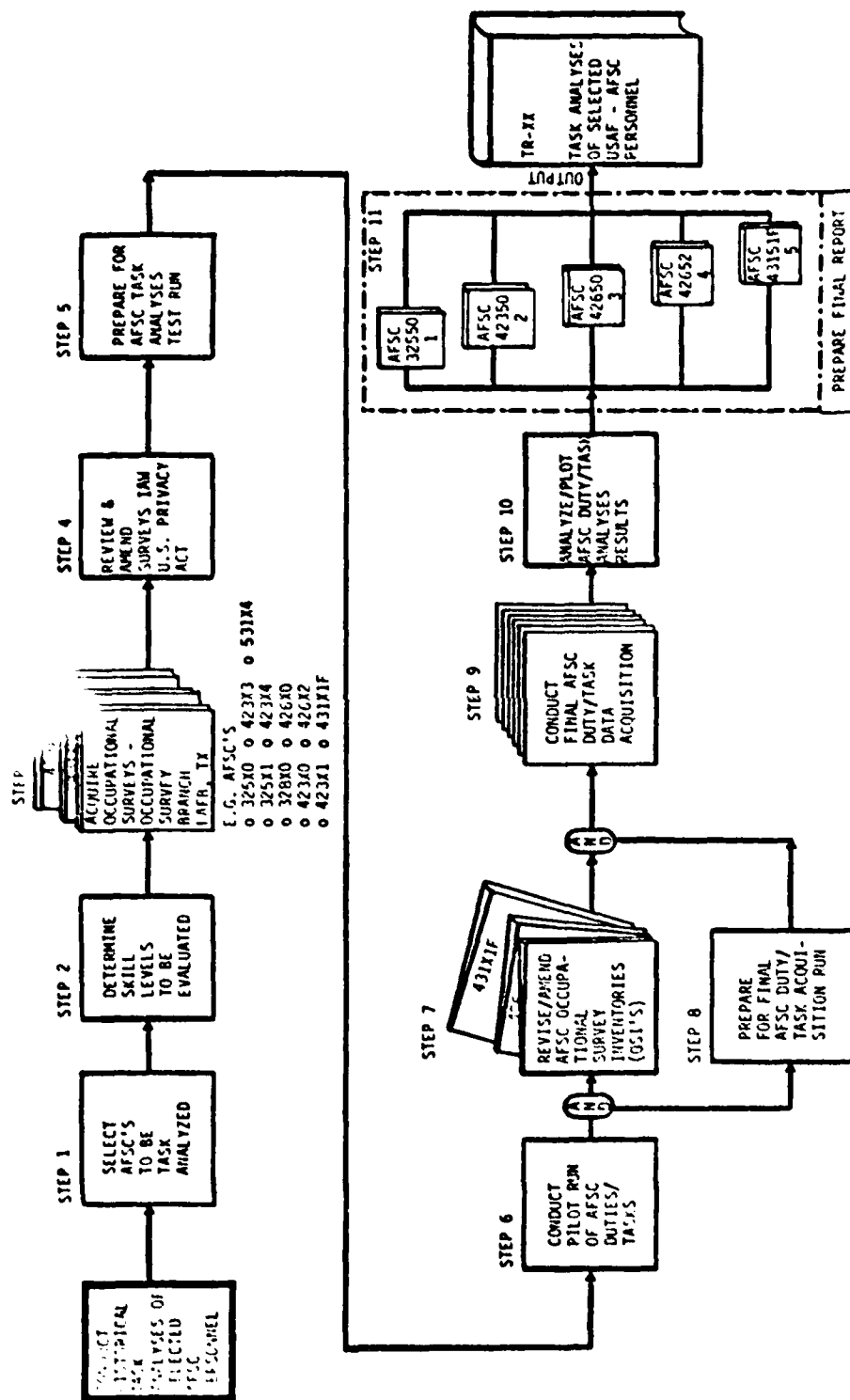


Figure 1 Historical AFSC Duty/Task Analyses Methodology

categories such as: 1) Organizing and Planning; 2) Directing and Implementing; 3) Inspecting and Evaluating; 4) Training; 5) Working with Forms, Records, Reports, etc.; 6) Performing Specific Maintenance Functions, etc. Each of these functions, in turn contained an average of 38 detailed tasks. Each OSI averaged about 570 tasks spread among an average of 15 major functional areas.

The preparation, implementation and analytical steps illustrated in Figure 1 are self-explanatory. Step 6 "Conduct Pilot Run of AFSC Duties/Tasks" was an important step in the methodology portrayed. This enabled the investigators to prepare for the final acquisition of comprehensive duty/task data. Results acquired during the pilot run (McChord Air Force Base, Washington), utilizing actual maintenance AFSCs (preferably skill levels 7 and 9), enabled the investigator to amend the OSIs to include maintenance tasks not identified in current OSIs. In this manner, the OSIs were amended to enable acquisition of specific weapon system maintenance tasks.

AFSSs taking the OSIs at operational bases required an average of 55 minutes to complete the inventory with a range of 40 to 68 minutes. Prior to initiating the pilot run and the final inventories, contact and approval via formal letter of request were made to the cognizant command office (e.g., Deputy Command of Maintenance - 314th Tactical Airlift Wing) stipulating: 1) the purpose of the inventories; 2) contract justification; 3) time and area for conducting the inventories; 4) testing time required for each AFS; 5) total numbers of AFSSs to be inventoried; and 6) facilities required to conduct the task inventories.

TASK ANALYSES SUMMARY

A total of 274 maintenance personnel encompassing 11 Air Force Specialties (AFSSs) and consisting of 6294 tasks were inventoried at Little Rock Air Force Base, Arkansas (314th Tactical Airlift Wing). Prior to the acquisition of duty/task data at LRAFB, Arkansas, Boeing conducted a pilot task analysis program at McChord Air Force Base, Washington. The instruments used in acquiring duty/task data during Task V (Phase I, Project 1959) were Occupational Survey Inventories (OSI) developed by the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland Air Force Base, Texas. Attempts to develop detailed duties of explicit AFS maintenance personnel fell well short of techniques and planning already devised by this organization.

The OSIs used during the pilot run at McChord Air Force Base, Washington, were then revised to reflect explicit C-130 tasks not present within the OSIs. The pilot run also served as the basis for deriving test protocols/techniques, and selecting the 5-level skills, inventoried at LRAFB, Arkansas. Table 1 provides a general summary of AFSs and numbers inventoried, as well as the numbers of functions, and tasks within each OSI. It also reflects computed correlations between AFM 39-1, Enlisted Personnel Airman Classification Manual, duties and those recorded by maintenance personnel on their designated Occupational Survey Inventories.

Each of the 11 OSIs contained an average of 15.36 functions (duties) with each function containing an average of 37.24 tasks. A total of 6294 tasks were contained within all 11 of the OSIs (average of 572.18 tasks/OSI). Acquisition of duty/task data encompassing 274 airman within the 11 AFSs summarized in Table 1 required 20 hours of testing with an average of 13.7 enlisted personnel being inventoried during each test hour. All inventories were completed under supervision and control of personnel subsystems specialists. Arrangements (made under the auspices and conditions set forth by the 314th Tactical Airlift Wing Deputy Commander for Maintenance) enabled data acquisition during low maintenance periods. Inventory completion required an average of 55 minutes per AFS. Results/entries incorporated into OSIs were reviewed by the test supervisor and the resident 314th TAW Maintenance Analysis Training (MAT) superintendent prior to acceptance of each completed OSI. In general, the Pearson Product Moment Analytical technique was utilized. Specifically, a bivariate distribution was plotted using planned tasks delineated in AFM 39-1, Enlisted Personnel Airman Classification Manual, and actual tasks performed in the operational environment. These ratios resulted in correlation coefficients range of .524 to .613.

RESULTS

Analyses of acquired data demonstrated that the skill level 5 personnel inventoried within the 11 selected AFSs spend over 66% of their assigned times to direct maintenance on the C-130 weapon system. The remaining times are allocated to: 1) indirect maintenance support (19%); and 2) planning, organizing, and training (13%). Figure 2, "AFSC Functional Times Allocation Summary," illustrates the time distributions acquired at Little Rock Air Force Base, Arkansas. Over 73% (4643 tasks) of the 6294 tasks inventoried, are accomplished by the 274 maintenance personnel evaluated at LRAFB, Arkansas.

Table 1 Occupational Survey Inventory (OSI) Summary

SOURCE: Occupational Survey Branch - USAF Occupational Measurement Center, Lackland Air Force Base, Texas 78236

EVALUATION SITE: Little Rock Air Force Base, Arkansas

DATE: January 31, 1977 through February 4, 1977

NUMBER OF TESTING HOURS: 20 hours

NUMBER OF ENLISTED PERSONNEL INVENTORIES: 274 ($\bar{X}$ of 13.7 Personnel per hour)

ITEM	AFSC/NOMENCLATURE	CORRELATION VALUES	NO. OF FUNCTIONS	NO. OF TOTAL TASKS	SAMPLE N	TOTAL POSSIBLE TASKS
1	325X0 - Automatic Flight Control Systems	.571	18	487	16	7,792
2	32551 - Avionics Instrument Systems	.585	14	928	20	18,560
3	32850 - Avionics Communications Systems	.561	17	521	29	15,109
4	42350 - Aircraft Electrical Systems	.591	11	424	27	11,448
5	42351 - Aircraft Environmental Systems	.554	18	736	11	8,096
6	42353 - Aircraft Fuel Systems	.529	11	297	15	4,455
7	42354 - Aircraft Pneumatic Systems	.597	13	575	11	6,325
8	42650 - Aircraft Propeller Systems	.534	11	477	24	11,448
9	42652 - Jet Engine	.579	17	415	50	20,750
10	43151F - Aircraft Maintenance	.613	23	977	50	48,850
11	53154 - Corrosion Control	.608	16	457	21	9,597
			$\Sigma = 169$ Functions	$\Sigma = 6294$	274	$\Sigma = 162,430$ Tasks
$\bar{X}$ number of tasks per function = 37.243 i.e. : $\frac{6294}{169} = 37.243$						

Total numbers of possible tasks inventoried = 162,450

Average number of personnel/OSI = $\frac{274}{11} = 24.9$

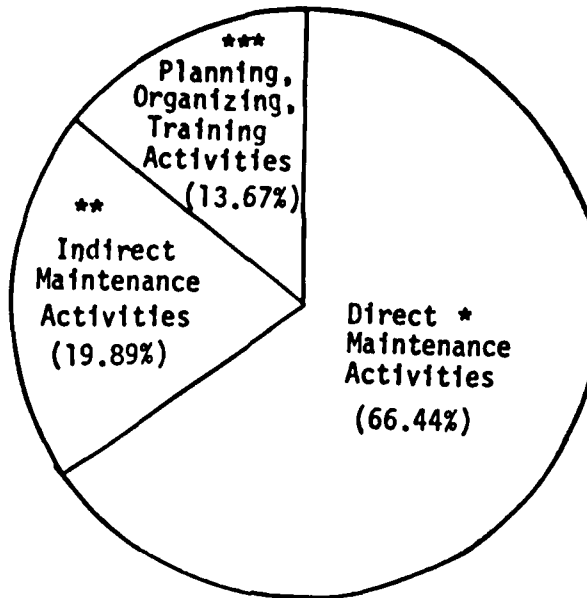


Figure 2 - AFS Functional Time Allocations Summary

- * DIRECT MAINTENANCE - Those tasks performed by personnel within the 11 selected AFSs during organizational and intermediate maintenance that involve direct test, service, checkout, remove, install, troubleshoot, and calibration of C-130 flight equipment.
- ** INDIRECT MAINTENANCE - Those tasks performed by the personnel within the 11 selected AFSs during organizational and intermediate maintenance that involves maintaining shop equipment, maintaining forms and records, performing supply functions, preparing maintenance reports, etc.
- *** PLANNING, ORGANIZING, TRAINING - Those tasks performed by the personnel within the 11 AFSs that involves training, directing, evaluating, planning, etc.

Analytical results that follow are highlighted summaries, frequency polygons, and histograms unique to each of the 11 AFSCs inventoried.

AFSC 32550 - (Automatic Flight Control Systems)³

A total of 16 32550 AFSCs were inventoried. The OSI consisted of 18 major functions encompassing 487 detailed tasks. Table 2 provides a synopsis of analytical results derived subsequent to completion of these inventories. The relative proportions of tasks accomplished by one or more 5-skill level personnel are identified in column 4. This was derived by dividing the number of tasks performed within each function by the total number of tasks contained in all functions. Data contained in column 6 were derived by dividing the number of tasks performed within each function (column 5) by the total number of tasks contained within the same function (column 3). Relative proportions reflected in column 4, were accumulated (summed) and formatted into a cumulative frequency polygon as depicted in Figure 3. The relative percentages of tasks accomplished within each function (e.g., Function A- Planning and Organizing - consisting of 34 tasks) were converted into histogram frequencies and are exhibited on the right-hand side of each figure (e.g., Figure 3 right-half of page). As noted in Figure 3, over 65% (65.9135% or 321 out of 487 tasks) of the tasks contained within Function A are accomplished by 5-level personnel within this specialty. Correlation values of .571 were found to exist between duties actually performed by this AFSC when compared with AFM 39-1 job descriptions, and Lockheed developed support requirements analysis data.

AFSC 32551 - (Avionics Instrument Systems)⁴

Twenty (20) 32551 personnel were inventoried. The OSI encompassed 14 major functions consisting of 928 detailed tasks. Results are summarized on Table 3. Analytical results were evolved using the techniques summarized under AFSC 325X0. Over 77% (i.e., 77.1549%) or 716 out of 928 possible tasks are accomplished by one or more 5-level specialists. Cumulative frequencies are illustrated on the left-half of Figure 4. Relative proportions of tasks accomplished by this AFSC within each of the 14 major functions are summarized on the right-half of Figure 4. A correlation value of .585 was computed between tasks actually performed by 5-level specialists and those duties outlined in AFM 39-1, and Lockheed developed systems requirements analysis data.

TABLE 2 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 32550 Automatic Flight Control Systems Specialist Career Ladder
(AFPT 90-325-248)

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ. (%)	TASKS RECORDED	FUNCTION PERCENT
A	Planning and Organizing	34	1.0267	5	14.71
B	Directing and Implementing	36	5.1335	25	69.45
C	Evaluating and Impacting	37	4.5174	22	59.46
D	Training	28	2.2587	11	39.29
E	Maintaining Forms and Records	47	6.7762	33	70.21
F	Performing Shop or Facility Supply Functions	18	3.0800	15	83.33
G	Performing General Maintenance Tasks	100	17.4538	85	85.00
H	Calibrating and Adjusting Test Eqmt.	23	4.3121	21	91.30
I	Maintaining Remote and Magnetic Compass Systems	14	2.8747	14	100.00
J	Maintaining Automatic Astrocompass Sys.	12	- -	0	00.00
K	Maintaining Stability Augmentation Sys.	21	2.8747	14	66.66
L	Maintaining Auto. Flt. Control Sys.	42	6.3655	31	73.81
M	Maintaining Stall Warning or Stallimeter Systems	13	0.8213	4	30.77
N	Maintaining Go-around Sys. such as GAAS or RGA Systems	13	2.6694	13	100.00
O	Maintaining Active Lift Dist. Control Systems (ALDCS)	13	- -	0	00.00
P	Maintaining Automatic Throttle Sys.	13	2.6694	13	100.00
Q	Maintaining Pilot Assist Cable Servo System (PACS)	12	0.8214	4	33.33
R	Maintaining Shop Equipment & Fac.	11	2.2587	11	100.00
TOTALS		487	65.9135	321	

Column 4 Relative Freq. = $\frac{\text{No. Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{5 \text{ Tasks}}{487 \text{ Tasks}} = 1.0267\%$

Column 5 Tasks Recorded = The number of tasks recorded on scatter diagram (step interval = 1)

Column 6 Function Percent = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks/Function}}$ e.g. $\frac{5 \text{ Tasks}}{34 \text{ Tasks}} = 14.71\%$

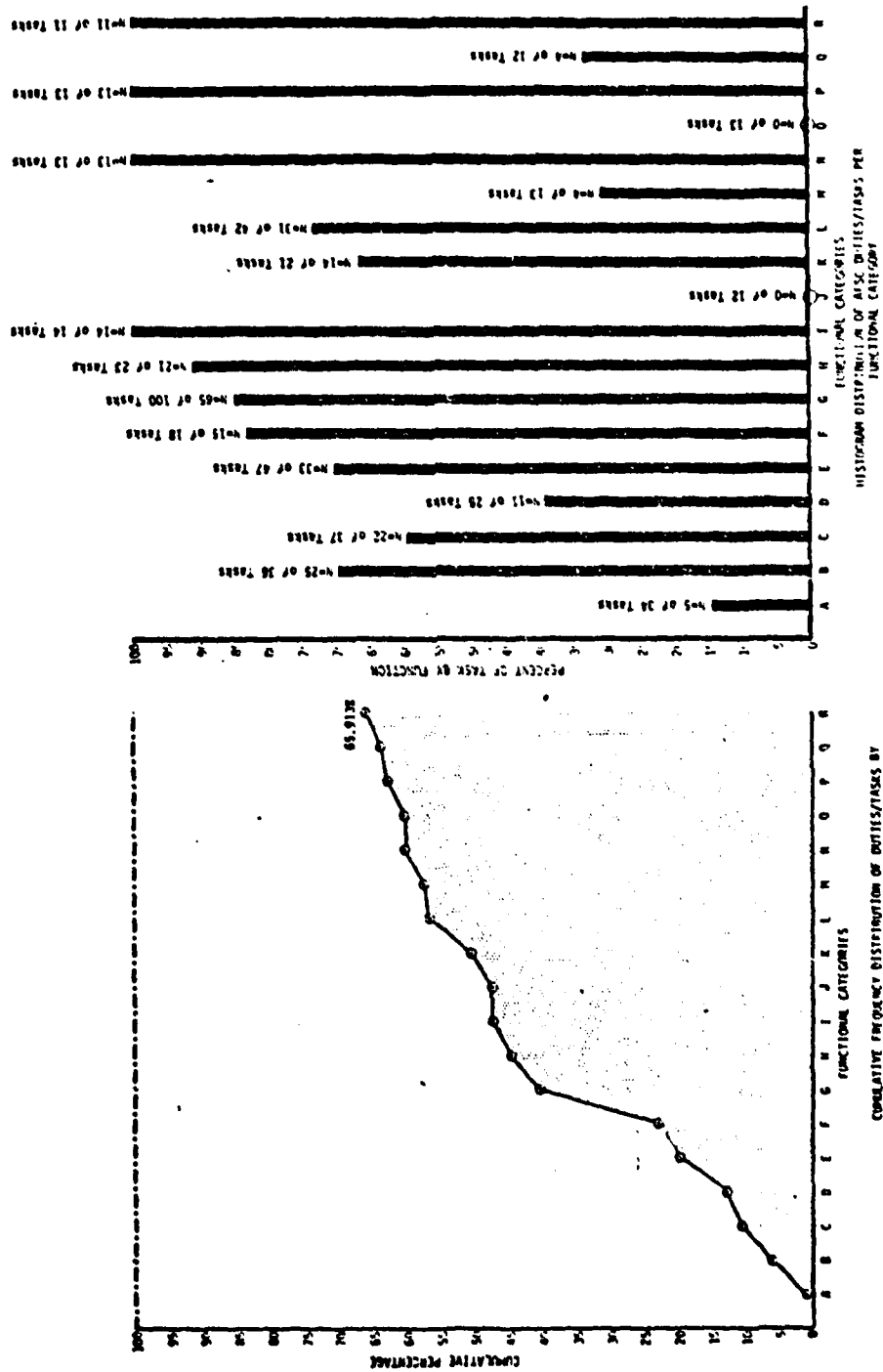


Figure 3 AFSC 32550 Automatic Flight Control Systems Specialist

TABLE 3 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 32551 Avionics Instrument Systems Specialist Career Ladder
(AFPT 90-325-128)

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ. (%)	TASKS RECORDED	FUNCTION PERCENT
A	Organizing and Planning	29	0.7543	7	24.14
B	Directing and Implementing	30	1.7241	16	53.33
C	Evaluating	19	0.8621	8	42.11
D	Training	28	1.1853	11	39.29
E	Performing Administrative Duties	38	2.6939	25	65.79
F	Performing General Flight Line Maintenance	36	3.3405	31	86.11
G	Inspecting and Operationally Checking Instrument Systems	118	11.7457	109	92.37
H	Troubleshooting Instrument Systems on Aircraft	116	10.8836	101	87.07
I	Removing From and Installing Instru- ment System Components on Aircraft	114	10.4526	97	85.09
J	Performing General Shop Maintenance	26	2.5862	24	92.31
K	Bench Checking Instrument Systems Components	117	10.3448	96	82.05
L	Calibrating and Adjusting Instrument System Components	102	7.9741	74	72.55
M	Removing and Replacing Parts of Instrument System Components	117	9.1595	85	72.65
N	Troubleshooting, Adjusting, and Removing or Replacing Parts of Category II Test Equipment and Tools	38	3.4482	32	84.21
TOTALS		928	77.1549	716	

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{7}{928} = 0.7543\%$

Column 5 Tasks Recorded - The number of tasks recorded on scatter diagram
(step interval = 1)

Column 6 Function Percent (Proportion) = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{7}{29} = 24.14\%$

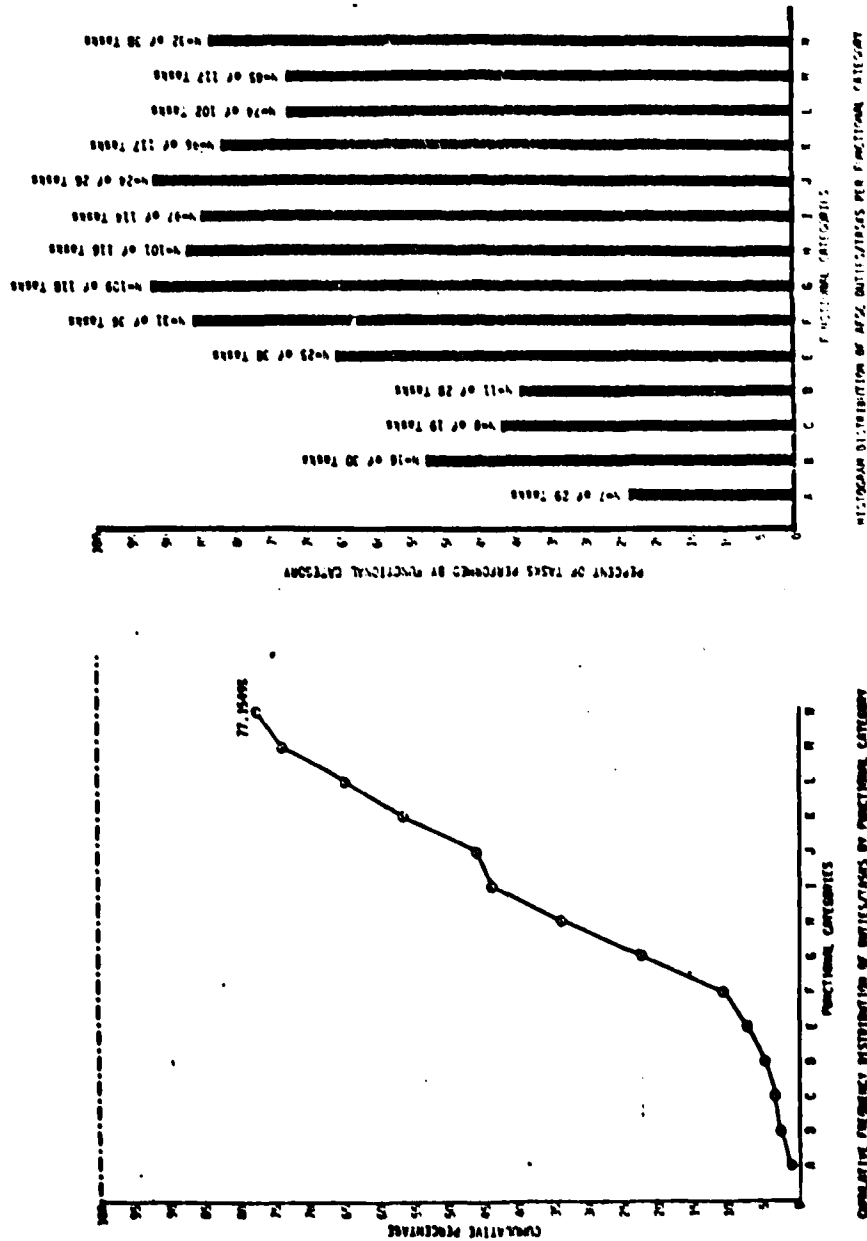


Figure 4 AFSC 32551 Avionics Instruments Systems Specialist

B

AFSC 32850 - (Avionics Communications Systems)⁵

Twenty-nine (29) 32850 personnel were inventoried. The OSI used throughout the inventory consisted of 17 functions and contained a total of 521 tasks. Over 57% (57.1792) or 298 tasks out of 521 possible tasks are accomplished by one or more 5-level specialists. Table 4 provides a scenario of relative proportions of tasks accomplished by these personnel. Percentiles of tasks accomplished by these personnel are summarized in column 6. Figure 5 illustrates the cumulative frequencies and histogram distributions of tasks performed by avionics communication specialists. A relationship of .561 (correlation) between inventory tasks versus duties/tasks defined in AFM 39-1 and Lockheed developed systems requirements analysis data.

AFSC 42350 - (Aircraft Electrical Systems)⁶

The aircraft electrical systems occupational survey inventory consisted of 11 functions and 424 tasks. Over 89% (i.e., 89.4517%) of all of the tasks (or 383 tasks) are performed by one or more of the 27 specialists inventoried. Analytical results are summarized in columns 3, 4, 5, and 6 of Table 5. Figure 6 illustrates the cumulative and relative frequencies derived from analyses of data. Analytical methods described under AFSC 32550 above, were followed when deriving results summarized herein. A correlational value of agreement of .591 was established between tasks accomplished by 27 inventoried personnel compared to duty responsibility defined in AFM 39-1 and Lockheed developed systems requirements analysis data.

AFSC 42351 - (Aircraft Environmental Systems)⁷

Over 72 percent (72.8253%) of the 736 tasks inventoried by 11 environmental systems mechanics are accomplished by one or more 5-skill level personnel. The OSIs used to inventory these personnel encompassed 18 functional categories as depicted on Table 6. The numbers of tasks contained within each function are also listed. The cumulative percent distribution of tasks depicting the 536 tasks accomplished by 5-level personnel are illustrated in Figure 7. Histograms, depicting percent of tasks accomplished within each function, are also displayed in this figure. A correlation of agreement of .544 was established between tasks actually performed under operational conditions compared to duties described in AFM 39-1 and Lockheed developed systems requirements analysis data.

TABLE 4 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 32850 Avionics Communications Specialist Career Ladder
(AFPT 90-328-079)

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ.(%)	TASKS RECORDED	FUNCTION PERCENT
A	Organizing & Planning	19	1.3435	7	36.84
B	Directing & Implementing	34	3.6468	19	55.88
C	Evaluating	21	0.9416	5	23.81
D	Training	18	1.3436	7	38.88
E	Working with Forms, Records, Reports, Directives or Technical Data	25	2.6871	14	56.00
F	Inspecting for Quality or Adherence to Technical Data	16	2.8791	15	93.75
G	Performing Gen. Maint. Sys. Line Maintenance Tasks	24	4.6065	24	100.00
H	Performing Gen. Com. Sys. Shop Maint. Tasks	33	6.1420	32	96.97
I	Repairing Com. Sys. Components	22	2.8790	15	68.18
J	Performing Flt Line C/O of Aircrew Communications Equipment	59	11.1324	58	98.30
K	Performing Flt Shop Maint. on Aircrew Communications Equipment	51	9.5969	50	98.04
L	Performing Flt Line C/O of ACP Radio Equipment	41	3.6468	19	46.34
M	Performing Flt Line C/O of ACP Com. Ancillary Equipment	45	- -	0	00.00
N	Performing Flt Line C/O of ACP Associated Equipment	20	1.1516	6	30.00
O	Performing ACP Inflight Technician Operator Functions	9	0.3838	2	22.22
P	Performing Flt Shop Maint. of ACP Communications Components	58	3.4549	18	31.03
Q	Performing Com. Sys Analyzer O&M Functions	26	1.3436	7	26.92
TOTALS		521	57.1792	298	

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{7}{521} = 1.3435\%$

Column 5 Tasks Recorded = The number of OSI tasks recorded on scatter diagram
(step interval = 1)

Column 6 Function Percent (Proportion) = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{7}{19} = 36.842\%$

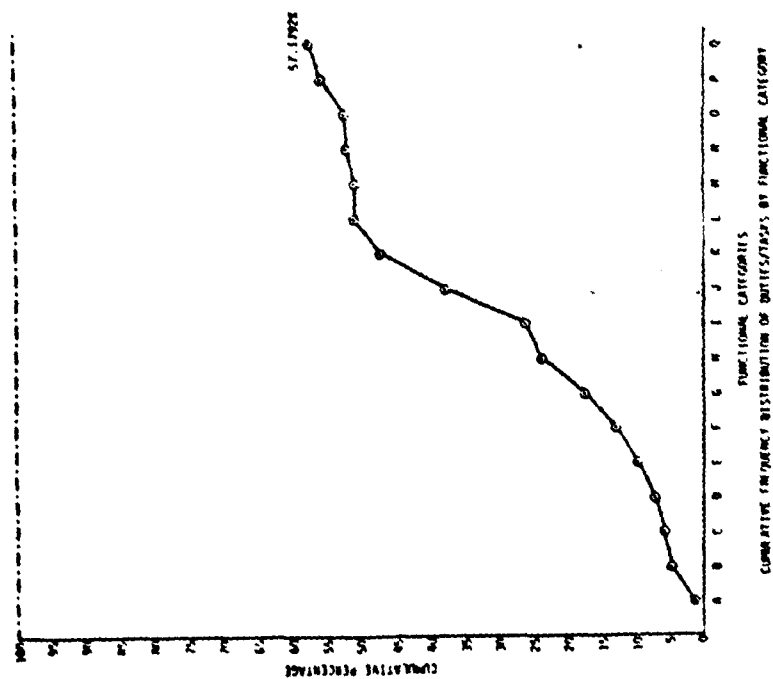
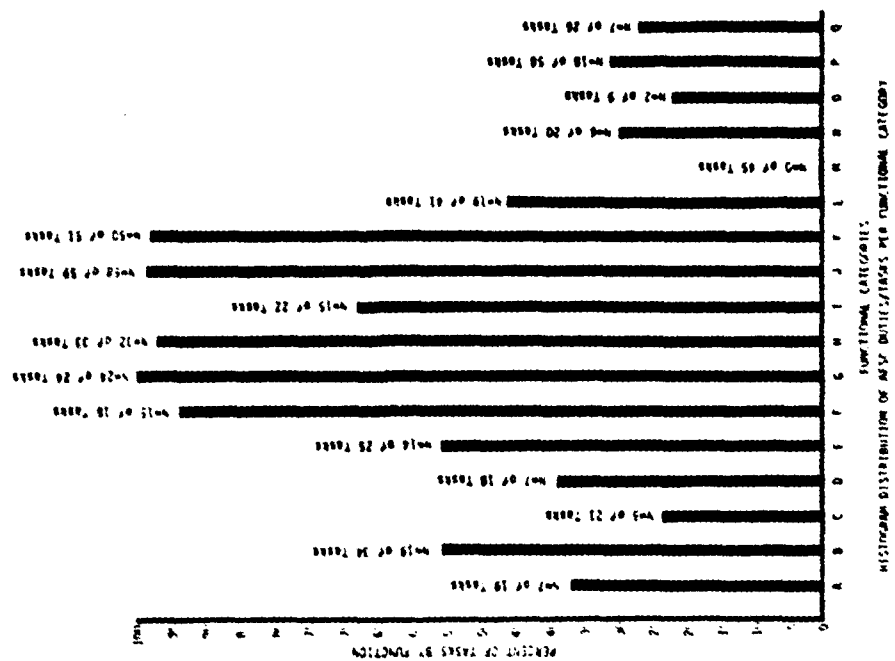


Figure 5 AFSC 32850 Avionics Communications Specialist

TABLE 5. SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 42350 Aircraft Electrical Systems Specialist Career Ladder

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ. (%)	TASKS RECORDED	FUNCTION PERCENT
A	Organizing and Planning	21	3.3018	14	66.66
B	Directing and Implementing	22	3.7736	16	72.72
C	Inspecting and Evaluating	22	3.5377	15	68.18
D	Training	20	2.3585	10	50.00
E	Preparing Forms, Records, or Reports	23	3.8387	20	86.96
F	Performing Quality Control	11	2.1226	9	81.81
G	Inspecting Aircraft Electrical Circuits	44	9.6698	41	93.18
H	Troubleshooting Aircraft Electrical Systems	44	10.3774	44	100.00
I	Bench Checking Conventional and Solid State Components	98	22.6415	96	97.96
J	Performing General Aircraft Electrical Shop Maintenance Tasks	95	22.1698	94	98.95
K	Maintaining Test Equipment	24	5.6603	24	100.00
TOTALS		424	69.4517	383	

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}} = \text{e.g. } \frac{14}{424} = 3.3018\%$

Column 5 Tasks Recorded - The number of OSI Tasks recorded on scatter diagram (step interval = 1)

Column 6 Function Percent (Proportion) = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Perf Function}} = \text{e.g. } \frac{14}{21} = 66.6666\%$

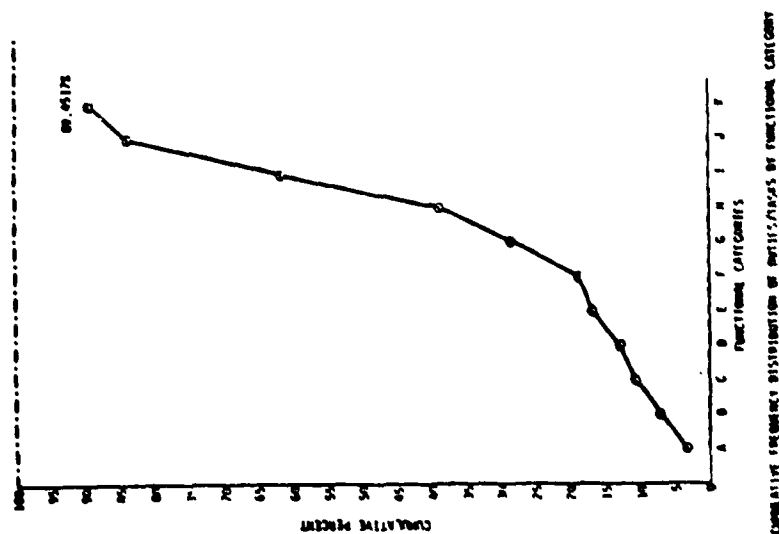
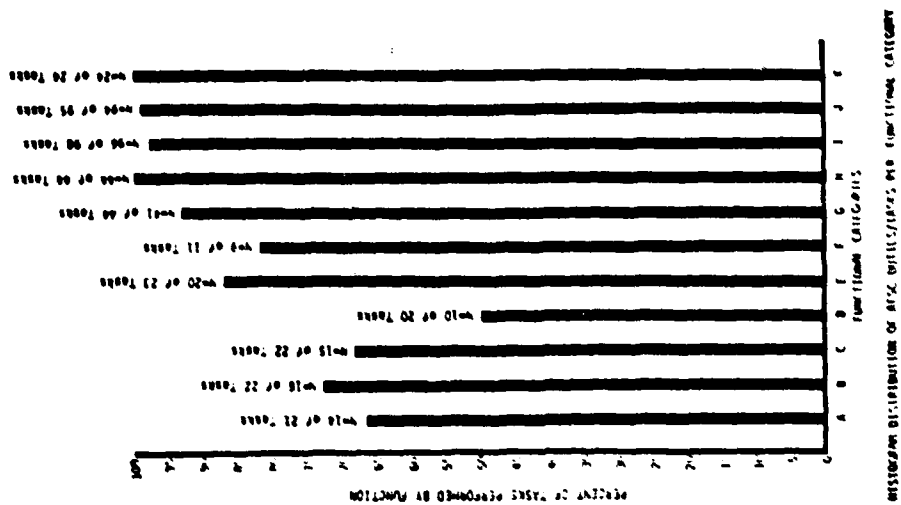


Figure 6 AFSC 42350 Aircraft Electrical Systems Specialist

TABLE 6 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 42351 Aircraft Environmental Systems Mechanic Career Ladder

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ. (%)	TASKS RECORDED	FUNCTION PERCENT
A	Organizing and Planning	31	3.9402	29	93.55
B	Directing and Implementing	34	3.2608	24	70.59
C	Inspecting and Evaluating	27	1.4945	11	40.74
D	Training	22	1.4945	11	50.00
E	Maintaining Acft Combustion Heater Sys	11	1.4945	11	100.00
F	Maintaining acft Fire Extinguishing Sys	36	4.4837	33	91.66
G	Maintaining Acft Misc. Equipment	70	0.8152	6	8.57
H	Maintaining Acft Oxygen Systems	77	10.3261	76	98.70
I	Maintaining Acft Press. Systems	44	4.2119	31	70.45
J	Maintaining Acft Turbine Driven Starters	38	4.7554	35	92.11
K	Maintaining Air Turbine Motors (ATM)	10	1.3586	10	100.00
L	Maintaining Auxiliary Air Systems	82	5.9782	44	53.66
M	Maintaining Life Raft Inflation or Survival Equipment	22	2.0380	15	68.18
N	Maintaining Liquid Cycle Refrig. Systems	12	1.4945	11	91.66
O	Maintaining Servicing or Category II Test Equipment	60	5.4347	40	66.66
P	Performing Air Cond. Sys Functions	76	9.9184	73	96.05
Q	Performing Bleed Air Distribution System Functions	51	6.6576	49	96.08
R	Performing General Shop Maintenance	33	3.6685	27	81.82
TOTALS		736	72.8253	536	

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{29}{736} = 3.9402\%$

Column 5 Tasks Recorded - The number of OSI tasks recorded on scatter diagram (step interval = 1)

Column 6 Function Percent (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{29}{31} = 93.55\%$

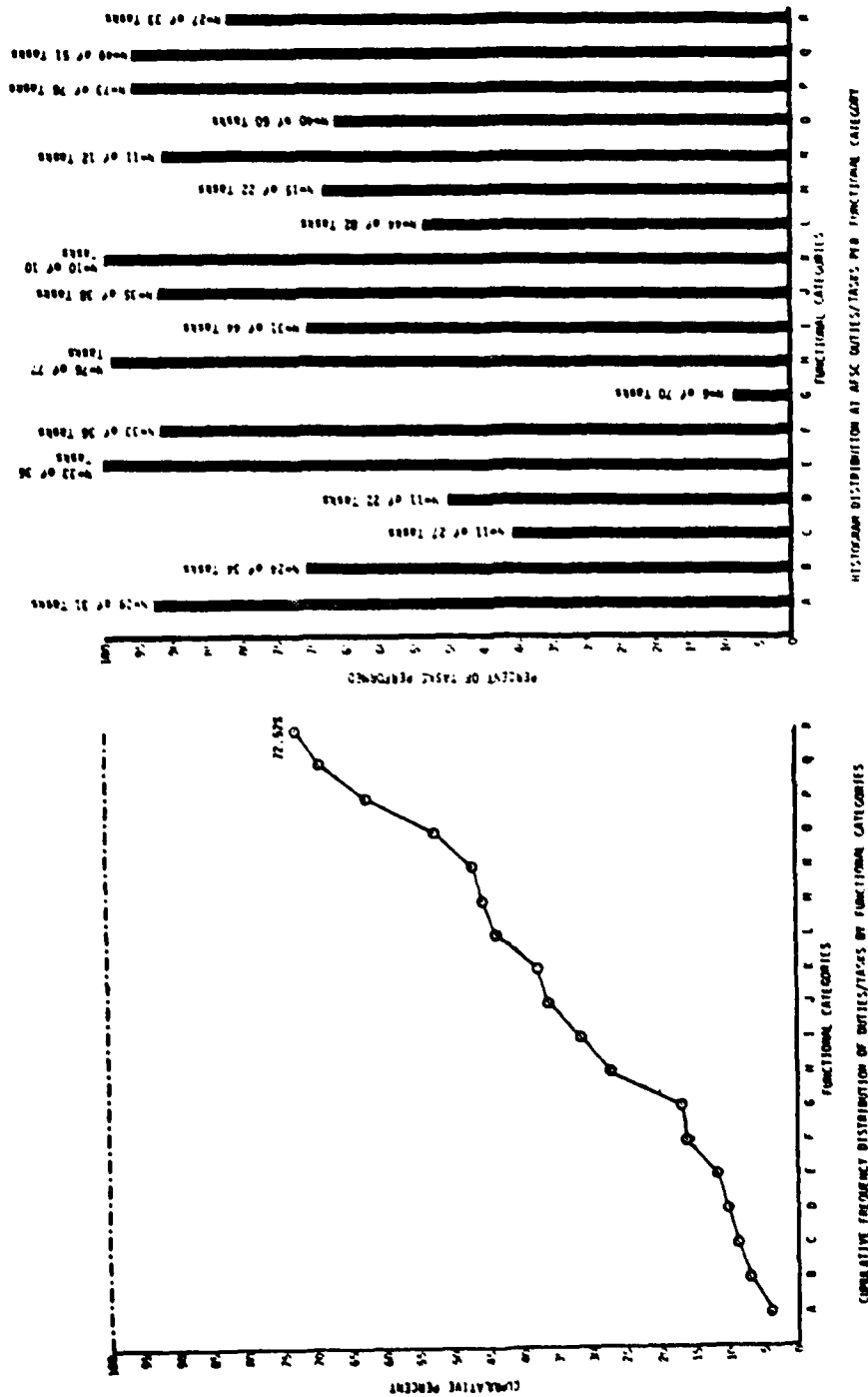


Figure 7 AFSC 42351 Aircraft Environmental Systems Repair Specialist

AFSC 42353 - (Aircraft Fuel Systems)⁸

Fifteen 42353 personnel were inventoried utilizing the Occupational Measurement Center occupational survey inventories. The OSI consisted of 11 major functions consisting of 297 tasks. Approximately 85% (84.8484%) of the 297 tasks are performed by one or more of the 5-skill level personnel. Analytical summaries of OSIs completed by these maintenance personnel are presented in Table 7. Figure 8 presents a cumulative frequency distribution and functional histogram distribution of results acquired during the Little Rock Air Force Base, Arkansas inventory. A correlation of .529 was determined to exist between tasks actually performed in the operational environment versus duties defined in AFM 39-1 and Lockheed developed systems requirements analysis data.

AFSC 42354 - (Aircraft Pneudraulic Systems)⁹

Occupational Survey Inventories (OSIs) were completed by 11 5-skill level personnel. The OSI consisted of the 13 major functional areas described in Table 8 and consisted of 575 tasks. Over 55% (55.3022%) of the tasks are performed by one or more 5-skill level specialists. The cumulative frequency distribution patterns derived during data analyses are illustrated in Figure 9. Histogram distributions depicting relative task proportions accomplished within each of the 13 functional areas are also illustrated. The correlation between tasks/duties performed by this AFSC, when compared to subtask descriptions, defined in AFM 39-1 and Lockheed developed systems requirements analysis data, was .587.

AFSC 42650 - (Aircraft Propeller Systems)¹⁰

This OSI was completed by 24 propeller maintenance specialist personnel qualified at the 5-skill level. Analytical results are tabulated in Table 9 and illustrated in Figure 10. Specialists recorded that 409 of the 477 tasks (or 85.7%) outlined within the 11 major functional categories are accomplished by one or more 5-level specialists. A correlation coefficient of .534 between AFM 39-1 duties and Lockheed developed systems requirements analysis data versus duties actually performed within the operational environment was established.

TABLE 7 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

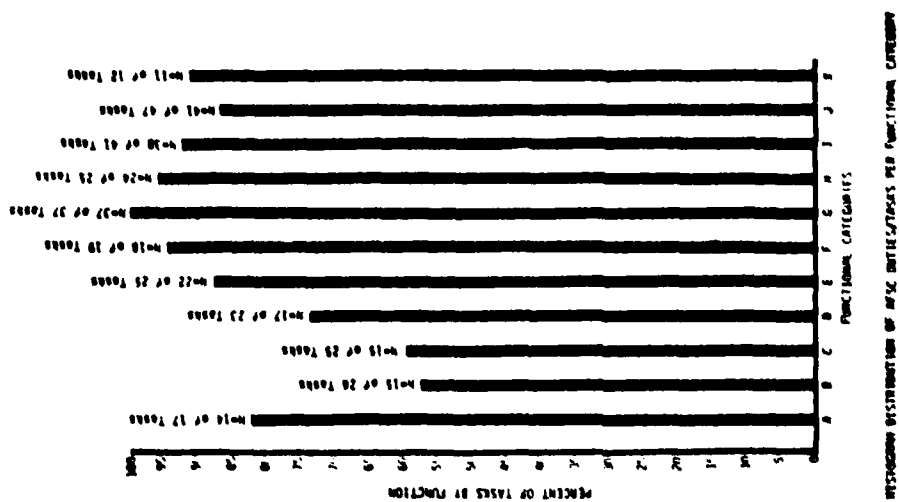
AFSC OSI: 42353 Aircraft Fuel Systems Mechanic Career Ladder
(AFPT 90-424-107)

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ. (%)	TASKS RECORDED	FUNCTION PERCENT
A	Organizing and Planning	17	4.7138	14	82.35
B	Directing and Implementing	26	5.0505	15	57.69
C	Evaluating	25	5.0505	15	60.00
D	Training	23	5.7239	17	73.91
E	Maintaining Forms and Records	25	7.4074	22	88.00
F	Preparing Aircraft for Fuel Systems Maintenance	19	6.0606	18	94.74
G	Troubleshooting Aircraft Fuel Systems	37	12.4579	37	100.00
H	Inspecting Aircraft Fuel Systems	25	8.0808	24	96.00
I	Removing or Installing Fuel System Components	41	12.7946	38	92.68
J	Repair Aircraft Fuel Systems	47	13.8047	41	87.23
K	Performing Support Functions	12	3.7037	11	91.66
TOTALS		297	84.8484	252	

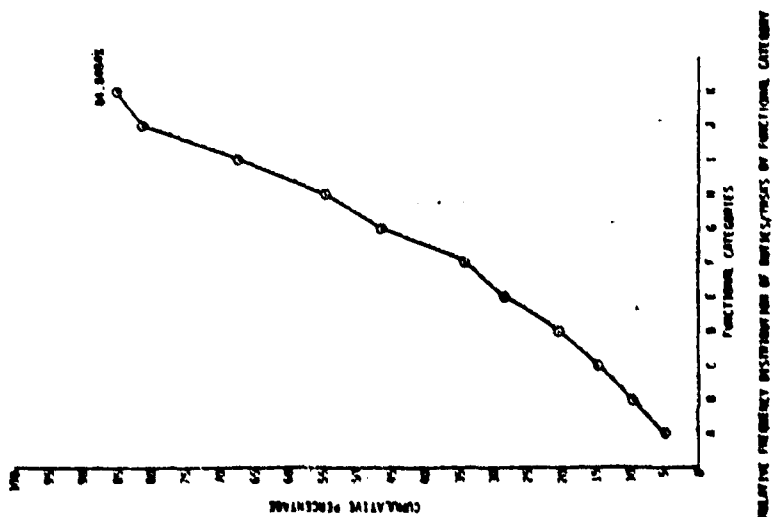
Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{14}{297} = 4.7138\%$

Column 5 Tasks Recorded = The number of OSI tasks recorded on scatter diagram
(step interval = 1)

Column 6 Function Percent = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{14}{17} = 82.35\%$



PERCENTAGE DISTRIBUTION OF AFSC 42353 TASKS BY FUNCTIONAL CATEGORY



CUMULATIVE FREQUENCY DISTRIBUTION OF AFSC 42353 TASKS BY FUNCTIONAL CATEGORY

Figure 8 AFSC 42353 Aircraft Fuel Systems Mechanic

TABLE 8 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 42354 Aircraft Pneudraulic Systems Mechanic Career Ladder
(AFPT 90-421-207)

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ. (%)	TASKS RECORDED	FUNCTION PERCENT
A	Organizing and Planning	24	2.7826	16	66.66
B	Directing and Implementing	26	3.8260	22	84.62
C	Inspecting and Evaluating	22	2.6068	13	59.09
D	Training	23	0.6956	4	17.39
E	Working with Forms, Records, Reports and Technical Data	32	4.000	23	71.88
F	Inspecting Aircraft Installed Pneudraulic Systems	64	5.5652	32	50.00
G	Performing Operational Checks of Aircraft Pneudraulic Systems	65	4.3478	25	38.46
H	Adjusting Pneudraulic Systems and Components	57	3.1304	18	31.58
I	Troubleshooting Aircraft Pneudraulic Systems	57	3.4783	20	35.08
J	Removing, Replacing, and Servicing Aircraft Pneudraulic Systems and Components	77	5.2174	30	38.96
K	Bench Checking Aircraft Pneudraulic Components	55	8.5217	49	89.09
L	Performing In-Shop Maintenance of Aircraft Pneudraulic Components	39	6.6087	38	97.44
M	Maintaining Shop and Aerospace Ground Equipment (AGE)	34	4.5217	26	76.47
TOTALS		575	55.3022	316	

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{16}{575} = 2.7826\%$

Column 5 Tasks Recorded = The number of OSI tasks recorded on scatter diagram
(step interval = 1)

Column 6 Function Percent = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{16}{24} = 66.6666\%$

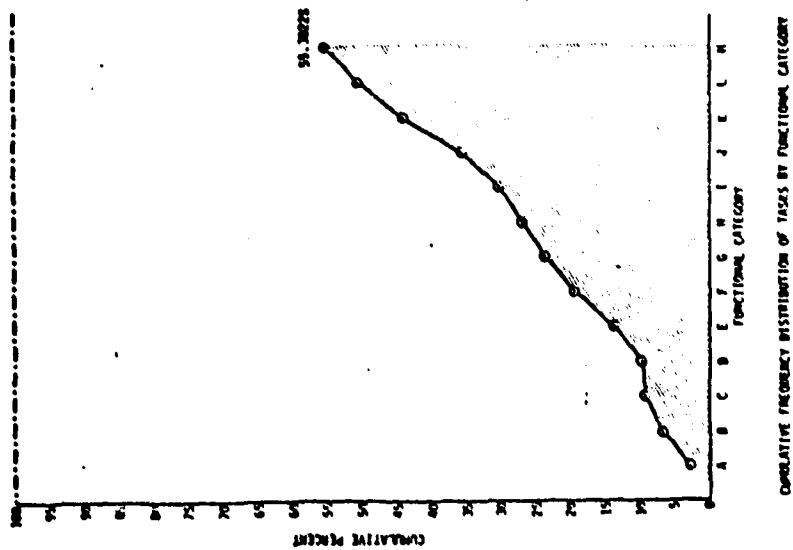
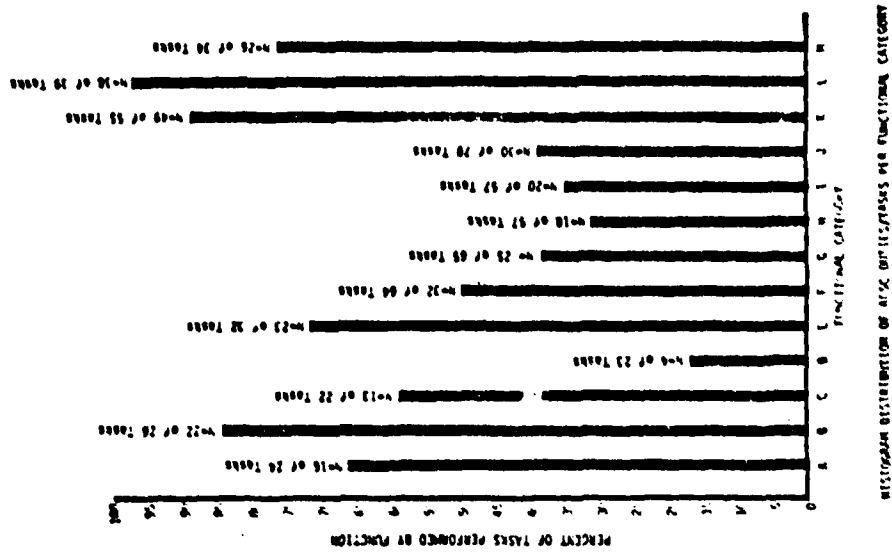


Figure 9 AFSC 42354 Aircraft Pneumatic Repair Systems Mechanic

TABLE 9 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 42650 Aircraft Propeller Mechanic Career Ladder

1 FUNCTION	2 TITLES/NOMENCLATURES	3 NUMBER OF TASKS	4 REL. FREQ. (%)	5 TASKS RECORDED	6 FUNCTION PERCENT
A	Organizing and Planning	20	3.1446	15	75.00
B	Directing and Implementing	24	4.1929	20	83.33
C	Inspecting and Evaluating	24	2.3061	11	45.83
D	Training	22	1.0482	5	22.72
E	Maintaining Forms, Records, and Reports	18	3.7735	18	100.00
F	Performing Shop and Flight Line Safety	10	2.0964	10	100.00
G	Performing Flight Line Maintenance	121	24.3186	116	95.87
H	Performing In-Shop Assembly and Disassembly of Propellers	114	21.3836	102	89.47
I	Performing Maintenance Operating Checks of Conventional Propellers	26	4.8218	23	88.46
J	Performing Maintenance Operating Checks on Turbopropellers	26	5.4507	26	100.00
K	Bench Checking and Repairing	72	13.2075	63	87.50
TOTALS		477	85.7539	409	

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{15}{477} = 3.1446\%$

Column 5 Tasks Recorded - The number of OSI tasks recorded on scatter diagram (step interval = 1)

Column 6 Function Percent = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{15}{20} = 75.00\%$

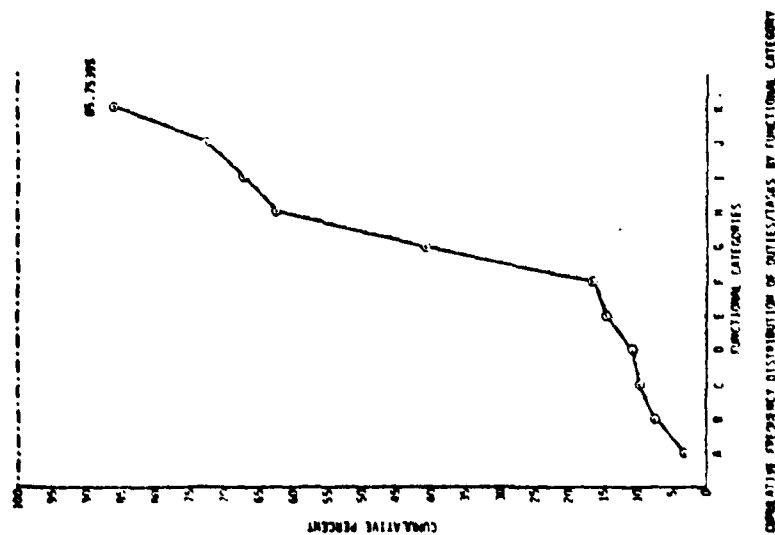
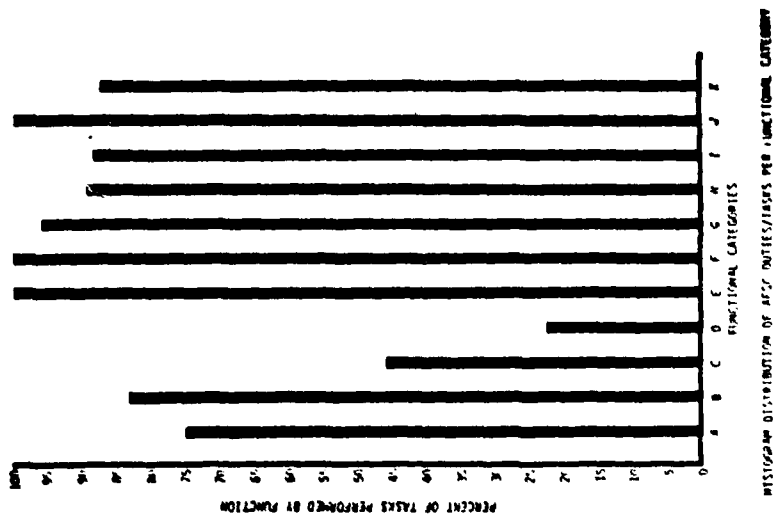


Figure 10 AFSC 42650 Aircraft Propeller Systems Mechanic

AFSC 42652 - (Jet Engines)¹¹

Fifty 5-skill level jet engine mechanics were inventoried. The OSI consisted of 17 functional categories which included 415 distinct specialty tasks. Over 88% of 367 out of the 415 possible tasks were recorded as being performed by one or more AFS personnel. Results acquired during data analyses are tabulated in Table 10 and illustrated in Figure 11. A correlation of agreement between duties prescribed in AFM 39-1 and Lockheed developed systems requirements analysis data and actual operational duties equal to .579 was computed.

AFSC 43151F - (Aircraft Maintenance)¹²

Fifty 43151F aircraft maintenance personnel at Little Rock Air Force Base, Arkansas completed the 43151F/OSI. The inventory consisted of 23 major functional categories encompassing 977 individual tasks. Over 75% (76.6630%) or 749 out of the 977 tasks were performed by one or more of the 50 aircraft maintenance specialists inventoried. Results are tabulated in Table 11 and illustrated in Figure 12. A correlation of agreement between AFM 39-1 and Lockheed developed systems requirements analysis data and duties detailed in the OSI equal to .613 was established.

AFSC 53154 - (Corrosion Control)¹³

Twenty-one 53154 AFS personnel were inventoried. The OSI consisted of 13 applicable functional categories and encompassed 410 tasks. The OSI had three categories that were not applicable to aircraft systems, namely Functions N, O and P missile systems corrosion control. Forty-seven tasks contained within this inventory were not used in this study. Over 72% (72.1947%) or 296 out of a possible 410 tasks are performed by 5-level corrosion control personnel. Results of data analyzed within the 21 completed OSIs are tabulated in Table 12 and illustrated in Figure 13. A correlation between AFM 39-1 and Lockheed developed systems requirements analysis, versus actual duties performed at a Tactical Airlift Wing equal to .608 was computed.

CONCLUSIONS

"Lessons learned" during the planning implementation and analyses of task data enable the formulation of the following conclusions:

TABLE 10 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 42652 Jet Engine Mechanic Career Ladder
(AFPT 90-432-054)

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ. (%)	TASKS RECORDED	FUNCTION PERCENT
A	Planning and Organizing	30	6.5060	27	90.00
B	Directing and Implementing	27	6.024	25	92.59
C	Evaluating	17	3.3735	14	82.35
D	Training	20	4.3373	18	90.00
E	Preparing Forms, Records, or Reports	30	6.7469	28	93.53
F	Inspecting and Performing Q/C	21	5.0602	21	100.00
G	Performing Flt Line Maintenance on Jet Engines	40	9.6385	40	100.00
H	Performing Intermediate Maintenance on Jet Engines	63	14.6988	61	96.83
I	Preserving and Depreserving Engines and Components	27	6.5060	27	100.00
J	Performing Balance Shop Functions	22	4.0964	17	77.27
K	Performing Engine Test Stand Functions	25	5.7831	24	96.00
L	Performing Engine Trim Pad Functions	17	3.6144	15	88.23
M	Repairing & Maintaining Small Gas Turbine Engines (SGTS)	9	2.1686	9	100.00
N	Maintaining Starters & Starter Test Stands	18	4.0964	17	94.44
O	Performing Spectrometric Oil Analysis	15	0.9638	4	26.66
P	Maintaining & Repairing Test Eqmt & Special Tools	23	2.1687	9	39.13
Q	Performing Supply Functions	11	2.6506	11	100.00
TOTALS		415	88.4333	367	

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{27}{415} = 6.5060\%$

Column 5 Tasks Recorded = The number of OSI tasks recorded or scatter diagram
(step interval = 1)

Column 6 Function Percent (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{27}{30} = 90.00\%$

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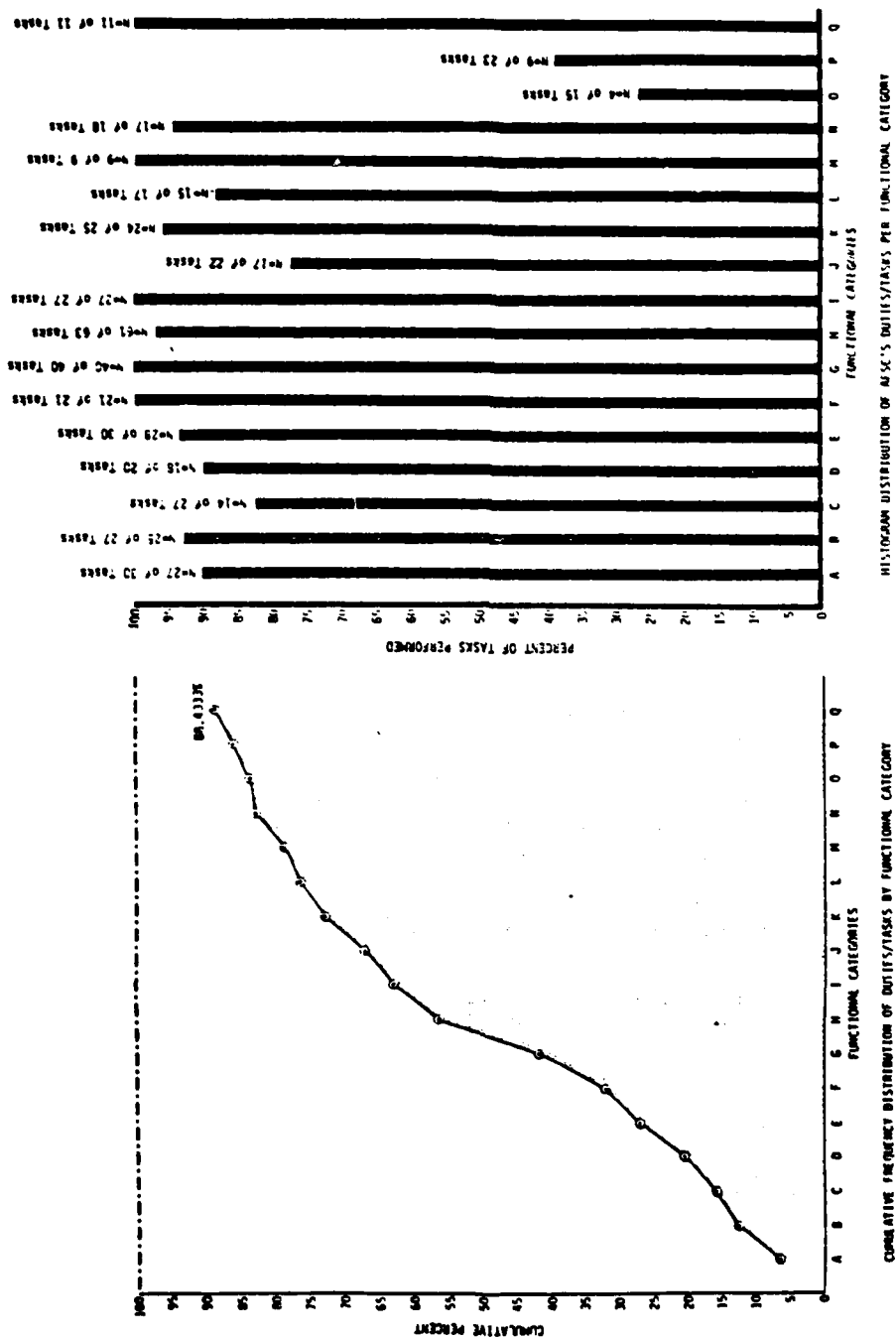


Figure 11 AFSC 42652 Jet Engine Mechanic

TABLE 11 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 43151F Aircraft Maintenance Specialist Career Ladder
(AFPT 90-431-210)

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ. (%)	TASKS RECORDED	FUNCTION PERCENT
A	Organizing and Planning	33	2.1493	21	63.64
B	Directing and Implementing	28	2.4565	24	85.71
C	Inspecting and Evaluating	19	1.2282	12	63.16
D	Training	15	1.5353	15	100.00
E	Maintaining Forms and Records	50	4.2989	42	84.00
F	Performing Supply Functions	19	1.7400	17	89.47
G	Performing Gen. Acft Maintenance	127	11.3613	111	87.40
H	Performing Grd Handling of Aircraft	68	6.3459	62	91.18
I	Maintaining Landing Gear Systems	80	6.2436	61	76.25
J	Maintaining Utility Systems	50	4.8106	47	94.00
K	Maintaining Flight Control Systems	66	6.6295	55	83.33
L	Maintaining Pneudraulic Systems	58	5.1137	50	86.21
M	Maintaining Electrical Systems	40	3.8895	38	95.00
N	Maintaining Fuel Systems	51	4.9130	48	94.12
O	Maintaining Non-Powered AGE	36	2.0471	20	55.55
P	Maintaining 780 Equipment	26	2.2518	22	84.62
Q	Performing Ge. Engine Maintenance	82	7.2671	71	86.59
R	Maintaining Reciprocating Engines	26	0.2047	2	7.69
S	Maintaining Turbo-Propeller Engines	11	0.9212	9	81.82
T	Maintaining Turbo-Jet Engines	7	0.3071	3	42.86
U	Maintaining Tow Targets	51	- -	0	00.00
V	Maintaining Aerial Delivery Systems	19	1.9447	19	100.00
W	Maintaining In-Flt Refueling (IFR) Sys	15	- -	0	00.00
TOTALS		977	76.6630	749	

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{21}{977} = 2.1493\%$

Column 5 Tasks Recorded = The number of OSI tasks recorded on scatter diagram
(step interval = 1)

Column 6 Function Percent (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{21}{33} = 63.64\%$

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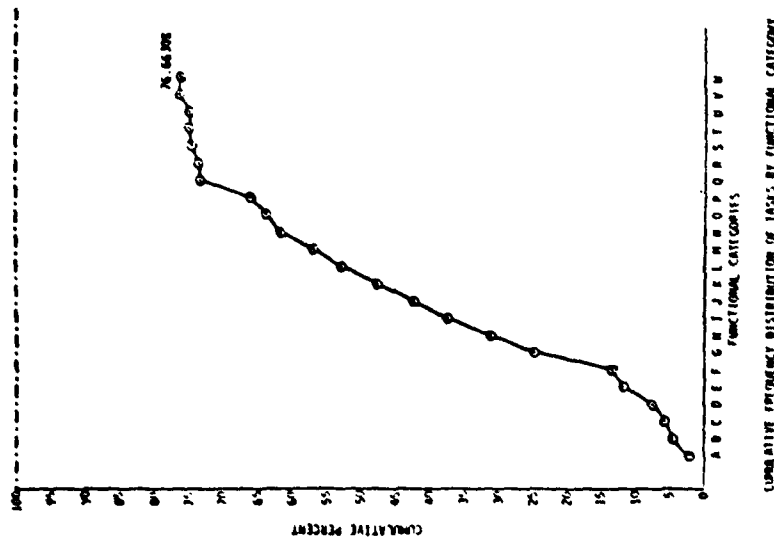
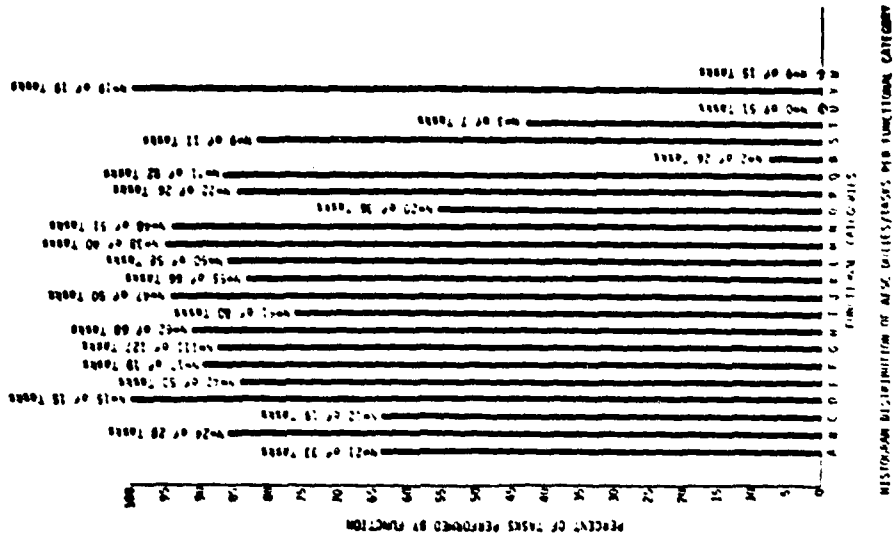


Figure 12 AFSC 43151F Aircraft Maintenance Mechanic

TABLE 12 SUMMARY
OF
OSI FUNCTIONAL TITLES/NOMENCLATURES

AFSC OSI: 53154 Corrosion Control Specialist Career Ladder
(AFPT 90-535-149)

1	2	3	4	5	6
FUNCTION	TITLES/NOMENCLATURES	NUMBER OF TASKS	REL. FREQ.(%)	TASKS RECORDED	FUNCTION PERCENT
A	Organizing and Planning	31	4.3902	18	58.06
B	Directing and Implementing	28	3.1707	13	46.43
C	Inspecting and Evaluating	24	2.6829	11	45.83
D	Training	27	3.4146	14	51.86
E	Working with Forms, Records, Reports, Directives, & Technical Data	40	3.9024	16	40.00
F	Performing Gen. Corr. Control Functions	40	7.5609	31	77.50
G	Washing Acft and AGE	34	6.8293	28	82.35
H	Inspecting Acft, AGE & Missile Fac.	15	3.4146	14	93.33
I	Removing Corr. & Protective Coatings	55	11.7013	48	87.27
J	Treating & Preparing Metal Surfaces	15	3.4146	14	93.33
K	Applying Protective Coating Systems	56	12.6829	52	92.86
L	Performing & Practicing Disaster Preparedness Functions	8	0.4878	2	25.00
M	Maintaining Corrosion Control Eqmt.	37	8.5365	35	94.59
N	Performing Missile Dispatch Functions	8	(N/A) - Missile Systems		
O	Performing Minuteman Corr. Control Func.	18	(N/A) - Missile Systems		
P	Performing Titan Missile Corrosion Control Functions	21	(N/A) - Missile Systems		
TOTALS		457	72.1947	296	
TOTAL		410	Applicable Tasks		

Column 4 Relative Freq. (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{Total Tasks}}$ e.g. $\frac{18}{410} = 4.3902\%$

Column 5 Tasks Recorded - The number of OSI tasks recorded on scatter diagram
(step interval = 1)

Column 6 Function Percent (Proportions) = $\frac{\text{No. of Tasks Performed}}{\text{No. of Tasks Per Function}}$ e.g. $\frac{18}{31} = 58.06\%$

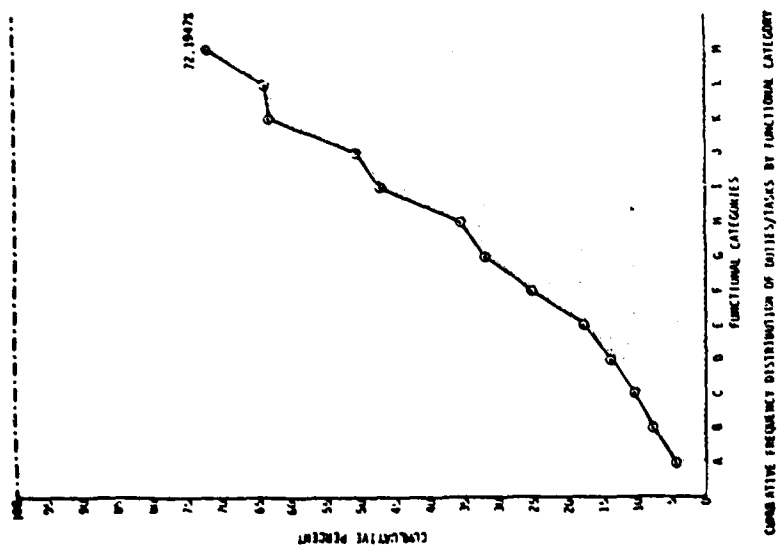
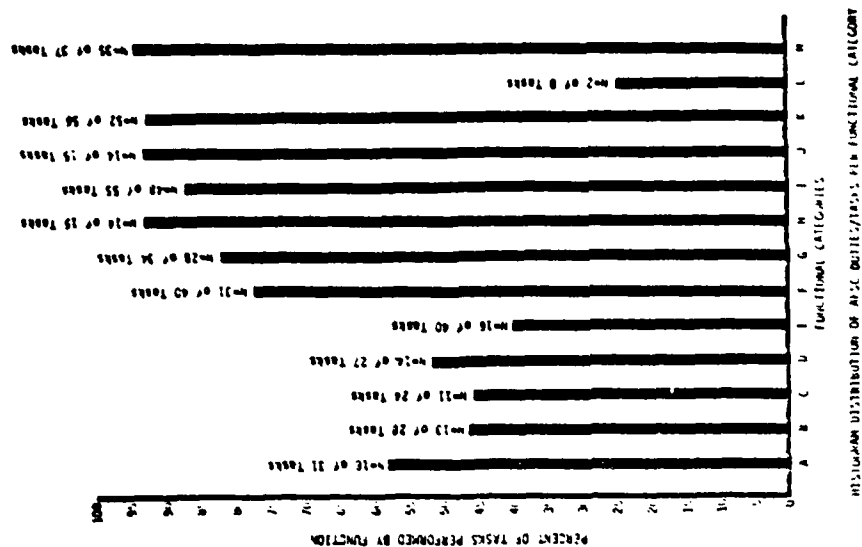


Figure 13 AFSC 53154 Corrosion Control Specialist

1. Acquisition of data describing actual tasks or duties performed by maintenance or operations Air Force specialty (AFS) personnel is wholly dependent upon the cooperation of the cognizant commander (e.g., Deputy Commander for Maintenance).
2. Acquisition of duty/task data of any AFS, is best implemented under the "capture system" wherein each specialist completes his respective task inventory under the direct supervision of a test controller.
3. Although the correlations noted in Table 1 are statistically significant beyond the .05 level of confidence, the large discrepancies noted between the dependent variable (AFM 39-1 and Lockheed developed systems requirements analysis data) and independent variable (tasks actually performed) permit the following conclusions:
 - a. AFM 39-1, Enlisted Personnel Airman Classification Manual, job descriptions and systems requirement analysis data serve as poor planning specifications when developing Personnel Planning Information (PPI) on new or modified USAF systems.
 - b. Training Planning Information, Training Personnel Requirements and Unit Detailed Listings developed from PPI data should be comprehensive and accurate.
 - c. Future PPI data development by contractors and others should utilize AFM 39-1 and AFM 36-1 (Officer Classification Manual)¹⁴ as planning guides, but should be augmented by extensive data derived from operational work centers performing within the requirements of AFM 66-1 (Maintenance Management)¹⁵ criteria.
 - d. Manpower estimates provided by contractors to future weapon systems, system program offices (SPOs) and Using Commands should be sensitive to manpower impacts at individual work centers. Section V of Qualitative and Quantitative Personnel Requirements Information documents (a part of PPI) alluding to manpower changes due to new and/or system modifications should define explicit manpower changes by AFS and individual work centers.

4. Skill-level-5 Air Force specialists have been frequently referred to as the maintenance backbone of the USAF. Approximately 74% (73.769%) of the 6294 duties and tasks (or 4643 tasks) contained within the 11 OSIs are performed by 5-level maintenance personnel. This percent of tasks accomplished by the 5-level airman partially supports the initial premise statement.
5. Aerospace contractor agencies at the weapon system planning level should be aware of the organizational and management structure existent within aircraft weapon system Using Commands.

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2. Air Force Manual 39-1, Volumes I and II, "Enlisted Personnel Airman Classification Manual," 1 September 1976.
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7. United States Air Force Job Inventory, AFPT-90-422-180, "Aircraft Environmental Systems Repair Career Ladder," AFSC's 42331, 42351, 42371, and 42391, 1 July 1975.
8. United States Air Force Job Inventory, AFPT-90-424-107, "Aircraft Fuel Systems Mechanic/Technician Career Ladder," AFSC's 42333, 42353, 42373, 1 June 1973.
9. United States Air Force Job Inventory, AFPT-90-421-207, "Aircraft Pneudraulic Repair Career Ladder," AFSC's 42334, 42354, 42374, 1 August 1975.
10. United States Air Force Job Inventory, AFPT-90-421-131, "Aircraft Propeller Repairman Career Ladder," AFSC's 42630, 42650, and 42670, 1 December 1973.
11. United States Air Force Job Inventory, AFPT-90-432-054, "Jet Engine Mechanic Career Ladder," AFSC's 42632, 42652, 42672, and 42692, 1 March 1972.
12. United States Air Force Job Inventory, AFPT-90-431-210, "Aircraft Maintenance Career Ladder," AFSC's 43131A/C/E/F, 43151A/C/E/F, 43171A/C/E/F, and 43191, 1 April 1976.
13. United States Air Force Job Inventory, AFPT-90-535-149, "Corrosion Control Specialist Career Ladder," AFSC's 53134, 53154, 53174, and 53194, 1 May 1974.
14. Air Force Manual 36-1, "Office Classification Manual," 1 September 1976.
15. Air Force Manual 66-1, Volumes I through VI, "Maintenance Management" January 1974.

ABBREVIATIONS/ACRONYMS

AFB	Air Force Base
AFHRL	Air Force Human Resources Laboratory
AFM	Air Force Manual
AFS	Air Force Specialist
AFSC	Air Force Specialty Code
AFSC	Air Force Systems Command
ATC	Air Training Command
ATM	Air Turbine Motors
CDRL	Contract Data Requirements List
HWSA	Historical Weapon Systems Analysis
IAW	In Accordance With
IFR	In-Flight Refueling
LAFB	Lackland Air Force Base, Texas
LCC	Life Cycle Cost
LRAFB	Little Rock Air Force Base, Arkansas
LS&S	Logistics Support and Services
MAC	Military Airlift Command
MAFB	McChord Air Force Base, Washington
MAW	Military Airlift Wing
MPC	Military Personnel Center
N/A	Not Applicable
O&M	Operations and Maintenance
O&S	Operations and Support
OSI	Occupational Survey Inventory
OSR	Occupational Survey Report
PACS	Pilot Assist Cable Servo System
QC	Quality Control
SGTS	Small Gas Turbine System
SPO	System Program Office
STINFO	Scientific Technical Information
TAW	Tactical Airlift Wing
T.O.	Technical Order
TR	Technical Report
USAF	United States Air Force
W/S	Weapon System

APPEXDIX A
AIRMAN AIR FORCE SPECIALTY DUTIES
AND RESPONSIBILITIES

AIRMAN AIR FORCE SPECIALTY

★AUTOMATIC FLIGHT CONTROL SYSTEMS SPECIALIST

1. SPECIALTY SUMMARY

Inspects, troubleshoots, removes, repairs, installs, adjusts, and modifies automatic flight control systems, components, and test equipment.

2. DUTIES AND RESPONSIBILITIES

a. *Performs inspection and maintenance on automatic flight control systems:* Inspects, checks, troubleshoots, and performs maintenance and special inspections on automatic flight control systems including autopilot amplifiers; yaw computers; yaw, pitch, and roll dampeners; gyros and accelerometers; automatic trim; servos and follow-up mechanisms; remote compass transmitters and indicators; and drive assemblies. Checks for proper automatic flight control systems response from signal sources such as compass or attitude reference; pilot's controls; fire control systems; ILS; and other associated systems. Diagnoses automatic flight control systems operational malfunctions and determines cause by using appropriate circuit diagrams and test equipment. Makes appropriate entries in aircraft forms.

b. *Repairs and maintains automatic flight control systems:* Troubleshoots and isolates system malfunctions. Removes automatic flight control systems malfunctioning units

and replaces with serviceable units. Disassembles, repairs, and reassembles malfunctioning automatic flight control systems components. Performs adjustments and calibration checks to insure optimum operating efficiency of repaired assemblies. Adjusts and calibrates the automatic flight control systems, including responses and nulls about the control axis of pitch, roll, and yaw, automatic trim and gain changer circuitry, attitude stabilization, and attitude and Mach control circuits, using prescribed test equipment to include automatic tape programmed test equipment and compass calibrators.

c. *Supervises automatic flight control systems personnel:* Assigns maintenance functions to subordinates and observes performance to insure compliance with local procedures and applicable technical publications. Instructs subordinates in automatic flight control systems operational performance, operational checks, and proper utilization of applicable tools and test equipment.

3. SPECIALTY QUALIFICATIONS

a. *Knowledge:*

(1) Knowledge of electronic principles and solid state devices as applied to the operational maintenance of automatic flight control systems; and use and interpretation of

logic circuits, signal data flow, wiring diagrams, component schematics, and technical publications is *mandatory*. Possession of mandatory knowledge will be determined in accordance with AFM 35-1.

(2) Knowledge of mechanical principles and aircraft flight characteristics is desirable.

b. *Education*: Completion of high school with courses in physics and mathematics is desirable.

c. *Experience*: Experience in functions such as installation, test, inspection, repair, and overhaul of automatic flight control systems is *mandatory*.

d. *Training*: Completion of a basic automatic flight control systems course is desirable.

e. *Other*:

(1) Normal color vision as defined in AFM 160-1 is *mandatory*.

(2) A minimum aptitude level of Electronic 80 is *mandatory*.

4. SPECIALTY DATA

a. *Grade Spread*:

Sergeant and staff sergeant 32550

Airman first class 32530

b. *Related D.O.T. Job*:

Electronics Mechanic 828.281

c. *Related DOD Occupational Subgroup*:
102

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AFSC 32551
Semiskilled AFSC 32531

AIRMAN AIR FORCE SPECIALTY
AVIONICS INSTRUMENT SYSTEMS SPECIALIST

1. SPECIALTY SUMMARY

Installs, inspects, repairs, operates, troubleshoots, overhauls, and modifies avionic instruments, avionics instrument systems, components, and test equipment.

2. DUTIES AND RESPONSIBILITIES

a. Performs preventive maintenance on electronic/transistorized instruments and instruments systems: Inspects and tests electrical, electronic/transistorized instrument systems and component parts; mechanical flight and engine instrument systems; flight data recorder systems; central air data computer systems, including component parts such as computers, compensators, converters, and sensors; and gyro stabilized attitude reference and flight director indicating systems and components, such as gyro displacement platforms, compass adapters, attitude director indicators, horizontal situation indicators, computers, power supplies, amplifiers, and rate gyroscopes. Records instrument scale readings and computes instrument tolerances during operational checks.

b. Installs, repairs, troubleshoots, overhauls, and modifies electrical, electronic/transistorized, and mechanical instruments and instrument systems: Checks components for serviceability prior to installation. Repairs and replaces faulty wiring, electrical connectors, and pressure connections to components and systems. Troubleshoots and repairs central air data computer, flight data

recorder, flight director, and attitude reference systems to insure correct output for related integrated systems. Analyzes, isolates, and repairs instrument systems and component malfunctions using circuit diagrams and test equipment, such as pitot-static testers, barometers and manometers, gyroscopic instrument testers, frequency counter, digital voltmeters, and specialized instrument systems testers and analyzers. Maintains and calibrates instrument systems test equipment as outlined in applicable technical directives. Swings and compensates gyro magnetic compasses. Aligns, balances, calibrates, and adjusts repaired assemblies and systems. Accomplishes modification of components and systems.

c. Supervises avionics instrument systems personnel: Assigns maintenance and operation tasks. Observes performance to insure compliance with directives and applicable technical publications. Instructs subordinates in techniques of installation, maintenance, and repair of instruments and instrument systems. Conducts on-the-job training and demonstrates use of tools and equipment.

3. SPECIALTY QUALIFICATIONS

a. Knowledge: Knowledge of theory and application of electronic principles; interpretation and application of mechanical drawings and wiring diagrams in relation to mechanical functions and electronic circuits; theory and application of servo-amplifiers; functional value of differential gearing; use,

care, and interpretation of testing and measuring devices; and principles of power and motion transmission by electrical and mechanical means is mandatory. Possession of mandatory knowledge will be determined in accordance with AFM 35-1.

b. Education: Completion of high school

with courses in physics and mathematics is desirable.

c. *Experience:* Experience in functions such as installation, testing, inspection, repair, and overhaul of instrument systems and components is *mandatory*.

d. *Training:* Completion of a basic avion-

ics instrument systems course is desirable.

e. *Other:*

(1) Normal color vision as defined in AFM 160-1 is *mandatory*.

(2) A minimum aptitude level of Electronic 80 is *mandatory*.

4. SPECIALTY DATA

a. *Grade Spread:*

Sergeant and staff sergeant . . . 32551

Airman first class 32531

b. *Related D.O.T. Jobs:*

Electronics Mechanic 828.281

Systems Tester 729.381

c. Related DOD Occupational Subgroup:
198

AIRMAN AIR FORCE SPECIALTY

AVIONIC COMMUNICATIONS SPECIALIST

1. SPECIALTY SUMMARY

Installs, maintains, modifies, troubleshoots, and repairs avionic communications equipment and test equipment.

2. DUTIES AND RESPONSIBILITIES

a. *Performs preventive maintenance on avionic communications equipment.* Inspects and tests avionic communications systems at specified intervals to locate defective components or interconnections. Adjusts or replaces defective components. Turns on equipment sets controls in various operating positions, and evaluates equipment performance, using applicable test equipment and technical orders.

b. *Installs avionic communications equipment.* Checks equipment visually and by use of test equipment for serviceability before installation. Assembles, connects, and interwires system components. Conducts detailed test of installed equipment for compliance with technical orders. Places in operation, and tunes, adjusts, and aligns components to obtain maximum operating efficiency.

c. *Repairs avionic communications equipment.* Isolates troubles in inoperative or malfunctioning equipment through prescribed TO checkout procedures, using peculiar or common test equipment. Repairs communications equipment such as HF transceivers, transmitters, and receivers; interphone; VHF AM and FM, UHF transceivers, UHF ADF, emergency radios,

data link, and crash position indicators, using small handtools, soldering equipment, and common and peculiar test equipment. Tunes and adjusts avionic communications components according to technical orders, manufacturers' handbooks, and local procedures. Accomplishes routine modification of equipment according to modification work orders and TCTOs. Performs progressively more difficult testing and repair duties as specifically directed.

d. *Maintains inspection and maintenance records.* Posts entries on applicable maintenance and inspection forms and records. Completes maintenance data collection forms. Recommends methods to improve equipment performance and maintenance procedures.

e. *Supervises avionic communications repair personnel.* Assigns work and reviews completed repairs to insure compliance with local procedures and applicable technical publications. Instructs subordinates in techniques of installation, maintenance, and repair of avionic communications equipment. Insures personnel are aware of appropriate procedures prescribed by USAF maintenance management and safety directives.

3. SPECIALTY QUALIFICATIONS

a. Knowledge:

(1) Knowledge of theory of electronics and radio, including theory of transistors and solid state components; digital techniques; and interpretation of technical orders, wiring diagrams, and schematic drawings is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

(2) Knowledge of radar and computer electronic principles is desirable.

b. *Education.* Completion of high school with courses in physics and mathematics is desirable.

c. *Experience.* Experience in functions such as testing, tuning, adjusting, maintaining, or repairing avionic communications equipment; applying theory of electricity and radio to maintenance and repair of avionic communications equipment; and use of specialized test equipment is mandatory.

d. Training:

(1) Completion of a basic avionic communications maintenance course is desirable.

(2) Completion of an airborne command post equipment maintenance course is desirable for award of suffix "A."

* e. Other:

(1) Normal color vision as defined in AFM 160-1 is mandatory.

(2) A Secret security clearance according to AFR 205-32 is mandatory for award of this AFSC. Access certification for Secret information is mandatory for performance of duties under this AFSC unless duties warrant administrative withdrawal or downgrading of access, without prejudice, according to AFR 205-32.

(3) Minimum qualification as AFSC 32850 is mandatory for entry into training for award of suffix "A."

(4) A minimum aptitude level of Electronic 80 is mandatory.

(5) A Top Secret security clearance according to AFR 205-32 is mandatory for award of suffix "A". Access certification for Top Secret information is

mandatory for performance of duties under this suffix unless duties warrant administrative withdrawal or downgrading of access, without prejudice, according to AFR 205-32.

4. SPECIALTY DATA

a. Grade Spread:

Airman first-class through
staff sergeant 32850
Airman first-class 32830

b. Related D.O.T. Jobs:

Radio Repairman 720.281
Radio Mechanic 823.281

c. Related DOD Occupational Subgroup: 101

5. *SPECIALTY SHREDOUTS

Suffix

A

Portion of AFS to Which Related
Airborne Command Post
Communications Equipment
Repairman

AIRMAN AIR FORCE SPECIALTY

* AIRCRAFT ELECTRICAL SYSTEMS SPECIALIST

1. SPECIALTY SUMMARY

Troubleshoots, inspects, installs, repairs, modifies, and overhauls aircraft electrical systems and associated electronic components, subsystems, and test equipment.

2. DUTIES AND RESPONSIBILITIES

a. *Inspects, troubleshoots, installs, and maintains aircraft electrical systems, components, subsystems, and test equipment.* Visually and operationally tests DC and AC power, landing gear, ignition, starting, lighting, anti-skid, nose-wheel steering, nose glass, electronic engine controls, static and rotary inverters, master caution, take-off warning, flight controls, fire and overheat warning, and fuel control systems. Uses applicable test equipment and publications to identify system and component malfunctions. Repairs and returns system and component to maximum efficiency consistent with design characteristics. Adjusts, aligns, calibrates, and services electrical and associated electronic systems, components, and test equipment such as DC and AC generators, voltage regulators, frequency and load controllers, relays, switching devices, constant speed drives, control and protection panels, inverters, and special equipment testers and power system load and monitoring devices to obtain maximum operating efficiency according to applicable technical publications.

b. *Repairs, modifies, and overhauls aircraft electrical systems and associated electronic components, subsystems, and test equipment.* Repairs, modifies, and overhauls electrical and solid state voltage regulators, control panels, protection panels, frequency and load controllers, static inverters, caution and warning panels, nose wheel steering and anti-skid amplifiers, nose glass

controllers, miniature modules, audible warning detectors, engine fuel and nozzle amplifiers, asymmetry detectors, transformer rectifiers, generators, actuators, relays, timing and sensing devices, lighting equipment, batteries (alkaline and lead acid), fire detectors, motors, rotary inverters and special equipment testers such as generator, actuator, inverter, battery charger analyzer, and power supplies according to technical publications. Repairs, modifies, and overhauls electrical components of powered aerospace ground equipment that is beyond the user's capability. Fabricates and modifies aircraft electrical wiring.

c. *Maintains inspection and maintenance records.* Posts entries on applicable maintenance and inspection records. Completes maintenance data forms. Recommends methods to improve equipment performance and maintenance procedures.

d. *Supervises aircraft electrical systems maintenance personnel.* Assigns work to subordinates and reviews completed repairs to insure compliance with local procedures and applicable technical publications. Instructs subordinates in the proper installation, operation, and repair of electrical systems and associated test equipment. Demonstrates the proper use of special tools and test equipment. Insures personnel adhere to appropriate procedures prescribed by USAF maintenance management directives.

3. SPECIALTY QUALIFICATIONS

a. *Knowledge.* Knowledge of electrical, electronic, and mechanical principles as applied to aircraft and associated ground equipment electrical systems; and use of blueprints, diagrams, and technical publications is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

b. *Education.* Completion of high school with a course in basic electronics and mathematics is desirable.

c. *Experience:*

(1) Experience in functions such as, maintenance or repair of aircraft electrical and electronic

control systems and components, is mandatory.

(2) Experience in functions such as the supervision of operation of an aircraft electrical systems maintenance activity is desirable.

b. *Training.* Completion of a basic aircraft electrical systems maintenance course is desirable.

e. *Other:*

(1) Normal color vision as defined in AFM 160-1 is mandatory.

(2) A minimum aptitude level of Electronic 50 is mandatory.

4. SPECIALTY DATA

a. *Grade Spread:*

Airman first-class through
staff sergeant 42350
Airman first-class 42330

b. *Related D.O.T. Job:*

Electrician, Airplane 825.281

c. *Related DOD Occupational Subgroup:* 602

AIRMAN AIR FORCE SPECIALTY

AIRCRAFT ENVIRONMENTAL SYSTEMS MECHANIC

* 1. SPECIALTY SUMMARY

Installs, inspects, repairs, operates, troubleshoots, overhauls, and modifies aircraft oxygen, heating, air conditioning, cabin pressurization, anti-icing, air turbine, engine bleed air distribution, and fire extinguisher systems, components, and associated equipment; services, inspects, overhauls, and recharges life raft inflation equipment; and performs intermediate maintenance on cryogenic storage containers.

2. DUTIES AND RESPONSIBILITIES

a. *Performs preventive maintenance on aircraft environmental systems.* Inspects and tests aircraft oxygen systems and components such as oxygen converters, regulators, pressure reducing valves, relief valves, filler valves, flow indicators, and pressure gauges; air conditioning systems and components such as flow control valves, shut-off valves, heat exchangers, cooling turbines, electrical, electronic temperature regulators, temperature sensing devices, temperature control valves, transducers, and water separators; cabin pressurization systems and components such as pressure controllers, outflow valves and safety valves; combustion heater systems and components such as heaters, ignition units, fuel solenoids, fuel filters, fuel pressure regulators, fuel metering devices and temperature controls; anti-icing systems and components such as air pressure and flow regulators; air shut-off valves, temperature controls, and temperature sensing devices; air turbine motors and components such as shut-off valves, modulating valves, speed control governors, and overspeed mechanisms; engine bleed air distribution systems and components such as check valve, shut-off valves, filters, and ducting, air, combustion, and cartridge type turbine driven engine starters and system components; and fire extinguishing systems and components such as cylinders and control valves. Inspects and replaces wiring and electrical connectors to aircraft environmental systems components. Inspects for and treats corrosion on aircraft environmental systems and components.

b. *Installs, repairs, overhauls, and modifies aircraft environmental systems.* Removes, repairs, and replaces components of aircraft oxygen, air conditioning, cabin

pressurization, combustion heater, engine bleed air distribution, fire extinguisher, and air turbine drive systems. Disassembles unit and examines parts for damage and for possible causes of malfunction. Makes operational checks, tests and troubleshoots environmental systems and components using electrical and electronic meters and test equipment such as manometers, flowmeters, cabin pressure leak testers, cabin temperature control system testers, combustion heater testers, cabin pressure calibrator sets, air conditioning valve test panels and calibrator sets, bellows deflection testers, anti-G suit valve testers, thermal switch testers, air turbine motor testers, oxygen regulator test stands, liquid oxygen accessories test stands, and liquid oxygen system field testers. Services, inspects, overhauls, and recharges life raft inflation equipment. Calibrates and adjusts repaired assemblies and systems. Accomplishes modifications of components and systems.

* c. *Performs intermediate maintenance on cryogenic storage containers.* Maintains and repairs mobile and skid mounted oxygen/nitrogen storage containers; removes and replaces valves and gauges; and performs vacuum and purge checks according to applicable technical publications.

d. *Supervises aircraft environmental systems maintenance personnel.* Assigns maintenance and operation tasks to subordinates. Observes performance to insure compliance with directives and applicable technical publications. Instructs subordinates in techniques of installation, maintenance, and repair of aircraft environmental systems.

3. SPECIALTY QUALIFICATIONS

a. *Knowledge.* Knowledge of electrical, electronic and mechanical principles as applied to fabrication, operation, and maintenance of aircraft pressurization, air conditioning, heating, engine bleed air distribution, air

turbine, oxygen, fire extinguisher and anti-icing system and components, and life raft inflation equipment; an use and interpretation of wiring diagrams, blueprints, and technical publications is mandatory. Possession

mandatory knowledge will be determined according to AFR 35-1.

b. *Education.* Completion of high school with courses in general science or mechanics is desirable.

c. *Experience.* Experience in functions such as installation, maintenance, or repair of aircraft environmental systems is mandatory.

d. *Training.* Completion of a basic aircraft environmental systems maintenance course is desirable.

e. *Other:*

(1) Normal color vision as defined in AFR 160-43 is mandatory.

(2) A minimum aptitude level of Mechanical 40 is mandatory.

4. SPECIALTY DATA

a. *Grade Spread:*

Airman first-class through	
staff sergeant	42351
Airman first-class	42331

b. *Related D.O.T. Jobs:*

Oxygen-System Tester	806.381
Air-Conditioning Mechanic	620.281

c. *Related DOD Occupational Subgroup:* 602

AIRMAN AIR FORCE SPECIALTY***AIRCRAFT FUEL SYSTEMS MECHANIC****1. SPECIALTY SUMMARY**

Removes, repairs, inspects, installs, and modifies aircraft fuel systems to include integral fuel and water cell tanks, external tanks, and associated hardware and equipment.

2. DUTIES AND RESPONSIBILITIES

a. Determines maintenance requirements on structural sealing and tank repair. Locates leaks in integral sealed tanks, fuel and water cells, and external tanks by approved testing methods and procedures outlined in applicable technical publications. Determines location of leaks by visual inspection or by removing closure panels and using approved leak tracing methods. Determines scope and complexity of repairs by consulting technical orders and engineering instructions.

b. Performs maintenance on fuel tanks and cells. Drains fuel from tanks and cells and purges tanks. Removes access panels. Removes, disassembles, repairs, reassembles, and installs components. Removes, repairs, and tests cells. Repairs and tests tanks. Cleans cavities and inspects for foreign objects, corrosion, deterioration, and fungus. Installs cells in cavities using necessary support devices. Cleans and seals critical areas.

c. Inspects and repairs aircraft fuel systems. Inspects surfaces for fuel seepage and presence of fuel odors. Applies sealant in correct proportion by brushing, filleting, and injection to assure proper curing and adequate coverage. Applies protective topecoat sealants, insures proper cure of installed sealants as demanded by environmental conditions according to technical orders.

d. Supervises aircraft fuel systems mechanics. Assigns maintenance and repair functions to subordinates and observes performance to insure compliance with local procedures and applicable technical publications. Instruct subordinates in techniques of maintenance, repair, and installation of aircraft fuel systems and related components. Demonstrates the proper use of special tools and test equipment. Insures personnel adhere to appropriate procedures prescribed by USAF maintenance management publications.

3. SPECIALTY QUALIFICATIONS

a. Knowledge. Knowledge of internal hardware such as interconnects, lines, valves, gauges, controls, pumps, and other attachments; sealing material characteristics; sheet metal parts; rubber products; and application and curing of organic sealing compounds and cement is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

b. Education. Completion of high school with courses in general science or physics is desirable.

c. Experience:

(1) Experience in functions such as installation,

repair, or modification of aircraft fuel systems is mandatory.

(2) Experience in functions such as record preparation and management techniques is desirable.

d. Training. Completion of a basic aircraft fuel systems maintenance course is desirable.

e. Other:

(1) Normal color vision as defined in AFM 160-1 is mandatory.

(2) A minimum aptitude level of Mechanical 40 is mandatory.

4. SPECIALTY DATA*a. Grade Spread:*

Airman first-class through	
staff sergeant	42353
Airman first-class	42333

b. Related D.O.T. Job:

Fuel-System-Maintenance	
Man	630.781

c. Related DOD Occupational Subgroup: 602

AIRMAN AIR FORCE SPECIALTY

* AIRCRAFT PNEUDRAULIC SYSTEMS MECHANIC

1. SPECIALTY SUMMARY

Inspects, troubleshoots, installs, repairs, overhauls, and modifies aircraft pneumatic/hydraulic, in-flight refueling systems, and associated pneumatic/hydraulic aerospace ground equipment.

2. DUTIES AND RESPONSIBILITIES

a. *Performs preventive maintenance on aircraft, in-flight refueling systems; and ground support equipment pneumatic/hydraulic systems.* Accomplishes periodic and special inspections on pumps, accumulators, reservoirs, valves, cylinders, brakes, wheels, shock absorber struts, filters, shimmy dampers, control surface booster units, flying boom assembly and related equipment. Observes for air, inert gas or fluid leaks in reservoir, cracks and external damage, and security of mounting. Checks brakes for sponginess, cracked and chipped linings, clearance, warped discs, and accumulator air pressure. Checks components and subassemblies for operation, adjustment, pressures, internal leakage, external leaks under pressure, synchronization, and sequencing, using portable test stand for power supply. Removes, installs, and services aircraft pneumatic/hydraulic systems, in-flight refueling systems, and related ground equipment.

b. *Installs and repairs aircraft pneumatic/hydraulic and in-flight refueling components and ground equipment pneumatic/hydraulic components.* Disassembles, cleans, repairs, assembles, and tests pneumatic/hydraulic and in-flight refueling accessories. Removes covers, poppets, springs, cam seals, pistons, valves, and valve seats. Examines parts for wear, scratches, cracks, and damage. Inspects seals, gaskets, and hose for tears, nicks, and other damage. Inspects equipment removed from storage for condition and any obvious damage. Resurfaces valve seats and valves. Honed and polishes cylinders and pistons to remove scratches and to assure fit. Replaces bushings, bearings, and bearing sleeves. Reworks parts of systems and their components, including landing gear, wing flaps, cowl flaps, carburetor air inlet doors, bomb doors, windshield wipers, shock struts, brakes, flying boom assembly, jacking equipment aerostands, and portable hydraulic test stands. Reconditions and tests pneumatic/hydraulic

units, and in-flight refueling units such as accumulators, actuating struts, selector valves, control valves, and relief valves. Adjusts, aligns, rigs, and calibrates pneumatic/hydraulic components, and flying boom components to insure maximum operating efficiency consistent with design characteristics. Troubleshoots aircraft pneumatic/hydraulic systems, in-flight refueling systems, and components of aircraft pneumatic/hydraulic, and in-flight refueling systems. Performs corrosion control.

c. *Inspects, tests, installs, repairs, overhauls, and modifies aircraft in-flight refueling electrical systems.* Troubleshoots malfunctions of components, such as signal amplifiers, nozzles, instrument gauges, and flying booms. Replaces defective parts with serviceable items. Adjusts and repairs electrical devices such as elevation, telescope, and azimuth control assemblies, and performs operational tests of aircraft in-flight refueling electrical accessories. Conducts detailed tests of in-flight refueling electrical systems using ohmmeter, voltmeter, and electrical test equipment. Isolates malfunctions by visual inspections and electrical checks, and observes instrument indications. Adjusts, aligns, and calibrates aircraft in-flight refueling electrical systems to insure maximum operational efficiency consistent with design characteristics, using wiring diagrams and technical publications.

d. *Supervises aircraft pneudraulic systems maintenance personnel.* Assigns preventive maintenance and repair tasks to subordinates and observes performance to insure compliance with local procedures and applicable technical publications. Instructs subordinates in techniques of installation, repair, and maintenance of aircraft pneumatic/hydraulic systems, in-flight refueling systems, and ground equipment pneumatic/hydraulic systems.

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3. SPECIALTY QUALIFICATIONS

a. Knowledge. Knowledge of electrical and mechanical principles as applied to aircraft, in-flight refueling, and associated ground equipment pneumatic/hydraulic systems; and use and interpretation of blueprints, wiring diagrams, and technical publications is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

b. Education. Completion of high school with courses in hydraulics or general science is desirable.

c. Experience. Experience in functions such as

installation, modification, or repair of aircraft or associated ground equipment pneumatic, hydraulic and electrical systems and components is mandatory.

d. Training. Completion of a basic aircraft pneudraulic systems maintenance course is desirable.

e. Other:

(1) Normal color vision as defined in AFR 160-43 is mandatory.

(2) A minimum aptitude level of Mechanical 40 or Electronic 40 is mandatory.

4. SPECIALTY DATA**a. Grade Spread:**

Airman first-class through

staff sergeant 42354

Airman first-class 42334

b. Related D.O.T. Jobs:

Aircraft Mechanic,

Heat and Vent 801.381

Aircraft Mechanic, Plumbing and

Hydraulic 862.381

Fuel System Maintenance

Man 630.781

c. Related DOD Occupational Subgroup: 602

AIRMAN AIR FORCE SPECIALTY

*AIRCRAFT PROPELLER MECHANIC

1. SPECIALTY SUMMARY

Removes, installs, inspects, repairs and troubleshoots aircraft propellers.

2. DUTIES AND RESPONSIBILITIES

a. *Disassembles, cleans, and inspects aircraft propellers.* Disassembles propellers into component parts such as blades, gears, bearings, brushes, shafts, rollers, hubs, slip rings, separators, covers, pistons, housings, motors, seals, gaskets, bolts, nuts, and washers. Cleans and inspects all parts.

b. *Repairs aircraft propellers and component parts.* Troubleshoots and repairs malfunctions found in propellers, governors, synchronizers, feathering pumps, and control systems, using small handtools, such as hammers, pliers, wrenches, and related test equipment. Reassembles parts into major propeller assembly and balances propeller by inserting lead into hollow barrel bolts or weights in slots in blade nuts. Tests propeller by using electric or hydraulic test stand to check for operation and evidence of oil leakage. Operates propeller through full blade angle range. Makes necessary

corrections such as adjusting stops to agree with prescribed angles to insure efficient operation of propeller.

c. *Installs propeller and component parts.* Removes and installs propeller on engine shaft, using chain fall, propeller slings, and hoist. Removes and installs control unit and checks for operation. Makes necessary adjustments to propeller and governor synchronizer to insure maximum operating efficiency.

d. *Supervises aircraft propeller maintenance personnel.* Assigns maintenance and repair functions to subordinates and observes performance to insure compliance with procedures and applicable technical publications. Instructs subordinates in techniques of installation, repair, and overhaul of aircraft propellers. Conducts on-the-job training.

3. SPECIALTY QUALIFICATIONS

a. *Knowledge.* Knowledge of electrical, pneumatic, and mechanical principles as applied to aircraft propellers; and use of technical publications, forms, records, and maintenance management procedures is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

b. *Education.* Completion of high school with courses in general science or mechanics is desirable.

c. *Experience.* Experience in functions, such as

installation, repair, or overhaul of aircraft propellers, is mandatory.

d. *Training.* Completion of a basic aircraft propeller maintenance course is desirable.

e. *Other:*

(1) Normal color vision as defined in AFM 160-1 is mandatory.

(2) A minimum aptitude level of Mechanical 40 or Electronic 40 is mandatory.

4. SPECIALTY DATA

a. *Grade Spread:*

Airman first-class through	
staff sergeant	42650
Airman first-class	42650

b. *Related D.O.T. Job:*

Aircraft-and-Engine	
Mechanic	621.281

c. *Related DOD Occupational Subgroup:* 602

AIRMAN AIR FORCE SPECIALTY*** JET ENGINE MECHANIC****1. SPECIALTY SUMMARY**

Inspects, removes, installs, disassembles, troubleshoots, repairs assemblies, services, tests, and modifies turbojet, turboprop, and turboprop aircraft engines, turbojet missile engines, and small gas turbine engines.

2. DUTIES AND RESPONSIBILITIES

a. Performs inspections and preventive maintenance on jet engines including small gas turbine engines and turbojet missile engines. Performs engine periodic and special inspections by checking engine components for cracks, dents, security of attachment, servicing leakage, foreign matter, clearances, deformation, and proper safeties. Removes from and installs engine in aircraft, including disconnecting and connecting fuel, oil, air, and hydraulic lines, aligning of engine, and inspecting controls for freedom of movement and mounting pads for condition. Analyzes and evaluates an operating engine and makes engine performance adjustments such as maximum and minimum rpm, exhaust gas temperature (EGT), and oil pressure. Recognizes troubles through evaluation of engine and engine systems operational checks. Analyzes trouble indication and determines possible cause using technical order diagrams. Isolates troubles by using such test equipment as fuel and oil pressure gauges, exhaust gas temperature test instruments, and engine pressure ratio gauge. Takes appropriate action to insure correction of defect. Operates and performs operator maintenance on jet engine ground support equipment, such as maintenance stands, auxiliary power units, and air compressors. Selects, uses, and cares for common hand and special tools. Observes and practices safety procedures.

b. Accomplishes field maintenance repair and engine build-up. Disassembles engine to the extent necessary to repair and replace engine parts, to include removing and disassembling engine components such as exhaust cone or afterburner, turbine rotor(s), combustion chamber(s), compressor(s), engine plumbing, electrical leads and

units, bearings, seals, oil metering jets, and filters. Cleans and inspects engine components using visual inspection methods. Analyzes engine inspection findings to determine need for repairs. Repairs engine by replacing parts and removing defects such as nicks, dents, scratches, and burrs. Assembles engine adhering to prescribed procedures, torque values, safetying methods, and clearances on such items as compressor rotor, turbine rotor, and afterburner nozzle. Modifies engines according to technical directives. Removes and installs quick-engine change kit. Prepares engine for installation in aircraft. Accomplishes corrosion control.

c. Performs special and field maintenance tests of jet engines including small gas turbine engines and turbojet missile engines. Installs engines in test stand. Installs test equipment and makes necessary connections. Performs preoperational and postoperational inspections. Operates the engine and performs engine test, according to applicable directives, to include checking for leaks, making engine trip checks and idle and maximum rpm adjustments, checking vibration, and completing test log sheet. Removes engine from test stand. Accomplishes operator maintenance on test stand. Follows established control procedures to eliminate the possibility of foreign object damage to engines.

d. Supervises jet engine maintenance personnel. Assigns maintenance functions to subordinates and observes performance to insure compliance with applicable directives. Instructs subordinates in maintenance of turboprop and jet engines and associated equipment.

3. SPECIALTY QUALIFICATIONS**a. Knowledge:**

(1) Knowledge of mechanical principles as applied to turboprop and jet engines; and the use of technical publications is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

(2) Knowledge of electrical theory is desirable.

b. Education. Completion of high school with a course in mechanics or mathematics is desirable.

c. Experience.

(1) Experience in functions such as installation, repair, or maintenance of jet engines is mandatory.

(2) Experience in testing of jet engines is desirable.

d. *Training.* Completion of a basic jet engine maintenance course is desirable. 160-1 is mandatory.

e. *Other:*

(2) A minimum aptitude level of Mechanical 40

(1) Normal color vision as defined in AFM is mandatory.

4. SPECIALTY DATA

a. *General Spread:*

Airman first-class through

staff sergeant 42652

Airman first-class 42632

b. *Related D.O.T. Jobs.*

Aircraft and Engine

Mechanic 621.281

Assembler, Aircraft Power

Plant 621.381

c. *Related DOD Occupational Subgroup:* 601

AIRMAN AIR FORCE SPECIALTY**AIRCRAFT MAINTENANCE SPECIALIST****1. SPECIALTY SUMMARY**

Inspects, repairs, maintains, services, and modifies aircraft and aircraft installed equipment; performs crew chief, flight chief, and maintenance staff functions; and performs tow reel operator functions.

2. DUTIES AND RESPONSIBILITIES

★a. Performs inspections, functional checks, and preventive maintenance on aircraft and aircraft installed equipment: Performs preflight, daily, and periodic inspections of aircraft structures, landing gear, engines, instruments, cockpits, cabins, flight surfaces, and controls. Inspects and performs functional checks on hydraulic, electrical, pressurization, lubrication, anti-icing, vacuum, induction, and exhaust systems, and installed equipment such as external tanks, tow reels, hoists, and APU's. Inspects aircraft components for cleanliness, alignment, proper clearance and operation, evidence of wear, cracks, and on looseness, using feeler gages, micrometers, tensiometers, and hand and special tools. Determines feasibility of retreading aircraft tires when specifically assigned to the aircraft tire repair function.

b. Repairs, maintains, and services aircraft and aircraft installed equipment: Determines and indicates actions to correct malfunctions as indicated on aircraft forms and clears forms. Cleans aircraft and engines using prescribed solvents or cleaning materials. Detects and removes corrosion and applies protective measures to prevent corrosion. Troubleshoots malfunctions pertaining to aircraft structures, landing gear, control surfaces, induction, ex-

haust, ventilation, and heating systems. Repairs damaged control surfaces and conducts detailed tests of repaired components using bench mockups and related test equipment. Removes and replaces items such as control surfaces, engines, wheels, brakes, tires, cowl-ing, enclosures, hose, and tubing. Services oil, de-icing, fuel, hydraulic, and oxygen (includes liquid oxygen) systems. Tows, taxis, parks, and moors aircraft. Adjusts and maintains installed equipment such as tow targets, electrical windlasses, hydraulic reels, drive assemblies, electric motors, and gear trains, removing and replacing worn or in-operative parts and elements such as bearings, shear pins, level wind cams, cables, brake drums, and cable meters. Performs operator maintenance on aircraft installed auxiliary power unit. Interprets blueprints, diagrams, and applicable publications.

c. Inspects tow targets and preflights and operates target towing equipment: Inspects and loads target aboard aircraft in preparation for flight. Assembles and disassembles glider type target, using jigs, clinometers, and leveling devices. Preflights target towing equipment for kinked or broken cables, loose mounts, and other defects. Launches targets, plays out cable, and operates clutch and

brake. Performs minor adjustments and releases and replaces targets.

d. *Performs flight chief and maintenance staff functions:* Coordinates and adjusts individual daily maintenance plans to meet operational commitments for flight of aircraft. Supervises crew chiefs within his flight. Assures compliance with applicable requirements of the Maintenance Management System (AFM 66-1). Performs functions, as a member of the maintenance staff, as assigned to quality control, maintenance control, training, or analysis divisions.

e. *Supervises aircraft maintenance personnel:* Assigns maintenance and repair functions to subordinates and observes performance to insure compliance with applicable technical publications and local policy and procedures. Instructs subordinates in techniques of repair and maintenance of aircraft and related equipment and in use of diagrams, blueprints, and technical publications. Accomplishes maintenance and exception time accounting documentation. Conducts on-the-job training.

3. SPECIALTY QUALIFICATIONS

a. *Knowledge:*

(1) Knowledge of electrical, hydraulic, and mechanical principles as applied to aircraft; theory of flight; concepts and application of AFM 66-1, Maintenance Management System; maintenance and manhour reporting; and use of blueprints, diagrams, and technical publications is *mandatory*. Possession of mandatory knowledge will be determined in accordance with AFM 35-1.

(2) Knowledge of supply procedures is *desirable*.

b. *Education:* Completion of high school is *desirable*.

c. *Experience:*

(1) Experience in functions such as re-

pair and maintenance of aircraft and related installed and ground support equipment is *mandatory*.

(2) Experience in functions such as performing or supervising aircraft inspections and in performing tow reel operator functions is *desirable*.

d. *Training:* Completion of basic aircraft maintenance course is *desirable*.

e. *Other:*

(1) Normal color vision as defined in AFM 160-1 is *mandatory*.

★(2) A minimum aptitude level of Mechanical 50 or Electronic 50 is *mandatory*.

4. SPECIALTY DATA

a. *Grade Spread:*

Sergeant and
staff sergeant 43151
Airman first class 43131

b. *Related D.O.T. Jobs:*

Airplane Mechanic 621.281
Tire and Tube Repairman 915.884
Tire Repairman 915.884

c. *Related DOD Occupational Subgroup:*
600

5. *SPECIALTY SHREDOUTS

Suffix

A
C
E
F

Portion of AFS to Which Related

Reciprocating Engine Aircraft
Jet Aircraft One and Two Engines
Jet Aircraft Over Two Engines
Turbo-Prop Aircraft

AIRMAN AIR FORCE SPECIALTY CORROSION CONTROL SPECIALIST

1. SPECIALTY SUMMARY

Identifies corrosion, and applies appropriate preservative treatment to metal surfaces of missile, aircraft, and support systems equipment to meet requirements for preservation, eliminate deterioration, and effect corrosion control.

2. DUTIES AND RESPONSIBILITIES

a. Identifies metal corrosion. Performs necessary testing to identify type corrosion present by examination with magnifying equipment, and chemical and mechanical checks. Identifies type metal corroded to insure proper corrosion treatment procedures are used. Determines metal identity by use of technical publications and by subjecting to chemical and mechanical tests.

b. Removes corrosion. Removes corrosion by mechanical and chemical procedures to include use of portable powered (electric and pneumatic) sanders, buffers, brushes, sand blasters, vacuum blasters, vacuum cleaners, scrapers, and grinders, handtools such as scrapers, wire brushes, sand paper, steel and aluminum wool, files, paint removers, acids, caustics, solvents, alcohols, and other agents used in corrosion control processes.

c. Treats and cleans metals. Treats metal with chemical procedures to protect metal from oxidation, to include use of acids and caustics for passivation and etching, and performs functions such as pickling of metals to prepare metal for good bonding with primer coat of protective materials. Uses appropriate solutions for each type of metal to be treated.

d. Applies protective coatings. Applies protective coatings after proper removal of corrosion and treatment of metals. Uses conventional paint spray equipment, electrostatic spray equipment, brushes, pressurized paint cans, and special applicators when applying primers and surface coats.

e. Inspects and removes protective coatings. Inspects coatings visually and with use of optic and mechanical means for prescribed thickness, damage, deterioration, holidays, voids, and evidence of proper application. Removes coatings by use of manual and powered tools and chemicals.

f. Operates and maintains equipment. Operates and maintains portable powered pneumatic and electric sanders, buffers, brushes, sand blasters, vacuum cleaners, vacuum blasters, scrapers, grinders, and sprayers (pneumatic and electrostatic), and special corrosion detection and measuring equipment. Stores, disposes, and uses special materials for corrosion removal, treatment, and protection. Uses, blends, stores, and disposes of acids, caustics, alcohols, solvents, cleaners, primers, and surface coatings.

g. Supervises corrosion control personnel. Schedules work assignments by priority and workload. Prepares reports. Conducts on-the-job training.

3. SPECIALTY QUALIFICATIONS

a. Knowledge. Knowledge of characteristics of metals; metal identification; corrosion identification, corrosion removal; preparation and cleaning of metals; application of protective coatings, operation and maintenance of corrosion control equipment; mixing, storage, and use of acids, solvents, alcohols, caustics, primers, and paints; technical orders and manuals; drawings; safety codes and practices, and maintenance management is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

b. Education. Completion of high school with courses in chemistry and physics is desirable.

c. Experience. Experience in functions such as corrosion identification, corrosion removal, preparation and cleaning of metals, and application of coatings is mandatory.

d. Training. Completion of a basic corrosion control course is desirable.

e. Other:

(1) A minimum aptitude level of Mechanical is mandatory.

(2) Normal color vision as defined in AFM 160-1 is mandatory.

4. SPECIALTY DATA

a. *Grade Spread:*

Airman first-class through	
staff sergeant	\$3154
Airman first-class	\$3134

b. *Related D.O.T. Jobs:*

Metal-Cleaner, Immersion	503.885
Painter, Aircraft	845.781

c. *Related DOD Occupational Subgroup:* 790

APPENDIX B

USAF JOB INVENTORY - AIRCRAFT
MAINTENANCE CAREER LADDER

UNITED STATES AIR FORCE JOB INVENTORY



AIRCRAFT MAINTENANCE CAREER LADDER

AFSCs 43131 A/C/E/F, 43151 A/C/E/F,
43171 A/C/E/F, AND 43191

AFPT 90-431-210
1 April 1976

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
LACKLAND AFB TEXAS 78236

BACKGROUND INFORMATION										DATE (Use Numbers ONLY)		(Card 01: 1-10)		
PRINT YOUR ANSWERS AND CHECK PROPER BOXES														
NAME (Last, First, Middle Initial)										YEAR		MONTH		DAY
SOCIAL SECURITY ACCOUNT NUMBER (SSAN)										AGE LAST BIRTHDAY (In Years)		DATE OF BIRTH		
[][][] (36-38) [][] (39-40) [][][][] (41-44)										[][] (45-46)		YR [][] MO [][] DAY [][]		
PRIMARY AFSC (Leave blank if None)					DUTY AFSC (Leave blank if None)					AUTOVON PREFIX TELEPHONE (Duty Ext) IF YOU WERE CONVERTED OR RETRAINED, WHAT AFSC DID YOU HAVE BEFORE? [][][][] PREFIX (53) [][][][][] NUMBER (54-58) [][] SUFFIX (59)				
CONTROL AFSC (Leave blank if None)					OTHER AFSC IF ANY (Leave blank if None)									
[][][][] PREFIX (67) [][][][][] NUMBER (68-72) [][] SUFFIX (73)					[][][][] PREFIX (61) [][][][][] NUMBER (61-65) [][] SUFFIX (66)									
[][][][] PREFIX (67) [][][][][] NUMBER (68-72) [][] SUFFIX (73)					[][][][] PREFIX (61) [][][][][] NUMBER (61-65) [][] SUFFIX (66)									
IF YOU WERE CONVERTED OR RETRAINED, WHAT AFSC DID YOU HAVE BEFORE? [][][][] PREFIX (12) [][][][][] NUMBER (13-17) [][] SUFFIX (18)										FOR HOW MANY PEOPLE, AIRMEN AND CIVILIANS, ARE YOU THE IMMEDIATE SUPERVISOR? (Include ONLY those who report DIRECTLY to you AND whose performance ratings or efficiency reports YOU WRITE). [][][][] PREFIX (12) [][][][][] NUMBER (13-17) [][] SUFFIX (18)				
MAJOR COMMAND (Check one box) (21) ☐ AAC ☐ ACIC ☐ ADC ☐ AFAFC ☐ AFCS ☐ AFDSOC ☐ AFLC ☐ AFRES ☐ AFSC ☐ ARPC ☐ ATC ☐ AU ☐ HQ COMD ☐ HQ COMD SPEC ACTY ☐ HQ USAF ☐ HQ USAF FLD EXT ☐ MAC ☐ PACAF ☐ SAC ☐ TAC ☐ USAFA ☐ USAFE ☐ USAF SO ☐ USAFSS ☐ OTHER UNIT OR ORGANIZATION (Not under major command) IF "OTHER UNIT" WRITE IN NAME _____														
TIME IN PRESENT JOB (Duty assignment in present unit on current tour only)										[][] YEARS (22-23)		[][] MONTHS (24-25)		
TIME AT PRESENT HOME BASE OR INSTALLATION (On current tour only)										[][] YEARS (26-27)		[][] MONTHS (28-29)		
TOTAL TIME IN DUTY / AFSC (Add the times for all jobs, in all units, on all tours-in duty AFSC jobs)										[][] YEARS (30-31)		[][] MONTHS (32-33)		
TOTAL TIME IN CAREER FIELD (Add the times for all work in your career field)										[][] YEARS (34-35)		[][] MONTHS (36-37)		
HOW MUCH ACTIVE MILITARY SERVICE (TAFMS) DO YOU HAVE?										[][] YEARS (38-39)		[][] MONTHS (40-41)		
CIRCLE THE HIGHEST SCHOOL GRADE OR COLLEGE/UNIVERSITY YEAR YOU HAVE COMPLETED (Include equal level, like OGD; but NOT special training, like vocational, outside regular school) (42-43)														
ELEMENTARY SCHOOL 01 02 03 04 05 06 07 08 HIGH SCHOOL 09 10 11 12 COLLEGE OR UNIVERSITY 13 14 15 16 17 18														
ORGANIZATION TO WHICH ASSIGNED (Do not include name of base)										(44-50)				
TITLE OF MY PRESENT JOB OR POSITION (DUTY ASSIGNMENT) (NOTE Do not give just the title of your Air Force Specialty - UNLESS that is the only name your job has)										(60-73)				

(CARD 03: 5-18)

BACKGROUND INFORMATION (CONTINUED)

GRADE

(5)	E1 [] AB	E2 [] AMN	E3 [] AIC	E4 [] SGT	E5 [] SSGT	E6 [] TSGT	E7 [] MSGT	E8 [] SMSGT	E9 [] CMSGT
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(6) WHAT YEAR DO YOU PLAN TO LEAVE THE AIR FORCE?

1 ☐ 1976 2 ☐ 1977 3 ☐ 1978 4 ☐ 1979 5 ☐ 1980 or later

I AM ASSIGNED TO A BASE OR INSTALLATION WHICH IS LOCATED:

(7) ☐ INSIDE THE CONTINENTAL U.S. (CONUS or zone of the interior)

(8) ☐ OUTSIDE THE CONTINENTAL U.S. ("Overseas"): INCLUDES ALASKA AND HAWAII

HOW WERE YOU ASSIGNED TO YOUR PRESENT CAREER LADDER (Check only one box)

(9) ☐ COMPLETING RESIDENT TECHNICAL TRAINING

(10) ☐ BEING RECLASSIFIED WITHOUT COMPLETING TECHNICAL TRAINING OR OJT

(11) ☐ DIRECT DUTY ASSIGNMENT (DDA) FROM BASIC TRAINING TO OJT WITHOUT BYPASS TEST

(12) [] DDA FROM BASIC TRAINING BY BYPASS TEST

(13) ☐ BEING CONVERTED FROM ANOTHER AF SPECIALTY, WITHOUT TRAINING BY CLASSIFICATION BOARD ACTION

14) ☐ BEING RETRAINED FROM ANOTHER SPECIALTY

(15) ☐ REENLISTING AFTER PRIOR SERVICE IN USAF, OR FROM ANOTHER BRANCH OF SERVICE

(16) I WILL BE ELIGIBLE FOR RETIREMENT AT THE END OF MY CURRENT ENLISTMENT:

☐ YES ☐ NO

(17) I WILL BE ELIGIBLE TO REENLIST AT THE END OF MY CURRENT ENLISTMENT:

☐ YES ☐ NO

(18) I PLAN TO REENLIST:

1 [] NO

3 [] UNCERTAIN, PROBABLY YES

2 [] UNCERTAIN, PROBABLY NO

4 ☐ YES

BACKGROUND INFORMATION (CONTINUED)

(CARD 03: 19-25)

(19) I FIND MY JOB:

- | | |
|----------------------|-----------------------------|
| 1 [] EXTREMELY DULL | 5 [] FAIRLY INTERESTING |
| 2 [] VERY DULL | 6 [] VERY INTERESTING |
| 3 [] FAIRLY DULL | 7 [] EXTREMELY INTERESTING |
| 4 [] SO-SO | |

(20) MY JOB UTILIZES MY TALENTS:

- | | |
|--|--|
| 1 ☐ NOT AT ALL | 5 ☐ VERY WELL |
| 2 ☐ VERY LITTLE | 6 ☐ EXCELLENTLY |
| 3 ☐ FAIRLY WELL | 7 ☐ PERFECTLY |
| 4 ☐ QUITE WELL | |

(21) MY JOB UTILIZES MY TRAINING:

- | | |
|--|--|
| 1 ☐ NOT AT ALL | 5 ☐ VERY WELL |
| 2 ☐ VERY LITTLE | 6 ☐ EXCELLENTLY |
| 3 ☐ FAIRLY WELL | 7 ☐ PERFECTLY |
| 4 ☐ QUITE WELL | |

(22) ARE YOU COMPLETING THIS USAF JOB INVENTORY UNDER DIRECT SUPERVISION OF THE CBPO OCCUPATIONAL SURVEY CONTROL OFFICER?

- ☐ YES ☐ NO

(23) ARE YOU COMPLETING THIS USAF JOB INVENTORY AT YOUR HOME OR BARRACKS?

- ☐ YES ☐ NO

(24) ARE YOU COMPLETING THIS USAF JOB INVENTORY AT THE ORGANIZATION AT WHICH YOU WORK?

- ☐ YES ☐ NO

(25) HAVE THE INSTRUCTIONS FOR COMPLETING THIS SURVEY BEEN READ OR EXPLAINED TO YOU?

- ☐ YES ☐ NO

BACKGROUND INFORMATION (CONTINUED)

(55) DO YOU PERFORM ANY OF THE FUNCTIONS OF THE FOLLOWING POSITIONS?

IF YES, CHECK FUNCTIONS PERFORMED:

AT WHAT LEVEL DO YOU PERFORM THE ABOVE LISTED FUNCTIONS?

(64) ARE YOU ASSIGNED TO ANY OF THE FOLLOWING INSPECTION TEAMS?

IF YES, CHECK INSPECTION TEAM OF ASSIGNMENT.

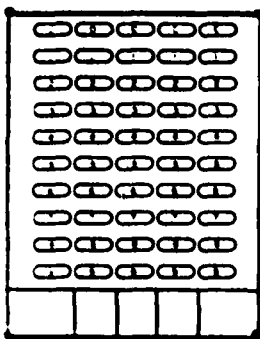
(69) DO YOU USE AEROSPACE GROUND EQUIPMENT IN YOUR PRESENT ASSIGNMENT?

IF YES, CHECK GROUND EQUIPMENT YOU USE:

AUXILIARY ELECTRICAL POWER UNITS

(11) [] NF-2

69



BACKGROUND INFORMATION (CONTINUED)

(CARD 04: 12-45)

BOMB HOISTS

(12) ☐ BOMB HOIST

(13) ☐ MJ-1 BOMB LIFT

GAS TURBINE COMPRESSORS

(14) ☐ MA-1A

(15) ☐ MA-2

GROUND AIR CONDITIONING UNITS

(16) ☐ A-3

(17) ☐ MA-1

(18) ☐ MA-3

HYDRAULIC TEST STANDS

(19) ☐ HYDRAULIC SERVICING CART

(20) ☐ D-5

(21) ☐ D-6

(22) ☐ MJ-2A

(23) ☐ MK-3A

(24) ☐ MB-3 DE-ICER TRUCK

(25) ☐ TTU-28

OXYGEN AND NITROGEN SERVICING UNITS

(26) ☐ GASEOUS OXYGEN (HIGH & LOW)

(27) ☐ GASEOUS NITROGEN

(28) ☐ LIQUID OXYGEN (LOX)

PORTABLE GROUND HEATERS AND BLOWERS

(29) ☐ BT-400

(30) ☐ F-4

(31) ☐ H-1

TOWING VEHICLES

(32) ☐ CLARK TUG

(33) ☐ COLEMAN

(34) ☐ EUCLAD

(35) ☐ FEDERAL

(36) ☐ LOW BOY

(37) ☐ WHEEL MOVER

PORTABLE FIELD LIGHTING EQUIPMENT

(38) ☐ NF-1

(39) ☐ NF-2 LITE ALL

(40) ☐ B-1

(41) ☐ B-9

MISCELLANEOUS EQUIPMENT

(42) ☐ CABIN PRESSURE TESTERS

(43) ☐ MB-4

(44) ☐ WATER SERVICING CARTS

(45) ☐ OTHER (PLEASE SPECIFY ON BLANK PAGES AT END OF BOOKLET.)

(64) [] OV-10A

(19) [] UH-1N

(23) [] OTHER (PLEASE SPECIFY
ON BLANK PAGES AT END
OF BOOKLET.)

Have you completed the Background Information Section? Make sure, before you continue with this procedure.

PROCEDURE A. CHECKING TASKS OF PRESENT JOB

1. As you read each task in the Duty-Task section, pages 1 through 46 place a check beside each task that you perform in your present job. Put your check mark in the column headed "Check-If Done Now." When you have reached page 46, follow the arrow for your next instructions.
2. DO NOT COMPLETE THE RIGHT-HAND COLUMN AT THIS TIME.
3. If a task that you perform is not listed anywhere in the entire list, write it on page 47 or 48, but do not add tasks that are classified.
4. Do not confuse work you do yourself with work you supervise.
5. Remember, at this time you are to complete only the column headed "Check-If Done Now" for pages 1 through 46. Now, turn to page 1 and BEGIN.

PROCEDURE B. RATING TIME SPENT ON TASKS ON PRESENT JOB

1. Have you checked each task that you perform in your present job? Make sure, before you continue with this procedure.
2. Now you are to rate the relative amount of time you spend performing each task in your present job. Relative time spent means the total time you spend doing the task compared with the time you spend on each of the other tasks of your present job.
3. Use a rating of "1" if you spend a "very small amount" of time on a task. Use a rating of "2" for "much below average" time, and so on, up to a rating of "9" if you spend a "very large amount" of time on the task.
4. Remember, you are to rate only tasks that you have already checked in the first column of pages 1 through 46.
5. Place your rating, according to the 9-point scale, in the right-hand column headed "Time Spent Present Job" by blackening the appropriate circle. Caution: COMPLETELY fill in the circle you have chosen, but do NOT overlap into other circles on the same line.
6. When you have completed all your ratings in the right-hand column of pages 1 through 46, you will have completed this USAF Job Inventory and you may turn it in to your Occupational Survey Control Officer.
7. Now, turn to page 1 and BEGIN your ratings for the right-hand column.

1. Check tasks you perform now (✓). 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (✓) tasks on time spent in present job.				Check	TIME SPENT Present Job
AFSC 431X1 A. ORGANIZING AND PLANNING				✓ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
1.	Analyze reports or maintenance plans				○○○○○○○○○○
2.	Assign personnel to duty positions				○○○○○○○○○○
3.	Assign space for equipment or supplies				○○○○○○○○○○
4.	Coordinate with maintenance personnel or job control for availability of specialists or equipment, tools, or parts				○○○○○○○○○○
5.	Coordinate with other activities on availability of facilities				○○○○○○○○○○
6.	Coordinate work activities with maintenance specialists or other personnel or agencies				○○○○○○○○○○
7.	Determine facilities for work functions				○○○○○○○○○○
8.	Develop mobility plans				○○○○○○○○○○
9.	Develop or improve work methods and procedures				○○○○○○○○○○
10.	Establish Air Force regulations, manuals, pamphlets, or letter files				○○○○○○○○○○
11.	Establish corrosion control programs				○○○○○○○○○○
12.	Establish maintenance controls				○○○○○○○○○○
13.	Establish performance standards				○○○○○○○○○○
14.	Establish required level of supplies, special tools, test equipment, or parts other than bench stock				○○○○○○○○○○
15.	Establish requirement for section directives, office instructions, or standing operating procedures				○○○○○○○○○○
16.	Establish technical order (TO) publication files				○○○○○○○○○○
17.	Establish work methods				○○○○○○○○○○
18.	Interpret maintenance policies or directives for subordinates				○○○○○○○○○○
19.	Maintain property custodian authorization/custody receipt listings (CACRL)				○○○○○○○○○○
20.	Plan contingency programs				○○○○○○○○○○
21.	Plan maintenance deficiency analysis programs				○○○○○○○○○○
22.	Plan maintenance or inspections of aircraft				○○○○○○○○○○
23.	Plan or prepare functional charts				○○○○○○○○○○
24.	Plan or prepare status boards				○○○○○○○○○○

1. Check tasks you perform now (✓) 2. On the back of the hook, write in any unlisted tasks which you do now 3. In the "Time Spent" column, rate all checked (✓) tasks on time spent in present job					Check	TIME SPENT Present Job
AFSC 431X1					✓ IF DONE NOW	1. Very small amount 2. Much below average. 3. Below average. 4. Slightly below average 5. About average. 6. Slightly above average 7. Above average 8. Much above average. 9. Very large amount.
A. ORGANIZING AND PLANNING (CONTINUED)						
25. Plan or prepare unit orientation programs						○○○○○○○○○○
26. Plan or schedule leaves or passes						○○○○○○○○○○
27. Plan or schedule work assignments						○○○○○○○○○○
28. Plan safety programs						○○○○○○○○○○
29. Plan security programs						○○○○○○○○○○
30. Plan unit training programs						○○○○○○○○○○
31. Plan utilization of equipment						○○○○○○○○○○
32. Prepare input to mobility plans						○○○○○○○○○○
33. Prepare justifications for test equipment, special tools, or bench stock						○○○○○○○○○○
NOTE: If any task you perform under this duty is not listed, write it on page 47 or 48.						○○○○○○○○○○
						○○○○○○○○○○
						○○○○○○○○○○
B. DIRECTING AND IMPLEMENTING						○○○○○○○○○○
						○○○○○○○○○○
						○○○○○○○○○○
1. Adjust daily maintenance plans to meet operational commitments for aircraft						○○○○○○○○○○
2. Advise subordinates on resolution of problems						○○○○○○○○○○
3. Compile information for reports or staff studies						○○○○○○○○○○
4. Counsel personnel on personal or military related problems						○○○○○○○○○○
5. Direct aircraft inspection activities						○○○○○○○○○○
6. Direct inspection programs						○○○○○○○○○○
7. Direct maintenance data collection (MDC) programs						○○○○○○○○○○
8. Direct maintenance of facilities						○○○○○○○○○○
9. Direct maintenance or utilization of equipment, supplies, or work space						○○○○○○○○○○

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1. Check tasks you perform now (✓). 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (✓) tasks by time spent in present job.					Check	TIME SPENT Present Job
AFSC 431X1					✓ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
C. INSPECTING AND EVALUATING						
1.	Verify status of repairable, serviceable, or condemned parts					
2.	Edit or review correspondence or reports					
3.	Evaluate corrosion control programs					
4.	Evaluate Quality Deficiency Reports (Category II) forms (SF Form 368)					
5.	Evaluate suggestions					
6.	Evaluate Technical Order System Publication Improvement Reports and Reply forms (AFTO Form 22)					
7.	Evaluate training programs					
8.	Evaluate unit safety practices or procedures					
9.	Evaluate unit security practices or procedures					
10.	Evaluate use of work space, equipment, or supplies					
11.	Evaluate work performance of military personnel					
12.	Inspect work performed by subordinates					
13.	Inspect maintenance equipment					
14.	Inspect work areas					
15.	Perform QC technical inspections					
16.	Prepare recommendations for change to training programs					
17.	Review aircraft records or maintenance forms					
18.	Review or annotate Maintenance Preplan forms (AF Form 2406)					
19.	Review Priority Monitor Reports (PRM D-18)					
NOTE: If any task you perform under this duty is not listed, write it on page 47 or 48.						

(Continued next page)

1. Check tasks you perform now (X) 2. On the back of the book, write in any unlisted tasks which you do now 3. In the Time Spent column, rate all checked (X) tasks on time spent in present job				Check	TIME SPENT Present Job
AFSC 431X1				/ IF DONE NOW	1. Very small amount 2. Much below average 3. Below average 4. Slightly below average 5. About average 6. Slightly above average 7. Above average 8. Much above average 9. Very large amount
E. MAINTAINING FORMS AND RECORDS (CONTINUED)					
4.	Initiate or post entries to Aerospace Vehicle Flight Data Document forms (AFIO Form 781)				-----
5.	Initiate or post entries to Aerospace Vehicle Flight Report and Maintenance Document forms (AFIO Form 781F)				-----
6.	Initiate or post entries to Aerospace Vehicle Flight Status and Maintenance Document forms (AFIO Form 781H)				-----
7.	Initiate or post entries to aerospace vehicle inspection forms (AFIO Form 781K)				-----
8.	Initiate or post entries to aircraft historical records				-----
9.	Initiate or post entries to Aircraft Inventory Record Certification and Record of Transfers forms (DD Form 780-3)				-----
10.	Initiate or post entries to Aircraft Inventory Record Equipment List forms (DD Form 780-1)				-----
11.	Initiate or post entries to Aircraft Inventory Record forms (DD Form 780)				-----
12.	Initiate or post entries to Aircraft Inventory Record Shortages forms (DD Form 780-2)				-----
13.	Initiate or post entries to Airplane Weight Record forms (DD Form 365B)				-----
14.	Initiate or post entries to Avionics Configuration and Load Status Document forms (AFIO Form 781C)				-----
15.	Initiate or post entries to Calendar and Hourly Item Inspection Document forms (AFIO Form 781D)				-----
16.	Initiate or post entries to Chart A-Basic Weight Checklist forms (DD Form 365A)				-----
17.	Initiate or post entries to Chart C-Basic Weight and Balance Record forms (DD Form 365C)				-----
18.	Initiate or post entries to Equipment Discrepancies forms (AF Form 2421)				-----
19.	Initiate or post entries to General Mission Classification-Mission Symbols forms (AFIO Form 781G)				-----
20.	Initiate or post entries to J79 Engine Run Up Record forms (AFIO Form 781N)				-----
	Initiate or post entries to Maintenance Discrepancy and Work Document forms (AFIO Form 781A)				-----
	Initiate or post entries to Nonpowered AGE Record Forms (AFIO Form 454)				-----
	Initiate or post entries to Record of Weight and Balance Personnel forms (DD Form 365)				-----
	Initiate or post entries to Status Symbols and Functional forms (AFIO Form 781M)				-----
	Initiate or post entries to Trainer/AGE Status and forms (AFIO Form 443)				-----
	Initiate or post entries to Weight and Balance Clearance forms (DD Form 365)				-----
	Initiate or post entries to Crew Evaluation Report				-----

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	AFSC 431X1 G. PERFORMING GENERAL AIRCRAFT MAINTENANCE	/ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
1.	Adjust aircraft access doors or hatches		○○○○○○○○○○
2.	Adjust aircraft door linkage or latching mechanisms		○○○○○○○○○○
3.	Adjust air deflector doors		○○○○○○○○○○
4.	Adjust ammunition hoist cables		○○○○○○○○○○
5.	Adjust bomb bay doors		○○○○○○○○○○
6.	Adjust canopy latch mechanisms		○○○○○○○○○○
7.	Adjust crewmember seat locking mechanisms		○○○○○○○○○○
8.	Adjust dragchute system components		○○○○○○○○○○
9.	Apply sealing compounds to aircraft components such as panels or windshields		○○○○○○○○○○
10.	Brighten aircraft surfaces		○○○○○○○○○○
11.	Clean external surfaces of aircraft other than transparent surfaces		○○○○○○○○○○
12.	Clean interior of aircraft such as crew compartments or cargo compartments		○○○○○○○○○○
13.	Clean transparent surfaces such as windshields		○○○○○○○○○○
14.	Drain ARC-96 antenna hydraulic motor spill reservoirs		○○○○○○○○○○
15.	Drain water from cockpits		○○○○○○○○○○
16.	Drain water from pitot static systems		○○○○○○○○○○
17.	Energize or deenergize circuit breakers		○○○○○○○○○○
18.	Evaluate performance of new or redesigned tools		○○○○○○○○○○
19.	Evaluate unsatisfactory report (UR) results		○○○○○○○○○○
20.	Identify types of corrosion		○○○○○○○○○○
21.	Inspect aircraft access door hardware		○○○○○○○○○○
22.	Inspect aircraft access doors or hatches		○○○○○○○○○○
23.	Inspect aircraft access door seals		○○○○○○○○○○
24.	Inspect aircraft emergency tools		○○○○○○○○○○

○○○○○○○○ ○○○○○○○○ ○○○○○○○○ ○○○○○○○○ ○○○○○○○○ ○○○○○○○○ ○○○○○○○○ ○○○○○○○○ ○○○○○○○○ ○○○○○○○○ 1. Check tasks you perform now (✓). 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (✓) tasks on time spent in present job.	1. Check ✓ IF DONE NOW TIME SPENT Present Job 1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.				
AFSC 431X1					
G. PERFORMING GENERAL AIRCRAFT MAINTENANCE (CONTINUED)					
73.	Remove or replace crewmember seatbelts			○○○○○○○○○○	
74.	Remove or replace crewmember seat inertial reels			○○○○○○○○○○	
75.	Remove or replace crewmember seats			○○○○○○○○○○	
76.	Remove or replace crewmember seat locking mechanisms			○○○○○○○○○○	
77.	Remove or replace crewmember seat shoulder harnesses			○○○○○○○○○○	
78.	Remove or replace dorsal fins			○○○○○○○○○○	
79.	Remove or replace dragchute systems			○○○○○○○○○○	
80.	Remove or replace electronic countermeasures (ECM) scopes or ECM control panels			○○○○○○○○○○	
81.	Remove or replace engine struts or engine pylons			○○○○○○○○○○	
82.	Remove or replace flight instruments			○○○○○○○○○○	
83.	Remove or replace gun purge doors			○○○○○○○○○○	
84.	Remove or replace hatch hardware such as screws or rivets			○○○○○○○○○○	
85.	Remove or replace horizontal stabilizer leading edges			○○○○○○○○○○	
86.	Remove or replace instrument panels			○○○○○○○○○○	
87.	Remove or replace leading edge bleed air ducts			○○○○○○○○○○	
88.	Remove or replace photoflash doors			○○○○○○○○○○	
89.	Remove or replace pressure seals			○○○○○○○○○○	
90.	Remove or replace protective coverings such as pitot tube coverings			○○○○○○○○○○	
91.	Remove or replace radome hardware			○○○○○○○○○○	
92.	Remove or replace radomes			○○○○○○○○○○	
93.	Remove or replace radome seals			○○○○○○○○○○	
94.	Remove or replace relief facilities or components			○○○○○○○○○○	
95.	Remove or replace safety devices			○○○○○○○○○○	
96.	Remove or replace sextant mounts			○○○○○○○○○○	

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1. Check tasks you perform now (✓). 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (✓) tasks on time spent in present job.		Check	TIME SPENT Present Job
AFSC 431X1 G. PERFORMING GENERAL AIRCRAFT MAINTENANCE (CONTINUED)		✓ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
97. Remove or replace troopseats			○○○○○○○○○○
98. Remove or replace troopseat hardware such as screws or rivets			○○○○○○○○○○
99. Remove or replace troopseat seatbelts			○○○○○○○○○○
100. Remove or replace vertical fin leading edges			○○○○○○○○○○
101. Remove or replace vertical fins			○○○○○○○○○○
102. Remove or replace windows or windshields including nesa glass			○○○○○○○○○○
103. Remove or replace wing leading edges			○○○○○○○○○○
104. Remove or replace wings or wing tips			○○○○○○○○○○
105. Remove, replace, or add ballast			○○○○○○○○○○
106. Remove scratches from transparent surfaces			○○○○○○○○○○
107. Research technical publications to determine maintenance procedures			○○○○○○○○○○
108. Rig life raft release systems			○○○○○○○○○○
109. Rig or adjust ram air turbine (RAT) doors			○○○○○○○○○○
110. Safety wire aircraft hardware			○○○○○○○○○○
111. Service ARC-96 antenna accumulators			○○○○○○○○○○
112. Service relief facilities			○○○○○○○○○○
113. Straighten aircraft panels or remove small dents			○○○○○○○○○○
114. Troubleshoot ammunition hoist cables			○○○○○○○○○○
115. Troubleshoot sextant mounts			○○○○○○○○○○
116. Visually inspect alignment of aircraft structures			○○○○○○○○○○
117. Visually inspect ARC-96 antenna accumulators			○○○○○○○○○○
118. Visually inspect ARC-96 antenna dehydrator crystals			○○○○○○○○○○
119. Visually inspect ARC-96 antenna drogues			○○○○○○○○○○
120. Visually inspect ARC-96 antenna hydraulic motor drain reservoirs			○○○○○○○○○○

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	1. Check tasks you perform now (✓). 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (✓) tasks on time spent in present job.	Check	TIME SPENT Present Job
AFSC 431X1 H. PERFORMING GROUND HANDLING OF AIRCRAFT (CONTINUED)		✓ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
12.	Fuel aircraft using hot refueling methods		○○○○○○○○○○
13.	Fuel aircraft using hydrant refueling methods		○○○○○○○○○○
14.	Fuel aircraft using over-wing refueling methods		○○○○○○○○○○
15.	Fuel aircraft using single-point refueling methods		○○○○○○○○○○
16.	Ground aircraft		○○○○○○○○○○
17.	Hangar aircraft		○○○○○○○○○○
18.	Install or remove aircraft decals		○○○○○○○○○○
19.	Interpret North Atlantic Treaty Organization (NATO) aircraft markings		○○○○○○○○○○
20.	Jack aircraft		○○○○○○○○○○
21.	Launch or recover aircraft		○○○○○○○○○○
22.	Level aircraft		○○○○○○○○○○
23.	Lift aircraft by air bags		○○○○○○○○○○
24.	Marshal aircraft		○○○○○○○○○○
25.	Measure ground height of aircraft		○○○○○○○○○○
26.	Moor aircraft by refueling or sandbagging		○○○○○○○○○○
27.	Moor aircraft by tying down		○○○○○○○○○○
28.	Operate aerospace ground equipment (AGE) air conditioning equipment		○○○○○○○○○○
29.	Operate AGE air compressors		○○○○○○○○○○
30.	Operate AGE dollies, slings, or cradles		○○○○○○○○○○
31.	Operate AGE gas turbine compressors		○○○○○○○○○○
32.	Operate AGE ground heaters		○○○○○○○○○○
33.	Operate AGE hydraulic test stands		○○○○○○○○○○
34.	Operate AGE portable generators		○○○○○○○○○○
35.	Operate AGE portable lighting equipment		○○○○○○○○○○

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ 1. Check tasks you perform now (A). 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (A) tasks on time spent in present job.					Check	TIME SPENT Present Job
AFSC 431X1 H. PERFORMING GROUND HANDLING OF AIRCRAFT (CONTINUED)					/ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
60.	Service aircraft thrust augmentation systems					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
61.	Service aircraft pneumatic systems					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
62.	Service aircraft tires with air					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
63.	Service aircraft tires with nitrogen					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
64.	Stand cold weather heater watch					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
65.	Stand fire guard					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
66.	Take engine oil samples for spectrometric oil analysis program (SOAP)					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
67.	Walk wings or tails during aircraft towing operations					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
68.	Weigh aircraft					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
NOTE: If any task you perform under this duty is not listed, write it on page 47 or 48.						☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
						☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
						☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
	I. MAINTAINING LANDING GEAR SYSTEMS					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
						☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
						☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
1.	Adjust aircraft crosswind systems or components					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
2.	Adjust landing gear mechanical components					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
3.	Adjust landing gear ski systems					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
4.	Adjust landing gear steering mechanism components					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
5.	Bleed brake assemblies					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
6.	Break down tires					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
7.	Build up tires					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
8.	Clean polished surfaces of struts					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
9.	Determine feasibility of retreading aircraft tires					☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ 1. Check tasks you perform now (✓) 2. On the back of the book, write in any unlisted tasks which you do now 3. In the Time Spent column rate all checked (✓) tasks on time spent in present job.					Check	TIME SPENT Present Job
AFSC 431X1					✓ IF DONE NOW	1. Very small amount 2. Much below average. 3. Below average. 4. Slightly below average 5. About average. 6. Slightly above average 7. Above average 8. Much above average. 9. Very large amount
I. MAINTAINING LANDING GEAR SYSTEMS (CONTINUED)						
10.	Inspect aircraft arresting gear components					
11.	Inspect aircraft arresting gear systems					
12.	Inspect aircraft crosswind system or components					
13.	Inspect aircraft landing gear arresting hooks					
14.	Inspect aircraft steering systems					
15.	Inspect aircraft wheel assemblies					
16.	Inspect anti-skid systems or components					
17.	Inspect braking system components					
18.	Inspect landing gear electrical components					
19.	Inspect landing gear hydraulic components					
20.	Inspect landing gear ski systems					
21.	Inspect landing gear structural components					
22.	Inspect nosewheel steering components					
23.	Inspect struts					
24.	Inspect wheel bearings					
25.	Inspect wheels					
26.	Lubricate struts					
27.	Lubricate wheel bearings					
28.	Operate aircraft kneeling systems					
29.	Operationally check aircraft arresting gear systems					
30.	Operationally check aircraft crosswind systems or components					
31.	Operationally check aircraft kneeling systems					
32.	Operationally check aircraft landing gears					
33.	Operationally check aircraft landing gear arresting hooks					

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	1. Check tasks you perform now (✓). 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (✓) tasks on time spent in present job.	Check	TIME SPENT Present Job
	AFSC 431X1 J. MAINTAINING UTILITY SYSTEMS (CONTINUED)	✓ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
49.	Troubleshoot aircraft liquid oxygen systems or components		○○○○○○○○○○
50.	Troubleshoot aircraft windshield wiper systems		○○○○○○○○○○
NOTE: If any task you perform under this duty is not listed, write it on page 47 or 48.			○○○○○○○○○○
			○○○○○○○○○○
			○○○○○○○○○○
K. MAINTAINING FLIGHT CONTROL SYSTEMS			○○○○○○○○○○
			○○○○○○○○○○
			○○○○○○○○○○
1.	Adjust aircraft pitch trim		○○○○○○○○○○
2.	Adjust flight control stops		○○○○○○○○○○
3.	Adjust installed flight control adjustable tabs		○○○○○○○○○○
4.	Adjust installed flight control fixed tabs		○○○○○○○○○○
5.	Adjust or replace regulators on flight control balance panels		○○○○○○○○○○
6.	Adjust travel of aircraft trim actuators		○○○○○○○○○○
7.	Align or adjust aircraft control surface stops		○○○○○○○○○○
8.	Check control surface travel using protractors, templates, or rigging devices		○○○○○○○○○○
9.	Inspect all-weather landing systems		○○○○○○○○○○
10.	Inspect artificial feel system components		○○○○○○○○○○
11.	Inspect autopilot system or components		○○○○○○○○○○
12.	Inspect boost engage locks		○○○○○○○○○○
13.	Inspect boundary layer control (BLC) ducts		○○○○○○○○○○
14.	Inspect BLC valves		○○○○○○○○○○
15.	Inspect electrical flight control systems		○○○○○○○○○○
16.	Inspect flight control surfaces		○○○○○○○○○○

(Continued next page)

1. Check tasks you perform now (A) 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (A) tasks on time spent in present job.		Check	TIME SPENT Present Job
AFSC 431X1 K. MAINTAINING FLIGHT CONTROL SYSTEMS (CONTINUED)		✓ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
65. Troubleshoot hydraulic flight control systems			
66. Troubleshoot manual flight control systems			
NOTE: If any task you perform under this duty is not listed, write it on page 47 or 48.			
L. MAINTAINING PNEUDRAULIC SYSTEMS			
1. Adjust tail bumpers			
2. Adjust tail hooks			
3. Inspect camera pneumatic systems			
4. Inspect canopy open or close valves			
5. Inspect cargo door hydraulic systems			
6. Inspect emergency or normal flap extensions			
7. Inspect emergency or normal gear extensions			
8. Inspect hydraulic system accumulators			
9. Inspect hydraulic system actuators			
10. Inspect hydraulic system dehydrators			
11. Inspect hydraulic system dryers			
12. Inspect hydraulic system filters			
13. Inspect hydraulic system motors			
14. Inspect hydraulic system power packages			
15. Inspect hydraulic system pumps			
16. Inspect hydraulic system reservoirs			

CODE 01, TYPE 198

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	AFSC 431X1 O. MAINTAINING NONPOWERED AEROSPACE GROUND EQUIPMENT (AGE) (CONTINUED)	✓ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
18.	Overhaul hydraulic servicing carts		0000000000
19.	Overhaul maintenance stands		0000000000
20.	Overhaul towing equipment other than vehicles		0000000000
21.	Paint nonpowered AGE		0000000000
22.	Perform minor maintenance on aircraft engine intake screens such as replacing rivets or straightening parts		0000000000
23.	Perform minor maintenance on nonpowered LOX carts such as tightening screws or bolts		0000000000
24.	Perform periodic inspections of nonpowered AGE		0000000000
25.	Place in or remove from storage ground engine run-up screens		0000000000
26.	Post or remove aircraft warning signs such as "danger aircraft on jacks"		0000000000
27.	Remove or replace nonpowered AGE gauges or hardware		0000000000
28.	Service gaseous oxygen carts		0000000000
29.	Service hydraulic servicing carts		0000000000
30.	Service jacks		0000000000
31.	Service LOX carts		0000000000
32.	Service maintenance stands		0000000000
33.	Service nitrogen carts		0000000000
34.	Service oil servicing carts		0000000000
35.	Store powered aircraft support equipment		0000000000
36.	Tow nonpowered AGE		0000000000
NOTE:	If any task you perform under this duty is not listed, write it on page 47 or 48.		0000000000
			0000000000
			0000000000
			0000000000
			0000000000

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CODE 01, TYPE 198

CODE 01, TYPE 19-B

1. Check tasks you perform now (✓). 2. On the back of the book, write in any unlisted tasks which you do now. 3. In the "Time Spent" column, rate all checked (✓) tasks on time spent in present job.					Check	TIME SPENT Present Job
AFSC 431X1 U. MAINTAINING TOW TARGETS (CONTINUED)					✓ IF DONE NOW	1. Very small amount. 2. Much below average. 3. Below average. 4. Slightly below average. 5. About average. 6. Slightly above average. 7. Above average. 8. Much above average. 9. Very large amount.
12.	Inspect tow target cable reels					○○○○○○○○○○
13.	Inspect tow target wings					○○○○○○○○○○
14.	Inspect uploaded tow targets					○○○○○○○○○○
15.	Install or remove cable cutter cartridges					○○○○○○○○○○
16.	Isolate malfunctions within tow reel logic modules					○○○○○○○○○○
17.	Isolate malfunctions within tow reel units					○○○○○○○○○○
18.	Load or unload tow reels					○○○○○○○○○○
19.	Load or download tow targets					○○○○○○○○○○
20.	Load tow reel spool cables					○○○○○○○○○○
21.	Lubricate rewind stands					○○○○○○○○○○
22.	Measure tow target wings for warpage					○○○○○○○○○○
23.	Observe target impact areas from airborne aircraft					○○○○○○○○○○
24.	Operate rewind stands					○○○○○○○○○○
25.	Operate tow reels in flight					○○○○○○○○○○
26.	Operate tow target cable cutters in flight					○○○○○○○○○○
27.	Operationally check tow reels					○○○○○○○○○○
28.	Package cable cutter cartridges					○○○○○○○○○○
29.	Paint tow targets					○○○○○○○○○○
30.	Patch tow target wings					○○○○○○○○○○
31.	Perform aircrew preflight inspections of tow target systems					○○○○○○○○○○
32.	Perform balance checks of tow targets					○○○○○○○○○○
33.	Perform maintenance preflight inspections of tow target systems					○○○○○○○○○○
34.	Perform stray voltage checks on cable cutter mechanisms					○○○○○○○○○○
35.	Record tow target scoring data					○○○○○○○○○○

