

# Air Education and Training Command

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## Occupational Survey Report AFSC 1A5X1 Airborne Missions Systems

**U.S. AIR FORCE**

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Aug 02

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# Air Force Occupational Measurement SQ

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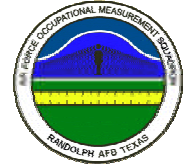
# Overview



- Survey background
- Survey results
- Implications



# Survey Background



**AETC**

- Survey initiated to obtain data to:
  - Evaluate current classification and training documents
  - Support promotion test development
  - Evaluate potential merger of 1A3X1 and 1A5X1 thru combined study
- Last Occupational Survey Report (OSR) – September 1999
- Current survey data collected – October 2001 - February 2002
- Components surveyed:
  - Active Duty: 3-, 5-, 7-, 9-Skill Levels, and CEM
  - Guard: 5-, 7-, and 9-Skill Levels
  - Reserve: 5-, 7-, and 9-Skill Levels





# Survey Sample Characteristics



	<u>AD</u>	<u>ANG</u>	<u>AFRC</u>	<u>Total</u>
<b>Assigned*</b>	327	12	26	365
<b>Mailed Out</b>	295	12	25	332
<b>Sample</b>	175	0	15	190
<b>Usable Returns</b>	59%	0%	60%	57%

- Average time in career field for AD: 8 yrs 6 months
- Average TAFMS for AD: 9 yrs 6 months
- Percent of AD in first enlistment: 21%

\* Assigned as of October 01



# Skill & Paygrade Characteristics



## Skill-Level Distribution

	Assigned*	Sample
3-Level -	20%	16%
5-Level -	45%	49%
7-Level -	28%	31%
9-Level -	5%	2%
CEM -	2%	2%

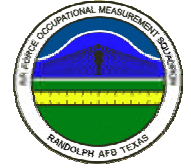
## Paygrade Distribution

	Assigned*	Sample
E-2/E-3	13%	7%
E-4	21%	20%
E-5	34%	40%
E-6	18%	20%
E-7	9%	11%
E-8/E-9	5%	2%

\* Assigned as of October 01



# Command Representation



## Command Assigned\* Sample



**ACC**

**68%**

**67%**

**PACAF**

**10%**

**12%**

**EUR**

**8%**

**11%**

**AETC**

**2%**

**1%**

**OTHER**

**2%**

**1%**

**ANG**

**3%**

**0%**

**AFRC**

**7%**

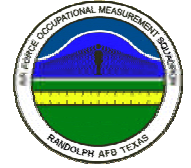
**8%**



\* Assigned as of October 01



# Missions Performed



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## Primary Mission

<b>AWACS, not NATO</b>	<b>73%</b>
<b>JSTARS</b>	<b>11%</b>
<b>NATO AWACS</b>	<b>11%</b>
<b>Staff</b>	<b>1%</b>
<b>Technical Training</b>	<b>1%</b>
<b>Other</b>	<b>3%</b>



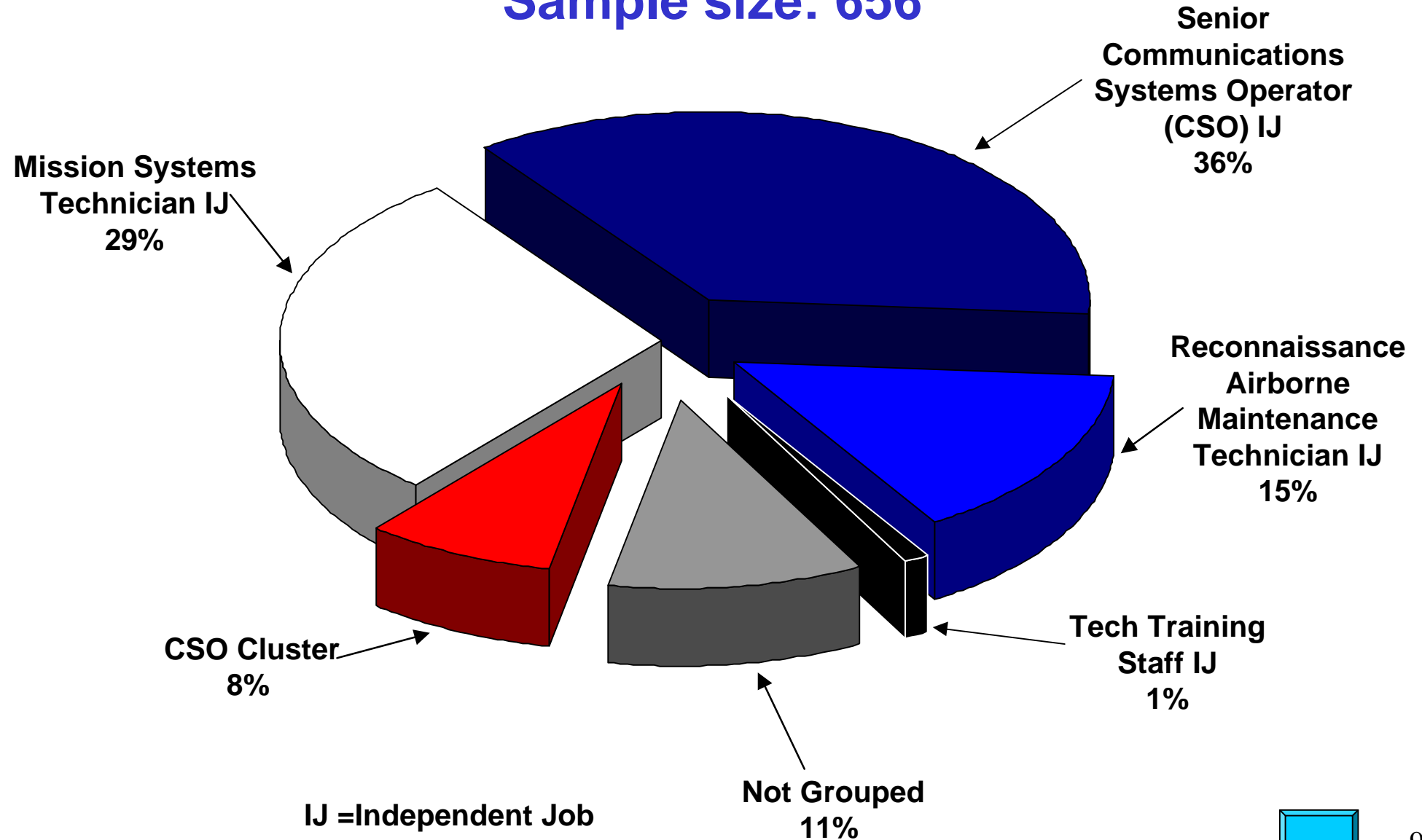


# Job Structure



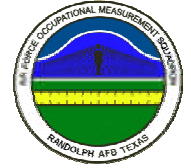
**AETC**

Sample size: 656





# Percent Time Spent on Duties (Across Aircraft Platforms)



	E-3 (N=166)	E-8 (N=20)
A Mission Planning, Prepermission, Preflight	23	15
B Ops & Maintenance of C-E Systems	36	47
C General Airborne Comm or Mission Systems	15	14
D Mobility and Contingency	6	4
E Management and Supervision	9	9
F Training	6	6
G General Admin and TO System	4	4
H General Supply and Equipment	1	1



# Career Ladder Progression



- 3-, 5-, and 7-skill-level personnel
  - Work in the most technical jobs in the career field
  - Spend most of their time on technical tasks
- 9-skill-level and CEM personnel
  - Continue to perform technical tasks
  - However, significant increase in time spent on management and supervisory duties





# Career Ladder Progression Percent Time Spent on Duties



	DAFSC 1A531 (N=31)	DAFSC 1A551 (N=94)	DAFSC 1A571 (N=59)	DAFSC 1A591 (N=3)	DAFSC 1A500 (N=3)
<b>A Mission Planning, Prepermission, Preflight</b>	27	23	17	14	13
<b>B Ops &amp; Maintenance of C-E Systems</b>	42	38	34	43	24
<b>C General Airborne Comm or Mission Systems Activities</b>	16	14	15	12	14
<b>D Mobility and Contingency</b>	7	5	6	6	7
<b>E Management and Supervision</b>	3	8	12	16	29
<b>F Training</b>	1	7	9	5	6
<b>G General Admin and TO System</b>	3	4	6	4	6
<b>H General Supply and Equipment</b>	1	1	1	0	1



# First-Enlistment Personnel Representative Tasks



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Percent

Members

Performing

(N=36)

Tasks

Perform preflight inspections, other than life support inspections	92
Determine aircraft status	89
Review AFTO Forms 781	89
Perform initialization of mission systems	86
Perform premission requirements, such as reviewing FCIFs, MORFs, MCIFs, general information files, or annotating flight orders	86
Participate in general or specialized mission briefings	81
Secure personal equipment on aircraft during preflight	81
Secure mission equipment on aircraft during preflight	78
Perform in-flight checklist procedures	72
Determine and perform alternate procedures or work-arounds for malfunctioning equipment	69
Review emergency procedures	69



# First-Enlistment Personnel Emergency Equipment



<b>Equipment</b>	<b>Percent Responding (N=36)</b>
Escape Slides	86
Fire Extinguishers	86
Firefighter's Masks	86
Smoke Masks	86
Emergency Exits	83
Firefighter's Gloves	83
Life Rafts	83
Oxygen Regulators	83
Quick-Don Oxygen Masks	83
Alarm Bells/Signals	81
Crash Axes	81
First-Aid Kits	81
Portable Oxygen Units	81
Life Preserver Units (LPUs)	78



# First-Enlistment Personnel Comm or Electronics Equipment & Systems



<b>Equipment and Systems</b>	<b>(N=36)</b>
Electrostatic Discharge (ESD) Kits	72
Hard Drives	61
Identification Friend or Foe (IFF) Systems	61
Keyboards	58
Cooling Systems	56
Airborne Mission Computer Systems	53
Software	50
Surveillance Radar Systems	47
Printers	47
Busses, Data	44
Busses, Electrical Power	42
Spectrum Analyzers	42
Digital Display Indicators (DDIs)	42
Display Consoles	39
Pointing Devices, such as Mice, Touch Screens, or Track Balls	39
Situation Display Consoles (SDCs)	36



# Tasks with Highest Training Emphasis (TE) Ratings



## AFETC TE Rating

- Review emergency procedures 7.21
- Practice or perform emergency procedures 7.07
- Determine and perform alternate procedures or work-arounds for malfunctioning equipment 7.00
- Perform initialization of mission systems 6.79
- Perform preflight inspections, other than life support inspections 6.79
- Troubleshoot cooling systems 6.43
- Perform in-flight checklist procedures 6.36
- Determine aircraft status 6.14
- Review AFTO Forms 781 6.14
- Troubleshoot hard drive systems, including RMAs 6.07
- Maintain logs, such as in-flight or maintenance 6.00



# Tasks with Highest Task Difficulty (TD) Ratings



## TD Rating

- Evaluate systems designs 7.53
- Repair fax systems 7.51
- Repair software 7.27
- Repair fiber optics systems 7.16
- Repair FMSs, such as FMS 800 7.16
- Repair radar systems 6.88
- Prepare combat mission folders (CMFs) 6.83
- Troubleshoot ALE systems 6.83
- Repair INMARSAT systems 6.83
- Repair STUs 6.83
- Troubleshoot SARs 6.83



# Tasks with Highest Automated Training Indicator (ATI) Ratings



- Practice or perform emergency procedures 18
- Review AFTO Forms 781 18
- Review aircrew currency requirements 18
- Review emergency procedures 18
- Perform in-flight checklist procedures 18
- Perform aircraft cocking or uncocking procedures 18
- Troubleshoot IFF systems 18
- Perform operational checkouts of aircraft mission systems after maintenance 18
- Operate test equipment 18
- Determine and perform alternate procedures or work-arounds for malfunctioning equipment 18
- Troubleshoot radar systems 18



# 1A5X1 Specialty Training Standard (STS) Analysis



- 1A5X1 STS is generally supported by survey data
- Several technical tasks performed by 20 percent or more first-job and/or first-enlistment members were not referenced to STS
  - These should be reviewed for possible inclusion in STS





# Tasks not Referenced to 1A5X1 STS



## Examples

Tasks	Percent Members Performing				
	1 <sup>st</sup> Job	1 <sup>st</sup> Enl	Trg Emp	Tsk Dif	ATI
	<b>B0265 Operate radar Doppler reception systems</b>	<b>33</b>	<b>39</b>	<b>5.00</b>	<b>4.42</b>
<b>C0292 Alter software program parameters using patches or by manually manipulating code</b>	<b>33</b>	<b>22</b>	<b>3.71</b>	<b>5.23</b>	<b>11</b>
<b>C0328 Perform operational checkouts of aircraft mission systems after maintenance</b>	<b>33</b>	<b>53</b>	<b>5.21</b>	<b>5.14</b>	<b>18</b>
<b>C0329 Perform operational checkouts of aircraft mission systems after modifications</b>	<b>17</b>	<b>36</b>	<b>4.43</b>	<b>5.57</b>	<b>12</b>
<b>C0330 Perform operational tests of program software after modifications</b>	<b>17</b>	<b>28</b>	<b>4.50</b>	<b>5.47</b>	<b>11</b>



# Job Satisfaction Indicators (AD) (AFSC 1A5X1 vs. Comparative Sample)



	1-48 Months		49-96 Months		97+ Months	
	<b>2002 1A5X1 (N=36)</b>	<b>*Comp Sample (N=280)</b>	<b>2002 1A5X1 (N=47)</b>	<b>*Comp Sample (N=188)</b>	<b>2002 1A5X1 (N=92)</b>	<b>*Comp Sample (N=493)</b>
Job interesting	64	58	66	67	76	71
Talents well utilized	81	69	81	73	79	81
Training well utilized	94	82	92	84	90	82
Sense of accomplishment	78	50	64	59	67	63
Plan to reenlist	36	50	58	61	71	56

\* Comparative sample of AFSCs surveyed in the last 12 months includes 1C3X1 & 1C4X1.



# Job Satisfaction Indicators (AD)

## (Current 1A5X1 vs. Previous 1A5X1 Study)



	1-48 Months		49-96 Months		97+ Months	
	<b>2002 1A5X1 (N=36)</b>	<b>1999 1A5X1 (N=65)</b>	<b>2002 1A5X1 (N=47)</b>	<b>1999 1A5X1 (N=56)</b>	<b>2002 1A5X1 (N=92)</b>	<b>1999 1A5X1 (N=86)</b>
Job interesting	64	66	66	77	76	71
Talents well utilized	81	NR	81	NR	79	NR
Training well utilized	94	92	92	98	90	90
Sense of accomplishment	78	71	64	77	67	72
Plan to reenlist	36	45	58	43	71	57

**(NR = Not Reported)**



# Job Satisfaction Indicators (Across Aircraft Platforms & Missions)



	<b>E-3 (N=166)</b>	<b>E-8 (N=20)</b>	<b>AWACS (N=143)</b>	<b>JSTARS (N=20)</b>	<b>NATO (N=20)</b>	<b>STAFF (N=2)</b>	<b>TRG (N=2)</b>
Job interesting	69	75	69	75	80	50	100
Talents well utilized	78	90	79	90	75	50	100
Training well utilized	91	95	82	95	95	50	100
Sense of accomplishment	68	65	73	65	50	50	100
Plan to reenlist	55	85	50	85	90	50	100



# Retention Dimensions First-Term Airmen (N=36)



	Percent Responding	Average
<b>Planning to Reenlist (N=13)</b>		
Pay and allowances	77	2.00
Bonus or special pay	69	2.56
Military-related education & training opportunities	69	2.56
Job security	69	2.78
Off-duty education and training opportunities	69	2.33
<b>Planning to Separate (N=23)</b>		
Number/duration of TDYs or deployments	48	2.73
Pay and allowances	48	2.27
Military lifestyle	48	2.18
Civilian job opportunities	35	2.75
Work schedule	30	1.86

Scale: 1 = slight influence, 2 = moderate influence, 3 = strong influence





# Retention Dimensions Second-Term Airmen (N=46)



	Percent Responding	Average
<b>Planning to Reenlist (N=27)</b>		
Bonus or special pay	89	2.54
Pay and allowances	67	2.56
Job security	67	2.61
Military-related education & training opportunities	59	1.88
Military lifestyle	59	2.19
<b>Planning to Separate (N=19)</b>		
Pay and allowances	63	2.58
Civilian job opportunities	53	2.60
Recognition of efforts	42	2.25
Additional duties	42	2.38
Bonus or special pay	37	2.43

Scale: 1 = slight influence, 2 = moderate influence, 3 = strong influence





# Retention Dimensions Career Airmen (N=71)



	Percent Responding	Average
<b>Planning to Reenlist (N=65)</b>		
Retirement benefits	78	2.61
Pay and allowances	68	2.59
Bonus or special pay	63	2.34
Job security	57	2.57
Military lifestyle	55	2.31
<b>Planning to Separate (N=6)</b>		
Pay and allowances	83	2.40
Military lifestyle	83	2.20
Enlisted evaluation system	67	2.50
Civilian job opportunities	50	2.67
Number/duration of TDYs or deployments	50	2.67

Scale: 1 = slight influence, 2 = moderate influence, 3 = strong influence





# Summary of Results



- Career ladder progression typical
  - Highly technical at 3-, 5-, and 7-skill levels progressing to more managerial at 9-skill level and beyond
- STS generally supported by survey data
  - Review of some items warranted
- Job satisfaction indicators
  - 1A5X1 job satisfaction has remained stable over past 3 years
  - Higher when compared to similar AFSCs



# Questions?



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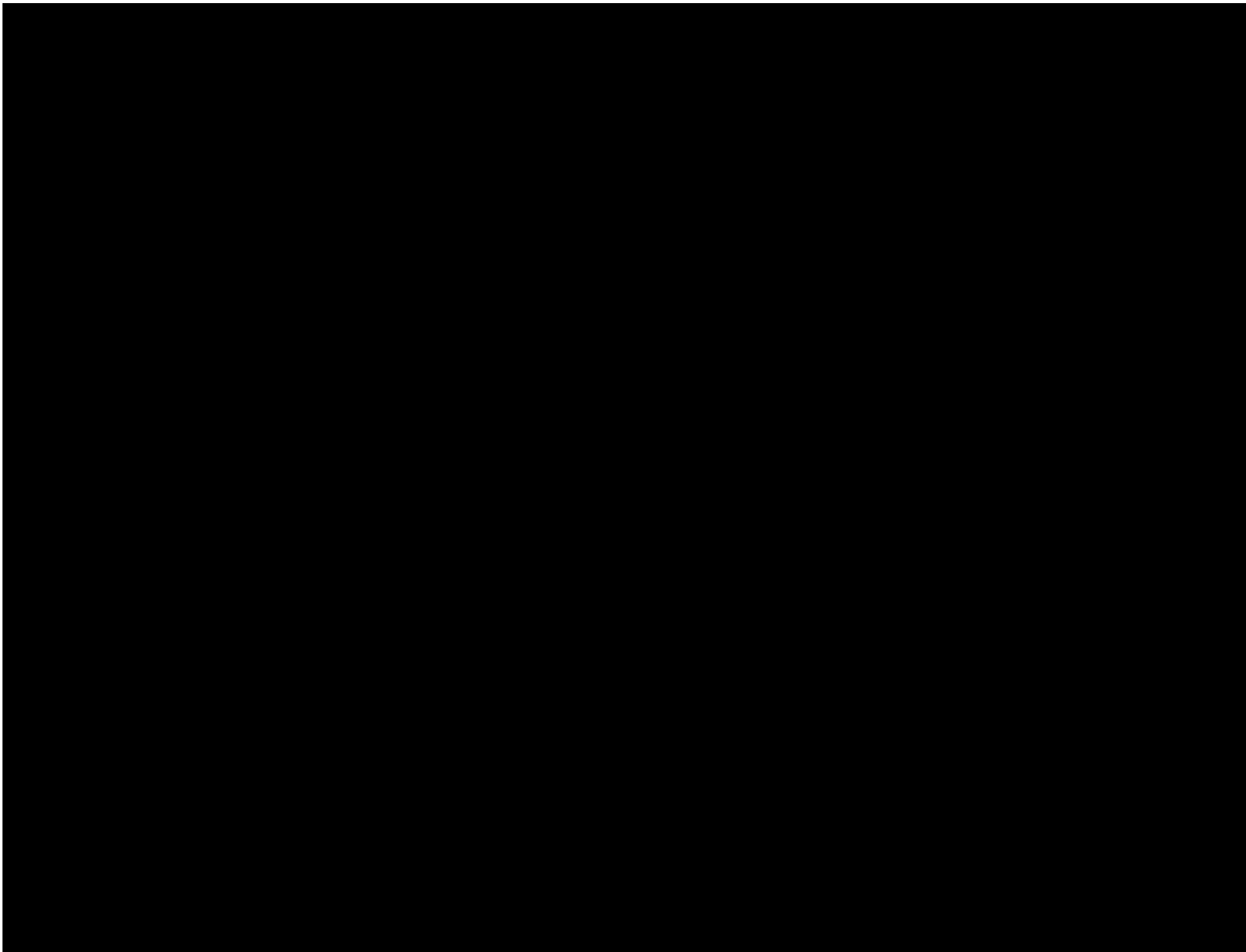
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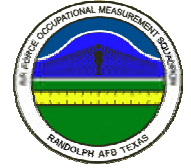




# Back-Up Slides



# Job Survey Background



- Previous JI and OSR
  - JI: Dec 98, Lt McAmis
  - OSR: Sep 99, Lt Buchanan
  - Programming Support - Mrs. Tilghman
- Issues from Last Post-Analysis Review
  - None





# Bases Visited during JI Development (# Interviewed)



- Keesler AFB, MS (Tech School) (3) 9 May
- Randolph AFB, TX - SKT Team 14 May
- Tinker AFB, OK (16) 7/21 Jun
- Robins AFB, GA (5) 27 Jun





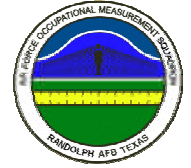
# Job Structure Glossary



- **Job:** A group of similar *positions* where incumbents perform many of the same tasks and spend relatively the same amount of time performing these tasks
- **Cluster:** A series or group of related *jobs* which are distinguishable from each other on some variable (weapon system maintained, ratio of supervisory to technical tasks, etc.)
- **Independent Job:** A job that does not fall within any cluster
- **N:** Number in sample



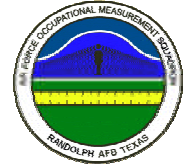
# Career Ladder Progression



- “Typical” career ladder progression
  - **3-Skill-Level** apprentices perform a very technical job which include very few administrative/supervisory tasks
  - **5-Skill-Level** journeymen still primarily perform a technical job, but acquire a mix of administrative/supervisory tasks
  - **7-Skill-Level** managers, and above, primarily perform supervisory, managerial, and administrative tasks, with relatively few technical tasks
- “Atypical” career ladder progression
  - **7-Skill-Level** personnel are still spending a significant amount of their total job time performing technical duties, with relatively few administrative/supervisory tasks



# Training Document Analysis

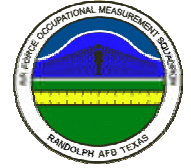


- Tasks from job inventory are matched to items in the STS and POI
  - Match is usually conducted with technical school personnel
- Final product provides technical school with data indicating applicability of training documents to work performed in the field in terms of:
  - Percent members performing (PMP) from AETCI 36-2601
    - » 20% PMP for STS
    - » 30% PMP for POI
  - TE and TD ratings
- Listing of tasks not referenced to training document also provided
  - May indicate areas where training coverage is lacking





# Task Factor Definitions



- **Training Emphasis (TE):** Task list completed by senior NCOs identifying those tasks that should be emphasized for structured training of first-term airmen
- **Task Difficulty (TD):** Task list completed by senior NCOs which rates the relative difficulty of each task to learn
- **Automated Training Indicator (ATI):** Indicator derived from comparing percent performing data with TE and TD data to assist in making training decisions





# Predictive Retention Indicators



- Military lifestyle
- Pay and allowances
- Bonus or special pay
- Retirement Benefits
- Military related education/Training opportunities
- Off-duty education and training opportunities
- Medical or dental care for active duty member
- Medical or dental care for family members
- Base housing
- Base services
- Childcare needs
- Spouse's career
- Civilian job opportunities
- Equal employment opportunities
- Number of PCS moves
- Location of present assignment
- Number/Duration of TDY's or deployments
- Work schedule
- Additional duties
- Job security
- Enlisted Evaluation System
- Promotion opportunities
- Training/Experience of unit personnel
- Unit manning
- Unit resources
- Unit readiness
- Recognition of efforts
- Esprit de corps/Morale
- Leadership of immediate supervisor
- Senior Air Force leadership

