

# F/A-18 A/B/C/D MAINTENANCE TRAINING



**MOS 6531 LESSON GUIDES**

# F/A-18 A/B/C/D MAINTENANCE TRAINING

A.01 (A thru V)	Special / Support Equipment
A.02 (A thru G)	Safety Precautions and Procedures
A.03 (A thru NN)	Aircraft Publications, Diagrams, Sketches, and Drawings
A.04 (A thru X)	Precision Measuring Equipment
B.01 (A thru D)	Technical Directives / Changes / Bulletins
B.02 (A thru D)	Corrosion Control
B.03 (A thru B)	Functional Systems Checks
B.04 (A thru D)	BRU-32 and BRU-33 Release and Control Systems
B.05 (A thru D)	Organizational Level Maintenance
B.06 (A thru C)	Bomb Release Select System
B.07 (A thru C)	Aircraft Master Mode Select System
B.08 (A thru C)	Selective Jettison/Auxiliary Release System
B.09 (A thru C)	Weapon Select System
B.10 (A thru D)	Multiple Ejector Rack (MER) System
B.11 (A thru C)	AIM-9 (Sidewinder) Weapon System
B.12 (A thru D)	M61A1 20MM Gun System
B.13 (A thru C)	AIM-7 (Sparrow) Release and Control System
B.14 (A thru C)	AGM-88 (HARM) Release System
B.17 (A thru C)	AGM-65 (Maverick) System
B.19 (A thru K)	Scheduled/Unscheduled Inspections
B.20 (A thru C)	Emergency Jettison System
B.21 (A thru C)	Rocket/Dispenser Firing System
B.22 (A thru D)	Electronic Countermeasures (ECM) System
B.23 (A thru C)	Defensive Electronic Countermeasures (DECM) Dispensing System
C.01	Ordnance Safety Lecture

**\*\*The following lesson guides were not included as they are no longer applicable.\*\***

B.15 (A thru C)	Walleye Guided Weapon System
B.16 (A thru C)	AGM-84 (Harpoon) System
B.18 (A thru C)	Nuclear Weapons System

**\*\*These sections of the ITSS should be slashed lined through as Not Applicable.\*\***





- A. LECTURE NUMBER:** F/A-18 MOS 6531 A.01 (A thru V)
- B. TIME:** 1.5 Hours
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Support/Special Equipment
- F. OBJECTIVE:** Student will be able to demonstrate/apply knowledge of the operation, care, and maintenance requirements of applicable work center support/special equipment.
- G. INSTRUCTIONAL AIDES:**
1. OPNAV 4790/64 Support Equipment Transaction Report (Pink Copy-TR)
  2. OPNAV 4790/52 Support Equipment Preoperational Record
  3. Applicable Support Equipment and references listed below.
- H. REFERENCES:**
1. A1-F18AC-GAI-000, Organizational Maintenance General Aircraft Information
  2. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
  3. A1-F18AX-LWS-000, Conventional Weapons Loading Manual
  4. A1-F18AC-PCM-000, Organizational Maintenance Plane Captain Manual
  5. NA 19-600-19-6-1, Preoperational Checklist Maintenance Platforms
- I. PRESENTATION:** This period of instruction will inform students about the operation, care, and maintenance requirements of applicable work center support / special equipment.

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss operation, care, and maintenance of the maintenance platforms. REF: NA 19-600-19-6-1
2. Discuss operation, care, and maintenance of the rough terrain trailer, AM32K4/A. REF: A1-F18AX-LWS-000
3. Discuss operation, care, and maintenance of the munitions trailer, MHU-151/M. REF: A1-F18AX-LWS-000
4. Discuss operation, care, and maintenance of the skid trailer adapter, AERO-74A. REF: A1-F18AX-LWS-000
5. Discuss operation, care, and maintenance of the guided missile adapter, ADU-35B/E. REF: A1-F18AX-LWS-000

6. Discuss operation, care, and maintenance of the height adapter, ADU-359/E. REF: A1-F18AX-LWS-000
7. Discuss operation, care, and maintenance of the sidewinder cradle, MHU-61E. REF: A1-F18AX-LWS-000
8. Discuss operation, care, and maintenance of the small universal cradle, MHU-63/E. REF: A1-F18AX-LWS-000
9. Discuss operation, care, and maintenance of the large universal cradle, MHU-65/E. REF: A1-F18AX-LWS-000
10. Discuss operation, care, and maintenance of the hoisting bar, AERO-64/A. REF: A1-F18AX-LWS-000
11. Discuss operation, care, and maintenance of the loader ammunition transporter. REF: A1-F18AX-LWS-000
12. Discuss operation, care, and maintenance of the conveyer system. REF: A1-F18AX-LWS-000
13. Discuss operation, care, and maintenance of the manual hoisting bar, HLU-256E. REF: A1-F18AX-LWS-000
14. Discuss operation, care, and maintenance of the adapter pylon. REF: A1-F18AX-LWS-000
15. Discuss operation, care, and maintenance of the nitrogen receiver wrench. REF: A1-F18AX-LWS-000
16. Discuss operation, care, and maintenance of the rail gun guide adapter. REF: A1-F18AX-LWS-000
17. Discuss operation, care, and maintenance of the SATS gun pallet adapter. REF: A1-F18AX-LWS-000
18. Discuss operation, care, and maintenance of the external drive tool. REF: A1-F18AX-LWS-000
19. Discuss operation, care, and maintenance of the safety/protective devices. REF: A1-F18AC-PCM-000
20. Discuss operation, care, and maintenance of the safety pins. REF: A1-F18AC-PCM-000
21. Discuss operation, care, and maintenance of the ground protective covers. REF: A1-F18AC-PCM-000

**J. SUMMARY:** During this period of instruction we covered the operation, care, and maintenance requirements of applicable work center support/special equipment.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 A.02 (A thru G)
- B. TIME:** 1.0 Hours
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Safety Precautions and Procedures in the work center
- F. OBJECTIVE:** Student will be able to demonstrate knowledge of safety precautions and procedures in the work center.
- G. INSTRUCTIONAL AIDES:**
- H. REFERENCES:**

1. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
2. A1-NAOSH-SAF-000/P5100-1, NAVAIROSH Requirements for the Shore Establishment
3. OSHA 29 CFR 1910, OSHA Standards and Regulations for General Industry
4. A1-F18AC-120-100, Organizational Maintenance Theory of Operation Seat, Canopy, Survival Equipment, and Boarding Ladder
5. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
6. A1-F18AC-LMM-020, Organizational Maintenance Line Maintenance Emergency Procedures

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss ground occupational safety procedures.
2. Discuss precautions and procedures on/around aircraft and support equipment.
3. Discuss line maintenance emergency procedures.
4. Discuss boarding ladder operation.
5. Discuss electromagnetic interference (EMI), electrostatic discharge (ESD) and electromagnetic compatibility (EMC) safety.
6. Discuss emergency reclamation.
7. Discuss hydraulic contamination.

**J. SUMMARY:** During this period of instruction we covered safety precautions and procedures in the work center.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 A.03 (A thru NN)
- B. TIME:** 1.0 Hours
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Aircraft Publications, diagrams, sketches, and drawings
- F. OBJECTIVE:** Student will be able to demonstrate knowledge of aircraft publications, diagrams, sketches, and drawings.
- G. INSTRUCTIONAL AIDES:** Work center DTPL or squadron CTPL
- H. REFERENCES:**
1. A1-F18AE-LWS-000, Weapons Loading Manual Table 1.1 (Applicable Publications Listing)
- I. PRESENTATION:** Review with the student following publications as the pertain to the work center:
1. NAVAIR 00-25-100, Naval Air Systems Command Technical Manual Program
  2. A1-F18AC-AML-000, Aircraft Technical Documentation List for F/A-18A/B/C/D
  3. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
  4. A1-F18AX-FIM-XXX, Organizational Maintenance Fault Isolation Manual, Memory Inspect Access for F/A-18
  5. A1-F18AX-FRM-000, Organizational Maintenance Fault Reporting Manual for F/A-18
  6. A1-F18AC-GAI-000, Organizational Maintenance General Aircraft Information F/A-18A/B/C/D
  7. A1-F18AC-IPB-450, Organizational Maintenance Parts List Index for F/A-18A/B/C/D
  8. A1-F18AC-PCM-000, Organizational Maintenance Plane Captain Manual for F/A-18A/B/C/D
  9. A1-F18AC-SCM-000, Organizational Maintenance Software Configuration Manual for F/A-18A/B/C/D
  10. A1-F18AC-WUC-800, Work Unit Code Manual for F/A-18 Aircraft
  11. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures for F/A-18A/B/C/D
  12. A1-F18AC-LMM-010, Organizational Maintenance Line Maintenance Access Doors for F/A-18A/B/C/D
  13. A1-F18AC-LMM-020, Organizational Maintenance Line Emergency Procedures for F/A-18A/B/C/D

14. NAVAIR 01-1A-17, Organizational, Intermediate, and Depot Maintenance Aviation Hydraulics Manual
15. NAVAIR 15-01-500, Organizational, Intermediate, and Depot Maintenance Preservation of Naval Aircraft
16. NAVAIR 17-1F18-1, Organizational Maintenance Aircraft Tool Control Manual
17. A1-F18AX-MRC-000, Periodic Maintenance Information Cards
18. A1-F18AX-MRC-200, Daily Maintenance Requirement Cards
19. A1-F18AX-MRC-250, Special/Preservation Maintenance Requirement Cards
20. A1-F18AX-MRC-300, Phased Maintenance Requirement Cards
21. A1-F18AX-740-1XX, Organizational Maintenance Principles of Operation Weapon Control Systems
22. A1-F18AX-740-2XX, Organizational Maintenance Testing and Troubleshooting Weapon Control Systems
23. A1-F18AX-740-300, Organizational Maintenance with IPB for Weapon Control Systems
24. A1-F18AX-740-5XX, Organizational Maintenance System Schematics for Weapon Control Systems
25. A1-F18AC-750-100, Organizational Maintenance Principles of Operation Gun Systems
26. A1-F18AC-750-200, Organizational Maintenance Testing and Troubleshooting Gun Systems
27. A1-F18AC-750-300, Organizational Maintenance with IPB for Gun Systems
28. A1-F18AC-750-500, Organizational Maintenance System Schematics for Gun Systems
29. A1-F18AX-760-100, Organizational Maintenance Principles of Operation Tactical Electronic Warfare Systems
30. A1-F18AX-760-200, Organizational Maintenance Testing and Troubleshooting Tactical Electronic Warfare Systems
31. A1-F18AX-760-300, Organizational Maintenance with IPB for Tactical Electronic Warfare Systems
32. A1-F18AX-760-500, Organizational Maintenance System Schematics for Tactical Electronic Warfare Systems
33. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
34. A1-F18AX-LWS-XXX, Conventional Weapons Checklist (refer to NAVAIR 01-700 for applicable checklists to the F/A-18)
35. NAVAIR 11-140-5, Airborne Weapons Assembly Manual MK 80/BLU Series General Purpose Bombs, MK 77 Fire Bombs and Practice Bombs
36. NAVAIR 11-140-7, Organizational and Intermediate Maintenance with IPB for Airborne Weapons Assembly of Pyrotechnics and Expendable Countermeasures
37. NAVAIR 11-140-10, Airborne Weapons Assembly Manual Guided Bomb Units (GBUs)
38. OPNAVINST 8000.16B, Naval Ordnance Maintenance Management Program
39. A1-NAOSH-SAF-000/P5100.1, Naval Air Occupational Safety and Health Requirements for the Shore Establishment

40. NAVSEA OP 3347, U.S. Navy Ordnance Safety Precautions
41. NAVSUP P800 & P801, Navy Ammunition Unserviceable Suspended, Limited Use, (NARS)
42. NAVSUP P802, Navy Ammunition Logistics Codes (NALC)
43. NAVAIR 11-100-1.1-CD, Cartridge Actuated Devices (CADs) and Propellant Actuated Devices (PADs) (IETM)
44. OPNAV 5530.13B,
45. OSHA 29 CFR 1910, Occupational Safety and Health Standards
46. NAVSEA OP 2165, U.S. Navy Transportation Safety Handbook for Hazardous Materials
47. NAVAIR 00-80R-14, NATOPS U.S. Navy Aircraft Firefighting and Rescue Manual
48. NAVAIR 00-80T-103, NATOPS Conventional Weapons Handling Procedures Manual Ashore
49. NAVSEA OP 4, U.S. Navy Ordnance Safety Precautions
50. NAVSEA OP 5, VOL I, U.S. Navy Safety, Handling, Shipping, and Storage of Ammunition and Explosives Ashore
51. NAVSEA OP 5, VOL II, U.S. Navy Safety, Handling, Shipping, and Storage of Ammunition and Explosives Afloat

**J. SUMMARY:** During this period of instruction we discussed applicable aircraft publications, diagrams, sketches, and drawing for the work center.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 A.04 (A thru V)
- B. TIME:** 1.0 Hours
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Precision Measuring Equipment
- F. OBJECTIVE:** Student will be able to demonstrate knowledge and operation of applicable precision measuring equipment.

**G. INSTRUCTIONAL AIDES:**

1. Torque Wrench
2. AN/AWM-54, Aircraft Firing Circuit Test Set
3. AN/AWM-102, Aircraft Firing Circuit Test Set
4. W-2 (Rocket) Test Set Adapter
5. W-3 MK2 (IMER) Test Set Adapter
6. W-6 (LAU-118) Test Set Adapter
7. W-30 (LAU-117) Test Set Adapter
8. Motor Fire Adapter and Shear Wafer (AIM-7)
9. W-12/W-47 Main Breech Test Adapter
10. W-49 Aux Breech Test Adapter
11. A/E24T-230, Gun Electrical Control Test Set
12. AN/AWM-92\_, Aircraft Weapons Control Test Set
13. AN/AWM-96\_, Aircraft Weapons Control Test Set
14. AN/ALM-70A, Continuity and Stray Voltage Test Set (ECM Dispenser)
15. AN/ALM-225, AN/ALM-291, Countermeasures Dispenser Test Set
16. AN/ALM-286, Countermeasures Dispenser Test Set
17. TTU-304/E, Infrared Source Guided Missile Tester
18. TTU-504/E, Launcher Adapter Test Plug Assembly
19. GMU-24A/A, Flow Meter
20. AN/AWM-42A, Fuse Function Control Test Set
21. Proximity Switch Control Box
22. Multimeter
23. AIM-9 Missile System Adapter, 74D750051-1001
24. AIM-7 Missile System Adapter, 74D750050
25. A/E-24T-216, Test Set Adapters
26. PP6681A/AWM, Battery Charger and Test Set

**H. REFERENCES:**

1. A1-F18AX-740-300, Organizational Maintenance with IPB
2. A1-F18AX-750-300, Organizational Maintenance with IPB
3. A1-F18AC-LWS-000, Airborne Weapons/Stores Loading Manual
4. Applicable operator's manuals

## I. PRESENTATION:

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Review operation of torque wrenches.
2. Review operation of the AN/AWM-54 and AN/AWM-102 Aircraft Firing Circuit Test Set.
3. Review operation of the W-2 (Rocket) Test Set Adapter.
4. Review operation of the W-3 MK2 (IMER) Test Set Adapter.
5. Review operation of the W-6 (LAU-118) Test Set Adapter.
6. Review operation of the W-30 (LAU-117) Test Set Adapter.
7. Review operation of the Motor Fire Cable and Shear Wafer (AIM-7) to Adapter.
8. Review operation of the Main Breech Test Adapter.
9. Review operation of the Aux Breech Test Adapter.
10. Review operation of the A/E24T-230, Gun Electrical Circuit Test Set.
11. Review operation of the AN/AWM-92\_, Aircraft Weapon Control Test Set.
12. Review operation of the AN/AWM-96\_, Aircraft Weapon Control Test Set.
13. Review operation of the AN/ALM-70A, Continuity and Stray Voltage Test Set.
14. Review operation of the AN/ALM-225 and AN/ALM-291, Countermeasures Dispenser Test Set.
15. Review operation of the AN/ALM-286, Countermeasures Dispenser Test Set (LOT XVIII and higher).
16. Review operation of the TTU-304/E, Infrared Source Guided Missile Tester.
17. Review operation of the TTU-504/E, Launcher Adapter Test Plug Assembly.
18. Review operation of the GMU-24A/A, Flow Meter.
19. Review operation of the AN/AWM-42A, Fuse Function Control Test Set.
20. Review operation of the Proximity Switch Control Box.
21. Review operation of the Multimeter.
22. Review operation of the AIM-9 Missile System Adapter, PN 74D750051-1001.
23. Review operation of the AIM-7 Missile System Adapter, PN 74D750050.
24. Review operation of the A/E-24T-216 (AIM-7) Missile Test Set Adapters.
25. Review operation of the PP6681A/AWM Battery Charger and Test Set.

**J. SUMMARY:** During this period of instruction we covered applicable precision measuring equipment.

## K. QUESTION AND ANSWERS :



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.01 (A thru D)
- B. TIME:** 1.0 Hours
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Technical Directives
- F. OBJECTIVE:** Student will be able demonstrate a knowledge of  
Technical Directive Changes / Bulletins.
- G. INSTRUCTIONAL AIDES:**
- H. REFERENCES:**
1. NA 5215.10, Processing of RAMEC
  2. OPNAVINST 4290.2\_, Naval Aviation Maintenance Program (NAMP)
- I. PRESENTATION:**
1. Discuss Rapid Action Minor Engineering Change proposals.  
REF: NA 5215.10
  2. Discuss incorporating Technical Directive Changes.  
REF: OPNAVINST 4790.2\_
  3. Discuss incorporating Technical Directive Bulletins.  
REF: OPNAVINST 4790.2\_
- J. SUMMARY:** During this period of instruction we covered the  
Technical Directives System, RAMECs, and incorporating  
Technical Directive Changes / Bulletins.
- K. QUESTION AND ANSWERS:**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.02 (A thru D)
- B. TIME:** 1.0 Hour
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Corrosion Control
- F. OBJECTIVE:** Student will be able to demonstrate knowledge of the following: Detection, identification, and classification of corrosion control. Student will also be able to treat corrosion safely in accordance with all 3M, Tool Control, FOD, and Corrosion Control procedures as they pertain to the task.
- G. INSTRUCTIONAL AIDES:** F/A 18 Aircraft
- H. REFERENCES:**
1. NA 01-1A-509, Corrosion Control Manual
  2. A1-F18AC-SRM-500, Structural Repair Manual
- I. PRESENTATION:**
- NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.
1. Review corrosion detection, prevention, corrective actions on aircraft and support equipment. REF: NA 01-1A-509
  2. Review proper 3M documentation. REF: OPNAVINST 4790.2\_
- J. SUMMARY:** During this period of instruction we covered corrosion detection, identification, and classification. We also discussed proper 3M documentation, Tool Control, FOD, and Corrosion Control procedures as they pertain to a task.
- K. QUESTION AND ANSWERS:**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.03 (A thru B)
- B. TIME:** 1.0 Hour
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Functional Systems Checks, Built in Test
- F. OBJECTIVE:** Student will be able to demonstrate knowledge to perform the following: Functional systems checks of the Initial BIT, SMS BIT, and Maintenance BIT procedures. Students will also be able to comply with all 3M, Tool Control, FOD, and Corrosion Control procedures as they pertain to each task.
- G. INSTRUCTIONAL AIDES:** F/A 18 Aircraft and Tool Pouch
- H. REFERENCES:**
1. A1-F18AX-740-100, Organizational Maintenance Principles of Operation Weapons Control Systems
  2. A1-F18AX-740-200 series, Organizational Maintenance Testing and Troubleshooting Weapons Control System
  3. A1-F18AX-FRM-000, Fault Reporting Manual
  4. A1-F18AX-FIM-000, Fault Isolation Manual
  5. A1-F18AX-FRM-010, Fault Reporting Manual, Memory Inspect Access
  6. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
  7. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
  8. A1-F18AX-WUC-800, Work Unit Code Manual

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss principles of operation and display actions for Initial BIT, Periodic BIT, SMS BIT (with applicable circuit breaker identification) and Maintenance BIT. REFs: A1-F18AX-740-100 and A1-F18AX-FRM-000
2. Discuss and demonstrate the cycle of an Initial BIT to a Periodic BIT by applying external power and bringing generators on line until the stores page with wing form appears in display. Lock hooks on any wing station BRU-32 and await LOADX to appear on display indicating Periodic BIT cycle. Identify and pull the 5 SMS breakers (wing form goes away). Open hooks and unlock Bru-32. Clear stored

maintenance codes with manual reset in nose wheel well. Reset the 5 pulled SMS breakers- forcing an immediate SMS BIT and await cleared wing form on display. Run SMS BIT from display to observe SMS OP GO! REFs: A1-F18AC-LMM-000 and A1-F18AX-FRM-000

3. Run Maintenance BIT. Look up all MP/MSP codes in references. Discuss codes for all SMS components (especially Encoder/Decoder and station failures). Perform memory inspect to match codes to fault isolation and troubleshooting actions. REFs: A1-F18AX-740-200, A1-F18AX-FRM-000, A1-F18AC-FIM-000, and A1-F18AC-FIM-010
4. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
5. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
6. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered functional systems checks of the Initial BIT, SMS BIT, and Maintenance BIT procedures. Students will also be able to comply with all 3M, Tool Control, FOD, and Corrosion Control procedures as they pertain to each task.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.04 (A thru D)
- B. TIME:** 4.0 Hours (4 Parts/1 Hour each)
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** BRU-32 and BRU-33 Release and Control Systems
- F. OBJECTIVE:** Students will demonstrate knowledge of the BRU-32 (parent) and B-33 (vertical) ejector rack theory of operation, functional release check procedures, fault isolation procedures and organizational maintenance requirements. Students will further demonstrate knowledge of the mechanical and electrical fuzing systems theory of operation, functional release check, fault isolation procedures and organizational maintenance requirements. Students will demonstrate proper removal and installation of the AWW-4 electrical fuzing power supply.

**G. INSTRUCTIONAL AIDES:**

1. Torque Wrenches (as required)
2. AN/AWM-54, AN/AWM-102 Aircraft Firing Circuit Test Set
3. W-2 (Rocket) Test Set Adapter
4. W-3 MK2 (IMER) Test Set Adapter
5. W-6 (LAU-118) Test Set Adapter
6. W-30 (LAU-117) Test Set Adapter
7. Motor Fire Adapter and Shear Wafer (AIM-7 Sparrow)
8. W12/W-47Main Breech Test Adapter
9. W-49 Aux Breech Test Adapter
10. A/E24T-230 Gun Electrical Circuit Test Set
11. AN/AWM-92\_ A/C Weapon Control Test Set
12. AN/AWM-96\_ A/C weapon Control Test Set
13. AN/ALM-70A, Continuity and Stray Voltage Test Set (ECM Dispenser)
14. AN/ALM-225, AN/ALM-291 Countermeasures Dispenser Test Set
15. AN/ALM-286, Countermeasures Dispenser Test Sets (2 required for use on Lot XVIII and higher A/C)
16. TTU-304/E, Infrared Source Guided Missile Tester
17. TTU-504/E, Launcher Adapter Test Plug Assembly
18. GMU-24A/A, Flow Meter
19. AN/AWM-42A, Fuse Function Control Test Set
20. Proximity Switch Control Box, 74D420030-1001
21. Digital Multi-meter
22. AIM-9 Missile System Adapter, 74D750051-1003
23. AIM-7 Missile System Adapter, 74D750050-1003
24. A/E-24T-216 Test Set Adapters

## H. REFERENCES:

1. A1-F18AX-740-300, Organizational Maintenance with IPB Weapons Control System
2. A1-F18AX-750-300, Organizational Maintenance with IPB Gun System
3. A1-F18AX-760-300, Organizational Maintenance with IPB Tactical Countermeasures Systems
4. A1-F18AE-LWS-000, Conventional Weapons Loading Manual
5. Applicable Operator's Manuals

## I. PRESENTATION:

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Review operation of torque wrenches.
2. Review operation of the AN/AWM-54, AN/AWM-102 Aircraft Firing Circuit Test Set.
3. Review operation of the W-2 (Rocket) Test Set Adapter.
4. Review operation of the W-3 MK2 (IMER) Test Set Adapter.
5. Review operation of the W-6 (LAU-118) Test Set Adapter.
6. Review operation of the W-30 (LAU-117) Test Set Adapter.
7. Review operation of the Motor Fire Cable and Shear Wafer (AIM-7) to Adapters.
8. Review operation of the Main Breech Test Adapter.
9. Review operation of the Aux Breech Test Adapter.
10. Review operation of the A/E24T-230 Gun Electrical Circuit Test Set.
11. Review operation of the AN/AWM-92\_ A/C Weapon Control Test Set.
12. Review operation of the AN/AWM-96\_ A/C weapon Control Test Set.
13. Review operation of the AN/ALM-70A, Continuity and Stray Voltage Test Set (ECM Circuit Board).
14. Review operation of the AN/ALM-225, AN/ALM-291 Countermeasures Dispenser Test Set.
15. Review operation of the AN/ALM-286, Countermeasures Dispenser Test Set (A/C Lot XVIII and higher).
16. Review operation of the TTU-304/E, Infrared Source Guided Missile Tester.
17. Review operation of the TTU-504/E, Launcher Adapter Test Plug Assembly.
18. Review operation of the GMU-24A/A, Flow Meter.
19. Review operation of the AN/AWM-42A, Fuse Function Control Test Set.

20. Review operation of the Proximity Switch Control Box, 74D420030-1001.
21. Review operation of the Digital Multi-meter.
22. Review operation of the AIM-9 Missile System Adapter, P/N: 74D750051-1003.
23. Review operation of the AIM-7 Missile System Adapter, P/N: 74D750050-1003.
24. Review operation of the A/E-24T-216 (AIM-7/PU21) Missile Test Set Adapters.
25. Review operation of the PP6681A/AWM Battery Charger and Test Set

**J. SUMMARY:** During this period of instruction students discussed and demonstrated knowledge of BRU-32 and BRU-33 (vertical) release and control systems theory of operation, functional checks, fault isolation and organizational maintenance requirements. Students demonstrated knowledge of mechanical and electrical fuzing systems with load applications and removal/installation of electrical fuzing power supply.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.05 (A thru D)
- B. TIME:** 3.0 Hours (2 Parts/1.5 Hours each)
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Organizational Level Maintenance
- F. OBJECTIVE:** Students will be able to demonstrate knowledge to remove, replace, and perform organizational level maintenance on the SUU-62 Centerline Pylon, SUU-63 Wing Pylon, LAU-7\_ Missile Launcher, LAU-116\_ Missile Launcher, Fuselage Encoder/decoder, Wing Pylon Encoder/Decoder and Wingtip Encoder/Decoder while in strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to this task.
- G. INSTRUCTIONAL AIDES:**
1. F/A 18 Aircraft
  2. Maintenance Box
  3. Applicable Torque Wrenches
  4. ESD protective tape
  5. Applicable lubricants and sealants
  6. Applicable cleaning and corrosion preventative
  7. SATS Loader (Optional)
- H. REFERENCES:**
1. A1-F18AX-740-300, Organizational Maintenance with IPB Weapons Control System
  2. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
  3. A1-F18AC-LMM-010, Organizational Maintenance Line Maintenance Access Doors
  4. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
  5. A1-F18AX-MRC-250, Special/Preservation Maintenance Requirement Cards
  6. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
  7. A1-F18AX-WUC-800, Work Unit Code Manual
  8. CNALINST 4790.34\_ and CNAPINST 4790.35\_, ESD Equipment and Procedures

## I. PRESENTATION:

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

### PART I

1. Review and input appropriate 3M documentation for removal and installation of SUU-62 Centerline Pylon with BRU-32 Bomb Rack and associated fuselage encoder/decoder. REF: OPNAVINST 4790.2\_
2. Discuss and demonstrate proper removal of SUU-62 Centerline Pylon, Station 5 Bru-32 Bomb Rack, and Station 5/6 Fuselage Encoder/Decoder. REF: A1-F18AX-740-300 and ESD Instruction
3. Discuss and demonstrate proper blank off of absent centerline pylon. REF: A1-F18AX-740-300
4. Discuss and demonstrate installation of SUU-62 Centerline Pylon, Station 5 Bru-32 Bomb Rack, and Station 5/6 Fuselage Encoder/Decoder. Complete 3M documentation. REFS: A1-F18AX-740-300 & ESD Instruction
5. Input appropriate 3M documentation for the removal of SUU-63 Wing Pylon. Discuss removal of SUU-32 Wing Pylon. Remove associated BRU-32 and Wing Pylon Encoder/Decoder. REFS: A1-F18AX-740-300 and ESD Instruction
6. Discuss and demonstrate proper blank off of absent wing pylon. REFS: A1-F18AX-740-300 and A1-F18AC-LMM-010
7. Discuss and demonstrate proper preparation/installation of wet and dry SUU-63 Wing Pylon. REF: A1-F18AX-740-300
8. Install associated BRU-32 and Wing Pylon Encoder/Decoder. Complete 3M documentation. REFS: A1-F18AX-740-300, ESD Instruction, and OPNAVINST 4790.2\_

### PART II

1. Review and input appropriate 3M documentation for removal of wingtip mounted LAU-7\_ Missile Launcher and associated wingtip Encoder/Decoder. Discuss and demonstrate removal of wingtip LAU-7\_ Missile Launcher and associated wingtip Encoder/Decoder. Ensure washers are sealed to aircraft or epoxy them as required. REFS: A1-F18AX-740-300 and A1-F18AC-LMM-010
2. Discuss and demonstrate proper installation of wingtip mounted LAU-7 Missile Launcher and associated wingtip Encoder/Decoder. Complete 3M documentation. REFS: A1-F18AX-740-300 and A1-F18AC-LMM-010
3. Discuss and demonstrate all maintenance requirements for LAU-7\_'s to include 14/28 DSI. REFS: A1-F18AX-MRC-250
4. Review and input appropriate 3M documentation for installation and removal of the left and/or right mounted LAU-116 Missile Launcher with associated fuselage Encoder/Decoder. REF: OPNAVINST 4790.2\_
5. Discuss and demonstrate removal of left/right mounted LAU-116 Missile Launcher and associated fuselage Encoder/Decoder.

- Review procedures for installing a fuselage blank off. REFS: A1-F18AX-740-300 and A1-F18AC-LMM-010
6. Discuss and demonstrate installation of left/right mounted LAU-116 Missile Launcher and associated fuselage Encoder/Decoder. REFS: A1-F18AX-740-300
  7. Discuss and demonstrate all maintenance requirements for LAU-116's to include 28 DSI. REFS: A1-F18AX-MRC-250
  8. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
  9. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
  10. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
  11. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the to removal, replacement and organizational level maintenance for the SUU-62 Centerline Pylon, SUU-63 Wing Pylon, LAU-7\_ Missile Launcher, LAU-116\_ Missile Launcher, Fuselage Encoder/decoder, Wing Pylon Encoder/Decoder and Wingtip Encoder/Decoder with strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertained to this task.

**K. QUESTION AND ANSWERS :**



- A. **LECTURE NUMBER:** F/A-18 MOS 6531 B.06/B.07/B.08/B.09/B.20
- B. **TIME:** 1.0 Hour
- C. **DATE PREPARED:** 31 Aug 03
- D. **DATE REVIEWED:** On separate sheet
- E. **TITLE:** Stores Management System Basic Programs and Subsystems (Aircraft Master Mode Select System, Selective Jettison/Auxiliary Release System, Bomb Program Select System, Weapon Select System, and Emergency Jettison System.)
- F. **OBJECTIVE:** Student will demonstrate knowledge of the principles of operation and perform applicable organizational maintenance for basic stores management system programs and components. This lecture should be conducted as a closely supervised hands-on period of instruction for programs employed during a basic jettison system release and control check. All actions will be conducted in compliance to appropriate maintenance procedures including 3M documentation, tool control, FOD control, and corrosion control procedures as they pertain to this task.
- G. **INSTRUCTIONAL AIDES:**
1. F/A 18 Aircraft
  2. Tool Pouch and ground strap
  3. Maintenance Box
  4. AN/AWM-54 Firing Circuit Test Set
  5. W-12/W-47 Breech and W-49 auxiliary breech adapters
  6. AN/AWM-42/A Fuze Function Control Test Set
  7. Proximity Switch Control Set
  8. Weight Off Wheels wedge
  9. Digital Multimeter
  10. NALCOMIS computer terminal
  11. Applicable cockpit poster (Optional)

**Note:** NATEC, FWST, and Boeing representatives offer Power Point Presentations for principles of operation and troubleshooting for the above systems which may be utilized in addition to or as a substitute for this lecture if all tasks are covered.

## H. REFERENCES:

1. A1-F18AX-740-100, Organizational Maintenance Principles of Operation Weapons Control Systems
2. A1-F18AX-740-200 series, Organizational Maintenance Testing and Troubleshooting Weapons Control System
3. A1-F18AX-740-300, Organizational Maintenance with IPB Weapons Control System
4. A1-F18AX-FRM-000, Fault Reporting Manual
5. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
6. A1-F18AE-LWS-000, Conventional Weapons Loading Manual
7. A1-F18AX-LWS-200, Conventional Weapons Checklist Release and Control Basic
8. A1-F18AE-LWS-270, Conventional Weapons Checklist F/A-18 Bombs Retard/Non-Retard
9. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
10. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
11. A1-F18AX-WUC-800, Work Unit Code Manual

## I. PRESENTATION:

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Demonstrate proper 3M documentation by inducting a test and check MAF (NALCOMIS) for jettison release check action on applicable aircraft. REF: OPNAVINST 4790.2\_
2. Review electrical power application and removal procedures, including the pulling of applicable circuit breakers. There are more breakers to pull than listed in LWS-200. References have priority. REFS: A1-F18AC-LMM-000 and A1-F18AC-GAI-000
3. Demonstrate a jettison system release and control of any wing station with adherence to LWS-000. (The LWS-200 is a condensed version checklist.) REFS: A1-F18AE-LWS-000 and A1-F18AX-LWS-200
4. Explain the principles of operation for systems and components listed below as applicable during the check: (Focus student attention on cockpit displays.) REFS: A1-F18AX-740-100 and A1-F18AX-FRM-000
  - (a) Emergency Jettison System
  - (b) Master Arm Program/Switch
  - (c) Armament Override Program/Switch
  - (d) Selective Jettison/Auxiliary Release System
  - (e) Master Mode System (A/G, A/A, NAV, & SIM)

**Note:** Only A/G mode is used for jettison check, all modes must be discussed and demonstrated.

5. Begin demonstration of Parent Rack Release System Check and discuss principles of operation for below related systems when relevant: REF: A1-F18AE-LWS-000
  - (a) Bomb/Mine Select Program
  - (b) Weapons Select System (Enter a valid simulated weapon code if desired to increase effect)
6. Discuss (logic tree) troubleshooting, fault isolation, and organizational maintenance for the above listed systems. REFS: A1-F18AX-740-200 series
7. Complete checklist requirements including post check inspection of aircraft by QASO/CDI.
8. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
9. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
10. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the principles of operation, functional check, fault isolation/troubleshooting and maintenance of the stores management system basic programs. This was conducted while performing a jettison and parent rack release and control check. Actions included and were in compliance with all 3M, tool control, FOD prevention, and corrosion control procedures as they pertain to these tasks.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.10 (A thru D)
- B. TIME:** 1.0 Hour
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Multiple Ejector Rack (MER) Systems
- F. OBJECTIVE:** Students will be able to demonstrate knowledge of the MER/TER theory of operation, functional check, fault isolation, and organizational maintenance procedures. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

**G. INSTRUCTIONAL AIDES:**

1. F/A 18 Aircraft
2. BRU-41 IMER with interface cable
3. BRU-42 ITER
4. Practice bomb adapter brackets and restrictors
5. LGTR adapter brackets
6. AN/AWM-54 or AN/AWM-102 Release Circuit Tester with breech adapters
7. TTU-504/E TALD Launch adapter
8. Arming wires
9. Post-fire cleaning materials
10. Optional Weapons for Load and ID:
  - a) MK-76, Low drag practice bomb (BDU-33 with safing block)
  - b) BDU-48, High drag practice bomb (currently restricted)
  - c) LUU-2\_, Para-flares
  - d) MLM, Marine Location Marker
  - e) LGTR, Laser Guided Training Round
  - f) TALD, Tactical Air Launched Decoy

**H. REFERENCES:**

1. A1-F18AX-740-100, Theory of Operations Weapons Control System
2. A1-F18AX-740-200, Testing and Troubleshooting Weapons Control System
3. A1-F18AX-740-300, Organizational Maintenance with IPB Weapons Control System
4. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
5. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
6. A1-F18AE-LWS-270, Conventional Weapons Checklist F/A-18 Bombs Retard/Nonretard

7. A1-F18AE-LWS-410, Conventional Weapons Checklist F/A-18 Pyrotechnics
8. A1-F18AE-LWS-450, Conventional Weapons Checklist F/A-18 Practice Bombs/LGTR
9. A1-F18AE-LWS-730, Conventional Weapons Checklist F/A-18 TALD/I-TALD
10. NA 11-75A-603, Operation and Service Instruction with IPB for Organizational, Intermediate, and Depot Improved Multiple Ejector Rack (IMER) BRU-41/A and Improved Triple Ejector Rack (ITER) BRU-42/A
11. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
12. A1-F18AX-MRC-250, Special/Preservation Maintenance Requirement Cards
13. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
14. A1-F18AX-WUC-800, Work Unit Code Manual

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss theory of operation, functional check, and fault isolation procedures for the MER/TER systems. REF: A1-F18AX-740-100 and A1-F18AX-740-200
2. Discuss and demonstrate MER/BRU-41\_release system check to include arming units. REF: A1-F18AE-LWS-000, A1-F18AE-LWS-200, and A1-F18AC-LMM-000
3. Discuss and demonstrate TALD/BRU-42\_ release system check to include arming units. REF: A1-F18AE-LWS-000, A1-F18AE-LWS-200, and A1-F18AC-LMM-000
4. Discuss and demonstrate 28 DSI/Post Fire Inspection. Discuss 3M documentation and corrosion prevention. REFS: A1-F18AX-MRC-250, NA 01-1A-509
5. Discuss organizational maintenance capabilities to include pre-expended consumable support for gas ring replacement, restrictor o-ring replacement, and firing lanyard replacement. REF: NA 11-75A-603
6. **OPTIONAL LOAD EXERCISES:** Discuss and/or demonstrate weapons loading, weapons ID, arm procedures, de-arm procedures, and download for applicable weapons listed in the instructional aids section and references. REFS: A1-F18AE-LWS-000, A1-F18AE-LWS-410, A1-F18AE-LWS-450, and A1-F18AE-LWS-730
7. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
8. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
9. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
10. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the MER/TER systems theory of operation, functional check, fault isolation, organizational maintenance procedures, and weapons loading procedures with strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertained to this task.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.11 (A thru C)
- B. TIME:** 1.5 Hour
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** AIM-9 (Sidewinder) Weapon System
- F. OBJECTIVE:** Students will be able to demonstrate a knowledge of the AIM-9 weapon system theory of operation, functional check, and fault isolation procedures. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.
- G. INSTRUCTIONAL AIDES:**
1. F/A 18 Aircraft
  2. AN/AWM-100, AIM-9 Test Set
  3. GMU-2A/A Flowmeter
  4. H173A/AIC Headset or equivalent
- H. REFERENCES:**
1. A1-F18AX-740-100, Theory of Operations Weapons Control System
  2. A1-F18AX-740-200, Testing and Troubleshooting Weapons Control System
  3. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
  4. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
  5. A1-F18AE-LWS-530, Conventional Weapons Checklist F/A-18 AIM-9 (Sidewinder)/Instrumentation Package
  6. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
  7. A1-F18AX-MRC-250, Special/Preservation Maintenance Requirement Cards
  8. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
  9. A1-F18AX-WUC-800, Work Unit Code Manual
- I. PRESENTATION:**
- NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.
1. Discuss theory of operation, functional check, and fault isolation procedures for the AIM-9 weapon system. REF: A1-F18AX-740-100

2. Discuss and demonstrate AIM-9 system (End-to-End) test with flow meter check. REF: A1-F18AE-LWS-000, A1-F18AX-740-200, and A1-F18AC-LMM-000
3. **OPTIONAL:** WHAT-4 Tester (FWST Rep) is suitable substitute. Discuss and demonstrate proper load, weapon ID (observe one and cage/uncage), arm, dearm, and weapon download of CATM-9 (Sidewinder) training missile. REF: A1-F18AE-LWS-530
4. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
5. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
6. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
7. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the AIM-9 (Sidewinder) weapon system theory of operation, functional check, fault isolation, and weapons loading procedures with strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertained to this task.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.12 (A thru D)
- B. TIME:** 2.0 Hours
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** M61A2/M61A2 20MM Gun System
- F. OBJECTIVE:** Students will be able to demonstrate knowledge of M61A1/M61A2 (heavy/lightweight) 20MM gun system theory of operation, functional check, fault isolation, and organizational level maintenance procedures while in strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to this task.
- G. INSTRUCTIONAL AIDES:**
1. F/A 18 Aircraft
  2. M61A1 (heavy) or M61A2 (lightweight) 20MM Gun System
  3. A/E-24T-230 Gun Electrical System Test Set
  4. Gun Jam Clearing Box
  5. Dummy 20MM rounds
  6. Hand crank and extension
  7. Digital Multimeter
  8. Tool Pouch
  9. Applicable lubricants and sealants
  10. Applicable cleaning and corrosion preventative
  11. Linkless Ammunition Loading System (Optional)
  12. Gun Barrel Erosion Gauge
- H. REFERENCES:**
1. A1-F18AC-750-100, Theory of Operation Gun Systems
  2. A1-F18AC-750-300, Testing and Troubleshooting Gun Systems
  3. A1-F18AC-750-300, Organizational Maintenance with IPB Gun Systems
  4. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
  5. A1-F18AX-LWS-200, Conventional Weapons Checklist Release and Control Basic
  6. A1-F18AE-LWS-760, Conventional Weapons Checklist F/A-18 Guns
  7. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
  8. A1-F18AC-LMM-010, Organizational Maintenance Line Maintenance Access Doors
  9. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program

10. A1-F18AX-MRC-250, Special/Preservation Maintenance Requirement Cards
11. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
12. A1-F18AX-WUC-800, Work Unit Code Manual
13. CNALINST 4790.34\_ and CNAPINST 4790.35\_, ESD Equipment and Procedures

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

**PART I**

1. Review M61A1 20MM gun system theory of operation to include A/A modes (hot guns) and A/G mode. REF: A1-F18AC-750-100
2. Review and input appropriate 3M documentation for gun system release and control check/test. REFS: OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
3. Discuss and demonstrate M61A1 or M61A2 20MM gun system release and control check/test. REFS: A1-F18AE-LWS-000 and A1-F18AX-LWS-200
4. Discuss and demonstrate proper 20MM gun system loading, unloading, weapon ID, and arm/dearm procedures (by use of LALS and dummy 20MM rounds). REFS: A1-F18AE-LWS-000 and A1-F18AE-LWS-740
5. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
6. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
7. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
8. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**PART II**

1. Review and input appropriate 3M documentation for 14/56 DSI for gun system inspection/cleaning and gun encoder/decoder removal/replacement. REFS: OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
2. Discuss and demonstrate 14/56 DSI requirements for gun system removal, inspection, and cleaning (include post-fire barrel erosion inspection). REFS: A1-F18AC-LMM-000, A1-F18AC-LMM-010, A1-F18AX-MRC-250, and A1-F18AC-740-300
3. With gun removed and present on gun pallet assembly; Discuss and demonstrate maintenance procedures for removal and replacement of PS-1, PS-2 pressure switches (Gun Gas Caution Faults), bellows, blast diffuser, and clearing handle. REF: A1-F18AC-750-300
4. Discuss functional check and fault isolation procedures for the 20MM gun system. REF: A1-F18AC-750-200
5. Discuss and demonstrate gun system installation. REFS: A1-F18AC-750-300 and A1-F18AC-LMM-010

6. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
7. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
8. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
9. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the M61A1/M61A2 20MM gun system theory of operation, functional check, fault isolation, and organizational level maintenance procedures with strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertained to this task.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.13 (A thru C)
- B. TIME:** 1.5 Hour
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** AIM-7 (Sparrow) Release and Control System
- F. OBJECTIVE:** Students will be able to demonstrate a knowledge of the AIM-7 release and control system theory of operation, functional check, and fault isolation procedures. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

**G. INSTRUCTIONAL AIDES:**

1. F/A 18 Aircraft
2. Control Proximity Switch
3. Weight-Off-Wheels (WOW) Wedge
4. A/E-24T-216, AIM-7 Test Set
5. W12/W47 Breech Adapter (2 ea)
6. AIM-7 sheer wafer
7. AIM-7 motor fire

**H. REFERENCES:**

1. A1-F18AX-740-100, Theory of Operations Weapons Control System
2. A1-F18AX-740-200, Testing and Troubleshooting Weapons Control System
3. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
4. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
5. A1-F18AX-LWS-210, Release and Control A/A Missiles Conventional Weapons Checklist
6. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
7. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
8. A1-F18AX-WUC-800, Work Unit Code Manual

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss theory of operation, functional check, and fault isolation procedures for the AIM-7 release and control system. REFs: A1-F18AX-740-100 and A1-F18AX-740-200

2. Discuss and demonstrate AIM-7 system release and control check with AIM-7 motor fire and battery activation (End-to-End). REF: A1-F18AE-LWS-000, A1-F18AX-LWS-210, A1-F18AX-740-200, and A1-F18AC-LMM-000
3. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
4. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
5. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
6. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the AIM-7 (Sparrow) weapon system theory of operation, functional check, and fault isolation procedures with strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertained to this task.

**K. QUESTION AND ANSWERS :**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.14 (A thru C)
- B. TIME:** 1.5 Hour
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** AGM-88 (HARM) Release System
- F. OBJECTIVE:** Students will be able to demonstrate a knowledge of the AGM-88 release system theory of operation, functional check, and fault isolation procedures. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

**G. INSTRUCTIONAL AIDES:**

1. F/A 18 Aircraft
2. AN/AWM-92 Aircraft Weapon Control Test Set
3. AN/AWM-54 Stray Voltage Tester with HARM adapter
4. Control Proximity Switch
5. (Optional) CATM-88 Block\_ to match CLC software load
6. LAU-117 Missile Launcher (attached to CATM-88 HARM)
7. HARM Interface Cable

**H. REFERENCES:**

1. A1-F18AX-740-100, Theory of Operations Weapons Control System
2. A1-F18AX-740-200, Testing and Troubleshooting Weapons Control System
3. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
4. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
5. A1-F18AX-LWS-220, Release and Control A/G Missiles Conventional Weapons Checklist
6. A1-F18AE-LWS-590, Conventional Weapons Checklist F/A-18 PASE AGM-88 (HARM)
7. A1-F18AE-LWS-680, Conventional Weapons Checklist F/A-18 Arm/Dearm
8. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
9. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
10. A1-F18AX-WUC-800, Work Unit Code Manual

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss theory of operation, functional check, and fault isolation procedures for the AGM-88 release system. REFS: A1-F18AX-740-100 and A1-F18AX-740-200
2. Discuss and demonstrate AGM-88 system release and control check. REF: A1-F18AE-LWS-000, A1-F18AX-LWS-220, A1-F18AX-740-200, and A1-F18AC-LMM-000
3. **OPTIONAL:** Discuss and demonstrate proper loading, downloading, weapons ID, and arm/dearm procedures for CATM-88 HARM. REFS: A1-F18AE-LWS-590 and A1-F18AE-LWS-680
4. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
5. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
6. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
7. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the AGM-88 (HARM) release system theory of operation, functional check, and fault isolation procedures with strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertained to this task.

**K. QUESTION AND ANSWERS:**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.17 (A thru C)
- B. TIME:** 1.0 Hour
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** AGM-65 (Maverick) System
- F. OBJECTIVE:** Students will be able to demonstrate a knowledge of the AGM-65 system theory of operation, functional check, and fault isolation procedures. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.
- G. INSTRUCTIONAL AIDES:**
1. F/A 18 Aircraft
  2. Tool Pouch
  3. AN/AWM-92 Aircraft Weapon Control Test Set
  4. AN/AWM-54 Stray Voltage Tester with Maverick adapter
  5. (Optional) CATM-65E Laser Maverick and CATM-65F IR Maverick
- H. REFERENCES:**
1. A1-F18AX-740-100, Theory of Operations Weapons Control System
  2. A1-F18AX-740-200, Testing and Troubleshooting Weapons Control System
  3. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
  4. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
  5. A1-F18AX-LWS-220, Release and Control A/G Missiles Conventional Weapons Checklist
  6. A1-F18AE-LWS-560, Conventional Weapons Checklist F/A-18 AGM-65 (Maverick) PASE
  7. A1-F18AE-LWS-680, Conventional Weapons Checklist F/A-18 Arm/Dearm
  8. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
  9. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
  10. A1-F18AX-WUC-800, Work Unit Code Manual
- I. PRESENTATION:**
- NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss theory of operation, functional check, and fault isolation procedures for the AGM-65 system. REFs: A1-F18AX-740-100 and A1-F18AX-740-200
2. Discuss and demonstrate AGM-65E/AGM-65F Maverick release and control check. REF: A1-F18AE-LWS-000, A1-F18AX-LWS-220, A1-F18AX-740-200, and A1-F18AC-LMM-000
3. **OPTIONAL:** Discuss and demonstrate proper loading, downloading, weapons ID, and arm/dearm procedures for CATM-65 Maverick. REFs: A1-F18AE-LWS-560 and A1-F18AE-LWS-680
4. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
5. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
6. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
7. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the AGM-65 (Maverick) system theory of operation, functional check, and fault isolation procedures with strict adherence to all 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertained to this task.

**K. QUESTION AND ANSWERS:**



- A. LECTURE NUMBER:** F/A-18 MOS 6531 B.19 (A thru K)
- B. TIME:** 1.0 Hour
- C. DATE PREPARED:** 31 Aug 03
- D. DATE REVIEWED:** On separate sheet
- E. TITLE:** Scheduled/Unscheduled Inspections
- F. OBJECTIVE:** Students will be able to demonstrate knowledge of the requirements to perform scheduled and unscheduled inspections. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

**G. INSTRUCTIONAL AIDES:**

1. Copies of the references listed below
2. AA&E records, Gun Log Books
3. SE Preoperational Records (4790/52)
4. AN/AWM-54 Stray Voltage Tester with Maverick adapter
5. (Optional) CATM-65E Laser Maverick and CATM-65F IR Maverick

**H. REFERENCES:**

1. A1-F18AX-MRC-000,
2. A1-F18AX-MRC-200,
3. A1-F18AX-MRC-250,
4. A1-F18AX-MRC-300,
5. A1-F18AC-LMM-030,
6. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
7. OPNAVINST 8000.16B Vol II, Naval Ordnance Maintenance Management Program (NOMMP), Organizational Maintenance Responsibilities
8. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
9. A1-F18AX-WUC-800, Work Unit Code Manual

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss organizational maintenance responsibilities for Periodic and Conditional Inspections. REFs: OPNAVINSTs 4790.2\_ and 8000.16B Vol II
2. Discuss Daily maintenance requirements. REF: A1-F18AX-MRC-200
3. Discuss Special Inspection maintenance requirements for 7/14/28/42/210/364 Day Special Inspections, as well as

- Preservation/Depreservation requirements. REF: A1-F18AX-MRC-250
4. Discuss Phase maintenance requirements. REF: A1-F18AX-MRC-300
  5. Discuss Conditional Inspection requirements for 7500/15000 Rounds Fired Inspections, Over-"G" Inspection, and abnormal landing inspections. REF: A1-F18AX-MRC-000
  6. Discuss Transfer and Acceptance Inspection requirements from Local Maintenance Requirement Cards. REF: A1-F18AX-MRC-250 LMRCs
  7. Discuss Preoperational maintenance requirements for current support equipment in shop use including demonstrating the proper documentation and TD verification of 4790/52 Cards.
  8. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
  9. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
  10. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
  11. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the requirements to perform scheduled and unscheduled inspections. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

**K. QUESTION AND ANSWERS :**



- A. **LECTURE NUMBER:** F/A-18 MOS 6531 B.21 (A thru C)
- B. **TIME:** 1.0 Hour
- C. **DATE PREPARED:** 31 Aug 03
- D. **DATE REVIEWED:** On separate sheet
- E. **TITLE:** Rocket/Dispenser Firing System
- F. **OBJECTIVE:** Students will be able to demonstrate a knowledge of the rocket/dispenser system theory of operation, functional check, and fault isolation procedures. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

G. **INSTRUCTIONAL AIDES:**

1. F/A 18 Aircraft
2. Tool Pouch
3. AN/AWM-54 or AN/AWM-102 Firing Circuit Test Set
4. W-12/W-47 Breech and W-49 Aux Breech Adapters
5. W-2 Adapter
6. Proximity Switch Control Set
7. Weight-on-Wheels (WOW) wedge
8. VER/CVER (BRU-33X Bomb Rack) with interface cables for rockets
9. LAU-10, 61, and/or 68 Rocket Launcher/Dispenser (empty)
10. Corrosion Preventative Compound Type II/III (reduces wear on cables)

**NOTE:** NATEC, FWST, and Boeing representatives may offer Power Point presentations for principle of operation for this system and may be utilized in addition to, or as substitute for, this lecture where all tasks are covered.

H. **REFERENCES:**

1. A1-F18AX-740-100, Theory of Operations Weapons Control System
2. A1-F18AX-740-200, Testing and Troubleshooting Weapons Control System
3. A1-F18AX-740-300, Organizational Maintenance with IPB Weapons Control System
4. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
5. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
6. A1-F18AX-LWS-200, Release and Control Checklist F/A-18 Basic

7. A1-F18AE-LWS-680, Conventional Weapons Checklist F/A-18 Arm/Dearm
8. A1-F18AE-LWS-750, Conventional Weapons Checklist F/A-18 Rocket Launchers
9. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
10. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
11. A1-F18AX-WUC-800, Work Unit Code Manual

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation. Paying particular attention to **HERO** sensitivity. Perform required ordnance safety brief prior to commencing demonstrations.

1. Discuss theory of operation, functional check, and fault isolation procedures for the rocket/dispenser firing system. REFs: A1-F18AX-740-100 and A1-F18AX-740-200
2. Discuss and demonstrate 3M documentation of rocket/dispenser system release and control check/7 DSI. REFs: OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
3. Review electrical power application (pull applicable circuit breakers). There are more breakers required to be pulled than those listed in the A1-F18AX-LWS-200. REF: A1-F18AC-LMM-000
4. Demonstrate proper installation of VER/CVER with interface cable on outboard station (2/8) with a known good parent rack jettison check. REF: A1-F18AX-740-300 **NOTE:** Rocket/Dispenser Firing checks require additional VER/CVER release checks covered in Lesson Guide F/A-18 6531 B.04 A-D and are omitted to concentrate on Rocket/Dispenser Firing.
5. Discuss and demonstrate VER/CVER rocket system release checks. REFs: A1-F18AX-LWS-000, A1-F18AX-LWS-200, and A1-F18AC-LMM-000
6. **OPTIONAL:** Discuss and demonstrate proper loading, stray voltage, hand signals, downloading, weapons ID, and arm/dearm procedures for LAU-10/61/68 rocket launcher/dispenser on left station of VER/CVER. Discuss mission loads (single/ripple/salvo) with corresponding weapons codes to pod settings. Cover all checklist requirements to include post load inspection by QASO/TL. REFs: A1-F18AE-LWS-680 and A1-F18AE-LWS-750
7. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
8. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
9. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
10. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the rocket/dispenser system theory of operation, functional check, and fault isolation procedures.

Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

**K. QUESTION AND ANSWERS :**



- A. **LECTURE NUMBER:** F/A-18 MOS 6531 B.22/23 (A thru C)
- B. **TIME:** 1.0 Hour
- C. **DATE PREPARED:** 31 Aug 03
- D. **DATE REVIEWED:** On separate sheet
- E. **TITLE:** Electronic Countermeasure Systems (ECM/ICMDS)
- F. **OBJECTIVE:** Students will be able to demonstrate knowledge of the electronic countermeasure systems theory of operation, functional check, and fault isolation procedures. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

G. **INSTRUCTIONAL AIDES:**

1. F/A 18 Aircraft
2. Tool Pouch
3. Ground Strap
4. 0-100 InLb Torque Wrench
5. Proximity Switch Control Set
6. Weight-on-Wheels (WOW) wedge
7. ALM-70A Stray Voltage Tester
8. AN/ALM-225 Countermeasures Dispenser Test Set (AN/ALE-39)
9. AN/ALE-29A Dispenser Module (AN/ALE-39)
10. AN/ALM-286 Countermeasure Dispenser Set (AN/ALE-47)
11. AN/ALE-47 Dispenser Module (AN/ALE-47)
12. Corrosion Preventative Compound Type II/III

**NOTE:** NATEC, FWST, and Boeing representatives may offer Power Point presentations for principle of operation for this system and may be utilized in addition to, or as substitute for, this lecture where all tasks are covered.

H. **REFERENCES:**

1. A1-F18AX-760-100, Theory of Operations Tactical Electronic Warfare Systems
2. A1-F18AX-760-200, Testing and Troubleshooting Tactical Electronic Warfare Systems
3. A1-F18AX-760-300, Organizational Maintenance with IPB Tactical Electronic Warfare Systems
4. A1-F18AC-LMM-000, Organizational Maintenance Line Maintenance Procedures
5. A1-F18AE-LWS-000, Airborne Weapons/Stores Loading Manual
6. A1-F18AX-LWS-200, Release and Control Checklist F/A-18 Basic

7. A1-F18AX-LWS-720, Conventional Weapons Checklist F/A-18 ECM ALE-39/ALE-47
8. A1-F18AX-MRC-200, Aircraft Daily Inspection Requirement Cards
9. OPNAVINST 4790.2\_, Naval Aviation Maintenance Program
10. NA 01-1A-509, Aircraft Weapons Systems Cleaning and Corrosion Control
11. NA 11-140-7-10, Weapons Assembly Manual Checklist AN/ALE-47
12. A1-F18AX-WUC-800, Work Unit Code Manual

**I. PRESENTATION:**

**NOTE:** Stress all WARNINGS, CAUTIONS and NOTES throughout the presentation.

1. Discuss theory of operation, functional check, and fault isolation procedures for the electronic countermeasure (ECM) system. REFs: A1-F18AX-760-100 and A1-F18AX-760-200
2. Discuss and demonstrate 3M documentation of ECM system release check/7 DSI. REFs: OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
3. Review electrical power application (pull applicable circuit breakers). There are more breakers required to be pulled than those listed in the A1-F18AX-LWS-200. REF: A1-F18AC-LMM-000
4. Discuss and demonstrate applicable ECM/ICMD system release check with strict adherence to LWS-000 reference. The LWS-200 is a condensed version checklist and is not suitable for instruction but should be displayed to students. REF: A1-F18AX-LWS-000 and A1-F18AX-LWS-200 **NOTE:** Current checklist lists modified tester AN/ALM-291 test set vice AN/ALM-286 test set most commonly in current use.
5. Discuss magazine loadout configurations for applicable ECM/ICMD systems. REF: NA 11-140-7-10
6. Discuss and demonstrate proper installation and removal of applicable dispenser modules to include daily inspection torque requirements on applicable systems. REFs: A1-F18AX-760-300, A1-F18AX-MRC-250, and A1-F18AE-LWS-720
7. Discuss appropriate 3M documentation procedures. REF: NA OPNAVINST 4790.2\_ and A1-F18AX-WUC-800
8. Discuss Tool Control procedures. REF: OPNAVINST 4790.2\_
9. Discuss corrosion control/prevention procedures. REF: NA 01-1A-509
10. Discuss FOD prevention guidelines. REF: OPNAVINST 4790.2\_

**J. SUMMARY:** During this period of instruction we covered the electronic countermeasure systems theory of operation, functional check, and fault isolation procedures. Student will also demonstrate an understanding of 3M documentation, Tool Control, FOD, and corrosion control procedures as they pertain to each task.

**K. QUESTION AND ANSWERS :**



**LECTURE NUMBER:** F/A-18 MOS 6531 C-01

**TIME OF LECTURE:** 1.0 HOUR

**DATE PREPARED:** 30 JUN 03

**DATE REVIEWED:** 30 JUN 03

**TITLE OF LECTURE:** ORDNANCE SAFETY

**OBJECTIVE:** FOLLOWING THIS LECTURE, THE STUDENT WILL HAVE A BASIC UNDERSTANDING OF GENERAL ORDNANCE SAFETY PRECAUTIONS AND CONTRIBUTE TO A PROACTIVE SAFETY PROGRAM THROUGH GROUP DISCUSSION.

**INSTRUCTIONAL AIDS:**

- (1) APPLICABLE SAFETY EQUIPMENT (SHOP)
- (2) SHOP SAFETY LITERATURE BINDER
- (3) COPY OF RECENT NOSSA NEWSLETTER FROM WEBSITE LISTED BELOW.
- (4) LWS-000, SAFETY SUMMARY PAGE

**REFERENCES:**

- (1) A1-F18AE-LWS-000, AIRBORNE WEAPONS/STORES LOADING MANUAL (SAFETY SUMMARY)
- (2) NAVSEA OP 4(CD ROM), AMMUNITION AND EXPLOSIVES SAFETY AFLOAT
- (3) NAVSEA OP 5 VOL 1(CD ROM), EXPLOSIVES SAFETY ASHORE
- (4) NAVSEA OP 5 VOL 3(CD ROM), EXPLOSIVES SAFETY, ADVANCED BASES
- (5) NAVSEA OP 3347/OP 1014, ORDNANCE SAFETY PRECAUTIONS
- (6) <https://intranet.nossa.navsea.navy.mil> ,NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY (WPNS&EXPL SAFETY NEWS LETTER)

**PRESENTATION:** DISCUSS THE SAFETY SUMMARY PORTION OF THE A1-F18AE-LWS-000 MANUAL PG xxviii. (ATTACHED)

**NARRATIVE:** THE SAFE HANDLING OF ORDNANCE IS ACCOMPLISHED THROUGH SOUND KNOWLEDGE OF SAFETY PRINCIPLES BASED ON THOROUGH TRAINING AND THE APPLICATION OF THIS KNOWLEDGE THROUGH CLOSE AND CONSTANT SUPERVISION. ALL PERSONNEL INVOLVED WITH ORDNANCE ARE RESPONSIBLE TO ACT IMMEDIATELY TO PREVENT AN UNSAFE CONDITION. RESPONSIBILITIES OF LEADERSHIP AND SUPERVISION CAN NEVER BE DELEGATED EVEN IF THE TASK HAS BEEN. THEREFORE; IT IS UP TO LEADERSHIP TO ENSURE PERSONNEL ADHERE TO PUBLICATIONS AND PROPER PROCEDURES AT ALL TIMES, THAT THEY WORK WITHIN THEIR QUALIFICATIONS AND ARE ADEQUATELY TRAINED IN ALL AREAS THEY MAY BE TASKED.

HUMAN ERROR IS STILL THE MAJOR CAUSE OF ORDNANCE INCIDENTS. THESE CAUSE FACTORS ARE PREVENTABLE AND ARE USUALLY DUE TO A FAILURE TO FOLLOW CHECKLISTS AND PROCEDURES, MISUSE OF EQUIPMENT, OR A VIOLATION OF SAFETY PRECAUTIONS. CHANGE IS THE GREATEST CONTRIBUTOR TO HUMAN ERROR INCIDENTS. CHANGE OF PERSONNEL, PROCEDURES, SCHEDULED EVENTS OR

QUALIFICATIONS REQUIRE SPECAIL AWARENESS TO THIS INCREASED RISK. THIS RISK CAN ONLY BE LIMITED THROUGH AGGRESSIVE PLANNING, TRAINING AND SUPERVISION.

A PROACTIVE SAFETY PROGRAM ALLOWS FOR ALL PERSONNEL TO PLAY AN ACTIVE ROLE IN IDENTIFYING HAZARDS AND CLOSE CALLS UNTIL RESOLVED. PROGRAMS MUST COVER EMERGENCY PROCEDURES FOR INCIDENTS OF ALL TYPES AND TRAIN TO THESE ACTIONS.

**GROUP GUIDED DISCUSSION:**

- (1) RECENT SAFETY LITERATURE AND CHANGES TO PROCEDURES
- (2) RECENT CLOSE CALLS OR INCIDENT HISTORY FROM SIMILAR.
- (3) BRIEF FOR UPCOMING CHANGES IN TEMPO, CLIMATE, ENVIROMENT ETC..

**SUMMARY:** DURING THIS PERIOD OF INSTRUCTION WE COVERED SAFETY PRECAUTIONS, RECENT SAFETY INFORMATION AND DISCUSSED CURRENT SAFETY RELATED ACTIONS.

**QUESTION & ANSWERS:**

IS THERE ANY ORDNANCE INVOLVED EVOLUTION THAT SHOULD BE PERFORMED WITHOUT SUPERVISION? (NO)