BY ORDER OF THE COMMANDER,
18TH WING (PACAF)

18TH WING INSTRUCTION 21-161

13 MAY 2002

Maintenance

MUNITIONS DELIVERY PROCEDURES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 21-1, *Managing Aerospace Equipment Maintenance*. It establishes procedures for 18th Munitions Squadron personnel to safely accomplish their tasking. It applies to 18th Wing and associate units at Kadena AB. This publication does not apply to the Air National Guard or US Air Force Reserve. References: AFMAN 91-201, AFI 31-209, AFOSH STD 91-31, AFOSH STD 91-56, AFOSH STD 91-66, Technical Order (T.O.) 11-1-38, 18 MUNS MOI 91-1, T.O. 11A13-4-7, 21M-A1M7M-2, 11A16-40-7, 11A16-43-7, 35D3-11-36-6WC-2, LWC 18 LG-003, 21M-AIM9M-2, 21-AI120A-2 and 18 MUNS OI 21-3. LGQ-1, 18 OG/SMOL-1, 44 FS/CMAW-1, 67 FS/CMAW-1, 18 WG/SEW-1.

1. Responsibility. Prior to the start of any task, the supervisor of each operation will ensure that all personnel involved are adequately briefed in accordance with this operating instruction. Deviations from procedures outlined in this operating instruction are not authorized, unless prior approval of the Commander or Maintenance Supervision is obtained. Prior to start of munitions handling and loading operations, vehicle, trailer, and associated equipment such as slings, straps, quick-release pins, etc., will be visually examined to ensure serviceability. Ensure all quick-release pins are locked prior to any movement of the trailer. Ensure that tie-down equipment to be used is rated adequate for items involved.

WARNING: The net explosive weight (NEW) limit posted at structure will not be exceeded.

2. Personnel Limits.

2.1. Transportation of explosives:

2.1.1. Maximum - As allowed by vehicle seat belt arrangement.

2.1.2. Minimum - A minimum of one person per vehicle may be used to transport munitions on base only.

2.1.3. It is desirable to use two personnel for the following tasks:

2.1.3.1. Breakout and hookup of trailers, Universal Ammunition Loading System (UALS).

2.1.3.2. Lifting of 20MM download cans.

2.1.3.3. Any task where the individual feels that use of a single person may be detrimental to safety.

2.1.4. A minimum of three personnel will be used when repositioning AIM-7/9/120 missiles on MHU-141 trailers.

2.2. A minimum of two personnel will be used on forklift operations.

2.3. A minimum of three personnel will be used on missile crossload operations using the MHU-141 trailer.

3. Equipment Requirements.

3.1. Refer to Chapter 3 of specific item T.O. and T.O. 11-1-38 as required.

3.2. Explosive placards, as required, in accordance with (IAW) AFMAN 91-201, *Explosive Safety Standards*.

3.3. Two each fire extinguishers 2A:10BC minimum. One fire extinguisher must be available for each item of powered materials handling equipment used to handle or transport explosives.

3.4. Applicable safety equipment from specific item T.O., AFMAN 91-201, AFOSH STD 91-31, *Personal Protective Equipment*, AFOSH STD 91-56, *Fire Protection and Prevention*.

4. Safety Procedures: (Flight Line Delivery pre-task safety briefing used in conjunction with 18 MUNS OI 21-3.)

NOTES:

Crew chiefs will ensure that all personnel are briefed on their responsibilities and the hazards involved in the operation. All applicable blanks will be filled out.

All personnel will ensure all munitions items, explosive or non-explosive, are tied down to the vehicle when transporting from one location to another. Additionally, all missile containers will be tied down to the forklift during handling operations.

Forklifts will not be used as a transport vehicle except as a last resort (when no other means is available). Load will be secured with tiedowns prior to movement.

4.1. Perform pre/post-use trailer check IAW T.O. 35D3-11-36-6WC-2 and LWC 18 LG-003, 35D30-4-15-1-1.

4.2. Ensure proper explosive placarding on all transport vehicles as required.

4.3. Munitions will not be thrown, tumbled, dropped, or otherwise handled roughly at any time.

4.4. No radio or cell phone transmissions within 10 feet of Electro-Explosive Devices.

4.5. Obtain road clearance through Munitions Control for all Class “A” movements to and from the flight line.

4.6. Vehicles will have parking brake set and wheels chocked prior to munitions loading/unloading or if munitions laden vehicle is being parked.

4.7. Ensure two serviceable fire extinguishers rated at a minimum 2A:10BC are readily available.

4.8. Inspect all tie downs to ensure cotter pins are bent at the required 45-degree angle and are spray painted with a red or orange dot.

4.9. Inspect all Universal Munitions Chocks (UMC's) for serviceability and the presence of degraded/ melted pads.

4.10. Traffic cones/warning signs will be used when equipment is being operated or parked on the roadway.

4.11. Dual hearing protection is required when operating on the flight line when working within 250ft of aircraft with engines running.

5. Handling Operations.

5.1. AIM-9M pre/post use inspections:

WARNING: Ensure that the following safety/protective devices are installed on AIM-9s: (SR-116, Mk 36, MOD 8 and 9, Mk 57 MOD 2 Motor) Arming Key and Flag (Mk 36 MOD 10 and 11, Mk 57 MOD 3 and 5), Arming Handle Safety Clip (Mk17 MOD 1 Motor), Rocket Motor Shorting Clip, Umbilical Shorting Plug, Target Detector/Influence Fuze Cover, and IR Dome Cover.

NOTES:

If any discrepancies are discovered, notify munitions control, fill out an AFTO Form 350 tag, and attach to the item. Do not move trailer unless given authorization.

The following checkpoints apply to both captive and live missiles unless otherwise designated.

5.1.1. Ensure safe and arming key is in the safe position with a "REMOVE BEFORE FLIGHT" flag installed. (LIVE MISSILES ONLY)

5.1.2. Inspect missile body for dents and damage.

5.1.3. Check alignment marks at the joint of each component to ensure no component has shifted. (CAPTIVE MISSILE ONLY)

5.1.4. Check IR dome for serviceability.

5.1.5. Ensure dome retaining ring is secure and not damaged.

5.1.6. Ensure dome protector, "REMOVE BEFORE FLIGHT" flag, and lanyards are properly installed and secured.

5.1.6.1. Remove dome cover and ensure that seeker head moves freely.

5.1.7. Check argon bottle pressure gauge glass for evidence of damage that would negate an accurate pressure reading due to obstruction of the needle (broken or missing glass/needle).

5.1.8. Ensure argon bottle is charged to 5,100 +/- 100 PSI, but not more than 5,200 PSI. (Needle indicates in green area.)

NOTE: Ensure the blue captive flight adapter is installed, and heat shrink tubing is secure. (on captive missiles.)

5.1.9. Check umbilical for serviceability (cuts, cracks, broken seals, etc.).

5.1.10. Ensure umbilical shorting cap pin 13, 19, or 21 are not bent, broken, or missing.

5.1.11. Ensure umbilical cable is secured properly with a rubber band.

5.1.12. Check exhaust port of the gas grain generator. Area should be free of black soot which would indicate gas grain generator firing.

5.1.13. Check fins for serviceability and ensure they are secure.

5.1.14. Check Target Detector (TD) windows. There should be no damage, missing windows, or visible condensation on the inside of the TD.

5.1.15. Ensure TD cover is installed.

WARNING: Do not touch contact buttons. Touching of the contact buttons in the rocket motor forward hanger could cause rocket motor ignition.

5.1.16. Check that contact buttons are not severely corroded.

5.1.17. Ensure rocket motor forward hanger cover is present (not required on “Solid Body” captive missiles).

5.1.18. Check that hangers are not damaged.

5.1.19. Check wings for serviceability.

5.1.20. Ensure wings are secure and rolleron assemblies are in the locked position (LIVE MISSILES ONLY).

5.1.21. Check nozzle weather seal on rocket motor. Weather seal should be free of damage.

5.2. AIM-7 pre/post use inspections:

WARNING: Ensure that the following safety/protective devices are installed on AIM-7s: Rocket Motor Safety Clip or Arming Key and Flag, Motor Fire Connector Shorting Plug, Umbilical Connector Cover, and Wing Hub Covers.

NOTES:

If any discrepancies are discovered, notify munitions control, fill out an AFTO Form 350 tag, and attach to the item. Do not move trailer unless given authorization.

The following checkpoints apply to both captive and live missiles unless otherwise designated.

5.2.1. Ensure rocket motor safe and arm key is in the safe position and a “REMOVE BEFORE FLIGHT” flag is installed. (LIVE MISSILE)

5.2.2. Check missile for dents and scratches.

5.2.3. Check radome for serviceability.

5.2.4. Ensure motor fire wire “REMOVE BEFORE FLIGHT” flag is secure to the center of the missile (do not open flag, as damage could result to the wire) and motor shorting plug is installed.

5.2.5. Ensure umbilical cover is properly installed and secured.

5.2.6. Ensure four each wing hub dust covers are installed.

5.2.7. Check forward and aft antennas for serviceability and ensure they are not touching the chock.

5.2.8. Ensure wing and fin containers are serviceable and secure.

5.2.9. If older type wooden containers are used, ensure wafer book with proper packing, and the required number of wafers (one per AIM-7 missile) along with two mats are in the trailer's rear storage compartment.

5.2.10. Check wings and fins for serviceability.

5.2.11. Check wings for locking ring in closed position.

5.2.12. Inspect shearable connector adapter (umbilical wafer) for free rotation of screw, bent or broken pins, broken or torn rubber seal, or cracks. Reject umbilical for any of these defects.

5.2.13. Ensure missiles are placed in proper chock marks. (Ensure missile rocket motor forward hold area is positioned on trailer adapter.)

5.3. AIM-120 Live/Captive Carry Missile pre/post use inspection:

WARNING: Ensure arm/firing device reflects a safe condition (white s on green background) on all missiles loaded on trailer prior to transport.

NOTES:

If any discrepancies are discovered, notify munitions control, fill out an AFTO Form 350 tag and attach to the item.

The following checkpoints apply to both captive and live missiles unless otherwise designated.

5.3.1. Ensure Arm/Fire Device (AFD) shows white 'S' on green background.

5.3.2. Inspect missile body for dents and damage.

5.3.3. Ensure mating screws are not loose, damaged, missing, or corroded.

5.3.4. Ensure all markings are legible.

5.3.5. Ensure umbilical protective cap is properly installed and secured.

5.3.6. Check wings, fins, and container for serviceability and security.

5.3.7. Ensure buffer connectors are available and inspect for bent, broken or missing pins, damaged threads, and damaged insert or gasket.

NOTE: When containerized missiles are to be delivered, inspect containers for cracks, corrosion, and missing or damaged latches and handles.

5.4. Airborne Inert Missile Simulator (AIMS) pre/post use inspection:

NOTES:

If any of the conditions listed as checkpoints are found it is cause for declaring the item unserviceable and returning it for maintenance.

If any discrepancies are discovered, notify munitions control, fill out an AFTO Form 350 tag, and attach to the item. Do not move trailer unless given authorization.

5.4.1. Inspect AIMS for obvious damage to major components. (Minor dents and scratches will not preclude missile use).

5.4.2. Ensure mating screws are not missing, damaged, or loose.

5.4.3. Inspect wave guide/rear antenna for dents, looseness, or missing screws.

5.4.4. Inspect launch lugs, hooks for damage, which will prevent proper loading onto aircraft.

5.5. Local MHU-141 6x AIMS load procedures using AIM-7 trailer adapters/UMC's.

5.5.1. Inspect missiles IAW this wing instruction.

5.5.2. Trailer Preparation:

5.5.2.1. Position Trailer, chock wheel, and lock hand brake.

5.5.2.2. Open hinged deck panels and insert quick-release pins.

NOTES:

Wing and fin containers cannot be transported on same trailer.

The center hole of the UMC will be used for pinning purposes. AIM-7 trailer adapters small side and UMC curved side will be positioned towards outside of trailer. Failure to do this will result in misalignment of chocks.

5.5.2.3. Install 12 AIM-7 trailer adapters on trailer deck rails 2 and 4 in holes 5, 11, and 17 or 12 UMC's in holes 4, 11, and 18. Insert quick-release pins.

5.5.2.4. Install 10 shackles on trailer deck rails 2 and 4 in holes 1, 8, and 14 when using AIM-7 adapters. Use holes 1, 8, and 15 for UMC's. Insert quick-release pins.

5.5.3. Positioning and Tie-Down of AIMS. Position and tie-down AIMS as follows:

CAUTION: When positioning missiles on trailer, rear antennas and tunnel covers shall not rest on trailer adapters. Ensure missile is positioned on rocket motor forward hold area on forward chock.

5.5.3.1. Using appropriate handling/loading equipment, place missiles on previously installed adapters. Face missiles toward rear of trailer.

5.5.3.2. Hook tie-down straps to the tie-down rings 5L, 5R, 6R, and 6L. Place fixed hook end of straps over missiles, through shackles located in holes 8 and 15 and hook fixed end of straps to shackles located on holes 1.

5.6. Local MHU-141 and AIM-7/9/120 combined combat load procedures using M-10 adapter assembly, AIM-7 trailer adapters, and UMC's.

5.6.1. Inspect Missiles IAW this wing instruction.

5.6.2. Trailer Preparation:

5.6.2.1. Position trailer, chock wheels, and lock hand brake.

5.6.2.2. Open hinged deck panels and insert quick-release pins.

NOTES:

The center hole of the UMC will be used for pinning purposes. AIM-7 trailer adapters small side and UMC curved side will be positioned towards outside of trailer. Failure to do this will result in misalignment of chocks.

Ensure stabilizer bars on the M-10 adapter are secured in the open position before loading/unloading missiles.

5.6.2.3. Install four AIM-7 chalks on trailer deck rails 2 and 4 in holes 11. Insert quick-release pins.

5.6.2.4. Install four UMC's on trailer deck rails 2 and 3 in holes 18. Insert quick-release pins.

5.6.2.5. Install 8 shackles on trailer deck rails 1 and 3 in holes 8 and 15. Insert quick-release pins.

5.6.2.6. Install two M-10 adapter assemblies with front of adapters (beam side) on trailer deck rails 1 and 3 in holes 4 and 5, and back of adapters (foot beam) on trailer deck rails 2 and 4 in holes 4 and 5. Insert quick-release pins.

5.6.2.7. Install 8 UMC's in concave end up position on the forward and aft M-10 adapters assemblies in holes 6 and 8. Insert quick-release pins.

5.6.2.8. Install 4 UMC's on the forward and aft M-10 in holes 18. Insert quick-release pins.

5.6.2.9. Install 6 shackles on the forward and aft M-10 in holes 1 and 13. Insert quick-release pins.

CAUTION: Wing and fin containers will be loaded and unloaded from forward and AFT ends of trailer to ensure no contact is made with missiles.

NOTE: Wing and fin containers may be loaded and tied down prior to loading missiles.

5.6.2.10. Place AIM-7 wing and fin container across front deck. Hook on tie-down strap to tie-down ring 2-3; route strap through handle, over container, through other handle and hook to tie-down ring 2-6.

5.6.2.11. Place two AIM-120 wing and fin containers on top of each other across rear deck. Hook one tie-down strap to tie-down ring 5-5, route strap over containers and hook to tie-down ring 6-5. Hook another tie-down strap to tie-down ring 5-4, route strap over containers and hook to tie-down ring 6-4.

5.6.2.12. Tighten tie-down straps and secure so straps will not come loose during movement.

WARNING: Do not attempt to adjust or slide UMC with missile resting on it.

5.6.3. Positioning of AIM-7 on MHU-141.

WARNING: Ensure that the following safety/protective devices are installed: rocket motor safety clip or arming key and flag, motor fire connectors shorting plug, umbilical connector cover, and wing hub covers.

CAUTION: When positioning missile on trailer, rear antennas, and tunnel covers, shall not rest on trailer adapters. Ensure missile is positioned on rocket motor forward hold area on forward chock.

NOTE: Each missile shall be loaded at a 45-degree angle from normal umbilical up position, with umbilical canted toward middle of trailer. Ensure missile's designated hold area is resting on trailer adapter. Missiles will be oriented out of radial alignment to minimize Net Explosive Weight (N.E.W).

5.6.3.1. Load 2 AIM-7 missiles on innermost lower deck AIM-7 trailer adapters facing toward the rear of trailer.

WARNING: Do not attempt to adjust or slide UMC with missile resting on it.

5.6.4. Positioning of AIM-9 on MHU-141.

WARNING: Ensure the following safety and protective devices are installed (SR-116, Mk 36 MOD 8 and 9 Motors): arming key and flag (Mk 36 MOD 5 10 and 11) arming handle safety clip, umbilical shorting plug, IR Dome Cover, and target detector.

CAUTION

To prevent missile wings from coming in contact with one another, position wings to provide adequate clearance from other missiles and, if used, the CNU-6455 universal wing and fin container.

Do not lift missile by canards, rollerons surfaces, target detector or forward section (dome assembly) of Guidance & Control unit, and ensure canards are not touching M-10 adapter and missile is not resting on target detector.

5.6.4.1. Place two missiles on innermost positions of M-10 adapters facing toward the front of trailer.

WARNING: Do not attempt to adjust or slide UMC with missile resting on it.

5.6.5. Positioning of AIM-120 on MHU-141.

WARNING: Ensure arm/firing device reflects a safe condition (white "S" on green background) on all missiles loaded on trailer prior to transport.

CAUTION

To prevent possible damage to missiles, do not pass across or over another missile while loading or unloading.

To prevent shock damage to missile electronics during transportation, ensure the harness cover does not rest on any part of the UMC.

5.6.5.1. Load two missiles on outer lower deck UMC's so they are facing forward and the center of gravity (CG) is over center of trailer cut out. Position missile on support areas.

5.6.5.2. Load two missiles on the upper outermost positions of the M-10 adapters facing aft of trailer.

WARNING: Do not attempt to adjust or slide UMC with missile resting on it.

5.6.6. Tie-down procedures for 4 X AIM-120, 2 X AIM-7, 2 X AIM-9 loaded trailer.

CAUTION: Tie-down straps must be tightened sufficiently to keep missiles from rotating during movement.

NOTE: To provide even tension, adjustable end of tie-down strap will be alternated from side to side of trailer. Tie-down straps will be tightened by working slack from fixed end to adjustable hook end, the adjusting tension.

5.6.6.1. Hook tie-down straps to tie-down rings 5-L, 6-L, 5-R and 6-R, route strap over missiles, through shackles in holes 15, and connect hook end of strap to shackles in holes 8.

5.6.6.2. Route tie-down straps over AIM-9/120 missiles on M-10 adapter, through shackles, and attach fixed hook end of strap to ratchet end of strap. Place ratchet flat with bottom surface of M-10 adapter.

5.6.6.3. Tighten tie-down straps and secure so straps will not come loose during movement.

5.6.6.4. Install three horizontal stabilizer bars using quick-release pins between forward and aft M-10 adapter assembly. Adjust tension evenly to allow removal/installation of quick-release pins.

5.7. Blank.

5.8. Missile delivery and line return procedures.

5.8.1. Delivery:

5.8.1.1. Ensure inspection and tie-down procedures are followed prior to delivery.

5.8.1.2. Notify Munitions Control of movement.

NOTE: Flight line delivery personnel will deliver live AIM-120 missiles only to designated parking locations on the upper fighter ramp and authorized HAS (hardened aircraft shelters). Once delivered to the authorized HAS, flight line delivery personnel will ensure AIM-120's are placed inside doorway.

5.8.1.3. Deliver to designated aircraft for upload.

5.8.1.4. Annotate appropriate information on the Munitions/Equipment Movement Order worksheet.

5.8.1.5. Notify Munitions Control of delivery.

5.8.2. Line returns:

5.8.2.1. Retrieve 18 WG Form 62, **Munitions Configuration and Expenditure Document**, from weapons load crews at end of flying day.

5.8.2.2. Ensure all documentation is properly filled out (i.e. AFTO Form 350 tags, 18 WG Form 62).

5.8.2.3. Notify Munitions Control of download and movement and return to missile shop.

5.9. Local MHU-141 and AIM-9/120 combined load procedures using M-10 adapter assembly and UMC's.

5.9.1. Inspect Missiles IAW this wing instruction.

5.9.2. Trailer Preparation:

5.9.2.1. Position trailer, chock wheels, and lock hand brake.

5.9.2.2. Open hinged deck panels and insert quick-release pins.

NOTES:

The center hole of the UMC will be used for pinning purposes. The UMC curved side will be positioned towards outside of trailer. Failure to do this will result in misalignment of chocks.

Ensure stabilizer bars on the M-10 adapter are secured in the open position before loading/unloading of missiles.

5.9.2.3. Install 8 UMC's on trailer deck rails 2 and 3 using quick-release pins in holes 10 and 18.

5.9.2.4. Install 8 shackles using quick-release pins on trailer deck rails 2 and 3 in holes 7 and 14.

5.9.2.5. Install two M-10 adapter assemblies with front of adapters (beam side) on trailer deck rails 1 and 3 in holes 4 and 5, and back (foot beam) on trailer deck rails 2 and 4 in holes 4 and 5. Insert quick-release pins.

5.9.2.6. Install 8 UMC's on the forward and aft M-10 in holes 17 and 7. Insert quick-release pins.

5.9.2.7. Install 8 shackles on the forward and aft M-10 in holes 4 and 12. Insert quick-release pins.

CAUTION: Wing and fin containers will be loaded and unloaded from forward and aft ends of trailer to ensure no contact is made with missiles

NOTE: Wing and fin containers may be loaded and tied down prior to loading missiles.

5.9.2.8. Place one Universal wing and fin container across the front deck and one AIM-120 wing and fin container on top of the Universal container across the front deck. Route tie-down through deck rings 2-6, through Universal container handle, over both containers, through other handle, through deck ring 2-3, and hook tie-down to deck ring 2-2. Attach ratchet end of strap to deck ring 2-8.

5.9.2.9. Tighten tie-down strap and secure so strap will not come loose during movement.

WARNING: Do not attempt to adjust or slide UMC with missile resting on it.

5.9.3. Positioning of AIM-120 on MHU-141.

WARNING: Ensure arm/firing device reflects a safe condition (white "S" on green background) on all missiles loaded on trailer prior to transport.

CAUTION

To prevent possible damage to missiles, do not pass across or over another missile during loading or unloading of missiles.

To prevent shock damage to missile electronics during transportation, ensure the harness cover does not rest on any part of the UMC's.

When positioning missiles on trailer, TDD antenna shall not rest on trailer chocks/adapters.

5.9.3.1. Load two missiles on the upper innermost positions of the M-10 adapters facing aft of trailer.

5.9.3.2. Load four missiles on lower deck UMC's so they are facing aft and the center of gravity (CG) is over center of trailer cut out. Position missile on support areas.

WARNING: Do not attempt to adjust or slide UMC with missile resting on it.

5.9.4. Positioning of AIM-9 on MHU-141.

WARNING: Ensure the following safety and protective devices are installed (SR-116, Mk 36 MOD 8 and 9 Motors): arming key and flag (Mk 36 MOD 5, 10, and 11) arming handle safety clip, umbilical shorting plug, IR dome cover, and target detector.

CAUTION

To prevent missile wings from coming in contact with one another, position wings to provide adequate clearance from other missiles and, if used, the CNU-6455 universal wing and fin container.

Do not lift missiles by fins, rollerons surfaces, target detector or forward section (dome assembly) of Guidance & Control unit, and ensure canards are not touching M-10 adapter and missile is not resting on target detector.

5.9.4.1. Place two missiles on outermost positions of M-10 adapters facing toward the front of trailer.

WARNING: Do not attempt to adjust or slide UMC with missile resting on it.

5.9.5. Tie-down procedures for 6 X AIM-120, 2 X AIM-9 loaded trailer.

CAUTION: Tie-down straps must be tightened sufficiently to keep missiles from rotating during movement.

NOTE: To provide even tension, adjustable end of tie-down strap will be alternated from side to side of trailer. Tie-down straps will be tightened by working slack from fixed end to adjustable hook end, then adjust tension.

5.9.5.1. Install three horizontal stabilizer bars using quick-release pins between forward and aft M-10 adapter assembly. Adjust tension evenly to allow removal/installation of quick-release pins.

5.9.5.2. Hook tie-down straps to tie-down rings 5-L/5-R and, 6-L/6-R, route strap over missiles, through shackles, and attach to tie-down rings 5-R/5-L and 6-R/6-L.

5.9.5.3. Route tie-down straps over AIM-9/120 missiles on M-10 adapter, through shackles, and attach fixed hook end of strap to ratchet end of strap. Place ratchet flat with bottom surface of M-10 adapter.

5.9.5.4. Tighten tie-down straps and secure so straps will not come loose during movement.

5.10. 20MM delivery and line return procedures.

WARNING: Ammunition with electric primers can fire by percussion caused by rough handling. Electric primers are subject to initiation by static electricity or by electromagnetic energy.

CAUTION: Packaged 20mm ammunition dropped in excess of 3 feet or an unpackaged round dropped in excess of 3 feet shall be considered unserviceable until 100 percent inspection is conducted IAW Table 5-1 of T.O. 11A13-4-7.

NOTES:

Universal Ammunition Loading System (UALS) should be loaded with no more than two, 950 round belts.

20MM HEI requires a Department of Transportation (DOT) placard 1.2.

Ensure weather cover is not dragging on the bottom of the UALS. The Flightline Support element will ensure UALS capable of holding air will have at least 2,000 PSI before they are put on the ready line.

Ensure air cylinder valve is closed before transporting UALS.

5.10.1. Delivery:

5.10.1.1. Ensure UALS is serviceable IAW T.O 35D3-11-36-6WC-2.

NOTE: If pin will not seat in cogwheels on the loader head, the timing is off. Report as necessary and annotate in forms for weapons release.

5.10.1.2. Ensure UALS air cylinder gauges read at least 2,000 PSI for ammo upload/download or at least 700 PSI for just one ammo upload or download. (Cylinder valves must be open to ensure proper reading. Close valve upon completion of check.)

5.10.1.3. Ensure counters are set to zero before releasing UALS to weapons personnel.

5.10.1.4. Check loader head for damage prior to transporting to/from the flight line.

5.10.1.5. Make sure loader head is strapped securely in place and no rounds are inside.

5.10.1.6. Ensure 20MM load card is filled out correctly and completely prior to delivery.

5.10.1.7. Notify Munitions Control of movement.

5.10.1.8. Deliver to the designated aircraft for upload.

5.10.1.9. Annotate appropriate information on the Munitions/Equipment Movement Order worksheet.

5.10.1.10. Notify Munitions Control of upload.

5.10.2. Line returns:

5.10.2.1. Retrieve 18th Wing Form 62, **Munitions Configuration and Expenditure Document** from weapons load crews at end of flying day.

5.10.2.2. Ensure all documentation is properly filled out (i.e. 350 tag, load cards, 18th Wing Form 62).

NOTE: You may download 20mm into M548 cans or UALS.

5.10.2.3. When loading truck or trailer, ensure all M548 cans are in a tight configuration. Place one tie-down over cans and secure. Place another tie-down around all the cans hooking fixed end to ratchet end and tighten.

5.10.2.4. Notify Munitions Control of download and movement.

5.10.2.5. Return UALS and M548 cans containing 20MM to building 47818. (M548 cans will be secured inside of building)

5.11. MJU 7/B, MJU-10, M206 flare, and RR-170, RR-180, and RR-188 chaff delivery and line return procedures.

WARNING: when handling loaded magazine, ejection end and retainer end will be pointed away from personnel to prevent injury in the event of an inadvertent firing.

CAUTION

Personnel will not carry more than one chaff or flare mod at a time.

Packaged flares or impulse cartridges (squibs) dropped in excess of ten feet, unpackaged flares or flares with cartridges installed, dropped in excess of three feet, shall be considered unserviceable.

packaged chaff cartridges dropped in excess of ten feet, or unpackaged cartridges dropped in excess of five feet shall be considered unserviceable.

If used, ensure chaff and flare transportation module doors are closed and secured prior to movement.

NOTES:

Do not issue chaff/flare modules if any of the plastic end caps are missing.

flares require a dot class 1.3 placard.

Ensure retaining plates are properly secured.

5.11.1. Preparation of MHU-110/141 trailer for chaff/flare operations:

5.11.1.1. When using the MHU-141 trailer, secure required number of wooden chaff/flare racks to trailer using tie-down straps.

5.11.1.2. When using the MHU-110 trailer and transportation module is used, secure with two tie-downs, alternating adjustable ends.

5.11.2. Delivery:

NOTE: If modules are to be loaded into wooden chaff/flare rack or MHU-110 with rails, ensure that they are placed into M548 cans prior to loading.

5.11.2.1. Load desired number of modules into wooden racks or transportation module.

5.11.2.2. Place tie-down straps over lids of cans and secure on both sides of trailer. (wooden racks only)

5.11.2.3. Notify Munitions Control of movement.

5.11.2.4. Deliver munitions to designated aircraft for upload.

5.11.2.5. Annotate appropriate information on the Munitions/Equipment Movement Order worksheet.

5.11.2.6. Notify Munitions Control of upload.

NOTE: if any discrepancies are discovered, notify munitions control, fill out an AFTO Form 350 tag, and attach to the item. Do not move trailer unless given authorization.

5.11.3. Line returns:

5.11.3.1. Retrieve 18th Wing Form 62, **Munitions Configuration and Expenditure Document** from weapons load crews at end of flying day. Verify the amount of expended cartridges.

5.11.3.2. Inspect all chaff and flare mods for "hung" or partially expended munitions.

5.11.3.3. Follow tie-down procedures as outlined in paragraph **5.11.2.1.** and **5.11.2.2.**

5.11.3.4. Ensure all documentation is properly filled out (i.e. 350 tag, load cards, 18th Wing Form 62).

5.11.3.5. Notify Munitions Control of download and movement.

5.11.3.6. All line returns go to 20MM shop.

5.12. TMU-72 Argon bottles coolant pressure tank delivery and line return procedures.

5.12.1. Delivery:

CAUTION: To prevent damage to argon bottles, ensure direction of styrofoam compartments are alternated.

NOTE: Argon bottles must be inspected when swapping cans with fighter squadrons' weapons expediters. All damaged bottles will return to missile shop.

5.12.1.1. Before delivering argon bottles, check for the following:

5.12.1.1.1. Identification plate illegible/missing.

5.12.1.1.2. Installation of sealant tape over outlet valve.

NOTE: Cracked glass is not cause for rejection (IAW item T.O.) unless it interferes with gauge.

5.12.1.1.3. Pressure gauge glass broken/missing.

5.12.1.1.4. Retaining ring or probe guide missing, loose or damaged.

5.12.1.1.5. Preformed packing (O-ring) missing.

5.12.1.1.6. Leaking from pressure gauge.

5.12.1.1.7. Leaking from outlet valve.

5.12.1.1.7.1. Deliver required amount of bottles to weapons "6" unit.

5.12.1.1.8. Annotate argon bottle S/N on the Argon Issue/Receipt worksheet. Ensure "6" unit signs for the argon bottles.

5.12.1.2. Notify Flight Line Delivery dispatch office of can number and quantity given to "6" unit.

5.12.2. Line returns:

5.12.2.1. Retrieve argon bottles from weapons "6" unit.

5.12.2.2. Ensure all documentation is properly filled out (i.e. 350 tag, load cards, 18 WG Form 62, **Argon Issue/Receipt Worksheet**).

5.12.2.3. Notify Flight Line Delivery dispatch office of can number and quantity received from "6" unit.

5.12.2.4. Recharge serviceable bottles at building 3341 and return serviceable bottles to Flight Line Support Dispatch. Return unserviceable bottles to Missile shop for repair/disposition.

6. Form Prescribed. 18 WG Form 62, **Munitions Configuration and Expenditure Document**.

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