

**BY ORDER OF THE COMMANDER
96TH TEST WING**

96TH TEST WING INSTRUCTION 21-102



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Maintenance**

**PARKING, LAUNCH AND RECOVERY
OF EXPLOSIVE LOADED AIRCRAFT**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFD 21-1, *Air and Space Maintenance*. It applies to all activities assigned, attached, TDY or supported by the 96th Test Wing (TW). The requirements of this instruction pertaining to contractors will be included in the terms and conditions of the contract. The 33d Fighter Wing will establish guidelines for assets and areas under their control IAW established directives. This instruction establishes policies and safety criteria for launching, arming, safing and recovery of explosives-loaded aircraft, including aircraft returning with hung ordnance or gun system malfunctions and when to consider impoundment of the affected system. It outlines procedures for the safe execution of explosives operations within the 96 TW span of control. **Note:** The 1st Special Operations Maintenance Squadron (SOMXS) personnel will be responsible for any explosive emergency involving their assigned aircraft. Send comments and suggested improvements to this instruction on an AF Form 847, *Recommendation for Change of Publication*, through channels, to the 96th Wing Weapons Manager, (MXG/MXW). Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of IAW Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. Major changes include the requirements of this publication established in AFI 21-101. To include the requirement for the 33d Fighter Wing to establish guidelines for assets and areas under their control. As well as the rewording and flow to mirror established guidelines and the removal of any duplicate procedures that are already published. Finally, the updated text has changed to meet the requirement of this publication established in AFI 21-101.

1. Responsibilities.

1.1. The 96th Wing Weapons Manager will develop, in coordination with the explosive safety officer, airfield management, and Quality Assurance, this instruction to cover as a minimum: parking, launch and recovery of explosives-loaded aircraft, end of runway procedures, and to outline situations warranting impoundment of aircraft with hung ordnance, delayed release or jammed gun systems.

1.2. Personnel will be familiar with the following related publications:

1.2.1. 96 MXG OI 21-130, *Emergency Action/Procedural Checklists*

1.2.2. AFI 21-101, *Aircraft and Equipment Maintenance Management*

1.2.3. AFI 91-202, *The US Air Force Mishap Prevention Program*

1.2.4. AFMAN 91-201, *Explosives Safety Standards*

1.2.5. AFMC Sup 1 to AFI 21-101, *Aircraft and Equipment Maintenance Management*

1.2.6. EGLINAFBI 11-201, *Air Operations*

1.2.7. EGLINAFBMAN 91-202, *Designation of Explosives Laden Vehicle Routes, Combat Aircraft Parking Areas, Explosives Loading/Unloading Areas and Arm/Dearm Areas*

1.2.8. T.O. 11A-1-33, *Handling and Maintenance of Explosive-Loaded Aircraft*

2. Explanation of Terms.

2.1. Arming: The operation performed by ground personnel that transfers control of the armament or external stores system to the pilot (such as removing safety pins or clips).

2.2. Safing: The operation performed by ground personnel to remove control of the armament or external stores system from the pilot (such as installing safety pins, clips or positioning of safing switches).

2.3. End of Runway (EOR) Crew: A crew consisting of both weapons and aircraft crew chief personnel (and their service/contractor equivalents) whose responsibility is to perform systems inspection or any other actions that will change the aircraft status from “delayed flight” to “immediately prior to launch” or vice versa.

2.4. Explosives: All ammunitions, munitions fillers, demolition material, solid rocket motors, liquid propellants, cartridges, pyrotechnics, mines, bombs, grenades, warheads of all types, explosive elements of ejection and aircrew egress systems, explosives components of missile and space systems, and assembled kits and devices containing explosive materials. Explosives, explosive weight, net weight and other like terms also refer to the fillers of an

explosive item. Fillers may be explosive mixtures, propellants, pyrotechnics and chemical agents. Liquid fuels and oxidizers (JP-8, Liquid Oxygen (LOX), etc.), when not used with missiles, rockets, and other such weapons or explosives items, are excluded.

2.5. Hung Ordnance: Any item attached to the aircraft for the purpose of dropping or firing which has malfunctioned or failed to release. In addition, hung ordnance includes the following items: (1) External fuel tanks after unsuccessful jettison attempt; (2) Remaining ordnance after an inadvertent release; (3) 20/30 mm ammunition after a gun malfunction (no fire, unplanned cease fire, runaway gun, or gun unsafe indication); (4) Any stores determined to be in an unsafe condition.

2.6. Inadvertent Release: Uncommanded launch or release of a store or ordnance, or launch/release of a store/ordnance other than those selected when a launch/release command was generated (i.e.; system malfunction); does not include an unintentional release. If commanding a single release, do not consider a double bomb release as an inadvertent release if the releases occur from a practice bomb dispenser.

2.7. The Incident Commander (IC): The responding Fire Chief or designated representative.

2.8. Live Ordnance Loading Area, (LOLA): Refers to areas authorized by the 96 TW/SEW to load live ordnance and/or recover hung ordnance IAW EGLINAFBMAN 91-202.

2.9. Hot Gun Line (HGL-1/3): Refers to areas authorized by the 96 TW/SEW to load live ordnance and/or recover hung ordnance IAW EGLINAFBMAN 91-202.

3. General Safety:

3.1. Explosives Transportation: Normally, personnel with a 2W0X1 AFSC will tow and transport explosives. They are trained and qualified to do so via Squadrons Explosive Safety and Explosives Transportation training program requirements. Personnel with a 2W1X1 or other AFSCs assigned to vehicles required to tow, transport or handle explosives on the 96 TW aircraft parking ramp, the LOLA, or Hot Gun Line 1/3, must have completed Explosive Safety, Explosives Transportation, and weapons academic training. Vehicles transporting explosives to and from the designated loading areas will be restricted to designated explosives laden vehicle routes. (Refer to D-8 Map, Eglin Military Operations).

3.2. Notification requirements: The weapons expeditor will provide Maintenance Operations Center (MOC) the upload/download Start/Stop times, aircraft location, tail number, and DoD class/division of the munitions loaded/downloaded. All class/division 1.1, 1.2, 1.3 munitions operations require MOC notification, except exempted class/division 1.3 and 1.4 munitions. These include Target Practice (TP) gun ammunition, 30mm or less, class/division 1.3 internally installed defensive aircraft flares, as well as all class/division 1.4 munitions squibs, captive missiles, chaff and survival pyrotechnics.

3.2.1. MOC will notify the Fire Department when uploads/downloads have been completed for class/division 1.1, 1.2. and non-exempted 1.3 munitions. The aircraft location, tail number, and DoD class/division of the munitions uploaded will be provided.

3.3. Adverse Weather Conditions: For adverse weather conditions follow guidance in 96 MXGOI 21-130 Emergency Actions/Procedural Checklists.

4. Aircraft Launch (Arming): Arming operations will be performed in the authorized areas as specified in EGLINAFBMAN 91-202. All aircraft missions involving explosive or captive

munitions items will be inspected and armed immediately prior to launch by a qualified weapons EOR crew before take-off. The use of ground communication cords/headsets is mandatory.

4.1. The required EOR equipment will be used during arming operations, includes, but is not limited to: checklists, composite tool kits (CTKs), reflective vests, aircraft chocks, hearing protection, fire bottles, ladders and ground cords. In addition, reflective belts and light-alls are to be used during hours of darkness.

4.2. A qualified marshaller will assist the pilot in positioning the aircraft in the desired location. A qualified marshaller will be visible to the pilot at all times, will also maintain a position to observe the actions of the team members and will be identifiable by wearing a reflective vest. Lighted wands will be used during the hours of darkness. Upon completion of the Go/No-Go inspection, the weapons EOR crew will proceed/continue with arming of the aircraft.

4.3. When weapons test/project engineers/weapons contractor personnel are required to participate in EOR checks, this action will be cleared by the project engineer, 96 MXG Quality Assurance and 96 TW Chief of Safety, as appropriate and addressed prior via the Risk Management Board.

4.3.1. On request, Weapons Safety, (96 TW/SEW) will provide guidance to project personnel, supporting activities and contractor representatives to ensure maximum safety measures are taken in all operations.

4.3.2. The only personnel authorized to remove munitions safety pins/devices as part of arming operations are qualified weapons personnel. Exception: Qualified personnel may arm/safe BRU-47 arm/safe handles or install/remove MAU-12 safety pins on stations with external fuel tanks installed only when specifically authorized by the respective aircraft launch/recovery work cards or equivalent guidance.

5. Aircraft Recovery (Safing): Safing operations will be performed in the authorized areas as specified in EGLINAFBMAN 91-202. All aircraft missions involving explosive or captive munitions items will be inspected and safed immediately after recovery by a qualified weapons EOR crew. This operation requires at least two qualified 2W1X1 personnel. Weapons personnel may recover aircraft without an aircraft crew chief present, provided one team member is qualified to marshal aircraft.

5.1. The required EOR equipment will be used during arming operations, includes, but is not limited to: checklists, composite tool kits (CTKs), reflective vests, aircraft chocks, hearing protection, fire bottles, ladders and ground cords. In addition, reflective belts and light-alls are to be used during hours of darkness.

5.2. For missing fuze access panels, missile wings/fins, etc. notify MOC. MOC will in turn notify Quality Assurance (96 MXG/MXQ) FOD/DOP monitor in to initiate applicable reporting.

6. Hung Ordnance/Unsafe condition: EglinAFBI 11-201, EGLINAFBMAN 91-202 and this instruction will be complied with when aircraft return to Eglin with hung ordnance.

6.1. For 96 TW operations, MOC will follow guidance in 96 MXGOI 21-130 Emergency Actions/Procedural Checklists.

6.2. Aircraft will be directed to appropriate LOLA/HGL IAW EglinAFBI 11-201. NOTE: Ensure aircraft with forward firing munitions (including ammunition) are positioned facing the earthen berm or revetment wall IAW EGLINAFBMAN 91-202. Weapons personnel will make positive contact with IC before preceding to safe the aircraft. If the aircraft cannot be safed; shut aircraft down, terminate the active IFE and initiate the appropriate ground emergency.

6.3. Missiles/munitions with internal batteries may require a stand-off cool down period if launch was attempted potentially initiating the battery even if still securely loaded. Safe and pin the aircraft and loaded stations. Isolate the aircraft until cool down time period has elapsed as indicated by the applicable Technical Order.

6.4. Hung/Jammed Guns: Avoid towing aircraft if the gun cannot be safed. Armament Shop personnel will respond (as required) and assist weapons loading personnel during any gun malfunctions. In cases where the risk cannot be safely mitigated, weapons maintenance personnel will remove the unsafe gun for turn over to EOD.

6.4.1. 20mm Guns: If jammed systems need to be disassembled with isolation of the gun from the handling set, utilize applicable portions of the 1-F16C(*)-2-94JG-50-1: or F-15A/E-2-94JG-50-1.

6.4.2. 30mm Guns: 30mm guns that cannot be safed, personnel will follow procedure in the A-10C-2-94JG-6.

6.4.3. Other aircraft mounted guns: Systems will be rendered safe IAW applicable MDS T. O.'s.

7. Impoundments: Refer to AFI 21-101, Chapter 9 for mandatory impoundments or when the Impoundment Authority determines extraordinary measures are required to ensure the safe operating condition of a specific aircraft/equipment or to address any degradation of aircraft airworthiness or serious anomaly.

7.1. Aircraft experiencing gun system damage with FOD potential or a sudden stoppage during firing will be impounded.

8. Hangaring Explosive Loaded Aircraft: For maintenance or sheltering of explosive loaded aircraft in hangars refer to requirements in T.O. 11A-1-33.

8.1. Aircraft loaded with munitions containing of 1.4 explosives may be located in hangars 71, 102, 103, and 130 for Weapons Load Training or Ground Mounts with the prior approval of 96 TW/SEW. Munitions will not remain overnight.

DAVID A. HARRIS, Brig Gen, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

96 MXG OI 21-130, *Emergency Action/Procedural Checklists*
AFI 21-101, *Aircraft and Equipment Maintenance Management*
AFI 91-202, *The US Air Force Mishap Prevention Program*
AFMAN 33-363, *Management of Records*
AFMAN 91-201, *Explosives Safety Standards*
AFMC Sup 1 to AFI 21-101, *Aircraft and Equipment Maintenance Management*
EGLINAFBI 11-201, *Air Operations*
EGLINAFBMAN 91-202, *Designation of Explosives Laden Vehicle Routes, Combat Aircraft Parking Areas, Explosives Loading/Unloading Areas and Arm/Dearm Areas*
T.O. 11A-1-33, *Handling and Maintenance of Explosive-Loaded Aircraft*

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AFI—Air Force Instruction
AFMAN—Air Force Manual
AFMC—Air Force Materiel Command
CTK—Composite Tool Kits
EOR—End of Runway
HGL—Hot Gun Line
IC—Incident Commander
LOLA—Live Ordnance Loading Area
LOX—Liquid Oxygen
MOC—Maintenance Operations Center
MXG/MXW—Wing Weapons Manager
MXG/MXQ—Quality Assurance
MXGOI—Maintenance Group Instruction
RDS—Records Disposition Schedule
SOMXS—Special Operations Maintenance Squadron
TP—Target Practice

TW—Test Wing

TW/SEW—Weapons Safety