



**22 OCTOBER 2012**

**Maintenance**

**FOREIGN OBJECT DAMAGE (FOD) AND  
DROPPED OBJECT PREVENTION  
PROGRAMS (DOP)**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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OPR: 920 MXG/MXQ

Certified by: 920 RQW/CC  
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Pages: 7

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This instruction implements Air Force Policy Directive (AFPD) 21-1, Air and Space Maintenance and extends the guidance of Air Force Instruction (AFI) 21-101, Aircraft Equipment Maintenance Management. It provides guidance and procedures for FOD/DOP prevention on unit aircraft and governs policing of organization ramp, hangar and shop areas. It establishes the FOD Prevention Committee, designates the FOD Prevention Officer, NCO and training and documentation requirements. This instruction applies to all 920th Rescue Wing personnel whose duties require them to fly aircraft or perform aircraft/ground equipment maintenance. Coordination/approval at the 920 RQW will be accomplished by an electronically signed AF Form 673, *Air Force Publication/Form Action Request* (AF Form 673). Do not use e-mails for final coordination/approval, but all e-mails will be maintained as part of the record set. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through Major Command (MAJCOM) publications/forms managers. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afrims/afrims/afrims/rims.cfm>

**1. FOD Prevention Committee:**

1.1. The following positions are appointed members of the Wing FOD Prevention Committee:

- 1.2. Chairperson/FOD Prevention Officer – RQW/CV or MXG/CC
- 1.3. FOD Prevention NCO
- 1.4. Wing Safety Officer/NCO
- 1.5. Operations Group – OG/CC
- 1.6. Maintenance Squadron - AMXS/CC and MXS/CC
- 1.7. Maintenance Quality Assurance
- 1.8. Security Forces

## **2. Responsibilities of the FOD Prevention Officer/NCO:**

- 2.1. Ensures the provisions of the FOD Prevention Program are carried out throughout the Unit according to AFI 21-101.
- 2.2. Performs a weekly FOD inspection. Inspections can be accomplished in conjunction with other required inspections.
- 2.3. Attends base FOD Prevention Committee meetings as unit representative and performs other FOD prevention coordination as required on behalf of the unit.
- 2.4. Assists and offers the cooperation of the unit to the host base on FOD prevention
- 2.5. Coordinates as required to ensure a training program in FOD philosophy and procedures is established. Attendance by all wing personnel is required initially and is documented in accordance with unit procedures.

## **3. FOD/DOP Training:**

- 3.1. The Aircraft Maintenance Squadron Commander/Maintenance Squadron Commander will ensure maintenance personnel involved in on-equipment maintenance receive FOD/DOP training. The wing FOD monitor recommends changes to FOD prevention training.
- 3.2. Training will be documented in Information Maintenance Data System (IMDS) under course code 012014 FOD and 032034 DOP. Training is available on the local 920th Rescue Wing S: Drive at S:\Quality Training.
- 3.3. Initial FOD/DOP Awareness Training is an agenda item at the wing newcomers briefings. It stresses the responsibilities to all unit members toward the protection of Air Force assets. Ongoing training will be conducted through unit FOD walks, email and bulletin boards notices to ensure all personnel maintain an effective overall awareness of FOD/DOP issues.

## **4. FOD Prevention:**

- 4.1. Aircrew will assure the elimination FOD in cockpits and flight decks prior to and after each flight. Aircrew must also account for all equipment and personnel items after each flight and ensure any unaccounted for items are documented on the AFTO Form 781A.
- 4.2. The restricted area badge armband is recommended for personnel on the flightline. Restricted area badges issued with imbedded metal clips are authorized so long as the badge and clip are both secured with a subdued nylon/cotton cord. Restricted area badges with

imbedded metal clips must not be used with the plastic armband. When worn around the neck, cords will have a break-away feature available at 920MXG/MXATR upon request.

4.3. Authorized Hats: sun boonie with breakaway chin lanyard in place under the chin when worn to prevent possibility of loss in high winds. In cold weather only (night watchmen cap).

4.4. Hats will not be worn within 25 feet of running engines.

4.5. Hats will be marked with: first initial, last name, work center and man number if applicable.

4.6. All vehicles operated regularly on the flightline will be equipped with a FOD container and tire pick. Containers will be emptied at the end of each shift or when full and secured to the vehicle. The word FOD will be marked on the container with contrasting letters two inches or larger. Tire picks will be installed on vehicle key ring, available at 920th MXG/MXATR.

4.7. Dispatchable CTK's will incorporate a FOD container; it may be attached to CTK if required. The FOD container will be listing on CTK MIL.

4.8. Maintenance personnel will inspect aircraft parking spots for foreign objects prior to an aircraft blocking in, and after aircraft taxi.

4.9. Personnel Drinking Containers: Are authorized for use. Container will have a tethered lid and be marked with (First Initial, Last Name, Unit# and Man# if applicable). Personnel drinking containers will be secured when not in use.

4.9.1. Drinking Coolers: Are authorized. Coolers will be marked with (Unit # & Work Center) and drinking coolers will be secured when not in use.

4.10. Screw bags or zip lock type bags will be used to control work order residue on or around aircraft, uninstalled engines, and AGE. Bags will be secured in a readily visible location and marked with aircraft tail number and number of items.

4.11. Personal tools not controlled through CTK procedures are NOT authorized on the flightline, or in any maintenance area. (e.g., Mini-Mag type flashlights, Leatherman type multi-tools, buck knives). Mark and control tools or equipment that a work center assigns/issues to an individual IAW MAJCOM supplement. Personally purchased tools are not authorized. Aircrew are responsible for accounting for personal survival equipment.

4.12. Daily FOD prevention walks will normally be conducted on Monday, Wednesday and Saturdays' of the UTAs by all available 920MXG personnel. Parking spots with aircraft will be inspected by crew chiefs on Tuesday, Thursday, Friday and Sunday of the UTAs.

## **5. FOD Reporting:**

5.1. When a suspected or confirmed FOD is discovered, the MOC will be immediately notified. The event will be documented in the aircraft AFTO Form 781A. Each FOD mishap will be investigated by Wing FOD monitor to ensure corrective actions are both appropriate and sound. Wing FOD monitor and Wing safety office will jointly investigate FOD mishaps, which meet the reportable criteria requirements of AFI 91-204. All aircraft sustaining FOD damage from an unknown cause will be considered for impoundment. If internal engine FOD is confirmed, the engine will be impounded. The MOC will run Report of FOD check sheet. The unit FOD monitor will report FOD incident to 10AF FOD manager by

telephone/e-mail not later than the next duty day after the incident occurs. The NAF FOD manager assigns a FOD control number and the unit FOD monitor prepares AFRC Form 42, Foreign Object Damage (FOD) Mishap Investigation Report. The unit FOD monitor e-mails report to NAF FOD manager for processing within 30 days of incident.

5.2. The FOD monitor will review FOD mishaps, analyze reports and other data for trends requiring management action. The FOD monitor will submit maintenance crosstell reports by message to HQ AFRC/A4M, 10AF/A4M, and all units with like MDS aircraft for those incidents with fleet-wide FOD potential.

## **6. Dropped Object Prevention (DOP):**

6.1. The Dropped Object Prevention Program (DOPP) is designed to increase individual awareness of dropped object incidents and provide formal reporting procedures. All personnel assigned to the 920 RQW with primary responsibilities on the aircraft will participate in this program.

6.2. A dropped object is any aircraft component, cowling, door, panel, part, surface or other item lost or inadvertently released during aircrew operations, from the beginning of engine start through flight and to engine shutdown at recovery. Inadvertently released munitions or munitions released in excess of the quantity selected by the aircrew, or by multiple release, are not considered dropped objects and will be reported IAW AFI 91-204, Safety Investigations and Reports.

6.3. Effective prevention begins with supervisors ensuring maintenance personnel are properly trained in their Air Force Specialty Code (AFSC). Additionally, all maintenance personnel must be knowledgeable of command and unit requirements to prevent dropped objects from occurring.

6.4. Prevention of dropped objects from aircraft is a combined responsibility between operators and maintainers.

6.5. Dropped object prevention inspections will be accomplished before the first flight of the day or prior to flight after completion of repairs, routine maintenance or servicing IAW LWC-920MXG-10-4 & LWC-920MXG-10-5.

6.6. Documentation Required: 781A/Red-X **NOTE:** AFTO Form 781A documentation is not required if the inspection is conducted in conjunction with a -6 inspection. Documentation is required prior to flight after completion of repairs, routine maintenance or servicing. Discrepancy: DOPP inspection required prior to flight IAW AFI 21-101, AFRC SUP-1 Corrective Acton: DOPP INSPECTION C/W IAW LWC-920-10-XX Only INSP BY Signature block required

## **7. DOP Responsibilities:**

7.1. The Operations Group Commander will ensure flight crews support and participate in the program by placing special emphasis on aircraft panels, surfaces, and secondary structures during their inspections and accountability of aircrew equipment used in the performance of crew duties and reporting any suspected dropped objects during sortie debrief.

7.2. The Maintenance Group Commander will ensure maintenance personnel report dropped objects accurately and timely upon discovery. Ensure maintenance actions and documentation requirements are complied with in accordance with this instruction.

7.3. DOP monitor will:

7.3.1. Review and update the DOPP training program annually.

7.3.2. Investigate DOPP incidents with assistance from Wing Safety and other applicable functional areas as needed.

7.3.3. Complete the Dropped Object report, forward to HQ AFRC/A4M and 10AF/A4M and brief at the wing quarterly FOD meeting.

## **8. DOP Investigation:**

8.1. Each dropped object must be thoroughly investigated by the Quality Assurance and Wing Safety offices as soon as possible after the loss is discovered and reported. Every effort must be taken to determine the precise cause of the loss so permanent corrective action can be taken.

8.2. Where material failure or design deficiency is the cause, ensure a Deficiency Report is submitted according to T.O. 00-35D-54, USAF Deficiency Reporting and Investigating System, with information copies sent to HQ AFRC/A4M and 10 AF/A4M.

8.3. Dropped objects resulting from maintenance malpractice are referred to the Maintenance Group Commander for action.

8.4. Dropped objects resulting from aircrew malpractice are referred to Operations Group Commander. Analyze incidents for unit trends and ensure corrective actions are valid and completed.

## **9. DOP Reporting:**

9.1. Aircrews and maintenance personnel discovering a dropped object make appropriate aircraft 781A entries.

9.2. Aircrews debrief the loss to MOC immediately after landing. Off station drop object events will be reported by aircrew/maintenance personnel through local wing/center DOP monitor for investigational proposes. The off station wing/center DOP monitor will provide the home station DOP monitor with sufficient data to generate a report for trending and tracking purposes IAW AFI21-101 AFRC SUP I, 14.11.1.5.3.

9.3. The production superintendent, expeditor or shift supervisor will notify the MOC immediately upon discovery of the occurrence. Provide the aircraft tail number and a brief description of the incident. Immediately after notification, MOC will initiate the Dropped Object Investigation Worksheet. MOC and the aircrew being debriefed will complete known items on worksheet and forward to the Quality Assurance office.

9.4. The MOC will immediately notify Quality Assurance, the DOP monitor, Maintenance Squadron and Group Commanders, Operations Squadron, Group Commanders, Wing Commander and Wing Vice Commander.

9.5. The DOP monitor will process initial dropped object report to the MAJCOM via telephone, e-mail, or message. If it involves casualties, property damage, or if adverse

publicity is likely, report IAW AFMAN 10-206, Operational Reporting. The wing DOP monitor notifies the base/wing safety office of all dropped objects. A follow-up formal report will be made to the MAJCOM within 3 duty days after the occurrence. The DOP monitor will ensure their applicable NAF/A4M office is courtesy copied/called when reporting a DOPP incident to HQ AFRC.

#### **10. Dropped Object Prevention Program Meeting:**

10.1. The quarterly DOPP meeting will be combined with the quarterly Foreign Object Damage Prevention Committee Meeting.

#### **11. Bird Strikes:**

11.1. When a suspected or confirmed bird strike is discovered, AFTO Form 781A, Maintenance Discrepancy and Work Document will be documented with a Red – (dash) symbol. Aircraft will be inspected for damage, to include engine intake inspections. Corrective action for this inspection will be cleared IAW 920 RQWI 21-103, 11.1, if engines are found to have ingested a bird, a full compressor inspection will be performed & documented IAW applicable technical data.

11.2. Any damage found to aircraft or engines will be documented independently with proper symbol and reference back to original bird strike discrepancy by page & item number. The FOD monitor will investigate all bird strikes and enter report into QANTTAS database under Events (FOD/Bird Strike). Findings will also be report via email to Wing and Squadron leaders for informational purposes.

JEFFREY L. MACRANDER, Col, USAFR  
Commander

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

AFPD 21-1, *Air and Space Maintenance*

AFI 21-101, *Aircraft Equipment Maintenance Management*

AFI 91-204, *Safety Investigations and Reports*

TO 00-35D-54, *USAF Deficiency Reporting and Investigating System*

***Adopted Forms***

AFRC Form 42, *Foreign Object Damage (FOD) Mishap Investigation Checksheet*

AFTO Form 781A, *Maintenance Discrepancy and Work Document*

***Abbreviations and Acronyms***

**AFPD**—Air Force Policy Directive

**AFI**—Air Force Instruction

**AFSC**—Air Force Specialty Code

**CTK**—Consolidated Tool Kit

**DOP**—Dropped Object Prevention

**DOPP**—Dropped Object Prevention Program

**FOD**—Foreign Object Damage

**IAW**—in accordance with

**IMDS**—Information Maintenance Data System

**MIL**—Master Inventory List

**MOC**—Maintenance Operations Center

**NCO**—Noncommissioned Office

**OPR**—Office of Primary Responsibility

**T.O.**—Technical Order