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Maintenance

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

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Directive (AFPD) 21-1, *Air and Space Maintenance*. It establishes procedures not directly covered by Air Force Instruction (AFI) 21-101, *Aerospace Equipment Maintenance Management*. It further clarifies Air Combat Command Instruction (ACCI) 21-101, Chap 23/BWSUP 1, *Objective Wing Aircraft Maintenance*. This instruction applies to all 442d Fighter Wing (442 FW) personnel.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

This revision changes series number and title and updates language, format and directives.

1. Responsibilities: The 442 FW Vice Commander is the overall FOD prevention program manager. Unit commanders and supervisors will ensure personnel actively participate in the FOD program and walks.

2. Procedures:

2.1. FOD walks will be coordinated by the maintenance group (MXG) commander. They will be accomplished during the monthly wing unit training assembly (UTA). FOD walks will include areas in and around hangars/buildings 1117, 1118, 91, 48, and east across the flightline and taxiway. This also includes the engine run-up area. Available wing personnel from the identified areas will participate in the FOD walks. Crew chiefs and expeditors are responsible for a daily FOD check around aircraft parking spots.

2.2. Vehicle tires will be inspected for FOD prior to driving on the flightline at specified points. Tires will also be inspected after driving on unpaved roads, before entering the flightline.

- 2.3. The flightline and maintenance hangars are designated no hat areas; however, hats are optional due to climate and safety. Hats will not be worn within the danger area of an operating engine.
- 2.4. At least one flightline vehicle will have a magnetic bar installed to help eliminate FOD. Magnetic bars may be removed during inclement weather and reinstalled when weather conditions improve. If a sweeper is required, call maintenance operation center (MOC) to dispatch the sweeper to the location.
- 2.5. The restricted area badge armband is recommended for personnel on the flightline. If the break away neck lanyard is used, (Eccessories) secure the restricted area badge by passing the string loop through the slot in the badge and then loop clip back through the string loop. If a cord is used, ensure it is attached through the slot on the badge. Do not attach any metal FOD on the lanyard.
- 2.6. Flight crews will make final FOD checks of the interior prior to exiting the aircraft. When practical, personal items should be marked with the individual's name, ensuring accountability and expeditious return of equipment.
- 2.7. All personnel will receive FOD/DOP training annually. This training will be entered into Core Automated Maintenance System (CAMS) under course code 109 (Block Refresher).
- 2.8. Random spot checks for FOD of selected areas will be documented and routed from the quality assurance (QA) Qantas program.
- 2.9. When a FOD/birdstrike incident occurs, MOC will run Emergency Action Checksheets 18 for FOD and 9 for bird strikes. The unit FOD monitor will complete the worksheet (**Attachment 2**) and forward the Air Force Reserve Command Information Management Tool (AFRC IMT) 42, **Foreign Object Damage (FOD) Mishap Investigation Checksheet**, to Headquarters Air Force Reserve Command (HQ AFRC)/LGM, 10th Air Force (10 AF)/LGM and the base FOD/bird aircraft strike hazard (BASH) monitor.
- 2.10. When FOD in the cockpit occurs, every effort to locate the FOD will be made and follow established procedures in AFI 21-101 and 442 FWI 21-302, *Lost/Missing Object Procedures*.
- 2.11. The unit FOD/DOP monitor or representative will attend the quarterly FOD meeting with the host FOD Prevention Committee.
- 2.12. When a dropped object incident occurs, MOC will run Emergency Action Checksheet 4 for aircraft dropped object. Aircrew and maintenance personnel discovering a dropped object will make the appropriate Air Force Technical Order (AFTO) IMT 781A, **Maintenance Discrepancy and Work Document**, entries. Aircrews will debrief the loss to maintenance immediately after landing.
- 2.13. QA will report all initial dropped objects by telephone and forward a message (**Attachment 3**) within three working days to HQ AFRC/LGM and 10 AF/LGM, in accordance with (IAW) AFI 21-101, unless the dropped object is reportable IAW AFI 91-204, *Safety Investigations and Reports*.
- 2.14. If material failure or design deficiency is the cause of a dropped object, a deficiency report will be submitted with information copies sent to HQ AFRC/LGM and 10 AF/LGM. Dropped objects resulting from maintenance malpractice shall be referred to the appropriate MXG commander.

2.15. Analysis and QA will analyze dropped object incidents for unit trends and ensure corrective actions are valid and completed.

PATRICK A. CORD, Colonel, USAFR
Commander

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

ACCI 21-101, Chap 23/BWSUP, *Maintenance Management of Aircraft*

AFPD 21-1, *Air and Space Maintenance*

AFI 21-101, *Aerospace Equipment Maintenance Management*

AFI 91-204, *Safety Investigations and Reports*

442 FWI 21-302, *Lost/Missing Object Procedures*

Abbreviations and Acronyms

ACCI—Air Combat Command instruction

AFPD—Air Force policy directive

AFI—Air Force instruction

AFRC—Air Force Reserve Command

AFTO—Air Force technical order

BASH—bird aircraft strike hazard

DOP—dropped object program

CAMS—Core Automated Maintenance System

FOD—foreign object damage

HSC—home station check

IAW—in accordance with

IMT—information management tool

ISO—isochronicle inspection

MDS—maintenance data system

MXG—maintenance group

MOC—maintenance operation center

NCO—noncommissioned officer

PQDR—product quality deficiency report

QA—quality assurance

T.O.—technical order

UTA—unit training assembly

Attachment 2

FOREIGN OBJECT DAMAGE (FOD) MISHAP INVESTIGATION WORKSHEET

A2.1. FOD Control Number:

A2.2. Date:

A2.3. MDS:

A2.4. Aircraft Tail Number:

A2.5. Owning Organization/Base:

A2.6. Pilot:

A2.7. Who/When Discovered:

A2.8. Description of FOD Incident:

A2.9. Last Maintenance/Service/Inspection Performed in the Area:

A2.10. Engine Position Number: Engine Model Number:

A2.11. Engine Serial Number: Engine Total Hours:

A2.12. Estimated Cost (Parts and Labor)

A2.13. Investigation Results:

A2.14. Actions Taken to Prevent Recurrence:

A2.15. Was FOD Preventable or Non-Preventable IAW AFI 21-101?

A2.16. PQDR Action Required?

A2.17. Wing Safety Official:

A2.18. Unit FOD Monitor:

A2.19. Quality Assurance Inspector:

A2.20. Reviews & Filed by Wing FOD Prevention NCO:

Attachment 3**DROPPED OBJECT WORKSHEET/MESSAGE FORMAT**

1. DOP program report number (unit, year, and month, followed by sequence number—example, 301FW-010501).
2. MDS:
3. Type mission and mission profile.
4. Aircraft tail number.
5. Owning organization and base.
6. Origin of sortie.
7. Date of incident and discovery location (if different than origin of sortie).
8. Geographical location of object, if known.
9. Item, noun, and description (use information from the applicable aircraft-4 series T.O.s).
10. T.O., figure, and index.
11. Part number.
12. Correct work unit code (full five-digit).
13. Date of last Phase, HSC and ISO inspection.
14. Last maintenance performed in the area and date.
15. Investigation findings (cause).
16. Cost in dollars to repair or replace as appropriate and cost in man-hours to repair.
17. Actions to prevent recurrence.
18. Deficiency reports submitted?
19. Unit point of contact information.
20. Other pertinent information.