

**BY ORDER OF THE COMMANDER
433D AIRLIFT WING**

433D AIRLIFT WING INSTRUCTION 21-103

9 MAY 2013

Maintenance

**FOREIGN OBJECT DAMAGE (FOD)
CONTROL**



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*. This instruction extends the guidance of Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management*, and AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*. It establishes procedures and precautionary measures for ensuring effective prevention of Foreign Object Damage (FOD) to assigned aircraft and equipment. This instruction applies to all 433 AW units working in, on, around, or traveling through areas near aircraft, Aircraft Ground Equipment (AGE), engines, loading and unloading cargo or components in the 433D Airlift Wing. Ensure that all records created as a result of processed prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records* and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Form 847 from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

This document has been formatted to change group and wing commanders, and to update publication format.

1. Responsibilities.

1.1. FOD Prevention Program Manager (Vice Wing Commander) will ensure:

1.1.1. Reviews quarterly all FOD mishap reports and identifies areas requiring management action.

1.1.2. Ensures applicable unit commanders provide FOD training for all aircraft maintenance personnel involved in on/off-equipment maintenance.

1.2. FOD Monitor, Quality Assurance (QA):

1.2.1. Briefs Vice Wing Commander on the FOD program data quarterly.

1.3. Commanders / Supervisors.

1.3.1. Will ensure each individual completes initial FOD training and refresher training every two years thereafter. Supervisors will stress the importance of the FOD prevention program to eliminate foreign object hazards while personnel perform assigned duties.

1.3.2. Primary and Alternate FOD Prevention monitors will be appointed by their squadron commander. The name, grade, office symbol and duty phone of these committee representatives will be forwarded to the 433D Maintenance Group Quality Assurance (MXGQ), FOD Prevention Monitor in the form of an appointment letter and updated yearly, or as necessary. Squadron FOD monitors will attend the FOD Prevention Committee meetings and consolidate FOD monthly data and forward it to the 433 MXGQ within 5 working days from the first of each month. Data will include tire changes due to FOD and lost tools.

2. Preventing Foreign Object Damage.

2.1. There are many causes of FOD. Two major contributors are poor housekeeping and poor work habits such as not accounting for hardware, safety wire, tools, etc., during operations and maintenance. All loose objects, regardless of their origin, can cause catastrophic and costly damage to an aircraft, major end item or loss of life.

2.2. FOD Prevention Practices. FOD awareness and prevention is everyone's responsibility. Some FOD prevention requirements are listed below.

2.2.1. Prior to aircrew show, maintenance personnel will perform a flight deck inspection for Foreign Objects (FO). Aircrew members prior to flight will ensure that the flight deck is FO free.

2.2.2. Plug or cap all openings, ports, lines, hoses, electrical connections, and ducts on aircraft, engines, support equipment, AGE, trainers or components to prevent FOD from entering these systems. All necessary caps, plugs, covers etc. will be made readily available by management, for use by aircraft maintenance personnel in their immediate work area for the prevention of foreign object damage.

2.2.3. All aircraft parking spots will be policed for foreign objects and debris prior to aircraft block-in and after aircraft block-out. Prior to towing an aircraft from any hangar or parking spot, the aircraft tow supervisor is responsible for ensuring the tow path is clear of foreign objects or debris and the hangar or parking spot being towed to is also clear of foreign objects.

2.2.4. For protection from weather extremes, 2 types hats are authorized for flightline wear. The military issue cold weather knit cap and the military issue ABU hot weather hat (boonie hat). Personnel wearing these hats will remain outside of the aircraft wingtip span and no closer than the nose of the aircraft if engines are running.

2.2.5. Restricted area badges will be removed when performing intake/inlet/exhaust inspections if personnel physically enter these areas. Restricted area badges will be secured with a subdued nylon/cotton cord or plastic armband. Remove/Stow restricted area badges worn on a lanyard within 25 feet of an aircraft with engine(s) operating. Do not attach additional items to line badge or line badge lanyard/holder.

2.2.6. Maintain cleanliness in maintenance and manufacturing areas at all times. Keep areas free of FO. A thorough cleanup, FO inspection and toolbox inventory will be accomplished upon beginning and completion of each task and at the beginning and end of the shift.

2.2.7. Report damaged pavement in and around aircraft traffic and taxi/towing/runup/parking areas to the FOD Monitor immediately upon discovery.

3. FOD Walks.

3.1. Weekly Wing FOD walks will be performed every Monday of the month on or about 0800 hours and weather permitting. The wing FOD manager will make the determination to reschedule in the event of inclement weather. If Monday should fall on a holiday, the walk will be conducted on the following Monday. During Unit Training Assembly (UTA)'s the FOD walk will be conducted on that Sunday in lieu of the following Monday. Notification will be made through the Maintenance Operation Center (MOC) to all those participating no later than 0730 the morning of the walk.

3.1.1. Individuals will report to spot #1 for a safety briefing from the FOD walk supervisor. FOD / trash bags and hearing protection will be provided at that time by the FOD walk supervisor. Group will then proceed to aircraft parking spot one and proceed towards spot thirteen (walking within the red boundary lines side by side for maximum area coverage). NOTE: Supervisor for the walk will be provided by Aircraft Maintenance Squadron (AMXS) and Maintenance Squadron (MXS), duties to be shared by both squadrons.

3.2. Ensure unit commanders actively support the FOD Prevention Program.

3.3. Weekly work center FOD walks will be performed on a day selected by the flight chief /area supervisor.

3.4. Runway and taxi way FOD removal is accomplished by the Host FOD program as stated in Joint Base San Antonio Instruction (JBSANANTONIOI) 21-103, *Foreign Object Damage (FOD), Dropped Object Prevention (DOP) and Tools and Equipment Control Programs*.

4. FOD Prevention Committee meetings.

4.1. The committee will meet quarterly or as directed by the Vice Wing Commander (CV). Unless otherwise stated, the meetings will take place in the 433 AW Command section conference room, building 909. Specific dates and times will be announced in advance.

4.2. Minimum attendee representation is group commanders, director(s), maintenance unit commanders, squadron FOD monitors or their alternates and Safety. The Wing CV or designated representative will chair the meeting.

5. FOD Investigation and Reporting.

5.1. FOD Investigation.

5.1.1. Each case of FOD will be investigated to determine the cause. The investigations will use the expertise in maintenance, safety, and other staff agencies as needed. If the unit determines the FOD is attributable to personnel error, it will be included in the FOD rate.

5.2. FOD Incident Reporting.

5.2.1. Known or suspected FOD in an aircraft, support equipment, engine or component will immediately render it unsafe for use. If internal engine FOD is confirmed, the engine must be impounded. A complete search for the FO causing the damage will be conducted. If nicked engine blades are found, including during a test cell run, the cause will be investigated regardless of the extent of damage.

5.2.2. All FOD incidents or mishaps will be reported on Air Force Reserve Command (AFRC) Form 42, *Foreign Object Damage (FOD) Mishap Investigation Checksheet*, and submitted to QA and the Engine Manager. All engine fan damage including minor nicks and blemishes which require blending will also be reported on an Engine Fan Blade Blending Worksheet and submitted to Electro Magnetic Acoustic Transducer (EMAT). If impoundment is required, 433D Maintenance Group Office Instruction (MXG OI) 21-118, *Aircraft Impoundment Procedures* will be used. When calculating the cost, include replacement/exchange parts and man hour costs (field level), or the total depot overhaul cost, according to Air Force Instruction (AFI) 91-204, *Safety Investigation and Reports*.

JEFFERY T. PENNINGTON, COLONEL, USAFR
Commander, 433D Airlift Wing

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

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 26 July 2010

AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, 15 June 2012

AFI 91-204, *Safety Investigations and Reports*, 24 September 2008

AFMAN 33-363, *Management of Records*, 1 March 2008

AFPD 21-1, *Air and Space Maintenance*, 25 February 2003

JBSANANTONIOI 21-103, *Lackland AFB Foreign Object Damage (FOD), Dropped Object Prevention (DOP), and Tools and Equipment Control Programs*, 18 November 2011

MXG OI 21-118, *Aircraft Impoundment Procedures*

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

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

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFOSHTD—Aircraft Flight Line Ground Operations and Activities

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AGE—Aerospace Ground Equipment

AMXS—Aircraft Maintenance Squadron

AW—Airlift Wing

BLDG—Building

CV—Vice Wing Commander

DOP—Dropped Object Prevention

EMAT—Electro Magnetic Acoustic Transducer

FO—Foreign Object

FOD—Foreign Object Damage

JBSANANTONIOI—Joint Base San Antonio Instruction

MOC—Mission Operation Center

MXG—Maintenance Group

MXG OI—Maintenance Group Office Instruction

MXGQ—Maintenance Group Quality Assurance

MXS—Maintenance Squadron

OPR—Office of Primary Resource

QA—Quality Assurance

RDS—Records Disposition Schedule

UTA—Unit Training Assembly