

**BY ORDER OF THE COMMANDER
436TH AIRLIFT WING**

**DOVER AIR FORCE BASE
INSTRUCTION 21-105**

9 APRIL 2014

Maintenance

**FOREIGN OBJECT DAMAGE (FOD)
PREVENTION PROGRAM**



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(Colonel Charles S. Nesemeier)

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Dover Air Force Base Instruction (DAFBI) 21-105, *Foreign Object Damage (FOD) Prevention Program*: This instruction outlines the procedures and responsibilities for the Foreign Object Damage (FOD) prevention program. Compliance with this publication is mandatory for all Dover AFB agencies traveling through, working in on or around, aircraft, engines, munitions and Aerospace Ground Equipment (AGE). Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). 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 847s from the field through the appropriate functional's chain of command.

SUMMARY OF CHANGES

This instruction has been substantially revised and must be completely reviewed. The major changes include: Paragraphs 2.1 changed to reflect good housekeeping practices, 2.2 proper use of FOD containers and how they must be secured to flight line vehicles, 2.3 guidance on when FOD walks will be conducted, 2.4 include Air Crew responsibilities, 2.5 ensuring flight station is free from FOD prior to crew arrival, 2.6 encompasses accounting for loose clothing and personal items, 2.7 information and how to report unsatisfactory airfield conditions, 2.12 ensuring all AGE is free from FOD upon work completion, 2.13 instruction for entering engine inlets, and

2.14 FOD responsibilities. In addition, C-5M and C-17 blade blending worksheets has been added to the Instruction.

1. FOD PREVENTION COMMITTEE/SQUADRON FOD PREVENTION MONITORS:

1.1. The FOD Prevention Committee will meet quarterly, or as directed by the 436 AW/CV. The committee meetings will take place in the 436 AW headquarters conference room in building 201. The specific dates and times of the committee meetings will be announced in advance. The primary and alternate FOD Prevention Monitors will be appointed by their squadron commanders (Name, grade, office symbol and duty extension of these committee representatives will be forwarded to the 436 MXG/MXQA, 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, consolidate monthly FOD data and forward it to the 436 MXG/MXQA within five working days from the first of each month. The data will include tire changes due to FOD and lost tools.

2. FOD PREVENTION:

2.1. Personnel performing any type of activity, support function, operation or maintenance action in, on, or around aircraft, munitions, AGE, CTK/support equipment, Aerial Port Squadron or components thereof shall practice good housekeeping and ensure all trash, loose hardware, tools, and other foreign objects are removed when the activity is complete. Parts bags will be utilized for all loose hardware. All serviceable work order residue will be returned to supply or the unit's bench stock IAW AFI 21-101 AMCSUP- 1.

2.2. All vehicles frequenting the flight line will be equipped with FOD containers and will be emptied at the end of each shift. FOD containers will be stenciled with the word "FOD" in contrasting letters and will be two inches or larger, have a lid, and be secured to the vehicle. Staff vehicles and vehicles that do not transit the flight line on a regular basis are not required to be equipped with FOD containers.

2.3. Police all aircraft parking spots (Attachment 3) for foreign objects and debris prior to aircraft block-in and after aircraft block-out. Prior to towing an aircraft from a hangar or a parking spot, the aircraft tow supervisor will ensure that the tow path is clear of foreign objects/debris and the hangar/parking spot being towed to is also clear of foreign objects.

2.4. Aircrew and load crew members must account for all equipment and personal items including any government issued items after each loading/flight operation. Any items lost must be annotated in the aircraft Air Force Technical Order (AFTO) Form 781A, Maintenance Discrepancy and Work.

2.5. Prior to flight crew arrival, maintenance personnel will ensure the flight deck is clean of all maintenance debris and foreign objects.

2.6. All personnel working on the aircraft, engine, AGE, munitions, loading and unloading of cargo or components in an industrial maintenance area will ensure all loose items of clothing (scarves, baseball caps, etc) are accounted for. Hairpieces, metal hair fasteners, earrings or jewelry that may fall off without notice are not authorized on the flight line. Personal items such as cell phones, beepers or other electronic devices will be the responsibility of the individual and will be accounted for.

2.7. Deteriorating airfield surfaces will be reported to the airfield manager. The airfield manager can be reached at Airfield Management Operations, DSN 445-4183.

2.8. Tool accountability checks will be performed at the end of each maintenance activity and prior to any aircraft engine start, ground maintenance run and aircraft launch.

2.9. The flight line is a no hat area for military personnel. However, "Civilian employees are authorized to wear hats on the flight line when exposure to the sun presents a health concern."(DAFBI 13-202 Dated 6 Jan 2007 Par. 5.9.2.1)

2.10. Flight line badges and passes must be worn on the outer most article of clothing, between the waist and neck area in full view when in restricted areas. Badges and passes will be removed to enter aircraft engine inlets and exhausts but must be displayed properly after the task.

2.11. Squadrons that manage or use aircraft hangars/flight line facilities must keep the facilities free of foreign objects, and police up the area upon exit and completion of maintenance.

2.12. All oil cans, absorbent pads, and any other type of foreign objects will not be left on the aircraft or AGE.

2.13. All maintenance and/or inspection activities requiring personnel to enter an engine inlet will require the use of protective rubber matting and pocketless coveralls. In addition the clothing pockets must be emptied and any jewelry will be removed before putting on the coveralls. The coveralls will be worn on the outer most layer of clothing. The coveralls will be worn completely and not tied off at the waist.

2.14. FOD prevention at DAFB is everyone's responsibility.

3. FOD INVESTIGATIONS AND REPORTING:

3.1. When FOD has occurred or is suspected on an aircraft, aircraft tires, or aircraft engine, the following procedures will apply: The affected maintenance squadron will contact 436/512 MXG/MXQA at DSN 445-5379 and the Maintenance Operations Center (MOC), DSN 445-5436, within one hour of discovery. A job control number will be obtained from MOC and the discrepancy will be entered into the aircraft forms. The 436/512 MXG/MXQA section will initiate the FOD incident/investigation and prepare a detailed report and send it to the 436/512 MXG/CC for further disposition. Squadrons may be tasked to provide assistance to 436/512 MXG/MXQA during investigations.

3.2. When Jet Engine Blade Blending is required: The Wing FOD Monitor must be notified when FOD induced blade blending requirements are identified and performed, other than for minor sand nicks or scratches. After an engine blade blend has been accomplished the technician will fill out the digital Blade Blending/FOD Damage worksheet (see attachment 4 and 5 for C5-M aircraft and 6 and 7 for C-17 aircraft) or applicable form. The form will contain the following information: engine serial number, stage number, number of blades blended, depth of damage before and after blend, area of damage and employee number/stamp number of maintenance personnel.

4. FOD WALKS, FOD BOSS AND SWEEPERS:

4.1. Maintenance Squadrons and APS will perform weekly FOD walks every Monday to remove FO. In addition, Maintenance Squadrons will use the FOD Boss/sweeper no later than Thursday in their area of responsibility. The Squadron's areas of responsibility are outlined in Attachment 2. Only the squadron's Maintenance Officer or Superintendent will make the final determination to cancel and reschedule the FOD walks/sweeps due to inclement weather and mission requirements.

4.1.1. FOD prevention walks and sweeps on the South Ramp, Hazardous Cargo, Christmas tree and Compass Rose areas are conducted on an as-needed basis. The FOD walk/sweep will include the entire aircraft movement path within these areas.

4.1.2. 436/512 CES- Temco Ramp Sweepers. All ramp sweeper operations will be controlled by Airfield Management Operations and will follow the established sweeper schedule. Production superintendents will contact MOCC to coordinate unscheduled sweeper requirements.

5. DEPLOYED LOCATIONS:

5.1. Deployed units will follow all host base FOD regulations to include FOD walk frequency. If a host base program does not exist, units will follow Dover AFBI 21-105. The deployed Commander will determine the FOD walk frequency based on the completion of a ramp survey. The FOD walks will be conducted at a minimum of once a week. In addition, rollover tire FOD checks will be conducted when entering the flight line/ramp area.

6. FOD RECOGNITION PROGRAMS:

6.1. The Golden Bolt will be placed on the flight line periodically during the weekly FOD walks. When the Golden Bolt is found, the individual that found the bolt will be recognized at the Quarterly FOD Prevention Committee Meeting that is chaired by the WG/CV. The winner will receive a one day pass from the 436/512 MXG/CC. All passes awarded pursuant to this program will be issued and used IAW AFI 36-3003, Military Leave Program.

6.2. The FOD poster design contest will be conducted quarterly by the Wing FOD monitor. The submissions for the contest must be turned in to the 436 MXG/QA section by the 2nd month of the quarter to allow time for review and printing.

6.2.1. The winner will be notified and receive a one day pass from the 436 MXG/CC at the Quarterly FOD Prevention Committee Meeting. All passes awarded pursuant to this program will be issued and used IAW AFI 36-3003, Military Leave Program.

6.2.2. The FOD posters will be placed in a prominent place in each squadron to remind everyone of the importance of FOD prevention.

6.2.3. These programs provide valuable FOD program exposure increasing awareness and decreasing potential damage.

RICHARD G. MOORE, Jr., Col, USAF
Commander, 436th Airlift Wing

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

AFI 21-101, *Aerospace and Equipment Maintenance Management*, 19 April 2013

AFI 21-101, AMC SUP 1, *Aircraft and Equipment Maintenance Management*, 14 February 2011

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

DOVERAFBI 13-202, *Dover Airfield Driving Instruction*, 5 August 2009

TO 00-20-1, *Aerospace Equipment Maintenance General Policies and Procedures*, 15 June 2013

Prescribed Forms

No forms prescribed by this instruction.

Adopted Forms

AFTO Form 781A, Maintenance Discrepancy and Work Document

Abbreviations and Acronyms

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFRIMS—Air Force Records Information Management System

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

AW—Airlift Wing

AMXS—Aircraft Maintenance Squadron

AOR—Area of Responsibility

CC—Commander

CES—Civil Engineer Squadron

CTK—Composite Tool Kit

CV—Vice Commander

DAFB—Dover Air Force Base

DAFBI—Dover Air Force Base Instruction

DSN—Defense Switched Network

FOD—Foreign Object Damage

IAW—In Accordance With

JCN—Job Control Number

JEIM—Jet Engine Intermediate Maintenance Shop

MIL—Master Inventory List
MOC—Maintenance Operations Center
MOS—Maintenance Operations Squadron
MXG—Maintenance Group
MXS—Maintenance Squadron
MXQA—Maintenance Group Quality Assurance
OI—Operating Instruction
OPR—Office of Primary Responsibility
QA—Quality Assurance
S/N—Serial Number
SSN—Social Security Number
TBD—To Be Determined
TO—Technical Order
USAF—United States Air Force
WWID—World Wide Identifier

Attachment 2
AREAS OF RESPONSIBILITY
AREAS OF RESPONSIBILITY



736/712 AMXS	FOD BOSS ONLY
436/512 AMXS	FOD BOSS ONLY
436 AMXS T/A	

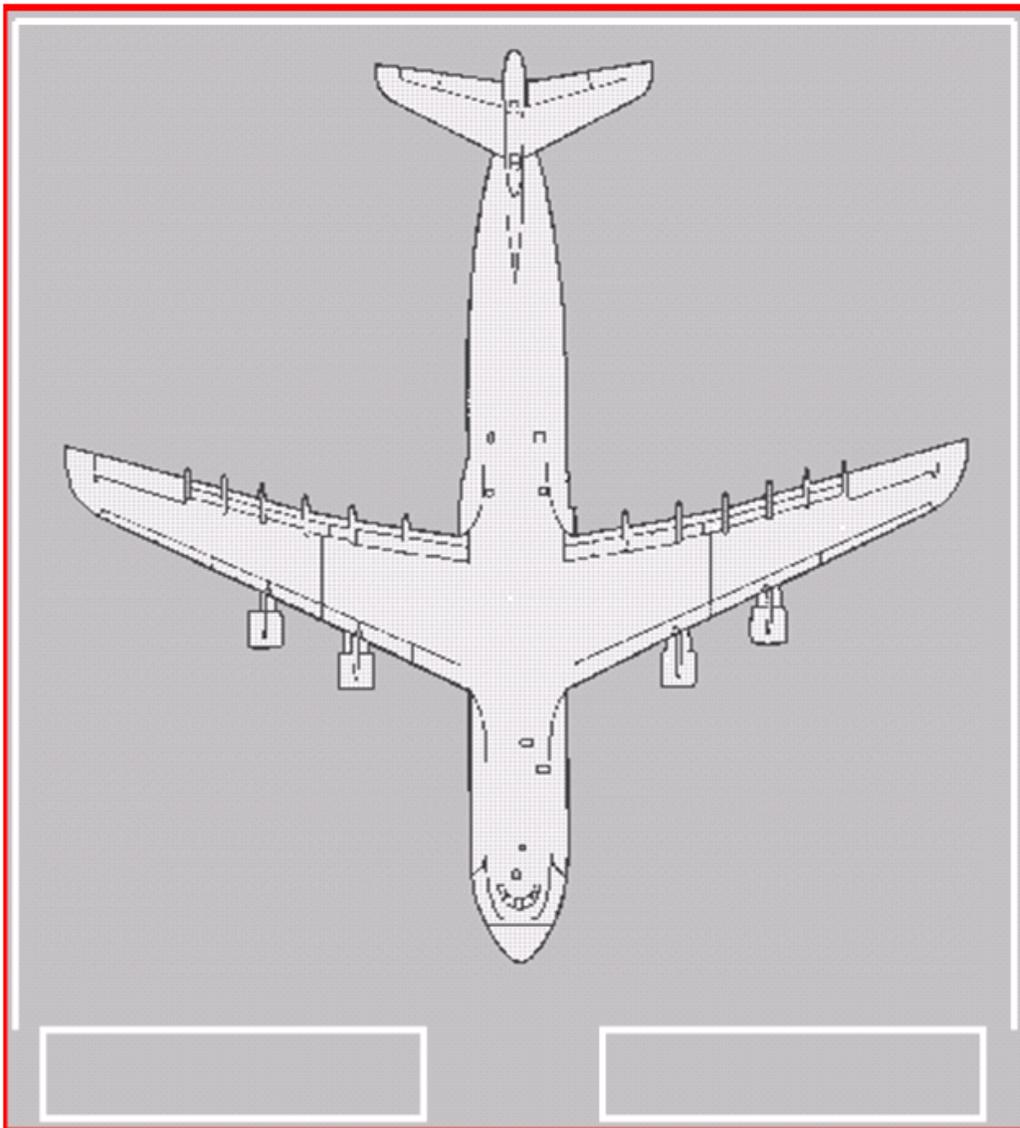
436/512 POL	
436/512 MXS	FOD BOSS ONLY
436/512 APS	

Attachment 3

AREA WITHIN RED BOX DEFINES AIRCRAFT PARKING SPOT

Area within RED box defines aircraft parking spot.

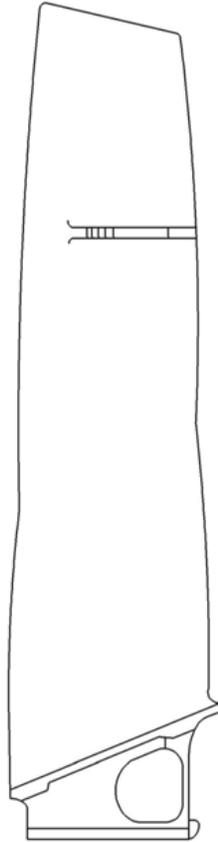
***When area is not defined by WHITE lines use wing-tip to wing-tip, tip of tail, and aircraft nose plus approximately 25 feet (vehicle parking area) as reference points.**



Attachment 4

C-5M BLADE BLENDING WORKSHEET (DOVER AFB, DE)

L
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N
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AIRCRAFT S/N-
ENGINE S/N-
BLADE NUMBER-
STAGE NUMBER-
JCN-
DATE CORRECTED-
CORRECTED BY EMPLOYEE #-
INSP BY EMPLOYEE #-
PRIOR TO BLENDING
DEPTH OF DAMAGE-
WIDTH OF DAMAGE-
AFTER BLENDING
DEPTH OF BLAND-
WIDTH OF BLEND-
NOTES-

Attachment 5**INSTRUCTIONS FOR FILLING OUT C-5M DIGITAL BLEND BLENDING SHEET**

1. Ensure the form is a word document
2. Fill in applicable aircraft information to include Aircraft S/N, Engine S/N, blade Number, stage number, JCN, date corrected, INSP by, Prior to Blending: Depth of damage, Width of damage, After Blending: Depth of blend(s), Width of blend(s) and notes if applicable.
3. Go to insert tab and select shapes.
4. Select block arrows choose the right or left arrow
5. Move mouse in the location of the bland on the blade
6. Click and drag the mouse to input the arrow
7. Change color of arrow to red by right clicking over the placed arrow.

-It may be necessary to orient the arrow, to accomplish this click on the placed arrow and move mouse over green dot. Click and hold the right mouse button and rotate as necessary.

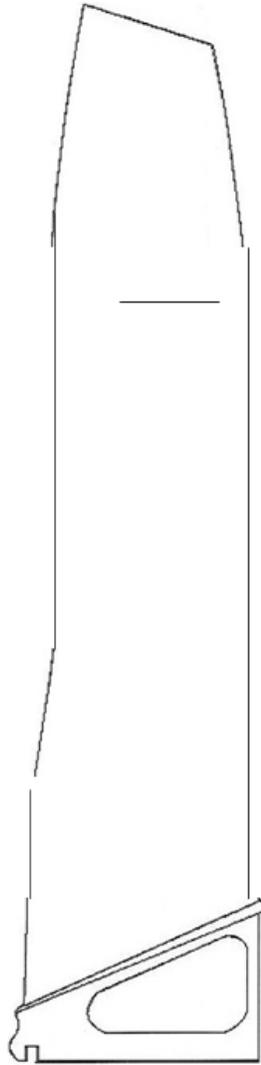
8. After completing steps 1 thru 7 email word document to Wing FOD monitor located in 436 MXG/QA, shop Lead and appropriate engine manager for input on to AFTO Form 95.

Attachment 6

C-17 BLADE BLENDING WORKSHEET (DOVER AFB, DE)

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G

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AIRCRAFT S/N-
ENGINE S/N-
BLADE NUMBER-
STAGE NUMBER-
JCN-
DATE CORRECTED-
CORRECTED BY EMPLOYEE #-
INSP BY EMPLOYEE #-

PRIOR TO BLENDING
DEPTH OF DAMAGE-
WIDTH OF DAMAGE-
AFTER BLENDING
DEPTH OF BLAND-
WIDTH OF BLEND-
NOTES-

Attachment 7**INSTRUCTIONS FOR FILLING OUT C-17 DIGITAL BLEND BLENDING SHEET**

1. Ensure the form is a word document
2. Fill in applicable aircraft information to include Aircraft S/N, Engine S/N, blade Number, stage number, JCN, date corrected, INSP by, Prior to Blending: Depth of damage, Width of damage, After Blending: Depth of blend(s), Width of blend(s) and notes if applicable.
3. Go to insert tab and select shapes.
4. Select block arrows choose the right or left arrow
5. Move mouse in the location of the bland on the blade
6. Click and drag the mouse to input the arrow
7. Change color of arrow to red by right clicking over the placed arrow.

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