

**BY ORDER OF THE COMMANDER  
FAIRCHILD AIR FORCE BASE (AMC)**

**FAIRCHILD AIR FORCE BASE  
INSTRUCTION**



**21-104**

**21 SEPTEMBER 2022**

**Maintenance**

**FOREIGN OBJECT DAMAGE  
(FOD)/DROPPED OBJECT  
PREVENTION PROGRAM (DOPP)**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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(Col, Vice Wing Commander)

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This publication implements policy by supplementing processes and procedures for the Foreign Object Damage (FOD) and Dropped Object Prevention Program (DOPP) in accordance with the Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management*, that are unique to Fairchild Air Force Base (FAFB). This applies to all 92d Air Refueling Wing (92 ARW) personnel, 141st Air Refueling Wing (141 ARW) personnel, contractors, and tenant units who perform maintenance, operations, and base support functions that work in and around, or drive through flight line and industrial aircraft maintenance areas. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFI 33-322, Records Management and Information Governance Program, and disposed in accordance with Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System.

**1. General. Foreign Object Damage (FOD) prevention is the responsibility of every individual who works or operates in or around the airfield.** Awareness and vigilance are two of the most important elements of a successful program.

1.1. **Definition.** FOD: Any damage to an aircraft, engine, aircraft system, component, tire, munitions, or SE caused by a foreign object(s) (FO) which may or may not degrade the required safety and/or operational characteristics of the aforementioned items.

## 2. Responsibilities.

2.1. **All commanders will ensure compliance with this instruction and establish guidance, as required, so every precaution is taken to prevent FOD and a FOD incident.** As applicable, organizations must ensure newly assigned personnel receive a FOD prevention orientation and familiarization briefing during in processing.

2.2. **The 92d ARW Vice Commander (92 ARW/CV) and 141st ARW Vice Commander (141 ARW/CV) are responsible for the FOD Program including all prevention practices and procedures.** The wing FOD Monitors will manage the wing program and are assigned to the 92d/141st Maintenance Groups Quality Assurance (MXG/MXQ) section.

2.3. **The 92d Operations Support Squadron Commander (92 OSS/CC) is responsible for ensuring aircraft pavement surfaces are monitored and all maintenance and cleanliness concerns are coordinated with the 92d Civil Engineer Squadron.**

2.4. **92d/141<sup>st</sup> Aircraft Maintenance Squadron Commander (92/141 AMXS/CC), 92d/141<sup>st</sup> Maintenance Squadron Commander (92/141 MXS/CC), and 36th Rescue Flight Commander (36 RQS/CC) will:**

2.4.1. Appoint a primary and alternate unit FOD Monitor. A memo of appointment will be forwarded to the wing FOD Monitors.

2.4.2. Ensure all squadron or contract maintenance personnel are made aware of this instruction and comply with the provisions herein.

2.5. **Organizations that require a contract solution involving FOD requirements affecting the flight line, runway and any industrial aircraft maintenance area shall work with the 92d Contracting Squadron to ensure the appropriate language is incorporated into requirements, packages and/or contracts.**

2.6. **Unit FOD monitors will:**

2.6.1. Manage the squadron and/or contract FOD prevention programs. Ensure ramps and areas of responsibility are policed for foreign objects. (See [Attachment 2](#)) All collected FOD and items will be turned into the wing FOD Monitors upon completion of any FOD walks.

2.6.2. Obtain and maintain the FOD Prevention Program bulletin board for their respective unit.

2.6.3. Attend and participate at wing FOD Prevention Committee meetings (when required).

2.6.4. Ensure all publicity material concerning FOD (i.e. FOD Prevention Program bulletin board information, posters, committee minutes, cross-tells, etc.) are disseminated throughout areas of responsibility.

2.7. **It is the responsibility of all personnel to ensure FOD prevention is practiced during all aspects of maintenance, flight operations, and supporting functions.**

2.8. **The wing FOD Monitors will implement FOD recognition programs (i. e. Golden Bolt program, FOD Awareness Recognition Team, etc).**

### 3. General FOD Prevention Practices.

3.1. **The 92 MXG, 141 MXG, and the 36 RQF will conduct weekly FOD walks around flight line facilities, aircraft parking areas, and taxiways (Attachment 2) in accordance with AFI 21-101, Aircraft and Equipment Maintenance Management.** Special emphasis will be put on aircraft grounding points. Unit FOD Monitors will notify their respective Maintenance Operation Center (MOC) of all FOD walk start and completion times. In addition, FOD Monitors will coordinate with MOC to notify 92 SFS to deactivate the Red Lines at least 15 minutes prior to starting the FOD walk and immediately upon completion of the FOD walk.

3.1.1. FOD inspections of the parking stub and immediate area will be conducted before and after aircraft taxi, and prior to all aircraft tows. After all maintenance actions are complete and prior to leaving the work area, a FOD check will be conducted and will include a consolidated tool kit inventory.

3.1.2. Contact the MOC or Base Operations for sweeper assistance to clean large areas/amounts of FOD.

3.1.3. At the discretion of wing leadership, base organizations will participate in mass FOD walks. Tasked organizations are required to supply all necessary resources to accomplish the FOD walk. Airfield Management will coordinate airfield closure and will provide personnel to ensure the airfield remains safe for the duration of the FOD walk.

3.2. **Prior to installing panels or secondary structures, a FOD check of the area will be completed.** Prior to flight, a FOD check of the aircraft flight deck will be completed.

3.2.1. All aircraft engine FOD inspections will be entered on a Red X in the AFTO Form 781A, **Maintenance Discrepancy and Work Document**, and automated forms.

3.3. **While maintenance is being performed on aircraft, uninstalled engines, and aerospace ground equipment, any openings, ports, lines, hoses, electrical connections, and ducts will be properly plugged, covered, or capped to prevent foreign objects from entering these systems.**

3.3.1. Special attention will be given to critical areas for FOD prevention. hard FOD (e.g.) found in the following areas:

3.3.1.1. Critical area is defined as flight deck forward of the back of the pilot/co-pilot seats, any area within close proximity of moving parts, flight control components, areas inside the engine kit or nacelle, open electronic components or junction boxes, wet/dry bays, aircraft tires, boom compartment, any area within 25 feet forward an air intake (e.g. engine, APU/GTC, and A/C pack), and any area within close proximity to moving parts/components on AGE.

3.4. **A Crew Chief box inventory sheet will be utilized for each aircraft.** The inventory sheet will be stored in the 781 Forms Binder in the Miscellaneous Items section.

3.5. **When the aircraft forms binder is not in use (i. e. document review, transcribing, etc.),** it will be stored in the aircraft lower nose compartment.

3.6. **Hats or headgear required as personal protective equipment during maintenance, servicing, or as required for personnel carrying arms are authorized on the flight line or**

**in industrial aircraft maintenance areas.** Under no circumstances will they be worn within 50 feet of an aircraft with operating engines.

3.6.1. Wear of the seasonal watch cap is authorized on the flight line or in industrial aircraft maintenance areas. Wear of the seasonal watch cap will comply with AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*. When ear defenders or ground communication headsets are required due to a hazardous noise levels, the watch cap will be worn in a manner as to not interfere with the seal between the ear defenders and the wearer's ears.

3.6.2. Items such as wigs, hair fasteners, and earrings constructed of metal, plastic, or leather will not be worn by any personnel on the flight line or in industrial aircraft maintenance areas involved in aircraft, component, or alternate mission equipment maintenance.

**3.7. Restricted area badges (RABs), exercise evaluation team badges, and any other badge worn on the flight line having a metal clip presents a FOD hazard.**

3.7.1. **Badges may be secured by a nylon/cotton cord or plastic armband.** Cord will be secured around individual's neck, armbands will be secured on the upper part of the arm between the shoulder and the elbow with picture side exposed on the outermost garment and above the waist at all times. The badge may be removed (but still in possession) when performing intake/exhaust inspections, or in the immediate vicinity of aircraft running engines. RABs will be secured completely out of sight when outside a restricted area. Refer to FAFBMAN 31-104, *Primary Security Coordinator Program*, for guidance.

3.7.2. If a metal clip is attached to any badge worn on the flight line, a nylon/cotton cord must be installed through the hole and attached to the uniform or the badge must be secured within a plastic armband. Armbands will be worn on the upper part of the arm between the shoulder and the elbow. Neck pouches are not authorized.

**3.8. FOD incidents leading to aircraft engine blade blending will be reported to the wing FOD Monitors prior to the blending taking place.** Engine personnel must ensure the repaired damage is documented in the engine AFTO Form 95, **Significant Historical Data**, IAW T.O. 00-20-1, *Aerospace Equipment Maintenance General Policy and Procedures*.

**3.9. All vehicles will perform a FOD tire check when entering through designated FOD checkpoints into flight line industrial aircraft maintenance areas including the street side entrances into maintenance hangars or when entering back on pavement from a non-hard surface.** At a minimum, a FOD check will consist of the following IAW AFI 13-213, *Airfield Driving*: **EXCEPTION: FIRST RESPONDERS RESPONDING TO EMERGENCIES.**

3.9.1. Inspect the vehicle tires (pull forward to check tire in contact with pavement).

3.9.2. Ensure all external vehicle components are secured. Secure any/all items loaded on payload vehicle, to include all tie-down device loose ends such as chains, ropes, packaging or other item that may become dislodged during movement while on the flight line area.

3.9.3. A thorough walk around of the vehicle to check for damaged, loose, or worn parts.

3.10. All vehicles primarily driven on the flight line will be equipped with secured and lidded foreign object containers stenciled with the word “FOD” in contrasting letters no smaller than two inches.

3.11. Personal tools are not authorized on the flight line or in any industrial aircraft maintenance areas.

3.12. All unit issued tools and personal protective items will be permanently engraved or marked with the individual’s first name initial, last name, and unit. Those individuals possessing an employee number (maintenance personnel) will also include this number on the item.

3.12.1. Aircrew members must account for all equipment and personal items before and after each flight. Ensure that any items lost during flight are documented in the aircraft AFTO Form 781A and notify the Aircraft Maintenance Unit (AMU) production supervisor of the lost item.

3.13. The Wing FOD Monitors will develop procedures to document and perform spot checks of selected areas each week.

#### 4. Lost Items/Tools.

4.1. In all cases of lost items/tools, the owning maintenance squadron will immediately ground the aircraft or equipment involved in the loss by placing a Red X in the AFTO Form 781A or the applicable equipment forms. The owning maintenance squadron will immediately contact the MOC, who will accomplish the appropriate notification checklist.

4.2. The unit responsible for the lost item/tool will provide personnel and complete a thorough visual search of the flight deck, cargo compartment, and surrounding aircraft area with flashlights, mirrors, etc. as necessary until all possible locations of the item have been exhausted.

#### 5. FOD Incident And Reporting Procedures.

5.1. In the event of a FOD incident, the following will apply:.

5.1.1. The responsible AMU Production Superintendent will notify the MOC who will accomplish the appropriate notification checklist.

5.1.2. The responsible AMU Production Superintendent will ensure a FAFB Form 253, **Foreign Object Damage Worksheet**, is filled out and forwarded to 92 MXG QA office.

5.1.3. With the assistance of a senior maintenance representative from the affected AMU/squadron and Quality Assurance, Wing Safety will conduct an investigation of the FOD incident IAW DAFI 91-204, *Safety Investigations and Reports*.

5.1.4. If FOD is discovered on a transient aircraft, it will be reported using the same procedures as in 5.1.1 through 5.1.3. The wing FOD Monitors or transient aircrew must notify the owning organization within 24 hours of incident. QA will forward a copy of the FAFB Form 253 to the owning organization’s QA office.

5.1.5. The wing FOD Monitors will submit a FOD report electronically to HQ AMC/LGMJP within 24 hours and maintain a copy of the completed report.

**5.2. In the event of a bird/wildlife strike found by maintenance personnel, the following will apply:**

5.2.1. The responsible AMU production supervisor will notify the MOC who will accomplish the appropriate notification checklist.

5.2.2. The responsible AMU production supervisor will ensure a AF Form 853, Air Force Wildlife Strike Report per the 92d/141<sup>st</sup> ARW BASH PLAN 91-212 is filled out (with the assistance of Quality Assurance if required) and forwarded to QA with a sample of the animal remains (e.g. feathers).

5.2.3. The wing FOD Monitor will ensure the report and remains are forwarded to Wing Safety.

5.2.4. Wing Safety will do bird strike reporting as required in 92d/141<sup>st</sup> ARW BASH PLAN 91-212, *Safety Investigations and Reports*, using information from aircrews, the AF form 853 per the 92d/141<sup>st</sup> ARW BASH PLAN 91-212, and any subsequent investigations. Wing Safety will be responsible for assigning the appropriate mishap classification and reporting it.

**6. General DOPP Practices.**

**6.1. Maintenance personnel who open aircraft panels/doors will inspect all fasteners, latches, and receptacles for serviceability.** Upon installation/closure of aircraft doors/panels, personnel will ensure all fastening devices are properly installed. All panels/doors will be inspected for serviceability and secure installation IAW applicable technical data. All discrepancies pertaining to defective fastening devices and panels/doors will be entered in the AFTO Form 781A and Maintenance Information System (MIS).

**6.2. Whenever an aircraft panel or door is opened or removed for maintenance/inspections, document the AFTO Form 781A using a Red X symbol.** If panels are part of a technical order procedure for a Red X discrepancy, then no additional AFTO Form 781A discrepancy is required for panel removal. **EXCEPTION:** This does not include frequently opened panels or access doors, e.g. crew entry doors, cargo doors, external power panels, landing gear doors, etc.

**7. Dropped Object Inspection And Reporting Procedures.**

**7.1. A dropped object is considered any aircraft part, component, surface, Low Observable (LO) coating exceeding 8 inches in any dimension or other item lost during aircrew operations (unless intentionally jettisoned) from engine start to engine shutdown.**

**7.2. In the event of a dropped object, the following will apply:**

7.2.1. The responsible unit Production Superintendent will notify the MOC who will accomplish the appropriate notification checklist.

7.2.1.1. Ensure QA is contacted to take pictures.

7.2.2. The affected unit will complete all sections of FAFB Form 255, **Dropped Object Report**, including a probable cause of the dropped object and the actions taken to prevent recurrence. The completed report will be forwarded with a G081 maintenance history report to MXG/MXQ within 12 hours.

7.2.3. The DOPP Monitors (MXG/MXQ) will investigate each dropped object and use the investigation findings and the FAFB 255 to aid in filling out the final report. After receiving 92 MXG/CC approval, the DOPP Monitors will send a detailed report to HQ AMC/A4QF within three duty days from the date of discovery.

## 8. Foreign Object Damage/Dropped Object Prevention Committee.

8.1. **A FOD/DOPP Committee Meeting is mandatory when Fairchild AFB exceeds the AMC Standard FOD rate of 3.0.** This meeting will be chaired by the 92 ARW/CV and 141 ARW/CV. The 92 MXG/CC or 141 MXG/CC will chair the meeting in the absence of both the 92 ARW/CV and 141 ARW/CV. The following personnel must attend:

8.1.1. Chairperson and voting members: 92 ARW/CV, 141 ARW/CV, 92 MXG/CC, 141 MXG/CC, 92 OG/CC, 92d Mission Support Group Commander, and the 92d Medical Group Commander.

8.1.2. Non-voting members: 92d Air Refueling Wing Safety, 92 OSS/CC, 92 AMXS/CC, 92 MXS/CC, 36 RQF/CC, 92 OSS Airfield Manager, 92 AMXS Maintenance Supervision, 92 AMXS AMU Supervision, 92 MXS Maintenance Supervision, 92 AMXS FOD Monitor, 92 MXS FOD Monitor, 92 LRS FOD Monitor, 92 CES FOD Monitor, 92 SFS FOD Monitor, 92 ARS FOD Monitor, 93 ARS FOD Monitor, 384 ARS FOD Monitor, 97 ARS FOD Monitor, 36 RQF FOD Monitor, and 141 MXG FOD Monitor.

## 9. FOD Prevention Awards:

9.1. **Golden Bolt:** To help increase FOD prevention awareness, the wing FOD Monitor or a representative (i.e. Unit FOD Monitor, QA Inspector, squadron or group commanders) will place a Golden Bolt in or near the flight line or any industrial aircraft maintenance area periodically during the quarter. The bolt will be left for a reasonable amount of time and if it is not discovered it will be documented on the QA tracker as "Not Found". The Golden Bolt is an accountable tool and will be checked out of the MXG QA CTK.

9.1.1. The individual(s) who find the golden bolt will be recognized during the quarterly Airfield Operations Board (AOB) meeting. Group commanders may also choose to recognize the individuals.

9.2. **FOD Awareness Recognition Team:** The team will consist of the 92d and 141st FOD Monitors. Anyone may submit any FOD found on aircraft, flight line munitions, AGE, engines, or components.

9.2.1. Supervisors may submit individual names who have found FOD on aircraft, flight line, munitions area, AGE, engines or components to the wing FOD Monitors in the 92 MXG QA office. Submissions may be in person or in the form of a word document with the member's name, organization, and description of the event.

9.2.2. The individual's name will be recognized at the quarterly AOB Meeting and briefed to the 92 ARW/CV. Unit FOD Monitors are encouraged to create their own recognition program for their unit.

CASSIUS T. BENTLEY III, Lt. Colonel, USAF  
Wing Commander

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

AFI 21-101, *Aerospace Equipment Maintenance Management*

AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel* DAFI 91-204, *Safety Investigations and Reports*

AFMAN 37-139, *Records Disposition Schedule*

AFI 21-101\_AMCSUP 1, *Aerospace Equipment Maintenance Management*

AFI 21-101\_AETC Sup 1, *Aerospace Equipment Maintenance Management*

AFI 13-213, *Airfield Driving*

FAFBI 21-105, *Consolidated Tool Kit (CTK) Management and Tool Accountability*

Sikorsky Program Policy Instruction 21-2, *Tool Management Program*

T.O. 1C-135A-6WC-1, *Preflight/Postflight/Home Station Check Inspection Work Cards*

T.O. 1C-135A-6WC-2, *Periodic Inspection work Cards*

T.O. 00-20-1, *Aerospace Equipment Maintenance General Policies and Procedures*

141 ARW ARW Instruction 21-101, *Prevention Of Foreign Object Damage (FOD)*

92d/141<sup>st</sup> ARW BASH PLAN 91-212

***Prescribed Forms***

None

***Adopted Forms***

AF Form 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**AMU**—Aircraft Maintenance Unit

**DOPP**—Dropped Object Preventative Program

**FOD**—Foreign Object Damage

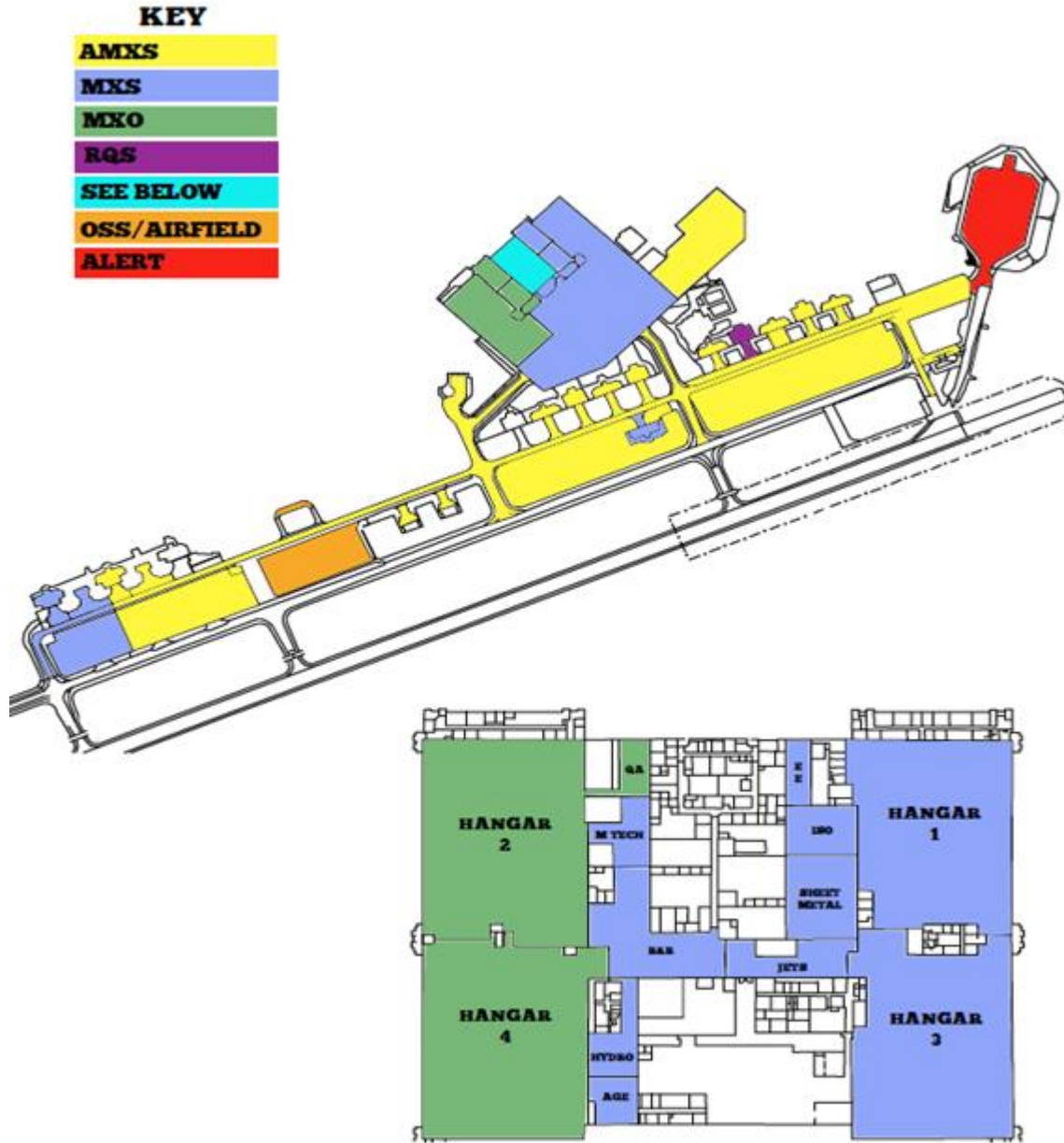
**MOC**—Maintenance Operation Center

**QA**—Quality Assurance

Attachment 2

FAIRCHILD AFB FLIGHT LINE FOD WALK AREAS OF RESPONSIBILITY

Figure A2.1. Fairchild AFB Flight Line FOD Walk Areas Of Responsibility.



## Attachment 3

## CREW CHIEF BOX INVENTORY

Figure A3.1. Crew Chief box Inventory.

	<b>Item Description</b>	<b>Required</b>	<b>In Acft</b>
1	Grounding Cable	2	
2	Broom	2	
3	Mop	1	
4	Squeegee	3	
5	Snow Shovel	2	
6	Bucket	1	
7	Garbage Bag	25	
8	100 Foot Rope	2	
9	Windshield Cover	1	
10	Aft Hatch Barrier	1	
	<b>TOTAL</b>	<b>40</b>	
Required Items IAW 11-2KC-135v3 Addenda A, Table 1.1			