

**BY ORDER OF THE COMMANDER
552D AIR CONTROL WING**

**552 AIR CONTROL WING
INSTRUCTION 21-1021**



**15 OCTOBER 2018
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Maintenance**

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

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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OPR: 552 ACW FOD/DOP Monitor

Certified by: 552 ACW/CV
(Col Gavin P. Marks)

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This publication implements policy and guidance in Air Force Instruction 21-101 ACCSUP, *Aircraft and Equipment Maintenance Management*, TINKERAFBI21-449, *Foreign Object Damage and Dropped Object Prevention Programs*. This instruction prescribes 552 Air Control Wing (ACW) and 513 Air Control Group (ACG) Foreign FOD Prevention Procedures. It is applicable to all units assigned, attached, or deployed to the 552 ACW. This publication applies to the Air Force Reserve Command (AFRC). This publication may be supplemented at any level, but all Supplements must be routed to the OPR of this publication for coordination prior to certification and approval. 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 appropriate functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information System (AFRIMS) Records Disposition Schedule (RDS) or any updated statement provided by the AF Records Management office (SAF/CIO A6P).

SUMMARY OF CHANGES

This document has been revised and should be completely reviewed. Changes include revision to para 2.12 describing headgear/clothing authorized to be worn in a maintenance complex and update to Attachment 2, Figure A2.1 FOD walk areas.

1. Roles and Responsibilities.

1.1. The 552 Air Control Wing Vice Commander (ACW/CV) will be assigned as the FOD Prevention Program Manager and will establish the FOD/DOP program as outlined in Air Force Instruction 21-101, *Aircraft and Equipment Maintenance* and AFI 21-101 ACCSUP.

1.2. The 552 Air Control Wing FOD/DOP Monitor will be appointed by the 552 ACW/CV and perform roles and responsibilities as outlined in AFI 21-101 and AFI 21-101 ACCSUP.

2. General FOD Policies and Procedures.

2.1. Operating Locations (OLs) will participate in and follow host base FOD programs; however, OLs will notify 552 ACW FOD Monitor of FOD incidents involving 552 ACW aircraft.

2.2. The 552 ACW FOD Monitor will attend pre-construction briefings when they pertain to airfield repairs. During pre-construction conferences for construction contracts dealing with the airfield, the chief of the construction section, Engineering, and Contracts are responsible for briefing contractors on FOD prevention. The construction inspector will inspect construction sites for compliance with the FOD prevention program and will identify potential FOD problems to the Contracting officer for corrective action.

2.3. Intake and exhaust plugs/covers will be kept in good condition and only used for their designed function. Intake or exhaust plugs/covers will only be removed when performing intake or exhaust inspections/maintenance, when operating the engines, or at crew-ready time. All aircraft will have inlet covers installed at all times when parked in Bldg. 230 Docks 1-4, Bldg. 289 and Bldg. 976. Covers will only be removed to perform maintenance/inspection and will be immediately reinstalled.

2.4. General FOD prevention awareness briefings will be delivered during maintenance orientation/refresher courses conducted by the Maintenance Training Flight (MTF). Work center specific FOD training will be provided to all personnel within 30 days of arrival and at least annually thereafter. Work center supervisors will indoctrinate all assigned personnel on the importance of the FOD Prevention Program to the mission and ensure personnel are familiar with the policies and procedures contained in this instruction. All personnel will be briefed on the dangers associated with aircraft and engine intakes prior to operation.

2.5. Vehicle foreign object containers will be secured at all times to prevent tipping over. Vehicle operators will ensure their vehicle is kept Foreign Object (FO) free at all times. This includes low speed vehicles. FO inspections shall be accomplished as part of the vehicle daily inspection and prior to use of the vehicle by any operator.

2.6. FO magnets will be cleaned of all FO at the beginning of every shift.

2.7. All motorized vehicles and support equipment are required to stop at each FOD check point and to perform a Roll Over FO check. Additionally, any vehicle leaving the finished surface will perform a Roll Over FO check immediately upon returning to the finished surface. Vehicle engines will be shut off and parking brakes will be set during tire FOD checks, unless a qualified driver remains in the driver's seat. Emergency vehicles are exempted from performing the Roll Over FO check, if directly responding to an emergency situation.

2.8. No glass drink containers will be on the flight line or in vehicles on the flight line. All empty containers will be placed in FOD cans.

2.9. Consumables such as screws, bolts, washers, cotter pins, etc. will be placed in screw bags or zip lock type bags when taken to work areas. Loose hardware will not be carried in tool bags or individual's pockets. All consumables will be accounted for after each job.

2.10. FO containers will be available when maintenance is performed on aircraft. FOD pouches/bags contained within a Composite Tool Kit (CTK) will be considered suitable to meet this requirement. Pouches/bags will have flip covers that secure with either snaps or Velcro.

2.11. Work areas will be thoroughly policed for FO as soon as each job is completed and policed immediately when an item is dropped or misplaced.

2.12. Hats will not be worn in the maintenance complex area and ramp around Bldgs. 220, 230, 289, 296 and on the south ramp around Bldgs. 989, 993, 986, 985, 970 and 976. **Exception:** Headgear/clothing authorized for cold weather and sun protection may be worn; however, every effort should be made to prevent such headgear from coming loose during duty performance. Wear of cold weather hats (i.e. watch caps) and boonie (floppy) hats must not interfere with proper wear of hearing protection. All head gear (hats and hoods) must be removed and stowed when approaching within 25 feet of running aircraft engines.

2.12.1. Security Forces, while performing official duties, may wear the beret with insignia attached, however, when they are within 50 feet of an operating aircraft engine their berets must be removed and secured.

2.12.2. All personnel entering the flight line, with exception of those greeting Distinguished Visitor's (DV), will remove metal insignias/badges, (to include all combinations with the uniform, i.e. ribbons, skill level badge, name tag, and United States insignias) metal hair fasteners, wigs, hairpieces, earrings, or any jewelry that may fall off without notice.

2.12.3. Remove and stow restricted area badge within 25 feet of operating engine(s). Ensure line badge clips are secured to prevent loss. For those individuals using the cord/rope for security, pass the chord/rope through the clip eyelet. **Exception:** Line badges completely secured inside of an armband pouch do not need to be removed.

2.12.4. Escorts of visiting personnel will ensure FOD prevention measures are taken.

2.13. Pintle hook pins of all types will be secured by cable and swaged sleeve or chain to the pintle hook. Safety wire will not be used to secure pins. Pins will be installed in pintle hook at all times.

2.14. Flight decks will be checked by ground crew for FO prior to each flight. Aircrew members are responsible for keeping their areas free of FO between flights and after the last flight of the day.

2.15. Aircraft Commanders will brief FOD prevention and response actions during mission planning.

3. FOD Reporting. In the event of a suspected or confirmed FOD incident, report IAW the following procedures:

3.1. The individual discovering the damage will:

3.1.1. Notify the Aircraft Maintenance Unit (AMU) Production Supervisor, who will notify the Maintenance Operations Center (MOC) immediately.

3.1.2. Provide the 552 ACW FOD Monitor with the following data to complete the ACC initial report:

3.1.2.1. Date and time of discovery.

3.1.2.2. Aircraft tail number.

3.1.2.3. Brief description of incident.

3.1.3. Aircrew will complete 552 ACW Form 41, *552 ACW Aviation Incident/Unusual Occurrence Worksheet*, and forward to 552 Air Control Wing/Safety (552 ACW/SE).

3.2. Upon notification of a FOD incident, MOC will:

3.2.1. Notify the Maintenance Group Commander (MXG/CC) with all available information.

3.2.2. Notify 552 Air Control Wing FOD/DOP Monitor, 552 ACW/SE, and Maintenance Group Quality Assurance (MXG/QA) of aircraft tail number, parking location, time of discovery, and give a brief description of damage resulting from the FOD incident.

3.3. The 552 ACW FOD Monitor will:

3.3.1. Conduct an investigation IAW AFI 21-101 and AFI 21-101 ACCSUP to determine if the incident was a preventable FOD incident and chargeable to the wing FOD rate, using the local 552 ACW FOD checklist. Results of the investigation will be briefed to the 552 ACW/CV.

3.3.2. Provide initial report of incident to Lead Command (HQ ACC/A4MP), 552 ACW/CV, and Maintenance Group (MXG) leadership as soon as reportable damage is known, but no later than 24 hours after occurrence.

3.3.3. Forward finalized report to HQ ACC/A4MP no later than 72 hours after notification of FOD incident. If a finalized report cannot be accomplished within 72 hours due to special circumstances (i.e. Engine safety investigation) a follow up report will be required every 45 days until it can be closed out.

4. FOD Walks/Bosses.

4.1. 552/513 Aircraft Maintenance Squadron (AMXS) personnel will perform the aircraft parking spot FOD walk (Aircraft tail to center taxi line) of all aircraft before (prior to engine start) and after the aircraft is taxied off the spot. 552/513 AMXS personnel will perform the aircraft parking spot FOD walk (aft center taxi line to nose gear block) of all aircraft prior to taxi onto the spot. It is the flight line expeditor's responsibility to ensure all parking spot FOD inspections are accomplished.

4.2. In addition, 552 MXG personnel will conduct a Ramp walk of the flight line two times a week (Monday or the first day of the flying week & Wednesday). Ramp walk will be

initiated no later than 0800L (Weather Permitting) (Example: Lightning within 5NM). The wing FOD Monitor or Quality Assurance representative will ensure an adequate number of personnel are present and spaced appropriately to provide complete coverage of the area (approximately 10 feet apart). The FOD Monitor or Quality Assurance representative may select a Ramp walk supervisor(s) to control procession of the line. Personnel are not dismissed until the person(s) leading the FOD walk release them back to their duty sections. Close attention will be paid to expansion joints, seams, and grounding points for small stones, deteriorating concrete, loose tar, and hardware during all FOD walks/inspections.

4.3. 552/513 Maintenance Squadron (MXS) Aircraft Ground Equipment (AGE), 552 MXS Corrosion, 552 MXS Isochronal (ISO), 552 Logistics Readiness Flight (LRF), 552 MXS Computer/Radar, 552 MXS Fuel Cell, 552 AMXS Support and 552 Maintenance Operations Flight (MOF) will perform FOD walks every Wednesday prior to 1000L in accordance with the areas of responsibility identified (*See Attachment 2*).

4.4. When FO is discovered on the flight line, the area will be cleaned immediately. If the debris is excessive, personnel should contact MOC or Airfield Management to request sweeper dispatch.

4.5. The FOD Boss will be utilized by squadron maintenance personnel prior to the first sortie of the day. The FOD Boss will be used within the birdcage as outlined in the FOD walk areas of responsibility attachment 2, See Figure A2-1. The FOD Boss will be used and maintained in accordance with the equipment operator's guide. 552 AMXS will develop a plan for sweeper usage. FOD Bosses are for flight line use only and will be disconnected from vehicles leaving the flight line area. Only the 552 MXG/CC, 552 Maintenance Group Deputy Commander (MXG/CD), or 552 Maintenance Group Superintendent (MXG/CM) can authorize a deviation from FOD Boss usage due to weather, manning or mission.

4.6. Work centers will ensure the dumpster areas are kept FO free and dumpster lids are kept closed.

5. Unit FOD Monitors.

5.1. 552d MXG Squadron Commanders and 552d Operations Group (OG) Squadron Commanders will designate, in writing, a primary and alternate FOD Monitor and forward a copy to the 552 ACW FOD Monitor. These letters will be reviewed and updated annually.

5.2. An area for FOD information will be maintained in each work center. Placement is at the unit discretion. The location should afford the greatest possible access and visibility to work center personnel. The unit's FOD Monitor shall ensure information is current.

6. FOD Incentive Programs.

6.1. FOD Walk Golden Bolt Award: The FOD Walk Golden Bolt Award is designed to indicate the effectiveness of daily FOD walks. Weekly during a FOD walk, an item simulating a piece of hardware/safety wire will be strategically placed within the FOD walk area. The individual who finds it will be granted a one-day pass given by 552 ACW/CV. This item simulating a piece of hardware/safety wire will be under constant supervision while it is in the FOD walk area.

6.2. Maintenance (MX) Golden Bolt Award: The MX Golden Bolt Award is presented quarterly to the 552 MXG AMU, flight, or back-shop with the best FOD Prevention

Program. At a minimum, the following areas are looked at and used as judging criteria: involvement in FOD prevention incentive programs, FOD walk participation, lost tool/object assessment data, and utilization of a FOD Awareness Board.

6.3. The Sentry FOD Award: The Sentry FOD Award is presented quarterly to a 552 OG squadron with the best FOD Prevention Program. At a minimum, the following areas are looked at and used as judging criteria: involvement in FOD Prevention incentive programs, FOD Walk participation, lost tool/object data, FOD assessment data, and utilization of a FOD Awareness Board.

6.4. The FOD Poster Contest: A FOD Poster Contest will be held bi-annually to promote the FOD Prevention program. Anyone assigned to 552 ACW is eligible to participate. Posters depicting an act or actions emphasizing FOD prevention can be submitted to the 552 ACW FOD Monitor. Posters should be creative and original in design. The 552 ACW/CV or representative will decide which poster best emphasizes and enhances the FOD Prevention program. The winner will receive a one-day pass from the 552 ACW/CV, an award, and the poster will be submitted HQ ACC for distribution to Combat Air Force (CAF).

6.5. The FOD Slogan Award: The FOD Slogan Award contest will be held bi-annually to promote the FOD Prevention program. Anyone assigned to 552 ACW is eligible to participate in this program. Slogans that enhance and emphasize the importance of FOD Prevention can be forwarded to the 552 ACW FOD Monitor. The 552 ACW/CV or representative will decide which slogan best emphasizes and enhances the FOD Prevention program. The winner will receive a one-day pass from the 552 ACW/CV, an Award, and their FOD slogan will be displayed on Slogan Award signs around the 552 ACW.

6.6. Eagle Eye Awards: Eagle Eye awards are presented quarterly to three individuals of the 552 ACW for their efforts in detecting and preventing potential FOD mishaps. Report to the Quality Assurance office (Bldg. 230 SE 125) to submit an individual for the Award; fill out the local 552 ACW Eagle Eye worksheet and bring the FOD item. See Figure A3-1. The winners will receive a one-day pass from the 552 ACW/CV and an Award.

7. FOD Awareness Efforts. To boost FOD awareness in the wing, the FOD Monitor will:

7.1. Maintain a FOD Prevention bulletin board. The board will display, at least, the following items:

7.1.1. 552 ACW FOD Monitor and Assistant Monitor names and contact information.

7.1.2. Quarterly FOD incentive program award winners.

7.2. Maintain a log of all personal items and equipment left on aircraft.

7.3. Perform spot inspections of 552 ACW maintenance areas. The maintenance area is divided up into five (5) different geographical areas. One area is inspected daily on a rotating basis. All inspections are logged into spot inspection database based upon severity.

8. General DOP Policies and Procedures.

8.1. All assigned maintenance personnel will be briefed on the DOP program by the MTF or the 552 ACW DOP Monitor. Recurring DOP training will be given to all aircraft maintainers annually.

8.2. Squadron and AMU maintenance supervisors will ensure that prior to each sortie and after all scheduled maintenance is completed, a qualified maintenance technician will perform a secondary structure/panel inspection. Special emphasis will be placed on those items having a high vulnerability for loss (i.e. dry bay panels, oil servicing panels, etc.). Special attention will be directed toward those items involved in last minute (Red Ball) maintenance to ensure any opened doors, panels, cowlings, etc. have been properly secured.

9. DOP Reporting. In the event of a suspected or confirmed DOP incident, report IAW the following procedures:

9.1. The individual discovering the DOP will:

9.1.1. Notify AMU Production Supervisor, who will notify the MOC immediately.

9.1.2. Provide the 552 ACW DOP Monitor with the following data to complete the ACC initial report:

9.1.2.1. Date and time of discovery.

9.1.2.2. Aircraft tail number.

9.1.2.3. Brief description of incident.

9.2. The Aircraft Commander will complete 552 ACW Form 41 and forward to 552 ACW/SE.

9.3. Upon notification of a DOP incident, MOC will:

9.3.1. Notify the MXG/CC with all available information.

9.3.2. Notify 552 Air Control Wing FOD/DOP Monitor, 552 ACW/SE, and MXG/QA of aircraft tail number, parking location, time of discovery and give a brief description of damage resulting from DOP incident.

9.4. The 552 ACW DOP Monitor will:

9.4.1. Conduct an investigation IAW AFI 21-101 and AFI 21-101 ACCSUP to determine if the incident was a preventable DOP incident using the local 552 ACW DOP checklist. Results of the investigation will be briefed to the 552 ACW/CV.

9.4.2. Provide initial report of incident to ACC/A4MP, 552ACW/CV, and MXG leadership as soon as reportable damage is known, but no later than 24 hours after occurrence.

9.4.3. Forward finalized report to ACC/A4MP no later than 3 duty days after notification of DOP incident.

10. DOP Awareness.

10.1. The 552 ACW DOP Monitor will maintain a DOP Prevention bulletin board. The board will display, at least, the following items:

10.1.1. 552 ACW DOP Monitor and Assistant Monitor names and contact information.

GEOFFREY F. WEISS, Colonel, USAF
Commander

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

AFMAN 33-363_AFGM 2018-01, *Management of Records*, 20 May 2018

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 21 May 2015

AFI 21-101, ACCSUP, ACCGM2018-01, *Aircraft and Equipment Maintenance Management*, 29 May 2018

TINKERAFBI21-449, *Foreign Object Damage and Dropped Object Prevention Programs*, 13 Jan 2016

Prescribed Forms

None

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

552 ACW Form 41, *552 ACW Aviation Incident/Unusual Occurrence Worksheet*

Abbreviations and Acronyms

ACC—Air Combat Command

ACW—Air Control Wing

AFMAN—Air Force Manual

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information System

AGE—Aircraft Ground Equipment

AMU—Aircraft Maintenance Unit

AMXS—Aircraft Maintenance Squadron

CAF—Combat Air Forces

CTK—Composite Tool Kit

DOP—Dropped Object Program

DV—Distinguished Visitor

ECP—Entry Control Point

FO—Foreign Object

FOD—Foreign Object Damage/Debris

HQ ACC—Headquarters Air Combat and Command

IAW—In Accordance With

ISO—Isochronal

LRF—Logistics Readiness Flight

MOC—Maintenance Operations Center

MOF—Maintenance Operations Flight

MTF—Maintenance Training Flight

MX—Maintenance

MXG—Maintenance Group

MXS—Maintenance Squadron

NM—Nautical Miles

OG—Operations Group

OLs—Operating Locations

OPR—Office of Primary Responsibility

RDS—Records Disposition Schedule

SE—Safety

Terms

Aircraft parking spot FOD walk—An inspection of the aircraft parking spot for FO before and after the aircraft is taxied off the spot and prior to taxi into the spot.

Flight line area—The flight line area is defined as all runways, taxiways, ramps, and all concrete areas attached to them within the Entry Control Point (ECP) perimeter.

FOD Boss—Piece of sweeper equipment designed to be towed around the flight line area collecting FO as it passes over the ramp.

FOD Walk—Inspection of an area by personnel designed to remove FO from ramps, runways, maintenance areas and access roads.

Pintle hook pin—Pin designed to secure a pintle hook in the locked position during towing operations.

Red Ball Maintenance—Red Ball is a traditional descriptor, recognized throughout aircraft maintenance, and defines a situation requiring a sense of urgency and priority actions. “Red Ball” maintenance normally occurs two hours prior to launch and until aircrew have released the aircraft back to maintenance. The Red Ball maintenance concept is intended to prevent late takeoffs and aborts by having qualified maintenance personnel available (i.e., in a truck or standby in the shop) during launch and recovery operations to troubleshoot, isolate, and repair system malfunctions. Red Ball maintenance in no way authorizes technicians to take shortcuts or deviate from technical orders, personnel safety requirements or fail to properly document the aircraft forms and the Maintenance Information Systems for all completed repair actions.

Ramp walk—A FOD walk of the birdcage as outlined in the FOD walk areas of responsibility attachment 2, See Figure A2-1.

Roll Over—A visual FO inspection of vehicle tires prior to entering the flight line. After the vehicle operator has performed an initial tire inspection the vehicle will be moved to expose the tire tread previously in contact with the ground. At that time the occupant will again inspect the tire tread for any further FO.

Vehicle foreign object container—Lidded container secured within the vehicle designed as a receptacle for FO and debris.

Attachment 2

FOD WALK AREAS OF RESPONSIBILITY

Figure A2.1. FOD Walk Areas

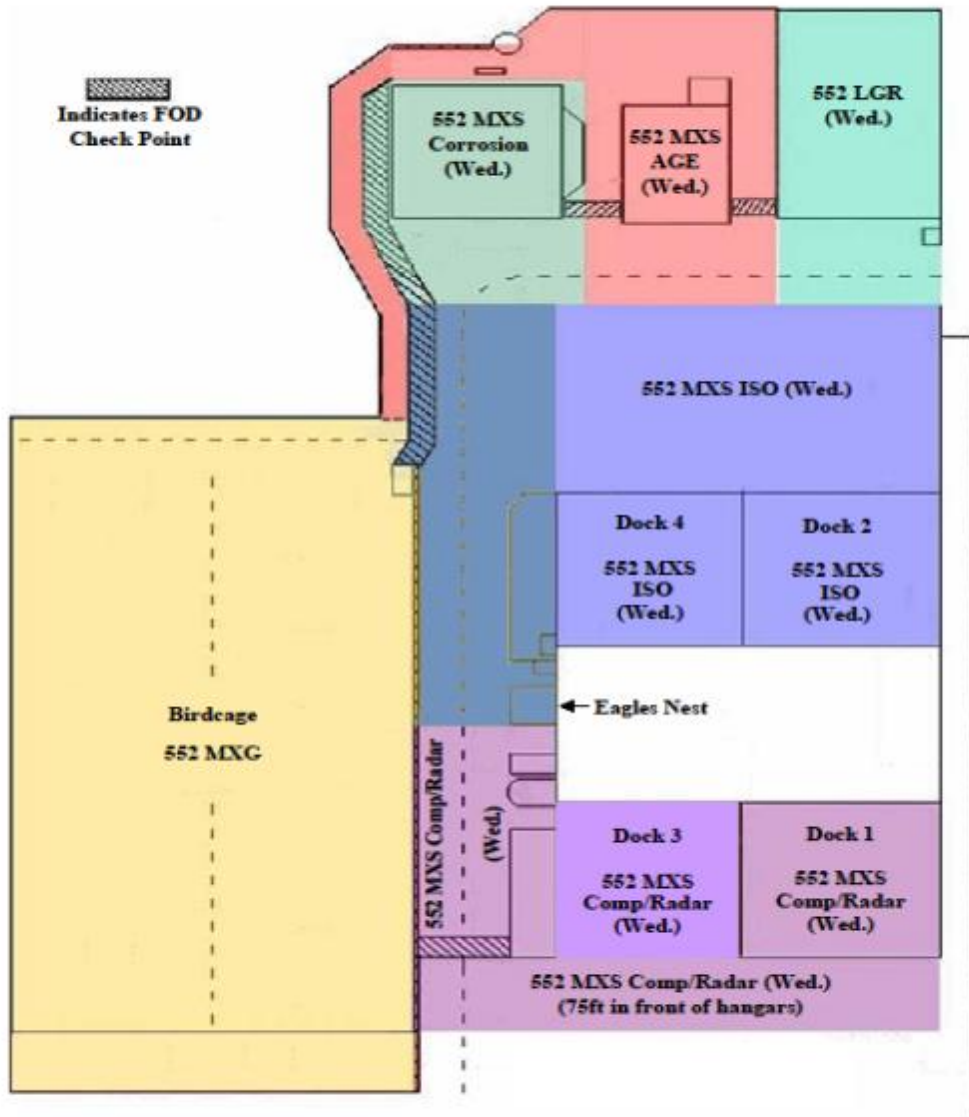
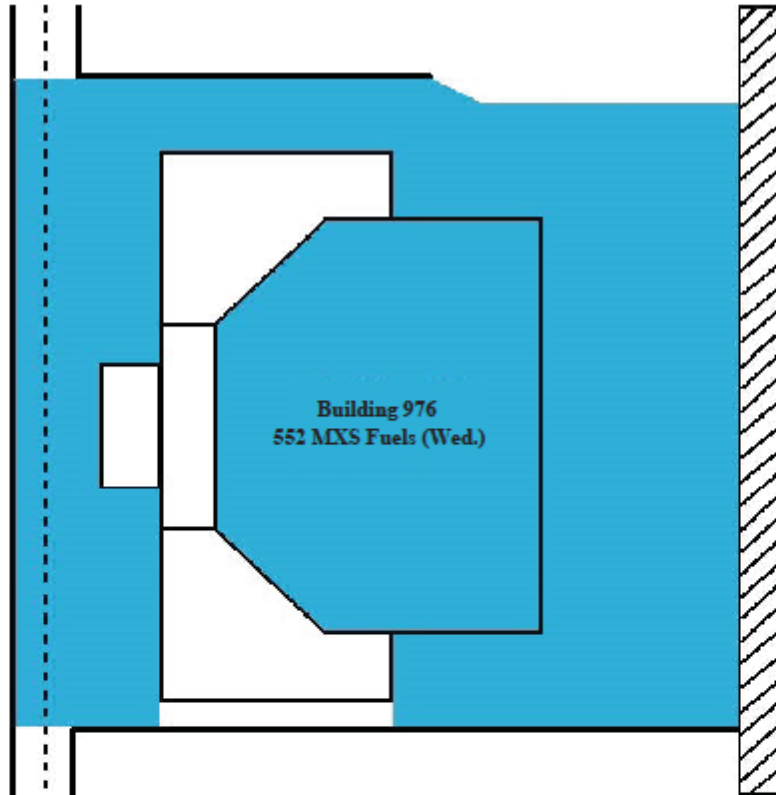


Figure A2.2. FOD Walk Areas Building 976.



Attachment 3

552 ACW EAGLE EYE SUBMISSION WORKSHEET

Figure A3.1. 552 ACW EAGLE EYE SUBMISSION WORKSHEET.

552 ACW EAGLE EYE SUBMISSION WORKSHEET

Place foreign object/s in a bag and submit with this worksheet. Route object/s and worksheet to the 552 Air Control Wing FOD/DOP Monitor, Bldg. 230, Rm. SE 125, or give it to your unit FOD representative or supervisor.

Date:

Nominee Rank/Name:

Squadron:

Contact Info:

Item/s Found:

When? (Check all that apply)

<input type="checkbox"/> FOD Walk	<input type="checkbox"/> In transit between jobs
<input type="checkbox"/> Performing MDI	<input type="checkbox"/> During Inspection
<input type="checkbox"/> Other	<input style="width: 150%;" type="text"/>

Where? (Check all that apply)

<input type="checkbox"/> Dock 1	<input style="width: 100%;" type="text"/>
<input type="checkbox"/> Dock 2	<input style="width: 100%;" type="text"/>
<input type="checkbox"/> Dock 3	<input style="width: 100%;" type="text"/>
<input type="checkbox"/> Dock 4	<input style="width: 100%;" type="text"/>
<input type="checkbox"/> Bldg. 289	<input style="width: 100%;" type="text"/>
<input type="checkbox"/> Bldg. 976	<input style="width: 100%;" type="text"/>
<input type="checkbox"/> AGE/Ready Line	<input style="width: 100%;" type="text"/>
<input type="checkbox"/> Birdcage (Spot)	<input style="width: 100%;" type="text"/>
<input type="checkbox"/> Other	<input style="width: 100%;" type="text"/>

If found near the aircraft please indicate where on the graphic below.

