
	AIRCRAFT OPERATIONS CENTER NOAA Office of Marine and Aviation Operations		CATEGORY	VERSION
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			1 October 2014	
	AUTHORIZED BY:  CAPT, NOAA		PREVIOUS VERSION DATE	
CAPT Harris B. Halverson II, NOAA Commanding Officer, Aircraft Operations Center		2 August 2013		
		REVIEW DATE		
		1 August 2016		
		RESPONSIBLE		
		Chief, Safety, Standardization & Training Branch		

POLICY 209-2

FOREIGN OBJECT DAMAGE / DEBRIS PREVENTION PROGRAM

1. PURPOSE

- 1.1 This Foreign Object Damage/Debris (FOD) Prevention Program establishes policy, responsibilities and requirements to prevent damage to aircraft, engines, scientific equipment and other aeronautical equipment, and provides for a uniform FOD prevention procedure.

2. SCOPE

- 2.1 An effective FOD Prevention Program, which identifies, corrects and eliminates causal factors is everybody's responsibility and must be part of the safety culture at the Aircraft Operations Center (AOC).
- 2.2 FOD prevention training is a continual effort to increase the awareness of the cause and effects of FOD, and to promote active employee participation in FOD elimination. A successful program requires a concentrated effort by all assigned personnel and contractors in preventing FOD and FOD related occurrences.
- 2.3 "FOD Walks", typically weekly, should be performed as required in both the hangar and flight line areas. Spot checks should be performed whenever it is deemed necessary due to unusual activity on the ramp and in the hangar (maintenance, air show, transient aircraft, etc). FOD is a common concern. When FOD walks are announced, all available personnel are expected to assist.

3. RESPONSIBILITIES

- 3.1 The Production Controller (PC), assistant or designee shall:

Ensure all personnel adhere to this procedure and has responsibility for the overall program requirements. The PC may delegate to subordinates, but maintains overall responsibility and accountability.

- 3.2 The Quality Assurance Representative (QAR) or designee shall:
- a. Use available information to aid in identifying specific areas of concern and to determine corrective action for program improvement.
 - b. Designate selected areas to be spot-checked on a quarterly basis, such as turn-up areas, workspaces, hangar bays, and storage areas.
 - c. Review and take appropriate action on recommendations concerning missing or loose fasteners and FOD Program deficiencies identified to correct or eliminate cause(s).
 - d. Conduct pre-scheduled but unannounced audits of work areas to assess effectiveness of the FOD prevention and tool control programs.
 - e. Ensure implementation of corrective actions for FOD prevention throughout the hangar facility.
 - f. Ensure contractor(s) investigate any potential preventive measures that can result in elimination of FOD hazards to AOC aircraft.
 - g. Review the Tool and FOD Prevention Program(s) annually to ensure that they are adequate and current.
 - h. Brief all FOD/lost tool incidents(s) to the Chief, Safety, Standardization, and Training Branch, weekly or as needed. Documentation of these briefings are kept by the QAR as minutes of the meeting. The QAR will work with the PC, assistant or designee to ensure proper submittal of the FOD report if the QAR or designee is unavailable.
 - i. Coordinate with the Chief of Supply and/or Airfield Manager to ensure at least semi-annual sweeping of the ramp and apron, or as necessary.
- 3.3 Maintenance Technicians / Flight Engineers (FE) shall ensure:
- a. All loose/missing fasteners are tightened and/or replaced when discovered. Fastener discrepancies, which cannot be immediately corrected, but do not 'down' the aircraft, shall be recorded in the aircraft logbook.
 - b. Loose or missing leading edge panel fasteners will be repaired before flight if deemed to be a hazard to aircraft.
 - c. A 'downing' discrepancy is initiated whenever FOD or suspected FOD is discovered.
- 3.4 All Personnel in direct contact with aircraft shall ensure:
- a. Personnel assigned (including contractors) are informed of, and comply with the FOD Prevention program and keep the work area free of foreign/loose objects.
 - b. Personnel perform thorough pre-maintenance and post-maintenance inspections of tool containers, ducts, plenums, crevices, engine cavities and work areas.
 - c. Personnel will ensure all aircraft have intake and exhaust covers, pitot covers and covers on any other probe or scientific instrument which may become susceptible to FOD ingestion.
 - d. FOD containers are appropriately marked, covered, readily accessible in the hangar and shop areas, and utilized.
 - e. All FOD hazards are reported to PC, assistant, QAR or designee.
 - f. All fasteners removed from aircraft panels and access doors or components will be bagged, labeled and attached to the panel or placed in secure containers and labeled.

- g. Inspect maintenance stands, ground support equipment, workbenches or special test equipment for damage and loose objects before placing in service. Keep work areas clean and free of loose items/hardware/debris not being used to perform maintenance on the aircraft (clean as you go).
 - h. Perform proper inspection and cleaning of the aircraft and the surrounding area after a given maintenance task and place all residue, cleaning rags, etc. in the appropriate receptacle(s).
 - i. Install appropriate plugs and/or caps on aircraft components and disturbed systems including ground support equipment openings, ports, lines, hoses, electrical connectors to prevent the entry of foreign objects into the aircraft systems and ensure that these devices will remain in place at all times, except when removal is required for maintenance access.
 - j. Inspect all removed aircraft panels and/or components for damage and removal of foreign debris before reinstallation. Care must be exercised during installation to assure that all fasteners are adequately secured.
 - k. Government provided tools shall be permanently and legibly identified. See Policy 221-13, Tool Control and Accountability for guidance.
 - l. Ensure that all personnel with access to the tool cabinets and equipment are briefed, understand and adhere to established tool control procedures. This requirement also applies to all personnel temporarily assigned to AOC.
 - m. Containers will be used for the disposal of combustible wastes, rags, and other flammable materials.
 - n. Spills shall be cleaned up immediately. Drip pans shall be used where spills or drips are likely to occur.
- 3.5 Positive control of all tools, parts, miscellaneous parts and consumables (MSP) taken onboard or used around the aircraft:
- a. Tools taken onboard aircraft are controlled through inventory. Tools are inventoried prior to and after the task completion.
 - b. MSP shall be kept in spring loaded snap-tight containers in order to eliminate the potential for FOD introduction should spillage occur.
 - c. MSP including reusable ones shall not be left on the floor, aircraft, components, stands or equipment. They shall be segregated in containers to eliminate the possibility of FOD migration into, on, or around aircraft, tires, components, scientific equipment, or ground support equipment.
 - d. The use of paper Dixie cups (as example,) for the temporary storage of MSP during the removal and reinstallation of panels, components and parts is permissible provided the work area is not susceptible to FOD ingestion like a **FOD Critical Area**.

NOTE: FOD Critical Area: Any area where flight hardware is in place and exposure to foreign objects would potentially cause a system or product failure due to deterioration, malfunction or damage.

Record of Changes/Revisions

This policy is a living document that is reviewed annually at a minimum and changed as required to reflect changes in Federal policy and/or organizational strategic goals and objectives. Modifications made to this document are recorded in the Change/Revision Record below. This record shall be maintained throughout the life of the document.

Change / Revision Record			
Version No.	Date	Section	DESCRIPTION OF CHANGE
4.0	1 Oct 2014	All	No changes
3.0	2 Aug 2013	3.2.h.	Replace "of Maintenance or Designee" with "Safety, Standardization and Training Branch"
3.0	2 Aug 2013	3.4.d.	Replace "maintenance" with "hangar"
3.0	2 Aug 2013	3.4.k.	Replace current reference with "Policy 221-13, Tool Control and Accountability"
2.0	1 Jul 2012	3.3	Change Section 3.3 title
2.0	1 Jul 2012	3.5	Add 3.5.d
2.0	1 Jul 2012	3.5	Insert " <i>NOTE: FOD Critical Area: Any area where flight hardware is in place and exposure to foreign objects would potentially cause a system or product failure due to deterioration, malfunction or damage.</i> "
1.0	9 Mar 2012	All	Initial Policy