



ITT

Aerospace Controls

STANDARD PRACTICE BULLETIN

TITLE: Foreign Object Damage Program

PROCEDURE: SPB 4.1-14

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REVISION: K

RELEASE DATE: May 3, 2016

FOREIGN OBJECT DAMAGE PROGRAM

Purpose

This procedure establishes the requirements and procedures to be used for purposes of Foreign Object Damage, FOD, elimination and prevention during in-process assembly/testing, final inspection, shipping operations and subcontractors as required. Site leader has designated Foreign Object Damage Prevention Leader to the Lean Master to coordinate and monitor the FOD Program and take Corrective Actions as warranted.

Scope

The requirements of this directive are applicable to all areas of in-process assembly/test, final inspection, shipping and subcontractors as required, where contamination or foreign object damage would be detrimental and must be prevented.

References

NAS 412 National Aerospace Standard for FOD
Boeing D6-85622
ITT Procedures; QRP 7.5.5 & SPB 4.1-07

Forms

Risk Assessment Form # ITTAC554
Audit Form # ITTAC555

Definitions

FOD – Foreign Object Damage
FO- Foreign Object

FOD Risk Assessment

Assessments will be performed at a minimum of annually in each department done by the FOD leader and department managers, and shall contain

- Product /process characteristics and sensitivity

Responsibilities

FOD Prevention Leader

- The individual is responsible for the development, implementation, and sustainment of this procedure.
- The FOD leader shall have the authority to identify and implement FOD prevention measures to achieve continuous improvement.
- Chair and maintain a FOD Prevention Committee
- Document expectations and program goals
- Ensure the establishment of area designations and requirements for FOD prevention.
- Ensure risk assessment is performed, documented and adequately addresses minimum requirements for impact of FOD to product(s).
- Ensure effective communication of all FOD prevention procedures, requirements, and processes to management and applicable personnel
- Establish FOD Prevention Program performance measures.
- Provide visibility of FOD prevention activities, area performance measures, and program status; including periodical departmental audits conducted as a minimum of twice a year.
- Assist in Root Cause Corrective Action (RCCA) of FOD incidents
- Ensure FOD prevention training is developed and adequately outlines program requirements

FOD Prevention Committee

The FOD committee will assist the FOD leader and responsibilities include:

- Meet on a scheduled basis.
- Review FOD Prevention Program performance and ensure timely and effective RCCA.
Preform participate in scheduled FOD audits Managers/Leaders
- Managers/Leaders shall commit to the FOD prevention program and continually work to improve its effectiveness.

Managers/Leaders responsibilities shall include:

Assign FOD prevention focal(s) with sufficient authority and organizational freedom to identify and implement FOD prevention measures.

- Identify and communicate FOD area designations to personnel

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- Implement and manage FOD prevention processes as part of daily operations.
- Assign, monitor, and track FOD prevention training
- Conduct, document, and report FOD process assessments.
- Report, document, and investigate all FOD Incidents and lost items =
- Implement corrective action to prevent FOD incident reoccurrences
- Report FOD prevention performance measures and communicate to personnel and FOD Prevention leader.

FOD prevention Focal:

Quality Engineer

As required, the Quality Engineer will review all travelers, ATP's and shipping documents for control of contamination or foreign object damage. The Quality Engineer will implement FOD inspection where applicable.

Quality Engineering will assist in audits for FOD as part of the Internal Audit Program. FOD verification is incorporated in the Internal Audit Checklist (reference QRP 8.2.2 Internal Audit Schedule, FOD Program).

The Quality Engineer shall support investigations any FOD incident and assist in determining root cause and verification of corrective action of the incident.

FOD training shall be provided to employees every other year or as required and evidence of training shall be maintained. As a minimum, the FOD prevention program shall contain the following elements:

1. Design & Manufacturing Process Review,
2. Performance Measurement,
3. Training,
4. Material Handling and Parts Protection,
5. Housekeeping,
 - a. Cleaning according to 6S principals
6. Tool Accountability/Management
 - a. Storage
 - b. Accountability and control
 - c. Maintenance/Serviceability....

- d. Search and recovery....
- e.
- 7. Hardware Accountability,
 - a. Storage
 - b. Accountability and control
 - c. Maintenance/Serviceability....
- 8. Lost Items Search and Documentation Process,
- 9. Physical Entry Control into FOD Critical Areas, and
- 10. FOD Focal Point(s)
- 11. Clean as you go.
 - a. Cleaning the immediate areas of the product when cannot continue
 - b. Cleaning the immediate areas of the product after work is completed and prior to inspections
 - c. Cleaning the immediate areas, at the end of each shift.

Visitors

Reception shall provide visitors "Visitor ESH Information" pamphlet which outlines ITT FOD program and requirements for all visitors.

Assembly Personnel

Assembly personnel shall not have any food or drink in the assembly area with the exception of a water container. All water containers must be closeable or screwed on tight to avoid spillage.

Assembly personnel shall ensure that each component for pre-assembly is thoroughly flushed and cleaned per the assembly router sheet requirements.

Assembly personnel shall ensure that all assembly kit layouts are free from FOD prior to assembly.

Assembly personnel shall be responsible for ensuring that their work areas are free from potential FOD conditions (i.e., paperclips, staples, loose paint, screws, nuts, washers, etc.). This should include silicone and silicone-bearing materials such as cosmetics, silicone wristbands, lubricant, etc. Only company provided hand lotions shall be used.

Assembly personnel shall ensure that all vehicles, carts, trays, etc., are free from foreign objects that could impair form, fit or function.

Assembly personnel shall ensure that all operations which require soldering, lock wire, paint and/or sealing compound are quarantined from the controlled assembly or test areas.

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Assembly personnel shall ensure that all sub-assemblies ready for build-up are properly protected, all inlet and outlet ports are protected with protective caps, plugs or seals when not in use to prevent FOD.

Assembly personnel shall bring to the attention of their responsible supervisors any condition that may lead to a potential FOD-induced failure or incident

Uncontrolled, damaged parts or equipment shall be immediately removed.

During assembly/test work operations, parts, assemblies, fixtures and equipment shall be handled and stored in a manner to prevent damage, deterioration or contamination-induced damage.

Test Technicians

Test technicians shall be responsible for preventing FOD-induced conditions during test.

Test technicians shall be responsible for ensuring that all plumbing, test fixtures, etc., are properly protected (capped, plugged) to prevent a FOD condition.

Test technicians shall ensure that mobile test fixtures, test carts and material test carts are free from FOD material.

Test technicians shall ensure that all material ready for test is properly protected (i.e., inlet and outlet ports capped) and that material leaving the test area is properly protected.

Final Inspection

Final Inspection shall ensure that all material submitted is properly protected and free from FOD.

Shipping

Shipping personnel shall ensure that all tables are orderly and clean to the degree that can be expected and FOD-free.

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REVISION HISTORY

The following table documents the changes made in this latest version. It does not include changes in formatting or correction in typographical or grammatical errors.

DATE	REVISION	SECTION	SUMMARY OF CHANGES
5/1/13	<i>J</i>	<i>1.0, 3.0-5.5</i>	<i>Revised</i>
5/3/2016	<i>K</i>	<i>Various</i>	<i>Update to Boeing D6-85622 document & latest revision of NAS412, and forms-- Added Risk Assessment & responsibilities FOD leader & committee responsibilities</i>