U.S. Department
of Transportation

Federal Aviation Administration

Advisory Circular

Subject: DEBRIS HAZARDS AT CIVIL AIRPORTS **Date:** 7/5/96 **AC No:** 150/5380-5B
Initiated by: AAS-100 **Change:**

1. PURPOSE. This advisory circular (AC) discusses problems of debris at airports, gives information on foreign objects, and tells how to eliminate such objects from operational areas. It also addresses the acquisition of power sweepers for foreign object damage/debris (FOD) control at airports.

2. CANCELLATION. AC 150/5380-5A, *Debris Hazards at Civil Airports*, dated 2/25/81, is canceled.

3. APPLICATION. The material contained in this AC is applicable for use in the operation of all civil airports. On certificated airports, the recommendations and guidelines may be used, as appropriate, to satisfy the requirements of Federal Aviation Regulation (FAR) Part 139, Subpart D, paragraphs 139.305(a)(4) and 139.307(a)(5).

4. RELATED READING MATERIAL.

a. AC 150/5200-18, *Airport Safety Self-Inspection*, current edition.

b. AC 150/5200-30A, *Airport Winter Safety and Operations*, current edition.

c. AC 150/5200-5A, *Wildlife Attractants On or Near Airports*, current edition.

d. AC 150/5300-13, *Airport Design*, current edition.

5. BACKGROUND.

a. Debris Hazards. FOD hazards on airports are considered to be comparable to those associated with birds and winter operations. Costs to one major airline average $15,000 per aircraft, which represents an industry cost of over $60 million per year. This is the equivalent of one new medium-sized transport category jet. Tests and experience have shown that foreign objects on airport pavements can be readily ingested by aircraft engines, resulting in engine failure. Debris can also become lodged in mechanisms, affecting the operation of landing gear, flaps, etc. These hazards can be reduced, however, by the establishment of an active FOD prevention program. While snow and ice and wildlife are significant causes of FOD, these concerns are addressed by other ACs (see par. 4, Related Reading Material) and are beyond the scope of this document.

b. Typical Foreign Objects. Typical foreign objects include the following: aircraft and engine fasteners (nuts, bolts, washers, safety wire, etc.); mechanics' tools; flight line metal (nails, personnel badges, pens, pencils, etc.); stones and sand; paving materials; pieces of wood; plastic and/or polyethylene materials; paper products; and ice formations in operational areas.

6. PREVENTIVE MEASURES. The following information is intended to help in establishing airport programs for preventing foreign object damage. It is particularly applicable to airport owners and operators, air carrier station managers, and general aviation operators. Individuals in these positions are expected to alert ramp crews, maintenance technicians, and aircraft servicing personnel to the safety hazards created by debris.

Procedures to eliminate FOD must address two fundamental requirements: (a) the avoidance of debris and (b) the removal of debris from airport pavements. Consider the potential of all airside activities in the cause of FOD. For example, using ordinary surveyor's flags instead of specially designed markers to mark edge lights for snow removal may easily precipitate a FOD situation. Advisory Circular 150/5200-30, Airport Winter Safety and Operations, provides details on recommended edge light markers.

a. Identifying Causes. The causes and principal contributing factors to FOD at a specific airport location must be determined before an effective local prevention program can be developed. For airport operations, airport construction, and aircraft maintenance, one should address potential problems with FOD as a result of these activities and undertake preventive measures for each.

b. Establishment of a FOD Awareness Program. Each individual with access to an airport operations area should understand his/her role in prevention of FOD. A formal orientation program familiarizing new employees with security and communications procedures, vehicle operations, etc. should include FOD awareness training. Address in this training the hazards associated with debris and tactics for FOD prevention. A joint program with airport tenants, including the establishment of a FOD prevention committee, will help to broaden and sustain awareness of the FOD problem.

(c) Establishment of a Maintenance Program. Each activity on the airport should have a FOD prevention program tailored to that particular activity. Some suggestions are as follows:

(1) Aircraft Maintenance. Account for and dispose of nuts, bolts, washers, safety wire, etc. Account for hand tools used in repair jobs. Aids in the control of these items include checklists, shadow boards, and cut out tool tray liners.

(2) Air Cargo. In an air cargo area, there is a high potential for blowing debris such as plastic cargo wrappers. Establish procedures to contain such debris, possibly by installing fencing where appropriate. Of course, FOD trapped by such fences should be removed regularly.

(3) Construction. Establish specific FOD prevention procedures for each construction project. These procedures should be based on the proximity of construction activities to operational areas but in general should stress containment and regular cleanup of construction debris.

(d) Inspections. Make inspections of operational areas at least once each day, with additional inspections being made in construction areas and immediately after any aircraft or ground vehicle accident or incident or any spill of material which may cause slippery conditions. AC 150/5200-18 gives guidance in the performance of airport inspections. Encouraging the participation of airport tenants in inspections will reinforce the concept that FOD prevention is a team effort and demonstrate the airport operator's commitment to a debris-free environment.

(e) Pavement Repair. Spalled or cracked pavements, while structurally sound, may require expedited repair to minimize the ingestion of pavement fragments.

(f) Shoulders. Areas adjacent to pavements should be stabilized to prevent FOD. AC 150/5300-13 gives further guidance in the construction of stabilized shoulders.

(g) Debris Removal.

(1) Receptacles. Provide conspicuously located, well marked FOD receptacles. Suggested locations include the following: near entry points to the airport operations area, in hangars, in aircraft tiedown and aircraft maintenance areas, and at each aircraft gate.

(2) Equipment. Consider using specialized brooms, magnets, and vacuum-type machines to clean aircraft operational areas as well as runway and taxiway safety areas. The acquisition of power sweepers and/or vacuums for use in FOD prevention is considered appropriate. The National Aerospace FOD Prevention, Inc. *FOD Prevention Industry Guideline* (Appendix 2) recommends that sweeper brushes with metal bristles or spines not be used. Plastic or combination plastic/metal bristles may be appropriate, but the user should consult the equipment manufacturer for specific recommendations. Regardless of the equipment used, a thorough check of the pavement should be conducted at the conclusion of the sweeping procedure.

(3) Pavement Joints. Give special attention to the cleaning of cracks and pavement joints as tests have shown that these are the main sources of foreign objects which are ingested.

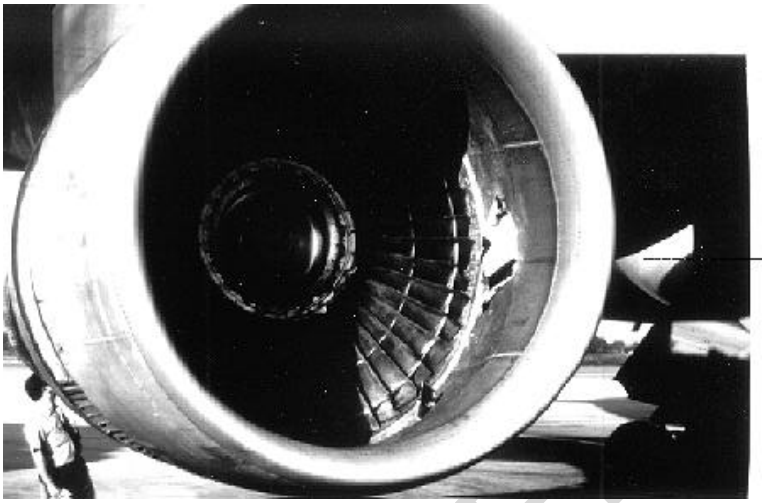
7. National Aerospace FOD Prevention, Inc. National Aerospace FOD Prevention, Inc. is a nonprofit industry group dedicated to the elimination of FOD. Their *FOD Prevention Industry Guideline* is reproduced as Appendix 2 to this document. For additional information, contact National Aerospace FOD Prevention, Inc. at 1-800-FOD-1121.

DAVID L. BENNETT
Director, Office of Airport Safety and Standards

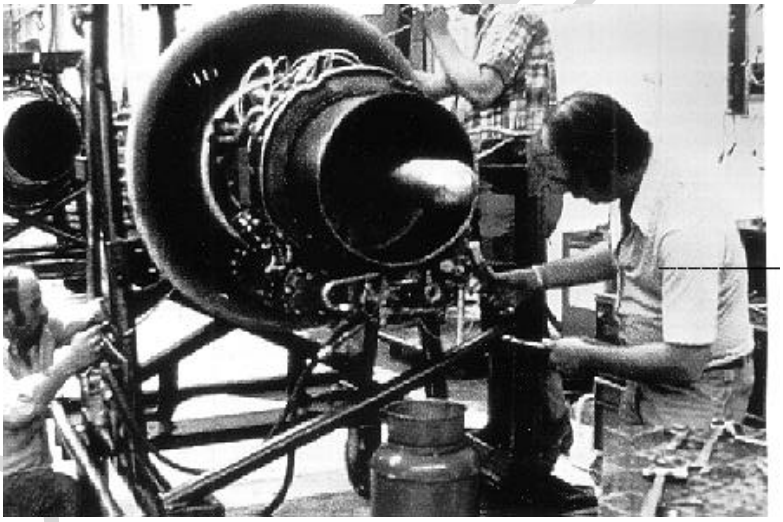
THIS PAGE BLANK FOR ALIGNMENT

APPENDIX 1. ILLUSTRATIONS OF RESULTS OF FOREIGN OBJECT DAMAGE

FOD can result in the following:



1. Relatively minor damage to an engine nacelle,



2. The need to completely rebuild a jet engine, or

3. The loss of an aircraft and possibly life.

BLANK PAGE FOR ALIGNMENT

APPENDIX 2. NATIONAL AEROSPACE FOD PREVENTION, INC.
FOD PREVENTION INDUSTRY GUIDELINE

The following is a reprint of the National Aerospace FOD Prevention, Inc. *FOD Prevention Industry Guideline*. Although the appearance has been altered for the purpose of this AC, the content of the guideline is the same.

FOREWORD

The purpose of this document is to establish a guideline for the prevention of foreign object damage (FOD) to aerospace products being designed, developed, manufactured, assembled, operated, repaired, modified, refurbished and maintained.

Most FOD can be attributed to poor housekeeping, facilities deterioration, improper maintenance or careless assembly and operations practices. An effective FOD prevention program identifies potential problems, corrects negative factors, provides awareness, effective employee training, and uses industry "lessons learned" for continued improvement.

The objective of the *FOD Prevention Industry Guideline* is the preservation of private and national assets and to reduce the hazards to life that are inherent in aerospace activities.

This document is intended to be used as a baseline FOD prevention policy/procedure. Users are encouraged to apply the contents of this guideline to suit their particular product or company.

INTRODUCTION

National Aerospace FOD Prevention, Inc. is a nonprofit, educational undertaking. The purpose of the organization is to provide the aerospace industry with information about the prevention of foreign object damage to aircraft and aerospace vehicles. The intent is to make the aerospace industry aware of the need to eliminate foreign debris, and to provide information about current proven practices and technological advancements that prevent FOD. Additionally, board members work with all interested companies, associations, and government agencies to accomplish this purpose.

This guidance is developed by the Board of Directors. The Board was established in l985 to oversee the activities of the National Aerospace FOB Prevention Conference and represents members from aerospace companies, suppliers, associations, and government agencies. This guidance is designed to provide assistance, advancement, and share awareness with the aerospace industry. Valuable "lessons learned" have been shared so that the industry can become more effective in their individual FOD prevention programs.

It is anticipated that as the industry accepts and implements these recommendations, Quality and product integrity will improve, thereby increasing productivity and reducing avoidable cost. The Board recognizes each program must be individually based on company philosophies, contract requirements, and policies. This guidelines will be helpful toward the goal of permanent and continuous improvement in promotion of flight safety.

I. GENERAL

A. SCOPE

The guideline establishes recommendations for prevention of Foreign Object Damage (FOD) to aerospace products. Aerospace products include aircraft, missiles, launch vehicles, drones, satellites, engines, operating systems, manufactured parts, associated ground support equipment, and related components.

B. DEFINITIONS

Clean-As-You-Go. A job by job cleaning. Clean before leaving the work area. Be in control of all debris, tools, hardware, and consumables.

Consumables. Supplies provided to workers that are expendable.
Examples are:

- issued apparel
- Safety glasses
- Glue, paint, sealant
- Rags
- Sandpaper, brushes, applicators
- Free-stock items: fasteners and other hardware.

Critical Area. Any area that when exposed to foreign objects would potentially cause a system or product failure due to deterioration or malfunction.

Critical FO. Foreign objects in areas from which migration is possible, e.g., through tooling holes, bend relief cutouts, drain holes, intakes, etc., which are probable to cause system or component malfunction or deterioration should the product be put into use.

Foreign Object (FO). A substance or article alien to vehicle or system.

Foreign Object Elimination (FOE). A program or process used to assure a FOD-free product/system.

Potential FOD. The condition where a FO may cause damage should the product be put into use.
Examples are:

- Metal or wire clippings, solder balls and debris lying in the vicinity or electrical terminals, circuitry, connectors, components, etc.
- Tools, hardware, or debris left in the vicinity, or in a migratory path or a vehicle's control system or engine inlets
- Debris lying on runways, ramps and taxiways
- Propwash exhaust blasts
- Inclement weather
- Ice and salt
- Birds and other animals
- Electro-Static Discharge (ESD)
- Construction debris

Shadowbox. A tool box with specific, marked locations for each tool so that a missing tool will be readily noticeable.

Tether. A lanyard of sufficient strength (wire, rope, cable, etc.) attached to the tool/equipment and to the user or fixed secure object. The tether should be minimum length to preclude damage from tethered tool "free swing."

Tote Tray. A device for storing/carrying/transporting tools or equipment in a secure manner to prevent inadvertent dropping, i.e., a tool holder, an apron with pocket rings to which tools can be secured. Tote trays with lids will have the lid secured to the tote tray body.

C. REFERENCE DOCUMENTS

1. MIL-STD-980

2. AFI 21-101, ACCI 21-101

3. OPNAV 4790.2E

II. IMPLEMENTATION CONTROL METHODS

Establish and maintain an effective FOD prevention program that is planned and implemented using a "continuous improvement" approach.

Basic Elements

1. FOD Prevention Training.

2. Early design consideration for FOD prevention, resistance to damage, FOD entrapment or component.

3. Assembly sequencing and maintenance/manufacturing techniques that include proper care and use of assembly/maintenance equipment and parts protective devices.

4. Handling of material.

5. Housekeeping.

6. Control of tools and personal items.

7. Control of Hardware/consumables.

8. Measuring techniques for analysis, trending, and feedback.

9. Incident investigation/reporting , "lessons learned."

10. Control of hazardous material.

PREVENTIVE PRACTICES

1. Follow procedures.

2. Practice good housekeeping, "clean-as-you-go."

3. Established designated storage areas for ladders, hoses, tool boxes and other work aids.

4. Account for all tools, hardware, and equipment at specific intervals.

5 Use x-ray, borescope, and other state-of-the-art equipment to inspect inaccessible areas.

6. Provide worker awareness to FOD causes.

7. Industry feedback.

A. MEASURING PERFORMANCE

The operational target in any FOD Prevention Program should always be "zero." To enable visibility to problem areas and trends, provide management and workers with inspection results, incident/mishap reports, and feedback of progress. Methods providing this information are:

- Visibility Charts - statistical graphics derived from audit or incident data. Usually provided on an isochronic schedule, i.e., weekly or monthly.
- Trend Analysis - Where have you been? Where are you going?
- Report Card - a checklist of areas routinely inspected that shows specific problem areas.
- Performance Review - a review of worker conformance to standards or expectations.
- Customer comments, concerns, or complaints.

Workers need specific information about what is wrong before they can be expected to improve processes. Let them know when they're doing well or when they're not. Feedback is vital to process improvement.

B. TRAINING

The primary objective of a FOD prevention training program is to increase employee awareness to the causes and effects of FOD and to promote active involvement through specific techniques.

A FOD prevention training program for employees associated with design, development, manufacturing, assembly, test, operations, repair, modification, refurbishment, and maintenance is required as part of initial job orientation and on a continuing basis.

Training subjects include:

1. Proper storage, shipping, and handling of material, components, and equipment

2. Techniques to control debris

3. Housekeeping

4. Cleaning and inspection of components and assemblies

5. Accountability/control of tools and hardware

6. Control of personal items, equipment and consumables

7. Care and protection of end items

8. Quality Workmanship ("Clean-as-you-go," Inspection)

9. Flight line, taxiway, and ramp control methods.

10. How to report FOD incidents or potential incidents.

C. MATERIAL HANDING AND PARTS PROTECTION

A well-established plan or material handling and parts protection can eliminate many potential FOD hazards. First, identify the specifics such as sensitive parts, assemblies, surfaces, areas, etc. Then, sequence events for packaging, handling, shipping, and storage, and finally, evaluate cleanliness and care requirements.

Control Techniques

- All employees should be trained to assure compliance with packaging, handling, shipping, and storage requirements.
- Materials and accessories used in the packaging, handling, shipping, and storage which have intimate contact with the part or assembly shall be clean and free of contamination.
- Parts and assemblies shall be packaged in a manner that will preclude any chance of one item making contact with another during normal handling operations.
- Protective and packaging materials shall be chosen based on their ability to adequately resist penetration by tearing, parting, or piercing from forces either external or internal during normal handling operations.
- Specific instructions for packaging/unpackaging/handling.
- Protective devices (edge protectors, caps, plugs, covers, filters, rub strips) shall be clean and secured to prevent accidental damage. Once installed, unauthorized removal of protective devices is prohibited and shall be controlled through assembly or maintenance planning paperwork.

Consideration should be given to the visibility/detection of material used for protection so that the material in itself doesn't become FOD. Consideration should include:

- Color of packaging or protective devices so they don't appear to be a part of what they are protecting.
- Streamers for removal for critical items.

Material Characteristics

1. Materials shall be compatible with the environmental and physical stresses expected to be encountered during product service.

2. Static sensitive devices shall be properly protected to avoid damage. Materials that are used to protect electro-explosive devices and sensitive electronic components shall be kept clean, covered, and stored away from ordinary nonstatic safe materials.

Condition

Visually inspect all packaging, handling, shipping, and storage containers for the following:

l. Nicks, dents, holes, abrasions, scratches, burns, etc., which may be detrimental to the function and integrity of the part or assembly.

2. Grease, preservatives, corrosion products, weld slag, shop and other dirt, and other materials foreign to the item.

D. HOUSEKEEPING

Maintenance, manufacturing, and operational areas must remain clean. Employees should be informed that housekeeping is a part of their job, and they will be graded on their performance. Incorporate "clean-as-you-go" as a required work ethic to prevent debris from migrating into flight hardware:

- Ensure that all production, maintenance, and test areas meet "good housekeeping" standards that enhance foreign object elimination. This includes sweeping and vacuuming production areas as well as a regular schedule for sweeping ramp areas.
- Assure that taxiways, runways, and flight decks are free of foreign objects that may cause damage.
- Ensure that grounds and surfaces on which aerospace vehicles and ground support equipment are operated and maintained are free of objects that could cause damage due to ingestion of foreign object or jet blast effects.

- Establish and maintain safe taxi distances between aircraft to minimize the danger of debris being moved by the jet blast exhaust.
- Ensure prior to the occupation of newly constructed aircraft facilities that all construction debris (including overhead welding slag) is removed as a foreign object elimination measure.
- In the refurbishment or maintenance of existing airfield facilities or construction of new facilities, assure that all construction debris is removed at the end of each task or at the end of each shift. This requirement should be entered into contractual agreements.

E. TOOL ACCOUNTABILITY

The primary objective of a positive tool control program is to eliminate accidents/incidents and loss of life or equipment due to tool FOD.

There are numerous methods to facilitate accountability: use of shadow boards, shadowboxing, bar coding, special canvas layouts with tool pockets, tool counters, chit system, or consolidated tool kits. Unique control methods should be implemented for special tools used in checkout, test, and operational environments.

Tools/equipment should be tethered or suitably restrained to the user in areas around structural workstands or any other locations where a dropped article could result in damage to flight hardware, injury to personnel, or where difficulty in retrieval would result if the tool were dropped.

All loose tools should be carried and stored in a tote tray, soft tool bag or other suitable container and not be placed in a manner that would cause damage to flight hardware or injury to personnel.

F. HARDWARE CONTROL

The primary objective of hardware control is to assure accountability.

There are many effective methods that can be established for control of hardware (nuts, bolts, screws, cotter pins, rivets, clecoes, etc.):

1. Kit hardware by task.

2. FO containers should be placed in key locations within the work area and at entry and exit points.

3. “Clean-as-you-go.”

4. Removal/installation paperwork to track loose parts.

5. Furnish and specify tote trays.

G. LOST ITEMS

Any time an item is lost during an assembly, manufacturing, or maintenance task, cease activity in the affected area and initiate a search for the item. Continue this search until the item is found or adequate assurances are made that the item is not contained in the aerospace vehicle or assembly. Searching for such items may require depaneling or nondestructive inspections, including borescope and/or x-ray. If an item cannot be located after a search has been completed, annotate forms (maintenance records) with a description of the item and search procedure followed.

H. HAZARDOUS MATERIAL

Management of hazardous waste materials is important in the prevention of FOD. Disposition of hazardous waste materials is dependent upon the commodity discarded.

Consult Federal, state, and local Hazardous Material Procedures for disposal specifics.

III. DESIGN CONSIDERATIONS

Begin the reduction of damage potential and elimination of FOD hazards with the design process. Assure design includes, but is not limited to:

A. Identify and eliminate FO entrapment areas.

B Identify and seal areas through which FO can migrate.

C. Use screens over exposed openings when appropriate: e.g., intakes, exhausts, etc.

D. Install special access panels, ports, etc., for inspection and clean-out of FO that could potentially cause damage.

E. Use blind fasteners in critical areas, such as fuel cells, that are not prone to leaving debris during installation.

F. Use fasteners with self-retaining features to secure high usage access panels.

G. Locate service points, ground points, and built-in test equipment in areas which are least FOD sensitive.

H. Use compatible metals and seals to prevent accelerated deterioration and subsequent failure of seal material.

I. Use conformal coatings as a positive seal against entry of minute FO including dust and water vapor.

K. Design aircraft inlets to minimize traps where water can collect and freeze. Inlets should be easily plugged and completely sealed against water when plugged.

L. Chaffing potential should be eliminated through the design of hardware brackets, special protective material and special routing.

M. Provide screening or other means of FO blockage for water drainage holes forward of the engine inlet path.

N. Procedures shall include provisions for FOD incident feedback and appropriate corrective action.

IV. ASSEMBLY OPERATIONS

Plan and sequence maintenance/manufacturing tasks to preclude foreign object damage and entrapment of debris or contamination. Documents should contain necessary processes and procedures for controlling and removal of contamination and debris during fabrication and assembly operations. As applicable, the following should be included in work instructions:

A. Upon completion of final machining operation, clean or flush the machined component to assure that it is free of debris, and immediately cap or seal exposed openings to deny foreign object entry.

B. Adequately protect hardware and equipment from splatter accumulation during brazing soldering , welding and like operations.

C. Inspect components and equipment for damage prior to installation and repair as necessary. Always ensure part integrity before installation.

D. Verify required protective devices (dust covers, temporary seals, cushioning, etc.) are present and properly installed. Items with protective devices missing are to be inspected for FO, cleaned if necessary, and protective devices installed.

E. After fluid and pneumatic system lines and tubing are cut and debarred, assure thorough cleaning and cap ends of lines.

F. Inspect for and remove extraneous material as part of the assembly step, conduct a foreign object inspection and remove debris.

G. Inspect production tooling (jigs, fixtures, handling equipment, etc.) to assure it is clean, undamaged and free of foreign material prior to installation and build-up of components or assemblies. Exercise this same care for workstands, ladders, special test equipment, etc., which must be placed on, in, or around production hardware to accomplish specific tasks.

V. TEST CELL ENVIRONMENT

When products are in a test cell environment, FOD prevention procedures shall include, but are not limited to, the following:

A. Assurance that adequate preventive maintenance is performed on the test facility.

B. Inspection of the test cell and facility equipment for deterioration or damage and assurance that deficiencies which present a FOD hazard are corrected prior to test cell operations.

C. Inspection of the area before introduction of the test article to the test environment to be sure that it is clean, tools are secured, fixtures, dollies and special test equipment are properly prepared and secured, and that required protective devices (engine inlet screens, covers for engine components and instruments, etc.) are on hand, clean, and undamaged.

D. Visual inspection of the test article before it is placed in the test cell, removal of loose objects, and installation of the necessary protective devices.

E. Ensure test cell equipment, tools and accessories are maintained and used in a manner to protect test article from damage or contamination through tool abuse or in-use failure (chipping, cracking, peeling, fraying, etc.).

F. Prior to start, visually inspect engine intake/exhaust areas for potential FO and rotate the engine through sufficient revolutions to ascertain if there is unusual noise or binding condition. Instrumentation lines, hoses, and wires should be taped or clamped to eliminate vibratory failure. Use of lockwire or cotter pins for this purpose is prohibited.

G. Upon completion of each test article run and prior to removal from the test cell, inspect test article for presence of FOD and install protective covers.

Physical Entry into FOD Critical Areas

When physical entry is required into flight hardware, such as crew compartment, engine intake, exhaust, fuel tank areas, etc., assure removal of all loose objects, badges, jewelry, etc., from clothing. Pocketless coveralls should be worn to preclude foreign objects dropping from pockets onto a FOD critical area.

VI. FIELD OPERATIONS

Field operation primarily involves inspection, care, and maintenance of ramps, structures, runways, and taxiways. A comprehensive, scheduled maintenance system using sweepers, magnets on vehicles, and frequent inspections will provide some confidence, but additionally, special considerations may include:

1. Tarmac repair methods/materials and frequency of inspection.

2. Vehicular traffic patterns and controls; i.e., all vehicles should be driven on clean, paved surfaces when possible. If a vehicle must be driven on an unpaved surface, the operator will check the vehicle tires for foreign objects immediately after returning to the pavement.

3. Support equipment cleanliness - items used in and around aircraft must be FO free and should be inspected prior to movement.

4. Sweeper effectiveness - just because a sweeper is used, does not mean it is effective. Periodically check sweeper routes to assure cleanliness. Also, sweeper brushes made with metal bristles or spines should not be used.

5. Attendants, flight line workers and contractors must be briefed and continually reminded of expectations related to foreign object damage and control. Worker involvement is the key to a successful program.

6. A flight line traffic plan depicting routes to be used by all approved vehicles requiring access to buildings on or around the flight line should be developed and posted.

7. Routine inspection of areas used by contractors, tenants, concessionaires for staging equipment, load/off-load, operations, etc.

8. Establish FOD Control policies for all personnel, vehicles, equipment, and special events having access to the airport operations area (AOA).

9. Include FOD prevention considerations in the design, contracting, award, and construction management for all airfield projects.

VII. REPORTING/INVESTIGATION

All incidents of actual or potential FOD must be reported and investigated. When a FOD incident occurs, operations must immediately cease and an investigation initiated to determine the cause. Cause and corrective action must be attained in a timely manner to preclude similar occurrences from happening in the future - "lessons learned." Cause may be determined by visual observation, forensic analysis, or by location of the object.

A FOD incident report format should include the following:

- Date
- Part name (nomenclature)
- Type and/or model
- Part serial number
- Part location
- When discovered
- Who discovered
- How discovered
- Narrative description of FO/FOD
  - when analyzed
  - who analyzed
  - how analyzed
- Corrective action
- Reported by

If FOD incident is discovered after flight operations:

- Ground/flight maneuvers performed
- Taxi route
- Airports involved
- Aircrew contact phone number
- Time/sequence of events
- Weather/environment
- Abnormal operations

These reports should be directed to a focal point who will perform tracking and trending analysis. The focal point should also assure all affected personnel are aware of all potential (near mishap)/actual FOD reports which will facilitate feedback ("lessons learned").

When an incident occurs on a government program, check contractual requirements and notify the appropriate government representative, if applicable.

Where a FO exists but cannot be eliminated, found, or effectively sealed, identify, document and record all significant search activity in the appropriate aircraft paperwork.

A "near mishap" is one where FOD incidents would have occurred had the event remained undetected. Documenting near mishap incidents and sharing them with workers is an important part of feedback, awareness, and "lessons learned."

Questions regarding this document
should be directed to any member of the
National Aerospace FOD Prevention, Inc.,
Board of Directors or dial:
1-800-FOD-1121