



Federal Aviation Administration

National Part 139 CertAlert

****Advisory**Cautionary**Non-Directive**Advisory**Cautionary**Non-Directive**Advisory**Cautionary**Non-Directive****

Date: July 25, 2022 **No. 22-03**
To: All Title 14 CFR Part 139 Airport Operators
Subject: Self-Inspections and Foreign Object Debris (FOD)

Point of Contact: Alberto Rodriguez, AAS-300, (847) 294-7647
Email: alberto.rodriguez@faa.gov

- 1. Purpose.** This CertAlert reminds airport operators of the potential safety issues associated with Foreign Object Debris (FOD) on an airport. Specifically, the detection of FOD on the movement areas, and associated safety areas, should continue to be a primary focus for airport operators, since these areas are prone to the presence of FOD. Routine self-inspections coupled with supplemental inspections prompted by specific activities such as accidents, construction, maintenance, and meteorological events can greatly reduce the hazards associated with FOD.
- 2. Background.** Incidents resulting in physical damage to an aircraft from FOD-related items continue to be a concern in the airport operating environment. In many of these incidents, lapses in inspection or maintenance programs contribute to the cause. These incidents highlight the importance of preventive maintenance programs and detailed inspection procedures. Applicable requirements under Title 14 Code of Federal Regulations (CFR), Part 139, are addressed in the following sections:

§139.305(a)(4), Paved areas

“...except as provided in paragraph (b) of this section, mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants must be removed promptly and as completely as practicable.”

§139.309(b) Safety Areas

“...Each certificate holder must properly maintain its safety areas.”

§139.311 Marking, signs, and lighting; (d) Maintenance

“...Each certificate holder must properly maintain each marking, sign, or lighting system installed and operated on the airport. Airports comply with this requirement through routine inspections and by applying a detailed preventive maintenance program.”

§139.327 Self-inspection program

“...In a manner authorized by the Administrator, each certificate holder must inspect the airport to assure compliance with this subpart...”

3. Discussion. A successful FOD management program is composed of four major elements: Prevention, Detection, Removal, and Evaluation.

- PREVENTION
 - Associated with awareness and accomplished through an airport FOD Program, training of airport personnel, and education of airport stakeholders.
 - A comprehensive and routine maintenance program helps prevent some occurrences of FOD generated from airport facilities and equipment (e.g., in-pavement fixtures, pavement maintenance, vehicle maintenance, etc.).
- DETECTION
 - Accomplished in a timely manner through an airport self-inspection program. An effective program incorporates additional inspections for unusual conditions such as maintenance activities (which includes repairs, replacement, snow and ice control), construction, and meteorological conditions, in addition to routine daily self-inspections during hours of daylight and darkness.
 - When an airport operator receives a report of potential FOD, the operator should take immediate action to assess the safety impact and mitigate any hazards relating to the FOD that exists. This may call for a closure or restriction of an airport surface to mitigate the safety hazard.
 - At towered airports, a Letter of Agreement should include procedures to follow when observing FOD or receiving a FOD report.
 - Stakeholders and their support organizations also contribute by managing FOD producing activities in their areas of responsibility.
 - The use of FOD detection technology greatly expands a certificate holder’s FOD-detection capability.
- REMOVAL
 - Ideally, FOD removal occurs in conjunction with the previously described detection activities. The type of FOD removal operation varies from one airport to another. However, it is important that an airport operator dedicate the necessary resources and equipment (e.g., personnel, sweepers, etc.).
 - Having the means to promptly respond to observed or reported FOD greatly reduces the overall impact to airport operations.
 - Personnel should be well versed in the policies for use and operation of the FOD-collection equipment.

- EVALUATION

- Collecting airport-specific data on FOD is an important component of the program.
- Through analysis, an airport operator may be able to determine root causes and trend information related to FOD hazards, which in turn contributes to more effective prevention efforts.
- An airport operator should conduct a routine review of the airport's FOD management program to determine its effectiveness.

(Additional details can be found in AC 150/5210-24, *Airport Foreign Object Debris (FOD) Management*.)

4. Related FAA Standards. Airport operators should consult the current versions of the following documents.

- [Advisory Circular 150/5200-18, *Airport Safety Self-Inspection*](#). Provides information to airport operators on airport self-inspection programs and identifies items that airport operators should include in such a program. Also, this AC provides recommendations on inspection procedures for airport fixtures in the airport movement areas.
- [Advisory Circular 150/5210-24, *Airport Foreign Object Debris \(FOD\) Management*](#). Provides guidance for developing and managing an airport foreign object debris (FOD) program. In addition, this AC provides specifications for the equipment used in FOD removal operations.
- [Advisory Circular 150/5340-26, *Maintenance of Airport Visual Aid Facilities*](#). Provides specific guidelines for maintenance of airport visual aid systems. This AC discusses maintenance procedures for in-pavement lighting systems and provides guidelines and a schedule of periodic checks. It is important that maintenance personnel and persons assigned to perform daily inspections review the schedule of periodic checks, including the periodical check of bolts used to install in-pavement lights, panels, manhole and maintenance access covers, and any other bolted down fixtures in the runway, taxiway, and safety area environments.
- [Advisory Circular 150/5340-30, *Design and Installation Details for Airport Visual Aids*](#). Chapter 12 discusses the unique requirements associated with the maintenance of "load-bearing lighting fixtures" such as in-pavement centerline or touchdown-zone lighting.
- [Advisory Circular 150/5320-5, *Airport Drainage Design*](#). Explains that special consideration must be given to the design of the manhole frame and cover. The cover must be secured so that it remains in place during peak flooding periods, avoiding a manhole "blowout." A blowout is caused when the hydraulic grade line rises in elevation higher than the manhole cover and forces the lid to explode off. Manhole covers should be bolted or secured in place with a locking mechanism if blowout conditions are possible.

- [AC 150/5370-10, Standard Specifications for Construction of Airports](#). States that all castings or structural steel units will conform to the dimensions shown on the plans and will be designed to support the loadings, aircraft gear configuration, and/or direct loading, specified. Each frame and cover or grate unit will be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure. Operators must ensure that all non-light fixtures are properly inspected and maintained to ensure they are properly secured with their designed locking mechanism (bolts and/or other fasteners).
- [Engineering Brief \(EB\) 83, In-Pavement Light Fixture Bolts](#). Provides information and guidance for standard methods to be employed when using stainless steel or coated carbon steel bolts to secure light fixtures to L-868 light bases. Stainless steel and coated carbon steel bolts can be used for connecting extension rings or light bases to light fixtures. Bolt tension and clamping force are discussed to properly determine bolt torque values. Airport operators should reference EB 83 when selecting materials such as bolts and installing light systems.

In addition to conducting the required inspections and maintenance, airport operators must also properly document these FOD-related activities.

If you have any questions about documentation requirements or this CertAlert, please contact your assigned Airport Certification Safety Inspector.



Birkely Rhodes, Manager
Airport Safety and Operations Division, AAS-300