Airport Safety Self-Inspection

Including airfield inspection photos

Presented to: Part 139 Airports,
FAA Southern Region

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Airport Safety Self-Inspection Aspects

- Applies to: Airports certificated under 14 CFR part 139.
- Key component of an airport operator's airport certification program.
- Required under Part 139.327.
- Effective self-inspection programs let airport operators maintain compliance with Part 139 standards.

Part 139 Regulation

- A strong airport self-inspection program is essential to ensure compliance with the provisions of Part 139, Subpart D-Operations.

U.S. Department of Transportation
Federal Aviation Administration

Federal Aviation Regulations

Part 139 –
Certification of Airports

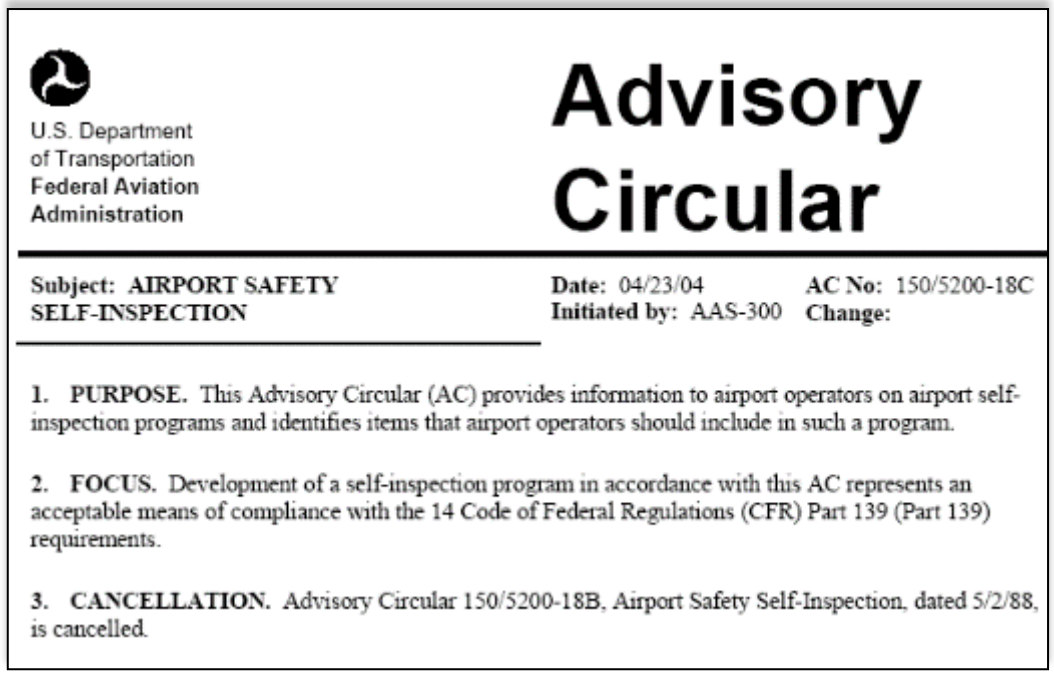
Revised
September 21, 2010
(As amended May 3, 2004 and June 4, 2004

Part 139 Certification of Airports

- Part 139- Certification of Airports
- 139.327- Self inspection program.
- (a) In a manner authorized by the Administrator, each certificate holder shall inspect the airport to assure compliance with this subpart…”

Guidance

- FAA Advisory Circular 150/5200-18C helps airport operators develop a good self-inspection program.



U.S. Department
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Federal Aviation
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Advisory Circular

Subject: AIRPORT SAFETY SELF-INSPECTION

Date: 04/23/04 **AC No:** 150/5200-18C
Initiated by: AAS-300 **Change:**

1. PURPOSE. This Advisory Circular (AC) provides information to airport operators on airport self-inspection programs and identifies items that airport operators should include in such a program.

2. FOCUS. Development of a self-inspection program in accordance with this AC represents an acceptable means of compliance with the 14 Code of Federal Regulations (CFR) Part 139 (Part 139) requirements.

3. CANCELLATION. Advisory Circular 150/5200-18B, Airport Safety Self-Inspection, dated 5/2/88, is cancelled.

Airport Self Inspection Responsibilities

- Define self-inspection procedures in the Airport Certification Manual.
- Provide sufficient, qualified personnel to conduct inspections.
- Equip personnel with sufficient resources to conduct inspections.
- Conduct self-inspections in accordance with the provisions of Part 139.327

Airport Responsibilities

139.327(b)- Each certificate holder must provide the following:

- Equipment and Procedures…
- To conduct inspections
- Rapidly disseminate information
- Provide qualified personnel and training
- A reporting system to ensure prompt correction of unsafe conditions (work orders)
- Maintain inspection records showing conditions found and corrective action taken (12 months)

Training/Records

- 139.327(c)- Each certificate holder must:
- Prepare records of training given to airport self-inspection personnel.
  - Description and date.
  - Maintain for 24 months.
- Make those records available for inspection.
- Training includes:
  - Before initial performance of duties
  - Recurrent (at least once every 12 consecutive calendar months).

139.327 Training Topics

- Airport Familiarization: Includes signs, markings, and lighting
- Airport Emergency Plan
- Airport Certification Manual
- NOTAM procedures
- Ground vehicle operations in movement and safety areas
- Discrepancy reporting procedures
- FAA Advisory Circulars

Types of Self-Inspections

- Regularly Scheduled- Daily, except as otherwise required by the ACM
- Continuous Surveillance: Construction, fueling, ground vehicles, wildlife, FOD
- Periodic- Weekly, monthly, quarterly (fuel farms, surveys)
- Special- Accident, incident, meteorological event, construction, SMGCS

Inspection Items - 1

- Paved and unpaved areas
- Safety areas
- Markings and signs
- Lighting
- NAVAIDs
- Wildlife
- Fueling
- Obstructions

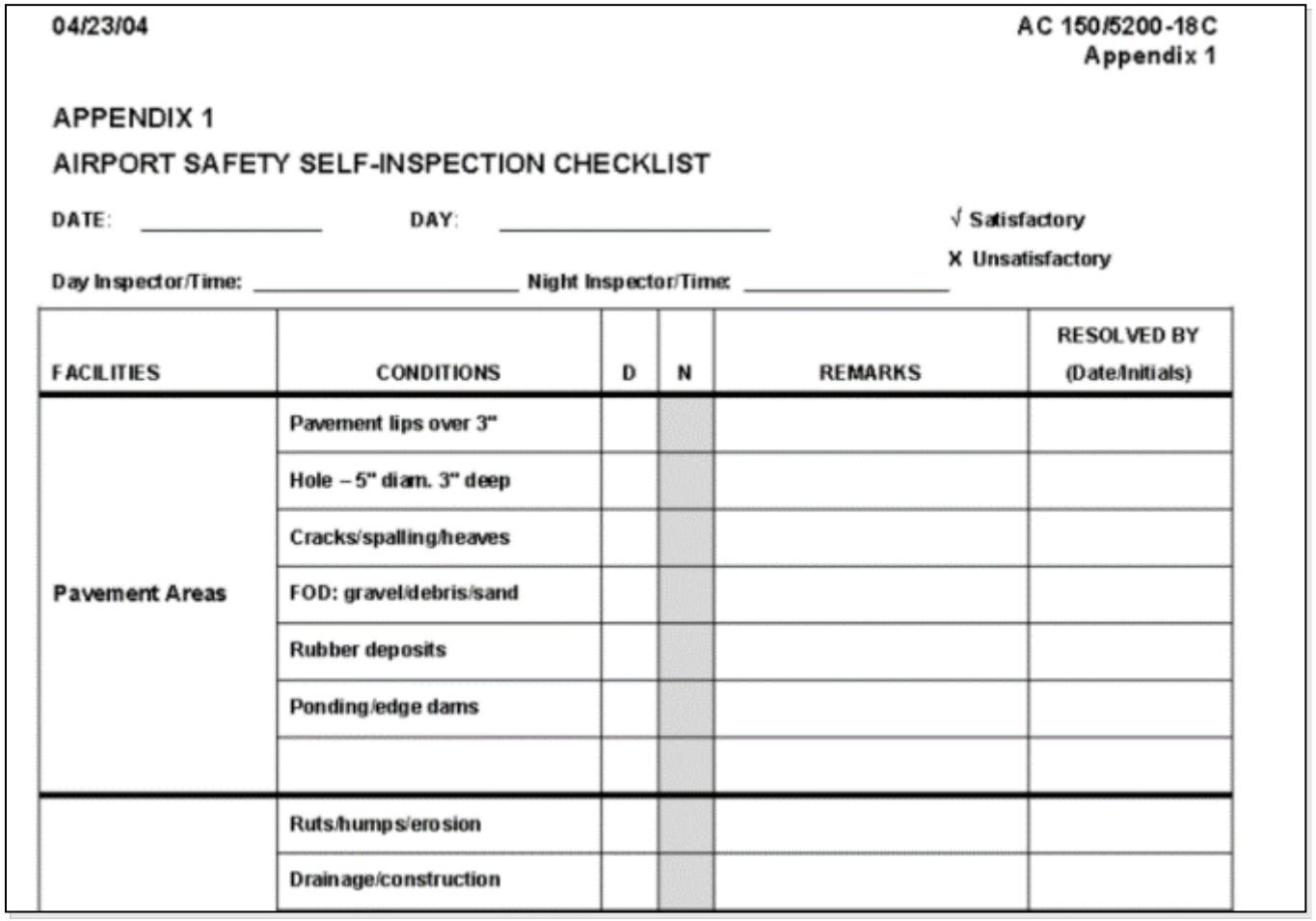
Inspection Items - 2

- Hazmat
- Snow and ice
- Public protection
- Aircraft Rescue and Fire Fighting
- Construction
- Wind Indicators

The Inspection Checklist

- Required component of a good safety self-inspection program.
- Constitutes a written record of conditions noted and follow-up actions taken.
- Assures regularity and thoroughness of safety inspections.
- Each inspected area of the airport complex should be positively or negatively noted on the checklist.

Suggested Checklist (shown in AC 150/5200-18C)



04/23/04 AC 150/5200-18C
Appendix 1

APPENDIX 1

AIRPORT SAFETY SELF-INSPECTION CHECKLIST

DATE: _____ DAY: _____ √ Satisfactory

X Unsatisfactory

Day Inspector/Time: _____ Night Inspector/Time: _____

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials)
Pavement Areas	Pavement lips over 3"				
	Hole – 5" diam. 3" deep				
	Cracks/spalling/heaves				
	FOD: gravel/debris/sand				
	Rubber deposits				
	Ponding/edge dams				
	Ruts/humps/erosion				
	Drainage/construction				

Suggested Checklist - 2

Safety Areas	Support equipment/aircraft				
	Frangible bases				
	Unauthorized objects				
Markings	Clearly visible/standard				
	Runway markings				
	Taxiway markings				
	Holding position markings				
	Glass beads				
Signs	Standard/meet Sign Plan				
	Obscured/operable				
	Damaged/retroreflective				

Note: the shaded boxes indicate that this item was not able to be Inspected on either the Day/Night inspection

Suggested Checklist - 3

Lighting	Obscured/dirty/operable				
	Damaged/missing				
	Faulty aim/adjustment				
	Runway lighting				
	Taxiway lighting				
	Pilot control lighting				
Navigational Aids	Rotating beacon operable				
	Wind indicators				
	RENLs/VGSI systems				
Obstructions	Obstruction lights operable				
	Cranes/trees				

Suggested Checklist - 4

Fueling Operations	Fencing/gates/signs				
	Fuel marking/labeling				
	Fire extinguishers				
	Frayed wires				
	Fuel leaks/vegetation				
Snow & Ice	Surface conditions				
	Snowbank clearances				
	Lights & signs obscured				
	NAVAIDs				
	Fire access				

Suggested Checklist - 5

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials)
Construction	Barricades/lights				
	Equipment parking				
	Material stockpiles				
	Confusing signs/markings				
Aircraft Rescue and Fire Fighting	Equipment/crew availability				
	Communications/alarms				
	Response routes affected				

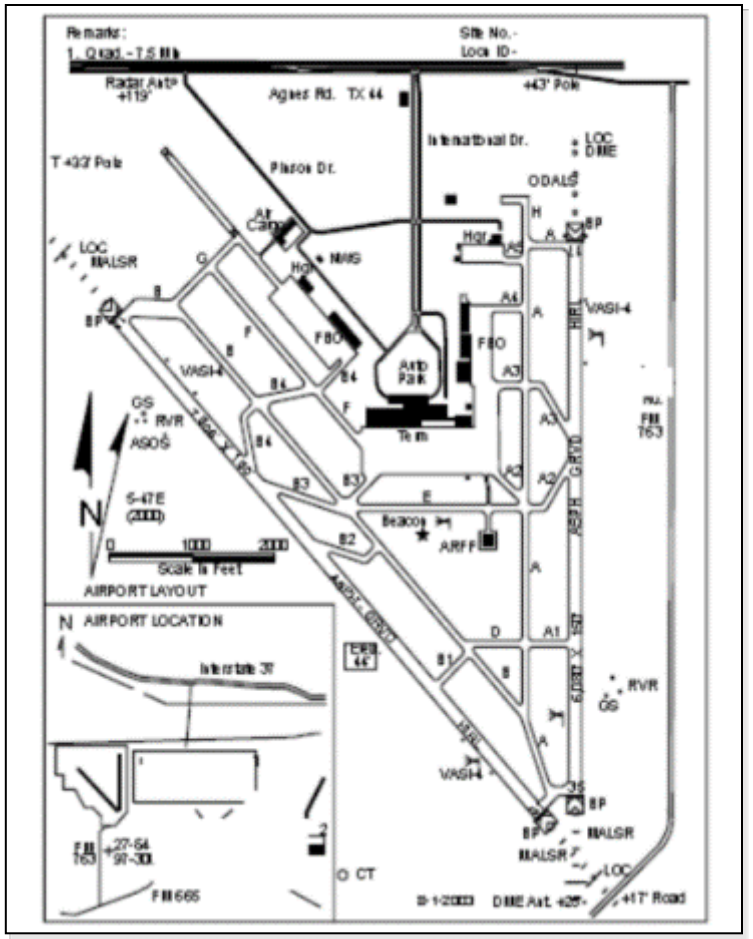
Suggested Checklist - 6

Public Protection	Fencing/gates/signs				
	Jet blast problems				
Wildlife Hazards	Wildlife present/location				
	Complying with WHMP				
	Dead birds				

Comments/Remarks: _____

Airport Sketch

- A sketch is highly recommended
- Identifies location of problems found during daily inspection.



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Inspection Techniques

- Vary daily inspection patterns to avoid complacency.
- Conduct runway inspections in both directions, time permitting.
- Drive slowly! Take your time! Don’t rush!
- Walk into the safety areas, weather permitting.
- Keep pen and paper readily available to jot down notes.
- Take pictures of discrepancies.

Inspection Photos

Taken during annual FAA airfield inspections

Key: Trained Staff, Good Self-Inspection Program

- With a well-trained staff and a good airport self-inspection program, there is no reason that the annual airport Part 139 inspection should find any of the deficiencies shown on following slides.

Runway Pavement – Maintain, Repair

Each certificate holder must maintain and promptly repair pavement of each runway, taxiway, loading ramp, and parking area.

Runway Pavement – Cracks, Surface Variation

The pavement must be free of cracks and surface variations that could impair directional control of air carrier aircraft.

Foreign Object Debris

Mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants must be removed promptly and as completely as practicable.

Runway Safety Areas

Each safety area must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations.

Vehicle Roadway Signs - Location

Install standard highway stop signs on vehicle roadways at the intersection of each roadway with a runway or taxiway.

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Vehicle Roadway Signs – Latest Standard

This is an example of the latest standard. Vehicle roadways that intersect a runway should have an *additional* runway holding position sign.

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Vehicle Roadway Signs – Taxiway Intersection

Vehicle roadways that intersect a taxiway should have an additional taxiway direction sign.

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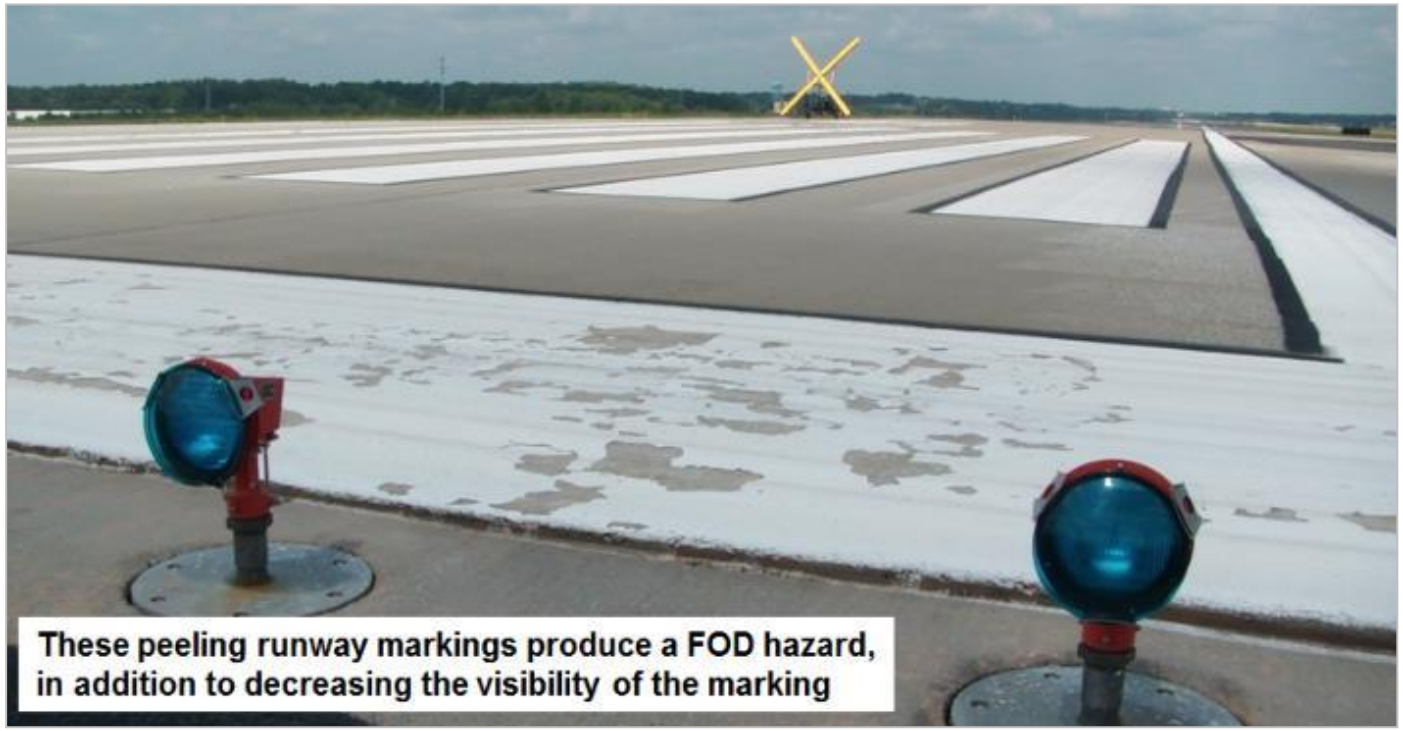
Taxiway Edge Marking

Pavement markings that are no longer needed must be physically removed.

Runway Threshold

Each certificate holder must properly maintain each marking system installed and operated on the airport.



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Runway Aiming Point Marking

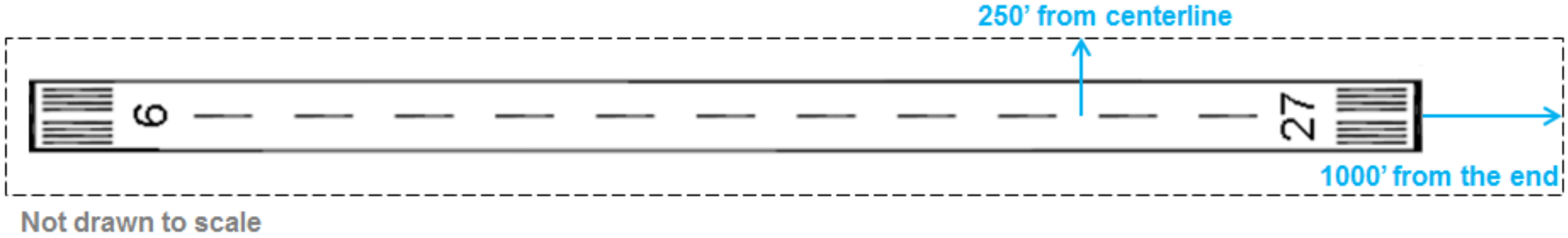
"Properly maintain" includes cleaning, replacing, or repairing any faded, missing, or nonfunctional item -- keeping each item clearly visible.

Runway Safety Area – Cleared, Graded, No Hazards

Each safety area must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations.

Safety Areas

Do you know the dimensions of your runway and taxiway safety areas? These areas must be inspected daily. Not knowing their boundaries will result in an incomplete inspection.



See FAA Advisory Circular 150/5300-13, Appendix 7, for the standard dimensions of your runway safety areas.

Runway Shoulder

Hole found in the runway safety area during a runway inspection.

Lighted “X”

The bottom, right leg on this lighted “X” was not properly extended.

Runway Safety Area - Objects

No objects may be in any safety area, except for objects that need to be in a safety area because of their function.

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Airfield Signs – Reflective Material

The inside, reflective material on this red and white mandatory sign has delaminated. Both panels of this sign must be replaced.

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Runway Object Free Area

Stockpiled materials are not allowed in the Runway Object Free Area.

Runway Safety Area – Objects

No objects may be located in any safety area, except for objects that need to be located in a safety area because of their function.

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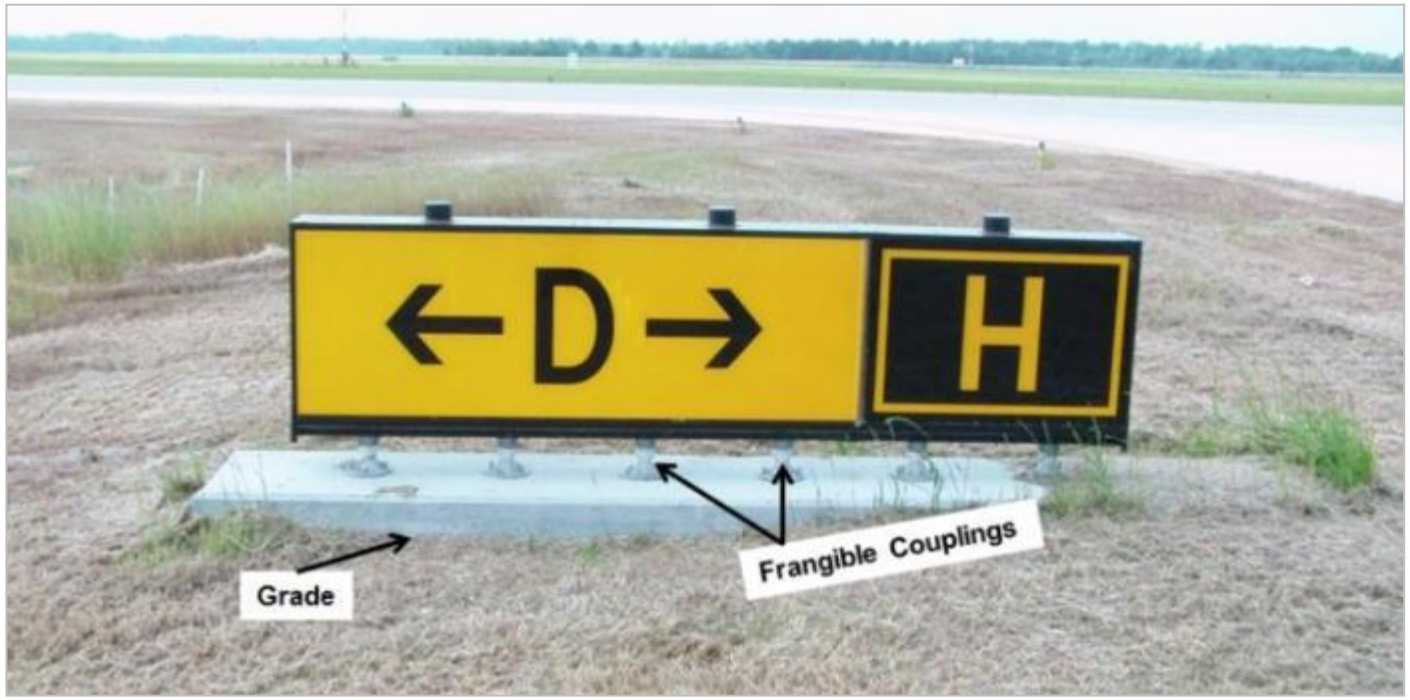
Airfield Signs – Base at Grade

This concrete sign base is not at grade, which makes the frangible coupling higher than 3” above grade(non-standard).



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Fueling Facilities - Deadman Control

The use of any means that defeats the deadman control shall be prohibited. NFPA 407, 5.15.

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Pavement - Ponding

The pavement must be sufficiently drained and free of depressions to prevent ponding that obscures markings or impairs safe aircraft ops.

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Safety Areas - Ponding

The safety area must be drained by grading or storm sewers to prevent water accumulation.

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Wildlife Hazards

Each certificate holder must take immediate action to alleviate detected wildlife hazards.

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Rubber Removal

- Each certificate holder must properly maintain each marking.
- “Properly maintain” includes keeping each item unobscured, clearly visible.

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Ponding - Birds

In addition to obscured markings, ponding is a wildlife attractant.

ILS Critical Area Sign Installation, Maintenance

The FAA installs these signs, but the airport must maintain them.

The self-inspection program should identify when these signs need to be replaced.

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ILS Critical Area Signs - Frangibility

- These signs must be frangibly mounted with an approved coupling and maintained.
- There is no frangibility standard for wooden 4X4 posts or PVC pipe. Replace these with appropriate signposts.

Runway Pavement - Cracks

Longitudinal cracks on a runway could impair directional control of aircraft and must be evaluated, monitored, and repaired.

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Airfield Sign Standards

These signs do not meet the margin and spacing requirements of FAA Advisory Circular 150/5345-44, Specification for Runway and Taxiway Signs.

Airfield Markings

The taxiway centerline beyond this runway holding position marking is painted very sloppy and non-standard. Taxiway centerlines are 6 to 12”.

Airfield Markings - Maintenance

Sloppy paint job. This sign should be completely removed and repainted.

Surface-Painted Signs

The FAA does not endorse painting over old markings because that preserves the old marking. Here, the old 18L marking should have been removed first.

Runway Object Free Area (ROFA)

Know the boundaries of your ROFA to ensure that parked equipment and stockpiled materials remain clear. See FAA AC 150/5300-13, Appendix 7.

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Taxiway Edge Markings

Do not always conduct your taxiway inspections from the centerline. This may have been missed, if the vehicle did not drive adjacent to the shoulder.

NAVAIDs - Runway End Identifier Light (REIL)

Look closely at the mounts of this REIL. Are they frangible? All REILs must be frangible no greater than 3 inches above grade.

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Wildlife - NAVAIDs

NAVAIDs make great perches for birds. Consult with a qualified Wildlife Biologist for methods to control this, especially for protected species.

Wind Cones – Water Drainage

This wind cone has accumulated water, which may affect how it swings. A drain hole should be provided to allow water to drain out of the fabric.

Wind Cones - Damage

This new wind cone was too small, damaged, but installed anyway.

Summary

- There are many items to look at when conducting an airfield inspection.
- A good program will include qualified, trained personnel, a comprehensive checklist, and recurrent training.
- A rushed airfield inspection is not a thorough one.
  - Take your time when conducting this very important safety task
  - Document all your findings.
- The traveling public depends on you to keep your airport safe!