Ground Vehicle Operations in the Movement Area

Federal Aviation Administration

Presented to: ICAO/ FAA Aerodrome Certification Inspectors Workshop for the Caribbean Region

By: Laurie Dragonas, FAA Lead Airport Certification/Safety Inspector

Date: June, 2012

OBJECTIVE

- **With references, identify the criteria and procedures for inspecting ground vehicle operations in the movement area.**

ICAO VEHICLE OPERATIONS & OPERATOR REQUIREMENTS

- **Review ICAO Annex 14, pgs. 6-1 thru 6-9 for vehicle marking & lighting requirements.**
- **Review ICAO Annex 14, pg. 9-11, sec. 9.7 for vehicle operations guidance.**
- **Review ICAO Annex 14. ATT A-25, sec. 18 for vehicle operator requirements.**

ICAO Annex 14, Section 9.7 Aerodrome Vehicle Operations

A Vehicle shall be operated

- **On maneuvering area only when authorized by ATCT**
- **On apron only when authorized by aerodrome authority**

A Driver shall comply with all mandatory instructions conveyed by markings & signs

A Driver shall comply with mandatory instructions by lights

ICAO Annex 14, Section 9.7 Aerodrome Vehicle Operations

The driver shall be appropriately trained for the tasks to be performed and shall comply with the instructions issued by:

- **The aerodrome control tower**
- **The appropriate designated authority**

The driver shall establish two-way radio communication with tower before entering the maneuvering area.

The driver shall maintain a continuous listening watch on the assigned frequency when on the movement area.

Annex 14, Attachment A, Section 18 Operators of Vehicles

Authorities are responsible to ensure that vehicle operators are properly qualified. This includes knowledge of:

- **Geography of the aerodrome**
- **Aerodrome signs, markings, and lights**
- **Radio operating procedures**
- **Terms and phrases including ICAO alphabet**
- **Rules of air traffic services as they relate to ground operations**
- **Airport rules and procedures**
- **Specialist functions (such as firefighting)**

Annex 14, Attachment A, Section 18 Operators of Vehicles

The operator should be able to demonstrate competency, as appropriate:

- **The operation or use of vehicle transmit/ receive equipment**
- **Understanding and complying with air traffic control and local procedures**
- **Vehicle navigation on the aerodrome, and**
- **Special skills required for the particular function**

In addition, the operator should hold a State driver's license, radio operator's license or other licenses.

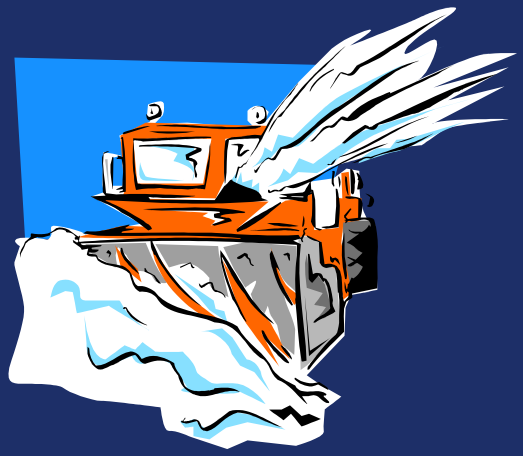
•Pedestrian and Ground Vehicle Operations

FAA Requirements

•The establishment of a comprehensive pedestrian/ground vehicle training program is required at airports certificated in the U.S. under 14 CFR Part 139. It is highly recommended that General Aviation airports with an ATCT also establish a pedestrian/ground vehicle training program.

Ground Vehicle Control Inspection Criteria
FAA Regulation Part 139

SECTION 139.329 (a)



- Limit access to movement areas and safety areas to only pedestrians and vehicles necessary for airport operations.

GROUND VEHICLE CONTROL INSPECTION CRITERIA

SECTION 139.329(b)

- Establish and implement procedures for safe and orderly access to and operation in movement areas and safety areas by pedestrians and vehicles

GROUND VEHICLE CONTROL INSPECTION CRITERIA

SECTION 139.329(c)

Ensure that each pedestrian or ground vehicle is controlled by:

- **Communications with the ATCT**
- **An escort communicating with the ATCT**
- **Other measures such as signs, signals or guards**

GROUND VEHICLE CONTROL INSPECTION CRITERIA

SECTION 139.329(d)

If no ATCT, provide adequate pedestrian and ground vehicle control procedures in movement and safety areas through:

- **Two-way radio communications**
- **Prearranged signs or signals**

GROUND VEHICLE CONTROL INSPECTION CRITERIA

SECTION 139.329(e)

Ensure that, before personnel are allowed to move on safety or movement areas, each employee, tenant or contractor is trained on:

- **Pedestrian and vehicle control procedures**
- **Penalties for noncompliance**

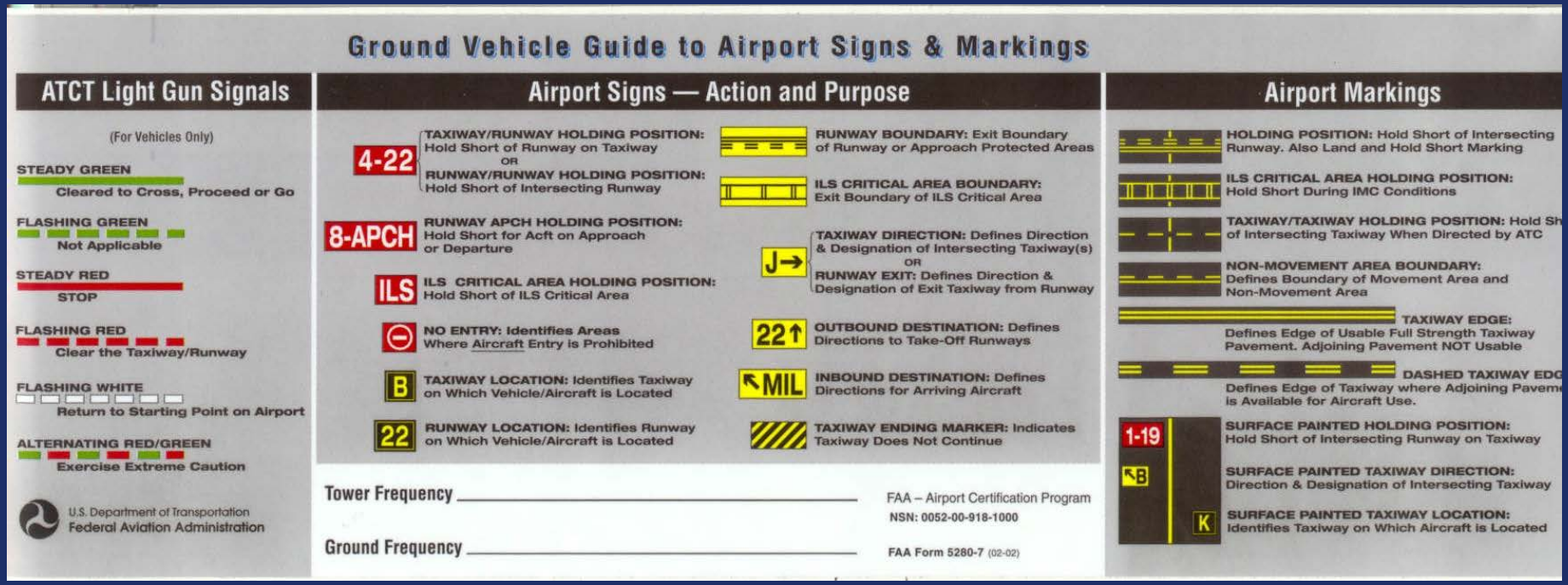
Pedestrian and Vehicle Operator Training

- Airport familiarization
- Runways, taxiways and aprons
- Marking, lighting and signs
- NAVAIDs and critical areas
- ATCT functions and procedures
- Communication requirements

Pedestrian and Vehicle Operator Training

- Phonetic alphabet and phraseology
- Radio procedures including radio failure
- Compliance with ATCT directions
- Consequences for noncompliance with procedures

Vehicle Visor Placard



Ground Vehicle Guide to Airport Signs & Markings

ATCT Light Gun Signals

(For Vehicles Only)

STEADY GREEN
Cleared to Cross, Proceed or Go

FLASHING GREEN
Not Applicable

STEADY RED
STOP

FLASHING RED
Clear the Taxiway/Runway

FLASHING WHITE
Return to Starting Point on Airport

ALTERNATING RED/GREEN
Exercise Extreme Caution

U.S. Department of Transportation
Federal Aviation Administration

Airport Signs — Action and Purpose

4-22 — **TAXIWAY/RUNWAY HOLDING POSITION:** Hold Short of Runway on Taxiway
OR
RUNWAY/RUNWAY HOLDING POSITION: Hold Short of Intersecting Runway

8-APCH — **RUNWAY APCH HOLDING POSITION:** Hold Short for Acft on Approach or Departure

ILS — **ILS CRITICAL AREA HOLDING POSITION:** Hold Short of ILS Critical Area

NO ENTRY: Identifies Areas Where Aircraft Entry is Prohibited

B — **TAXIWAY LOCATION:** Identifies Taxiway on Which Vehicle/Aircraft is Located

22 — **RUNWAY LOCATION:** Identifies Runway on Which Vehicle/Aircraft is Located

RUNWAY BOUNDARY: Exit Boundary of Runway or Approach Protected Areas

ILS CRITICAL AREA BOUNDARY: Exit Boundary of ILS Critical Area

J→ — **TAXIWAY DIRECTION:** Defines Direction & Designation of Intersecting Taxiway(s)
OR
RUNWAY EXIT: Defines Direction & Designation of Exit Taxiway from Runway

22↑ — **OUTBOUND DESTINATION:** Defines Directions to Take-Off Runways

↖MIL — **INBOUND DESTINATION:** Defines Directions for Arriving Aircraft

TAXIWAY ENDING MARKER: Indicates Taxiway Does Not Continue

Tower Frequency _____

Ground Frequency _____

FAA – Airport Certification Program
NSN: 0052-00-918-1000

FAA Form 5280-7 (02-02)

Airport Markings

HOLDING POSITION: Hold Short of Intersecting Runway. Also Land and Hold Short Marking

ILS CRITICAL AREA HOLDING POSITION: Hold Short During IMC Conditions

TAXIWAY/TAXIWAY HOLDING POSITION: Hold Sh of Intersecting Taxiway When Directed by ATC

NON-MOVEMENT AREA BOUNDARY: Defines Boundary of Movement Area and Non-Movement Area

TAXIWAY EDGE: Defines Edge of Usable Full Strength Taxiway Pavement. Adjoining Pavement NOT Usable

DASHED TAXIWAY EDG Defines Edge of Taxiway where Adjoining Pavem is Available for Aircraft Use.

1-19 / **↖B** / **K**

SURFACE PAINTED HOLDING POSITION: Hold Short of Intersecting Runway on Taxiway

SURFACE PAINTED TAXIWAY DIRECTION: Direction & Designation of Intersecting Taxiway

SURFACE PAINTED TAXIWAY LOCATION: Identifies Taxiway on Which Aircraft is Located

GROUND VEHICLE CONTROL INSPECTION CRITERIA

SECTION 139.329(f)

Maintain records for 24 months, including descriptions and dates, of:

- **Training completed**
- **Accidents/incidents in movement or safety areas involving air carriers, pedestrians or ground vehicles**

INSPECTION TECHNIQUES

- **Review procedures**
- **Make observations**
- **Visit the ATCT**
- **Check records**
- **Record observations**
- **Recommend RSAT if necessary**

VEHICLE PROCEDURES

Authorized vehicles must

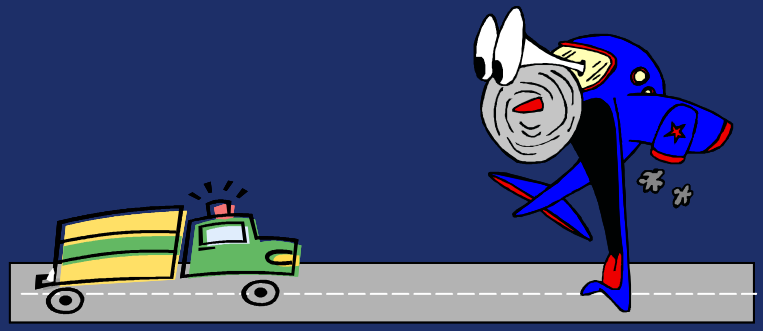
- Be painted in contrasting and conspicuous colors
- Display a company logo or identification numbers
- Have a flashing yellow beacon
- Be in two-way communications with the ATCT or, if no ATCT, use CTAF

Example of Vehicle Markings

Example of Vehicle Markings

OBJECTS IN MIRROR ARE CLOSER
THAN THEY APPEAR

RUNWAY INCURSIONS



An occurrence at an airport involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

EXAMPLE

EXAMPLE
JET A-1
ECONO
ST 71373

EXAMPLE

What can we do to reduce runway incursions and surface incidents created by vehicles & pedestrians?

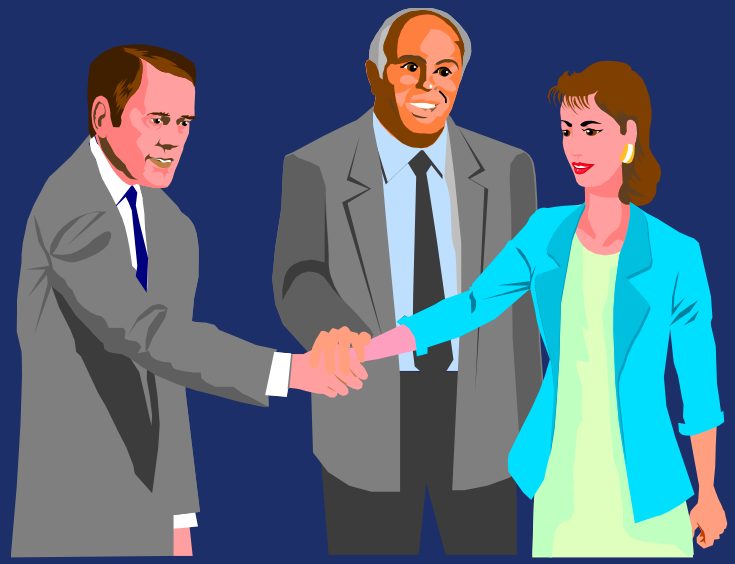
- **Improve education, training and awareness of those who operate on the airport surface.**

•Airport Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations

•Limit the number of airport personnel authorized to operate a vehicle on the movement area to only those that have a definite need. Personnel who have only an occasional need to drive on the movement area are not going to be as proficient as regular drivers and would be better off being escorted by an authorized vehicle operator.

Runway Incursion Video

Runway Incursions are a multifaceted problem. The entire aviation community must take responsibility and everyone must do their part to solve it.



QUESTIONS