



Movement Area Driver Training Manual

The material in this packet is not meant to be all-inclusive. Employees are expected to go through training with their employer as well as independent study.

Suggested Reading:

- FAA Runway Safety - Vehicle Driver Best Practices
- FAA Airport Sign and Marking - Quick Reference Guide
 - AOPA ASI Runway Safety Flash Cards

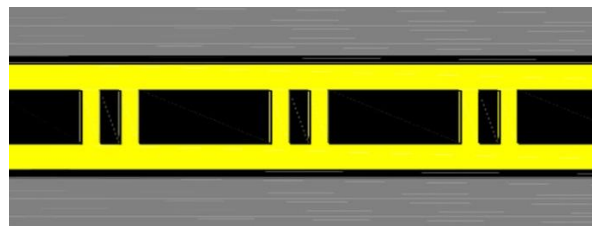
Markings

Runway Hold Position Marking



Do not cross from the solid line side of this marking unless ATCT has given you permission to cross or proceed onto a runway. This marking is on all taxiways that cross a runway.

ILS Critical Area Marking



This marking represents the boundary of the ILS critical area. Do not cross this marking if instructed to hold short of the ILS critical area by ATCT.

Movement Area Boundary



This marking extends across the surface of every piece of pavement that transitions from a non-movement area to a movement area. Do not cross from the solid line side unless given permission by ATCT to proceed.

Enhanced Taxiway Centerline



The enhanced taxiway centerline extends for 150 feet before reaching the runway hold short marking. You'll find this marking at all taxiway/runway intersections. It's another warning that you are approaching a runway.

Remember:

All taxiway markings are yellow and all runway markings are white.

Lights

Taxiway Edge Light



Taxiway edge lights are found at the edge of every taxiway. Taxiway edge lights are always blue.

Runway Edge Light



Runway edge lights are found at the edge of every runway. Runway edge lights are white, except for the last 2000 feet, where they are an amber color.

Runway Guard Light (RGL)



Runway guard lights are at every runway/taxiway intersection. Do not drive past these lights unless given permission to cross or proceed onto a runway.

Runway Threshold Light



Runway threshold lights are at each end of the runway. Green lights are visible by landing pilots and designate the beginning of pavement available for landing. When viewed from the red side, it tells vehicle operators and pilots that the runway is coming to an end.

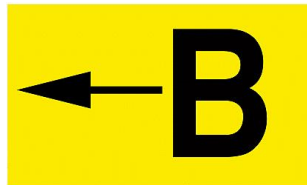
Signs

Taxiway Location Sign



Taxiway location signs are located next to the pavement and advise which taxiway you're on. A taxiway location sign always has a yellow inscription with a black background.

Taxiway Direction Sign



Taxiway direction signs are located next to the pavement and advise in which direction a different taxiway is found. These signs can also be located on the runway, known as runway exit signs.

Sign Array



Sign arrays are located next to the pavement at intersections and consist of both location and direction signs. The array above shows that you are on taxiway A ("Alpha"), and that taxiway C ("Charlie") crosses, while taxiway A continues with a slight right curve ahead.

ILS Critical Area Sign



This sign is located next to the pavement at the edge of the ILS Critical Area. Do not proceed past this sign if instructed to hold short of the ILS Critical Area by ATCT.

Mandatory Instruction Sign



This sign is located at every runway/taxiway intersection and runway/runway intersection. Do not cross this sign unless given permission to cross or proceed onto the runway by ATCT.

Runway Distance Remaining Sign (3,000 Feet Remaining)



This sign is located next to a runway's pavement every 1000 feet. It tells how many feet (in thousands) remain. This sign says there are 3000 feet of runway remaining.

AIRPORT SIGN AND MARKING – QUICK REFERENCE GUIDE

EXAMPLE	TYPE OF SIGN	PURPOSE	LOCATION/CONVENTION
	Mandatory: Hold position for taxiway/runway intersection.	Denotes entrance to runway from a taxiway.	Located <u>L side</u> of taxiway within 10 feet of hold position markings.
	Mandatory: Holding position for runway/runway intersection.	Denotes intersecting runway.	Located <u>L side</u> of rwy prior to intersection, & <u>R side</u> if rwy more than 150' wide, used as taxiway, or has "land & hold short" ops.
	Mandatory: Holding position for runway approach area.	Denotes area to be protected for aircraft approaching or departing a runway.	Located on taxiways crossing thru runway approach areas where an aircraft would enter an RSA or apch/ departure airspace.
	Mandatory: Holding position for ILS critical area/precision obstacle free zone.	Denotes entrance to area to be protected for an ILS signal or approach airspace.	Located on twys where the twys enter the NAVAID critical area or where aircraft on taxiway would violate ILS apch airspace (including POFZ).
	Mandatory: No entry.	Denotes aircraft entry is prohibited.	Located on paved areas that aircraft should not enter.
	Taxiway Location.	Identifies taxiway on which the aircraft is located.	Located along taxiway by itself, as part of an array of taxiway direction signs, or combined with a runway/taxiway hold sign.
	Runway Location.	Identifies the runway on which the aircraft is located.	Normally located where the <u>proximity of two rwys</u> to one another could cause confusion.
	Runway Safety Area / OFZ and Runway Approach Area Boundary.	Identifies exit boundary for an RSA / OFZ or rwy approach.	Located on taxiways on <u>back side</u> of certain runway/taxiway holding position signs or runway approach area signs.
	ILS Critical Area/POFZ Boundary.	Identifies ILS critical area exit boundary.	Located on taxiways on <u>back side</u> of ILS critical area signs.
	Direction: Taxiway.	Defines designation/direction of intersecting taxiway(s).	Located on <u>L side, prior to intersection</u> , with an array L to R in clockwise manner.
	Runway Exit.	Defines designation/direction of exit taxiways from the rwy.	Located on same side of runway as exit, prior to exit.
	Outbound Destination.	Defines directions to take-off runway(s).	Located on taxi routes to runway(s). <u>Never</u> collocated or combined with other signs.
	Inbound Destination.	Defines directions to airport destinations for arriving aircraft.	Located on taxi routes to airport destinations. <u>Never</u> collocated or combined with other types of signs.
	Information.	Provides procedural or other specialized information.	Located along taxi routes or aircraft parking/staging areas. May not be lighted.
	Taxiway Ending Marker.	Indicates taxiway does not continue beyond intersection.	Installed at taxiway end or far side of intersection, if visual cues are inadequate.
	Distance Remaining.	Distance remaining info for take-off/landing.	Located along the sides of runways at 1000' increments.
EXAMPLE	TYPE OF MARKING	PURPOSE	LOCATION/CONVENTION
	Holding Position.	Denotes entrance to runway from a taxiway.	Located across centerline within 10 feet of hold sign on taxiways and on certain runways.
	ILS Critical Area/POFZ Boundary.	Denotes entrance to area to be protected for an ILS signal or approach airspace.	Located on twys where the twys enter the NAVAID critical area or where aircraft on taxiway would violate ILS apch airspace (including POFZ).
	Taxiway/Taxiway Holding Position.	Denotes location on taxiway or apron where aircraft hold short of another taxiway.	Used at ATCT airports where needed to hold traffic at a twy/twy intersection. Installed provides wing clearance.
	Non-Movement Area Boundary.	Delineates movement area under control of ATCT, from non-movement area.	Located on boundary between movement and non-movement area. Located to ensure wing clearance for taxiing aircraft.
	Taxiway Edge.	Defines edge of usable, full strength taxiway.	Located along twy edge where contiguous shoulder or other paved surface NOT intended for use by aircraft.
	Dashed Taxiway Edge.	Defines taxiway edge where adjoining pavement is usable.	Located along twy edge where contiguous paved surface or apron is intended for use by aircraft.
	Surface Painted Holding Position.	Denotes entrance to runway from a taxiway.	Supplements elevated holding position signs. Required where hold line exceeds 200'. Also useful at complex intersections.
	Enhanced Taxiway Centerline.	Provides visual cue to help identify location of hold position.	Taxiway centerlines are enhanced 150' prior to a runway holding position marking.
	Surface Painted Taxiway Direction.	Defines designation/direction of intersecting taxiway(s).	Located L side for turns to left. R side for turns to right. Installed prior to intersection.
	Surface Painted Taxiway Location.	Identifies taxiway on which the aircraft is located.	Located R side. Can be installed on L side if combined with surface painted hold sign.

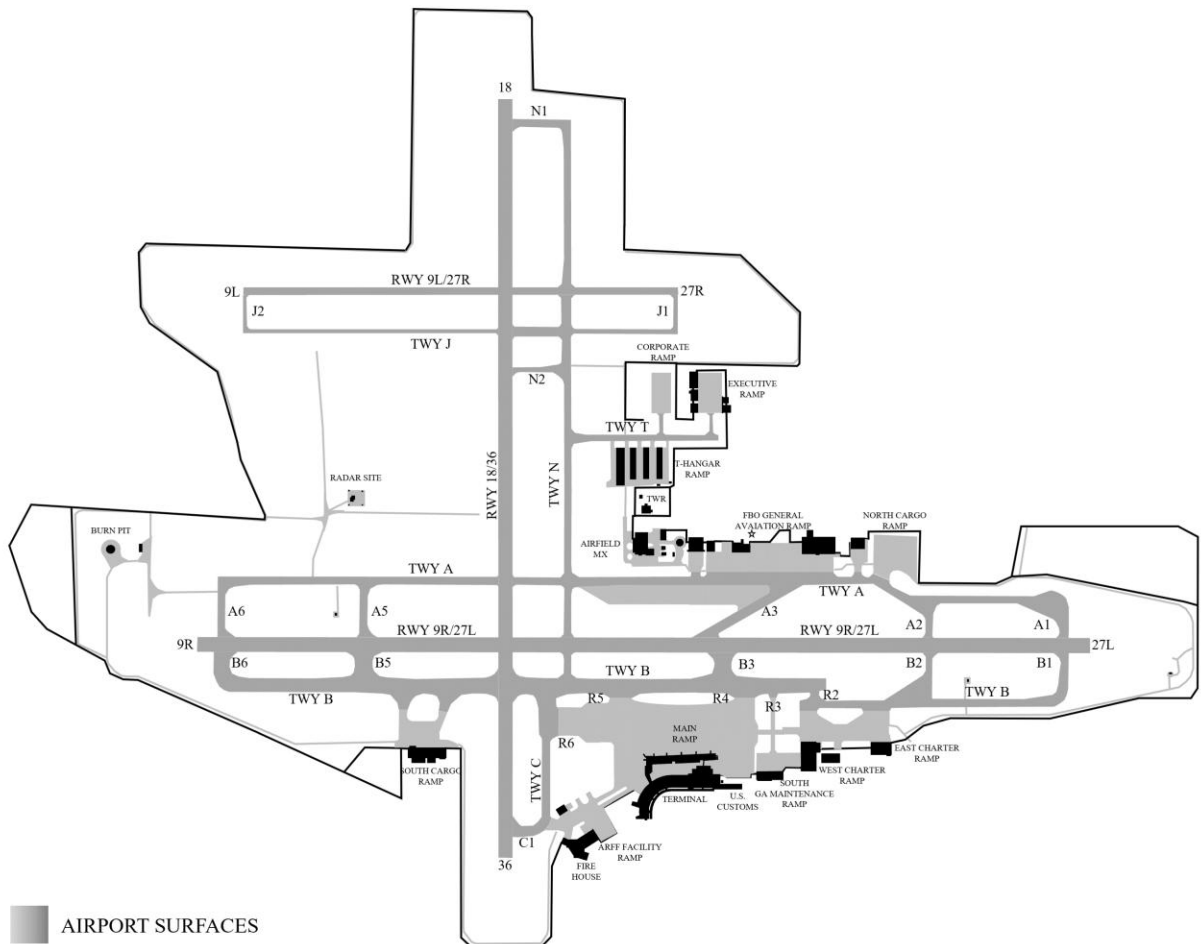
Ref. AC 150/5340-1J Standards for Airport Markings, and AC 150/5340-18D Standards for Airport Signs Systems



Federal Aviation Administration

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Airfield Familiarization



- You are required to know the airfield layout in order to receive Movement Area driving privileges.
- Runways are always designated by a number or a number followed by a letter. Examples are Runway 18, or Runway 27L.
- Taxiways are always designated by a letter or a letter followed by a number. Examples are taxiway N, or taxiway A5.
- There are 2 ILS hold short areas here at SBN located just east of TWY A6 and west of TWY B1.

Helpful tips for learning the layout:

- Taxiway N goes north/south.
- Taxiway C connects TWY B and RWY 36.
- Taxiway A goes east/west past the Atlantic ramp.
- Taxiway B goes east/west past the terminal, where baggage is handled.
- Taxiways A & B each have stub taxiways that align with each other (smaller taxiways that go from the main taxiway to the runway). They're numbered 1 to 6 (with no A4 and B4), from east to west.
- Taxilane T goes to the Thangars.
- Taxiways R are the Ramp entrances.

Communications

- SBN's air traffic control tower (ATCT) operates Sunday through Friday from **5:30am** to **12:00am**. Saturday hours are **5:30am** to **11:45pm**.
- You will primarily communicate with the ATCT on Ground Control. Ground Control Frequency is **121.7**
- Tower Frequency is **135.675** and is required to be used when operating on a runway or in a runway safety area (RSA).
- When the ATCT is closed, all vehicles are to make position announcements on the Common Traffic Advisory Frequency (CTAF), **135.675**.
- When the ATCT is closed, airfield lights are set to pilot controlled lighting. Pilot controlled lighting can also be controlled from your vehicle. When on the CTAF, key your microphone **3** times for low lighting, **5** times for medium lighting, and **7** times for high lighting. Intensities will change runway lights, but not for taxiway lights.

Phonetic Alphabet

Alpha	Bravo	Charlie	Delta	Echo
Foxtrot	Golf	Hotel	India	Juliet
Kilo	Lima	Mike	November	Oscar
Papa	Quebec	Romeo	Sierra	Tango
Uniform	Victor	Whiskey	X-Ray	Yankee
		Zulu		

Quiz Yourself



1. According to the picture above, where is the driver and what specific surface is directly ahead?



2. Does the photo above show a taxiway or a runway?



3. Does the photo above show a taxiway or a runway?



4. What should a driver do before driving from the left side of the photo to the right side?
5. If you are driving on a surface that has white or amber colored lights on both edges, what type of surface are you on?

Quiz Answers

1. The driver is on taxiway B5 and runway 9R - 27L is directly ahead.
2. This is a taxiway. Recall taxiway markings are yellow in color.
3. This is a runway. Recall runway markings are white in color.
4. The driver should contact ground control and request permission to proceed to a location on the movement area.
5. You are driving on a runway. Runway edge lights are always white or amber at the last 2000 ft., and no other surface will have those edge lights.