

USAF Airfield Driving Computer Base Training Course

This is a PPT version of the ADLS Website Airfield Driving Course. Completion is required to obtain your airfield drivers license. Minimum passing score of the test administered by Airfield Management is 80%.

Direct questions to hqaffsa.a3am@tinker.af.mil

- ▶ Airfield Layout, Signs and Markings
- ▶ Night/Adverse Conditions
- ▶ Operating Procedures and Standards
- ▶ Runway Incursion
- ▶ ATC Communications
- ▶ End of Course Test

COURSE OBJECTIVE

This course is designed to train airfield drivers on basic airfield driving knowledge required by AFI 13-213, Airfield Management. In this course we will discuss airfield layouts, signs and markings, night/adverse conditions, airfield driving procedures and standards, runway incursion prevention, and ATC communications. Additionally there is a 30-question test that must be completed prior to receiving your certificate of completion. Proceed now, on the menu to the left, to Airfield Layout, Signs and Markings where you will become familiar with what you will encounter on a typical airfield.

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MODULE OBJECTIVE

In this module you will be introduced to basic features of an airfield. This will include runways, taxiways, aprons, and standard airfield signs and markings. After completion of this module, you will be able to successfully identify apron aircraft parking spots, nose wheel guides, edge markings, vehicle traffic lanes, helicopter pads, Entry Control Points (ECP), and restricted area boundaries. In relation to taxiways and runways, you will be able to identify standard single, parallel, and crossing configurations. Additionally, you will be able to identify mandatory and informational signs and markings.

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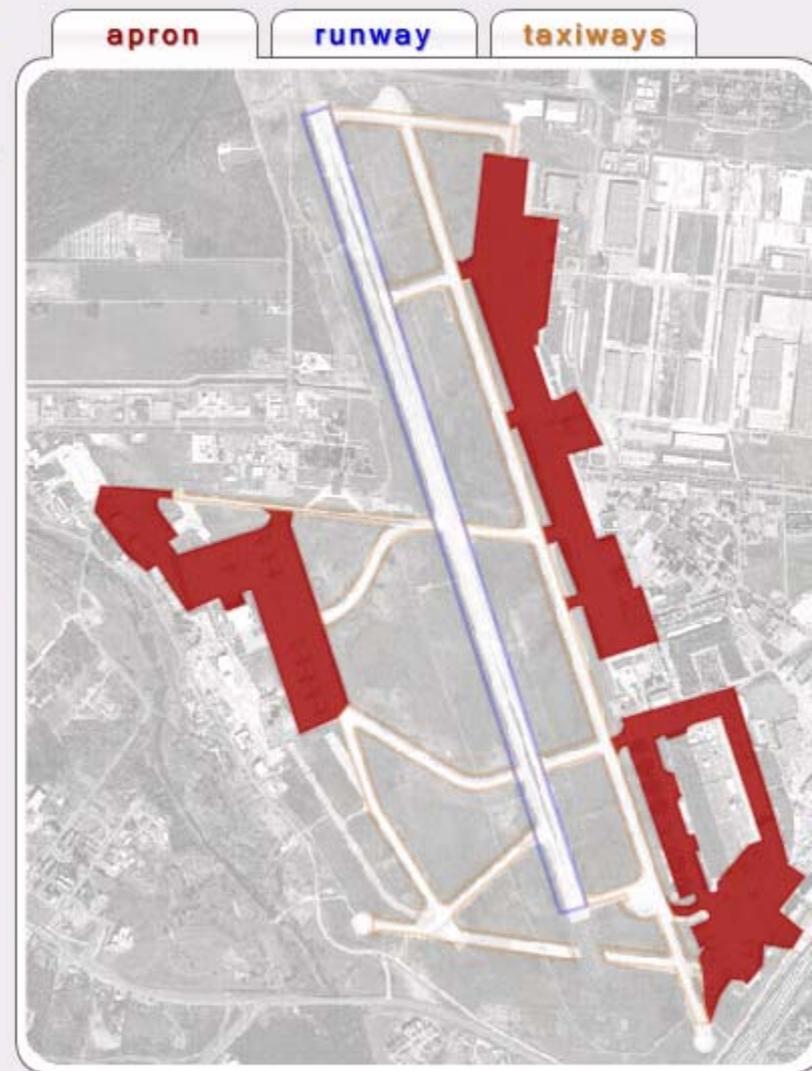
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Inadequate airfield knowledge is one of the major causes of vehicle related incidents. Understanding the basic features on an airfield will enhance your procedural knowledge and ensure you operate a vehicle safely on the airfield.

We will start by showing you the relative location and definition of **runways**, **taxiways** and **aprons**.

The image on the right depicts a standard single runway airfield. Click on the various tabs to highlight specific airfield locations.



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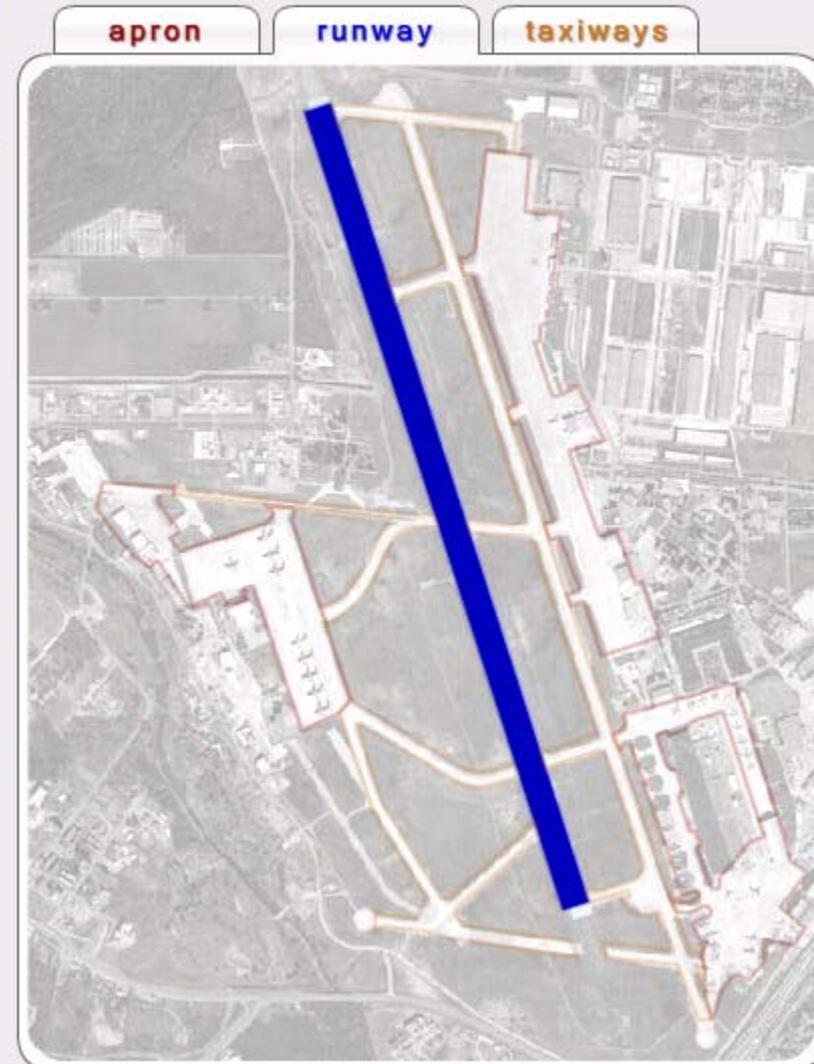
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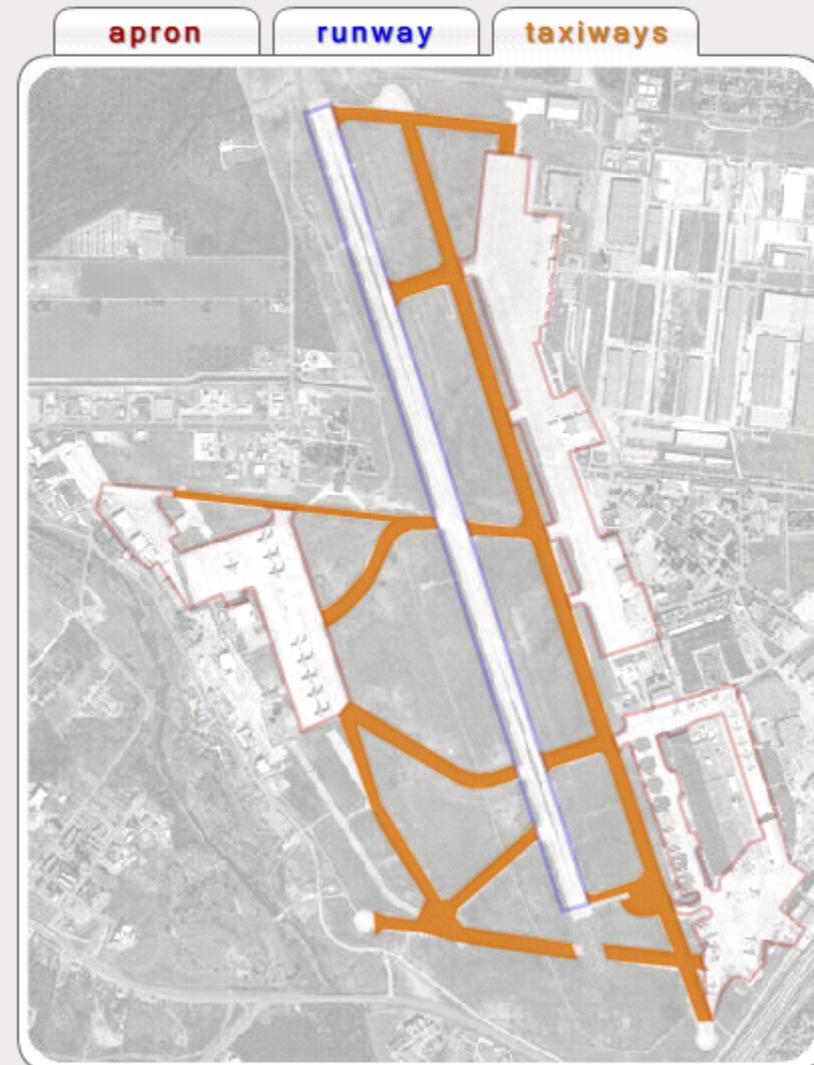
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We will start by showing you the relative location and definition of **runways**, **taxiways** and **aprons**.

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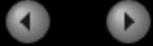
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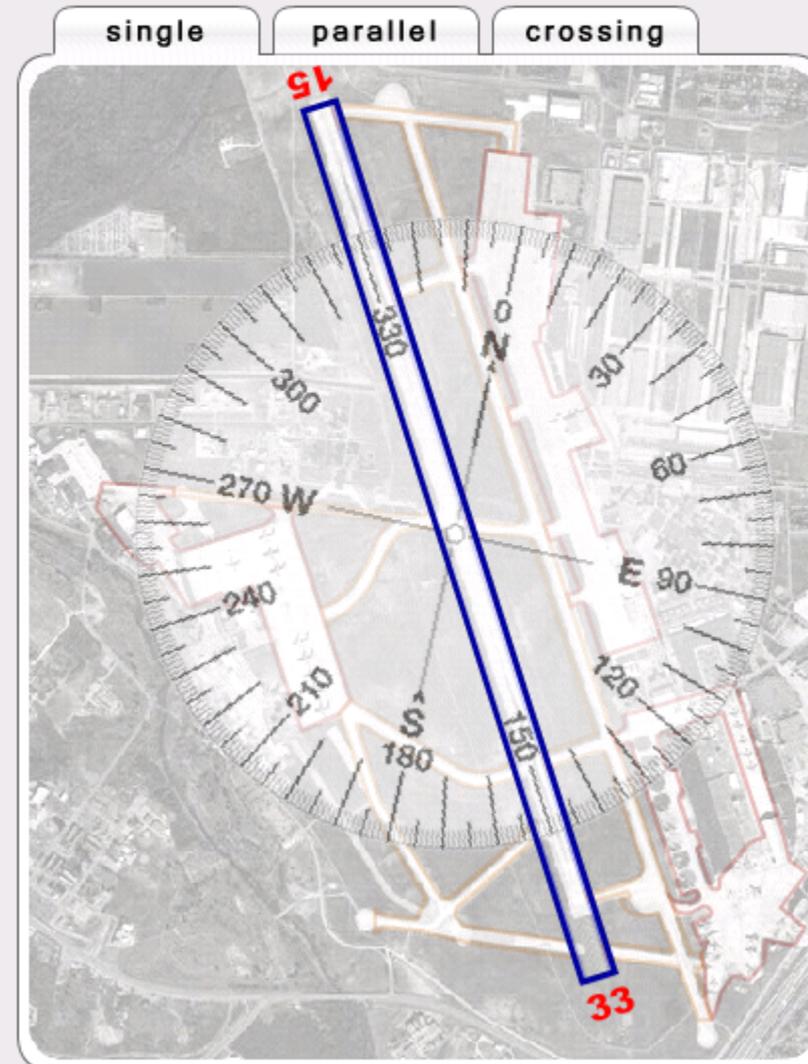


Regardless of where or why you need to drive on the airfield it is important for you to know what a **runway** is and where it is located.

Runways are paved area(s) of the airfield used by aircraft to take off or land.

Runways are identified by **numbers** that represent the orientation of the runway approach in compass degrees rounded to the nearest ten (10) degrees.

Many airfields have multiple runways. Click on the examples of parallel and crossing runway marking.



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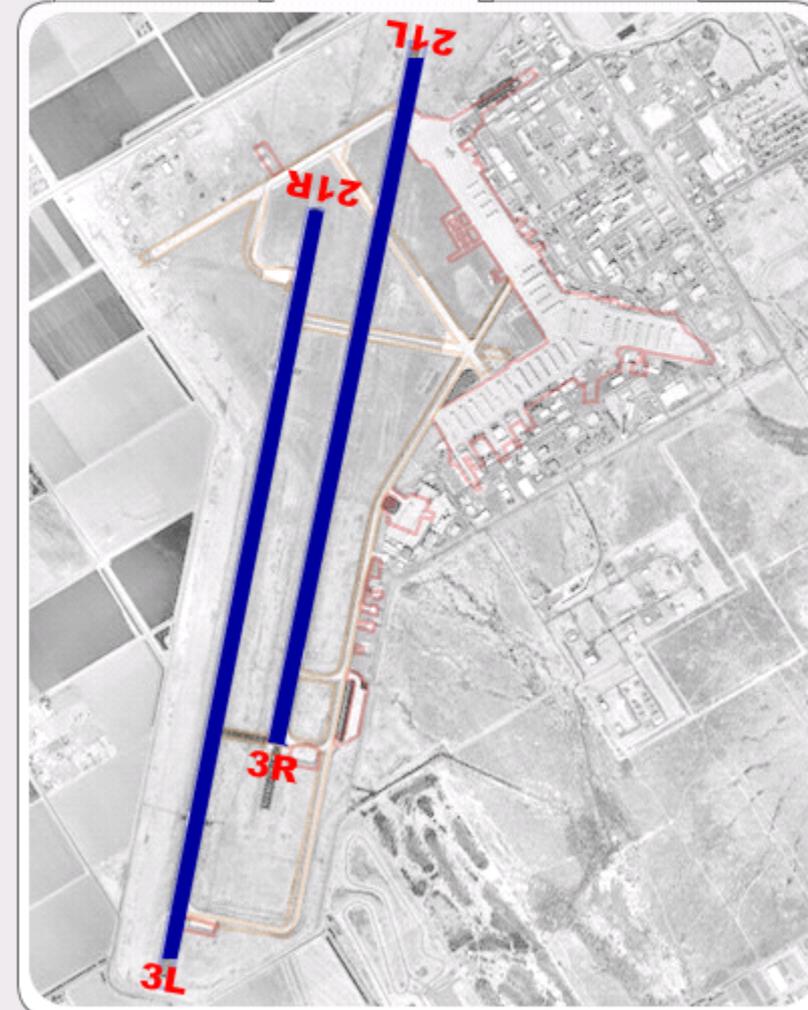
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Parallel runways will have the same numbers as the single runway example with the addition of the letters 'L' and 'R' which stand for left and right as viewed from the cockpit of the aircraft landing or taking off. Some airfields may also have a center "C" runway.

single

parallel

crossing



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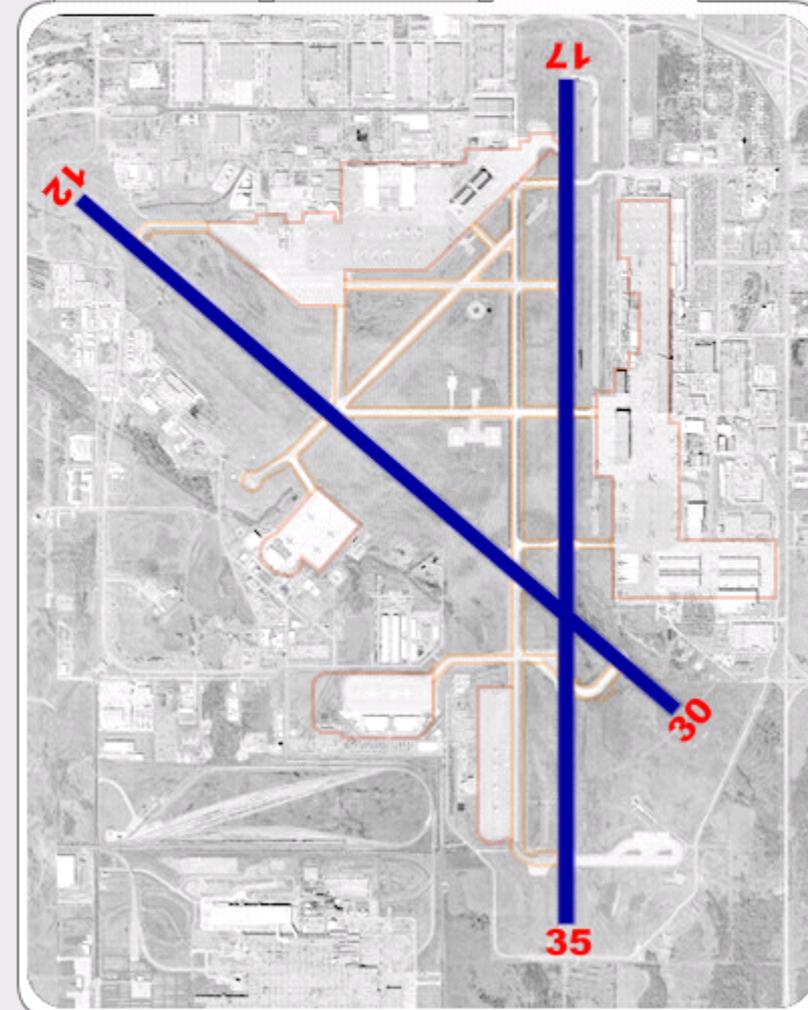
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Crossing runways are very complex due to the two runways intersecting. If operating on a runway vehicles may be asked to hold short of the other runway. Ensure you are properly trained in local procedures, and always follow Control Tower instructions.

single

parallel

crossing



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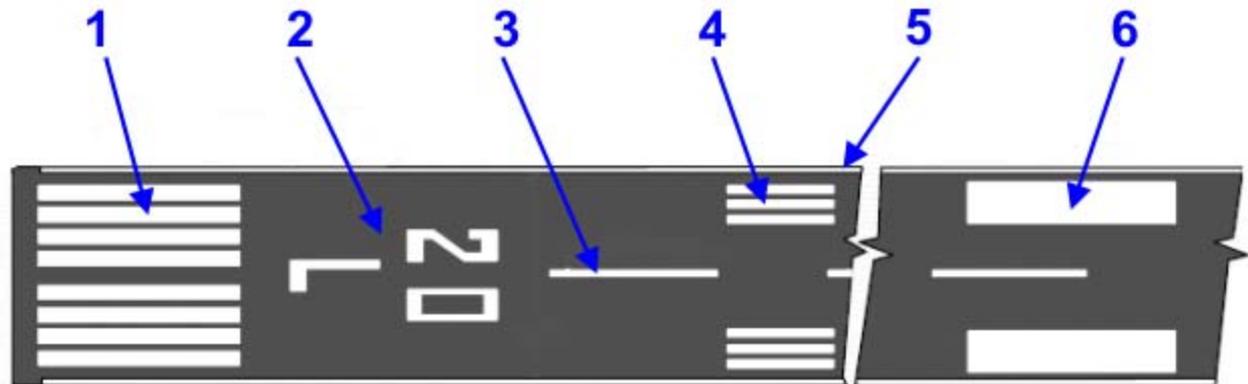
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Runway Markings

Runways have a white number on each end and stripes down the middle with white lines on the edges. Additionally, yellow taxiway centerlines may lead on, lead off, or cross the runway. The most important thing to remember about a runway is that it is meant for aircraft use, so never drive your vehicle on the runway unless you are authorized to do so by ATC.



1. Runway Threshold
2. Runway Designation
3. Centerline Stripe
4. Runway Touchdown Zone Marking
5. Runway Side Stripes
6. Runway Fixed Distance Marker

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If duties require you to operate a vehicle on a Runway, you are required to have a two-way radio or an escort capable of contacting the tower.



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Another area that you will normally encounter on the airfield is the **taxiway** (the area colored in orange).

Taxiways are designated as paved areas that aircraft use to taxi between the apron and runway(s).

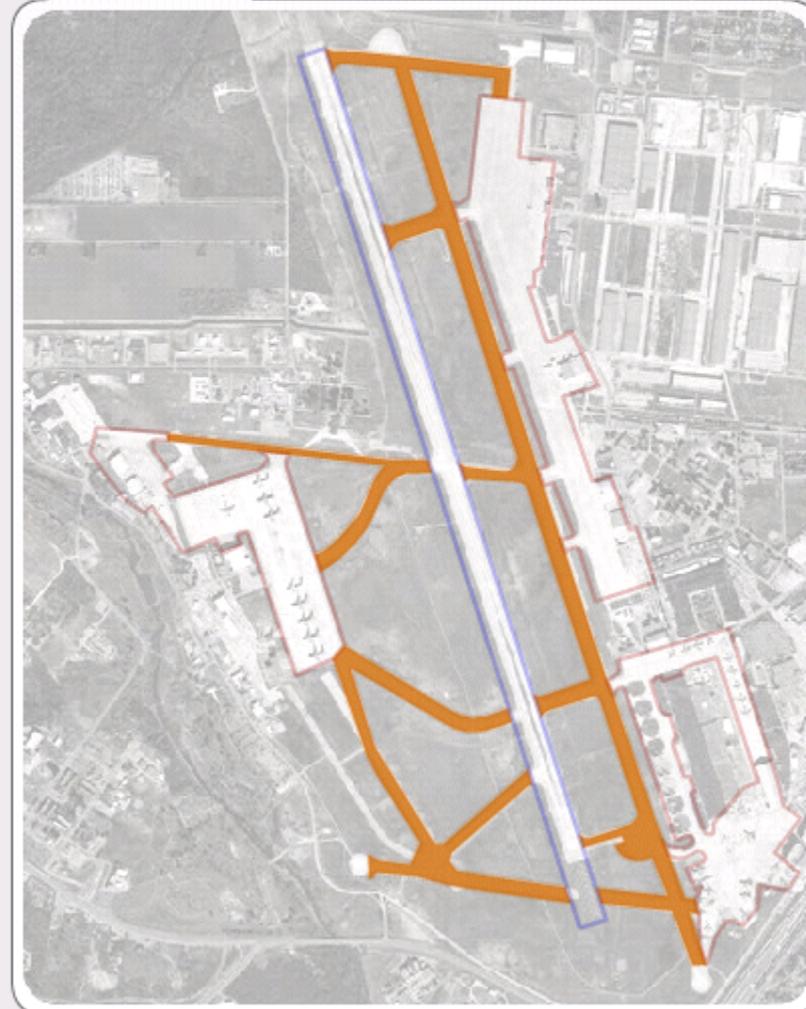
The simplest taxiway configurations are typically found at single runway airfields, with complexity increasing with parallel and crossing runway airfields.

The image on the right depicts three types of airfields, with the taxiways highlighted in orange. Click on the various tabs to view the different types.

single

parallel

crossing



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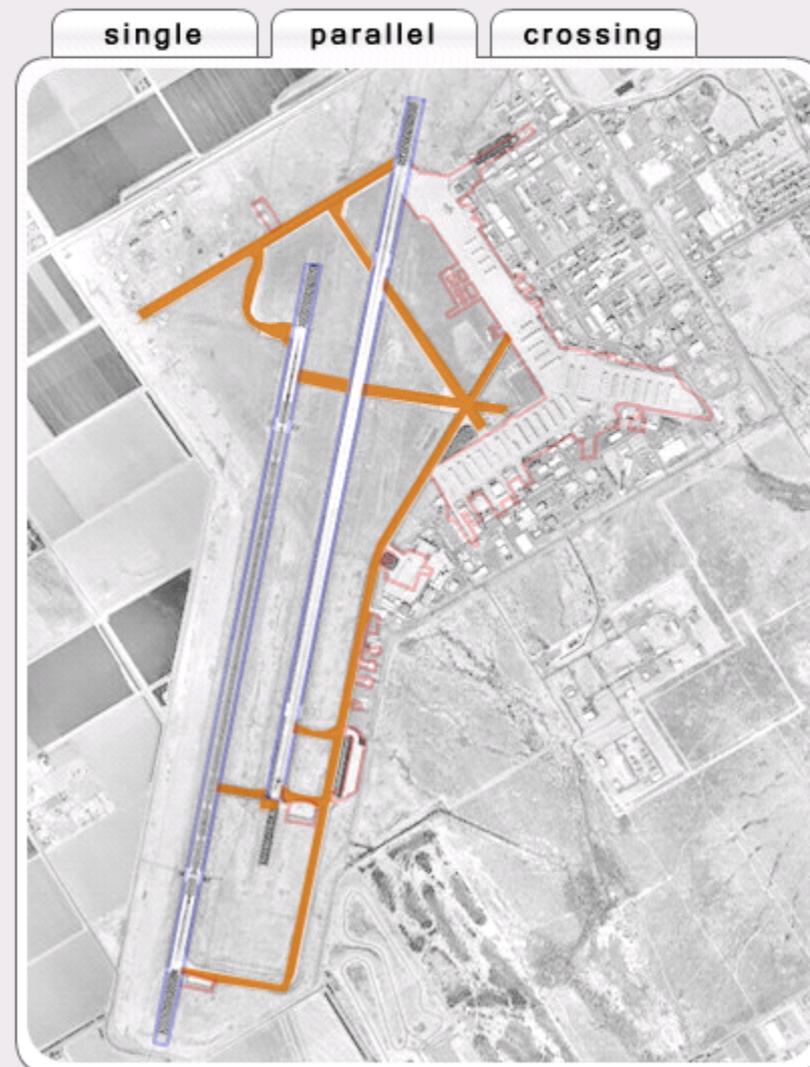


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Taxiways are alphabetically identified using the phonetic alphabet, such as:

Taxiway **A**lpha

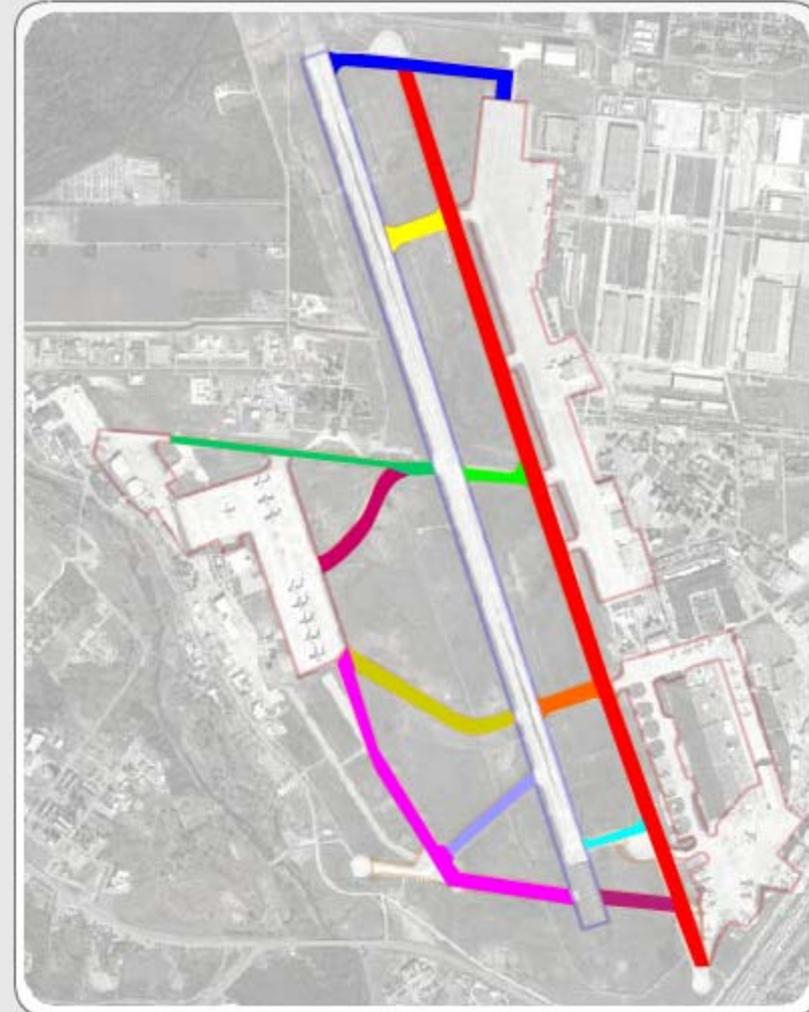
Taxiway **B**ravo

Taxiway **C**harlie

Taxiway **D**elta

Taxiway **E**cho, etc.

[Click here to see and hear the entire phonetic alphabet.](#)



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Taxiways are alphabetically identified using the phonetic alphabet, such as:

Taxiway **A**lpha

Taxiway **B**ravo

Taxiway **C**harlie

Taxiway **D**elta

Taxiway **E**cho, etc.

[Click here to see and hear the entire phonetic alphabet.](#)

On the right you can see the complete phonetic alphabet.

Click on the words on the right side of the page to see how the phonetic alphabet is pronounced.

click on the words to hear their pronunciation

A LPHA

J ULIET

S IERRA

B RAVO

K ILO

T ANGO

C HARLIE

L IMA

U NIFORM

D ELTA

M IKE

V ICTOR

E CHO

N OVEMBER

W HISKEY

F OXTROT

O SCAR

X -RAY

G OLF

P APA

Y ANKEE

H OTEL

Q UEBEC

Z ULU

I NDIA

R OMEO

close

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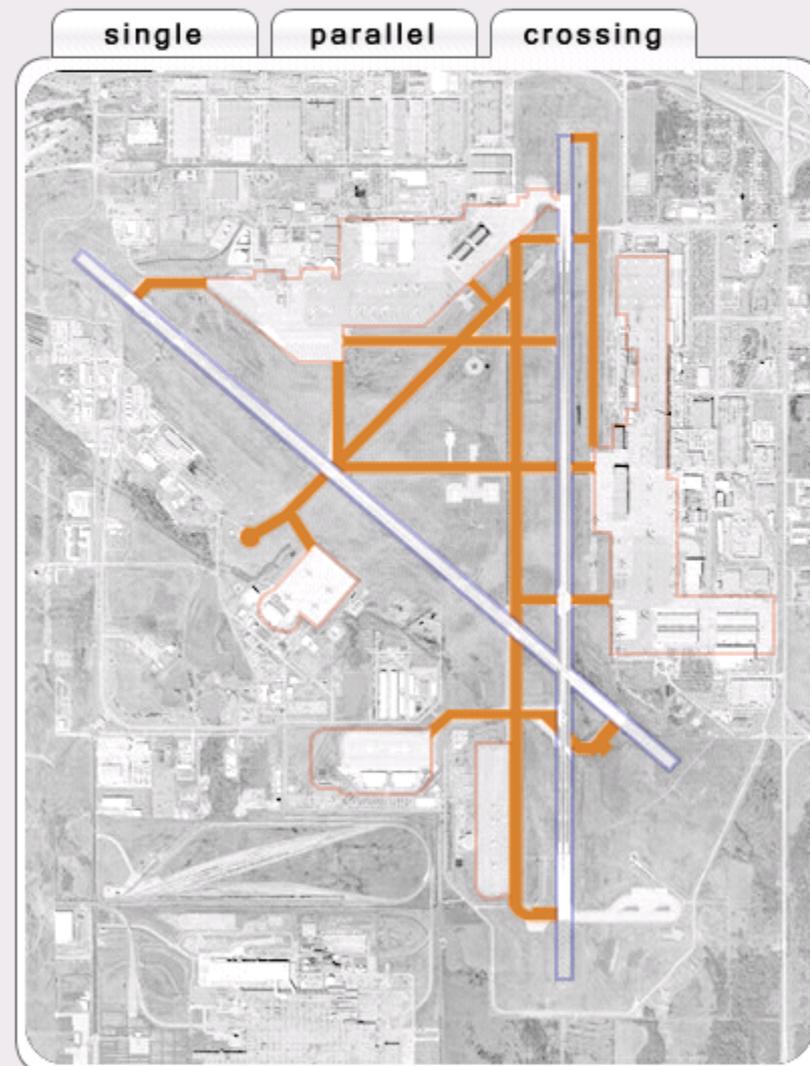


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Finally, the area that you will first encounter when entering the airfield is the aircraft parking apron.

Aircraft parking **aprons** (the areas colored red) are the portion of the airfield where aircraft or helicopters are parked before, after, and between flights. Additionally, this is normally where servicing and maintenance occur.

The parking apron, often referred to as the flight line, is where you will spend the majority of your driving time.

Aprons that are designed for larger aircraft "Heavies" are generally squared off in comparison to angled taxi lanes found on fighter aircraft aprons.

heavy parking positions



fighter parking positions



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The apron will have areas marked with aircraft parking positions.

Aircraft Parking Spot

Aircraft Parking spot markings are designated by a row number and an alphabetical spot identifier. The example on the right indicates **2C** (Two Charlie) for an aircraft parking position. Consult your parking plan for specific markings.

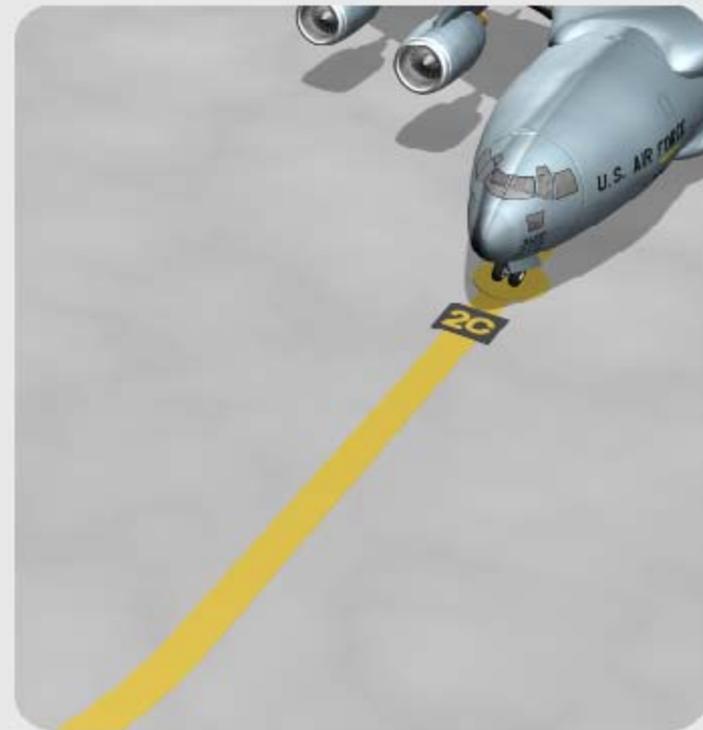
A rectangle or circle on the parking taxi line indicates an aircraft nose wheel parking spot.

The configuration and dimensions of apron parking spots are based on maneuvering space, clearance requirements, and service activity.

Taxilanes

Taxilanes define aircraft taxi routes across the parking apron. Taxilanes are

for safe passage of the aircraft to and from their parking spots. Taxilanes are similar to taxiway centerline markings; however, they assist pilots with taxiing through aprons or between/near aircraft parking rows.



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Some of the other markings on the apron include:

- Vehicle Traffic Lanes
- Restricted Area Boundary
- Entry Control Point (ECP)

Click on the various tabs in the image to the right to highlight specific apron markings.



Vehicle Traffic Lanes are routes marked with solid white lines on the edges and a dashed white center line. They are used to guide airfield vehicle operators on the apron.

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- Vehicle Traffic Lanes
- Restricted Area Boundary
- Entry Control Point (ECP)

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The **Entry Control Point (ECP)** is where vehicles may enter and exit a restricted area.

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- Vehicle Traffic Lanes
- Restricted Area Boundary
- Entry Control Point (ECP)

Click on the various tabs in the image to the right to highlight specific apron markings.



Restricted Area Boundary - A Restricted Area is identified by a solid red line used to identify the boundary. Don't cross this line ("Break RED") under any circumstance.

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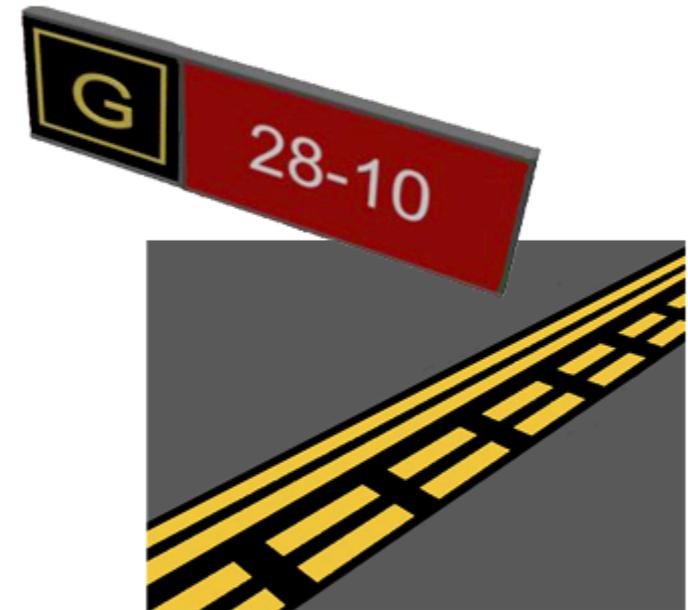
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Now that you are familiar with the layout of most airfields, let's look at the signs and markings that are important to safe airfield vehicle operations.

Signs are divided into either Mandatory or Informational.



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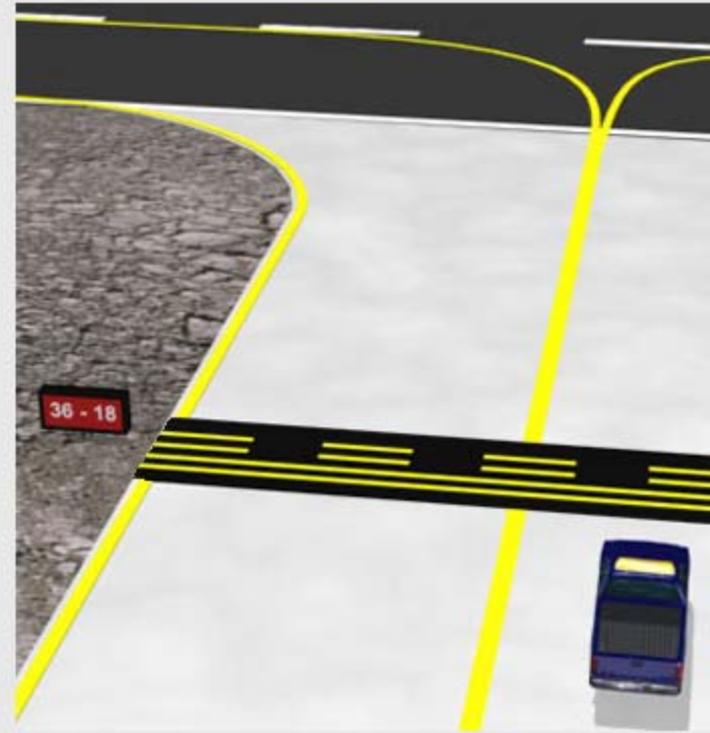
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Mandatory signs and associated pavement markings are provided when an instruction or procedure must be followed. An example is a holding position marking and sign which requires permission from Air Traffic Control Tower to cross. If mandatory signs are ignored incursion incidents occur and death or material destruction is distinctly possible.

Warning: *Entering the runway without clearance from the tower controller is strictly forbidden and can cause an extremely hazardous condition. Unauthorized access to the runway constitutes a RUNWAY INCURSION and may interfere with an aircraft on approach or take-off. You shall "Hold Short" (STOP), and receive permission from the tower prior to entering this area, and notify the tower when you exit the area.*

Runway hold position signs have a red background and white legend. In this example, they are colocated with a Visual Flight Rule (VFR) hold position taxiway marking at runway 36-18.



VFR hold line (runway hold line) markings mark the boundary of the runway area. These markings are two solid yellow lines and two double dash lines that run across the width of the taxiway from edge to edge. The double dash lines are on the runway side of the hold line and are a minimum of 100 feet from edge.

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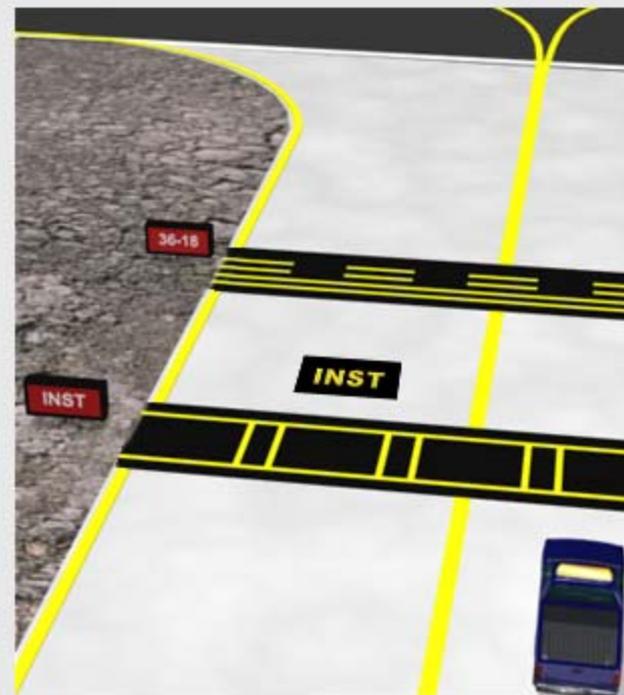
The ILS (Instrument Landing System) Critical Area sign is found on a taxiway near the end of a runway. This sign and the corresponding Instrument Hold line marks the boundary of the ILS critical area. The distance to the entrance of the runway varies depending on the antenna radio frequency signal pattern of the ILS ground radio frequency transmitter. The ILS must be protected during inclement weather and when visibility is limited.

Warning: *Entering this area without approval from the tower controller may cause interruption of the ILS signal pattern and interfere with an aircraft on approach in the critical phase of flight (landing).*

You shall "Hold Short": (Stop) and receive permission from the tower prior to entering this area during inclement weather (reported ceiling is less than 800 feet and/or the visibility is less than 2 miles), or as determined locally.

Instrument hold position signs have red background and white legend.

The instrument hold line consists of a set of two parallel yellow lines spaced 4 feet apart. In between these 2 lines and perpendicular to them, there are sets of two parallel yellow lines. The letters "INST" are written above the Instrument Hold Line.



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The VFR Approach Hold Position sign is co-located with a runway Visual Flight Rule (VFR) hold position marking. Control Tower permission is required to cross from the solid side to the dash side.

The hold line at the approach areas is just like a runway hold line. The approach areas may be located where taxiways cross through the approach area or cross a runway overrun.

Warning: *Entering the approach area without approval from the tower controller is strictly forbidden and can cause an extremely hazardous condition. Unauthorized access to the runway constitutes a RUNWAY INCURSION. You shall "Hold Short" (STOP), contact the tower controller to receive permission from the tower prior to entering this area, and notify the tower when you exit the area.*

Approach hold position signs have red background and white legend.



These markings are two solid yellow lines and two double dash lines that run across the width of the taxiway from edge to edge. The double dash lines are on the runway side of the hold line and are a minimum of 100 feet from edge.

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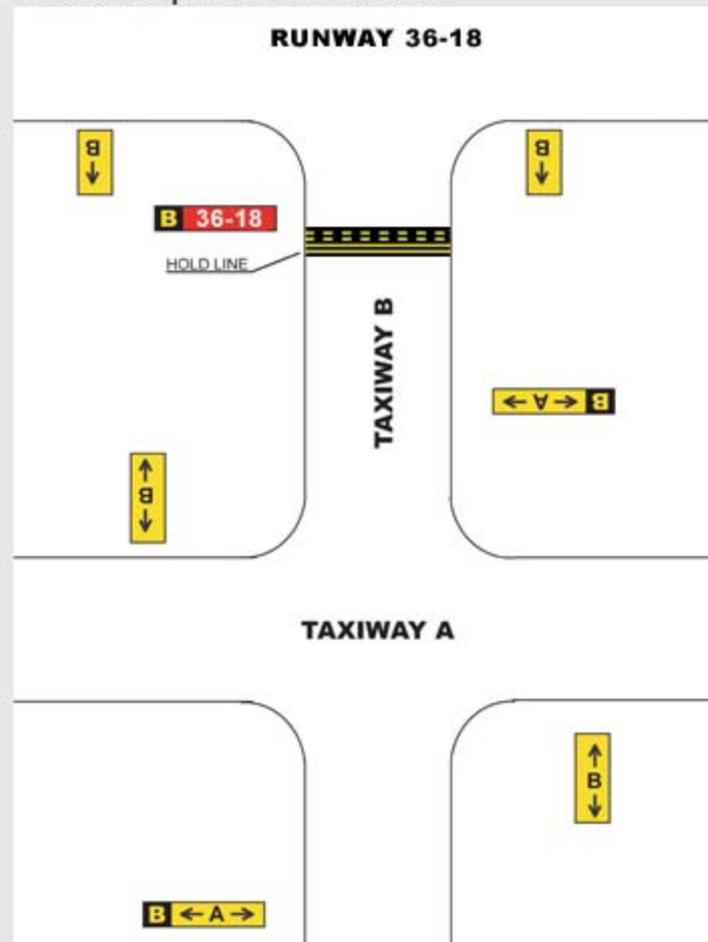
Informational signs are yellow with black lettering, or black with yellow lettering. They aid or provide guidance information for aircraft to safely negotiate the airfield between the apron, taxiways and runways.

Taxiway **DIRECTIONAL** signs are **yellow** with black lettering and normally indicate a taxiway entrance from the runway, or the direction to a taxiway or runway.

Taxiway **LOCATION** signs are **black** with yellow lettering and indicate the taxiway that you are on.

In addition to these signs, some airfields may have surface painted signs near the centerline at intersections.

Surface painted signs are added to highlight the runway hold line at high risk areas or where emphasis is needed.



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Taxiway markings are normally associated with signs and give a second indication of movement requirements, permissions, and landing areas.

VFR

Instrument

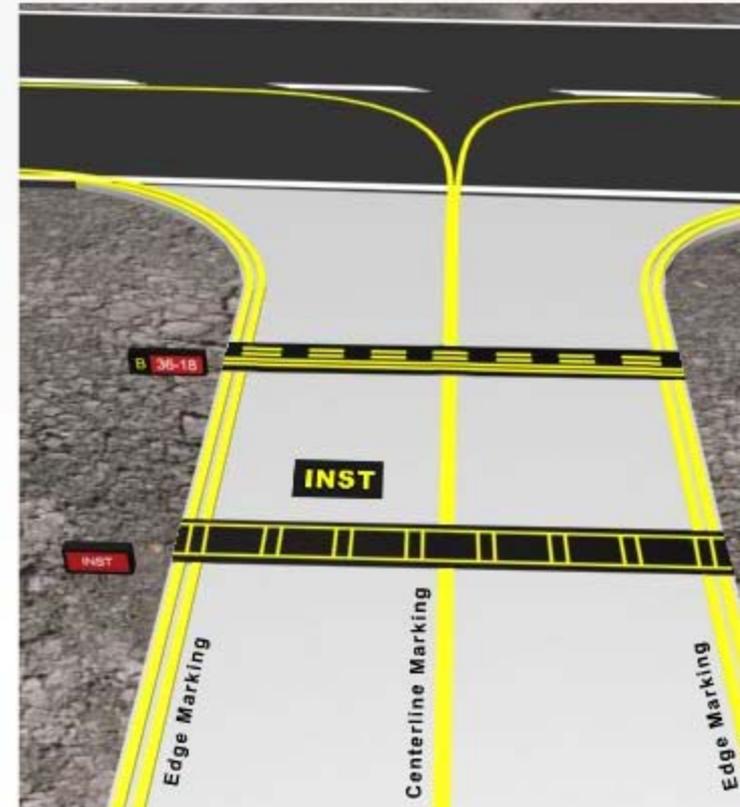
Helipad

Centerline

Edge

Service Roads

The marking for the taxiway/taxi lane centerline is a single solid yellow line. This marking guides aircraft taxiing to and from the apron and runways.



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Centerline

VFR

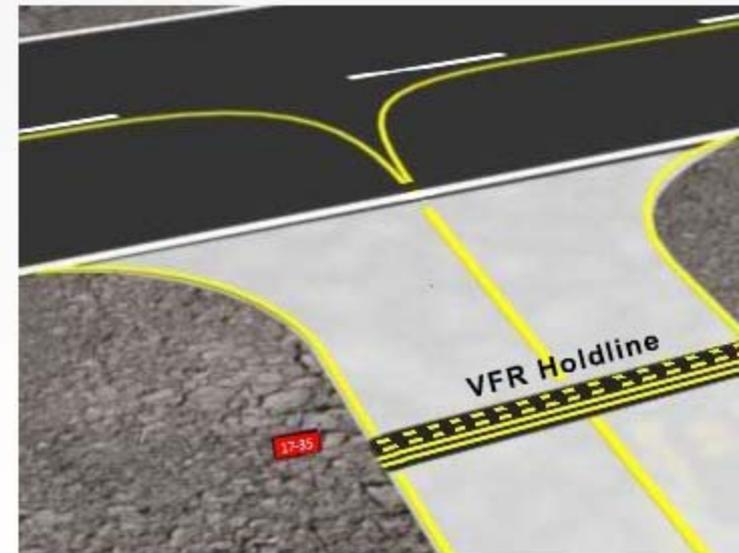
Edge

Instrument

Service Roads

Helipad

VFR Hold line markings (or runway hold line) mark the boundary of the runway area. The double dashed lines are between 100 to 250 feet from the near edge of the runway.



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Taxiway markings are normally associated with signs and give a second indication of movement requirements, permissions, and landing areas.

VFR

Centerline

Instrument

Edge

Helipad

Service Roads

Markings for the taxiway edge are two solid yellow lines. They mark the edge of the taxi lane pavement for aircraft.



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▶ ATC Communications

▶ End of Course Test

Page 6 of 7



Taxiway markings are normally associated with signs and give a second indication of movement requirements, permissions, and landing areas.

Centerline

VFR

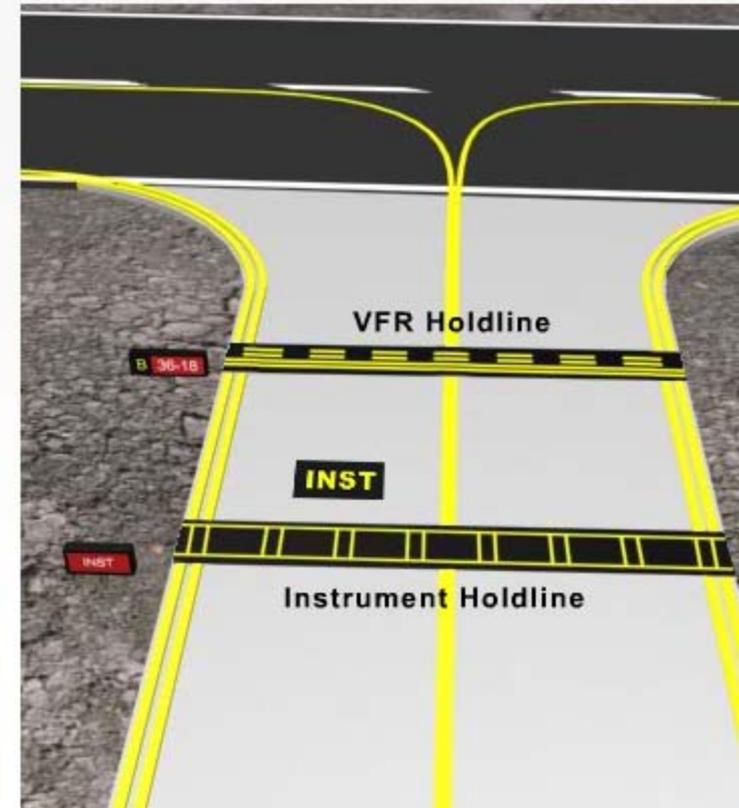
Edge

Instrument

Service Roads

Helipad

Instrument Hold line marking marks the boundary of the ILS Critical area. The distance from the runway varies depending on the antenna RF signal patterns of the ILS ground transmitter.



AIRFIELD DRIVING

Airfield Layout, Signs and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

End of Module Quiz

▶ Night/Adverse Conditions

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Taxiway markings are normally associated with signs and give a second indication of movement requirements, permissions, and landing areas.

VFR

Instrument

Helipad

Centerline

Edge

Service Roads

This is an example of signage and markings found at access points to the runways along service roads. You are required to contact the control tower and receive permission prior to entry.



Service Road Accessing Runway

The sign size and message may vary.

AIRFIELD DRIVING

Airfield Layout, Signs and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

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Taxiway markings are normally associated with signs and give a second indication of movement requirements, permissions, and landing areas.

Centerline

VFR

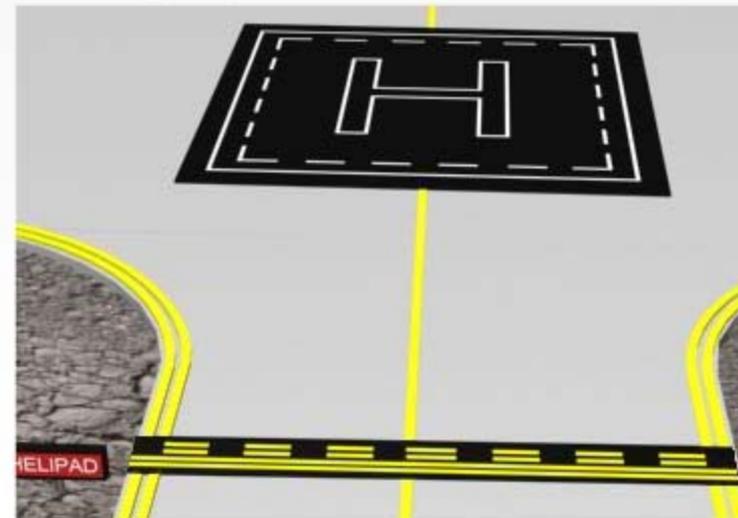
Edge

Instrument

Service Roads

Helipad

Helipad markings indicate helicopter operations. Airfields that support helicopters required caution because helicopters may "air taxi" at higher than normal aircraft taxi speeds. Hover altitudes may be 100 feet or less above the pavement following the taxi lanes prior to settling down on the Helipad. A helicopter in hover taxi shall be given the same RIGHT of WAY as an aircraft.

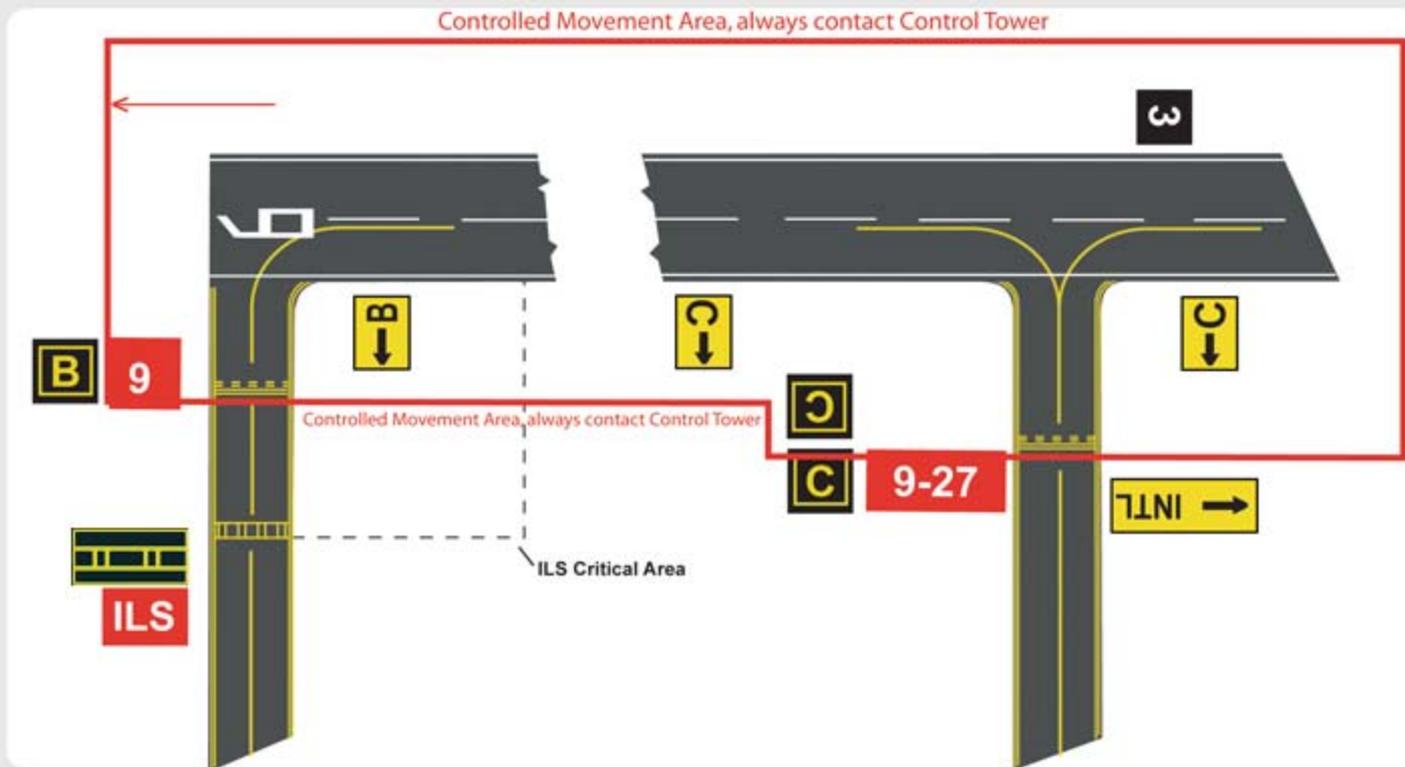


NOTE

If you hear a helicopter, scan the area above the pavement to ensure you are not violating the helicopter's RIGHT of WAY.

AIRFIELD DRIVING

Below is a typical example of an airfield signs and markings layout.



Airfield Layout, Signs and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

End of Module Quiz

Night/Adverse Conditions

Operating Procedures and Standards

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AIRFIELD DRIVING

Airfield Layout, Signs
and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

End of Module Quiz

▶ Night/Adverse
Conditions

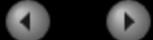
▶ Operating Procedures
and Standards

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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MODULE SUMMARY

In this module you were introduced to typical airfield layouts. This included aprons, taxiways, runways, and standard airfield signs and markings.

You are now able to successfully identify apron aircraft parking spots, nose wheel guides, edge markings, vehicle traffic lanes, helicopter pads, Entry Control Points (ECP), and restricted area boundaries. On taxiways and runways you are able to identify standard single, parallel, and crossing configurations. Additionally, you are able to identify mandatory and informational signs and markings. Complete the Airfield Layout, Signs and Markings progress check.

After completion of the progress check select Night/Adverse Conditions on your menu.

AIRFIELD DRIVING

Airfield Layout, Signs
and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

End of Module Quiz

▶ Night/Adverse
Conditions

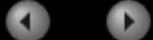
▶ Operating Procedures
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▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



Airfield Layout, Signs and Markings

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

1. _____ are the portion of the airfield where aircraft or helicopters are parked before, after, or between flights, and for servicing and maintenance.

- A. Aprons
- B. Runways
- C. Taxiways
- D. Terminals

Next >>

AIRFIELD DRIVING

Airfield Layout, Signs
and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

End of Module Quiz

▶ Night/Adverse
Conditions

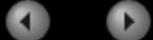
▶ Operating Procedures
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▶ End of Course Test

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Airfield Layout, Signs and Markings

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

2. _____ are routes marked with solid white lines on the edges and a dashed white center line. They are used to guide airfield vehicle operators on the apron.
- A. Helicopter Pads
 - B. Entry Control Points (ECP)
 - C. Vehicle Traffic Lanes
 - D. Restricted Area Boundary

AIRFIELD DRIVING

Airfield Layout, Signs
and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

End of Module Quiz

▶ Night/Adverse
Conditions

▶ Operating Procedures
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▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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Airfield Layout, Signs and Markings

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

3. _____ are identified by numbers that represent the orientation in compass degrees rounded to the nearest ten (10) degrees.

- A. Aprons
- B. Runways
- C. Taxiways
- D. Terminals

AIRFIELD DRIVING

Airfield Layout, Signs
and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

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▶ Operating Procedures
and Standards

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



Airfield Layout, Signs and Markings

End of Module Quiz

Attempts Remaining: 1

Min. Passing Score: 80%

4. A mandatory instruction sign located at a runway holdline will be what color?
- A. Yellow letters, black background
 - B. Black letters, yellow background
 - C. Red letters, white background
 - D. White letters, red background

AIRFIELD DRIVING

Airfield Layout, Signs
and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

End of Module Quiz

Night/Adverse
Conditions

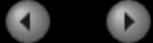
Operating Procedures
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Runway Incursion

ATC Communications

End of Course Test

Page 1 of 1



Airfield Layout, Signs and Markings

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

5. Where would this sign be located?

4-22

- A. At Taxiway/Taxiway intersection
- B. At Taxiway 4-22
- C. At the VFR Holdline for Runway 4-22
- D. At an airfield Entry Points

AIRFIELD DRIVING

Airfield Layout, Signs and Markings

Airfield Layout

Runways

Taxiways

Aprons

Signs and Markings

Summary

End of Module Quiz

▶ Night/Adverse Conditions

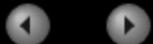
▶ Operating Procedures and Standards

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▶ End of Course Test

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Airfield Layout, Signs and Markings

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

6. Near what airfield pavement marking would the following sign be located?

4-APCH

- A. VFR Holdline
- B. Instrument Hold line
- C. Runway Centerline
- D. Arresting gear markings

AIRFIELD DRIVING

- ▶ Airfield Layout, Signs and Markings

- ▶ **Night/Adverse Conditions**

 - Airfield Lighting

 - Restricted Visibility

 - Summary

 - End of Module Quiz

- ▶ Operating Procedures and Standards

- ▶ Runway Incursion

- ▶ ATC Communications

- ▶ End of Course Test

MODULE OBJECTIVE

In this module you will be introduced to procedures and restrictions during night and adverse conditions. After completion of this module you will be able to identify when to use parking, flashing, and head lights during night or restricted visibility. You will also be able to state the restricted visibility rules for visibility less than 50ft, 100ft, and 300ft. Now lets learn some airfield operating procedures and standards.

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

Night/Adverse Conditions

Airfield Lighting

Restricted Visibility

Summary

End of Module Quiz

▶ Operating Procedures and Standards

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Vehicle operations during night or adverse conditions can produce significant challenges due to diminished depth perception, glare, and limited visibility. This can degrade your situational awareness and increase your chances of committing a runway incursion.

Let's start by showing you typical airfield lighting at night and the visual cues you will encounter while driving on the airfield's apron, taxiways, and runways.



AIRFIELD DRIVING

- ▶ Airfield Layout, Signs and Markings

- ▶ Night/Adverse Conditions

- Airfield Lighting

- Restricted Visibility

- Summary

- End of Module Quiz

- ▶ Operating Procedures and Standards

- ▶ Runway Incursion

- ▶ ATC Communications

- ▶ End of Course Test

As you recall from Module 1, Aircraft parking aprons are the portions of the airfield where aircraft or helicopters are parked before, between, and after flights.

At night this area is usually lit by stadium type lights.



AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

Airfield Lighting

Restricted Visibility

Summary

End of Module Quiz

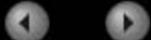
▶ Operating Procedures
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▶ ATC Communications

▶ End of Course Test

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As you recall from Module 1, taxiways are the designated paved areas that aircraft use to taxi between the apron and runway(s).

At night taxiways have internally illuminated signs and blue edge lights.



AIRFIELD DRIVING

- ▶ [Airfield Layout, Signs and Markings](#)

- ▶ [Night/Adverse Conditions](#)

- ▶ [Airfield Lighting](#)

- ▶ [Restricted Visibility](#)

- ▶ [Summary](#)

- ▶ [End of Module Quiz](#)

- ▶ [Operating Procedures and Standards](#)

- ▶ [Runway Incursion](#)

- ▶ [ATC Communications](#)

- ▶ [End of Course Test](#)

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As you recall from Module 1, Runways are the paved areas of the airfield that are used by aircraft to takeoff or land.

At night and during inclement weather, the runways have white edge lighting. There are also white, green and red lights set perpendicular to the runway, which aid in aircraft takeoffs and landings.

While driving at night or during inclement weather in the Controlled Movement Area (CMA), it is essential to maintain constant contact with the tower controller.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Airfield Lighting

▶ **Restricted Visibility**

▶ Summary

▶ End of Module Quiz

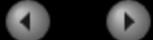
▶ Operating Procedures and Standards

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▶ End of Course Test

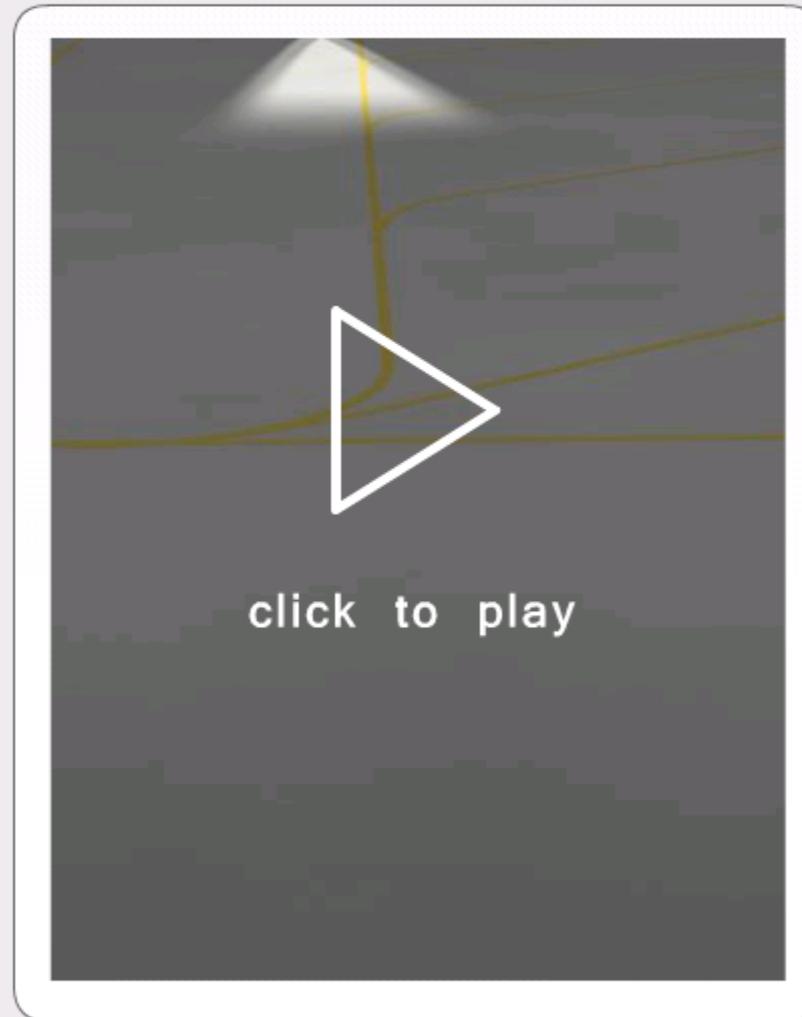
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When encountering a moving aircraft at night, stop and immediately turn OFF headlights. Turn on parking lights or emergency flashers to verify your position. This is to ensure that the pilot's night vision will not be adversely affected, and that they can still verify their position in relationship to your vehicle. The headlights of the vehicle will remain off until the aircraft is out of range. Headlights will be turned ON prior to putting the vehicle in motion.

Use flashing lights (caution) and/or parking lights at night and in inclement weather when temporarily parking a vehicle on any part of the aircraft parking ramp. This does not apply when parking a vehicle in a designated parking area.

NOTE: Vehicles with daytime running lights will park in a safe location with ignition off, parking brake set, and emergency flashers on.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Airfield Lighting

▶ Restricted Visibility

▶ Summary

▶ End of Module Quiz

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▶ ATC Communications

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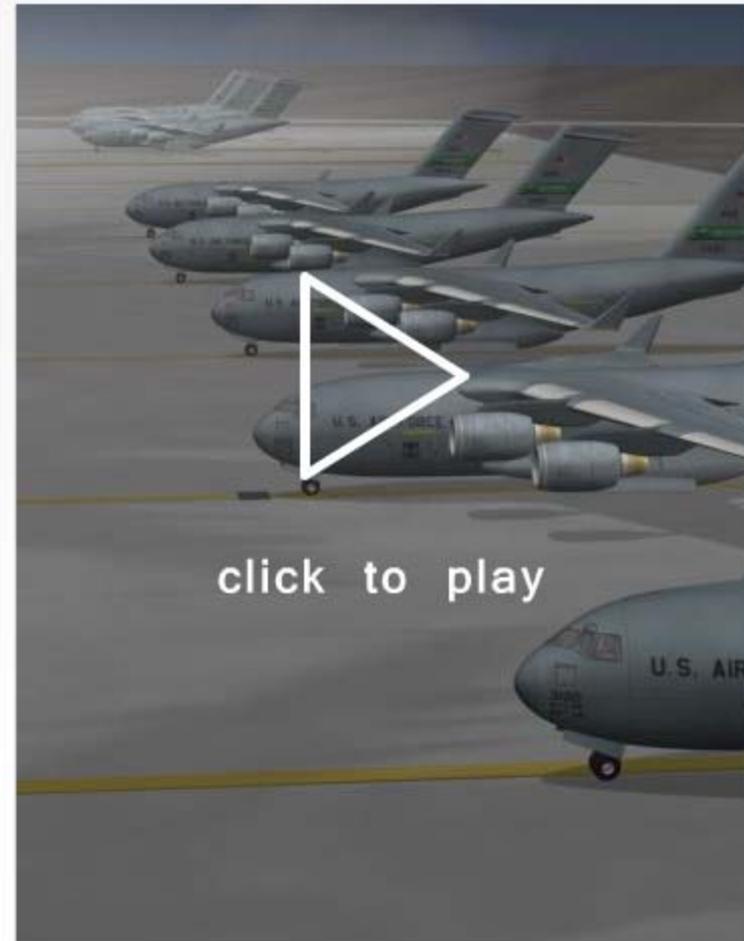
Page 2 of 2



During periods of severely restricted visibility, we have some other rules to follow:

Severely Restricted Visibility Rules:

- When visibility is less than 300 ft, refueling and explosive loaded vehicles will not be operated without authorization from the Wing/Base Commander.
- When visibility is less than 100 ft, no vehicles except emergency/alert vehicles will be operated on the airfield.
- When visibility is less than 50 ft, it is recommended that a walking guide equipped with a flashing/luminescent wand be used during emergency movement of alert vehicles.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Airfield Lighting

▶ Restricted Visibility

▶ Summary

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▶ Operating Procedures and Standards

▶ Runway Incursion

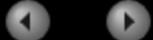
▶ ATC Communications

▶ End of Course Test

MODULE SUMMARY

In this module you were introduced to procedures and restrictions during night and adverse conditions. You are now able to identify when to use parking, flashing, and headlights during night or restricted visibility. Additionally, you can now state the restricted visibility rules for visibility less than 50ft, 100ft, and 300ft.

After completing the progress check, select Operating Procedures and Standards on your menu.



AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

▶ Airfield Lighting

▶ Restricted Visibility

▶ Summary

▶ End of Module Quiz

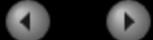
▶ Operating Procedures
and Standards

▶ Runway Incursion

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▶ End of Course Test

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Night/Adverse Conditions

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

1. At night the taxiways have internally illuminated signs and _____ edge lights?
 - A. Red
 - B. Blue
 - C. Green
 - D. Yellow

Next >>

AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

▶ Airfield Lighting

▶ Restricted Visibility

▶ Summary

▶ End of Module Quiz

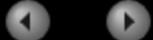
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▶ End of Course Test

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Night/Adverse Conditions

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

2. At night and during inclement weather, it is critical you gain permission from and maintain communication with the tower controller while driving in the Controlled Movement Area (CMA).
- A. True
 - B. False

AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

▶ Airfield Lighting

▶ Restricted Visibility

▶ Summary

▶ End of Module Quiz

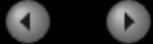
▶ Operating Procedures
and Standards

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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Night/Adverse Conditions

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

3. Vehicles with daytime running lights must park in a safe location with ignition off, parking brake set, and emergency flashers off.
- A. True
 - B. False

AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

▶ Airfield Lighting

▶ Restricted Visibility

▶ Summary

▶ End of Module Quiz

▶ Operating Procedures
and Standards

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▶ ATC Communications

▶ End of Course Test

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Night/Adverse Conditions

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

4. For periods of lowered visibility, which of the following statements is true?
- A. When visibility is less than 300 feet, refueling and explosive loaded (laden) vehicles will not be operated unless directed by the wing or installation commander.
 - B. When visibility is less than 100 feet, flight line vehicles (except emergency and alert vehicles) will not be operated on the flight line.
 - C. When visibility is less than 50 feet, it is recommended that a walking guide equipped with a flashing/luminescent wand be used during emergency movement of alert vehicles.
 - D. All of the above.

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

MODULE OBJECTIVE

In this module you will be introduced to airfield entry requirements, Foreign Object Damage (FOD) prevention, precautions for driving near aircraft, and rules on mobile obstacles. After completion of this module you will be able to identify who authorizes controlled entry, and licensing/training/check ride requirements. You will be able to state general procedures for a FOD tire check, and driving off of pavement. Additionally, you will be able to identify airfield speed limits, traffic flow/parking rules, and clearance distances for mobile obstacles.



Microsoft Office Outlook



Connection to Microsoft Exchange has been restored.

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

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▶ Runway Incursion

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▶ End of Course Test

Page 1 of 1

Before driving on the airfield, you must have:

- Authorization to enter the Controlled Area
- A license or certification to operate a vehicle
- Completed the base's Airfield Driver Training Course
- Completed an initial airfield driver's check ride

Once these requirements have been met, you will receive your [AF IMT 483, Certificate of Competency](#), endorsed for the airfield driving at your base.



Click anywhere to continue.

CERTIFICATE OF COMPETENCY		<i>CERTIFICATE NO.</i>
<i>NAME (Last, First, Middle Initial)</i>		<i>DATE</i>
<i>COMMAND</i>	<i>INSTALLATION</i>	
<i>HAS SUCCESSFULLY COMPLETED THE PRESCRIBED COURSE OF INSTRUCTION AND/OR PRACTICAL TEST AS REQUIRED BY CURRENT DIRECTIVES AND IS DEEMED QUALIFIED TO PERFORM THE DUTIES OF</i>		
<i>TYPED NAME, TITLE AND</i>	<i>SIGNATURE</i>	

AF IMT 483, 19850201, V2

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

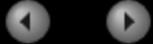
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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Vehicle operation “on the airfield is a major source of foreign objects that damage aircraft tires and are ingested into jet engines with disastrous results”.

Whenever you enter the airfield or have driven on an unpaved area of the airfield, you will be required to perform a FOD check prior to driving on any surfaced area of the airfield that aircraft use with engines running.

“When motor vehicles are operated on unpaved surfaces, rocks may become lodged between dual wheels and gravel may stick in the tire treads. When entering the ramp area or Airfield, operators will stop and remove foreign materials from the tires ...”

AFOSH 91-100



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

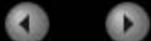
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▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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Comply with local Airfield Driving Instructions and FOD Prevention Program precautions.

- Check tires and remove objects lodged in the tread and/or between dual tires.
- Ensure that any loose objects on/in the vehicle are secured/stowed.
- Perform a FOD Check anytime you enter the airfield or return to a paved area of the airfield after driving off the pavement.

FOD prevention is your responsibility.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

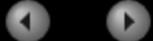
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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On the airfield we have speed limits that will never be exceeded, except by emergency response vehicles responding to an actual emergency. A “Red Ball” is not an emergency.

There are maximum limits of 5 MPH, 10 MPH and 15 MPH, on the apron and vary by proximity to aircraft and vehicle type.

Maximum speed limits may be amended to lower limits if local conditions require.

The speed limits on the taxiway or inactive runways will be determined by the installation commander.

Ask your Airfield Driving Program Manager about specific speed limits for your airfield ramp(s), taxiways and inactive runway(s).

5 MPH

10 MPH

15 MPH

Any vehicle operating within 25 feet of an aircraft



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

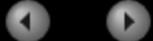
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

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There are maximum limits of 5 MPH, 10 MPH and 15 MPH, on the apron and vary by proximity to aircraft and vehicle type.

Maximum speed limits may be amended to lower limits if local conditions require.

The speed limits on the taxiway or inactive runways will be determined by the installation commander.

Ask your Airfield Driving Program Manager about specific speed limits for your airfield ramp(s), taxiways and inactive runway(s).

5 MPH

10 MPH

15 MPH

Special Purpose Vehicles



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

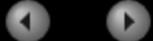
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▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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There are maximum limits of 5 MPH, 10 MPH and 15 MPH, on the apron and vary by proximity to aircraft and vehicle type.

Maximum speed limits may be amended to lower limits if local conditions require.

The speed limits on the taxiway or inactive runways will be determined by the installation commander.

Ask your Airfield Driving Program Manager about specific speed limits for your airfield ramp(s), taxiways and inactive runway(s).

5 MPH

10 MPH

15 MPH

Any general purpose vehicles operating on the apron or within 200 feet of a designated Aircraft Parking Area



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Airfield Entry

▶ FOD

▶ Driving Near Aircraft

▶ Mobile Obstacles

▶ Summary

▶ End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 2 of 7



It is essential that you rigidly adhere to traffic flow and driving near aircraft rules. Violating these rules will eventually result in an aircraft incident.

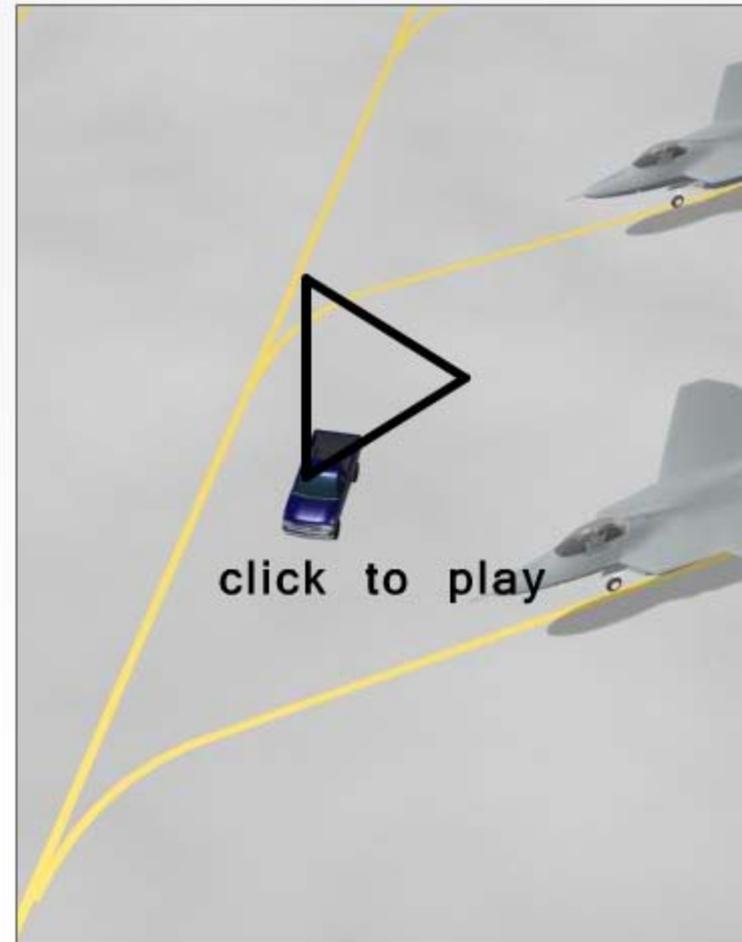
Traffic Flow Rules:

- Always drive and park with the driver's side of the vehicle towards aircraft.
- Drive parallel to aircraft taxilanes where marked.
- Cross aprons perpendicular to taxi lanes and aircraft parking spot rows.

parking

drive parallel

cross perpendicular



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

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FOD

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Mobile Obstacles

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▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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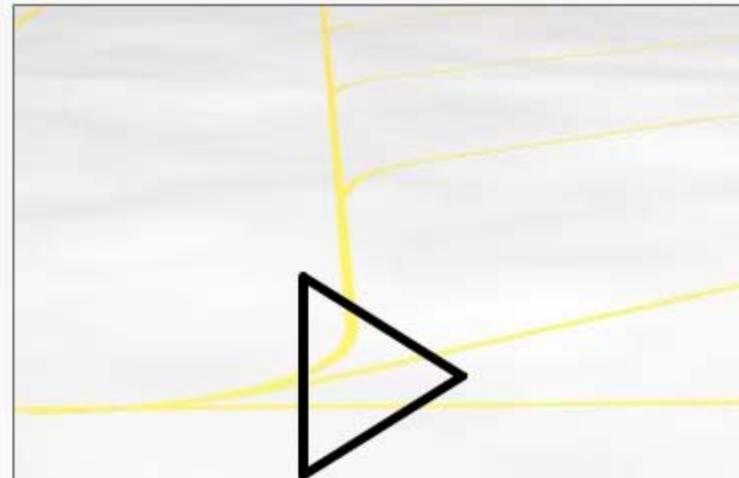


Traffic Flow Rules (continued):

- YIELD right-of-way to taxiing aircraft, including helicopters in "hover taxi".
- Never drive in front of moving aircraft or between a "Follow Me" vehicle and taxiing aircraft!

Helo Taxi

Follow Me



click to play

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

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FOD

Driving Near Aircraft

Mobile Obstacles

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▶ End of Course Test

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We drive on the airfield to support aircraft operations and often have to park, chock, and backup our vehicle in the performance of our jobs.

Rules for Parking, Chocking, and Backing up:

- Within 10 ft of an aircraft you will not back up toward the aircraft without a “spotter” to guide you and a pre-positioned chock to prevent you from backing into the aircraft.
- When remaining in the vehicle, set the parking brake. Place automatic transmissions to PARK or place manual transmissions to neutral.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

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▶ End of Course Test

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Rules for parking, chocking, and backing up near aircraft with engines running are as follows:

- When the engines are running or are about to be started, do not park within 25 ft in front of, within 200 ft to the rear of, or within **Danger Areas** specified for the aircraft.
- When the engines are running or are about to be started, do not park to the side of an aircraft where the **personnel in the cockpit cannot see you**. **Establish eye contact, if possible.**



click to play

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

Operating Procedures and Standards

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FOD

Driving Near Aircraft

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▶ End of Course Test

Page 6 of 7

Jet Blast Hazard:

- Be aware of engine run parking spots on your airfield.
- Minimum standards are 25 feet in front and 200 feet to the rear of an aircraft. This is applicable when engines are idle or in a slow taxi speed. Larger aircraft taxiing or during idle engine runs require greater distances, up to 600 feet.
- Maintain situational awareness and avoid driving behind aircraft when maintenance personnel are in front of an aircraft while position lights are on and engines are running.
- Never drive behind an aircraft while the engines are being run above idle during an engine maintenance run.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Airfield Entry

▶ FOD

▶ Driving Near Aircraft

▶ Mobile Obstacles

▶ Summary

▶ End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 7 of 7

At some point you will need to leave your vehicle.

Unattended Vehicle Parking Rules:

- When required to temporarily leave the vehicle, park so that your vehicle does not interfere with aircraft being taxied or towed.
- Turn the ignition switch off and leave the keys in the switch.
- Set the parking brake and place the transmission in PARK with an automatic transmission, or REVERSE with a manual transmission. Local Operating Instructions may require you to "chock" the vehicle.
- **Emergency and Alert Vehicles responding to an emergency or alert are exempt from these requirements.**



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

[Airfield Entry](#)

FOD

Driving Near Aircraft

[Mobile Obstacles](#)

Summary

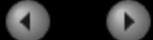
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



You have learned that being aware of the position of your vehicle with relation to aircraft is essential to safe airfield operations. Additionally, you are responsible for ensuring that your work remains free of mobile obstacles.

Ensure that you are aware of stricter local obstacle clearance procedures.

Click on the tabs to the right to see how far obstacles must be kept from various airfield areas.

apron

runway

taxiways



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

End of Module Quiz

▶ Runway Incursion

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▶ End of Course Test

Page 1 of 1



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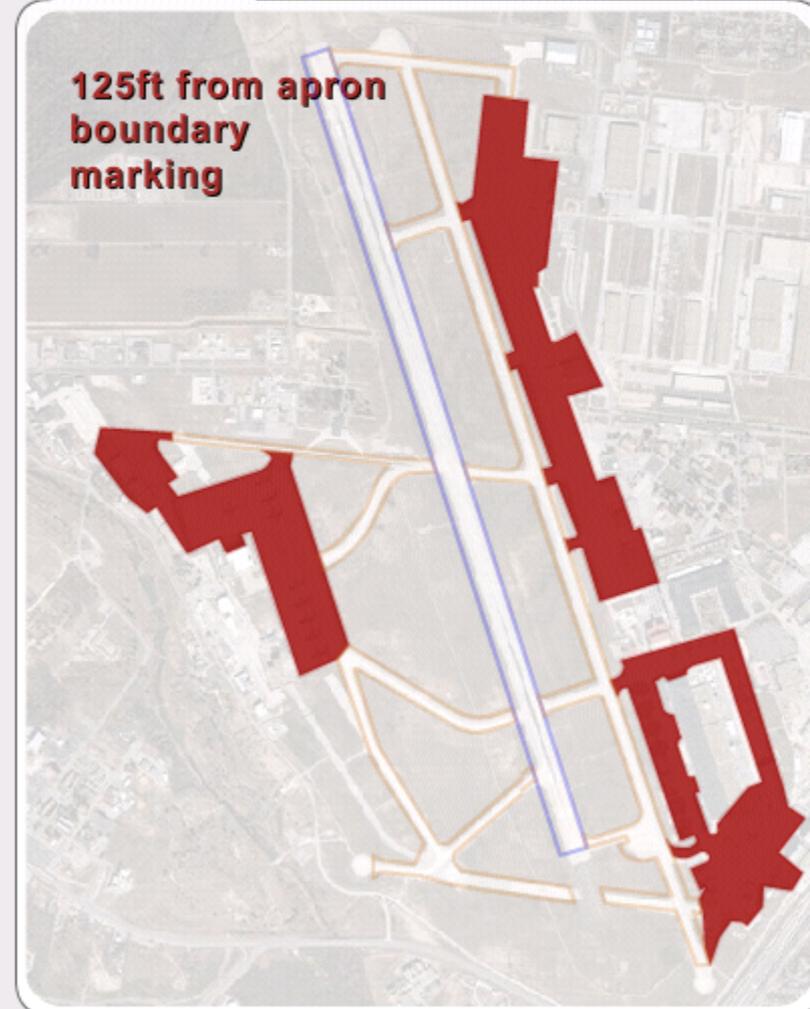
Click on the tabs to the right to see how far obstacles must be kept from various airfield areas.

apron

runway

taxiways

125ft from apron boundary marking



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

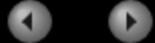
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



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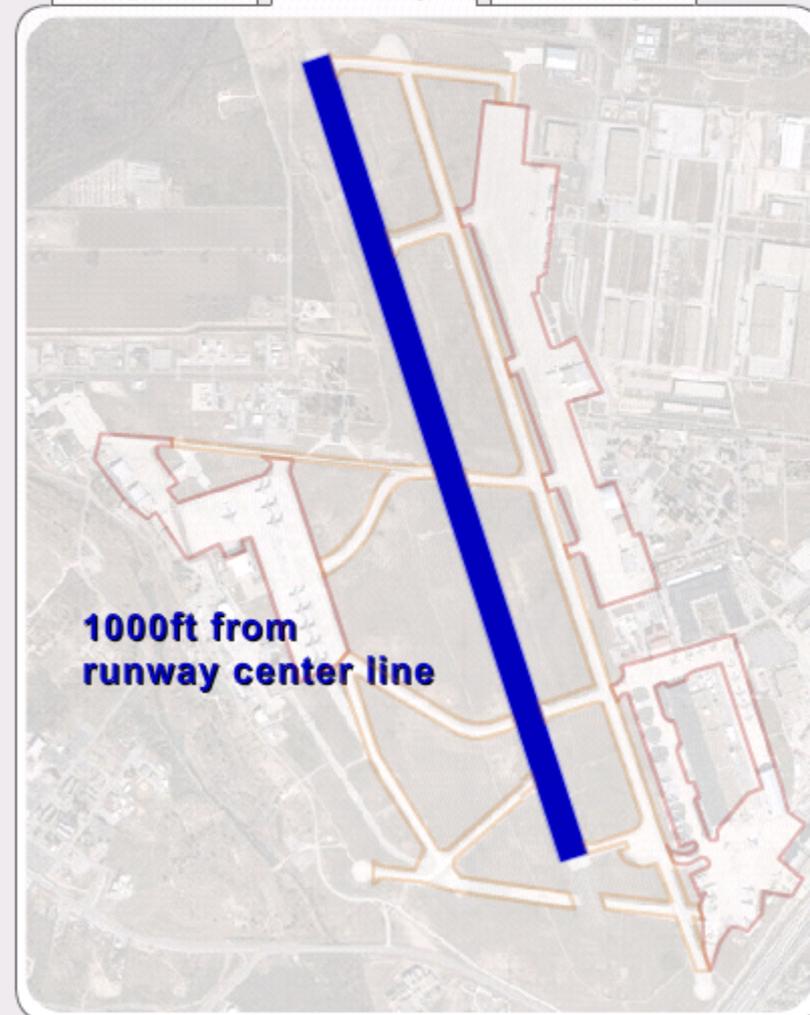
Ensure that you are aware of stricter local obstacle clearance procedures.

Click on the tabs to the right to see how far obstacles must be kept from various airfield areas.

apron

runway

taxiways



**1000ft from
runway center line**

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

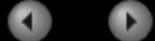
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



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Ensure that you are aware of stricter local obstacle clearance procedures.

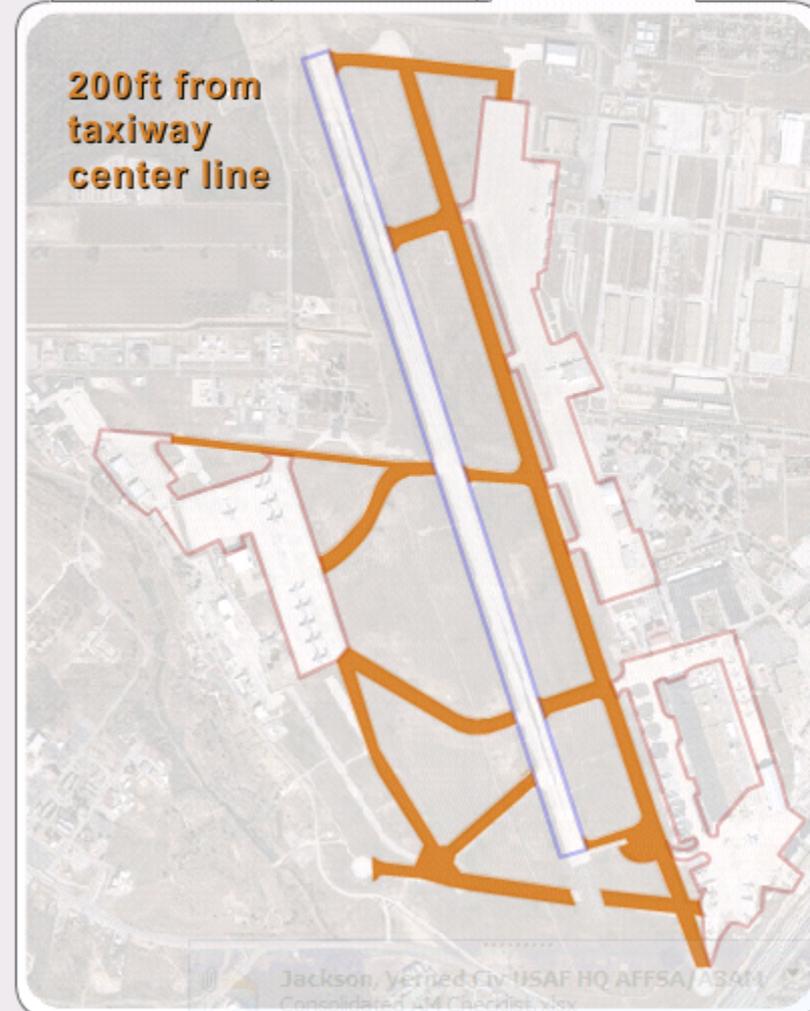
Click on the tabs to the right to see how far obstacles must be kept from various airfield areas.

apron

runway

taxiways

200ft from taxiway center line



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

Summary

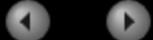
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

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MODULE SUMMARY

In this module you were introduced to Airfield entry requirements, Foreign Object Damage (FOD) prevention, precautions for driving near aircraft, and rules on mobile obstacles.

You are now able to identify who authorizes controlled entry, and licensing/training/check ride requirements. You can state general procedures for a FOD tire check, and driving off of pavement.

Additionally, you are able to identify airfield speed limits, traffic flow/parking rules, and clearance distances for mobile obstacles. After completion of the progress check, select Runway Incursion on your menu.

AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

▶ Operating Procedures
and Standards

Airfield Entry

FOD

Driving Near
Aircraft

Mobile Obstacles

Summary

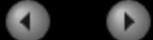
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



Operating Procedures and Standards

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

1. Prior to driving on the airfield, all drivers must?
 - A. Get checked-out by immediate supervisor
 - B. Complete local airfield drivers training and possess proper documentation authorizing airfield driving
 - C. Nothing is required if trained at previous assignment
 - D. Possess a valid states drivers license

Next >>

AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

▶ Operating Procedures
and Standards

Airfield Entry

FOD

Driving Near
Aircraft

Mobile Obstacles

Summary

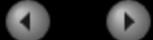
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



Operating Procedures and Standards

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

2. The speed limit (maximum) when driving a vehicle on a taxiway or inactive runway is
- A. 15 mph
 - B. 30 mph
 - C. 45 mph
 - D. Determined by the installation commander

AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

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and Standards

Airfield Entry

FOD

Driving Near
Aircraft

Mobile Obstacles

Summary

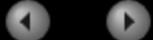
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



Operating Procedures and Standards

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

4. Which of the following is required when parking a vehicle at the side of any aircraft?
- A. Vehicle will be clear of the wingtips
 - B. Vehicle must be visible to personnel in the cockpit
 - C. No particular requirements
 - D. Both A & B

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

Airfield Entry

FOD

Driving Near Aircraft

Mobile Obstacles

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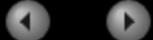
End of Module Quiz

▶ Runway Incursion

▶ ATC Communications

▶ End of Course Test

Page 1 of 1



Operating Procedures and Standards

End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

5. Which of the following vehicles are required to be chocked when parked on the airfield?
- A. Vehicles with an integral braking system that is set
 - B. Alert or emergency vehicles responding to an emergency/alert
 - C. Vehicles without an integral braking system
 - D. All vehicles are required to be chocked

AIRFIELD DRIVING

- ▶ Airfield Layout, Signs and Markings

- ▶ Night/Adverse Conditions

- ▶ Operating Procedures and Standards

- ▶ **Runway Incursion**

 - Terms

 - Incidents

 - Summary

 - End of Module Quiz

- ▶ ATC Communications

- ▶ End of Course Test

MODULE OBJECTIVE

In this module you will be introduced to the various components of Runway Incursion Prevention. Runway incursions have a direct impact on the mission and increases the risk to aircraft pilots, passengers and personnel operating on the airfield. After completion of this lesson you will be able to define various terms such as Situational Awareness (SA), Controlled Movement Area (CMA), and Controlled Movement Area Violation (CMAV).

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

Terms

Incidents

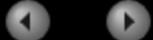
Summary

End of Module Quiz

▶ ATC Communications

▶ End of Course Test

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Controlled Movement Area (CMA) - Any portion of the airfield requiring aircraft, vehicles, and pedestrians to obtain specific Air Traffic Control approval for access (normally via two-way radio contact with the Control Tower).

Note: Controlled Movement Areas include, but are not limited to areas used for takeoff, landing, and required taxiing of aircraft.

Controlled Movement Area Violation (CMAV) Event - An airfield infraction caused by aircraft, vehicles, or pedestrians entering the control movement area without specific Control Tower approval.

Note: This definition includes runway incursions and infractions caused by communication errors.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

Terms

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Summary

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▶ ATC Communications

▶ End of Course Test

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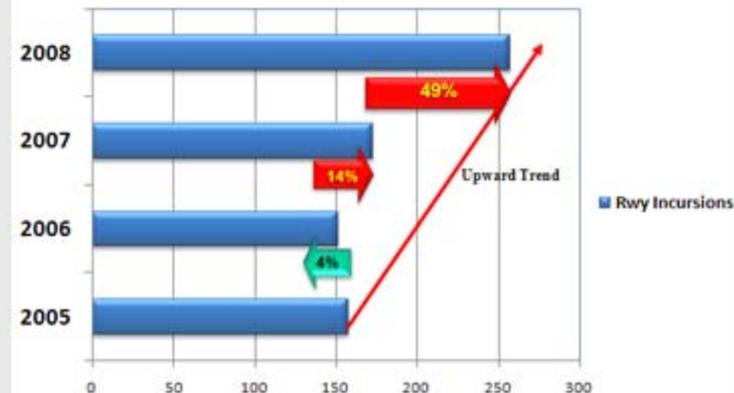
A runway incursion is one of the most serious airfield violations you as a vehicle driver can commit.

Runway Incursion - A Controlled Movement Area Violation (CMAV) caused by unauthorized entry or erroneous occupation of any surface used for takeoff and landing of aircraft, regardless of impact on aircraft safety. These incidents can be caused by aircraft, vehicles, pedestrians, or communication errors. There's potential for a runway incursion at every runway.

The Leading causes of runway incursions (Human Factors) are:

- Miscommunication
- Lack of situational awareness
- Insufficient training

Rwy Incursions CY05-08



Balad AB, 2004

Milano Linate Airport:
110 fatalities due to
a runway incursion



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

Terms

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End of Module Quiz

▶ ATC Communications

▶ End of Course Test

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Crossing the runway without ATC approval will result in:

- immediate apprehension.
- suspension of airfield driving privileges (average 30 days).
- letter to your commander.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

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▶ End of Course Test

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Runway incursions are easily preventable and warrant serious repercussions if incurred. At best, your airfield driving privileges will be revoked and a hazard report will be initiated. At worst, your actions will result in the death of yourself and others and the destruction of valuable military assets.

Situational awareness (SA) is an essential component of the Runway Incursion Prevention Program. It is defined as having the knowledge and understanding of the airfield environment and/or airfield operations to maintain safe driving operations.

Maintain situational awareness by:

- Understanding and following Control Tower instructions
- Using airfield diagrams
- Knowing the purpose and requirements indicated by airfield markings, signs and lights



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

Terms

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End of Module Quiz

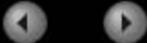
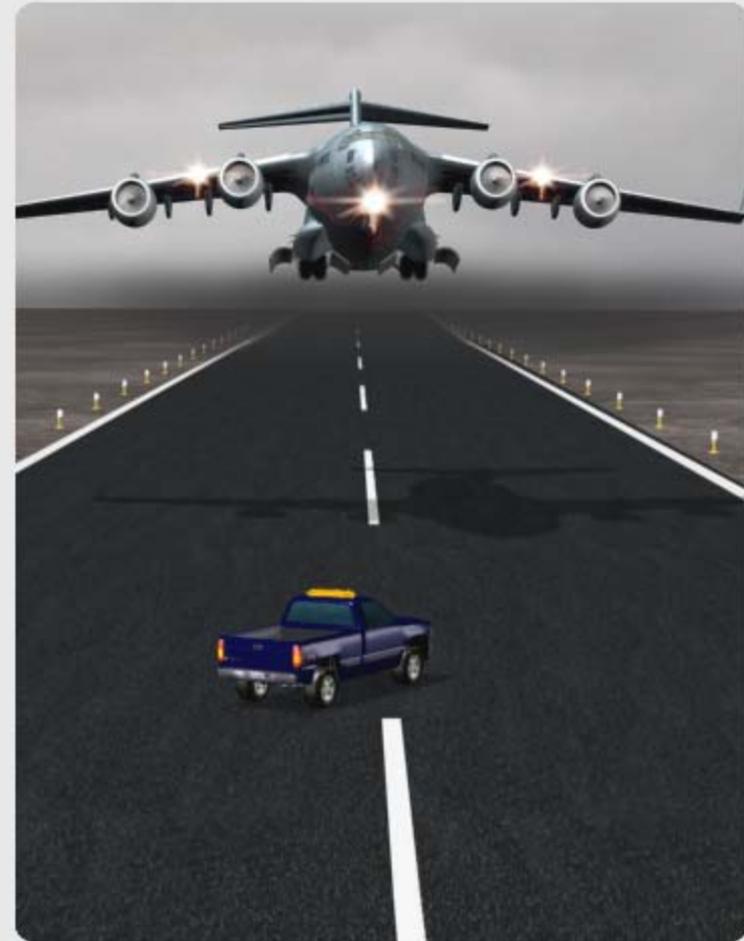
▶ ATC Communications

▶ End of Course Test

Understanding the terms associated with the Runway Incursion Prevention Program will help you develop your SA.

Remember, runway incursions are occurrences at an airfield involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and takeoff of aircraft.

Keep your awareness high and prevent CMAV's like the example on the right.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

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▶ ATC Communications

▶ End of Course Test

A large number of runway incursions occur during the response to an aircraft emergency. At all times during the aircraft emergency the runway is considered a Controlled Movement Area. Regardless of the aircraft status or your job (i.e. Rescue / Security / Aircraft Maintenance) you require Control Tower permission to enter the runway. The runway is still considered active.

Do not follow other emergency response vehicles on the runway, unless the Control Tower has directly given you permission to enter the runway or you have pre-arranged an escort with an authorized vehicle driver.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

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▶ ATC Communications

▶ End of Course Test

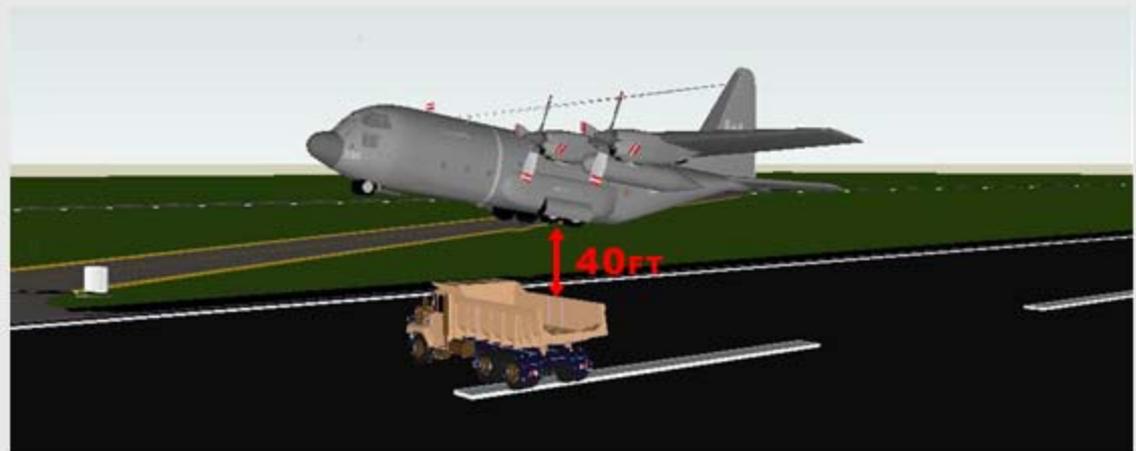
Page 2 of 3

Actual example of an extremely close call:

Sep 05 - The crew of a C-130 started take-off and kept an eye on the 3 trucks off the right side of the runway. At approximately 70 Knots into the take-off, they noticed one of the dump trucks moving slowly towards the runway, but still clear. The dump truck continued its forward movement, pulled onto the center of the runway and stopped perpendicular to the centerline.

The crew then realized that at their current speed of 90 Knots, they would not be able to stop the aircraft before impacting the dump truck. They elected to continue the take-off to clear the truck and used all the runway available to get maximum airspeed. They were forced to rotate 19 knots early to avoid impacting the truck.

The crew estimates that they cleared the truck by no more than 40 feet.



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

Terms

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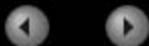
Summary

End of Module Quiz

▶ ATC Communications

▶ End of Course Test

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Actual Runway Incursions:

Scenario 1

A Sweeper driver requested permission onto Runway 27 from Taxiway Bravo. The sweeper then proceeded across the hold line for Runway 26. There was a C-130 on a two mile final. The Sweeper crossed the wrong runway.

Scenario 2

A bobtail driver performing FOD reduction operations, (towing a FOD BOSS) was not in radio contact with the control tower and on the runway. The tower controller had to send C-17 on final around. Bobtail driver did not have a radio and was improperly trained on airfield driving procedures.

Scenario 3

After an aircraft emergency the aircraft exited the runway with Fire Department vehicles following. Shortly thereafter, a blue Security Forces vehicle then entered the runway while another aircraft was on final. The aircraft was unable to go around and landed on the runway while the vehicle was driving down the centerline. Aircraft stopped within 4000 feet of vehicle. (Hazardous Air Traffic Report).

AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

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End of Module Quiz

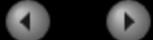
▶ ATC Communications

▶ End of Course Test

MODULE SUMMARY

In this module you were introduced to the various components of Runway Incursion Prevention. You are now able to define various terms such as Situational Awareness (SA), Controlled Movement Area (CMA), and Controlled Movement Area Violations (CMAV).

Complete the Runway Incursion Progress check. After completion of the progress check select ATC Communications on the menu.



AIRFIELD DRIVING

▶ Airfield Layout, Signs
and Markings

▶ Night/Adverse
Conditions

▶ Operating Procedures
and Standards

▶ Runway Incursion

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End of Module Quiz

▶ ATC Communications

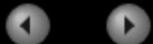
▶ End of Course Test

Runway Incursion End of Module Quiz

Attempts Remaining: 2
Min. Passing Score: 80%

1. Before a vehicle may operate on the runway, the vehicle operator must have which of the following?
- A. Two-way radio contact with the control tower
 - B. Permission from the control tower
 - C. Completed airfield drivers training
 - D. All of the above

Next >>



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

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End of Module Quiz

▶ ATC Communications

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Runway Incursion

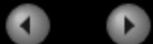
End of Module Quiz

Attempts Remaining: 2

Min. Passing Score: 80%

2. A Controlled Movement Area violation (CMAV) that is the result of an unauthorized entry or erroneous occupation of a runway or other surface used for takeoff and landing of aircraft regardless of impact on aircraft safety is defined as a _____.

- A. Runway Incursion
- B. Aircraft Incident
- C. Situational Awareness
- D. Mishap



AIRFIELD DRIVING

- ▶ Airfield Layout, Signs and Markings
- ▶ Night/Adverse Conditions
- ▶ Operating Procedures and Standards
- ▶ Runway Incursion
- ▶ **ATC Communications**
 - Radio Techniques
 - Lightgun Techniques
 - Summary
 - End of Module Quiz
- ▶ End of Course Test

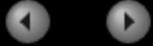
MODULE OBJECTIVE

In this module you will learn effective radio communication techniques, communication procedures for escorted/unescorted runway vehicle entry, and light gun operations during radio failure.

AIRFIELD DRIVING

- ▶ Airfield Layout, Signs and Markings
- ▶ Night/Adverse Conditions
- ▶ Operating Procedures and Standards
- ▶ Runway Incursion
- ▶ ATC Communications
 - Radio Techniques
 - Lightgun Techniques
 - Summary
 - End of Module Quiz
- ▶ End of Course Test

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Adhering to the following principles in radio communications will help eliminate many of the common errors in airfield driving:

- Don't make the mistake of hearing what you expect or want to hear, rather than your actual ATC instructions
- Ask the Control Tower for clarification when in doubt about an instruction
- Ask the Control Tower to repeat their instruction if you are not sure about what you heard by saying "say again".
- Read back (including runway identifier) all instructions



AIRFIELD DRIVING

▶ Airfield Layout, Signs and Markings

▶ Night/Adverse Conditions

▶ Operating Procedures and Standards

▶ Runway Incursion

▶ ATC Communications

Radio Techniques

Lightgun Techniques

Summary

End of Module Quiz

▶ End of Course Test

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Additionally, the following common radio techniques will make radio communications quicker and error free:

- Prepare first: Your transmission should be well thought out.
 - Before keying your transmitter, know what you want to say and check to make sure you are on the proper radio frequency
 - Communication with Control Tower should be concise and to the point. For unusual situations or lengthy communications, initial contact should be made prior.
 - Acknowledge all instructions with your call sign.
 - If any portion of the transmission is "garbled" or "stepped on" do not assume the unheard portion is irrelevant. Request that the transmission be repeated by saying "say again."
- If your call sign is not included in the transmission, don't assume the transmission is for you
 - Listen; don't assume the transmission is what you requested.



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Effective tower communications are critical in avoiding a Runway Incursion incident.

Proper phraseology is an essential element of effective tower communications. Specific rules are used to eliminate misunderstanding between you and the tower. Some of those rules are listed below:

- DO NOT use “10” codes, such as “10-4” to acknowledge understanding.
- DO NOT use the words “clear” or “cleared”. The term is only used for communication between aircraft and ATC.
Example: “Clear to land” or “Cleared for Take-off”.
- ALWAYS use phonetic alphabet to pronounce taxiway location.



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Air Traffic Controllers are busy. When communicating with ATC you should never assume

- They know where you are, who you are, or what you are going to do.
- They gave you authorization to cross or enter a runway.
- That you know more than ATC about what aircraft traffic is landing, taking off, or flying in the local area.
- The runway is closed or operations are suspended. Always get ATC approval prior to entering the runway environment.



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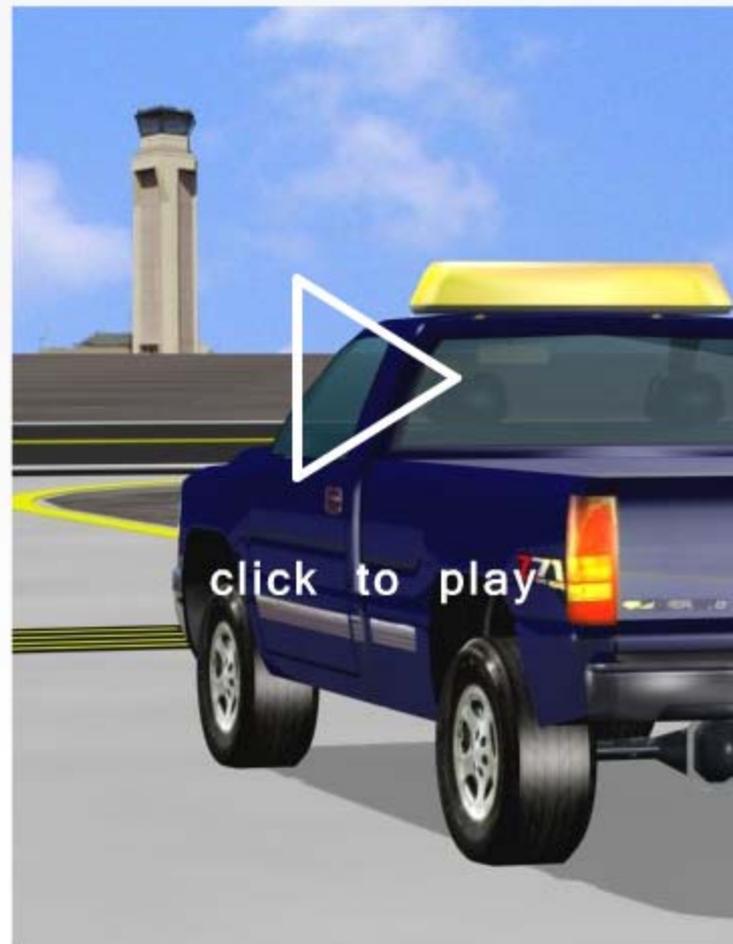
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Tower communications rules follow a specific format and must be rigidly adhered to. This is not to limit your communication capabilities, but to ensure that both parties understand what is being communicated. The established communication format is as follows:

1. Identify who you are calling.
2. Identify yourself and your location.
3. Communicate specific information or request using proper phraseology.
4. Acknowledge understanding of tower controllers' instructions, by repeating back verbatim the towers instructions.

Click play on the image to the right to hear an example of proper tower communications.



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Once you are approved to enter a controlled movement area you are considered a potential mobile obstacle by the tower.

This is why it is imperative that direct and continuous radio communications be maintained with the tower to avoid becoming a hazard to aircraft movement.

Scan the full length of the runway and the final approaches before entering any runway, even if you have received Control Tower approval to enter the runway.

Note: Vehicles operating on the runway must use rotating beacon lights or hazard warning flashers.



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All vehicles without a radio will be escorted by a vehicle with a radio in direct communication with the Control Tower.

Note: You may not obtain approval onto or across a runway from any source other than the tower. If you are under escort by another vehicle with a radio, pull onto the runway only at the direction of the escorting vehicle.

The escorted vehicle driver must remain with their escort at all times while operating on the runway in the controlled movement area.

The same principle of direct and continuous communication with the tower applies in instances when a vehicle without the means to communicate with the tower and/or by a vehicle operator without a valid AF IMT 483.



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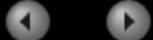
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Now that you have completed Radio Techniques let's review tower light signals for greater clarity.

Note: During daytime operations glare may reduce your ability to see tower light gun signals.

COLOR	ON THE GROUND
	Cleared to cross, proceed or go
	Stop
	Clear runway or taxiway
	Return to starting point
	Exercise extreme caution



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In the unlikely event of radio failure after you have entered the runway, they will attempt to get your attention by flashing the runway edge lights.

If the edge lights begin flashing while you are on the runway, immediately contact the tower and respond to lightgun signals.

Note: Requirements for loss of communication on runways may vary so be familiar with local procedures.

Exit the runway immediately if you're unable to regain radio communication with the control tower.



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It is important that you follow the ATC light gun instructions exactly as specified on the AFVA 11-240 placard/decal to prevent a runway incursion incident.

Note: Your vehicle will have an AFVA 11-240 placard/decal installed with the light gun codes illustrated which indicates actions to be taken.



ATCT Light Gun Signals (Enhanced)

STEADY GREEN 
CLEARED TO CROSS:
PROCEED OR GO

FLASHING GREEN
NOT APPLICABLE

STEADY RED 
STOP

FLASHING RED
CLEAR THE TAXIWAY
OR RUNWAY

FLASHING WHITE
RETURN TO STARTING
POINT ON AIRPORT

ALTERNATING 
RED/GREEN
GENERAL WARNING
EXERCISE EXTREME CAUTION

AIRFIELD DRIVING

MODULE SUMMARY

In this module you learned effective radio communication techniques, communication procedures for escorted/unescorted runway vehicle entry, and light gun operations during radio failure. After completing the progress check, select End of Course Test on your menu.

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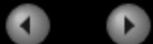
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Attempts Remaining: 2

Min. Passing Score: 80%

1. While operating on a runway, vehicle operators must obey and respond to radio instructions and light gun signals displayed by which base agency?

- A. Base Operations
- B. Security Police
- C. Control Tower
- D. Flight Safety

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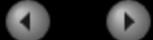
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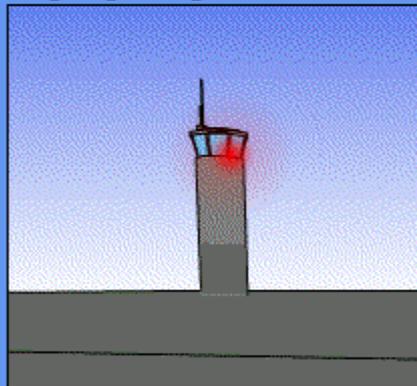
ATC Communications

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Attempts Remaining: 2

Min. Passing Score: 80%

2. This light gun signal means:



- A. Stop; Do not move the vehicle
- B. Clear active runway
- C. General Warning: Exercise extreme caution
- D. None of the above

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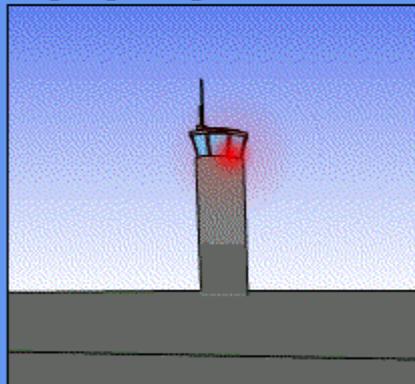
ATC Communications

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Attempts Remaining: 2

Min. Passing Score: 80%

3. This light gun signal means:



- A. Stop; then proceed
- B. Stop; clear the active runway
- C. General Warning: Exercise extreme caution
- D. Wait until the aircraft on approach completes a touch and go