

# 5. Operations

## *5.2 - Airport Operations*



# Structure & Formatting Reminder

This presentation is provided as a reference to help you prepare for the your exam. It seeks to go beyond memorization and provide explanation and rationale.

While this reference considers many of the points covered in the exam, given the breadth it is in no way exhaustive. It is suggested to consult a variety of resources when preparing for the exam.

Text that is marked in **YELLOW** has a high probability of being referenced directly in one of the exam's nearly 400 possible questions.

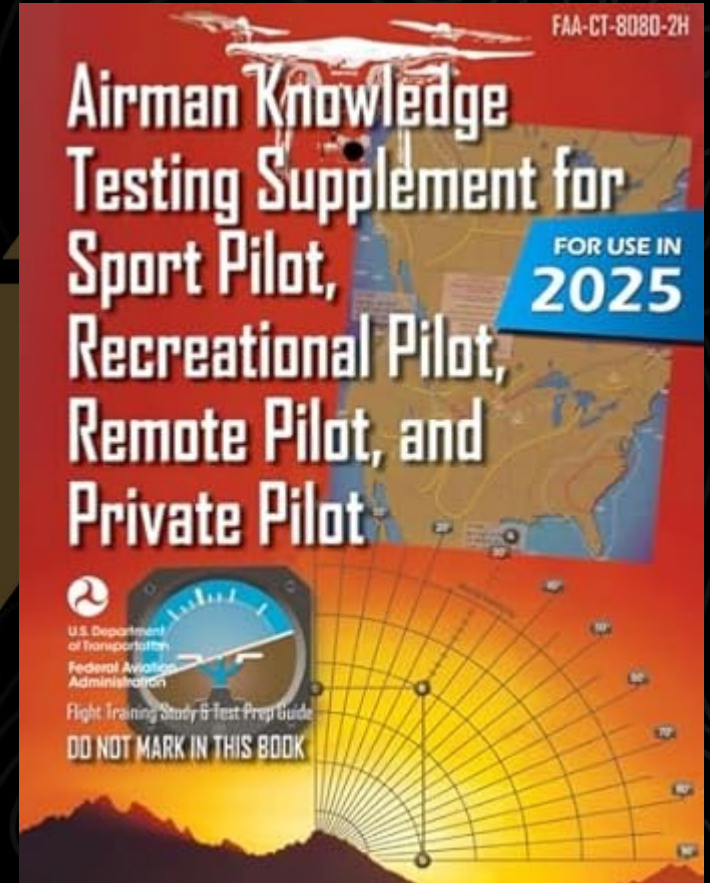
Take the quiz at the end to gauge your understanding.



# Airman Knowledge Testing Supplement

Many of the points covered in the slideshow and quiz reference images and concepts found in the “Airman Knowledge Testing Supplement”.

You can download the document from the FAA [here](#). Alternatively, a hard copy can be purchased online for around \$10.





## 5.2 - Types of Airports





## 5.2 - Types of Airports

An **airport** is “land or water used or intended for airport building, facilities, and rights of way together with the buildings and facilities”

In the US there are nearly 14,400 private use and 5,000 public use airports, heliports, and seaplane bases.



Caribbean Journal



News18



DFW Airport



## 5.2 - Types of Airports

Airports are categorized in a number of ways:

- **Commercial:**
  - **Public** with at least 2,500 enplanements. Primary commercial have more than 10,000 enplanements.
    - Large Hub, Medium Hub, Small Hub, Nonhub, Nonprimary
- **Reliever:**
  - Intended to **relieve congestion at a commercial** service airport and to provide more general aviation access.
- **General Aviation:**
  - Public use **without scheduled service** - less than 2,500 boarding annually.
    - National, Regional, Local, Basic, Unclassified



Why is it important for the FAA to categorize airports?



# Why is it important for the FAA to categorize airports?

FAA airport categorization is essential for ensuring safety, managing traffic, distributing funds, and supporting the nation's aviation infrastructure effectively.







## **5.2 - ATC Towers**



## 5.2 - ATC Towers

- ATC provides safe and efficient air navigation services to **29.4 million square miles of airspace**.
- **35,000 people work with ACT** towers in the US.
  - Controllers, technicians, engineers, and support personnel.
- Entire industries rely on the successful **operation of the National Airspace System**
- Aviation accounts for **11 million jobs** an is responsible for more than **5% of GDP**.



What are some jobs associated with ATC operations?



# What are some jobs associated with ATC operations?

Jobs in ATC operations include air traffic controllers, technicians, flight data coordinators, and supervisors who ensure safe and efficient aircraft movement. Support roles like instructors and information specialists help maintain systems, train staff, and manage essential flight data.







## **5.2 - Runway Markings and Signage**














## 5.2 - Runway Markings and Signage

- Runway markings differ depending on the airport.
- Crewed aircraft are impacted by wind so runways are laid out according to local prevailing winds.
- Runway numbers reference magnetic north.
- Multiple runways in the same direction are called “parallel runways” and are referred to by their number and a letter (L-Left, C-Center, R-Right)
  - Example: Runway 36L



## 5.2 - Runway Markings and Signage

### AIRPORT SIGN SYSTEMS

TYPE OF SIGN AND ACTION OR PURPOSE		TYPE OF SIGN AND ACTION OR PURPOSE	
<b>4-22</b>	<b>Taxiway/Runway Hold Position:</b> Hold short of runway on taxiway		<b>Runway Safety Area/Obstacle Free Zone Boundary:</b> Exit boundary of runway protected areas
<b>26-8</b>	<b>Runway/Runway Hold Position:</b> Hold short of intersecting runway		<b>ILS Critical Area Boundary:</b> Exit boundary of ILS critical area
<b>8-APCH</b>	<b>Runway Approach Hold Position:</b> Hold short of aircraft on approach		<b>Taxiway Direction:</b> Defines direction & designation of intersecting taxiway(s)
<b>ILS</b>	<b>ILS Critical Area Hold Position:</b> Hold short of ILS approach critical area		<b>Runway Exit:</b> Defines direction & designation of exit taxiway from runway
	<b>No Entry:</b> Identifies paved areas where aircraft entry is prohibited		<b>Outbound Destination:</b> Defines directions to takeoff runways
	<b>Taxiway Location:</b> Identifies taxiway on which aircraft is located		<b>Inbound Destination:</b> Defines directions for arriving aircraft
	<b>Runway Location:</b> Identifies runway on which aircraft is located		<b>Taxiway Ending Marker</b> Indicates taxiway does not continue
<b>4</b>	<b>Runway Distance Remaining</b> Provides remaining runway length in 1,000 feet increments		<b>Direction Sign Array:</b> Identifies location in conjunction with multiple intersecting taxiways

## 5.2 - Runway Marking and Signage

### Runway Holding Position

Aircraft must **stop when a clearance has not been issued** to proceed onto the runway.





## 5.2 - Runway Marking and Signage

### Prohibition of Aircraft Entry

Aircraft are **prohibited** from entering the area.



## 5.2 - Runway Marking and Signage

### Holding for ILS Critical Area

Aircraft **must hold before entering** an area where Instrument Landing procedures are being used.



## 5.2 - Runway Marking and Signage

### Taxiway

Designates the **taxiway** where an aircraft is **currently located**.



## 5.2 - Runway Marking and Signage

### Runway Location

Denotes which **runway** that the aircraft is **currently located**.

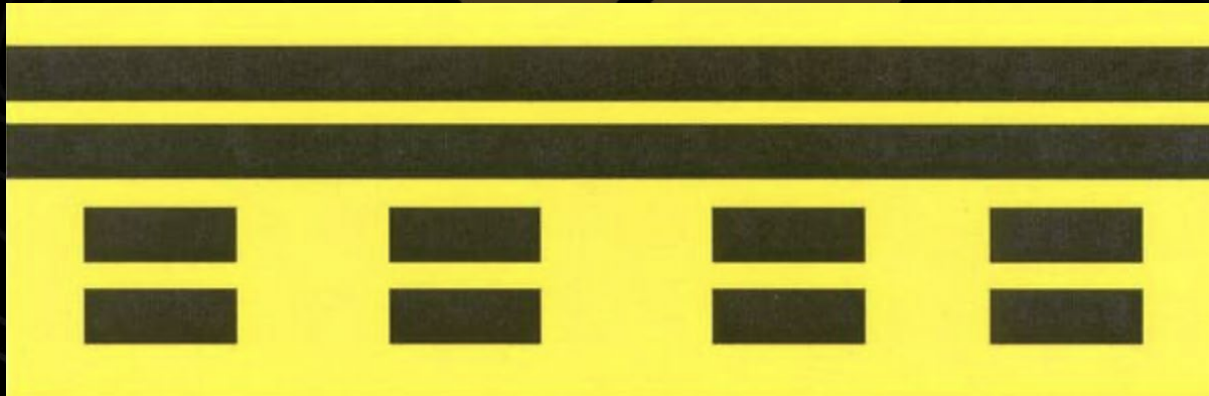




## 5.2 - Runway Marking and Signage

### Runway Boundary

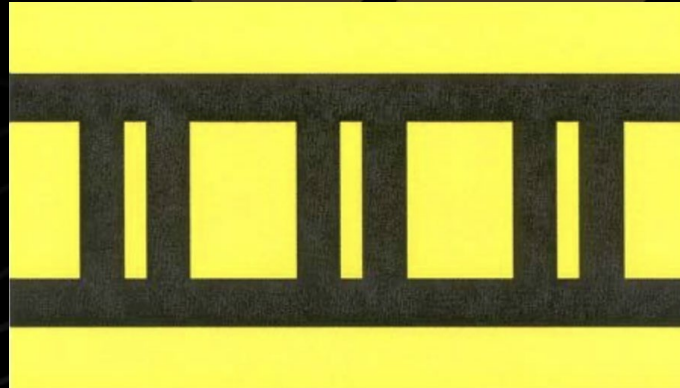
Visible to the pilot exiting the runway and provides a cue of when they are “clear of the runway”



## 5.2 - Runway Marking and Signage

### ILS Critical Area Boundary Sign

Holding for Instrument Landing System **critical areas**. Provides a visual cue of when the pilot is clear of ILS critical areas.



## 5.2 - Runway Marking and Signage

### Runway Direction (Outbound Destination)

Indicates the **direction of a particular runway**.



## 5.2 - Runway Marking and Signage

### Runway Distance Remaining Sign (3,000')

Denotes the distance (in thousands of feet) of landing runway remaining.

A square sign with a black background and a white border, featuring a large white number '3' in the center. The sign is positioned in the lower center of the slide.

3





## 5.2 - Runway Marking and Signage

### SIDA Warning Area

Indicates limited access area where a **security badge is required**. Those who enter without proper ID are reported to the **Transportation Security Administration (TSA)** and may be subject to **civil or criminal fines**.



Why would a UAV pilot need to understand runway markings?



# What are some jobs associated with ATC operations?

Jobs in ATC operations include air traffic controllers, technicians, flight data coordinators, and supervisors who ensure safe and efficient aircraft movement. Support roles like instructors and information specialists help maintain systems, train staff, and manage essential flight data.





## **5.2 - Runways on Sectional Charts**



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

This image on the sectional chart can tell us the following:

- If there is a control tower
- The number of runways
- The airport elevation
- The runway length
- If the runway is lighted
- If fuel is available
- If there is an airport beacon
- If there is VOR/VORTAC





## 5.2 - Runway Marking and Signage (Example #1 - EWN)

Blue = Control Tower

Magenta = No Control Tower



*Is there a control tower?*

## 5.2 - Runway Marking and Signage (Example #1 - EWN)

Blue = Control Tower

Magenta = No Control Tower



*Is there a control tower? Yes*



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

The **number of runways** is indicated within the airport symbol?



*How many runways are at EWN?*



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

The **number of runways** is indicated within the airport symbol?

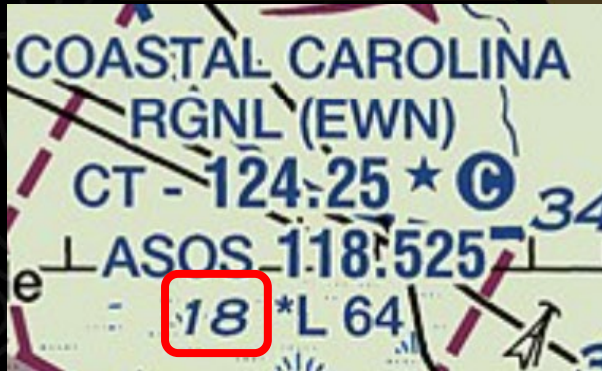


*How many runways are at EWN? Two*



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

**Elevation** is listed within the text box for the airport.



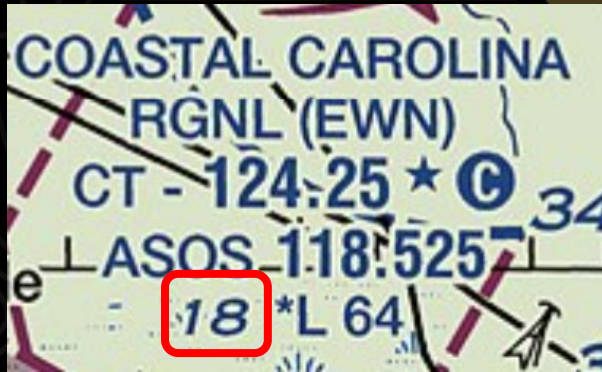
*What is the elevation?*





## 5.2 - Runway Marking and Signage (Example #1 - EWN)

**Elevation** is listed within the text box for the airport.

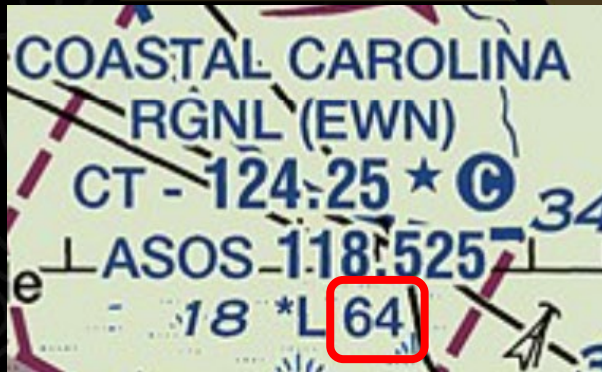


*What is the elevation? 18 feet MSL*



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

Runway length is listed within the text box for the airport.



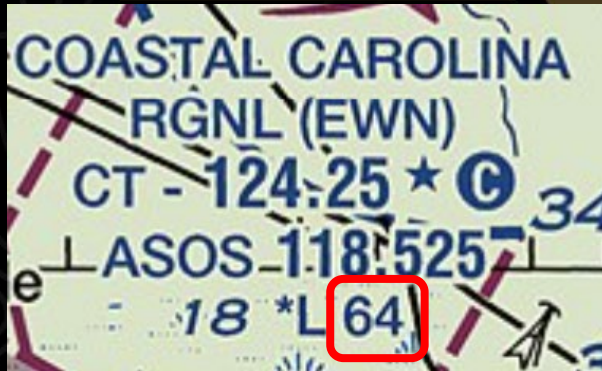
*What is the length of the runway?*





## 5.2 - Runway Marking and Signage (Example #1 - EWN)

Runway length is listed within the text box for the airport.

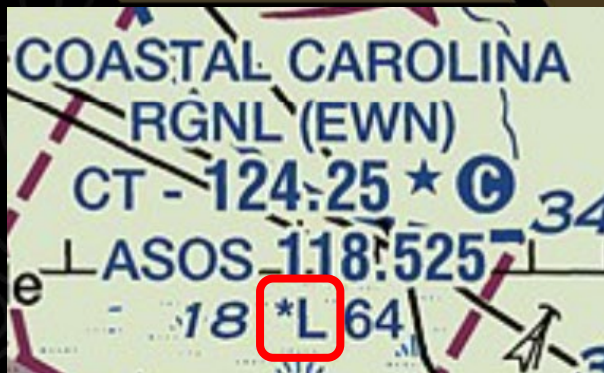


*What is the length of the runway?*  
**6,400 feet**



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

A **lighted runway** has an “L” in the text box. A “\*L” means that there are **limitations** in lighting.



*Is the runway lit?*

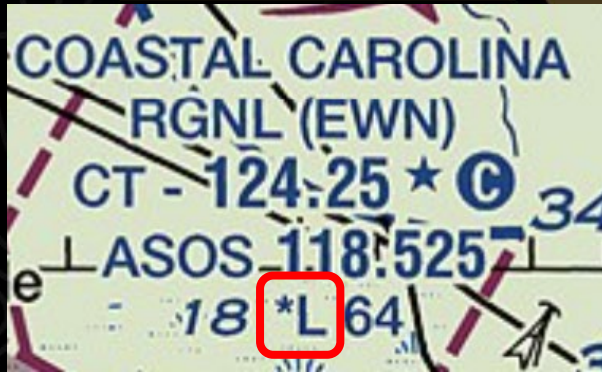
*Are there limitations?*





## 5.2 - Runway Marking and Signage (Example #1 - EWN)

A **lighted runway** has an “L” in the text box. A “\*L” means that there are **limitations** in lighting.



*Is the runway lit? Yes*

*Are there limitations? Yes*





## 5.2 - Runway Marking and Signage (Example #1 - EWN)

Availability of **fuel** is noted by tick marks around the airport symbol.



*Is fuel available?*



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

Availability of **fuel** is noted by tick marks around the airport symbol.



*Is fuel available? Yes*





## 5.2 - Runway Marking and Signage (Example #1 - EWN)

A **rotating beacon** is signified by a star on top of the runway symbol



*Is there a rotating beacon?*



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

A **rotating beacon** is signified by a star on top of the runway symbol



*Is there a rotating beacon? Yes*



## 5.2 - Runway Marking and Signage (Example #1 - EWN)

VOR (ground based signal providing **directional bearings**) is noted by dot next to the runways.



*Is there VOR?*





## 5.2 - Runway Marking and Signage (Example #1 - EWN)

VOR (ground based signal providing **directional bearings**) is noted by dot next to the runways.



*Is there VOR? Yes*

## 5.2 - Runway Marking and Signage (Example #2 - MQI)

What can we learn about MQI (Dare County Regional)

- If there is a control tower
- The number of runways
- The airport elevation
- The runway length
- If the runway is lighted
- If fuel is available
- If there is an airport beacon
- If there is VOR/VORTAC

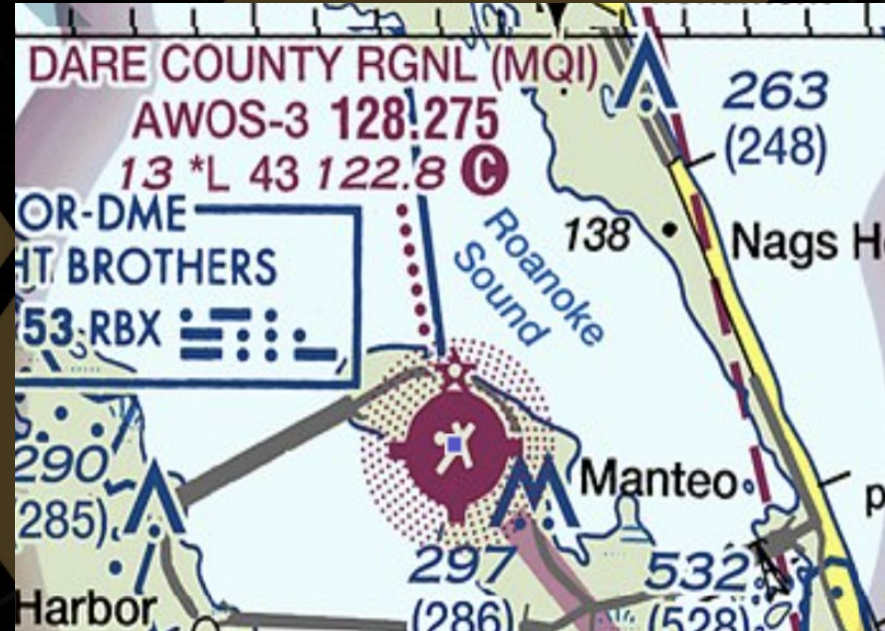




## 5.2 - Runway Marking and Signage (Example #2 - MQI)

What can we learn about MQI (Dare County Regional)

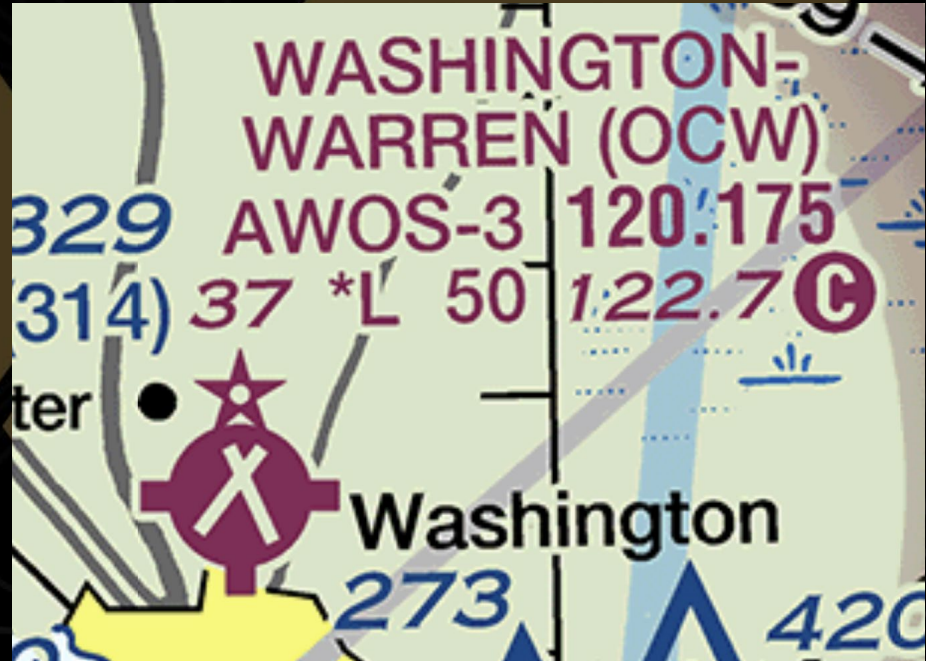
- If there is a control tower - No
- The number of runways - Two
- The airport elevation - 13 feet
- The runway length - 4300 feet
- If the runway is lighted - Yes
- If fuel is available - Yes
- If there is an airport beacon - Yes
- If there is VOR/VORTAC - Yes



## 5.2 - Runway Marking and Signage (Example #3 - OWC)

What can we learn about OCW  
(Washington-Warren)

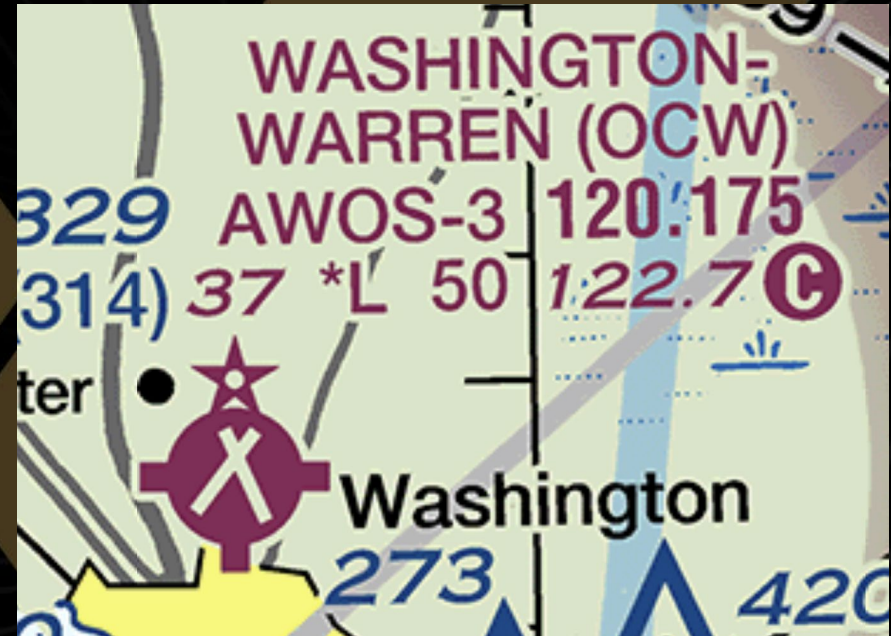
- If there is a control tower
- The number of runways
- The airport elevation
- The runway length
- If the runway is lighted
- If fuel is available
- If there is an airport beacon
- If there is VOR/VORTAC



## 5.2 - Runway Marking and Signage (Example #3 - OWC)

What can we learn about OCW  
(Washington-Warren)

- If there is a control tower - No
- The number of runways - 2
- The airport elevation - 37 feet
- The runway length - 5000
- If the runway is lighted - Yes
- If fuel is available - Yes
- If there is an airport beacon - Yes
- If there is VOR/VORTAC - No





## 5.2 - Runway Marking and Signage (Example #4 - PGV)

What can we learn about PGV (Pitt-Greenville)

- If there is a control tower
- The number of runways
- The airport elevation
- The runway length
- If the runway is lighted
- If fuel is available
- If there is an airport beacon
- If there is VOR/VORTAC



## 5.2 - Runway Marking and Signage (Example #4 - PGV)

What can we learn about PGV (Pitt-Greenville)

- If there is a control tower - No
- The number of runways - 2
- The airport elevation - 26 feet
- The runway length - 7200 feet
- If the runway is lighted - Yes
- If fuel is available - Yes
- If there is an airport beacon - Yes
- If there is VOR/VORTAC - Yes





## **5.2 - Traffic Patterns Used by Manned Aircraft Pilots**

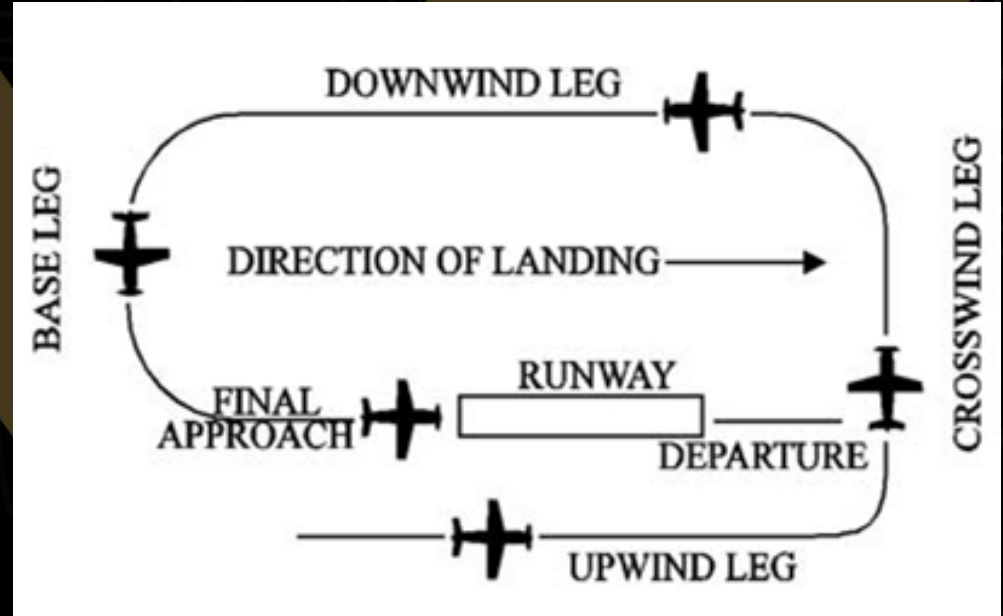




## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Overview

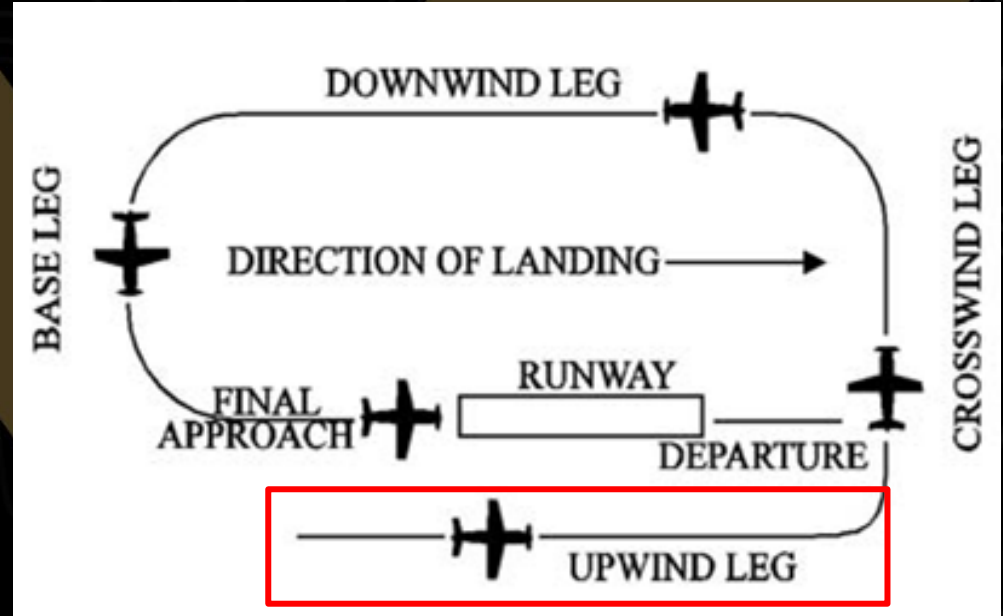
When landing a plane generally circles the runway before landing.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Upwind Leg

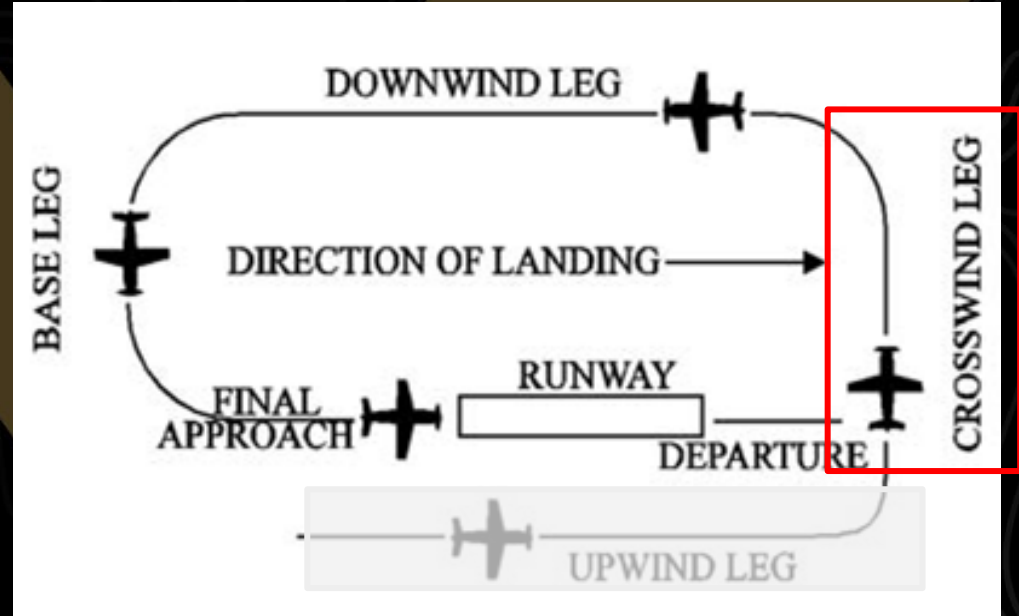
The “upwind leg” is flown parallel to the landing in the same direction as all landing traffic.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Crosswind Leg

The “crosswind leg” is flow horizontally perpendicular (across) the extended centerline of the runway.

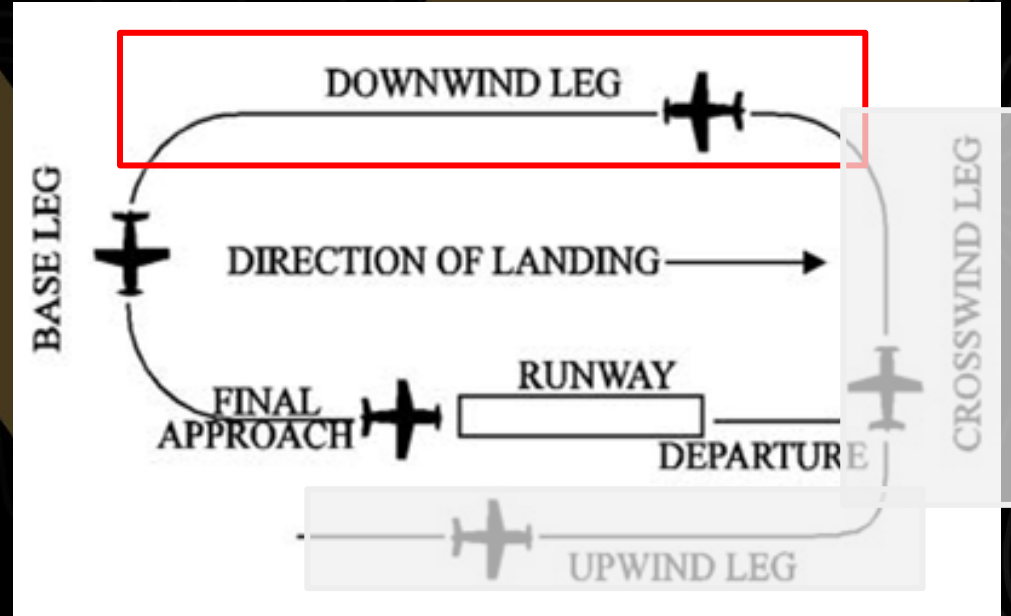




## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Downwind Leg

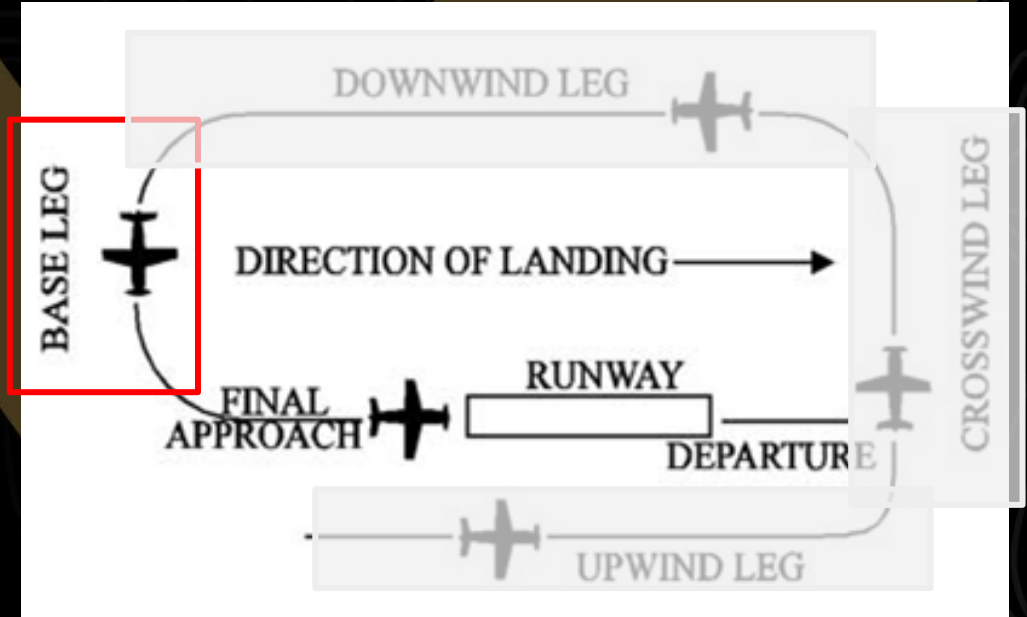
The “downwind leg” is run in the opposite direction of landing.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Base Leg

After completing the “downwind leg” the plane turns 45° in the direction of the runway and completes the “base leg.”

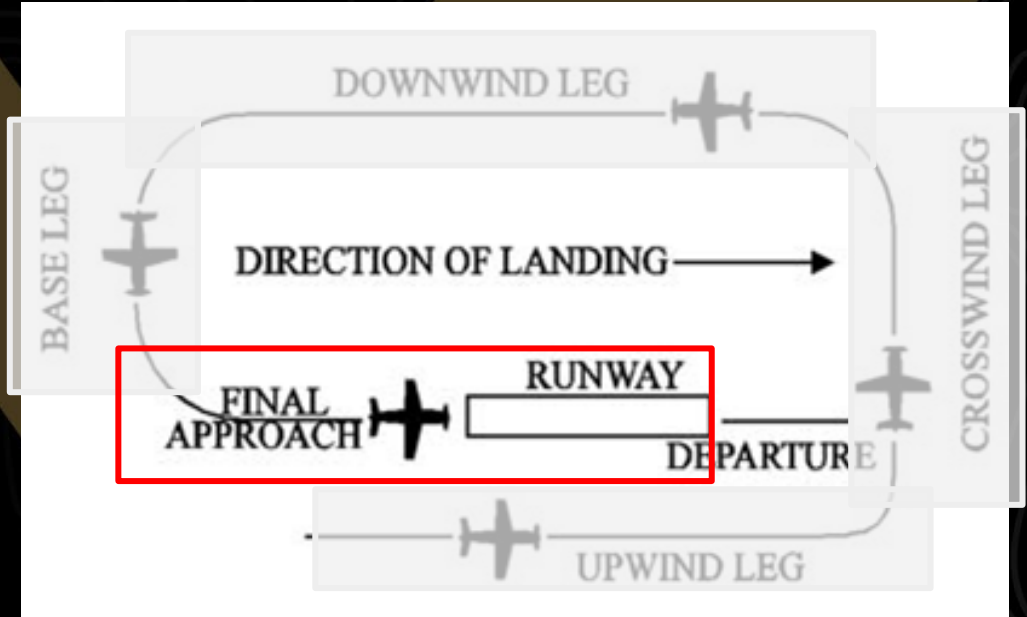


## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Final Approach/Landing

After completing the “base leg” the plane again turns 45° in the “final approach.”

The plane then lands in the direction of the wind.





## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question: What is the heading of an aircraft whose approach is left downwind for runway one six?



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question: What is the heading of an aircraft whose approach is left downwind for runway one six?

Information we need:

- The orientation of the runway (in degrees)
- The standard landing pattern for the aircraft



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 1: What is the **heading** of an aircraft whose approach is left downwind for runway one six?

- Heading refers simply to the direction of travel.





## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 1: What is the *heading* of an aircraft whose **approach** is *left downwind* for *runway one six*?

- If we know that the direction of the runway (and the wind) is then the downwind **approach** is the **opposite** direction on the landing.
- To find the opposite simply add  $180^\circ$



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 1: What is the *heading* of an aircraft whose approach is **left** *downwind* for *runway one six*?

- When the approach is from the **left** it means the plan is taking **left** hand turns during the landing procedure.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Question 1: What is the *heading* of an aircraft whose approach is left **downwind** for *runway one six*?

- In order to maximize lift plans will always land into the wind (and be approaching from **downwind**)
- What direction is the wind coming from?





## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 1: What is the *heading* of an aircraft whose approach is left downwind for **runway one six**?

- Runways are named in relation to the direction of landing according to an aviation compass.



# Air Traffic Patterns - Putting it all together.

Example Question 1: What is the *heading* of an aircraft whose **approach** is *left downwind* for *runway one six*?

- The direction of runway 16 is  $160^\circ$  (upwind)
- The downwind approach will be the opposite direction of the runway ( $160^\circ + 180^\circ = 340^\circ$ )
- **The aircraft's heading is currently  $340^\circ$  as it is heading downwind of runway 16.**



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 2: While monitoring the Cooperstown CTAF you hear an aircraft announce that they are midfield left downwind to RWY13. Where would the aircraft be relative to the runway?

Information we need to answer the question:

- The orientation of the runway (in degrees)
- The standard landing pattern for the aircraft





## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 2: While monitoring the Cooperstown CTAF you hear an aircraft announce that they are midfield left downwind to RWY13. Where would the aircraft be relative to the runway?

- A. East
- B. South
- C. West



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 2: While monitoring the Cooperstown CTAF you hear an aircraft announce that they are **midfield** left downwind to RWY13. Where would the aircraft be relative to the runway?

“Midfield” means that the aircraft is traveling next to the runway



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 2: While monitoring the Cooperstown CTAF you hear an aircraft announce that they are midfield **left** downwind to RWY13. Where would the aircraft be relative to the runway?

“Left” means that the runway is to the left of the pilot.





## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 2: While monitoring the Cooperstown CTAF you hear an aircraft announce that they are midfield left **downwind** to RWY13. Where would the aircraft be relative to the runway?

“Downwind” means that the aircraft is traveling parallel to upwind (but in the opposite direction).



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 2: While monitoring the Cooperstown CTAF you hear an aircraft announce that they are midfield left downwind to RWY13. Where would the aircraft be relative to the runway?

The midfield left downwind position would position the aircraft next to the runway but with a heading in the opposite direction of landing. The opposite heading of RWY 13 (SE) would be a heading of 310 (NW).

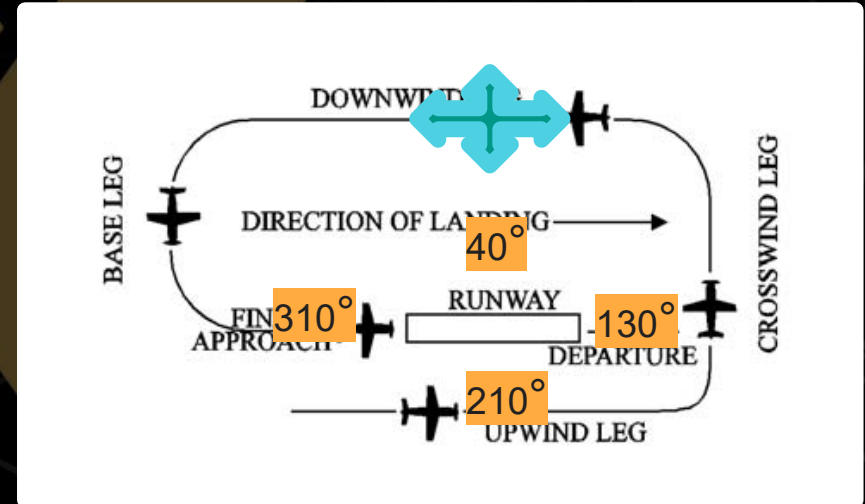


## 5.2 - Traffic Patterns Used by Crewed Aircraft

Example Question 2: While monitoring the Cooperstown CTAF you hear an aircraft announce that they are midfield left downwind to RWY13. Where would the aircraft be relative to the runway?

The answer must be “B: East”

Answers A. South and C. West would position the aircraft upwind left.





## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Landing Direction & Wind Indicators

If nothing is specified traffic patterns will be "left-hand traffic" patterns. Meaning the aircraft will make left-hand turns.

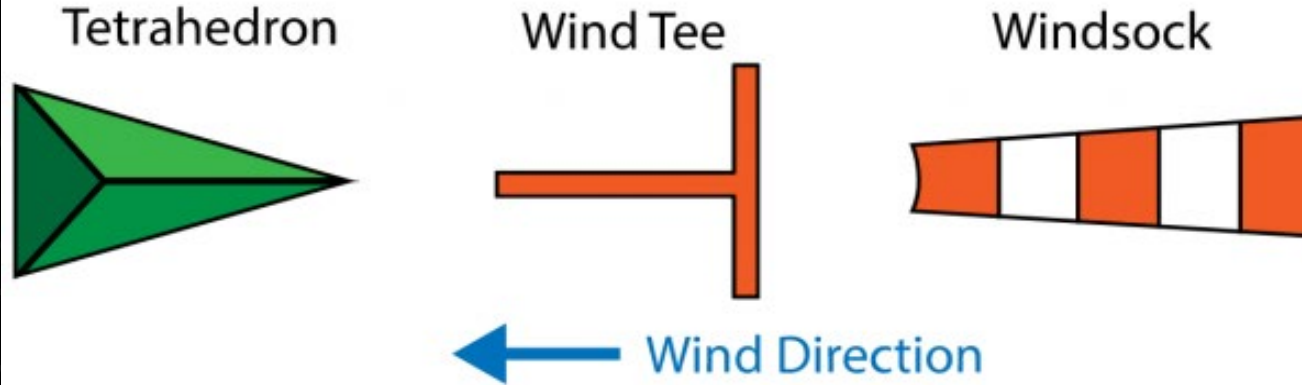
If asked, adjust the landing pattern so that the aircraft is landing into the wind.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Wind Indicators

#### Wind and Landing Direction Indicators

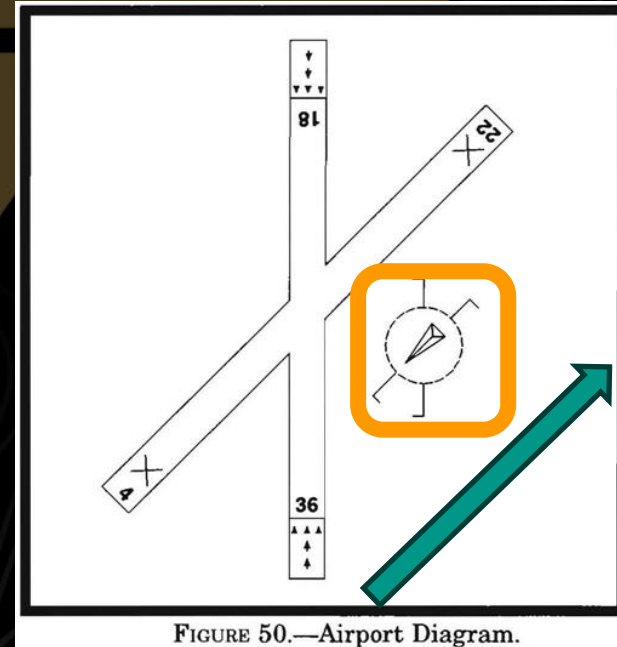


## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Landing Direction & Wind Indicators

**Tetrahedron** - the point is aligned into the wind.

NOTE: This is opposite of a windsock.



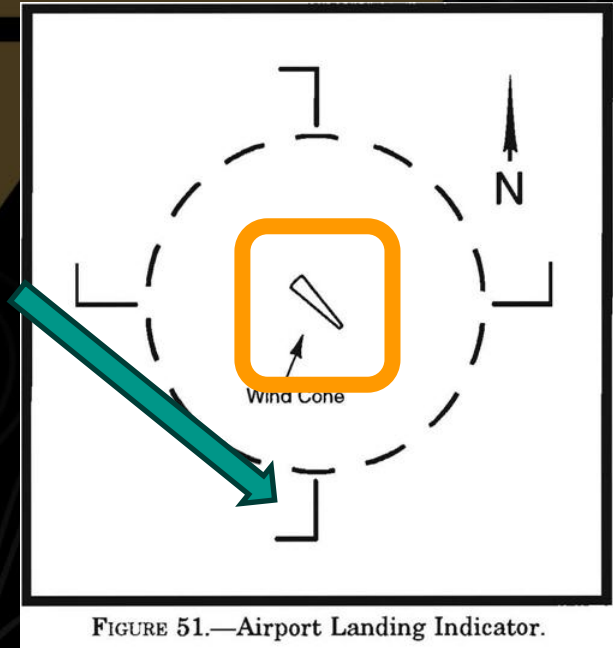


## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Landing Direction & Wind Indicators

**Wind Sock** - the wide opening point is aligned into the wind.

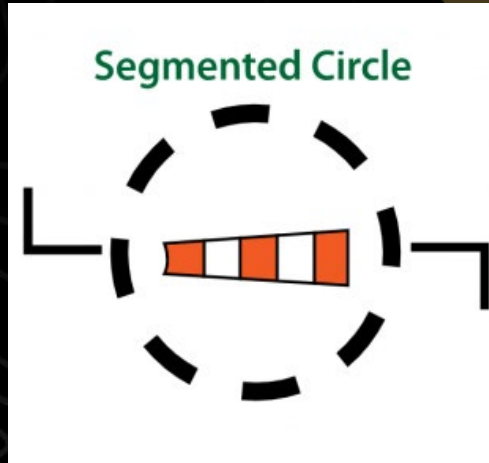
NOTE: This is opposite of a tetrahedron.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Segmented Circle

A traffic pattern indicator used at some airports without a control tower.



CFI Notebook



Propwash Drone Solutions LLC

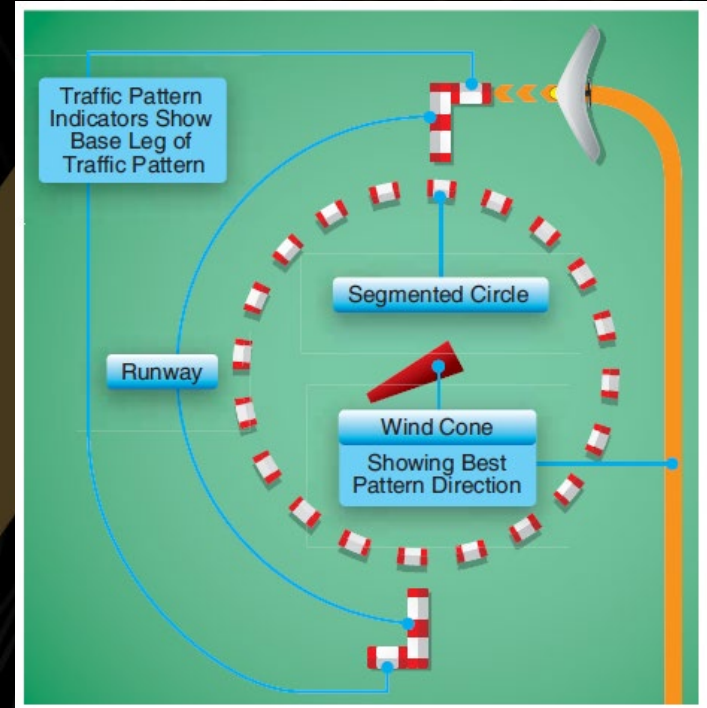
## 5.2 - Traffic Patterns Used by Crewed Aircraft

### Segmented Circle

A traffic pattern indicator used at some airports without a control tower.

The long leg of the "L" shows the location of the base leg.

The short leg of the "L" shows the alignment of the landing strip.





## 5.2 - Traffic Patterns Used by Crewed Aircraft

**Q: (Refer to Figure 49) If the wind is as shown by the landing direction indicator, the pilot should land on**

- A. Runway 18 and expect a crosswind from the right.
- B. Runway 22 directly into the wind.
- C. Runway 36 and expect a crosswind from the right.

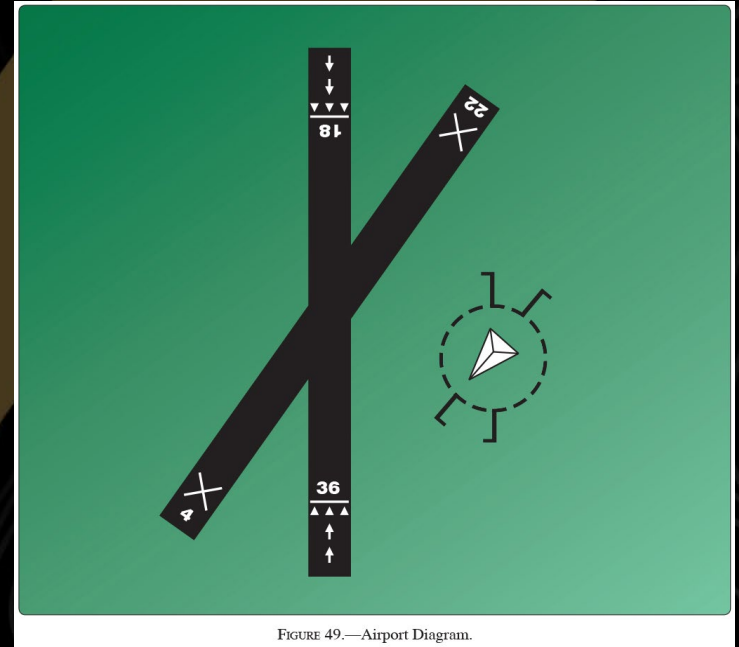


FIGURE 49.—Airport Diagram.



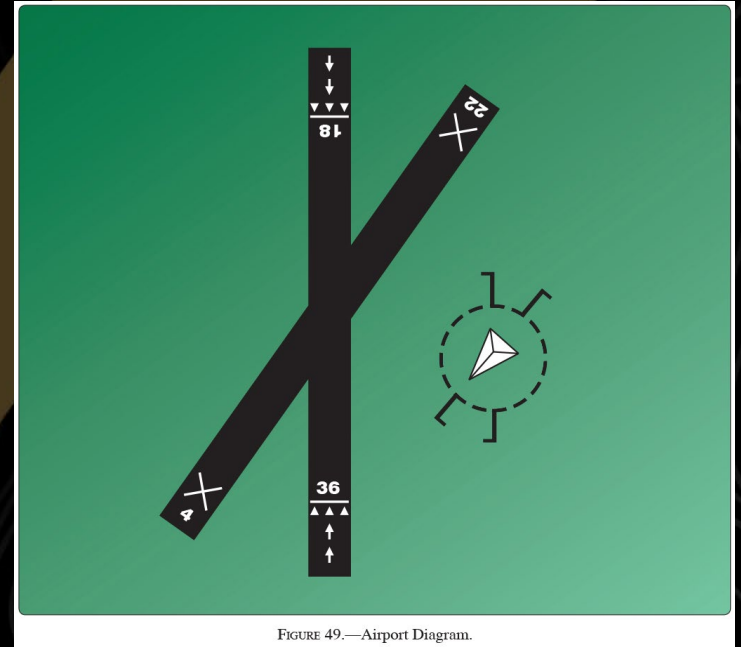
## 5.2 - Traffic Patterns Used by Crewed Aircraft

Q: (Refer to Figure 49) If the wind is as shown by the landing direction indicator, the pilot should land on

A. Runway 18 and expect a crosswind from the right.

B. Runway 22 directly into the wind.

C. Runway 36 and expect a crosswind from the right.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Q: (Refer to Figure 49) The arrows that appear on the end of the north/south runway indicate that the area

- A. May be used only for taxiing.
- B. Is usable for taxiing, takeoff, and landing.
- C. Cannot be used for landing but may be used for taxiing and takeoff.

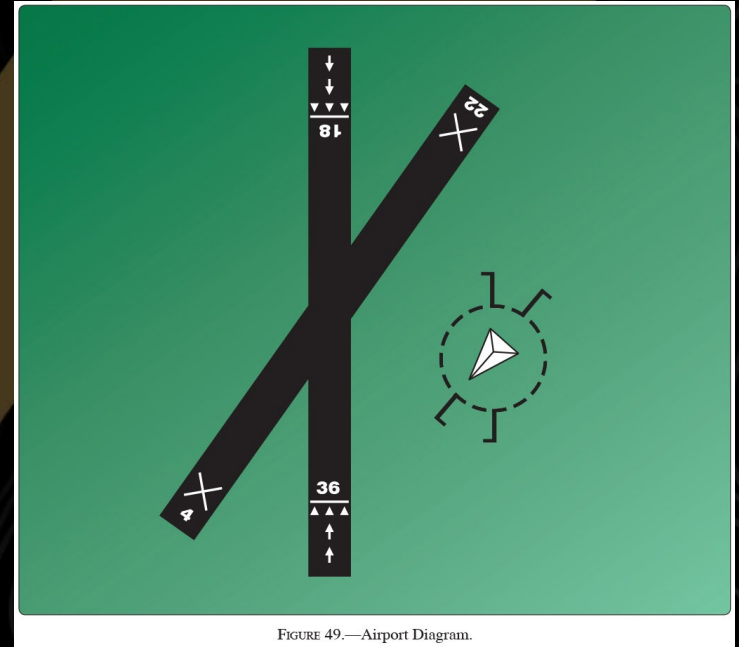


FIGURE 49.—Airport Diagram.





## 5.2 - Traffic Patterns Used by Crewed Aircraft

A: (Refer to Figure 49) The arrows that appear on the end of the north/south runway indicate that the area

A. May be used only for taxiing.

B. Is usable for taxiing, takeoff, and landing.

C. Cannot be used for landing but may be used for taxiing and takeoff.

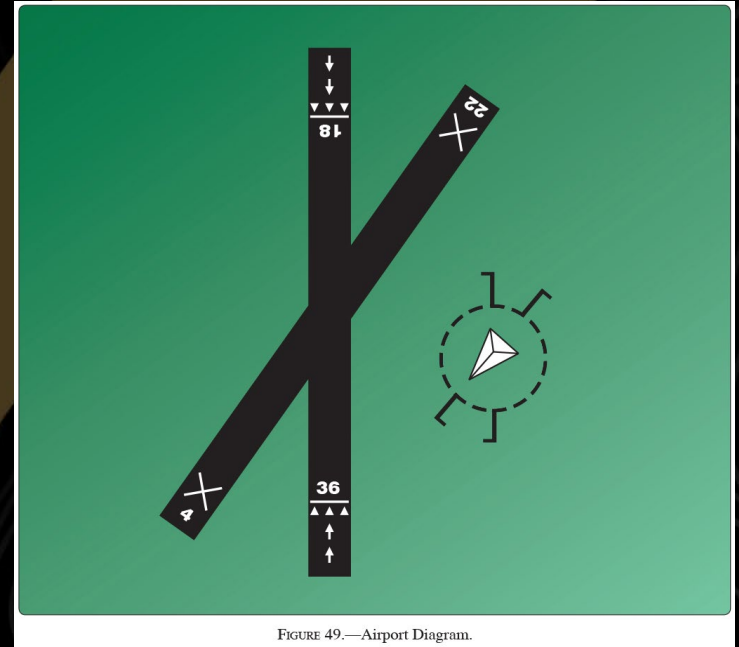


FIGURE 49.—Airport Diagram.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Q: (Refer to Figure 49) Select the proper traffic pattern and runway for landing

- A. Left-hand traffic and Runway 18
- B. Right-hand traffic and Runway 18
- C. Left-hand traffic and Runway 22

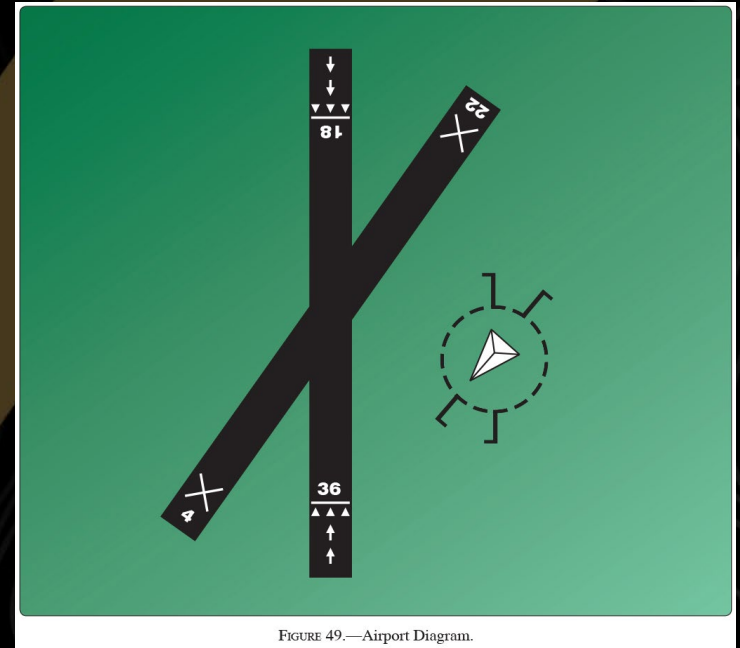


FIGURE 49.—Airport Diagram.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

A: (Refer to Figure 49) Select the proper traffic pattern and runway for landing

A. Left-hand traffic and Runway 18

B. Right-hand traffic and Runway 18

C. Left-hand traffic and Runway 22

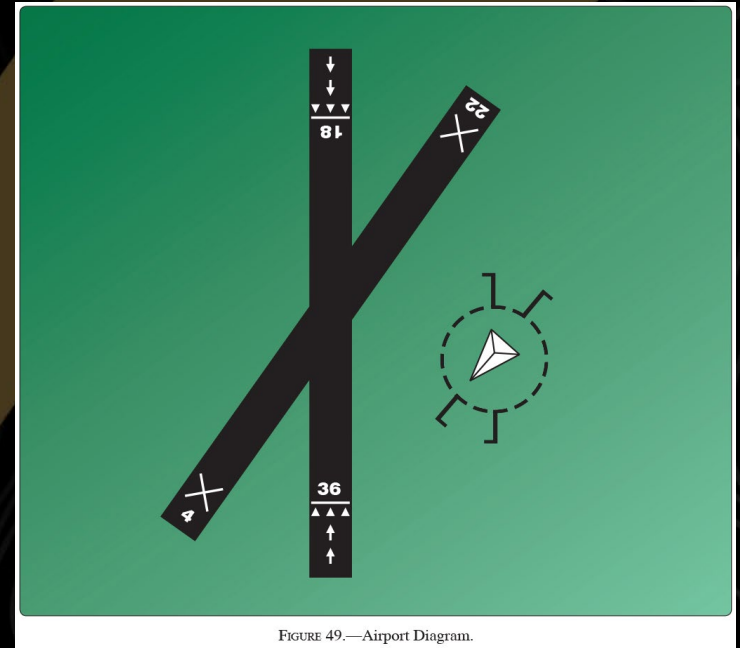


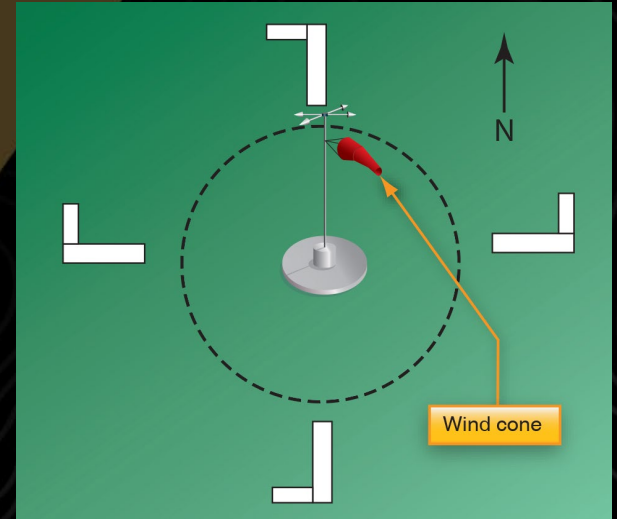
FIGURE 49.—Airport Diagram.



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Q: (Refer to Figure 50): The segmented circle indicates that the airport traffic is:

- A. Left-hand for runway 36 and right-hand for runway 18
- B. Left-hand for runway 18 and right-hand for runway 36
- C. Right-hand for Runway 9 and left-hand for Runway 27





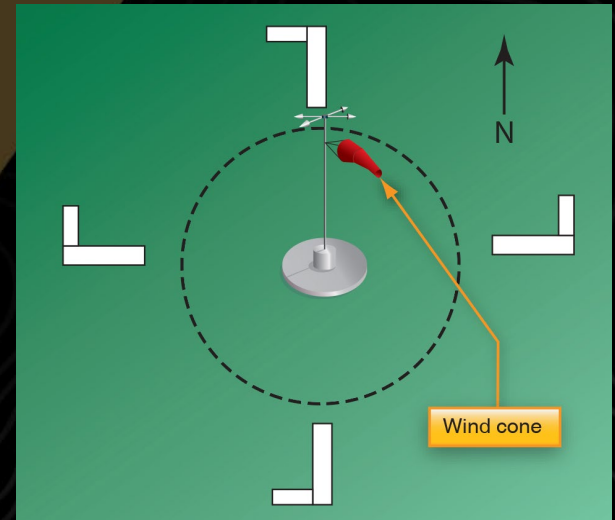
## 5.2 - Traffic Patterns Used by Crewed Aircraft

A: (Refer to Figure 50): The segmented circle indicates that the airport traffic is:

A. Left-hand for runway 36 and right-hand for runway 18

B. Left-hand for runway 18 and right-hand for runway 36

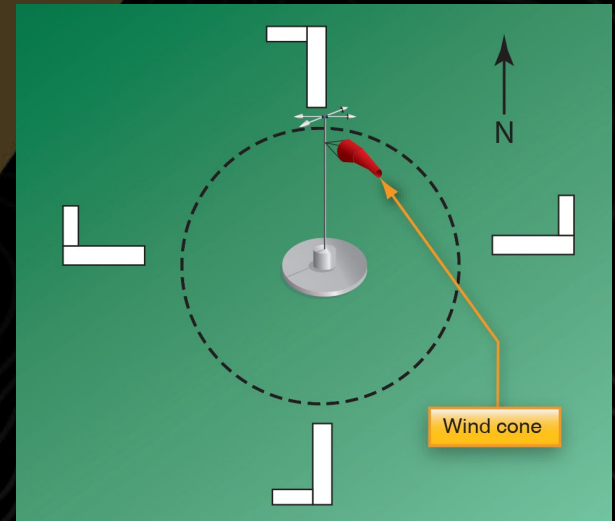
C. Right-hand for Runway 9 and left-hand for Runway 27



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Q: (Refer to Figure 50): Which runway and traffic pattern should be used as indicated by the wind cone in the segmented circle?

- A. Right-hand traffic on Runway 9
- B. Right-hand on runway 18
- C. Left-hand traffic on Runway 36



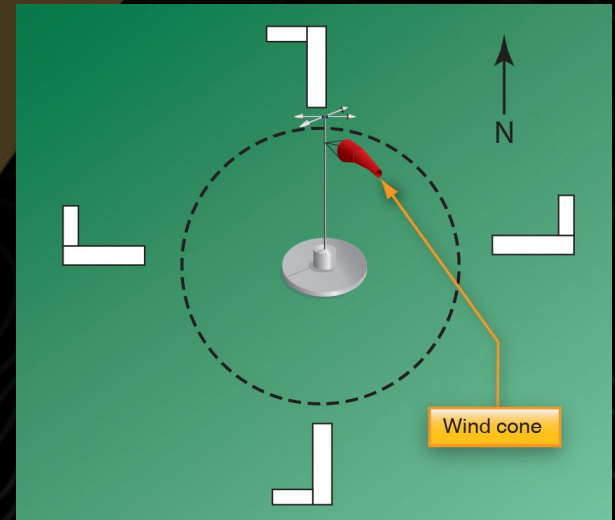
## 5.2 - Traffic Patterns Used by Crewed Aircraft

A: (Refer to Figure 50): Which runway and traffic pattern should be used as indicated by the wind cone in the segmented circle?

A. Right-hand traffic on Runway 9

B. Right-hand on runway 18

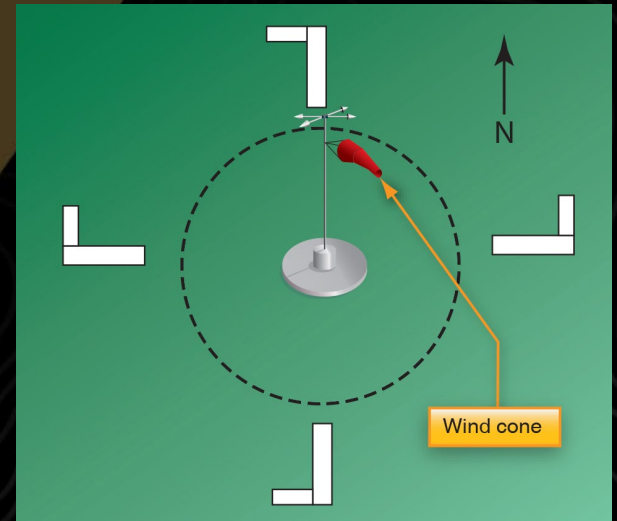
C. Left-hand traffic on Runway 36



## 5.2 - Traffic Patterns Used by Crewed Aircraft

Q: (Refer to Figure 50): The traffic patterns indicated in the segmented circle have been arranged to avoid flights over an area to the

- A. South of the airport
- B. North of the airport
- C. South-east of the airport





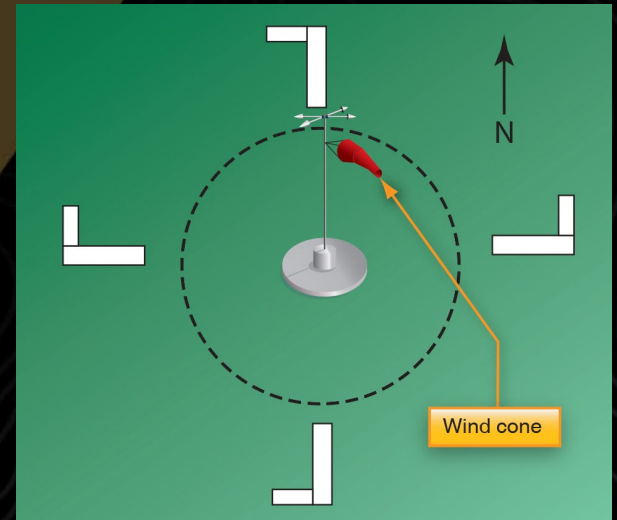
## 5.2 - Traffic Patterns Used by Crewed Aircraft

A: (Refer to Figure 50): The traffic patterns indicated in the segmented circle have been arranged to avoid flights over an area to the

A. South of the airport

B. North of the airport

C. South-east of the airport



If UAV typically take off or land at airports why is it important to understand landing procedures and traffic patterns?



# If UAV typically take off or land at airports why is it important to understand landing procedures and traffic patterns?

Understanding landing procedures and traffic patterns is important because UAVs share airspace with manned aircraft and must integrate safely into existing airport operations. This knowledge helps remote pilots avoid conflicts, follow standard entry and exit routes, and communicate effectively with other airspace users.





## **5.2 - Security Identification Display Areas (SIDA)**





## 5.2 - Security Identification Display Areas (SIDA)

### Federal Aviation Regulation (FAR) Part 107: Airport Security

- Requirements exist for protecting airports from **crimes against civil aviation**.
- Part 107 requires employment history and verification and criminal history records check for those applying for **airport ID badges** through Security Identification Display Areas (SIDA)



Does your Part 107 certificate enable access to a  
SIDA?



# Does your Part 107 certificate enable access to a SIDA?

You might get in, but you aren't going out without some new friends.

Part 107 certificate does *not* grant access to a SIDA (Security Identification Display Area).

Access to a SIDA requires:

- TSA background check and fingerprinting
- Airport-issued security badge
- Specific authorization from the airport where the SIDA is located





## **5.2 - Chart Supplements**






## 5.2 - Chart Supplements

- Formerly the Airport/Facility Directory
- Provides the most **comprehensive info on a given airport.**
- Contains information on airports, heliports, and seaplane bases that are **open to the public.**
- The Chart Supplement is:
  - Published in **seven book**
  - **Organized by regions**
  - **Updated every 56 days**



## 5.2 - Chart Supplements - Coordinates

**ASHINGTON-WARREN** (OCW)(KOCW) 0 NE UTC-5(-4DT) **N35°34.23' W77°02.99'** **CHARLOTTE**  
37 B NOTAM FILE OCW **H-9C, 12H, L-35C**  
**RWY 05-23:** H5000X100 (ASPH) S-30, D-38 MIRL **IAP**  
**RWY 05:** REIL. PAPI(P2L)—GA 3.0° TCH 46'. Trees.  
**RWY 23:** REIL. PAPI(P2L)—GA 3.75° TCH 45'. Thld displcd 200'. Road.  
**RWY 17-35:** H5000X75 (ASPH-CONC) S-22  
**RWY 17:** Thld displcd 500'. Pole.  
**RWY 35:** Trees.  
**SERVICE:** S2 **FUEL** 100LL, JET A1+ **LGT** MIRL Rwy 05-23 preset low  
intst; to incr intst and ACTVT PAPIs Rwy 05 and 23, and REILs Rwy  
05-23—CTAF. Rwy 17-35 unlgtd. Twys not lgtd.  
**AIRPORT REMARKS:** Attended Mon-Sat 1300-2200Z† and Sun  
1500-2200Z†. Unatndd New Years Day, Easter, July 4th, Thanksgiving  
and Christmas. Deer and birds on and invof arpt. For svc after hrs call  
252-946-3900. Fuel 24 hr credit card svc avbl. Rwy 17 displcd thld  
not mkd at stated dist of 500' but at 1073' on rwy. 120' + twr  
3700' + fm Rwy 05 thld on cntrl.  
**AIRPORT MANAGER:** 252-946-3900  
**WEATHER DATA SOURCES:** AWOS-3 120.175 (252) 975-6133.  
**COMMUNICATIONS:** CTAF/UNICOM 122.7  
**®CHERRY POINT APP/DEP CON** 119.35  
**CLEARANCE DELIVERY PHONE:** For CD ctc Cherry Point Apch at 252-466-5960.  
**RADIO AIDS TO NAVIGATION:** NOTAM FILE ISO.  
**KINSTON (L) (L) VORTAC** 117.5 ISO Chan 122 N35°22.26' W77°33.50' 069° 27.6 NM to fld. 70/5W.  
VOR unusable:  
Blw 5,000'  
Byd 10NM  
**CHOCOWINITY NDB (MHW)** 388 RNW N35°30.58' W77°06.40' 045° 4.6 NM to fld. 44/8W. NOTAM FILE OCW.  
**LOC/DME** 110.9 I-OCW Chan 46 Rwy 05. LOC and DME unmonitored.



## 5.2 - Chart Supplements - Fuel

**ASHINGTON-WARREN** (OCW)(KOCW) 0 NE UTC-5(-4DT) N35°34.23' W77°02.99'

37 B NOTAM FILE OCW

**RWY 05-23:** H5000X100 (ASPH) S-30, D-38 MIRL

**RWY 05:** REIL. PAPI(P2L)—GA 3.0° TCH 46'. Trees.

**RWY 23:** REIL. PAPI(P2L)—GA 3.75° TCH 45'. Thld displcd 200'. Road.

**RWY 17-35:** H5000X75 (ASPH-CONC) S-22

**RWY 17:** Thld displcd 500'. Pole.

**RWY 35:** Trees.

**SERVICE:** S2 **FUEL 100LL, JET A1+** LGT MIRL Rwy 05-23 preset low intst; to incr intst and ACTVT PAPIs Rwy 05 and 23, and REILs Rwy 05-23—CTAF. Rwy 17-35 unlgtd. Twys not lgtd.

**AIRPORT REMARKS:** Attended Mon-Sat 1300-2200Z† and Sun 1500-2200Z†. Unatndd New Years Day, Easter, July 4th, Thanksgiving and Christmas. Deer and birds on and invof arpt. For svc after hrs call 252-946-3900. Fuel 24 hr credit card svc avbl. Rwy 17 displcd thld not mkd at stated dist of 500' but at 1073' on rwy. 120' + twr 3700' + fm Rwy 05 thld on cntrl.

**AIRPORT MANAGER:** 252-946-3900

**WEATHER DATA SOURCES:** AWOS-3 120.175 (252) 975-6133.

**COMMUNICATIONS:** CTAF/UNICOM 122.7

® **CHERRY POINT APP/DEP CON** 119.35

**CLEARANCE DELIVERY PHONE:** For CD ctc Cherry Point Apch at 252-466-5960.

**RADIO AIDS TO NAVIGATION:** NOTAM FILE ISO.

**KINSTON (L) (L) VORTAC** 117.5 ISO Chan 122 N35°22.26' W77°33.50' 069° 27.6 NM to fld. 70/5W.

VOR unusable:

Blw 5,000'

Byd 10NM

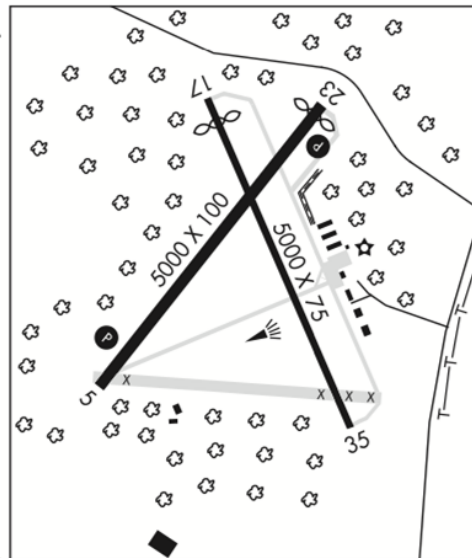
**CHOCOWINITY NDB (MHW)** 388 RNW N35°30.58' W77°06.40' 045° 4.6 NM to fld. 44/8W. NOTAM FILE OCW.

**LOC/DME** 110.9 I-OCW Chan 46 Rwy 05. LOC and DME unmonitored.

**CHARLOTTE**

H-9C, 12H, L-35C

IAP



## 5.2 - Chart Supplements - Associated Charts

**ASHINGTON-WARREN** (OCW)(KOCW) 0 NE UTC-5(-4DT) N35°34.23' W77°02.99'

37 B NOTAM FILE OCW

**RWY 05-23:** H5000X100 (ASPH) S-30, D-38 MIRL

**RWY 05:** REIL. PAPI(P2L)—GA 3.0° TCH 46'. Trees.

**RWY 23:** REIL. PAPI(P2L)—GA 3.75° TCH 45'. Thld displcd 200'. Road.

**RWY 17-35:** H5000X75 (ASPH-CONC) S-22

**RWY 17:** Thld displcd 500'. Pole.

**RWY 35:** Trees.

**SERVICE:** S2 **FUEL** 100LL, JET A1+ **LGT** MIRL Rwy 05-23 preset low intst; to incr intst and ACTVT PAPIs Rwy 05 and 23, and REILs Rwy 05-23—CTAF. Rwy 17-35 unlgtd. Twys not lgtd.

**AIRPORT REMARKS:** Attended Mon-Sat 1300-2200Z† and Sun 1500-2200Z†. Unatndd New Years Day, Easter, July 4th, Thanksgiving and Christmas. Deer and birds on and invof arpt. For svc after hrs call 252-946-3900. Fuel 24 hr credit card svc avbl. Rwy 17 displcd thld not mkd at stated dist of 500' but at 1073' on rwy. 120' + twr 3700' + fm Rwy 05 thld on cntrl.

**AIRPORT MANAGER:** 252-946-3900

**WEATHER DATA SOURCES:** AWOS-3 120.175 (252) 975-6133.

**COMMUNICATIONS:** CTAF/UNICOM 122.7

® **CHERRY POINT APP/DEP CON** 119.35

**CLEARANCE DELIVERY PHONE:** For CD ctc Cherry Point Apch at 252-466-5960.

**RADIO AIDS TO NAVIGATION:** NOTAM FILE ISO.

**KINSTON (L) (L) VORTAC** 117.5 ISO Chan 122 N35°22.26' W77°33.50' 069° 27.6 NM to fld. 70/5W.

VOR unusable:

Blw 5,000'

Byd 10NM

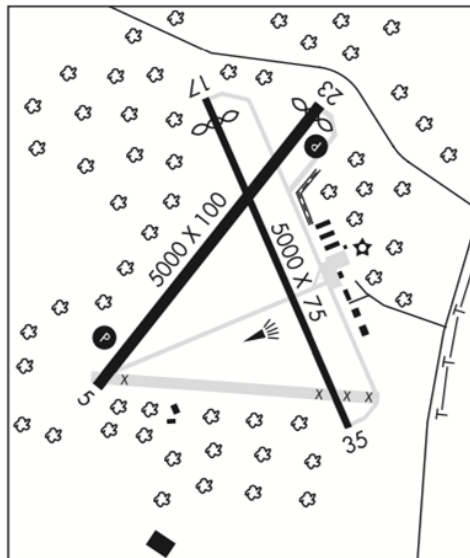
**CHOCOWINITY NDB (MHW)** 388 RNW N35°30.58' W77°06.40' 045° 4.6 NM to fld. 44/8W. NOTAM FILE OCW.

**LOC/DME** 110.9 I-OCW Chan 46 Rwy 05. LOC and DME unmonitored.

**CHARLOTTE**

H-9C, 12H, L-35C

IAP





## 5.2 - Chart Supplements - Elevation

**ASHINGTON-WARREN** (OCW)(KOCW) 0 NE UTC-5(-4DT) N35°34.23' W77°02.99' **CHARLOTTE**  
**37** B NOTAM FILE OCW **H-9C, 12H, L-35C**  
**IAP**

**RWY 05-23:** H5000X100 (ASPH) S-30, D-38 MIRL  
**RWY 05:** REIL. PAPI(P2L)—GA 3.0° TCH 46'. Trees.  
**RWY 23:** REIL. PAPI(P2L)—GA 3.75° TCH 45'. Thld displcd 200'. Road.  
**RWY 17-35:** H5000X75 (ASPH-CONC) S-22  
**RWY 17:** Thld displcd 500'. Pole.  
**RWY 35:** Trees.

**SERVICE:** S2 **FUEL** 100LL, JET A1+ **LGT** MIRL Rwy 05-23 preset low intst; to incr intst and ACTVT PAPIs Rwy 05 and 23, and REILs Rwy 05-23—CTAF. Rwy 17-35 unlgtd. Twys not lgtd.

**AIRPORT REMARKS:** Attended Mon-Sat 1300-2200Z† and Sun 1500-2200Z†. Unatndd New Years Day, Easter, July 4th, Thanksgiving and Christmas. Deer and birds on and invof arpt. For svc after hrs call 252-946-3900. Fuel 24 hr credit card svc avbl. Rwy 17 displcd thld not mkd at stated dist of 500' but at 1073' on rwy. 120' + twr 3700' + fm Rwy 05 thld on cntrl.

**AIRPORT MANAGER:** 252-946-3900

**WEATHER DATA SOURCES:** AWOS-3 120.175 (252) 975-6133.

**COMMUNICATIONS:** CTAF/UNICOM 122.7


**®CHERRY POINT APP/DEP CON** 119.35

**CLEARANCE DELIVERY PHONE:** For CD ctc Cherry Point Apch at 252-466-5960.

**RADIO AIDS TO NAVIGATION:** NOTAM FILE ISO.

**KINSTON (L) (L) VORTAC** 117.5 ISO Chan 122 N35°22.26' W77°33.50' 069° 27.6 NM to fld. 70/5W.  
VOR unusable:  
Blw 5,000'  
Byd 10NM

**CHOCOWINITY NDB (MHW)** 388 RNW N35°30.58' W77°06.40' 045° 4.6 NM to fld. 44/8W. NOTAM FILE OCW.  
**LOC/DME** 110.9 I-OCW Chan 46 Rwy 05. LOC and DME unmonitored.



37 B NOTAM FILE OCW

RWY 05: REIL. PAPI(P2L)—GA 3.0° TCH 46'. Trees.

RWY 23: REIL, PAPI(P2L)—GA 3.75° TCH 45'. Thld d

RWY 17-35: H5000X75 (ASPH-CONC) S-22

**RWY 17:** Thld dspld 500'. Pole.

**RWY 35: Trees.**

**SERVICE:** S2 FUEL 100LL, JET A1+ LGT MIRL Rwy 05-23 preset low  
intst; to incr intst and ACTVT PAPIs Rwy 05 and 23, and REILs Rwy  
05-23—CTAF. Rwy 17-35 unlgtd. Twys not lgtd.

**AIRPORT REMARKS:** Attended Mon-Sat 1300-2200Z† and Sun 1500-2200Z†. Unatndd New Years Day, Easter, July 4th, Thanksgiving and Christmas. Deer and birds on and invof arpt. For svc after hrs call 252-946-3900. Fuel 24 hr credit card svc avbl. Rwy 17 dsplcd thld not mkd at stated dist of 500' but at 1073' on rwy. 120' + twr 3700' + fm Rwy 05 thld on cntrl.

**AIRPORT MANAGER: 252-946-3900**

**WEATHER DATA SOURCES: AWOS-3 120.175 (252) 975-6133.**

**COMMUNICATIONS: CTAF/UNICOM 122.7**

®CHERRY POINT APP/DEP CON 119.35

**CLEARANCE DELIVERY PHONE:** For CD ctc Cherry Point Apch at 252-466-5960.

**RADIO AIDS TO NAVIGATION: NOTAM FILE ISO.**

**KINSTON (L) (L) VORTAC 117.5 ISO Chan 122 N35°22.26' W77°33.50' 069° 27.6 NM to fld. 70/5W.**

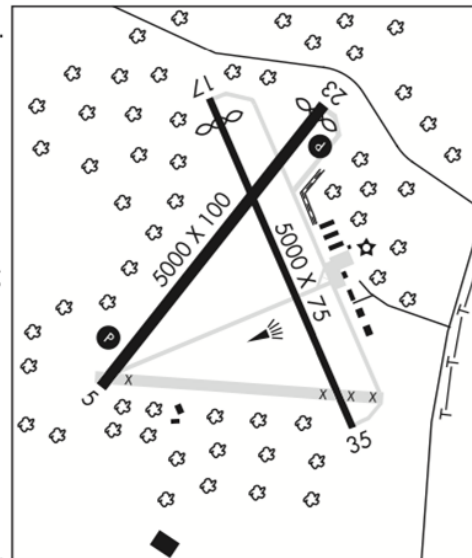
VOR unusable:

Blw 5,000'

Byd 10NM

**CHOCOWINITY NDB (MHW) 388**    **RNW**    **N35°30.58' W77°06.40'**    **045° 4.6 NM to fld. 44/8W.**    **NOTAM FILE OCW.**

**LOC/DME 110.9 I-OCW Chan 46 Rwy 05. LOC and DME unmonitored.**



## CHARLOTTE

H-9C, 12H, L-35C

IAP

## 5.2 - Chart Supplements - Runway Details

**ASHINGTON-WARREN** (OCW)(KOCW) 0 NE UTC-5(-4DT) N35°34.23' W77°02.99' **CHARLOTTE**  
37 B NOTAM FILE OCW H-9C, 12H, L-35C  
IAP

**RWY 05-23:** H5000X100 (ASPH) S-30, D-38 MIRL  
**RWY 05:** REIL. PAPI(P2L)—GA 3.0° TCH 46'. Trees.  
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**RWY 17-35:** H5000X75 (ASPH-CONC) S-22  
**RWY 17:** Thld dspcd 500'. Pole.  
**RWY 35:** Trees.

**SERVICE:** S2 FUEL 100LL, JET A1+ LGT MIRL Rwy 05-23 preset low  
intst; to incr intst and ACTVT PAPIs Rwy 05 and 23, and REILs Rwy  
05-23—CTAF. Rwy 17-35 unlgtd. Twys not lgtd.

**AIRPORT REMARKS:** Attended Mon-Sat 1300-2200Z† and Sun  
1500-2200Z†. Unatndd New Years Day, Easter, July 4th, Thanksgiving  
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252-946-3900. Fuel 24 hr credit card svc avbl. Rwy 17 dspcd thld  
not mkd at stated dist of 500' but at 1073' on rwy. 120' + twr  
3700' + fm Rwy 05 thld on cntrl.

**AIRPORT MANAGER:** 252-946-3900

**WEATHER DATA SOURCES:** AWOS-3 120.175 (252) 975-6133.

**COMMUNICATIONS:** CTAF/UNICOM 122.7


® **CHERRY POINT APP/DEP CON** 119.35

**CLEARANCE DELIVERY PHONE:** For CD ctc Cherry Point Apch at 252-466-5960.

**RADIO AIDS TO NAVIGATION:** NOTAM FILE ISO.

**KINSTON (L) (L) VORTAC** 117.5 ISO Chan 122 N35°22.26' W77°33.50' 069° 27.6 NM to fld. 70/5W.  
VOR unusable:  
Blw 5,000'  
Byd 10NM

**CHOCOWINITY NDB (MHW)** 388 RNW N35°30.58' W77°06.40' 045° 4.6 NM to fld. 44/8W. NOTAM FILE OCW.  
**LOC/DME** 110.9 I-OCW Chan 46 Rwy 05. LOC and DME unmonitored.



# Unit 5 Operations – 5.2 Review Quiz

- [5.2 - Airport Operations – QUIZ](#)
- This quiz contains 42 questions.
  - You may take it as many times as you like.
  - The order of questions are randomized each time.
  - The large majority of the questions are worded exactly as they appear on the exam.

