
AERONAUTICAL RULES

401.01 Aerodromes and Traffic Procedures

WHY ARE WE LEARNING THIS?

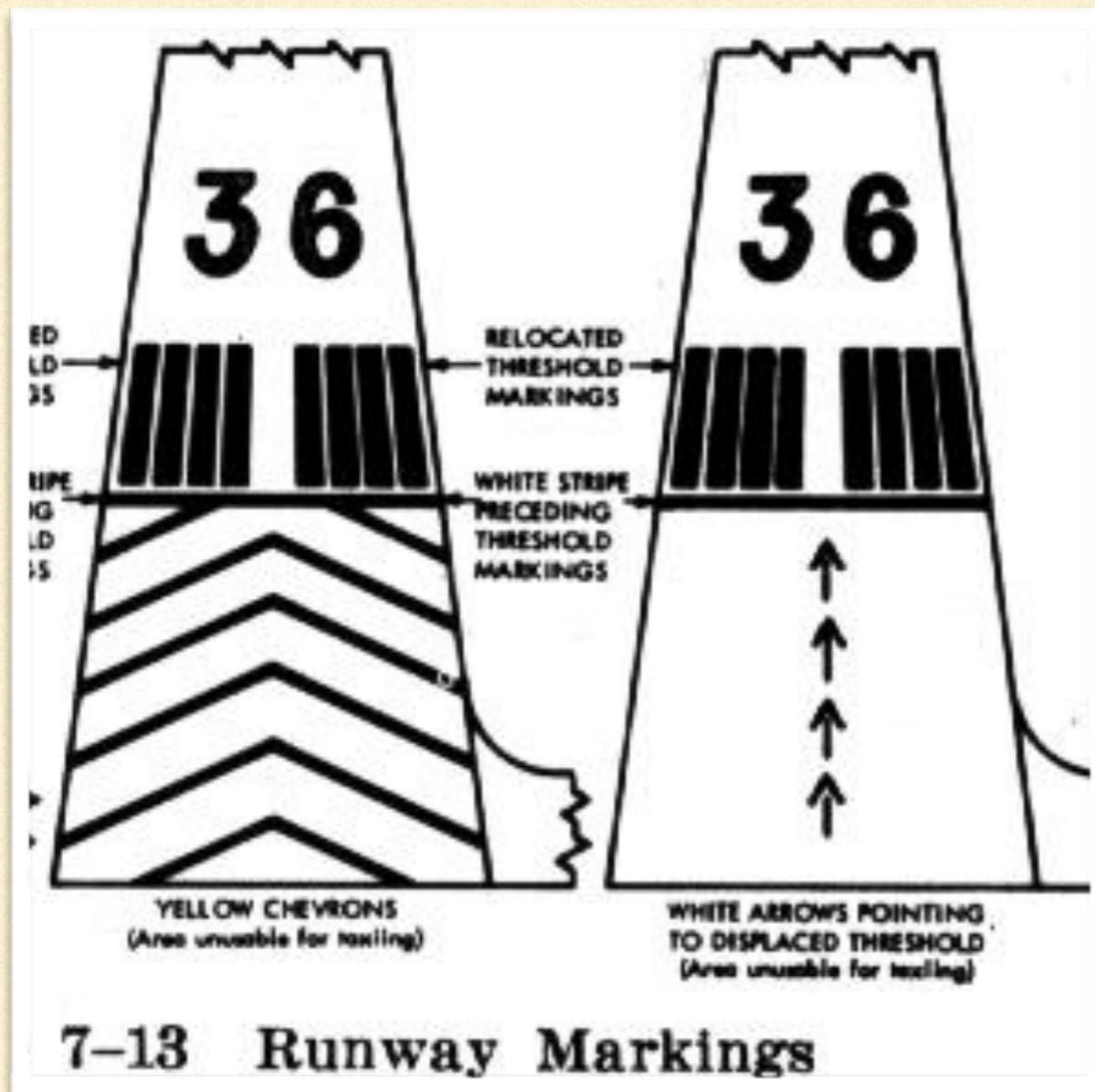
- If everyone knows and follows the standard rule, then there will be less chances of an accident or incident
 - The operation will run more smoothly
-

RUNWAY NUMBERING



- A runway is numbered based on the direction in degrees it is facing
 - Numbers are rounded to the nearest 10 degrees
 - They are marked at the end of the runway in large white numbers
 - Use magnetic heading
-

RUNWAY MARKINGS



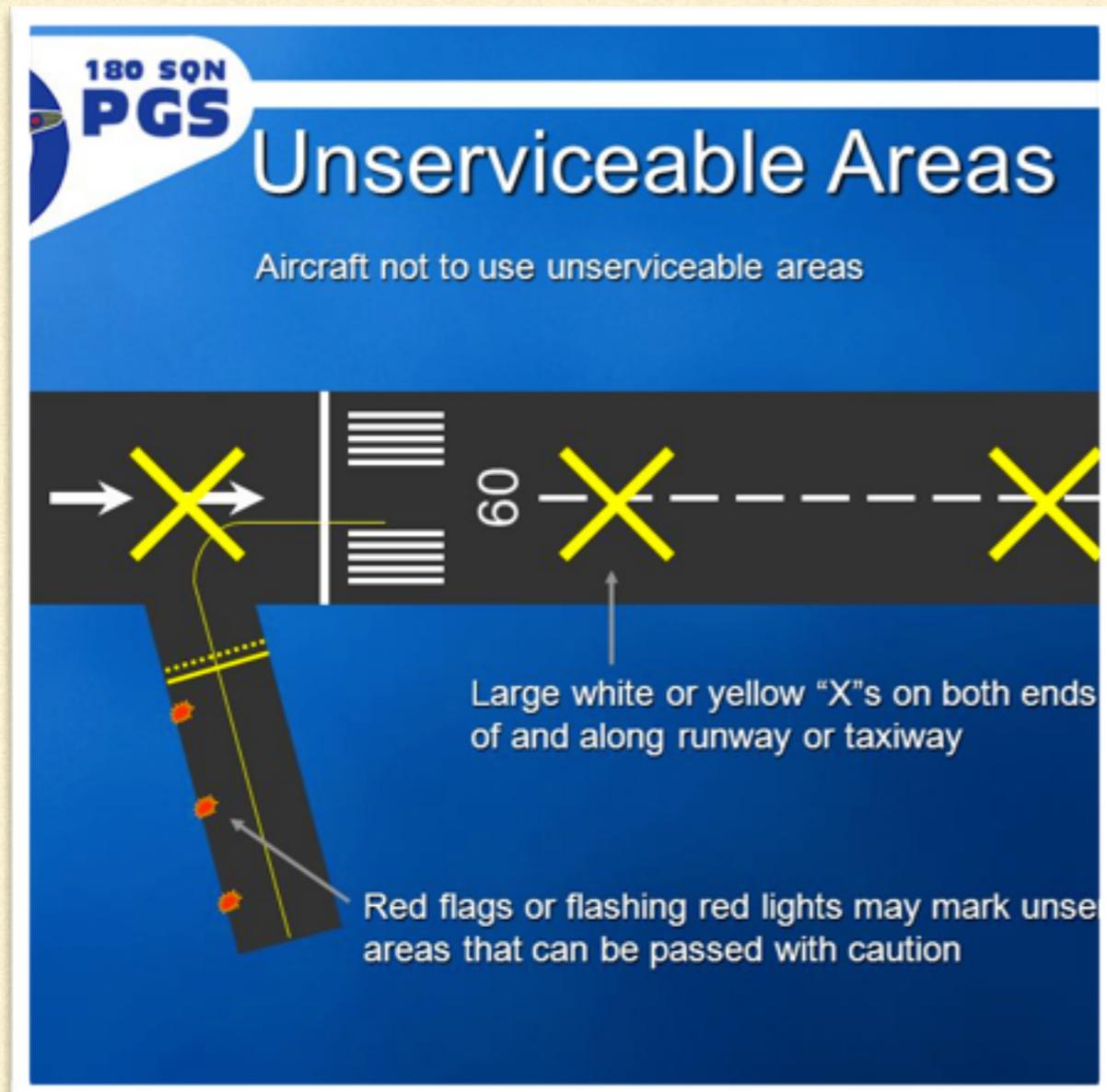
- Centreline- white columns line the middle of the runway to mark the centre
- Threshold- white line running across the ends of the runway
- Displaced threshold- this is if the threshold is not safe to land on, so it is moved up to a safe area

TAXIWAY MARKINGS



- Taxiway centreline- yellow line to keep aircraft in the centre of the taxiway
- Hold lines- yellow running across the taxiway to indicate where aircraft must hold short (stop)

AERODROME MARKINGS



- Unserviceable- Marked with large yellow or white X's on both ends of a runway or taxiway
- Red flags may also be used for areas that may be passable with caution

WIND INDICATORS



- Wind Sock- elongates as the wind increases. If the windsock is straight out then the wind is 15 kts or more. If the windsock is 30 degrees below the horizon, then the wind is 6 kts.

WIND INDICATORS



- Tetrahedron- known as a wind T. It is designed like an arrow whose small end point into the wind.
- Only gives wind direction, no speed.

RUNWAY LIGHTING



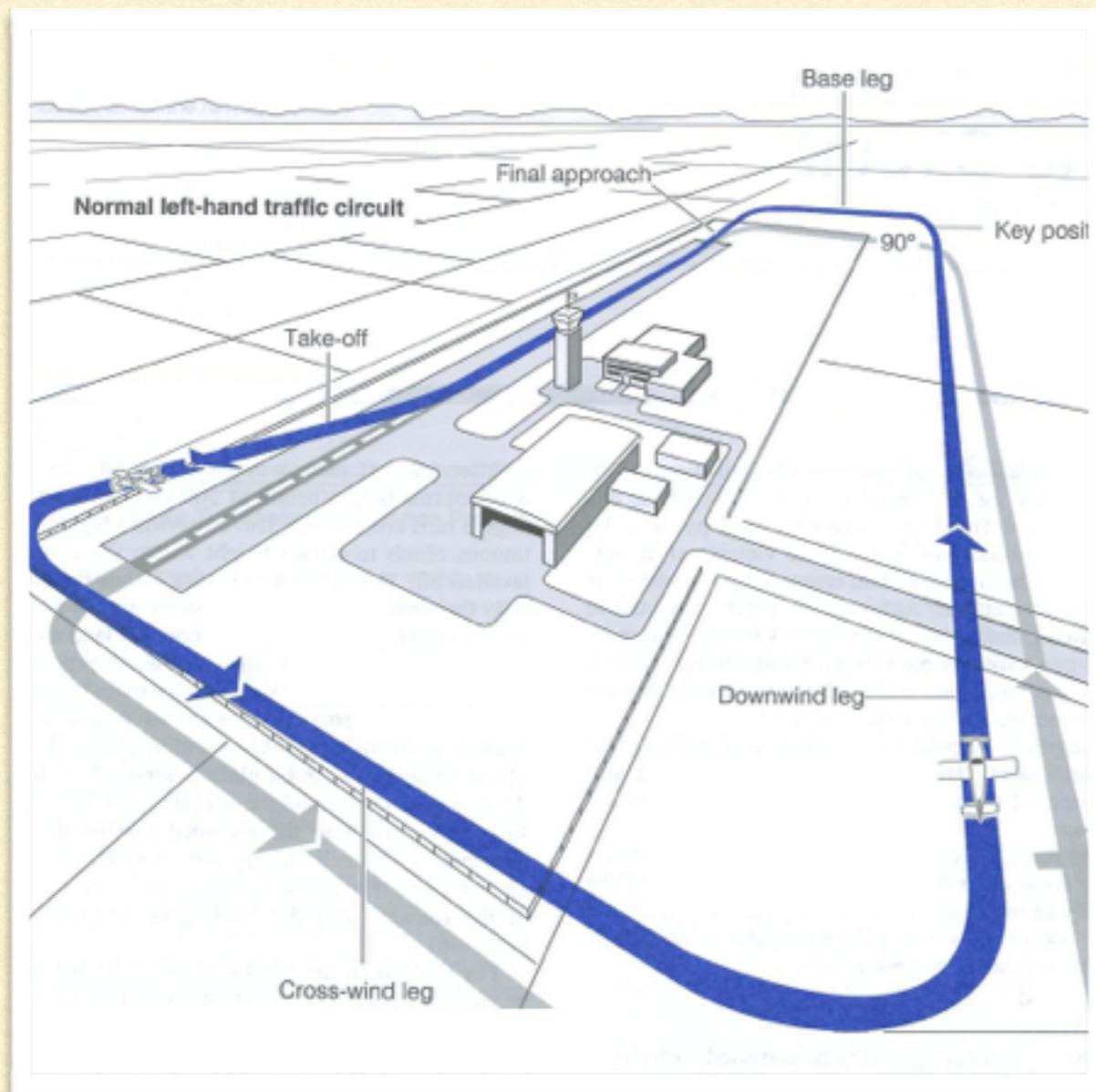
- Runway- thresholds marked with green, ending marked with red and borders marked with white
 - Taxiways- borders lined with blue
 - Obstructions- marked with red or white
-

CONFIRMATION

- What colour are taxiway lights lined with?
 - What colour lights are at the threshold of the runway?
 - What is the angle of the windsock when there is a 6 kt wind?
 - What is the name of another wind direction indicator?
 - How are runways labeled?
-

-
- Taxiways are lined with blue lights
 - Green lights are at the threshold of a runway
 - The angle of a windsock below the horizon with a 6 kt wind is 30 degrees
 - Another wind indicator other than a windsock is a tetrahedron
 - Runways are labeled the way they're facing in degrees magnetic
-

THE CIRCUIT



- The traffic pattern that all VFR aircraft must follow at an aerodrome

Circuit



NORDO OR RONLY



- **NORDO-** no radio. The aircraft is not capable of any communication
 - **RONLY-** receive only. The aircraft can receive transmissions. Tower may ask for a visual confirmation
-

NORDO



GROUND	Light Gun Signals	AIR
Cleared for Takeoff	 GREEN	Cleared to Land
STOP	 RED	Give Way Continue Circling
Cleared to Taxi	 flashing GREEN	Return for Landing
Taxi Clear of Runway	 flashing RED	Airport Unsafe DO NOT LAND
Return to Starting Point on Airport	 flashing WHITE	Not Applicable
Exercise EXTREME CAUTION	 RED alternating GREEN	Exercise EXTREME CAUTION

CONFIRMATION

- Flashing Green Light. Ground? Air?
 - Steady Green Light. Ground? Air?
 - Flashing Red Light. Ground? Air?
 - Steady Red Light. Ground? Air?
 - Flashing White Light. Ground?
 - Alternating Red and Green Light. Ground? Air?
-

AIRWORTHINESS

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION—FEDERAL AVIATION ADMINISTRATION STANDARD AIRWORTHINESS CERTIFICATE			
1 MARKS	2 MANUFACTURER AND MODEL PIPER PA-22-135	3 AIRCRAFT SERIAL NUMBER 22-903	4
5 BASIS FOR ISSUANCE This airworthiness certificate is issued pursuant to the Federal Aviation Act of 1958 and certifies that, as of the date on which issued, the aircraft has been inspected and found to conform to the type certificate therefor, to be in compliance with the applicable requirements of the applicable comprehensive and detailed regulations prescribed by Annex 8 to the Convention on International Civil Aviation, except as noted herein.			
6 NONE			
7 CONDITIONS This certificate is effective as long as the maintenance, preventative maintenance, and alterations are performed in accordance with Parts 21, 43, and 91 of the Federal Aviation Regulations, as appropriate, and the aircraft is not otherwise surrendered, suspended, revoked, or a termination date is otherwise established by the applicable regulations.			
8 95	9 FAA REPRESENTATIVE <i>Marion W. Williams</i> MARION W. WILLIAMS	10 DESIGNATION SW-	
11 This certificate, or misuse of this certificate may be punishable by a fine not exceeding \$1,000, or imprisonment, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE REGULATIONS.			
12 00-2 (8-82)			

- It is the Pilot's responsibility to ensure that the aircraft is fit and safe to fly
- C of A (certificate of airworthiness) signifies that the a/c conforms to TC regulations
- A flight permit can be issued for experimental or specific purposes
- Annual Airworthiness Info Report certifies that the airworthiness info is correct

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION—FEDERAL AVIATION ADMINISTRATION
STANDARD AIRWORTHINESS CERTIFICATE

1 NATIONALITY AND REGISTRATION MARKS	2 MANUFACTURER AND MODEL	3 AIRCRAFT SERIAL NUMBER	4 CATEGORY
N2631A	PIPER PA-22-135	22-903	NORMAL

5. AUTHORITY AND BASIS FOR ISSUANCE

This airworthiness certificate is issued pursuant to the Federal Aviation Act of 1958 and certifies that, as of the date of issuance, the aircraft to which issued has been inspected and found to conform to the type certificate therefor, to be in condition for safe operation, and has been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention on International Civil Aviation, except as noted herein.

Exceptions:

NONE

6 TERMS AND CONDITIONS

Unless sooner surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator, this airworthiness certificate is effective as long as the maintenance, preventative maintenance, and alterations are performed in accordance with Parts 21, 43, and 91 of the Federal Aviation Regulations, as appropriate, and the aircraft is registered in the United States.

DATE OF ISSUANCE	FAA REPRESENTATIVE <i>Marion W. Williams</i>	DESIGNATION NUMBER
08-10-95	MARION W. WILLIAMS	SW-FSDO-OKC

Any alteration, reproduction, or misuse of this certificate may be punishable by a fine not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE FEDERAL AVIATION REGULATIONS.

DOCUMENTATION



- C of A
 - C of R
 - Pilot/crew licenses and medicals
 - Radio Ops license
 - Journey log
 - Interception Orders
 - Compass Correction Card
 - Weight and Balance
 - Proof of insurance
-

AERONAUTICAL RULES

401.02 Airspace

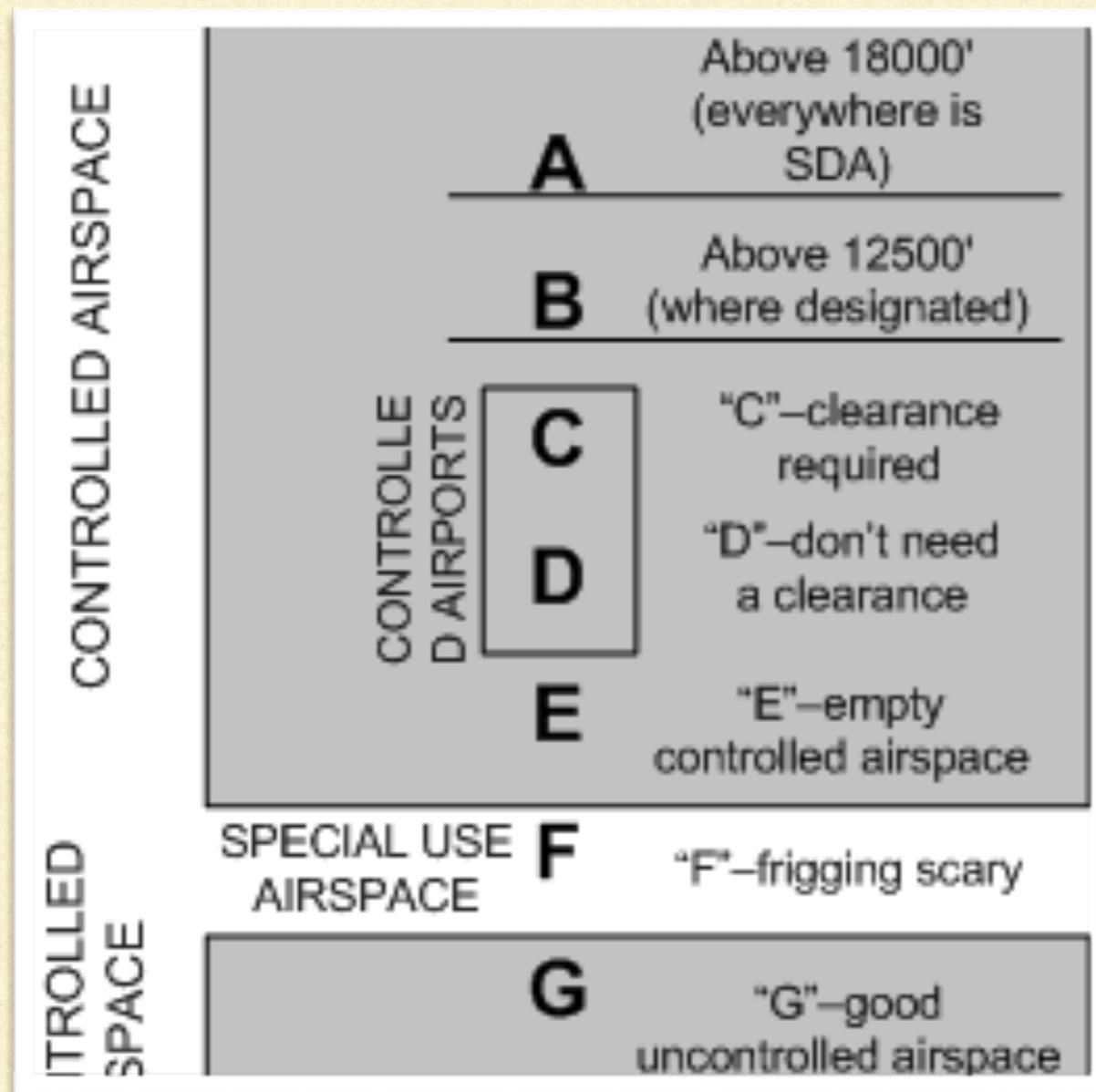
AIRSPACE



**KNOW THE
RULES !**

- There are different classifications of airspace and different rules that apply to each
 - It is important to know these rules to streamline operations and reduce the chance of an accident
-

DOMESTIC AIRSPACE



- Canadian Domestic Airspace is all area land or sea over Canada
- This includes Canadian Arctic and part of high seas

DOMESTIC AIRSPACE



- The airspace is divided into two parts:
- Northern Domestic Airspace
- Southern Domestic Airspace

NORTHERN DOMESTIC AIRSPACE



- close proximity to the magnetic poles
- compass is hard to read here

SOUTHERN DOMESTIC AIRSPACE

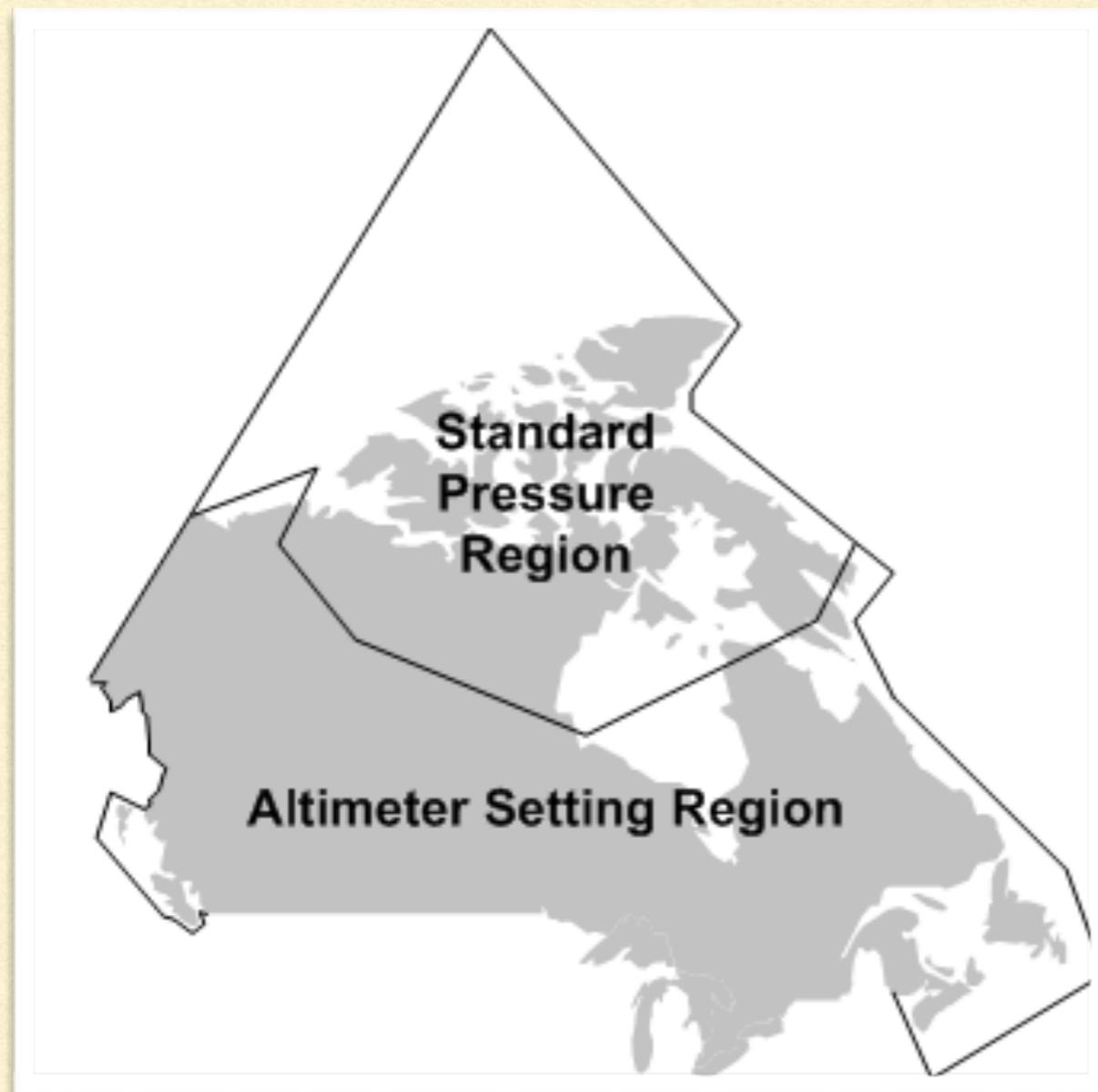


- Canada is many into this division
- aircraft most fly at altitudes that are set



NOTE: For actual boundary co-ordinates refer to the Designated Airspace

ALTIMETER REGIONS



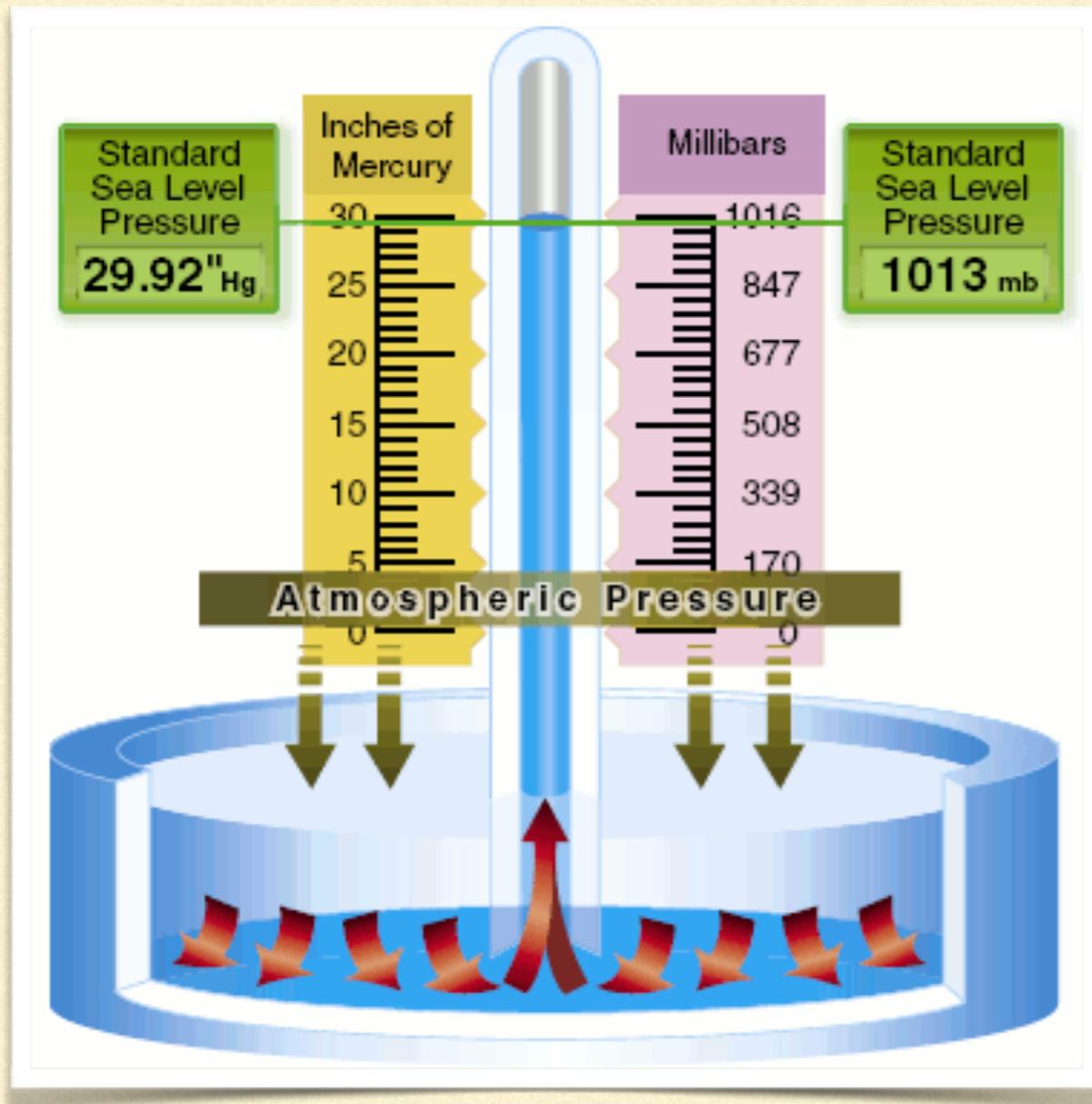
- Altimeter Setting Region
- Standard Pressure Region

ALTIMETER SETTING REGION



- prior to take-off or landing, an aircraft will set their altimeter to the nearest aerodrome

STANDARD PRESSURE REGION



- mostly towards the north and airspace above 18,000 ft (FL 180)
- altimeters are set to the standard setting of 29.92" Hg



HIGH AND LOW AIRSPACE



- High level airspace: all space 18,000 ft and above
- Low level airspace: all space below 18,000 ft

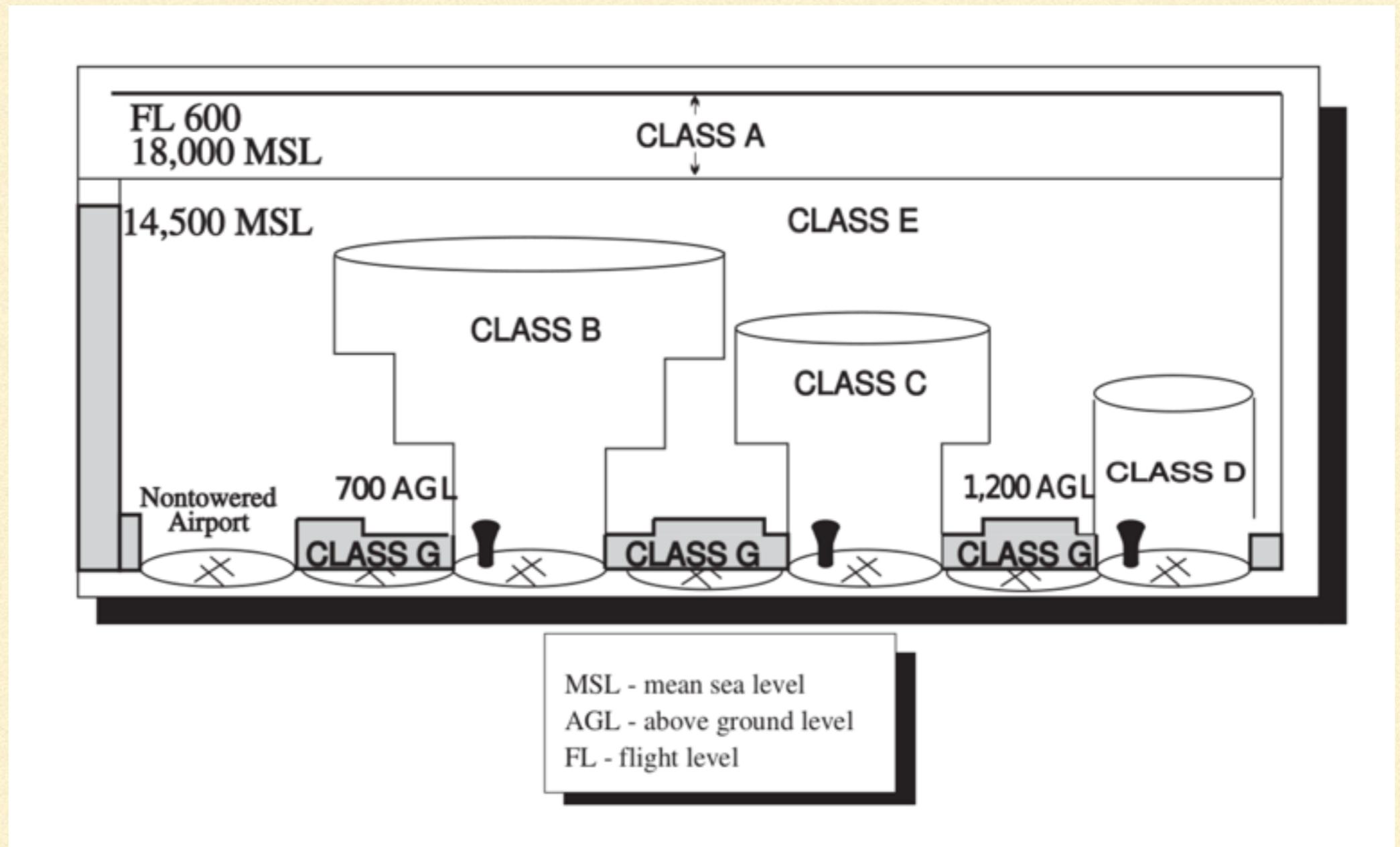
CONFIRMATION

- What is Northern Domestic Airspace?
 - What is the Standard Pressure Region?
 - What altitude does High level airspace begin?
-

-
- All airspace close in proximity to the magnetic poles. The altimeter is difficult to read here.
 - Mostly towards the north and anywhere above 18,000 ft where the altimeter is difficult to read. The altimeter is set to the standard setting of 29.92" Hg.
 - High level airspace begins at 18,000 ft (FL 180)
-

CLASSIFICATION OF AIRSPACE

- Class A
- Class B
- Class C
- Class D
- Class E
- Class F
- Class G



CLASS A



- IFR flights only
 - need clearance
 - includes altitudes of 18,000 ft to 60,000 ft (FL 180 to FL 600)
 - required pressure sensing altimeter and transponder with mode C capabilities
-

CLASS B



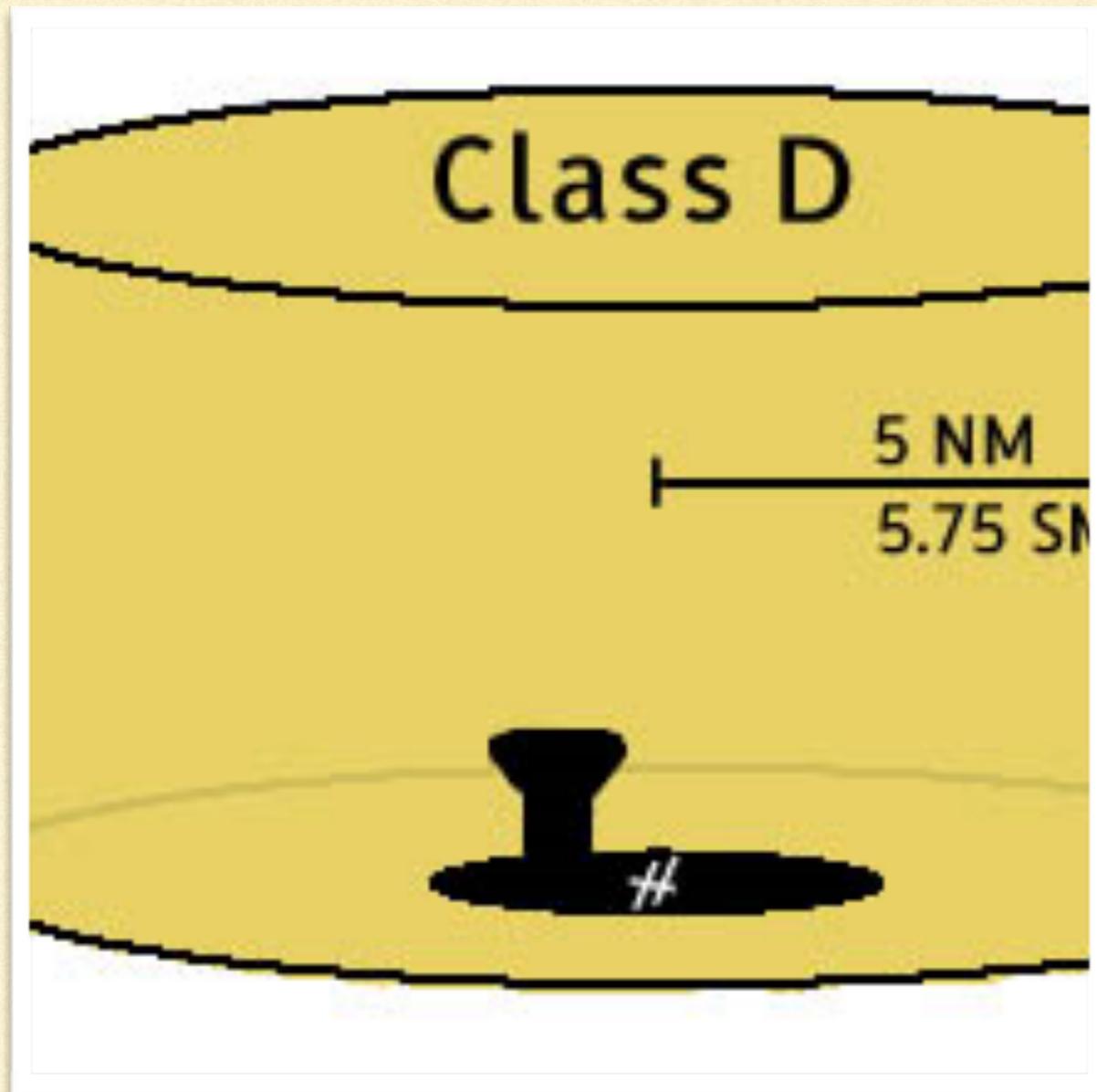
- IFR and VFR flights permitted
 - clearance required for both
 - from 12,500 ft up to, but not including, 18,000 ft
 - must have altimeters inspected every 12 months
 - must have functioning transponder with mode C capability
-

CLASS C



- clearance is required for VFR and IFR
 - aircraft must have a two way radio and transponder with mode C capability
-

CLASS D



- IFR and VFR traffic permitted
- traffic separation for IFR is provided
- VFR must establish two way communication at least 5 mins prior to entering
- the space may require a transponder, but charts will specify

CLASS E



- airspace not designated by class a, b, c, or d
 - IFR and VFR traffic permitted
 - separation for IFR provided
 - CFS will specify when to make radio contact. Usually at 5 nm away
-

CLASS F



- Two types: Restricted or Advisory
 - not allowed in restricted unless prior permission given
 - not recommended to fly through advisory
 - may be controlled or uncontrolled
-

CLASS G



- airspace not designated by any other class
 - ATC has neither the authority nor the responsibility of traffic control
-

CONFIRMATION

- List the airspaces where IFR need clearance
 - List the airspaces where VFR need clearance
 - List the airspaces where a transponder with mode C capability are required
 - List the airspaces where prior communication with the proper facilities are required
-

-
- Airspaces A, B and C
 - Airspaces A, B and C
 - Airspaces A, B, C and sometimes D
 - Airspaces A, B, C, D, E and F
-