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CHAPTER 4 – VISUAL FLIGHT RULES

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VISUAL FLIGTH RULES (VFR)

4.1 Introduction

If a pilot plans to fly in accordance with the Visual Flight Rules (VFR), what rules and regulations would he/she be subjected to? Well that would depend on a number of factors:

a. The weather

b. The type of airspace

c. Whether the flight will be at night or in the day

d. The level at which the flight will be conducted

e. In some cases the speed of the aircraft.

All VFR flights are based on the ability of the pilot to see. It therefore stands to reason that factors, which will hamper visibility, are the factors that will determine the ability to operate according to VFR.

The factors in the air which can hamper or effect visibility are, cloud cover, air quality (e.g. pollution and fog), aircraft speed and, whether it is day or night. When making the decision to fly VFR, pilots should consider all aspects that may affect the flight, and not see them in isolation.

4.2 Visual Flight Rules

Flying with the aid of external visual cues is called Visual Flight, and the regulations that stipulate the conditions for these flights are termed Visual Flight Rules (VFR).

Furthermore, when an aircraft is operated in accordance with VFR, the weather conditions must be of such a nature that the rules can be adhered to - These weather conditions are termed Visual Meteorological Conditions (VMC).

4.2.1 Conditions to Conduct VFR Flight

- In VMC (Visual meteorological conditions)
- By reference to the ground or water when flying at a height or at and below 2000 feet above ground or water.
- At sub-sonic speed
- At speeds not greater than in the table shown on page 3.

4.2.2 Position fixing (Applicable to all VFR flights)

When navigating by visual references to (in sight of) the ground or water, a pilot must be able to positively fix the aircraft's position visually by references to features shown on the map at intervals not exceeding (not more than) 30 minutes.

4.3 Visual Meteorological Conditions (VMC)

VMC is considered in terms of:

- Visibility
- Horizontal distance from cloud
- Vertical distance from cloud

and can be conveniently grouped into two areas:

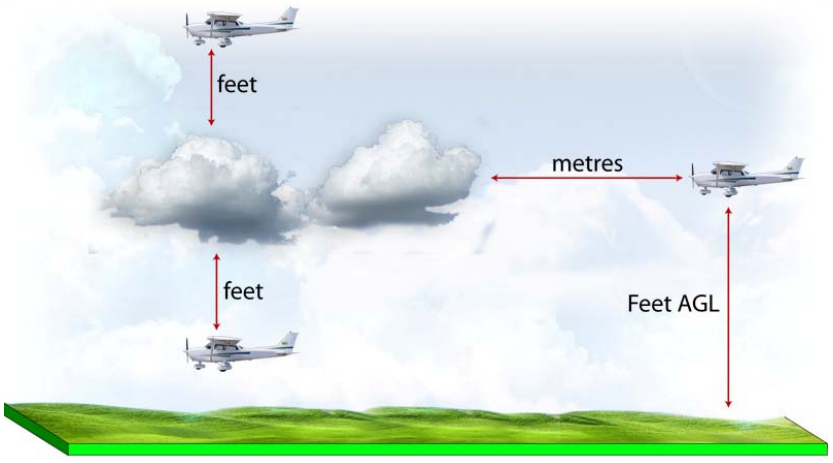
- In controlled airspace (CTA) Classes A, C, D and E.
- In uncontrolled airspace Class 'G'.

4.3.1 Visibility and Distance from Cloud

VMC conditions are said to exist when the visibility, and distance from cloud, both horizontal and vertical, are at or greater than the minimums laid down. These minimums are shown in the table following.

By convention the visibility is measured in meters and kilometres

The vertical distance from cloud is measured in feet and the horizontal distance in meters.



4.3.2 VMC Table

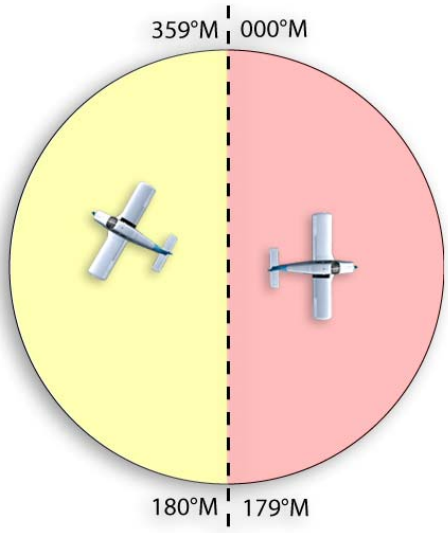
It is important to be aware of the airspace you are operating in as Visual Meteorological Conditions (VMC) differ from one airspace to another as seen in the following table.

Type of Aircraft	Height	Flight Visibility	Distance from Cloud	
			Horizontal	Vertical
Controlled Airspace – Class A				
VFR flight not permitted hence VMC is not applicable				
Controlled Airspace – Class C				
Aeroplanes, Helicopters and Balloons	At or above 10,000 ft AMSL	8 km	1,500 m	1,000ft
	Below 10,000 ft AMSL	5,000 m		
Additional conditions: ATC may permit operations in weather conditions which do not meet these criteria. (Special VFR) Below 10,000 ft speed is restricted to 250 KT IAS.				
Controlled Airspace – Class D				
Aeroplanes, Helicopters and Balloons	Within Class D CTR	5,000 m	600 m	1,000 ft above 500 ft below
Additional conditions: ATC may permit operations in weather conditions which do not meet these criteria. (Special VFR) Speed: 200 KT IAS at or below 2,500 ft AAL within 4 NM of the primary Class D aerodrome. 250 KT IAS in the remaining Class D airspace.				

<table>
<tr><th rowspan="2">Type of Aircraft</th><th rowspan="2">Height</th><th rowspan="2">Flight Visibility</th><th colspan="2">Distance from Cloud</th></tr>
<tr><th>Horizontal</th><th>Vertical</th></tr>
<tr><td colspan="5">Controlled Airspace – Class E</td></tr>
<tr><td rowspan="2">Aeroplanes, Helicopters and Balloons</td><td>At or above 10,000 ft AMSL</td><td>8 km</td><td rowspan="2">1,500 m</td><td rowspan="2">1,000ft</td></tr>
<tr><td>Below 10,000 ft AMSL</td><td>5,000 m</td></tr>
<tr><td colspan="5">Below 10,000 ft speed is restricted to 250 KT IAS.
Special VFR is not permitted in class E airspace</td></tr>
<tr><td colspan="5">Uncontrolled Airspace – Class G</td></tr>
<tr><td rowspan="4">Aeroplanes</td><td>At or above 10,000 ft AMSL</td><td>8 km</td><td rowspan="2">1,500 m</td><td rowspan="2">1,000ft</td></tr>
<tr><td>Below 10,000 ft AMSL</td><td>5,000 m</td></tr>
<tr><td>At or below 3,000 ft AMSL or 1,000 ft AGL whichever is the higher *</td><td>5,000 m</td><td colspan="2">Clear of cloud and in sight of ground or water</td></tr>
<tr><td colspan="4">• Carriage and use of radio is required when operating to these conditions for communication on the appropriate frequency
Below 10,000 ft speed is restricted to 250 KT IAS.</td></tr>
<tr><td rowspan="4">Helicopter</td><td>At or above 10,000 ft AMSL</td><td>8 km</td><td rowspan="2">1,500 m</td><td rowspan="2">1,000ft</td></tr>
<tr><td>Below 10,000 ft AMSL</td><td>5,000 m</td></tr>
<tr><td>Below 700 ft above ground or water</td><td>800 m</td><td colspan="2">Clear of cloud</td></tr>
<tr><td colspan="4">This exception is only applicable if the helicopter is operated:
• By day
• At such a speed that the pilot in command has an adequate opportunity to observe any obstructions or other air traffic in sufficient time to avoid collision.
• If less than 10 NM from an aerodrome for which an instrument approach has been approved – in the following circumstances:
o The flight is conducted in accordance with the requirements relating to reporting, broadcasting and maintaining a listening watch
o Maintain a separation of at least 500 FT vertically from any aircraft that is less than 10 NM from the aerodrome and conducting an IFR operation.
Note: Over water, see over water requirements</td></tr>
</table>

Special VFR
By day, when VMC do not exist, the ATC unit responsible for a CTR may issue, at pilot request, a Special VFR flight clearance for flight in the CTR, or in a CTA next to the CTR, for the purpose of entering or leaving the CTR, provided the Special VFR flight will not unduly delay an IFR flight When operating under a Special VFR clearance, pilots are responsible to ensure that: • the flight is conducted clear of clouds; • the visibility is not less than; o for aeroplanes, 3000m; o for helicopters, 800m; or o for balloons, 100m below 500 ft AGL and 3000m at and above 500 ft AGL; • A helicopter is operated at such a speed that the pilot has adequate opportunity to observe any obstructions or other traffic in sufficient time to avoid collision; and • the flight is conducted in accordance with the requirements of CAR 157 with regards to low flying

4.4 Cruising levels VFR Flight



All VFR flight shall be planned at levels selected in accordance with the hemispherical / semicircular rule as shown in the table below.

When the magnetic track is between 000ºM and 179ºM, the level selected shall be odd thousands plus 500 feet. i.e. 1,500´, 3,500´, 5,500´, 7,500´ etc.

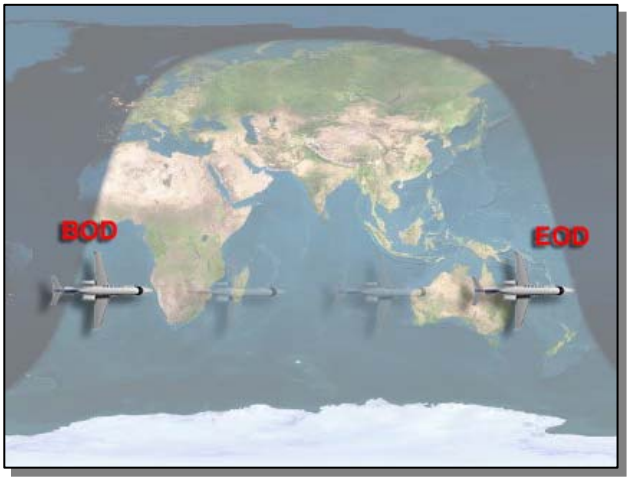
When the magnetic track is between 180ºM and 359ºM, the level selected shall be even thousands plus 500 feet. i.e. 2,500´, 4,500´, 6,500´, 8,500´ etc.

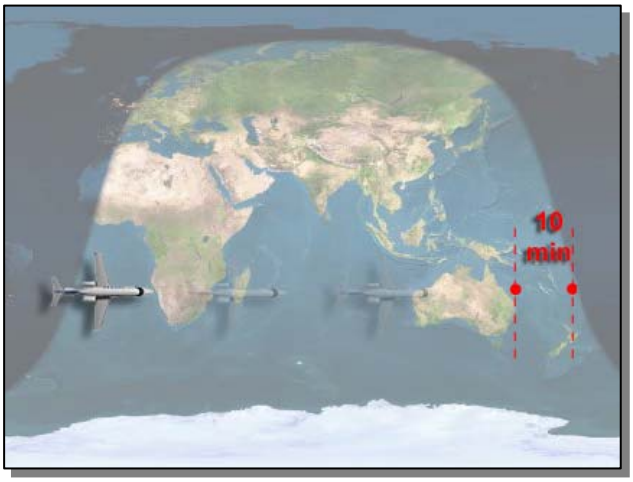
VFR flights conducted at or above 5,000 feet AMSL are required to cruise at levels appropriate to the magnetic track.

VFR flights below 5,000, where practicable (possible). (CAR 173)

4.5 Last Light VFR aircraft

A VFR flight must not depart from an aerodrome before first light (beginning of daylight (BOD)) or land at an aerodrome after last light (End of daylight (EOD)).





A VFR aircraft must plan to land at a destination or alternate at least 10 minutes before the end of daylight.