## THE MAIN DIVISIONS OF AIRSPACE WITHIN FIRS.

Airspace, then, is divided, basically, into either **controlled** or **uncontrolled** airspace.

Looking again at *Figure 5.1*, we can now add some basic labels to the principal sub-divisions of **controlled** and **uncontrolled** airspace to give us the airspace picture in *Figure 5.3*. It is important that you should realise that **Figure 5.3** is only a representation of the division of **controlled airspace**. For instance, **Control Areas** may stretch well beyond a **Control Zone** laterally, and may even extend up to the ceiling of the **FIR**, protecting **IFR** traffic departing from and arriving at several aerodromes. (This is the case, for instance, of the **Daventry Control Area** in the **United Kingdom**.)

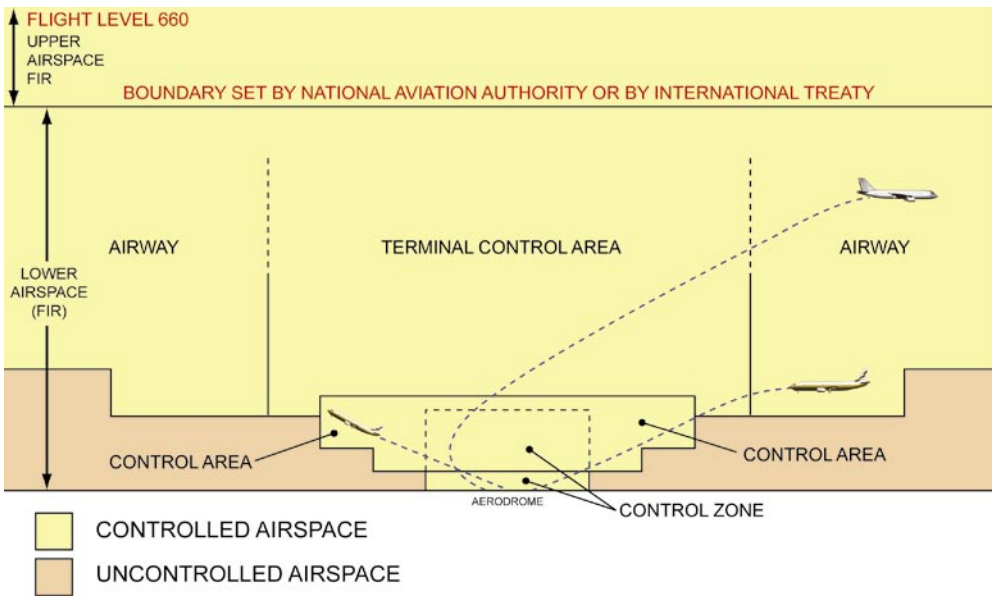



*Figure 5.3 Basic Subdivisions of Controlled Airspace: Control Zone, Control Area, Terminal Control Area and Airway.*

## CONTROLLED AIRSPACE.

Access to **controlled airspace** is governed by **ATC** conditions which restrict entry to specified types of flight made by appropriately qualified pilots flying appropriately equipped aircraft, and (with certain exceptions) under the control of an **Air Traffic Control Unit (ATCU)**.

All aircraft flying in **controlled airspace** must, with rare exceptions, have received an **ATC clearance** to do so.

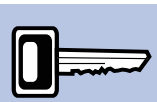
Flight in **controlled airspace** in accordance with the **Instrument Flight Rules (IFR)** requires the pilot to submit a formal **flight plan** which includes the aircraft's call sign and type, estimated time of departure, desired altitude, route and destination. The acceptance of the **flight plan** by an **ATCU** constitutes permission for the pilot to carry out his planned flight.

### *Threshold Marking.*

**Threshold marking** consists of a pattern of longitudinal stripes. The number of stripes varies with the runway width.

### *Transverse Stripe & Displaced Thresholds.*

To indicate that the **threshold** is **displaced** from the end of the runway, a white transverse stripe is placed immediately in front of the **threshold markings,** thus creating a **pre-threshold area**.



*A transverse white stripe marking on a runway signifies a displaced threshold.*

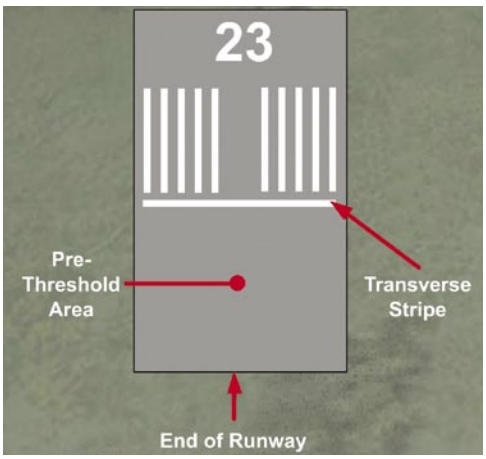



*Figure 9.8 Displaced threshold.*

### *Pre-threshold Area .*

Various markings may be used on the **pre-threshold area.** The most important are as follows:

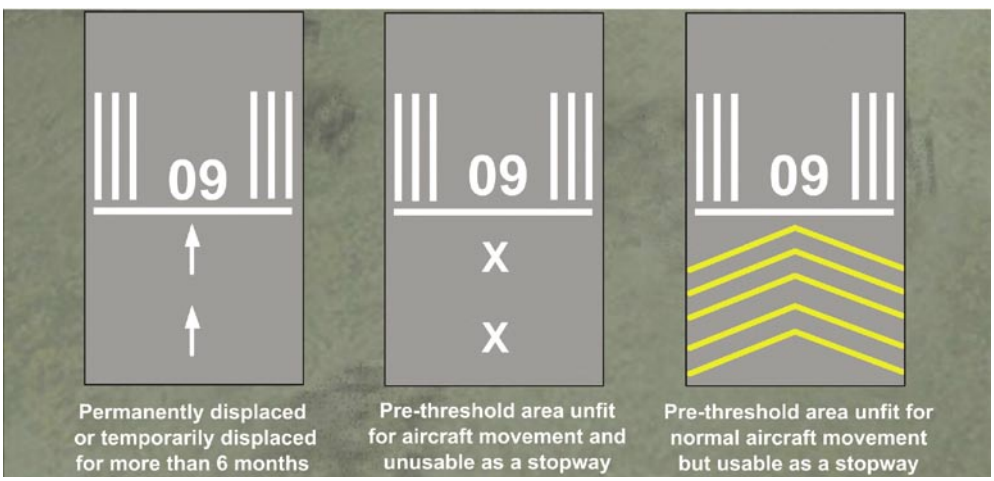



*Figure 9.9 Pre-threshold markings.*

### *Aiming Point.*

The runway **aiming point** consists of two conspicuous white stripes on instrument runways, between 300 m and 400 m from the threshold (depending on the length of the runway).

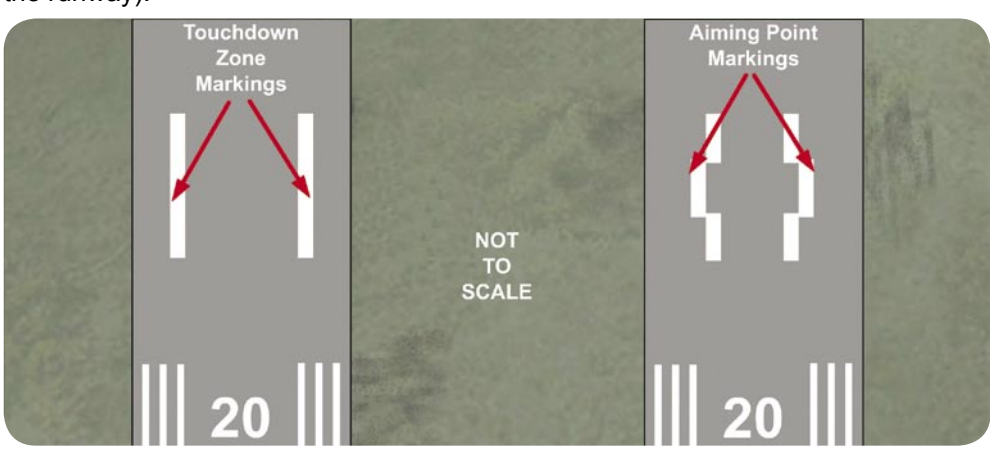



*Figure 9.10 Aiming point and touchdown zone markings.*

or

- Within controlled airspace except with the consent of the appropriate **Air Traffic Control Unit.**

*Figure 11.13 Aerobatics are not allowed over a congested area.*

## RIGHT-HAND RULE.

A pilot following a line feature (a railway, road, river or coastline etc.), must fly so that the line feature is on his **LEFT**, unless the aircraft is flying in **controlled airspace** and has been instructed otherwise by an **Air Traffic Control Unit.**

This rule ensures separation between two aircraft following the same line feature but flying in opposite directions.

Both aircraft will be flying to the **right** of the line feature.


*Figure 11.14 When following a line feature, fly to the right of the feature.*

*A pilot following a line feature (a railway, road, river or coastline etc) in uncontrolled airspace must fly so that the line feature is on his LEFT.*

## NOTIFICATION OF ARRIVAL AND DEPARTURE.

The **Pilot-In-Command (PIC)** is responsible for informing the destination aerodrome as quickly as possible of:

a. A change of intended destination,

and

b. A delay of arrival of **45 minutes** or more.

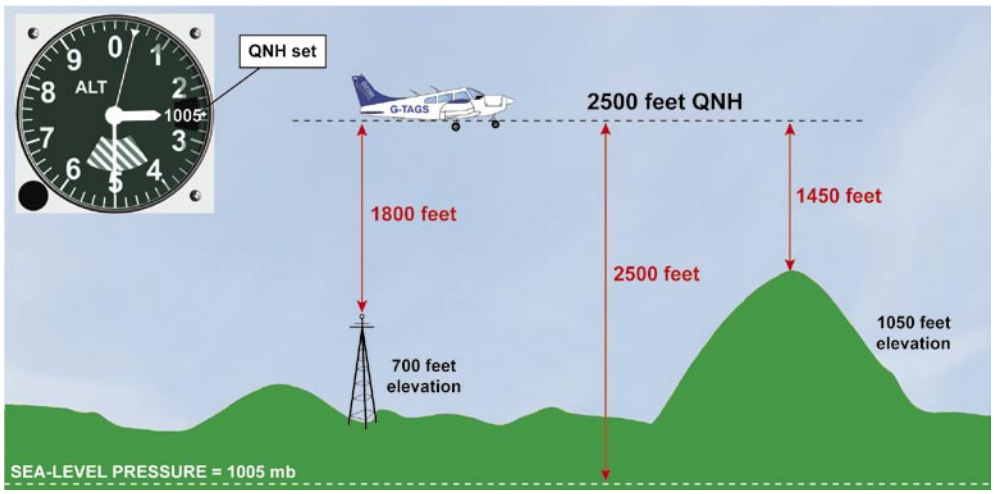



*Figure 19.4 Flying cross-country at 2500 feet with QNH set.*

However, although flying on a cross-country route with **QNH** set will enable a pilot to compute his vertical separation from terrain and obstacles, this is not the whole story in terms of maintaining a safe altitude.

Remember, the altimeter is indicating an aircraft's **vertical separation from a pressure level**; that is, the level at which the pressure prevails which is set on the altimeter subscale. With **QNH** set, the pressure datum level is **mean sea-level**. If the pressure at sea-level changes while the aeroplane maintains level flight, the altimeter reading will change. But if the pressure changes and the aircraft flies in such a manner as to maintain a constant altimeter reading, the aircraft will either climb or descend. Let us look at an example of this latter situation.

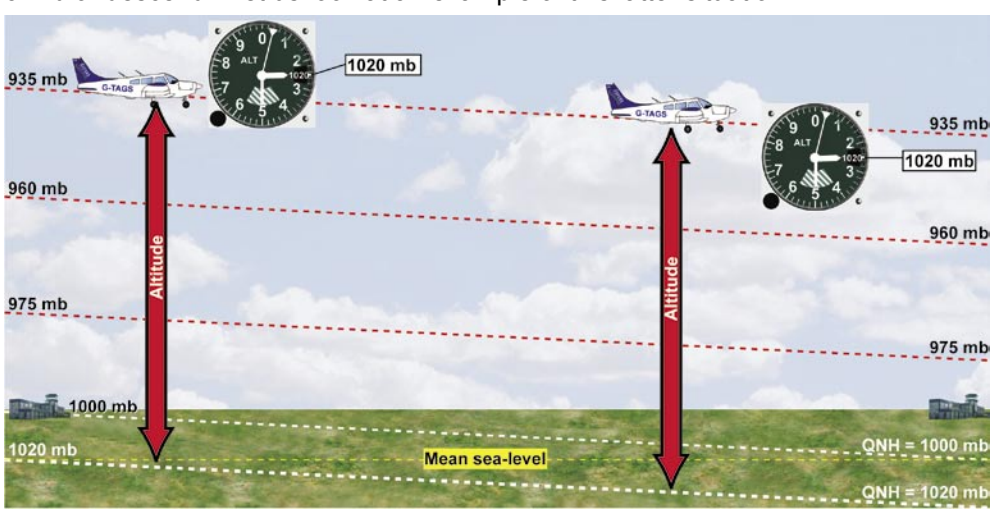



*Figure 19.5 When flying into a region of falling atmospheric pressure while maintaining a constant altimeter subscale setting, the aircraft descends.*

The aircraft in *Figure 19.5* is leaving its departure aerodrome on a cross-country flight that the pilot intends to carry out at an altitude of **2 500 feet**. The pilot has set the departure aerodrome **QNH** of **1020 millibars** on his altimeter and elects, unwisely, to remain on that **QNH** for the duration of the flight. Let us assume that, unbeknown to the pilot, as he flies towards his destination aerodrome he is flying into an area of falling pressure. As we have established, because the pilot elects not to update the altimeter setting and maintains **2 500 feet as indicated by the altimeter**,