DOCUMENT
GSM-G-CPL.022

DOCUMENT TITLE

GENERAL OPERATIONS, FLIGHT PLANNING AND PERFORMANCE

CHAPTER 7 – BASIC ALTIMETRY

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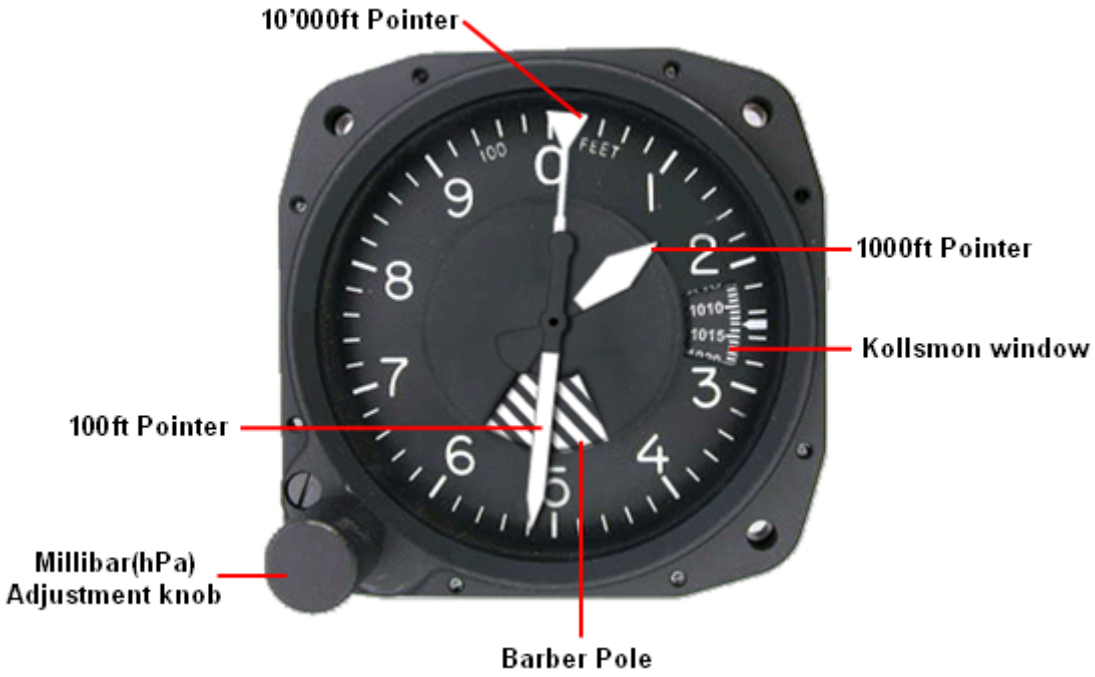
BASIC ALTIMETRY

USING THE ALTIMETER



THE KOLLSMAN WINDOW

The Kollsman window is located at the 3 o'clock position on the altimeter dial.

This window allows access to read a sub-dial, which contains the barometric readings. The arrowhead indice located precisely at the 3 o'clock position on the altimeter's main dial is used as the reference point for reading the barometric sub-dial. Most altimeters will have a sub-dial, which covers the readings from 950 hPa (Hectopascals) to 1050 hPa. On the sub-dial each major indice is read as 1hPa

BARBER POLE

The "Barber Pole" on the face of the altimeter is visible only when the altitude is above sea level. When the altitude is above 10'000ft or below sea level the barber pole starts to disappear until it is no longer visible. This is provided to avoid the error of reading –1000 Ft. as being +10,000 Ft.

READING AN ALTIMETER

A three-pointer altimeter, as its name implies, has three different pointers on the front dial. They are the 100-foot pointer, the 1000-foot pointer, and the 10,000-foot pointer. The medium length pointer is the 100-foot pointer, the shortest pointer is the 1000-foot pointer, and the longest pointer is the 10,000-foot pointer.

The altimeter dial has 10 major indices numbered 0 through 9. In between each major indice are 4 minor indices. The value of these indices is dependent on the pointer being read:

- When reading the 100-foot pointer each minor indice equals 20 feet, each major indice equals 100 feet
- When reading the 1000-foot pointer each minor indice is equal to 200 feet, each major indice is equal to 1000 feet.
- When reading the 10,000-foot pointer each minor indice is equal to 2000 feet, each major indice is equal to 10,000 feet.

The altimeter to the right is indicating 3550ft

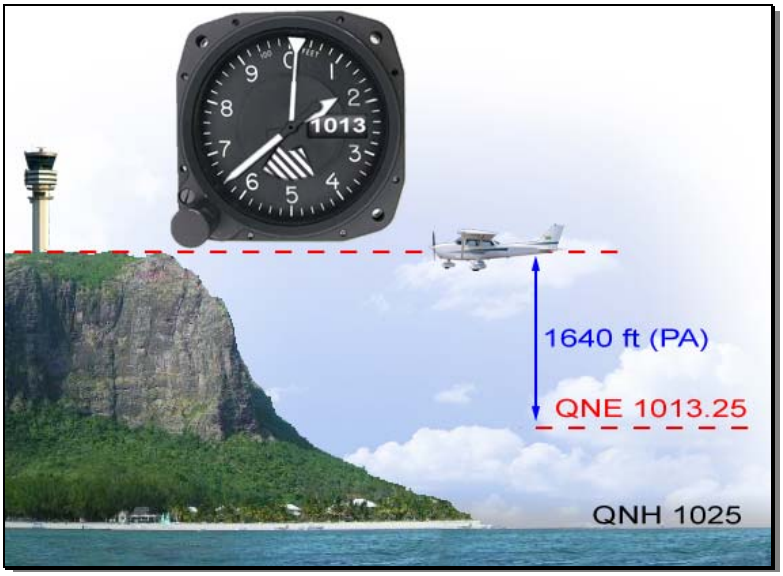
SETTING THE ALTIMETER

Rotating the millibar adjustment knob left or right will increase or decrease the millibars displayed in the Kollsman window, which in turn alters the information displayed by the three pointers.

Setting a QNH in the Kollsman (Subscale) window will cause the altimeter to show the elevation of the airfield you are located at or your altitude above sea level.

The Altimeter below is showing an elevation or an altitude of 2000ft above mean sea level (AMSL) on a QNH of 1025.

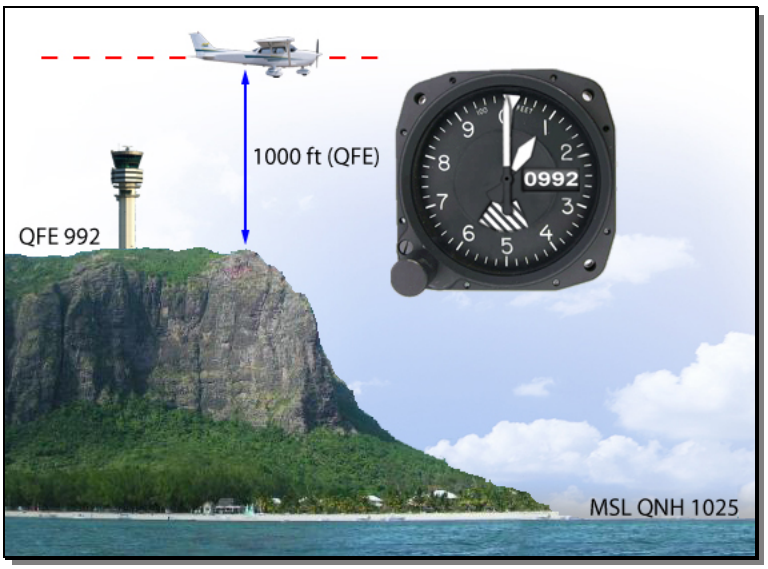
Rotating the millibar adjustment knob again, to show 1013 millibars in the Kollsman window, this will now cause your altimeter to show a Pressure Altitude (for pressure altitude you must reference 1013)



Pressure altitude (PA) is used on performance charts, working out True airspeeds (TAS).

Whilst on the ground at an airfield and rotating the millibar adjustment knob so that the three pointers read 0 on the altimeter face, the Kollsman window will show the QFE (the actual pressure at that elevation).

Though QFE is not used very often, once set, the altimeter will display your height above that airfield.



Eg: If carrying out circuits the altimeter will read 1000ft above ground level (AGL)