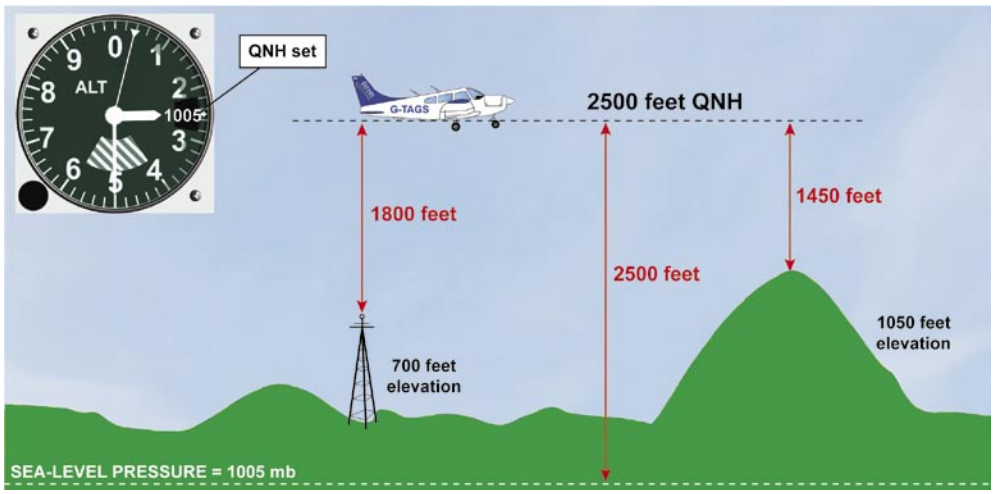

Figure 19.4 Flying cross-country at 2500 feet with QNH set.

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.

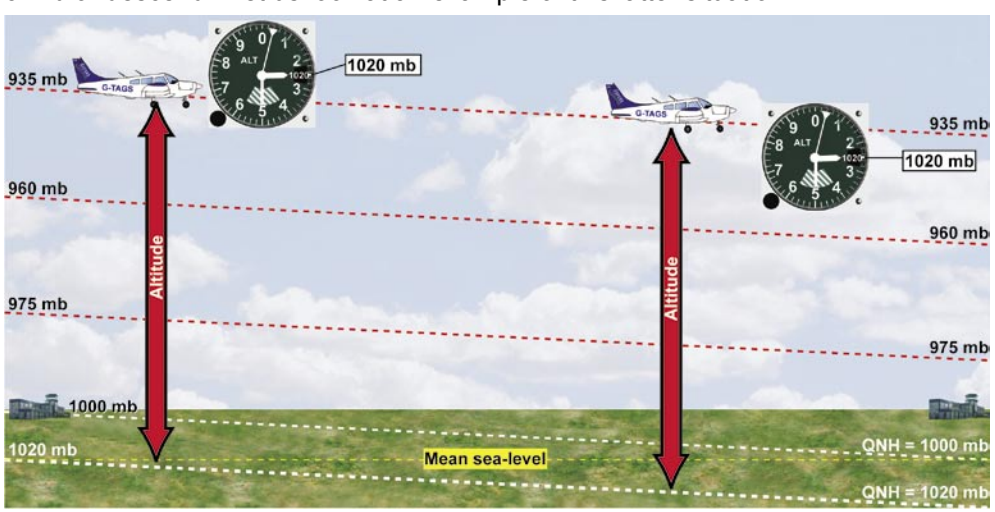

Figure 19.5 When flying into a region of falling atmospheric pressure while maintaining a constant altimeter subscale setting, the aircraft descends.

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**,