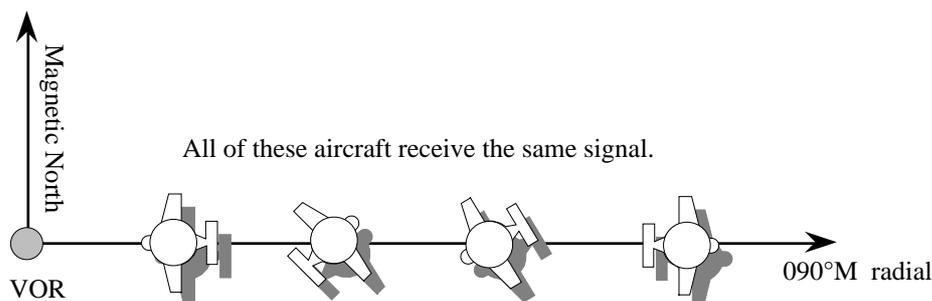


THE VHF OMNIDIRECTIONAL RANGE [VOR]

The VOR ground station provides magnetic bearings from the ground station by transmitting VHF radio signals in such a way that the characteristics of the signal change through 360° around the transmitter. This produces 360 'radials' each with its own unique characteristics. The signal transmitted to the east of the station, ie along the 090°M outbound track, or radial, cannot be received from any other direction. Whenever the aircraft's equipment receives that particular signal it fixes its position as being somewhere on the 090 radial ie somewhere east of the station. Note that the actual heading of the aircraft will have nothing to do with the signal that is received [Fig 123].

Fig 123



Once it has identified the signal being received, the instrument compares it with the direction the pilot has set on the Omni-Bearing Selector [OBS].

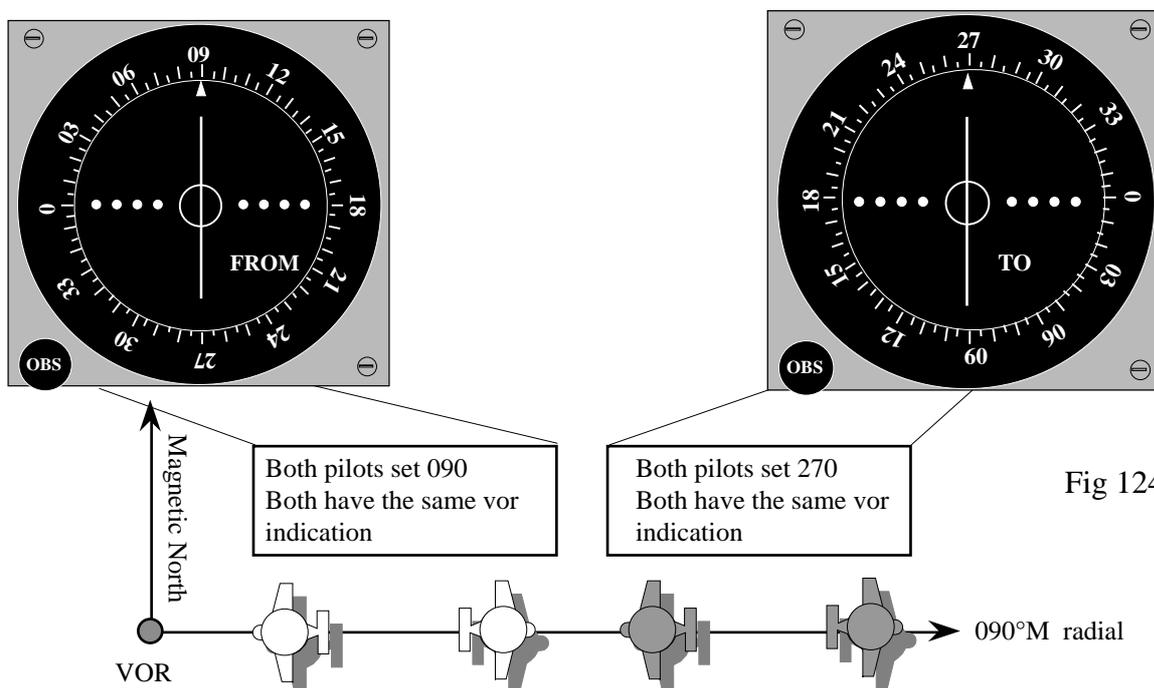


Fig 124

If the OBS setting is the same as the signal being received, the Course Deviation Indicator [CDI] will centre to indicate that the aircraft is on the selected track and the flag will show FROM to indicate that flying that OBS setting will take the aircraft away from the station.

If the OBS setting is the reciprocal of the signal being received, the CDI will centre and the flag will show TO to indicate that flying that OBS setting will take the aircraft towards the station. Once again, the indications are independent of the aircraft's heading [Fig 124].

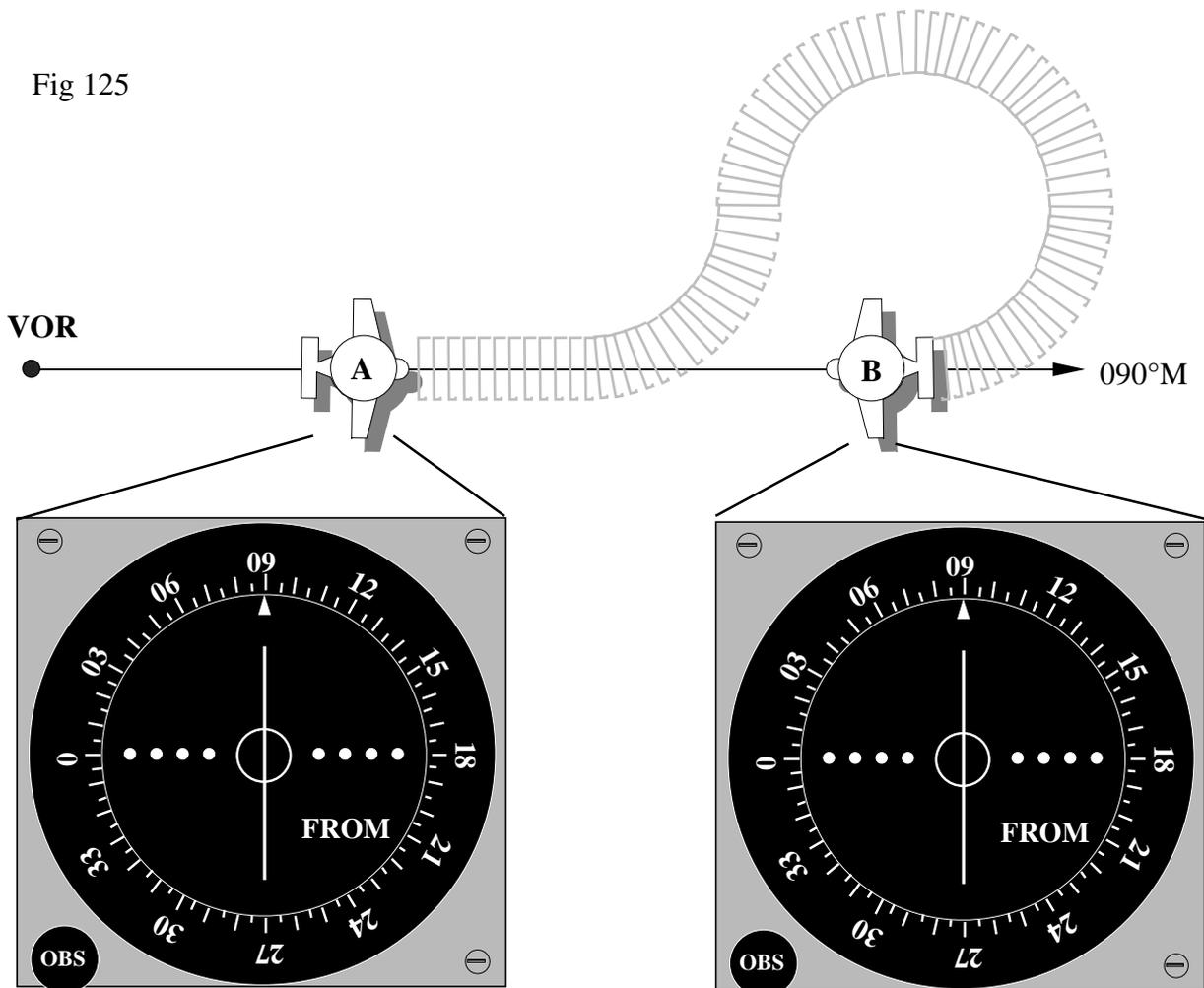
A common misconception about the VOR.

Although the VOR, or OMNI as it is sometimes called, is a simple instrument to use, beginners can get into all sorts of bother if a few basic principles are not fully understood. Here is a common misconception that you should make sure you are clear on.

Misconception: The To/From indication will change if you turn onto a reciprocal heading.

This is not correct. The VOR indication is completely independent of the aircraft's heading. The VOR TO/FROM indication will not change unless you reset the OBS to the track you intend to fly. The instrument does not know if you turn around unless you tell it!

Fig 125



The aeroplane at position A is tracking away from the station with 090 set on the OBS. The aircraft is on the 090°M out-bound track so the CDI is centred and the flag shows 'FROM'.

The pilot turns the aircraft to place it at position B on the same track but inbound to the VOR station. If no change is made to the OBS setting the VOR will assume that the aircraft is still facing in the original direction and the instrument indication will not change.