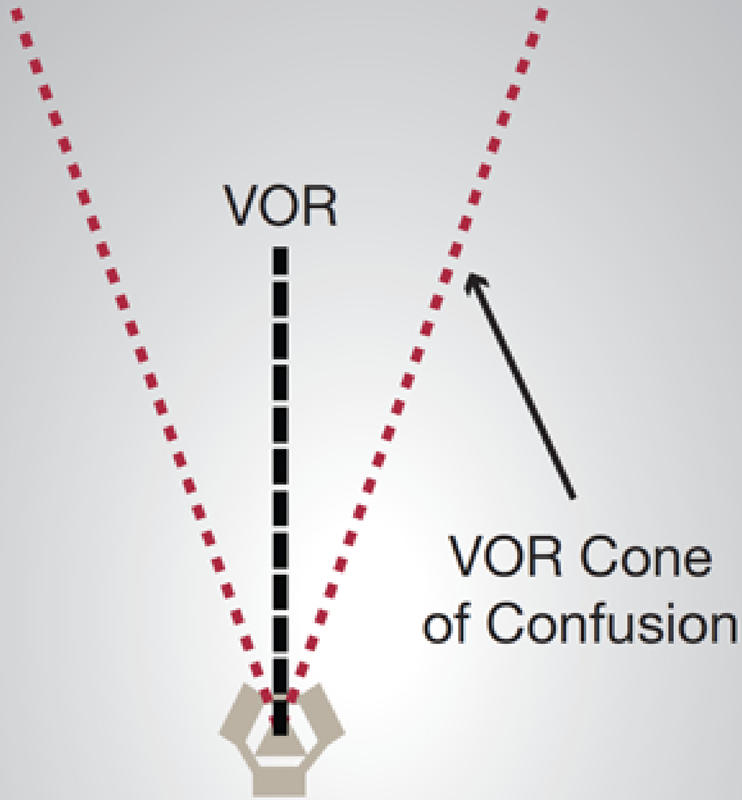
CONE OF CONFUSION

Remember the cone of confusion? As you approach the VOR station, and the beams get narrower and narrower, the CDI may move rapidly off center. As you pass over the station—within a mile or so, more higher up, or less when closer to the surface—your nav radio doesn't receive a signal at all. In this "cone of confusion," the VOR indicator will not be accurate. It's up to you to know when you're getting close to station passage so you won't try to chase the very narrow beam widths and hold a heading as you cross over the station (unless you're picking up a new radial, in which case you'll turn to intercept the new course as you enter the cone of confusion.

Variable course width and the cone of confusion create two challenges for nav-coupled autopilot operation. Within 10 nm or so of the station, beam widths narrow and an autopilot will begin rapidly bracketing the course. This can create very uncomfortable "tail wag" in the airplane as the autopilot banks back and forth to try to stay on the beam. Once you enter the cone of confusion proper, the autopilot doesn't know which way to go. Consequently, it's good practice to use autopilot NAV functions at some distance from the VOR station, but then switch to heading hold within about 10 miles of the transmitter.



HSI Indications:
- Bearing pointer removed
- CDI removed
- Numeric bearing removed

At station passage, bearing pointer, CDI and other data reappear upon exiting the cone