

# 5. VOR, DME and basic procedures

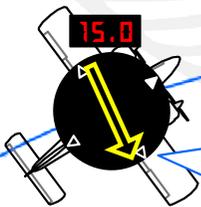
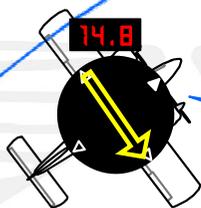
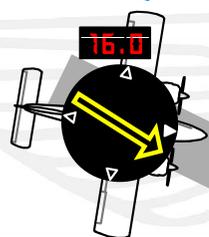


## d. The DME Arc

Aim	• To learn to intercept and track a DME arc	Airmanship	• Current charts, Instrument ground checks, FREDAs, S-I-D	Performance	• +/- 1nm, +/- 5°, +/- 5kts, +/- 100'
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### Air Exercise : EGHH 15nm DME arc

1. Select and identify the directional facility collocated with the DME (VOR or NDB), and display the bearing on the RMI (BIA 339)
2. Select and identify the DME (IBH 110.5)
3. Turn towards the facility, using the RMI needle to track directly to it



4. Use 0.5nm as the lead-in distance at 120kts
5. Nearing 15.5d, set the heading bug 90° left or right (as appropriate) of the heading direct to the facility
6. At 15.5d, turn at Rate 1 onto the heading bug

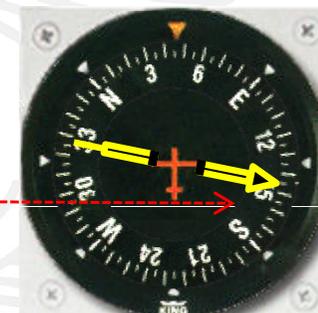
7. Monitor the turn to roll-out at exactly the desired DME arc distance
8. If needed, use an intercept of 10° per 0.1nm; for example if at 15.2d, you still have 20° to turn, hold the 20° intercept until 15.1d, then reduce the intercept to 10° etc  
*Note: dip error is small when the NDB is abeam the aircraft, so it may be ignored when intercepting a DME arc, and, of course, there is no dip error if following a VOR-DME arc*

9. Track along the arc by keeping the RMI needle exactly abeam the aircraft heading; making tiny heading changes towards the facility as you progress along the arc. For example, at 120kts on a 15nm arc, you will be turning approximately 1 degree per minute.

10. Make corrections by steering away from the head of the needle if the DME distance is too low and vice-versa. If too close, note that the arc is curving towards you, so use a smaller 5° heading correction per 0.1nm distance error

11. A drift correction will mean that needle is not kept on the beam mark of the RMI. If the drift assessed heading is away from the facility, the needle will be aft of the beam mark and vice-versa

Wind 310/20



RMI VOR needle not illustrated

*Note: A DME arc may be flown, if required, without the aid of a collocated directional facility. In this case, track towards the DME station using an estimated position and heading. When approaching the arc distance, turn 90° left or right (as appropriate). Use the DME distance changes to judge corrections, adjusting as required. The DME displays ground speed towards or away from the station, so a very low DME G/S may be used as an indication of a heading along the DME arc. However, note that the speed readout in this situation will lag heading changes, have an error of +/- 10 kts, and not indicate whether speed is to or from the station.*

15 DME arc IBH

