

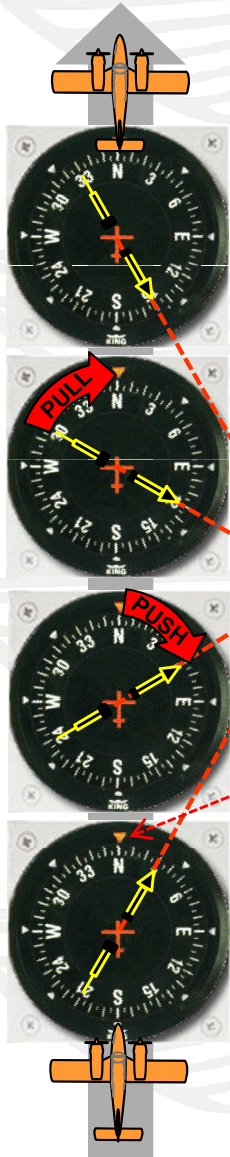
6. NDB tracking, holds and procedures



b. NDB tracking introduction

Air Exercise (i) : Judging intercept and correction headings

Illustration of "pushing the head" and "pulling the tail" of the needle



Using this understanding of how the needle moves on any given heading, a suitable intercept heading to achieve a desired QDM or QDR may be determined (see examples)

Similarly, the tail of the needle is "pulled" around the compass card **towards** the heading reference

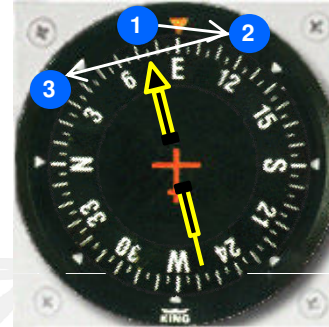
339 BIA

One can imagine the small orange reference airplane in the centre of the RMI moving forward, and the needle, pointing to its fixed ground station, thus being pushed around

Aircraft heading reference

In still air and on any given heading (other than directly to or from the beacon) the head of the needle will always be "pushed" around the compass card away from the aircraft heading reference

- Heading 090, QDM 075
- Desired track is QDM 120



- Heading 035, QDR 255
- Desired track is QDR 180



- Heading 080, QDM 060
- Desired track is QDM 080



Track Intercept example 1

1. Identify current QDM: 075
2. Note desired QDM change (in the shortest direction): needle head needs to be pushed right by 45°
3. Determine the intercept heading (eg. 60°) referenced from the desired QDM in the opposite direction to the QDM change. If that is close to the current QDM (needle won't be pushed enough), use a larger intercept (eg. 90°)
4. Turn on to intercept heading (eg. $120-090^\circ = 030$)



Track Intercept example 2

1. Identify current QDR: 255
2. Note direction of desired QDR: needle tail needs to be pulled left
3. Determine the intercept heading (eg. 60°) referenced from the desired QDM and in the same direction as the QDM change required (left in this case)
4. Turn on to intercept heading ($180-060^\circ = 120$)



Track Correction example

1. Identify current QDM: 060
2. Note desired QDM change: needle head needs to be pushed right by 20°
3. Determine the intercept heading as twice the QDM change in the opposite direction (ie. 40° left turn) referenced from the desired QDM.
4. Turn on to intercept heading ($080-040^\circ = 040$)
(Correct in the same direction as the QDR change when tracking the needle tail)



- Heading 035
- QDM 075 being "pushed" to 120

- Heading 120
- QDR 255 being "pulled" to 180

- Heading 040
- QDM 060 being "pushed" to 080