

3. Tune the navigation instrument

In order to make the interception manoeuvre, you must tune the cockpit:

1. Tune navigation instrument using the VOR frequency 115.95 MHz
2. Set course (CRS) to 330° (wanted radial)



4. Navigation instrument study

There are two instruments which can be used to follow a VOR radial:

1. H.S.I.: Horizontal Situation Indicator
2. R.M.I.: Remote Magnetic Indicator

The HSI instrument is tuned using a specific course. When the needle of the instrument is centred in the instrument, the aircraft is on the selected radial which equals the course.

The RMI instrument is acting like an ADF. The needle always points to the station but the top of the instrument shall indicate automatically the current heading of the aircraft.

The RMI has two needles:

3. One needle for NAV1 or ADF1
4. Other needle for NAV2 or ADF2
5. selectors between ADF and VOR are present at the bottom of the instrument

The HSI has two needles for NAV1:

6. The green one
7. The blue one which acts like RMI.



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5. Intercepting the VOR radial

After the instrument tuning, you can follow the progress of interception following the needle on the RMI instrument.

1. Progressively the needle of the RMI will turn toward the wanted course direction or the opposite course direction ($\text{course} \pm 180^\circ$).
2. When you arrive in position close to the radial, the needle of the HSI instrument is moving towards the centre.

If you don't know the distance from the beacon, do not anticipate interception turn or you can intercept the VOR radial very far from your position.

For efficient radial interception, we advise to cross the radial first.



6. Radial Crossing

With maintaining heading, you will normally cross the radial.

1. The needle on the RMI instrument shall point to the VOR course or opposite course direction ($\text{course} \pm 180^\circ$). The needle points toward the beacon.
2. The needle on the HSI instrument is centred
3. Note the TO/FROM indicator which points toward the beacon (green triangle)

At this time, if you want to follow radial 330° outbound the VOR, you shall turn your aircraft to 330° heading.

And, if you want to follow radial 330° inbound, you shall turn your aircraft to 150° heading.



9. At interception heading

When you are at interception heading, you will intercept again the radial but with a lower angle:

1. As you are on the interception angle, you must see that the needle is going to the centre of the HSI.
2. When the needle of HSI is just near to the centre, it is time to turn the aircraft onto the radial.
3. Turn to heading

The exact instant for the last turn is sometimes difficult to know. If you are close to VOR (DME<40NM), then you can initiate the turn when the needle reaches ½ dot deviation. If the distance is higher, you must wait until the needle is near to the centre.



10. Following the VOR radial

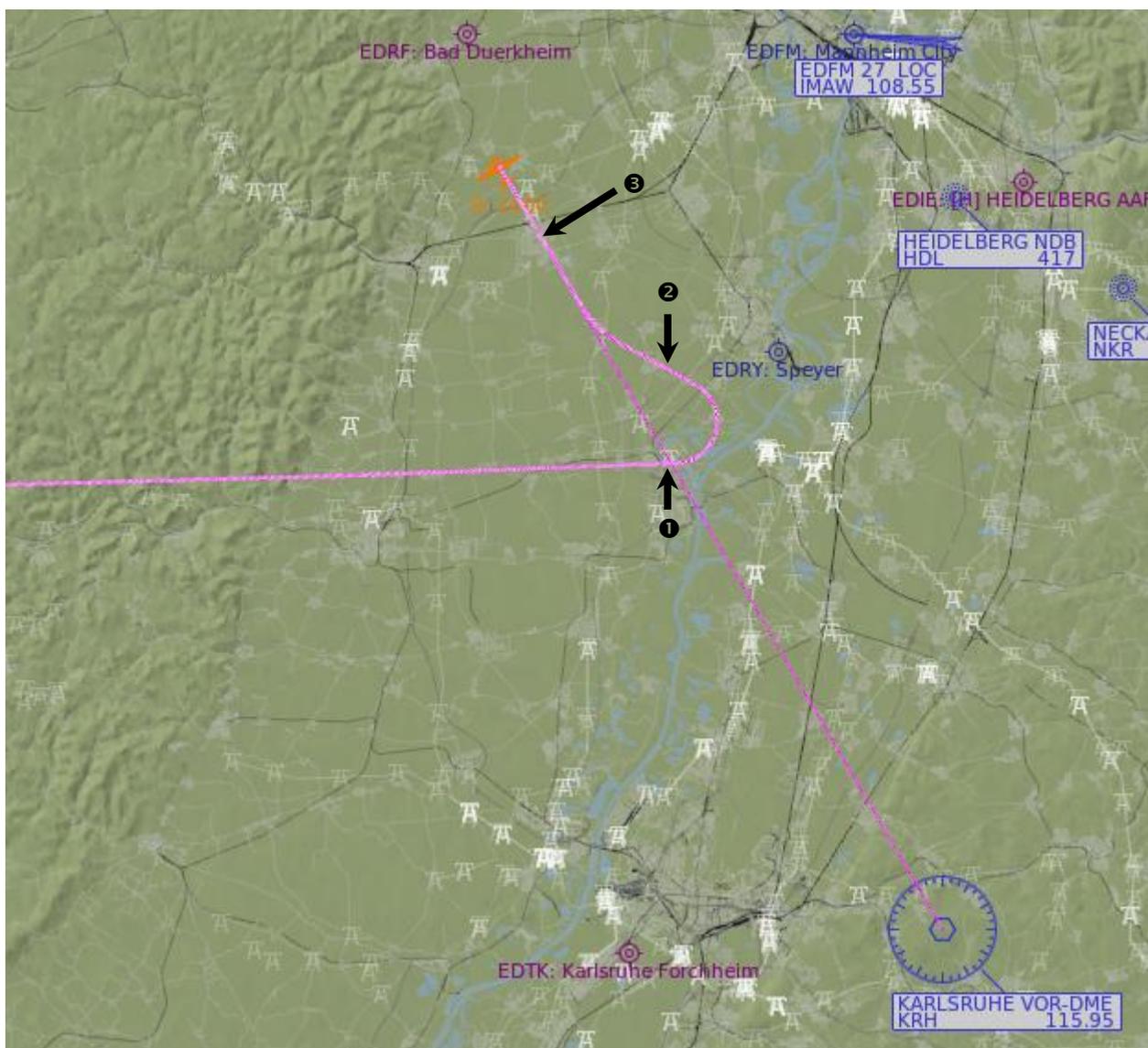
In this picture, you can see that radial 330 of the wanted VOR is intercepted and you start to follow this radial:

1. The RMI instrument points toward the beacon. As we fly outbound VOR, the RMI shall point to the south like the image.
2. Needle in HSI instrument is centred and the heading is the wanted course (330°) as we fly outbound.
3. The TO/FROM indicator on the HSI shows FROM as we follow the radial outbound.

When following the radial, you must take into account the crosswind effect. The heading shall be adjusted as necessary in order to keep the needle of the HSI centred.



11. Final result of VOR outbound radial interception



In this picture, you will find:

1. 330° VOR Radial crossing when maintaining initial heading (chapter 6)
2. 330° VOR Radial interception procedure using the 30° interception angle (chapter 9)
3. 330° VOR Radial following (chapter 10)

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