

FSX Helicopter Auto Pilot (HAP) Gauge – Training mission 1

Trainings mission 1 – Cockpit familiarization and hovering

First things first, lets get familiar with the Blue Bells206B cockpit, instrument panel and her start-up sequence. This way you can apply the theoretic basic from this manual straight into (virtual) reality.

I'll take you first through the “cold and dark” start-up sequence, so you simulate “as real as it can get” in FSX.



This is the default standard 3D forward view

Fig. 1 - 3D Cockpit forward view (Zoom 0.30)



BELL206B 3D cockpit with helicopter controls:

- Red Yoke
- Orange Throttle
- Yellow Collective liver
- Green Pedals

Fig. 2 - 3D Cockpit Overview



This is the standard 2D/flat cockpit view:

- Press **[Shift][9]** gives an overview of all panels
- Press **[Shift][3]** for the Compass
- Press **[Shift][5]** for the Throttle
- Press **[Shift][7]** for the HAP gauge panel

Fig. 3 - 2D Cockpit with panel overview



Fig. 4 – 2D panel with Collective liver, Throttle, Compass and HAP gauge

Now we all setup and familiar in the 2D cockpit, lets start the chopper – “cold and dark” style.





Fig. 5 – BELL206B Procedural Checklist



Press [Shift][F10] to display the Bell206B checklist in the FSX knee-board.

Here you can read the steps you'll need to take in order to get the chopper “ready-for-take-off”.

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	<p>Press the [Red Master switch] – to turn on all electric power.</p> <p>>> Instrument panel comes alive.</p> <p>>> Annunciator lights start to burn.</p> <p>>> Fuel Quantity meter shows amount of fuel.</p>
	<p>Press the [White Avionics switch] – to power the Bell's Avionics.</p> <p>>></p>
	<p>Turn on the [Fuel pump switch]:</p> <p>>> Low RPM warning lights up.</p> <p>>> Rotor RPM gauge comes alive.</p>
	<p>Set throttle to Full to gain maximum RPM and/or Press [Ctrl][F4].</p>
	<p>Throttle fully open, maximum engine RPM.</p> <p>>> Rotor RPM gauge turns to max.</p>



	<p>Press [STAB] to turn on the HAP-gauge.</p>
	<p>Press [F/TDN] to engage HOVER_MODE: >> HOV indicates HOVER_MODE. >> 136 is the current heading. >> HHT = Hover HeigHT. >> 20 (ft) is the current hover-height-altitude.</p> <p><i>Note:</i> <i>HHT is automatically set to 20 ft above ground level.</i></p>

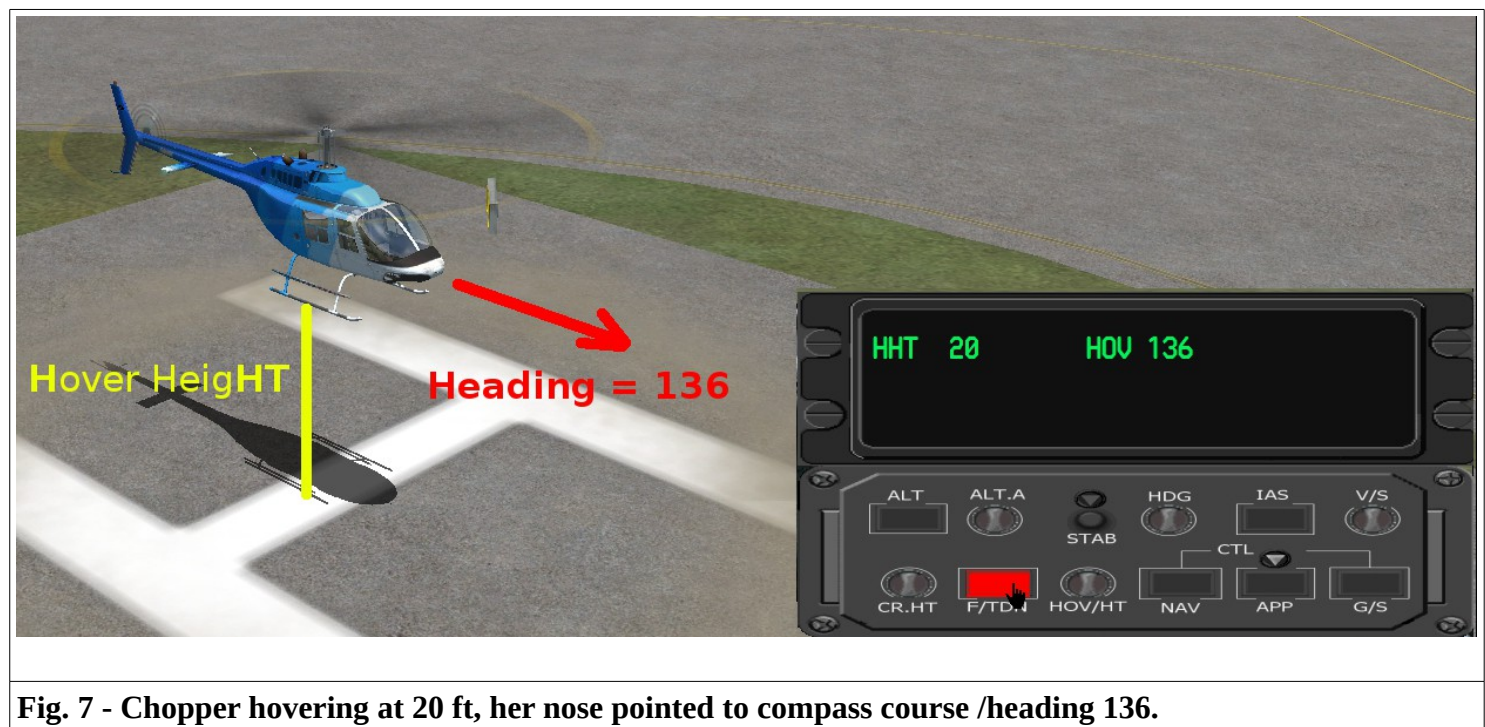


Fig. 7 - Chopper hovering at 20 ft, her nose pointed to compass course /heading 136.



Fig. 8 – Press [CTRL][SHIFT][Up Arrow] to hover forward to the edge of the helipad.



Fig. 9 – Press [CTRL][SHIFT][Down Arrow] to hover backwards to the other edge of the helipad.



Fig. 10 – Press [CTRL][SHIFT][Left Arrow] to hover left to the edge of the helipad.



Fig. 11 – Press [CTRL][SHIFT][Right Arrow] to hover right to the other edge of the helipad.

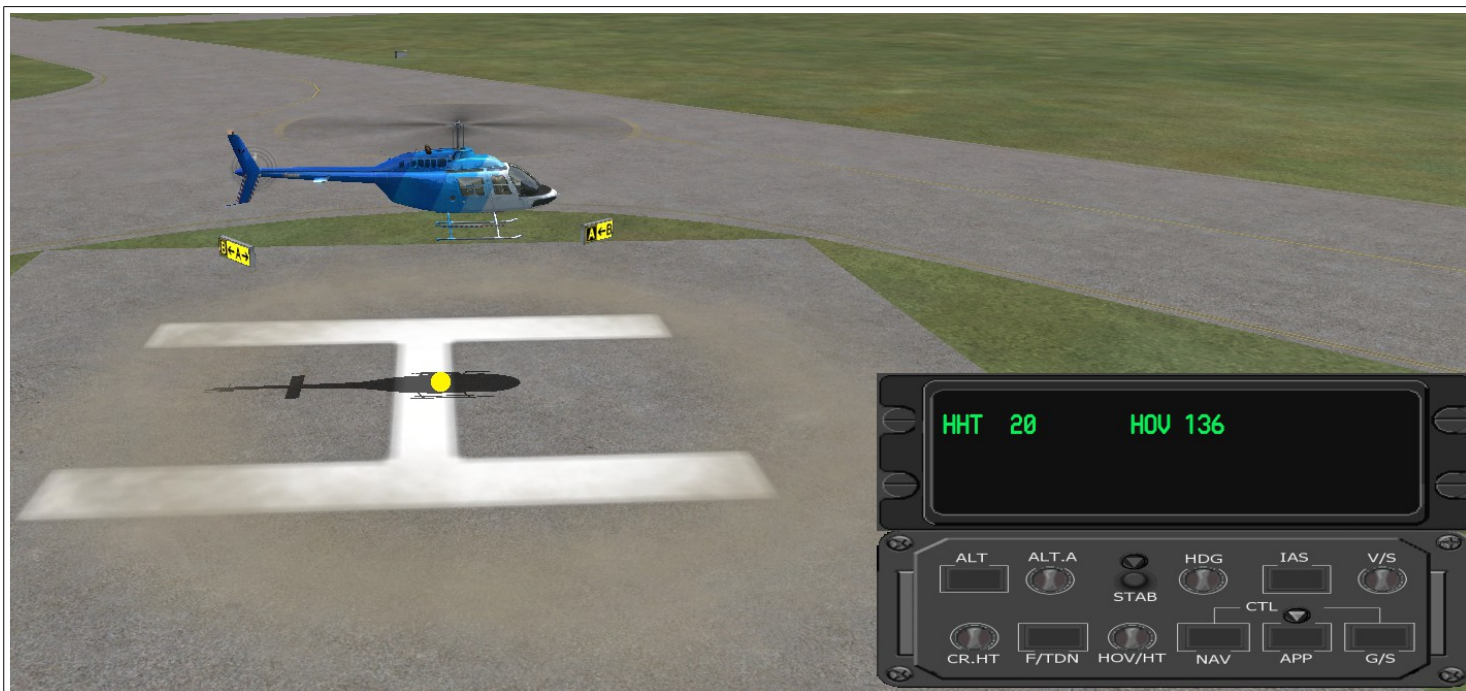


Fig. 12 – Hover back to the center of the helipad.



Fig. 13 – Set HDG to 143 to hover to KMXF's tower to take a closer look.



Fig. 14 – Set [HHT] to 90 to take a “level look” at the ATC work floor.

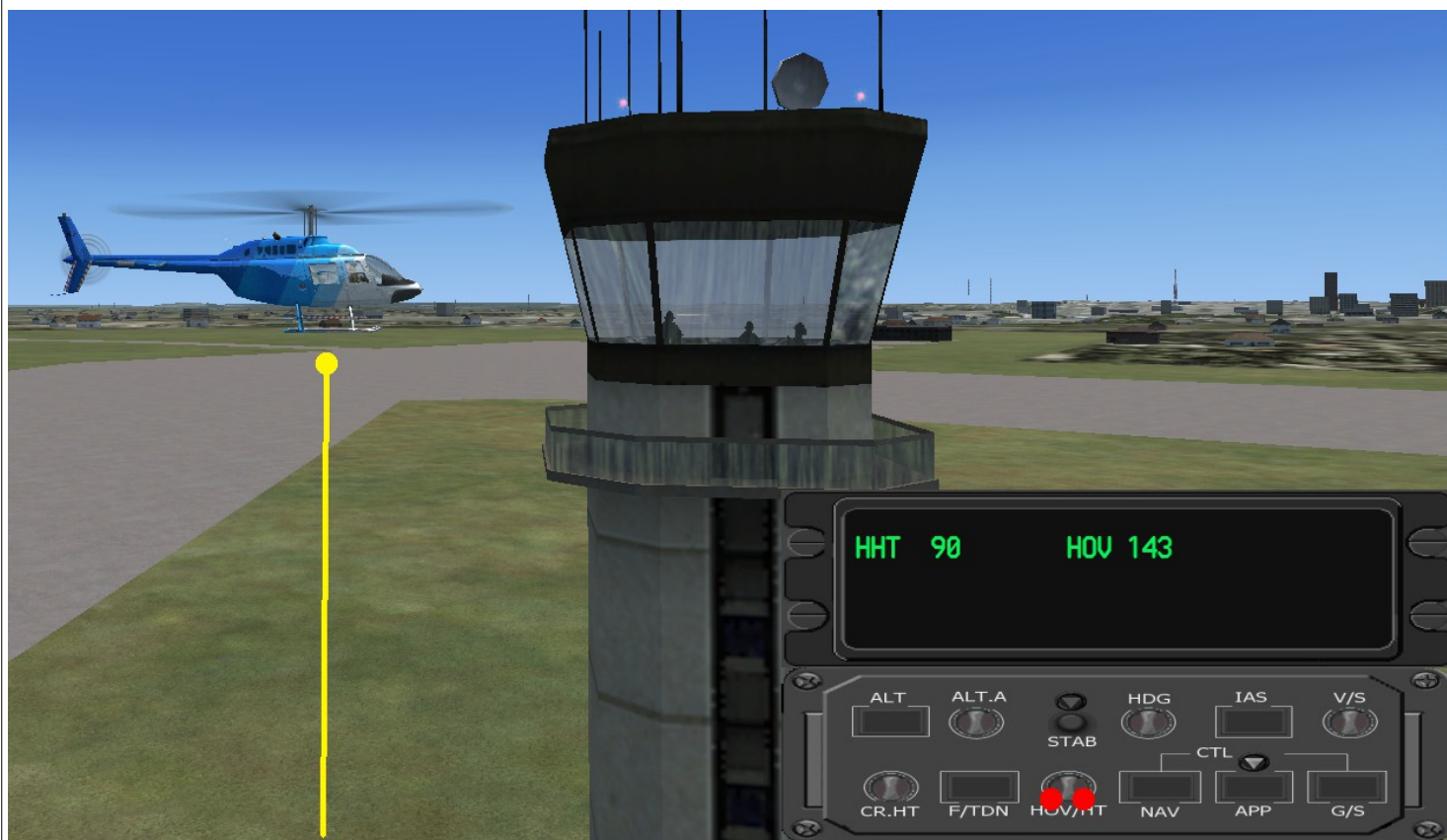


Fig. 15 – Set [HDG] to 143 to make a 180 turn and hover back to the helipad, using the taxiway.

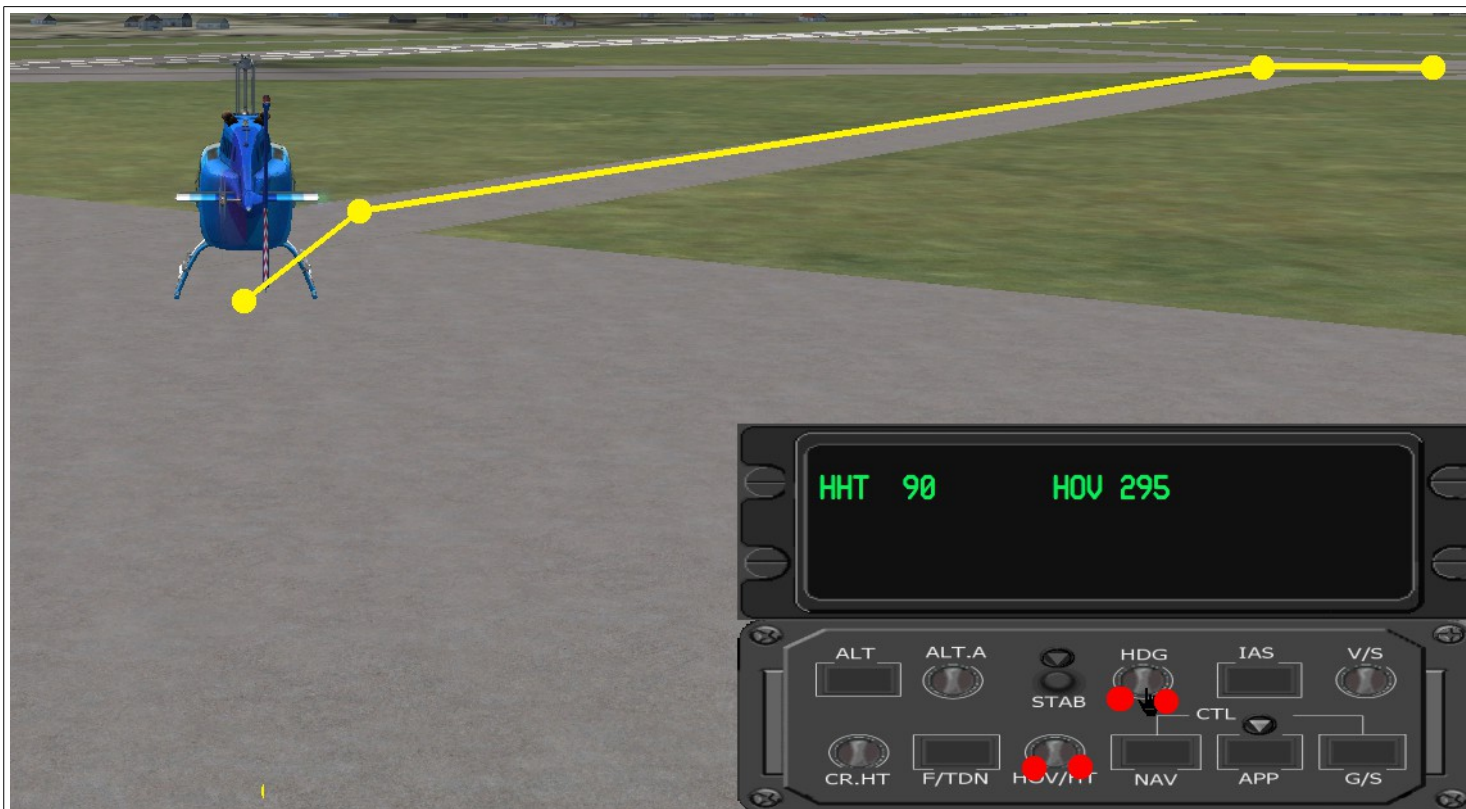


Fig. 16a – Set [HDG] to 295 to hover to the start of the taxiway.

Fig. 16b – Set [HHT] to 30 to descend to 30 ft above the ground.

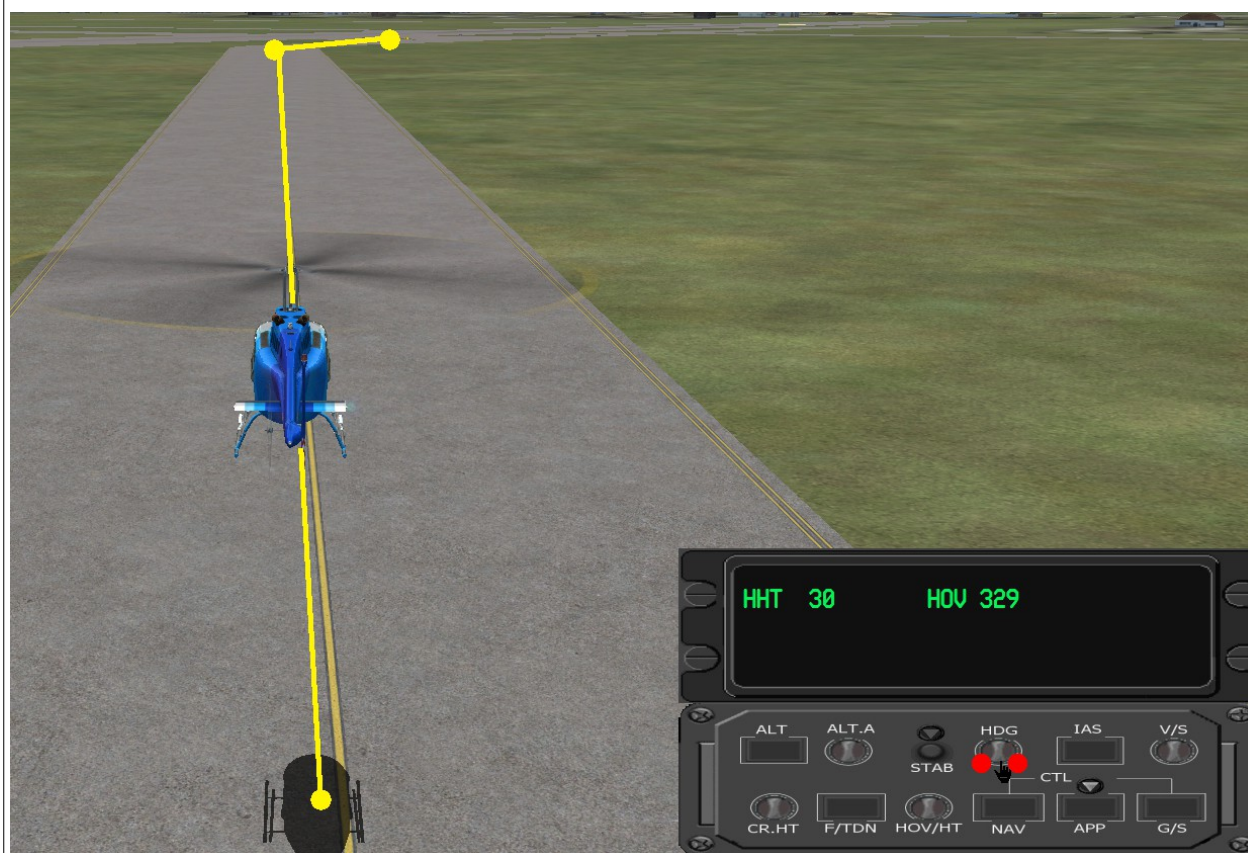


Fig. 17 – Set [HDG] to 329 to follow the taxiway back to the helipad.

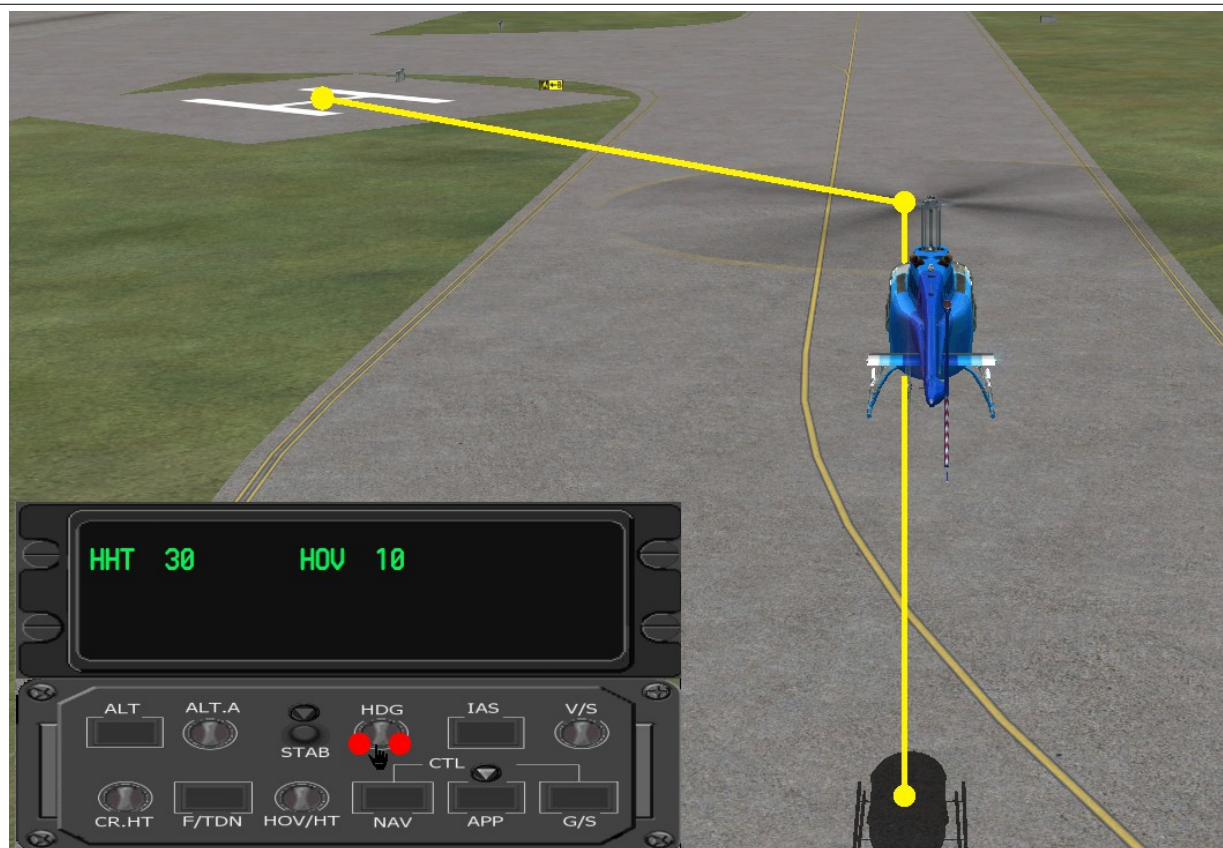


Fig. 18 – Set [HDG] to 010 to follow the rest of the taxiway to reach the helipad.

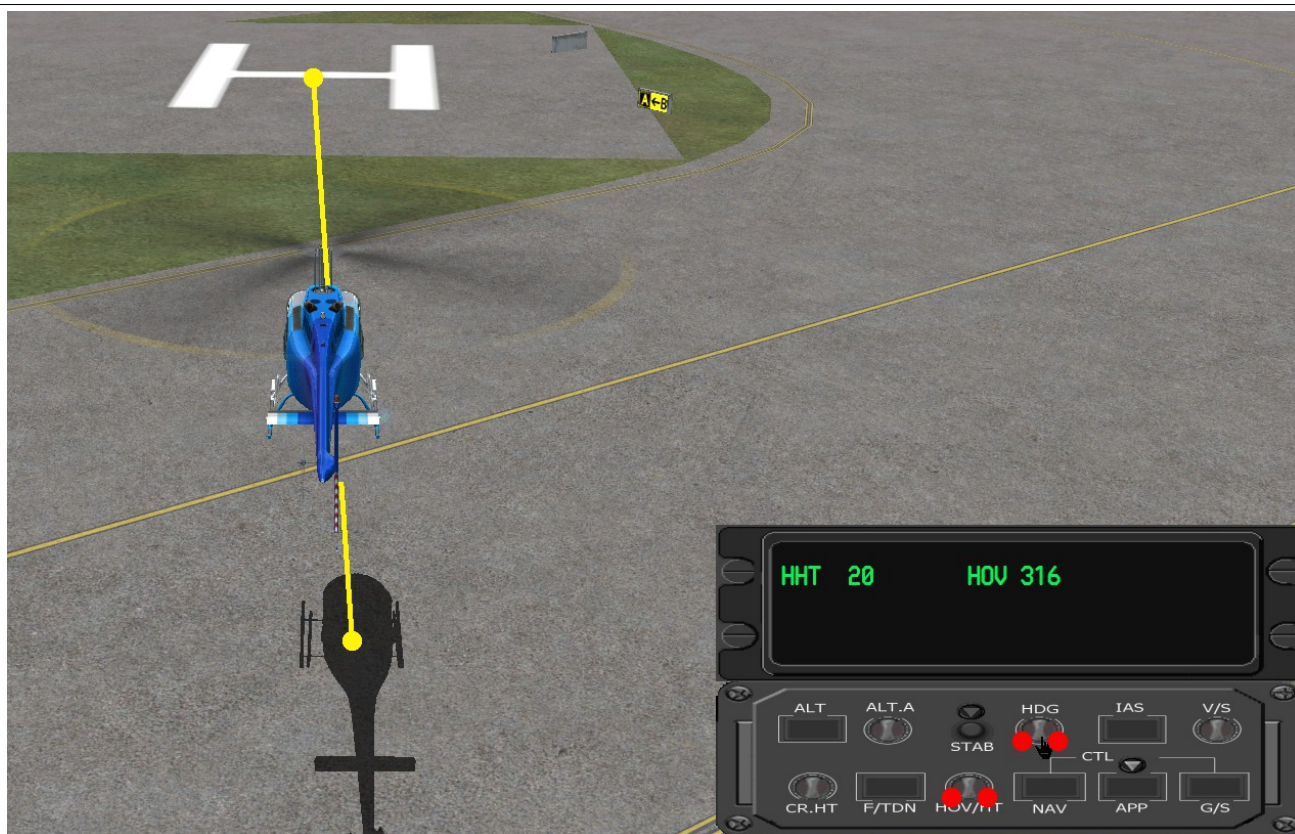


Fig. 19 – Set [HDG] to 316 to arrive at the center of the helipad.

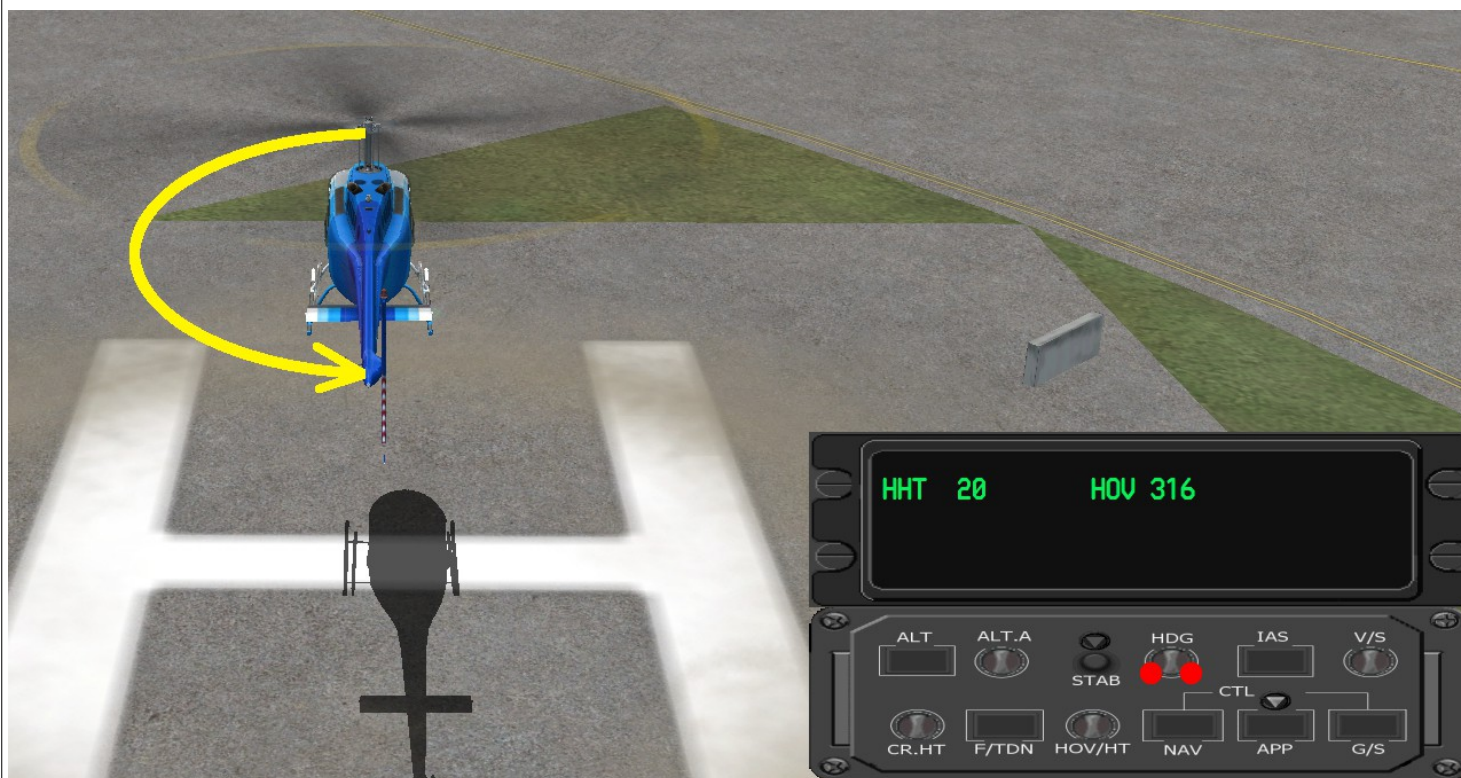


Fig. 20 – Set [HDG] to 316 to rotate 180 degrees, back into the position you started your hover-tour.

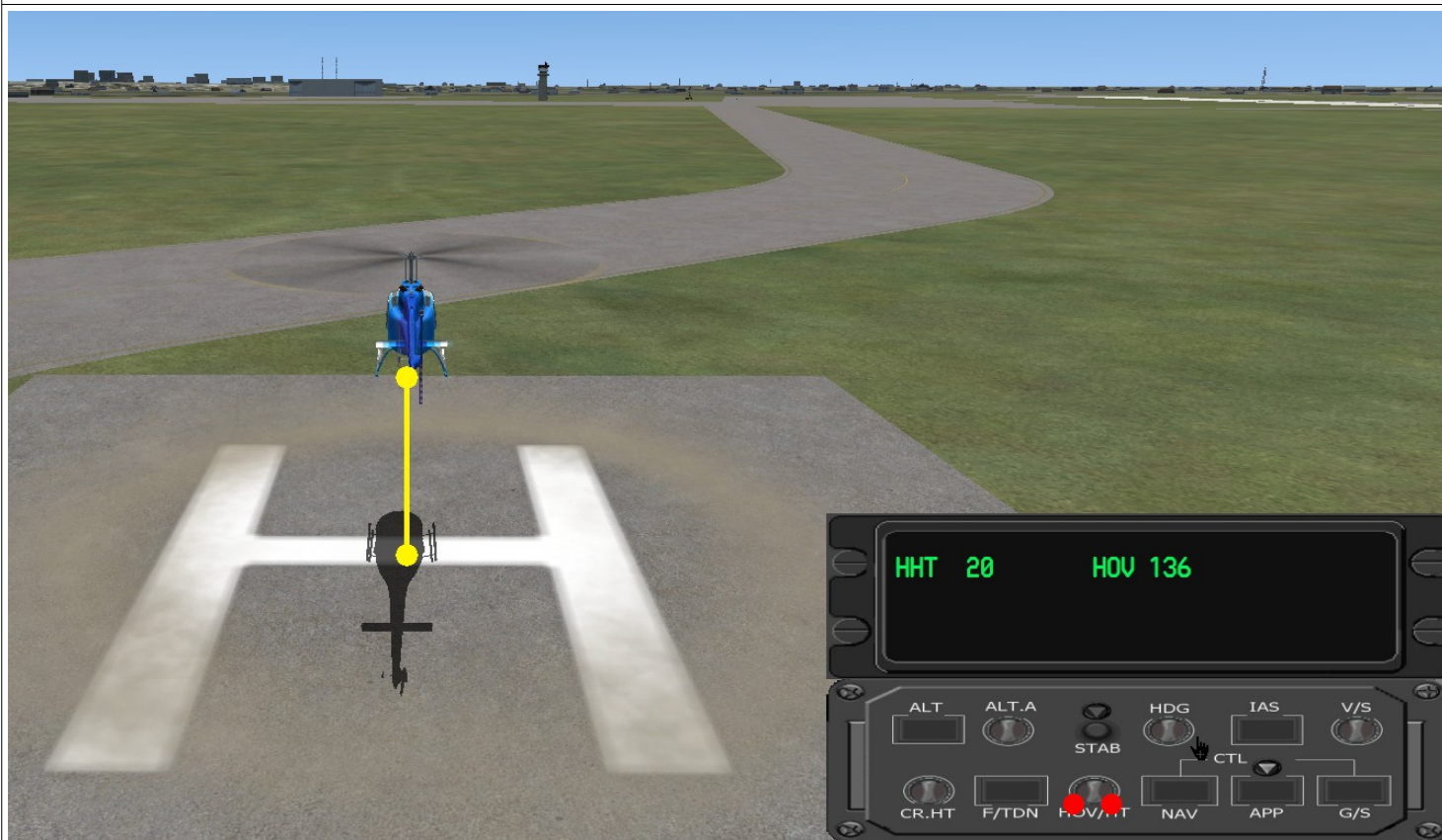


Fig. 21– Set [HHT] to 0 to slowly descent back onto the helipad.

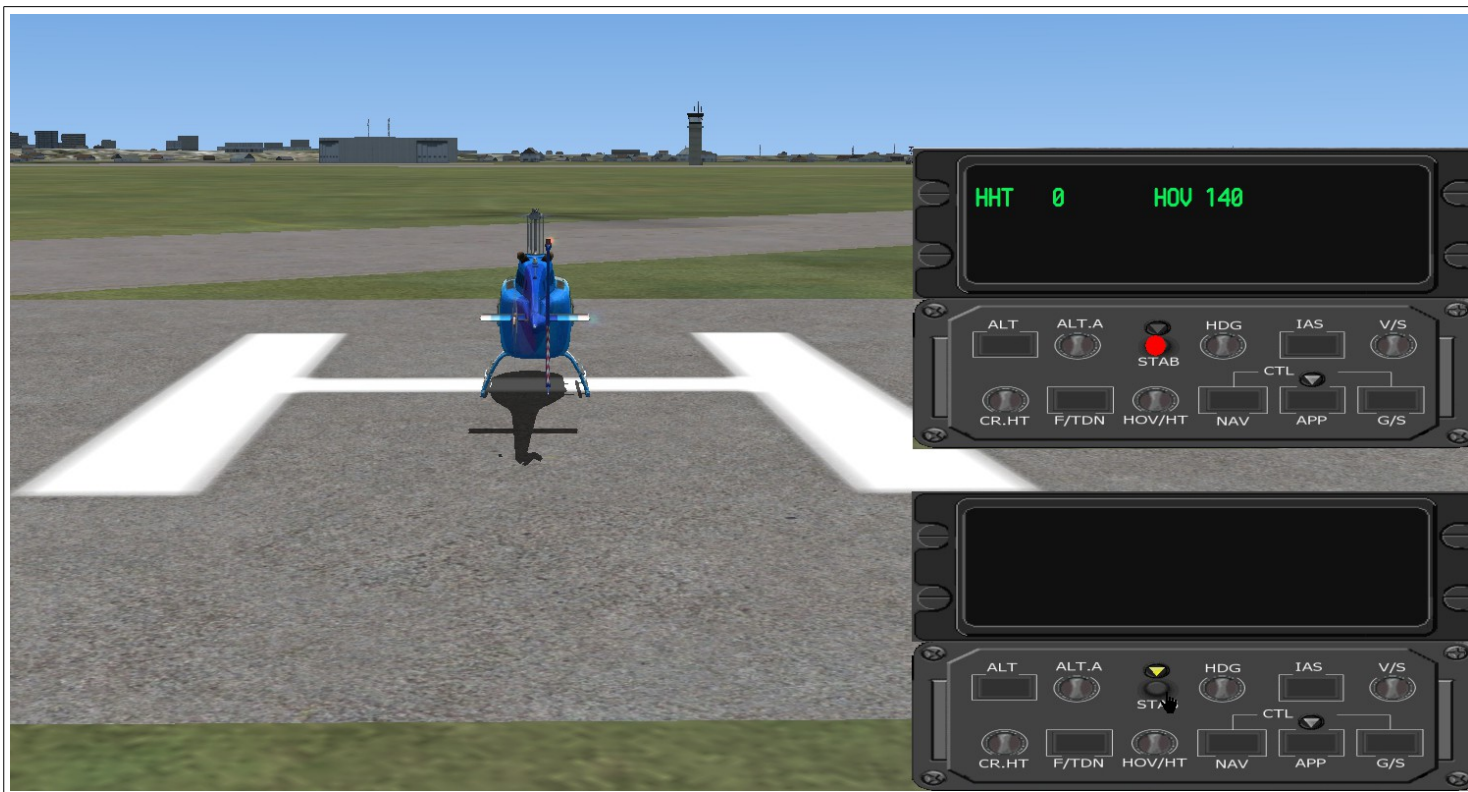






Fig. 22 – Press [STAB] to turn off the HAP gauge again.

Congratulations, you have just completed your maiden HAP flight with the Blue Bell206B :-)
Now lets shut down the chopper and put it in “cold and dark” condition for the next training mission.

BELL206B Helicopter shutdown sequence:	
	Set throttle to Closed / Press [Ctrl][F1] >> Engine RPM goes down to idle.
	Turn off the [Fuel pump Switch] >> Engine is cut off, goes out.
	Press the [White Avionics switch] – to power down the Avionics.
	Press the [Red Master switch] – to turn of all electric power.

LESSON 1 SUMMARY:



Fig. 11 - Relation between the HAP-gauge and BELL206B flight controls (Yoke, Collective Liver)

As you have experienced now, the HAP was used in this lesson to:

- Control the Hover Height of the helicopter.
- Control the Heading of the helicopter.

See Fig.11 above to understand the relation between the HAP-gauge and the helicopter (cockpit) flight controls.

Note:

I will keep referring to this document for the start-up and shut-down sequences of the Bell206B Helicopter.

End of training mission 1