

Recovery helicopter AS350

-

Genesis Mission



1/ Explanation of different data in cockpit mode



Green Side-bar: Raised / Lowered position of the grappling-hook.

Delta lon / lat / alt : Difference of degrees of longitude, latitude and altitude (in meters). This mode is active only if the Genesis SRC parafoil has been deployed.

Current Flight Mode : Indicates current auto-pilot mode (*Stationary, Normal, HeadingHold, Suivre Cap(Go To Heading), Autopilot Altitude*)

Cap Requis(Required Heading) : Displays the heading to Genesis SRC parafoil. This mode is active only if the Genesis SRC parafoil has been deployed.

2/ Use Of as350

Note : change view internal / external by pressing « F1 »

First of all, to start the turbojet of as350, press the key " K ". No maneuver is possible before the rotors are up to speed (40 seconds), the throttle will not respond during this time. (Press " K " again to stop the engines.)

Press " **SHIFT-L** " to turn on navigation lights and internal cockpit lighting.



To raise / lower the grappling-hook, press " **SHIFT-P** ".

Once the motor is completely started, you can take off. There are several flight modes:

Mode " **Heading Hold** ": This mode allows you to manoeuvre the helicopter in a completely free way. In effect, lateral displacements are possible while maintaining your heading.

```
delta LON : 0.000000
delta LAT : 0.000000
delta ALT : 0.000000

HEADING HOLD
CAP REQUIS : -1.#IND00
```

Mode " **Normal** ": Realistic Helicopter flight characteristics with anti-coupling. Banking the helicopter will cause it to turn, the nose will follow the direction of flight.

```
delta LON : 0.000000
delta LAT : 0.000000
delta ALT : 0.000000

NORMAL
CAP REQUIS : -1.#IND00
```

Press « **SHIFT-H** » to toggle between **Heading Hold** and **Normal** modes.

Mode " **Autopilote Altitude** " : can be used together with " **Normal** " mode.

Autopilot will maintain correct altitude to capture Genesis parafoil (between 15m and 20m above the capsule). In this mode, the pilot needs only to control direction of flight (good for less experienced helicopter pilots).

Press « **SHIFT-X** » to toggle **Autopilote Altitude** mode on / off.

```
delta LON : 0.000000
delta LAT : 0.000000
delta ALT : 0.000000

NORMAL
AUTOPILOTE ALTITUDE
CAP REQUIS : -1.#IND00
```

Mode " **Stationnaire** " : Completely automatic mode (no action possible by pilot). Quickly puts the as350 in stationary/hovering flight.

Press « **SHIFT-S** » to toggle **Stationnaire** mode on / off.

```
delta LON : 0.000000
delta LAT : 0.000000
delta ALT : 0.000000

STATIONNAIRE
CAP REQUIS : -1.#IND00
```

Mode " **Descente** " : Completely automatic mode (no action possible by pilot) Put down the chopper fast without a hitch (nulls airspeed, quick descent, perfect landing).

Press « **SHIFT-D** » to toggle **Descente** mode on / off.

```
delta LON : 0.000000
delta LAT : 0.000000
delta ALT : 0.000000

DESCENTE
CAP REQUIS : -1.#IND00
```

Mode " **Suivre Cap (Go To Heading)** " : Completely automatic mode (no action possible by pilot). Autopilot will return you to your heliport and land.

Press « **SHIFT-G** » to toggle **Suivre Cap** mode on / off.

```
delta LON : 0.000000
delta LAT : 0.000000
delta ALT : 0.000000

SUIVRE CAP
CAP REQUIS : -1.#IND00
```

3 / In flight



Here you can see the green side-bar indicates the grapple-hook is lowered and the delta long/lat/alt display shows the angular difference of longitude 0.007988° and latitude 0.001750° between the as350 and Genesis SRC parafoil. The difference of altitude is 11.23 m, showing that we are above the capsule. (Ideally, you should be between 15 and 20 m above the capsule to snag the parafoil with the grapple-hook. Otherwise, you will have to go around again).

Here the flight mode is " Normal " with " Autopilote Altitude " . We need only follow the Cap Requis heading (here, about 251°) even if the Genesis SRC parafoil is not in view.

In this screenshot, we are in the final stage of approach.



If recovery is successful, the helicopter and capsule will look like this. All that remains is to return to base!



The capsule is automatically released when it reaches ground level, the as350 is placed in “Stationnaire” mode.



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