

Hawaii (e) (V1.2)

Flight created 03/31/2023 (03.06.2023 English)
(Amended 10.07.2025, text error corrected.)

Estimated flight duration 1h15min.

Difficulty easy-difficult (depending on flight mode)

Mission: Complete the exam flight.

Introduction:

Conversation between you and your boss:

You: One question boss. How did you come up with the idea of carrying out self-financed aid deliveries or donating a helicopter to Lukla airport near Mount Everest?

Boss: Oh, that was a long time ago, I was a young student pilot on my exam flight when I had a key experience that showed me the joy of helping.

Instead of the further conversation, you will make a virtual time travel and will be put into the role of your boss.

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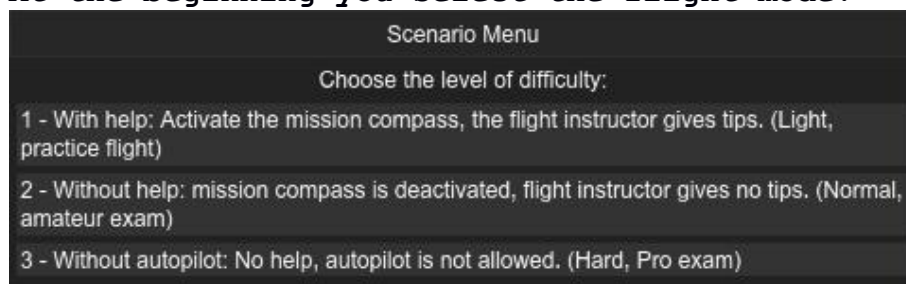
It is 10.08.1983, 15h30.

You are going to fly the exam flight of your current boss.

You are on the Big Island, part of Hawaii, at Hilo Intl Airport (PHTO).

The flight passes the "dormant" volcano Kilauea and ends at Kona Intl At Keahole Airport (PHKO).

At the beginning you select the flight mode:



1) With help: Activates the mission compass, the flight instructor gives tips. (Light, practice flight)
- The flight instructor gives tips on flaps, power, mixture, propeller speed, speed, course, altitude, steep turn, aerodrome turn, radio, etc..

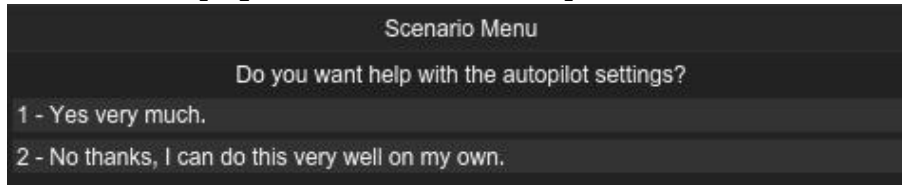
- He is also very tolerant of mistakes.

This is a practice flight, which runs exactly like the regular test flight.

The instructor will immediately tell you what you are doing wrong, so you can learn.

Use of the autopilot is allowed.

Here you can still choose later whether the flight instructor should help you with the autopilot:



2) Without help: mission compass is deactivated, the flight instructor does not give any tips. (Normal, amateur exam)

- The flight instructor does not give any tips, he watches you closely and notes every mistake.

- Only at the end of the flight he will tell you how well you flew.

This is the light test flight.

Use of the autopilot is allowed.

Maximum 4 errors are allowed.

3) Without autopilot: No help, autopilot is not allowed. (Hard, professional test)

- Again, the mission compass is disabled.

- The instructor will not give any tips, he will watch you closely and note every mistake.

- Only at the end of the flight will he tell you how well you flew.

- Furthermore, the use of the autopilot is not allowed.

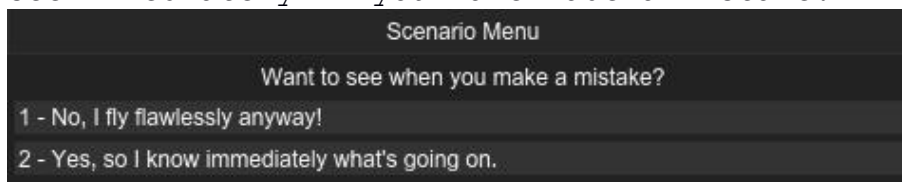
An accidental activation of autopilot functions will be recognized by the instructor and he will "grumble". You have only a few seconds to deactivate the autopilot.

This is the heavy test flight:

Use of autopilot is not allowed.

Maximum 4 errors are allowed.

At difficulty level 2/3 you can then choose whether you want to see immediately if you have made a mistake.



A counter is displayed in the upper right corner:



Important:

A volcano erupts during this flight.
The mission is designed for 8nm distance for the volcano eruption.
The "Special effects distance" should therefore be set to
"Medium", otherwise you will see the volcano erupt too early or
too late!

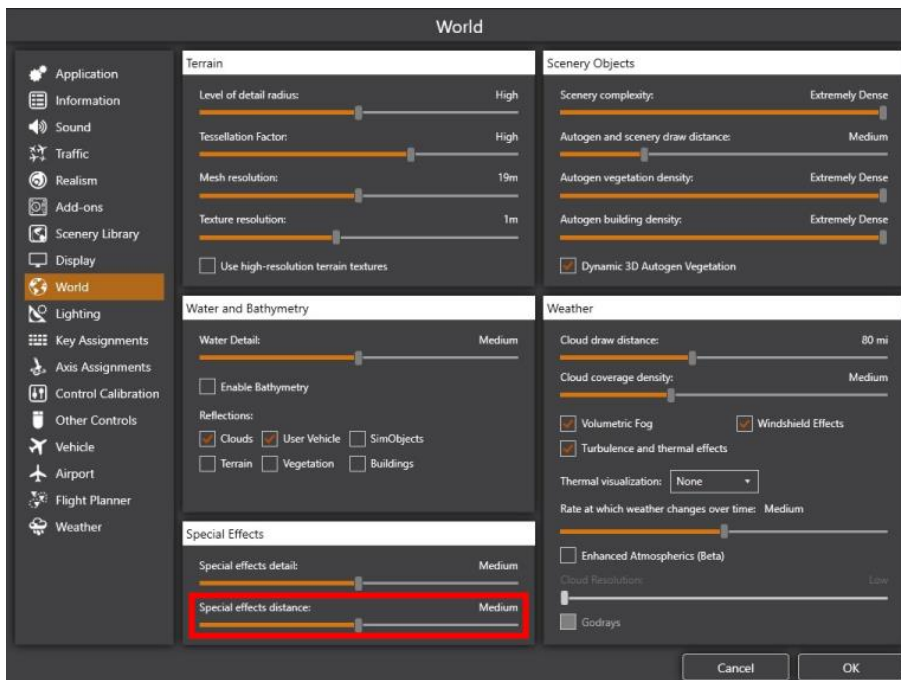
Select "Options" / "General" in the menu:



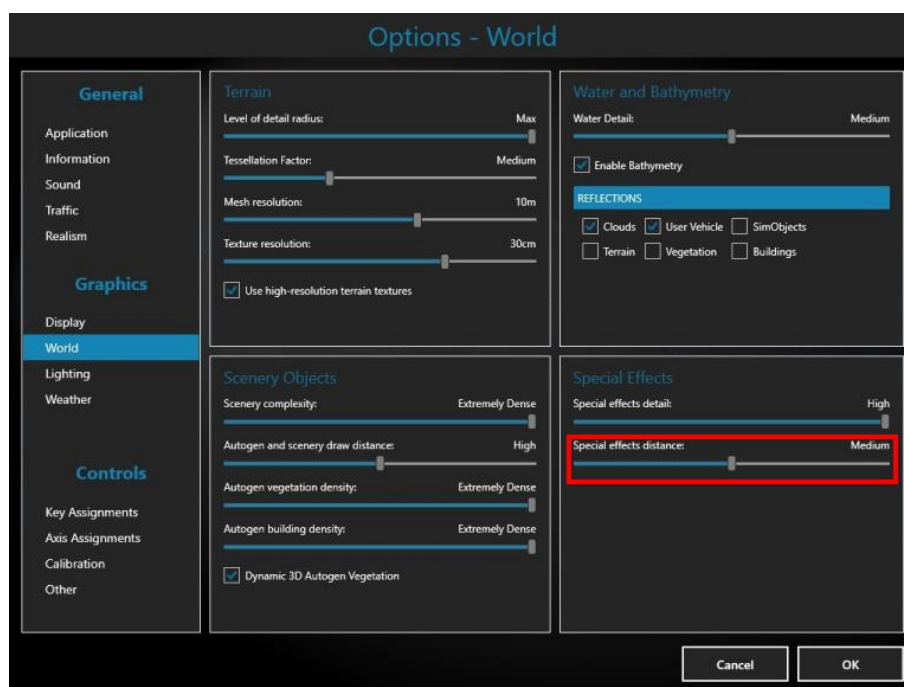
Switch to "World" and set the "Special effects distance" to Medium
(marked red).

Low= 4nm / Medium= 8nm / High= 16nm distance

P3d V5



P3d V4



Start

Turn on the GPS so that you can easily follow the route even without autopilot.



Follow the instructions of the flight instructor and air traffic control.

The flight

You will be in the parking area at Hilo Airport.

On the instructor's instructions, you start the engine and prepare the aircraft for takeoff.

Then taxi to the runway and request takeoff clearance.

After takeoff, climb to 5000 feet and follow the route in the GPS.

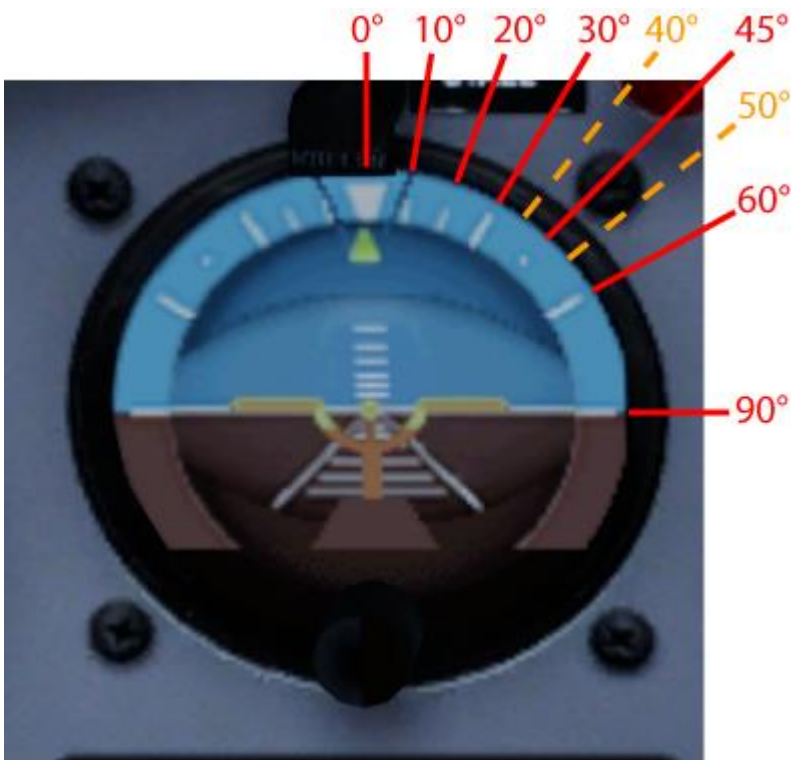
Remember to reduce the propeller speed to 2400 RPM after takeoff.



Actually, the route leads directly over the dormant volcano Kilauea, but because the volcano suddenly erupts, there is a small change of plans...



After the volcano, continue to the south end of the island, there you will fly a 45-degree (45°) banked turn.



For a perfect steep turn, the lean angle must be kept between 40 and 50° .

Then you follow the route to Kona airport. 15nm before Kona you contact the airport and ask for landing permission.

You approach runway 17 in a left turn and land.

After landing, taxi to the fuel station, where the test flight will be evaluated.

The test

A) The test is considered passed if no more than 4 "small" errors are made.

B) A total of 19 possible "minor" errors are monitored.

C) Some "major" errors will result in immediate failure of the exam.

Gross errors:

- Flying too close to an erupting volcano.

- Cruise or climb too slowly (less than 65mph) due to stall hazard.

- Flying to the wrong runway because of the risk of collision with aircraft taking off.

- Land within the landing zone.

Touchdown before the landing threshold, or behind the landing zone will be considered a "gross" error:

- a) Touchdown before the landing threshold is not allowed, because the runway may not be stable enough for this.

- b) Touching down behind the landing zone is dangerous because the braking distance may not be sufficient for short runways.

The following criteria must be met during the test flight.

1) The communication with the airports:

- Is the frequency of Hilo ground set before taxiing off?

- Is switching to Hilo tower too early?

Switching to the tower should be done just before the runway because ground control may request a stop at any time, e.g. due to traffic on the taxiway.

- Is the frequency set by the tower when taxiing onto the runway?

- When approaching Kona airport, is the correct frequency set?

2) Taxiing speed at airports must not exceed 20 knots (23 mph).

3) Landing lights turned on before takeoff?

Landing lights are turned on just before the runway. Even in broad daylight.

4) Landing flaps

- Flaps set to level 2 for takeoff?

- Flaps fully retracted "in a reasonable time" after takeoff?

At 1000 feet above ground, flaps should be fully retracted.

- Both are also monitored on the Vulcan.

5) Propeller speed

- Is the propeller RPM reduced to 2400 RPM during climb?

At 3000 feet above ground, the propeller RPM should be reduced.

- After takeoff from the volcano, is the propeller RPM reduced again to 2400 RPM at 4900 feet?

When taking off from the volcano, the airplane is slightly overloaded, therefore the propeller RPM stays longer at max. during climb.

6) Is the mixture setting leaned?

At 5000 feet about 55%.

7) The climb should be flown at 90 - 100 mph.
80 - 110 mph will be tolerated.

8) Cruise is usually flown at 110 - 130 mph, although slower or faster is allowed.
Too fast (over 150 mph), or too slow (under 65 mph) will be monitored.

9) The flight altitude of 5000 feet must be maintained (+/- 100 feet).

10) Lateral deviation from flight path (see GPS) must not exceed 1500 feet (457 m).

11) Steep curve:
A steep turn will be tested at the halfway point.

Task: Fly a steep turn to the left for one minute and finish the steep turn at heading 328 on command.

- The steep turn is flown with 45 degrees bank angle (35 - 60° are allowed).

- For a perfect bank the deviation must not exceed 5 degrees (40 - 50°).

The Perfect Steep Turn is optional, but will not be counted as a failure.

- Altitude must be maintained constant at 5000 feet (+/- 100 feet).

- Speed must be kept constant at 120 mph (110 - 130 mph is allowed).

Up to 3 faults will be counted on the steep turn, so focus on bank, altitude and speed.

The approach to Kona:

When approaching Kona Airport, a left-hand aerodrome circuit is flown on runway 17.

- This aerodrome circuit is not monitored more closely because the boss has already successfully completed the aerodrome circuit check.

Descend and decelerate at your discretion, extend flaps fully, set propeller and mixture to max, final approach at 80 mph, landing at 65 mph.

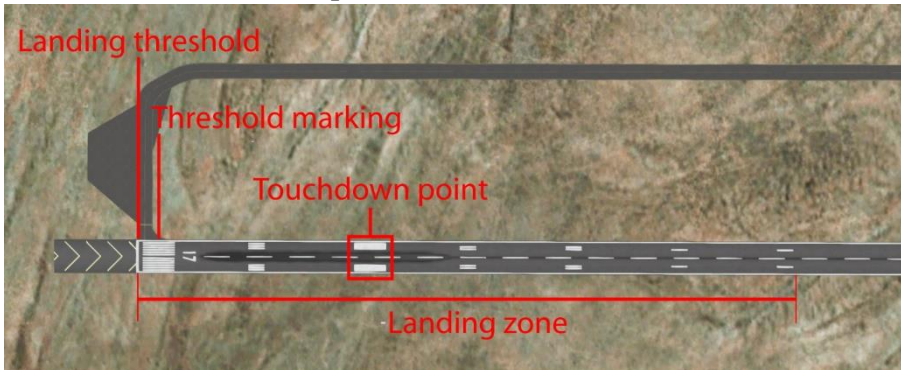
- However, landing on a wrong runway is monitored. (Gross error)

Landing Zone:

- Land within the landing zone.

Touchdown before the landing threshold, or behind the landing zone is considered a "gross" error. (Very dangerous!)

- Land exactly at the touchdown point. This is monitored, but optional. No error is evaluated if the touchdown point is not hit. The instructor will announce where the aircraft touched down: At the touchdown point, in front of it, or behind it.



Special Challenge:

Can you make all 19 "easy" mistakes in one flight? (Bug Specialist!)

You will not have passed the test, but the mission will still be considered accomplished:

Scenario Goals

- ☒ Land on runway 17.
- ☒ Hit the touchdown point exactly. (Optional)
- ☒ Land inside the landing zone.
- ☒ Fly a correct banked turn. (Optional)
- ☒ Complete the flight with 0 mistakes. (Optional)
- ☒ Fly safe and secure.
- ☒ Save the people at the volcano.
- ☒ Bug Specialist! (Made all 19 mistakes.)

Tips:

Open the door:

- In the Vulkan you have to open/close the door.

Default keyboard mapping is "shift+E".

If this does not work, check the keyboard layout to see what is assigned to "Doors - Select (open/close)".

Steep curve:

- You can't manage the steep curve?

Reduce the simulation rate to 1/2, or 1/4, then it will work for sure.

-This is what the displays should look like during the steep curve:

45°



120mph



5000Fuss




Course Indicator:


- You can tell if you are on course by the yellow line.
(Left: on course / Right: off course)





With this display, it is difficult to see how to correct because the heading is not "up".


Therefore, look in the kneeboard under "Nav Log", for the current heading for this waypoint.



Briefing



Messages



Nav Log


Keys


Checklist


Reference


Mission



Navigation

Lockheed Martin Prepar3D Flight Plan

Hilo Intl -> Kona Intl At Keahole
 Distance: 102.2 nm
 Estimated fuel burn: 13.5 gal / 80.9 lb
 Estimated time en route: 0:53

Waypoints	Route	Alt (ft)	Hdg	Distance	GS (kts)	Fuel (gal/lb)	Time off
				Leg		21.9	0:00
PHTO				Rem	Est	Est	ETE
				102.2	Act	Act	ATE
WP1 (other)	-D->	16499	207	23.5	120	2.9 / 17.4	0:12
				78.7	2	3.5 / 20.9	8:55
WP2 (other)	-D->	5000	221	33.6	120	4.2 / 25.2	0:19
				45.1		/	
PHKO (airport)	-D->	46	328	45.1	105	6.4 / 38.4	0:21
				0.0		/	

Not For Operational Use

In this example you fly to WP2, i.e. heading 221.

- Now set the "CRS" to 221 by means of the yellow button (bottom left).



The yellow line now points "up", so you can see more easily that you are (in the right picture) left off course, therefore you have to correct to the right.

- By the way, the button on the right is used to set the HDG course. Before a waypoint change, it is helpful in manual flight

(without autopilot) to already set the flight direction for the next WP. This way you have an orientation point for the new flight direction when changing direction. In this example, you would have to set 328.

I hope you enjoyed this flight, if so please give feedback to p3d@andi20.ch . Also send error messages (spelling mistakes, wrong information, etc.) to p3d@andi20.ch, I appreciate any feedback.