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Manual changelog

Revision 1 (04/03/2026)

- New documentation on Docusaurus.

Introduction

The BD-5J is a single-seat, single-engine, homebuilt jet aircraft sold as a kit by Bede Aircraft. The BD-5J, also called the Acrostar, is the jet-powered version of the BD-5, a pusher-propeller light aircraft that first flew on September 12, 1971.

The BD-5J was introduced in 1973 and holds the world record for being the smallest flying manned jet aircraft. The jet was famously used in a 1983 James Bond movie, Octopussy.

The BD-5J is 12 feet, 9 inches long, 5 feet, 7 inches high (at the top of its vertical stabilizer), and weighs approximately 400 pounds, empty. It features a low, swept main wing with a span of 17 feet, a traditional empennage, and retractable tricycle landing gear.

The aircraft is powered by a tail-mounted Microturbo TRS turbojet engine that generates 225 pounds of thrust.

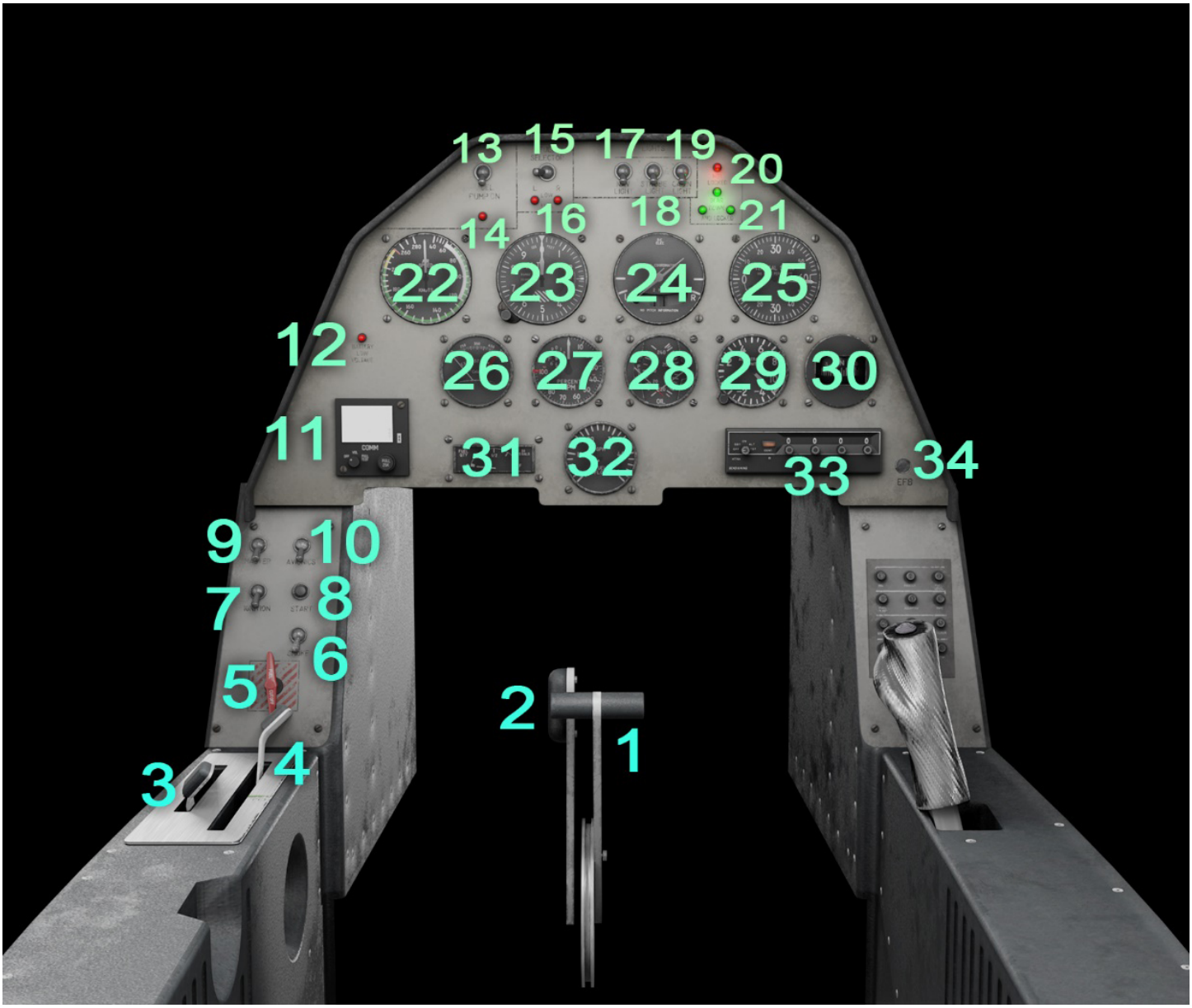
The Bede BD-5J is one of the most exhilarating aircraft in history to fly. From within the cockpit of the tiny jet, pilots can rocket up to altitude, perform aerobatics, or just cruise the heights.

General description

Specifications

Weights	
Empty weight	195 kg
Maximum takeoff weight	408 kg
Maximum landing weight	390 kg
Dimensions	
Wingspan	5.18 m
Length	4.57 m
Height	1.52 m
Engine	
Fuel capacity	130 L
Dry weight	37 kg
Maximum thrust	1.1 kN
Maximum continuous	1.0 kN

Detailed view



#	Description	#	Description
1	Landing gear handle	18	Strobe lights switch
2	Flaps handle	19	Cabin light switch
3	Throttle	20	Gear not locked light
4	Trim lever	21	Gear down lights
5	Fuel cutoff	22	Anemometer (kts)
6	Smoke switch	23	Altimeter (ft)
7	Ignition switch	24	Turn coordinator
8	Starter	25	Variometer (ft/min)

#	Description	#	Description
9	Master switch	26	Exhaust gas temperature (Celsius)
10	Avionics switch	27	Engine RPM (%)
11	Radio (COM 1)	28	Oil pressure (PSI) and temperature (Fahrenheit)
12	Low voltage light	29	Accelerometer
13	Fuel pump switch	30	Compass
14	Fuel pump light	31	Fuel level gauge
15	Fuel selector switch	32	Fuel flow (GPH)
16	Low fuel lights	33	Transponder
17	Navigation lights switch	34	EFB button

Systems

Flight controls

The BD-5 has classical mechanical flight controls. Flight stick is positioned on the right console.

An anti-servo tab assists pitch movement. Pitch trim is connected to the same tab from an electric actuator and can be set with the handle next to throttle.

Electrical system

Electric supply is provided in flight, thanks to a generator, connected to the engine.

It can supply three different light systems:

- Strobe lights.
- Navigation lights.
- Cabin lights.

Even though the BD-5 has interior lights, it is not equipped for night flying as there is not any landing light.

Fuel system

The BD-5J has two fuel tanks:

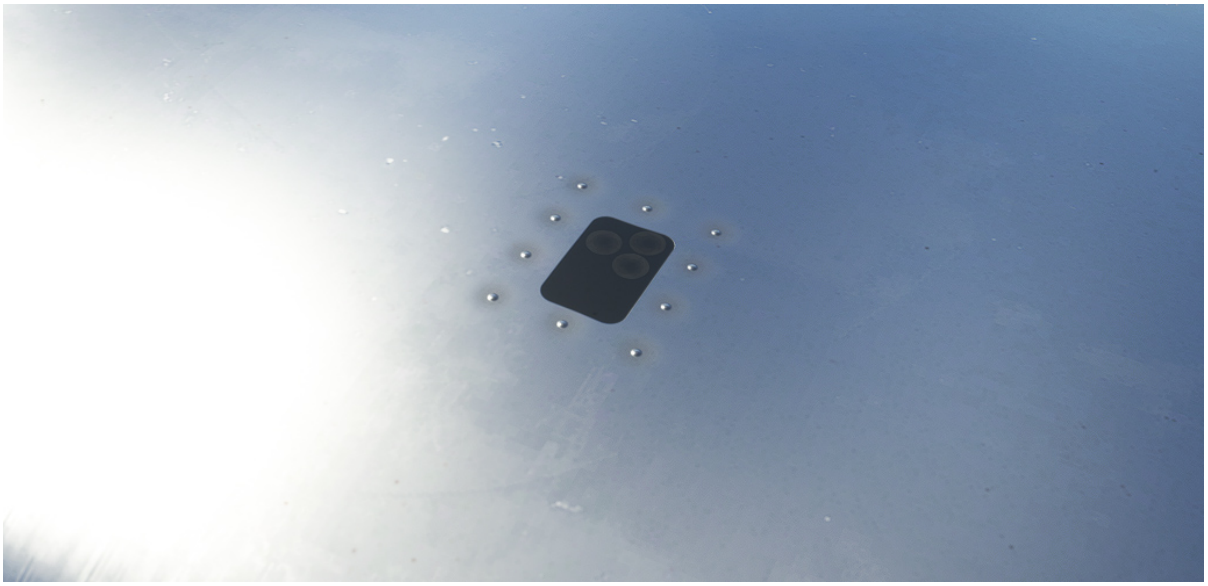
- One tank in left wing.
- One tank in right wing.

An electric fuel pump is connected to main electric circuit to assist in case of mechanical pump failure.

Fuel level gauge has been implemented in the aircraft for simplicity. However, most of BD-5 were not fitted with such a gauge.

Instead, six fuel prisms on each wing allow to determine fuel level. Each prism has a different length and will let light shine through it as soon as fuel level will drop below its base. Thus, six blank cylinders mean that no fuel remains in the tank.

You can see prisms on both wings with *INSTRUMENTS 04* and *INSTRUMENTS 05* cameras.



Landing gear

The aircraft has a tricycle retractable landing gear. Each landing gear leg has one wheel. Main wheels are equipped with disc brakes.

Retracting mechanism is fully mechanic and cable operated.

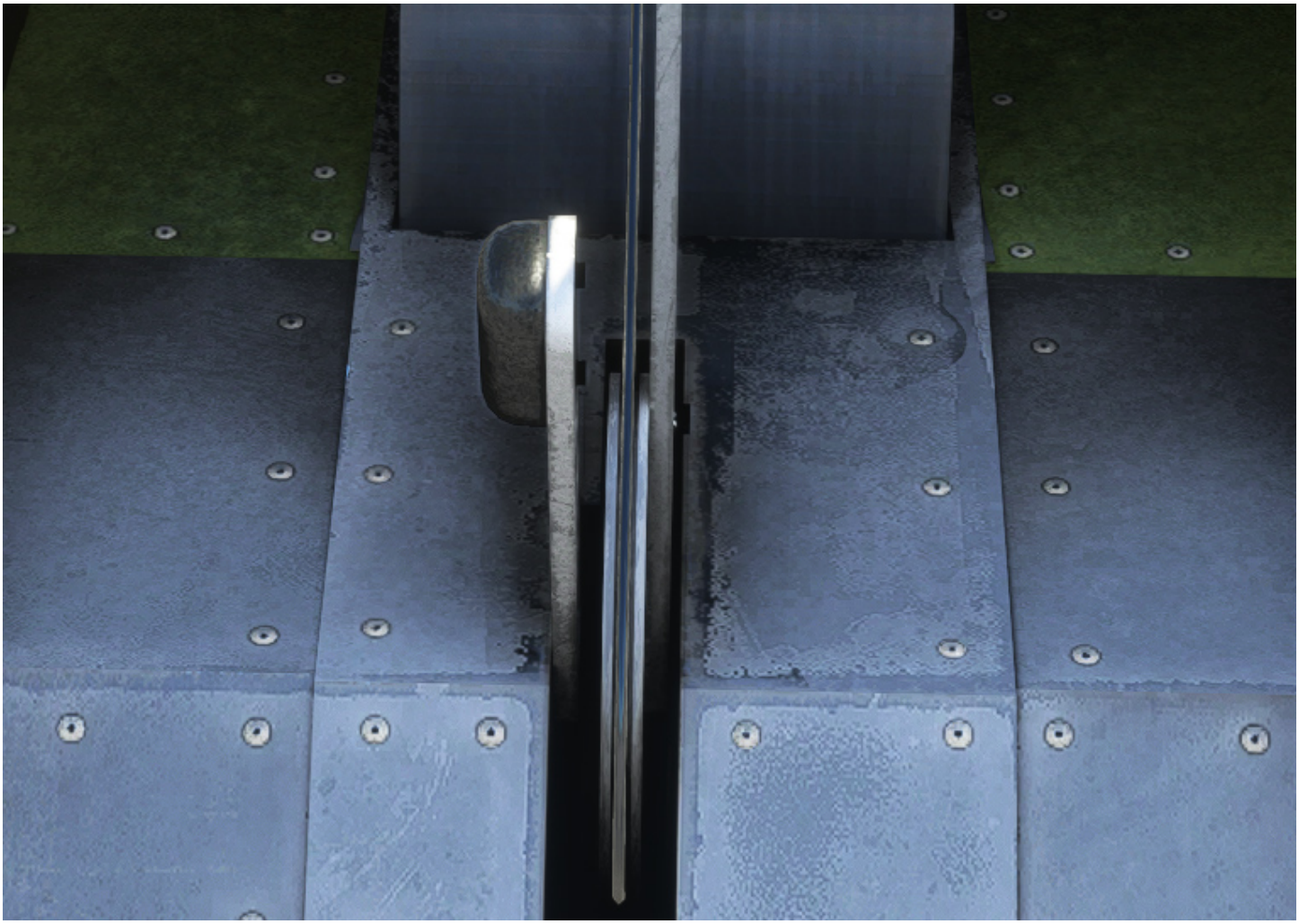
A set of lights indicates:

- When landing gear is not locked (red light).
- When landing gear is extended and locked (one green light per leg).

Flaps

Each wings hold a trailing flap, manually operated.

Three positions can be achieved: 0, 15 and 30 degrees.



Radio

A simple radio is positioned on the main panel.

It allows to manage COM 1 frequency (active and standby). Left knob can be used to set volume.

Transponder

The BD-5 is equipped with a regular transponder.

Four different knobs are used to set the code. Main knob allows to switch between different modes (OFF, SBY, TST, ON, ALT).

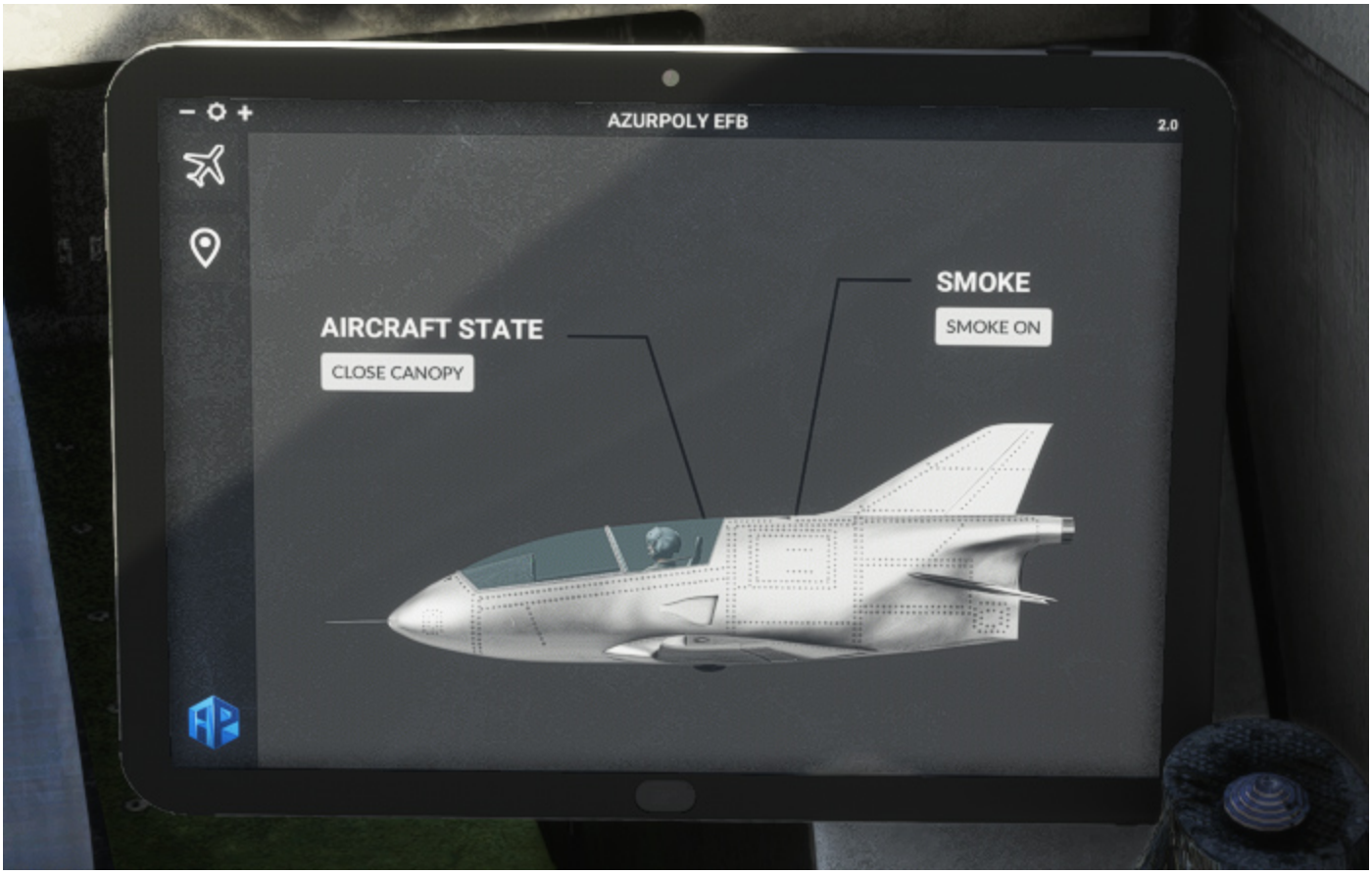
Electronic flight bag

To help managing all actions related to the aircraft, an EFB has been implemented. It can be opened and closed thanks to a cockpit button.

When opened, screen brightness can be set from the top bar.

Aircraft state

This menu has two buttons, one for opening and closing aircraft canopy, the other to switch on/off white smoke.

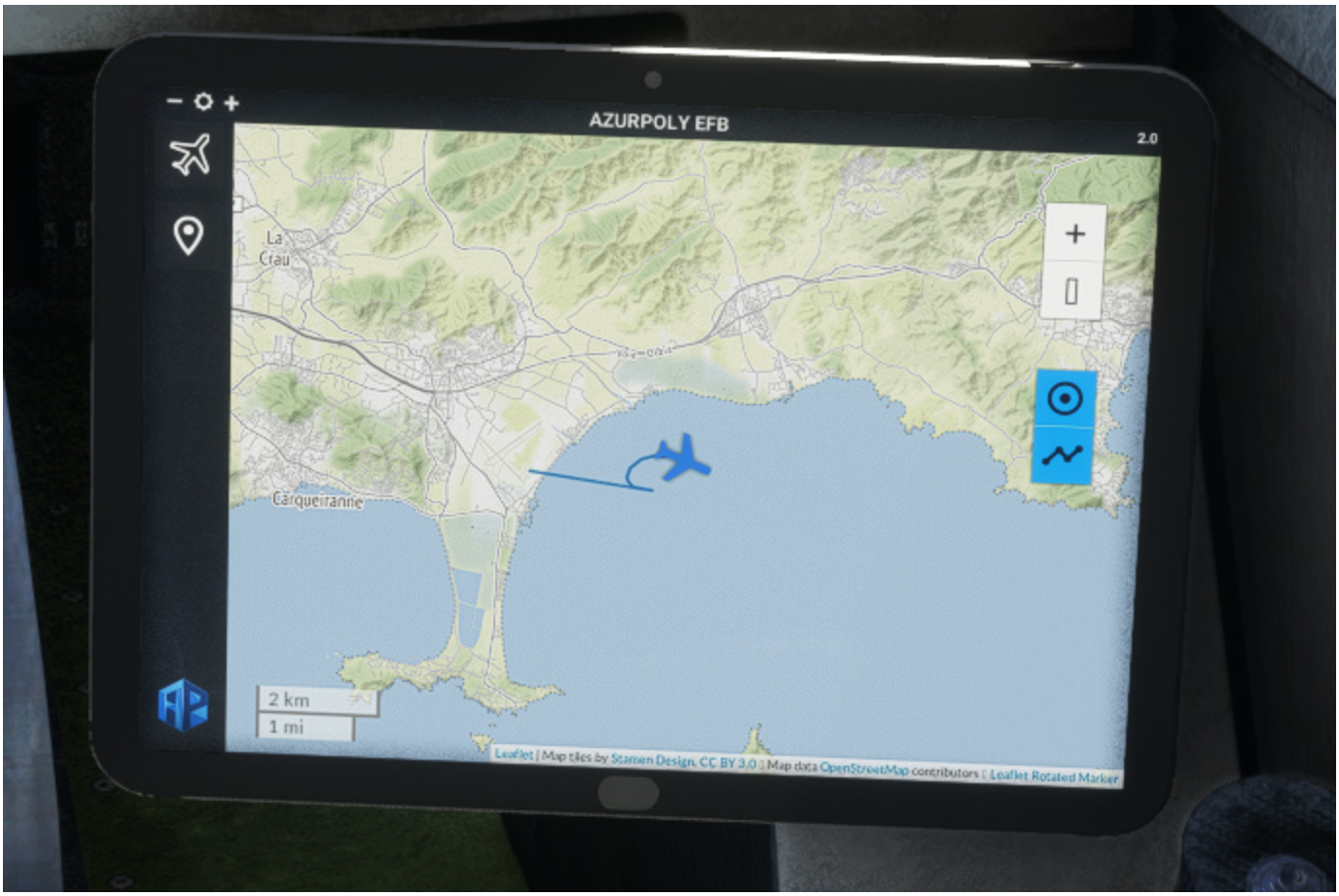


Map

This menu consists of a map showing current aircraft position.

Different controls on the right part allow to interact with the map:

- Zoom buttons.
- Button to stop auto centering to aircraft position.
- Trajectory button to show or hide aircraft path.



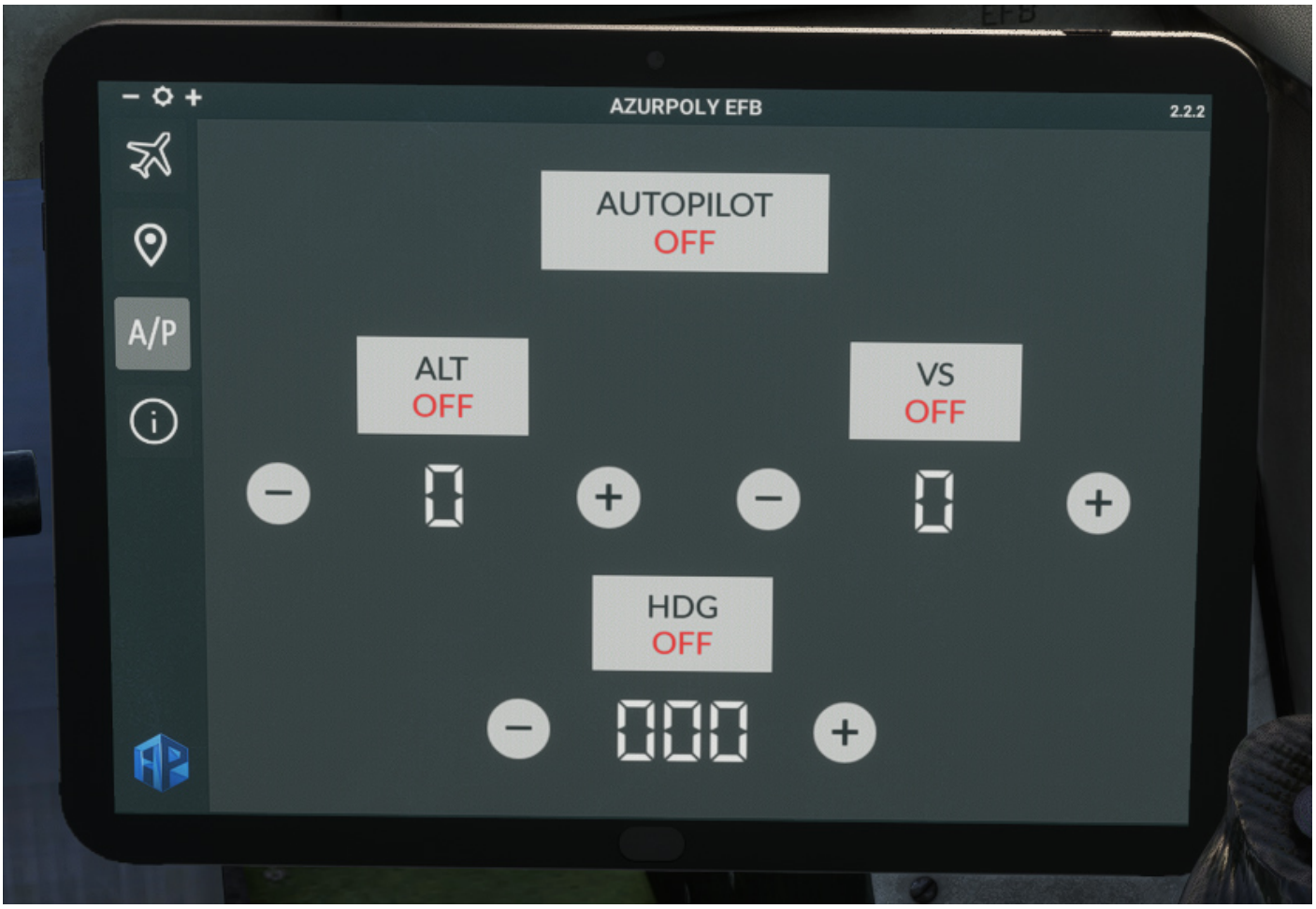
Autopilot

The BD-5 is not equipped with an autopilot, but you will find an autopilot menu in the EFB, allowing you to hold altitude and/or heading as you wish.

After turning autopilot on, you can select a target altitude and toggle ALT mode to climb or descend to the desired altitude.

Vertical speed can be chosen below VS button, and VS mode can be enabled instead of ALT mode to maintain a fixed vertical speed.

With HDG button, you can follow a target heading selected with “+” and “−” buttons.

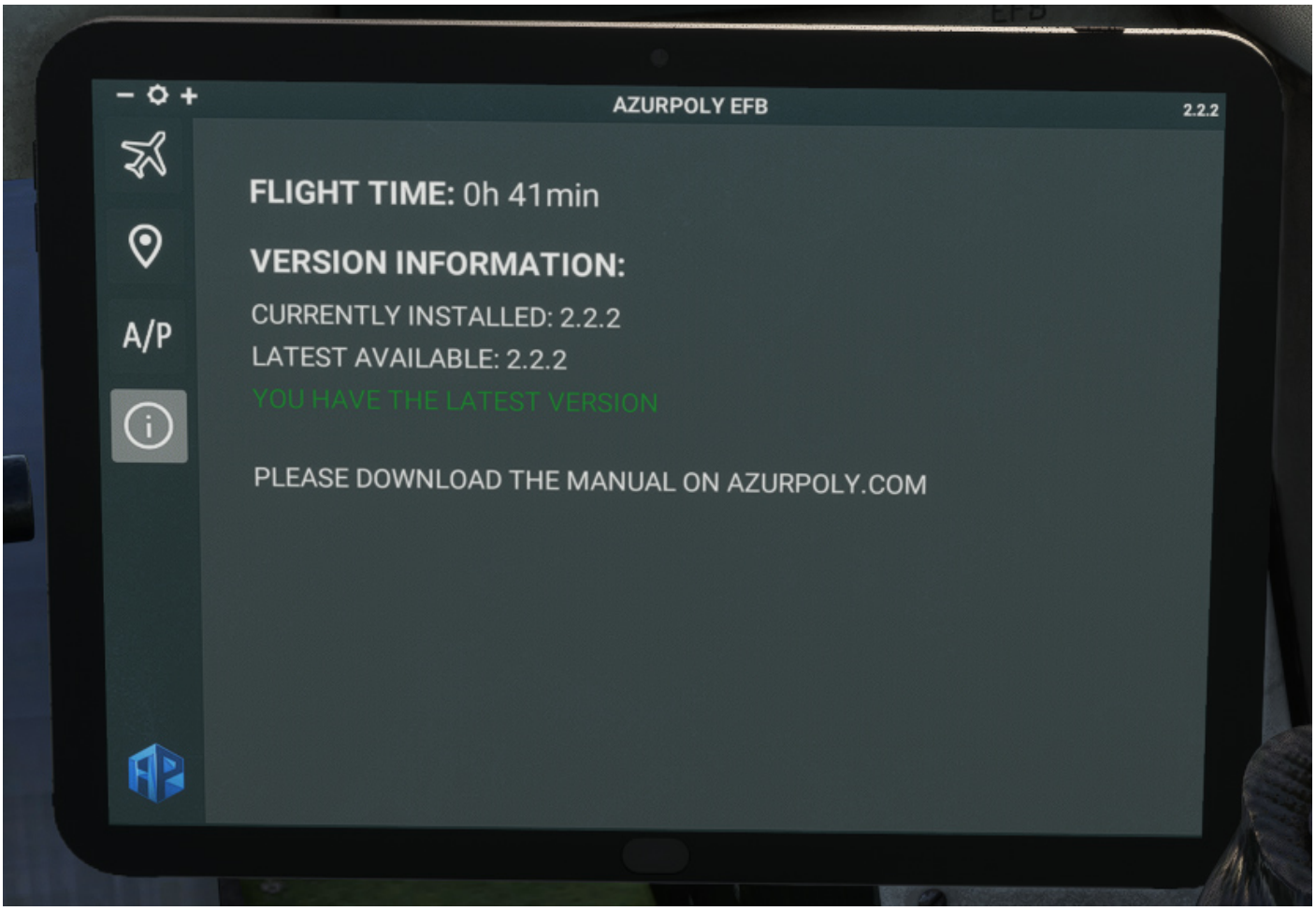


Info

This menu indicates version of the aircraft currently installed on your machine.

A message will be displayed if an update is available.

You can also see how much time you spent within the aircraft.


AZURPOLY EFB
2.2.2
FLIGHT TIME: 0h 41min
VERSION INFORMATION:
CURRENTLY INSTALLED: 2.2.2
LATEST AVAILABLE: 2.2.2
YOU HAVE THE LATEST VERSION
PLEASE DOWNLOAD THE MANUAL ON AZURPOLY.COM
A/P

Normal procedures

Reference speeds

Stall speed (full flaps)	60 kts
Stall speed (no flaps)	65 kts
Rotation speed	75 kts
Final approach speed	85 kts
Maximum flaps extended (VFE)	130 kts
Maximum gear extended (VLO)	140 kts
Maneuvering speed (VA)	170 kts
Maximum speed in turbulent air (VNO)	200 kts
Never exceed speed (VNE)	250 kts

Checklists

In addition to this manual, you can find in-game interactive checklists to help you complete each step.

STARTING ENGINE	
Fuel valve	**OPENED**
Master	**ON**
Ignition	**ON**
Area	**CLEAR**
Strobes	**ON**
Starter	**ON**
Throttle	**IDLE**
EGT	**MAX 500°C**

STARTING ENGINE	
N1	**30-40 %**

BEFORE TAXI	
Avionics	**ON**
Brakes	**CHECKED**
Flight controls	**FREE**
Compass	**CHECKED**
BEFORE TAKEOFF	
Canopy	**CLOSED**
Flaps	**15 degrees**
Seat belts	**SECURE**
Fuel pump	**ON**
Trim	**T/O**
Accelerometer	**RESET**
Transponder	**ALT**

AFTER TAKEOFF	
Security height	**CHECKED**
Landing gear	**UP**
Flaps	**RETRACTED**
Fuel pump	**OFF**

BEFORE LANDING	
Flaps	**30 degrees**
Landing gear	**DOWN**

AFTER LANDING	
Flaps	**RETRACTED**
Transponder	**SBY**
Seat belts	**RELEASED**

SHUTDOWN	
Throttle	**IDLE**
Radio	**OFF**
Transponder	**OFF**
Avionics	**OFF**
Ignition	**OFF**
Fuel valve	**CLOSED**
Master	**OFF**