Miltech Simulations U-2

Important Need-to-Knows

The U-2S does some things differently from other aircraft in the simulator. Read these points before your first flight. Select a title to open its details.

Navigation is flown from the aircraft's own Destination Points

- The U-2S INS steering computer flies the **ACTIVE destination point (DP) file** - the route you see on the MFD NAV/DPS page and on the map. Enter or edit your route there, on the UFCD DP page or on the BCDU (with the AVP off). The MSFS flight plan is **not** used for INS steering.
- Flight director, MILES / time to go and the autopilot NAV mode all follow the DP file. The INS must be aligned (in NAV).
- Steering modes (F/T, T/T, T/F, TTD, TFD), direct steer, overfly and orbits are explained with drawings under Navigation System (INS Steering).

Engine start needs ground starting air

- The engine is started with air from the air-start unit, a cart on your stand, through the U-2 EFB (Ground tab, Servicing, **Air Supply Unit**), or with a press of MIC on the yoke or the throttle grip, your call to the ground crew to apply the air.

The cart has to be shown beside the aircraft and you must be parked off the runway with the parking brake set or the wheel chocks fitted. It drives to its service point and connects the hose first, so give it a moment. Ground power works the same way (Ground tab, **Ground power**: *Connect*).

The EFB *Ready for takeoff* preset and your Engine auto-start key start the engine without any cart. There is no starter switch to press: on the U-2S your starter key is the throttle AIRSTART button, and that only works in flight.

- The throttle has an OFF / IDLE stop: right-click the throttle (below 10 %) or bind **Increase Cowl Flap 4**. Start with the throttle OFF, go to IDLE at 20 % N2.
- See Engine Start and Cockpit Controls.

Pogo pins: stop on the runway for the crew

- On every ground start, parking or runway, the pogos carry safety pins, and only the runway crew can pull them. Hold still on the runway with the chase car on (EFB Settings tab); the crew needs about a minute. A pickup pulls up and two technicians walk out, one to each pogo. Wait until they are back and you hear "ground crew clear".
- If you roll early, or the chase car is off, the pins stay in and the pogos stay on for the whole flight. If that happens, shake the aircraft hard in flight until they fall. The emergency start system's ground safety pin comes out with the pogo pins, so without the crew there is no airstart either.
- The gear pins and the wheel chocks are yours: see Quick Answers and Landing Gear.

Canopy seal before takeoff

- The cockpit only pressurizes with the **CANOPY SEAL** T-handle ON, and the canopy cannot be opened while it is ON. From Cold and Dark the seal is OFF - set it ON before takeoff, and OFF before you open the canopy after landing.

Fuel and Payload

- Fuel is loaded through the built-in MSFS menu. The mission equipment and its weight are set on the EFB Aircraft tab: the aircraft writes those weights back if you change them in the MSFS menu. Only the pilot is yours to change there.
- The engine only feeds from the small **sump tank** (CenterSUMPTank). Always load at least 70 gallons into it. If the sump runs dry the engine stops, no matter how much fuel is in the wings.
- See Aircraft Systems / Fuel System.

Speedbrakes and Lift Spoilers are two different things

- Your normal spoiler key or axis moves the fuselage **speedbrakes** only.
- The wing **lift spoilers** are operated with the yoke SPOILER button. ▣ **You must map a button to "Toggle water rudder"** to use it from your controller, and the SPOILER switch must be in ARM.
- There is no automatic spoiler deployment on touchdown.
- See Speedbrakes and Lift Spoilers.

Cold and Dark vs Ready to Fly

- MSFS sets the starting state based on the starting location. Parking = Cold and Dark. Runway or air = fully powered, avionics started, INS aligned. A runway start also has the canopy closed and sealed, the SPOILER switch in ARM and EW CONT in RPT. It still has its pogo pins: hold still until the runway crew is done.
- A Cold and Dark aircraft really is dark: every switch is OFF - battery, generators, fuel pumps, lights, oxygen, avionics, the three MFD power knobs, the autopilot PITCH / ROLL / YAW switches - and the canopy is open. Work through the Quick Start Guide.
- Parked and in a hurry? The EFB Aircraft tab, **Set up aircraft**, sets the aircraft up for you while you stand still on the ground: *Ready to start* has everything done up to the engine start, with ground power connected, the avionics up and the INS aligned, the engine off and the canopy open; *Ready for takeoff* starts the engine with ground air (no carts needed) and brings the avionics up with the INS aligned; *Cold & dark* shuts everything down.

The Ready presets take off the gear pins and covers, but not the wheel chocks or the pogo pins.

- Battery power alone is enough to run every display and radio. The generators (or ground power) are only needed to keep it that way.

INS Alignment

- From Cold and Dark the INS must be aligned before you get attitude on the PFD and navigation. A full alignment takes 22 minutes, a limited one 5 minutes.
- The alignment time can be shortened in the U-2 EFB (Settings tab, **INS alignment time**): Full / Short (3 min) / Instant.
- Do not move the aircraft during the alignment.

MFDs show "DISPLAY BUS OR AVP FAILURE"

- This is normal while the AVP is off or starting. Each display first runs its own 9-second power-on test when it gets power, then shows this message until the AVP is up: 7 seconds after you switch it on with the EFB option **Avionics startup time** on *Fast* (the default), 2 minutes on *Realistic*. After it has started, set the altimeter once to clear the red ALT box.

- Before the message, each MFD runs its own 9-second power-on test every time its knob goes from OFF to NIGHT or DAY, and when its power comes back after more than 5 seconds. An MFD without power stays dark.

Landing Gear Warning

- The gear warning comes on whenever the gear is up and you are in the landing configuration - flaps at 20° or more - or on the ground. Lower the gear before you extend the flaps past 15°.

Radios are VHF

- The simulator's COM radios are VHF (118.000 - 136.990 MHz). COM 1 and COM 2 are kept in 8.33 kHz spacing, so the 8.33 kHz channels can be tuned too. The preset lists hold real VHF frequencies: COM 1 for Beale AFB and the US, COM 2 for the deployed bases (Fairford, Akrotiri, Osan, Al Dhafra). Preset 0 on either radio is guard, 121.500.

Pausing the Sim and Sim Rate

- All custom systems (fuel, oxygen, INS, timers) follow simulator time: they stop when you pause and speed up with sim rate.

Related pages: Quick Start Guide · Keybinds Guide · U2 101 - The Basics

Miltech Simulations U-2. SIMULATION USE ONLY. This documentation describes the simulated aircraft as delivered in the add-on and must not be used for real-world aviation.