Miltech Simulations-Microsoft C-17 Globemaster III

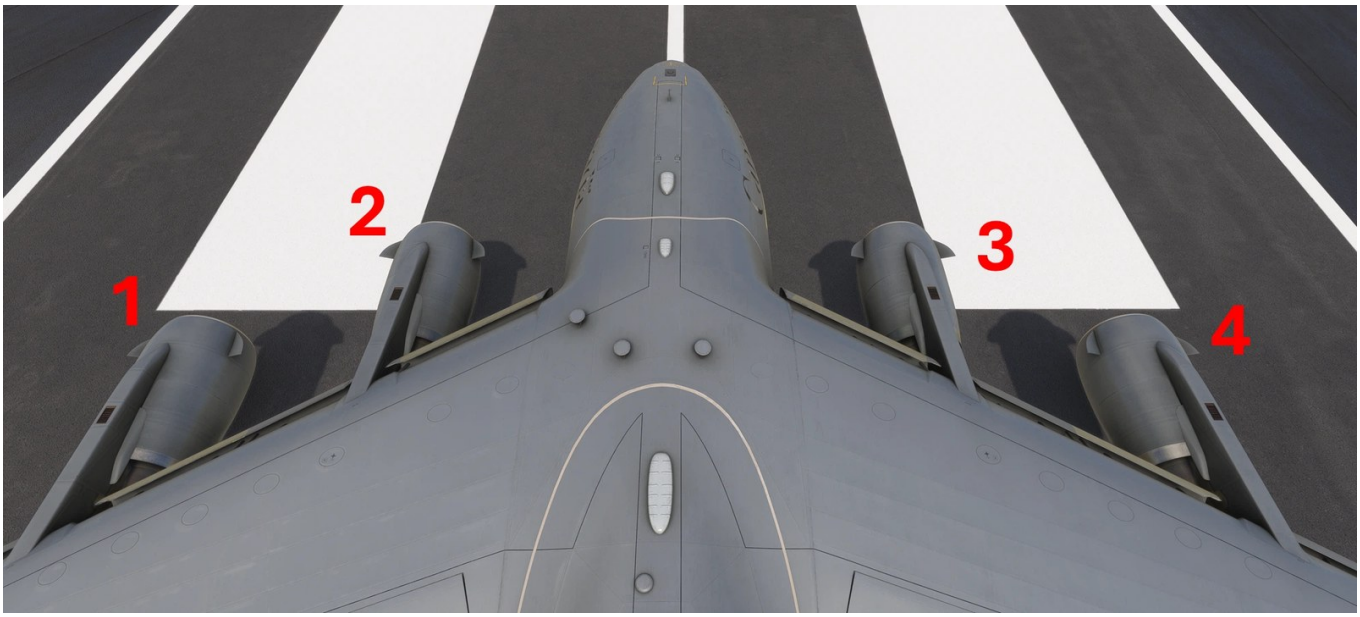
Propulsion System

Note
Tactical In-Flight Reversers are not supported on initial release of this aircraft due to MSFS Limitations. We are working on an alternative, bypass solution to implement in a future update.

The Engine

The aircraft is powered by four F117-PW-100 Fly-By-Wire Turbofan Engines. The F117-PW-100 is a dual spool, single-stage fan, high bypass ratio (6:1) turbofan with a maximum flat rated thrust of 40,440 pounds at sea level.

Engines are numbered 1-4, being Engine #1 the leftmost engine, and #4 the rightmost engine. All four engines have Thrust Reversers, that can only be use while the aircraft is on the ground. Tactical In-Flight reversers will be supported in the near future through an update.



Engine Numbering

Engine Controls, Ignition, Starting

The engine propulsion is controlled by the four Engine Throttle levers located in the centre console. You may keybind each axis individually to ENGINE THROTTLE 1 through ENGINE THROTTLE 4; or use a single ENGINE THROTTLE axis to control all four at the same time.

The Engine Control panel is located in the Overhead Panel, just under the Fuel System Panel.



Engine Control Panel, Overhead

1. **Engine 1/2/3/4 Shutoff Valve:** Control fuel to the respective engine. Closing the valve will shut down the engine due to fuel starvation.
2. ◇ **Fuel Qty Fuel Selector:** INOP
3. **Engine Starter 1/2/3/4:** Opens the starter control valve to start the engines. Requires SHUTOFF VALVE of the respective engine to be in the opened position.
4. **Engine Ignition Override:** INOP
5. ◇ **Engine Ignition Selector:** Ignition System Selector.
6. OFF: Both systems are turned off, engines cannot be ignited.
7. A: Left side Ignition armed, engines 1 and 2 can be started.
8. B: Right side Ignition armed. engines 3 and 4 can be started.
9. A\&B: Both ignition systems are armed

Engine Backup/STBY Display

Engine information (N1, N2, EPR, EGT, FF, Oil, etc.) Is generally available on the MFD Engine Pages. For more details, look at the MFD Section of this manual. However, the aircraft is equipped with a low-consumption LCD Display to allow monitoring of the engines in the case of an electrical failure, or any other situation that renders the MFDs unusable. The Engine Backup Display is located just under the two center MFDs, and along with the Display you will find an array of buttons and knobs to control the Engine Thrust Ratings.



Engine Standby Display

1. ◉ **EPR Rating Knob:** The knob is engaged when EPR MODE is set to MAN. You may then rotate the node to increase or decrease EPR Selection.
2. ◇ **Mode Selector:** Provides power to the Standby Engine Instrument and selects either N2 or EPR Digital Indications
3. **RTG Value Selected:** Displays Rating selected for the engines. The selected value only engages when Mode selected is MAN, otherwise it remains standby.
4. **Mode Selected Display:** Displays mode selected among those selectable on the right side of the STBY Display.
5. **N2/ERP Display:** Displays engine N2 or EPR Rating. These cannot be viewed at the same time.
6. **EGT Display:** Displays Engine Gas Temperature for all four engines.
7. **N1 Display:** Displays N1 for all four engines.
8. **Mode Options:** Selects engine mode from the five available - MAX, INT, MCT, DRT and MAN.

Engine Thrust Ratings

Different Thrust Rating Modes can be selected through the buttons on the left side of the STBY Engine Display. This will effectively set a RATING LIMIT BAR on the MFD Eng Page, and limit the performance of the engines to reduce wear and tear.



Engine Thrust Ratings

- MAXIMUM (MAX): The maximum thrust approved for the engine. This rating is limited to five minutes for takeoff. Shall only be used for takeoff and go around.
- INTERMEDIATE (INT): The maximum thrust certified for continuous use. Shall be used at pilot's discretion.
- MAXIMUM CONTINUOUS THRUST (MCT): The maximum thrust recommended for normal climb operations. Recommended setting for cruise.
- DERATED THRUST (DRT): The minimum thrust required to perform a takeoff safely.

Thrust Reversal System

Engine Thrust Reversal is available on all four engines, and can be engaged through the regular keybinds (TOGGLE REVERSE THRUST). At this time, Thrust reversers are only available on the ground. Tactical In-Flight reversers will be supported in the near future through an update.

Yellow UNLK Icons will show up on the MFD Display to signal the reversers are unlocked. These turn blue "REV" when full reverse thrust is set.



Yellow UNLK Icons



Blue REV Icons

Engine Instruments

- Refer to Cockpit Displays Section, MFD ENG Page
- Refer to Above Section, STBY ENGINE

Fire Detection System

Engine Fire, fire detection and fire suppression is not supported on this aircraft. However, the four Fire Extinguishing handles are functional. Pulling any of the four Extinguishing Handles will cut fuel to the engine, and shut it down automatically. This action cannot be reversed unless the flight is restarted.



Fire Extinguisher Handles

Fire detection tests for systems A and B are fully modeled, as smoke detection lights. Aural warnings will be heard during fire tests. The aircraft also requires all fire detection systems to be enabled as part of the cockpit pre-start procedures.



Fire Detection System