Miltech Simulations-Microsoft C-17 Globemaster III

Mission/Flight Planning System

Caution
Please note that starting on Version Number V1.1.9, aggressive performance optimizations have been made, including limiting pages on PFD and MFDs, and mirroring both copilot's FMCs. More information here: NOTAMs

Note
Please note that the publicly known performance figures for the C17 Globemaster are limited since the aircraft is in active military service. This system may not match perfectly the displays found in the real aircraft.
Takeoff performance on the MSN system is now available. The calculations are sim-derived and may not match real-world military data exactly.

The MSN (Mission) System, also known as Mission Computer Display/Keyboard system.

This system enables aircrew or operators to input and manage critical mission parameters, providing an interface for real-time updates and control over navigation and operational tasks. The system mainly functions as Flight Plan Input and Modification device, from where the crew can input the flight route, waypoints, target locations, and other critical navigation data, as well as modify them in real-time based on mission needs. Other functions on the real counterpart include stationkeeping and aircraft performance calculations.

The C17 features a unique setup, consisting of four displays and two keyboards - two displays and one keyboard located on the Captain side, and two displays+keyboard on the first officer side. This setup provides the crew more flexibility and efficiency when performing actions while in flight.



MSN/Mission Computer Display System

1. **Forward Mission Computer Display,** with 12 softkey pushbuttons, 6 on each side.
2. **Aft Mission Computer Display,** with 12 softkey pushbuttons, 6 on each side.
3. ◉ **Brightness Knob** (x2)
4. ▣ **STS Button:** INOP
5. ▣ **Messages Button (MSG):** Display Messages Page. Each screen has an individual MSG Button, and as such it allows for control of each display individually.
6. **Mission Computer Keyboard, row 1:** Each screen has an individual copy of these buttons, which allows for control of each display individually. From left to right:
7. Communications (COMM): Displays the Frequency Search/Communications Page
8. Mission (MSN): The Mission Page (also known as Route Legs) will display all the waypoints, navaids, and fixes comprising the flightplan. This page is used to evaluate and modify the planned route of flight during the climb and to add or delete waypoint.
9. Stationkeeping (SKE): INOP

10. Arrow Up: Moves up through the list/page
11. Arrow Down: Moves down through the list/page
12. Index (IDX): Displays index menu linking to all the different pages.
13. **Mission Computer Keyboard, row 2:** From left to right:
14. Forward/Aft (FWD AFT): Switches active display between Forward/Aft
15. Direct To (D->): Displays the Direct To / Nearest Airports Page. Direct To menu can also be used to tell the aircraft to fly directly to the next waypoint on the flight plan when engaging LNAV, in the case the aircraft has flown past the first waypoint.
16. Progress (PROG): Displays the Progress Page
17. Flight Plan (FLT PLN): Displays the Active Flightplan Page
18. Performance (PRFM): Used to calculate Takeoff and Landing performance, V-Speeds, among others.
19. Execute (EXEC): Execute Button
20. **Mission Computer Keyboard, row 3:**
21. Empty Button
22. Empty Button
23. Departure/Arrivals (DEP ARR): Display Departure/Arrivals Page
24. Secondary Flight Plan (SEC PLN): INOP
25. Takeoff and Landing Distance (TOLD): INOP
26. Position Fix (POX FIX): Display Fix Information/Create Reference Points to display on ND
27. **Mission Computer Keyboard:** The keyboard will type on the active display only. To switch active displays, press the FWD AFT button.

Mission Computer Display Design Logic



Mission Computer Display Design

The system’s design logic uses pages with options either highlighted in green or unhighlighted. Green-highlighted options indicate features that are not simulated or unavailable, while unhighlighted options are clickable and interactive. This closely resembles the real counterpart.

Creating a new Flight Plan

1. Aircraft must have a source of power (Battery, APU, Generators or Ground Power) switched on.
2. Turn on the MSN Displays by using the rotary switch in the upper right corner.
3. Verify which screen is active. This can be easily done by typing with the keyboard - the active display text on the latest row. You may switch active displays by pressing FWD AFT.
4. Press FLT PLN. Insert departure and arrival airports.
5. Press DEP ARR. Insert the departure runways and SIDs, as well as arrival runway, approach and STARS. Press Execute to validate the departure/arrival procedures.
6. Press MSN to review flightplan. Delete any discontinuities or add any route waypoints. Press Execute to validate the flightplan.
7. The aircraft will follow the flight plan by selecting LNAV Mode on the Autopilot panel.

Configuring Takeoff Performance

Set takeoff performance after the route, runway, payload, and fuel are finalized.

1. Make sure your flight plan has correctly-configured takeoff and departure procedures (eg. SIDs), and most importantly, you have selected the takeoff runway on the DEP ARR Page.
2. Press **PRFM** on the MSN keyboard.
3. Enter the requested information: OAT, Takeoff Weight, Cruise Alt, Flap Config, etc.
4. Press "SEND" to fill the chevrons on the speed tape.
5. Confirm the V-Speed bugs appear on the FMC, as well as the PFD speed tape for takeoff.

The PRFM page is used for takeoff performance setup only. The **TOLD** key remains unavailable.

Simbrief Integration

This aircraft can load flightplans, over-the-cloud, directly from Simbrief. More information here: Simbrief Integration