

**NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety  
Washington, D.C. 20594

**Attachment 46 - UPS B747-400 Minimum O2 Requirements**

**OPERATIONS/HUMAN PERFORMANCE SUPPORT TO  
THE U.S. ACCREDITED REPRESENTATIVE**

**DCA10RA092**



# B747-400 AIRCRAFT OPERATING MANUAL

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## GENERAL

### INTRODUCTION

This chapter contains supplemental performance information to be used during preflight planning when normal Airport Analysis (AA) data is not available. It also provides minimum oxygen system pressure for dispatch and cost index tables. The information contained in this chapter is not intended for daily use by flight crews, but is designed to be used on an "as needed" basis.

### MINIMUM OXYGEN DISPATCH PRESSURE

The Crew Oxygen Minimum Dispatch Pressure tables provide the minimum dispatch oxygen pressure for flight crew and supernumeraries for domestic and international operations. For the purposes of these tables, domestic operations include all flight segments between cities in the lower 48 contiguous United States.

The flight deck and upper deck oxygen systems are separate systems and EICAS provides separate pressure indications. Separate tables are provided for the cockpit and upper deck systems. Enter appropriate table with number of flight deck or upper deck occupants to read minimum oxygen pressure for dispatch.

**NOTE:** A 120 minute oxygen supply is sufficient for all flights except the following:

- L888 route over China.
- South Pacific from the U.S. west coast to Hawaii and from Hawaii to Australia and Asia.

The above routes require a 180 minute oxygen supply for the flight crew and supernumeraries (if applicable).

## COST INDEX TABLES

The Cost Index (CI) tables can be used to determine a cost index that closely matches a desired cruise speed. Tables are provided for LRC, .84M, .85M and .86M cruise speed schedules. Flight crews must continue to monitor flight progress and cruise speed to ensure flight plan objectives are satisfied.

Maximum Range Cruise (MRC) provides the greatest fuel economy at all gross weights and altitudes. The FMC calculates a MRC cruise speed schedule when a cost index of zero (0) is entered. Use a CI of zero when a flight is early to save the most fuel if consistent with flight plan objectives.

Enter the appropriate table with aircraft gross weight and cruise altitude to read the CI required to provide the desired cruise speed.

### QUICK TURN-AROUND WEIGHT LIMIT

The Quick Turn-Around Weight Limit tables provide a weight reference to determine that sufficient brake cooling time is allowed prior to the next takeoff. Tables are provided for flaps 25 and 30 landings.

Enter appropriate table with airport OAT and airport pressure altitude to read quick turn-around weight limit. Adjust weight for wind and runway slope (if necessary) using notes at bottom of tables. After landing at a weight above the quick turn-around weight limit, wait at least 70 minutes and check that wheel thermal plugs have not melted before beginning taxi.

**NOTE:** Landing may be made at weights above the quick turn-around weight limits as long as at least 70 minutes is allowed for brake cooling and wheel thermal plugs are inspected prior to block-out.

Guidance is also given for using the EICAS Brake Temperature Monitoring System to ensure adequate brake cooling prior to taxi and takeoff.

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## FREIGHTER CF6-80C2B1F

### MINIMUM OXYGEN DISPATCH PRESSURE

**NOTE:** A 120 minute oxygen supply is sufficient for all flights except the following:

- L888 route over China.
- South Pacific from the U.S. west coast to Hawaii and from Hawaii to Australia and Asia.

The above routes require a 180 minute oxygen supply for the flight crew and supernumeraries.

CREW OXYGEN		
Number of Crew	120 Mins (PSI)	180 Mins (PSI)
2	480	671
3	662	922
4	825	1200

SUPERNUMERARY OXYGEN (Aircraft With Diluter-Demand Masks Installed)		
Number of Supernumeraries	120 Mins (PSI)	180 Mins (PSI)
2	480	671
3	662	922
4	875	1200

SUPERNUMERARY OXYGEN (Aircraft With Passenger-Type Masks Installed)		
Number of Supernumeraries	120 Mins (PSI)	180 Mins (PSI)
4	400	540

**NOTE:** If descent to an altitude below 25,000 feet is accomplished (and 100% oxygen is no longer required), each occupant should select the NORMAL/100% switch to NORMAL (Diluter-demand masks) in order to meet published oxygen duration requirements.

Data is based on the following assumptions:

- For crew system, published number of crewmembers.
- For supernumerary system, published number of supernumeraries plus Lav and Crew Rest.
- Regulators on 100% flow (Diluter-demand masks).
- Lavatory and crew rest oxygen is shut off when supernumeraries return to seats.
- Maintaining 25,000 feet.
- Pressure is average of 3 bottles (4 bottles for supernumerary system).
- Ambient temperature is 70°F.

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## MINIMUM OXYGEN DISPATCH PRESSURE

**NOTE:** A 120 minute oxygen supply is sufficient for all flights except the following:

- L888 route over China.
- South Pacific from the U.S. west coast to Hawaii and from Hawaii to Australia and Asia.

The above routes require a 180 minute oxygen supply for the flight crew and supernumeraries.

CREW OXYGEN		
Number of Crew	120 Mins (PSI)	180 Mins (PSI)
2	800	950
3	950	1341
4	1197	1750

SUPERNUMERARY OXYGEN (Aircraft With Passenger-Type Masks Installed)		
Number of Supernumeraries	120 Mins (PSI)	180 Mins (PSI)
8	800	800

**NOTE:** If descent to an altitude below 25,000 feet is accomplished (and 100% oxygen is no longer required), each occupant should select the NORMAL/100% switch to NORMAL (Diluter-demand masks) in order to meet published oxygen duration requirements.

Data is based on the following assumptions:

- For crew system, published number of crewmembers.
- For supernumerary system, 8 supernumeraries plus Lav and Crew Rest.
- Regulators on 100% flow (Diluter-demand masks).
- Lavatory and crew rest oxygen is shut off when supernumeraries return to seats.
- Maintaining 25,000 feet.
- Pressure is average of 2 bottles (4 bottles for supernumerary system).
- Ambient temperature is 70°F.

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