

 DC 9/80 OPERATIONS MANUAL	Fuel System	I	
	Chapter 11 - 1/5	10/04/20	Rev 1

GENERAL

The fuel is contained into three fuel tanks: two are integrated into the wings, one is in the fuselage. Fuel system is divided into three subsystems:

- engine distribution;
- APU distribution;
- quantity indicator;

It is not possible to unload the fuel while flying, but only on the ground using two electric pumps (not simulated).

DISTRIBUTION

Each fuel tank has two boost pumps powered with AC. Central fuel tank pumps have a serial link, whereas the wings fuel tanks are parallel. A DC powered START PUMP is installed into the right fuel tank and provides fuel for the engines and the APU when AC power is not available.

If the fuel pressure is too low, a light warning EOAP appears. Engines have a bypass mechanic pump that works only with engines on, and supplies energy when no other electric pump is available.

A cross feed link between left and right fuel distribution lines makes it possible to feed each engine from an either left or right fuel tank. Fuel for APU operation is normally supplied from the right fuel tank.

QUANTITY INDICATOR

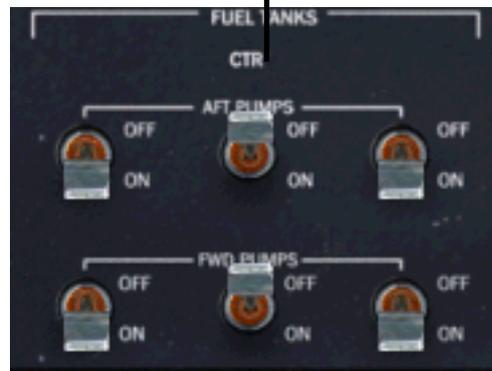
A digital display unit on the center instruments panel displays fuel quantity in each tank, total fuel quantity and airplane gross weight.

CONTROLS AND INDICATORS

START PUMP Switch:
OFF: removes DC from the pump.
ON: Turns pump on.
 START PUMP is feeded by the battery and it is used to start the APU when the engines are off.



FUEL TANK BOOST PUMPS Switch:
OFF: removes AC from the pump.
ON: Turns the pump on.
 FUEL TANK BOOST PUMP are AC feeded. Engines work also when the pumps are OFF, but the pumps must be on for engine starting.



OVERHEAD PANEL

FUEL QUANTITY DISPLAY: This instrument displays fuel quantity for each fuel tank, total fuel and airplane weight.



CENTER INSTRUMENT PANEL

ZFW SELECTOR: press and rotate to show and set the ZFW, release the button and ZFW and fuel quantity will add up to gross weight.

TEST Button:
 Push to test the fuel quantity indicator. The left, right and center tank display will indicate 1500 kg, total fuel will display 4500 Kg and the gross weight display will show ZFW+4500 Kg.

CONTROLS AND INDICATORS

FUEL CROSSFEED LEVER



PEDESTAL

LOW/ON:
opens the crossfeed valve.
UP/OFF:
Closes the cross-feed valve.

APU FIRE CONT Switch:
see chapter 08, FIRE PROTECTION for a detailed description.



APU MASTER Switch:
see chapter 04: AUXILIARY POWER for a complete description.

CONTROLS AND INDICATORS

R INLET FUEL PRESS LOW on:

Fuel supply pressure at left engine is low.

L INLET FUEL PRESS LOW on:

Fuel supply pressure at right engine is low.



EOAP

CENTER FUEL PRESS LO

CENTER FUEL PRESS LO:

Is visible when the center tank is empty, and the center tank pumps are ON.

AIRPLANES WITH AUXILIARY FUEL TANKS INSTALLED (MD-83)



TEST: Normally used when pump operation in doubt. Starts the transfer pumps to test operation. If transfer pumps are operating properly the lights on the annunciator panel will extinguish. The switches are spring loaded to the OFF position and should be released as soon as test is completed.

NOTE

Do not select the TEST position when center tank is full. Actual fuel transfer occurs when in the TEST position.

OFF: Removes AC power from applicable fuel transfer pump.

AUTO: Arms the AC circuit to power applicable transfer pumps and starts transferring when center tank reaches approximately 5900 kgs (13000 lbs).

DIGITIZED AUX FUEL QTY DISPLAY.



Displays fuel quantity in FWD and AFT AUX tanks and is added to total fuel readout.

FUEL TANK BOOST PUMPS with AFB System:

OFF: removes AC from the pump.

ON: Turns the pump on.

AUTO: AFT/FWD center pumps are energized accordingly to the Automatic Fuel Burn (AFB) System schedule.

