FUELING SYSTEM

System

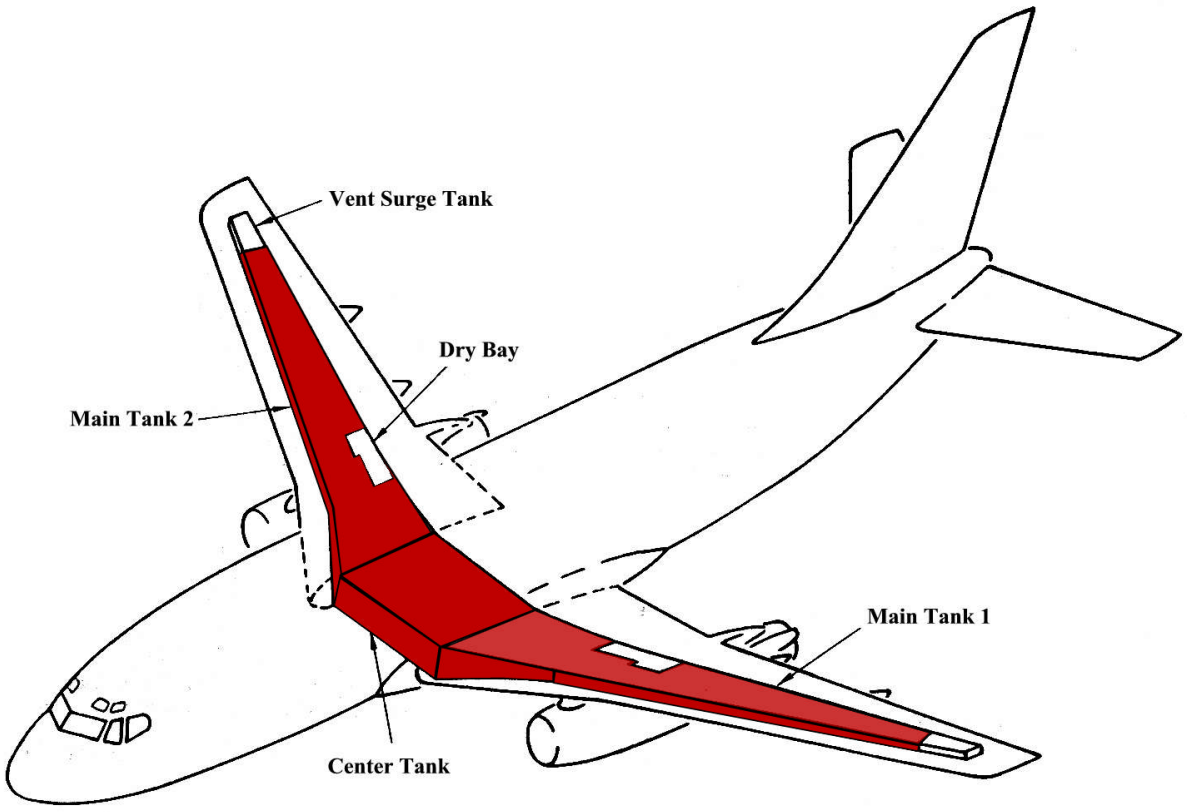
The fueling station provides means to fill and service the fuel tanks to any specified level. In addition, the fuel tanks can be defueled or fuel can be transferred from tank to tank utilizing the fueling station. The fueling station is located mid-span in the right wing. Located in the fueling station is the receptacle, fueling manifold with valves and manual overrides, control panel and hose grounding receptacle. In each tank is a magnetically operated float switch.

Operation

With the fueling hose connected to the fueling manifold and the three fueling valves open, fuel is supplied to the three tanks.

Supply to the main tank No. 1 passes through main tank No. 2 and center tank.

Supply to the center tank passes through main tank No. 2 and a check valve Upstream of the check valve are vent lines from the two center tank pumps. These lines ensure automatic re-priming of the pumps during the fueling.



PRESSURE FUELING STATION

General

The pressure fueling system provides a means of filling the fuel tanks. Fuel under pressure is supplied from the fueling station through a system of valves and fueling lines. The pressure fueling station is also used for defueling the tanks and for fuel transfer between the tanks.

The pressure fueling station is located in the right wing leading edge outboard of the engine. Inboard of the fueling station is the defueling valve and service interphone receptacle.

The fueling station consists of:

1. Fueling station door.
2. Magnetic reed switch operated by the door.
3. Fueling procedure, fuel quantity and fuel specification placards on the door.
4. Fueling manifold with receptacle and solenoid operated fueling valves with manual overrides.
5. Three white station illumination lights.
6. Control panel with valve position lights, valve position switches fuel quantity repeater gages and gages test switch.

Digital Fuel Quantity Indicator Error Codes

Error Code	Fuel Quantity Indicator Reading	Probable Cause
0	Zero	Missing or disconnected tank unit
1	Normal	Tank contamination
2	Zero	Bad HI-Z lead
3	Normal	Bad compensator unit wiring
4	Zero	Bad tank unit wiring
5	Normal	Bad compensator unit
6	Zero	Bad tank unit
7	Normal	Contamination/water in compensator
8	Zero	Bad fuel quantity indicator
9	Normal or zero	Improperly calibrated indicator
	Blank	Bad fuel quantity indicator

OVERWING FUELING

General

Overwing fuel servicing is provided for main tanks No. 1 and No. 2 only. The grounding receptacles are installed adjacent to the fueling port.

Location

The overwing fueling receptacles are located in the top skin of the wing towards the wing tip.

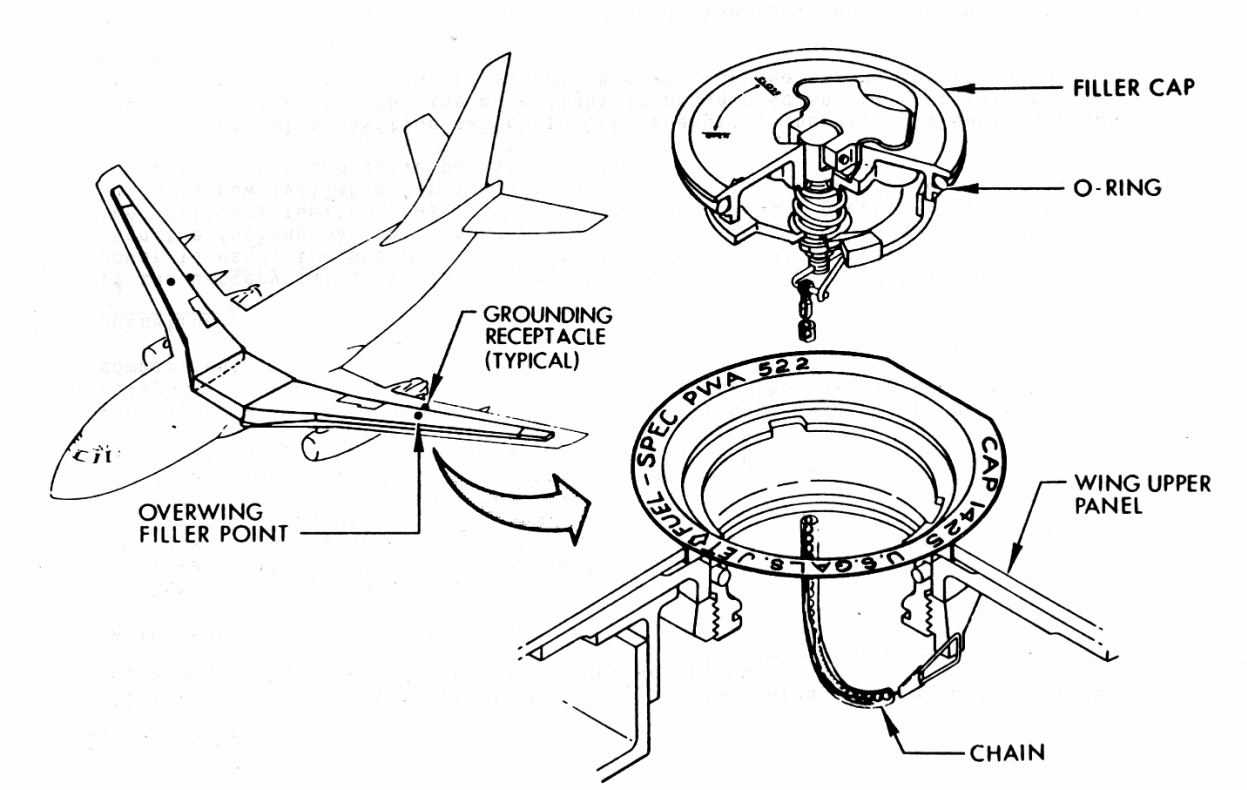
Components

Each cap assembly consists of a flush fitting cap with a locking mechanism .and a retainer chain.

Operation

When the filler cap is opened, the main tank can be filled by gravity. The quantity of fuel that can be put into the tank through the overwing port is considerably less than by pressure fueling, due to port location.

CAUTION: DO NOT OPEN OVERWING FILLER CAP AFTER AIRCRAFT HAS BEEN SERVICED BY PRESSURE FILLING - FUEL WILL BE SPILLED OUT OVER WING.



DEFUELING

In all cases of defueling, No. 2 fuel shutoff and defueling valves must be open (in some cases, the crossfeed valve must be open also). A fuel hose is attached to the fueling receptacle. For example, defueling No. 1 tank (using pumps) involves:

a. Boost pumps in No. 1 tank operating.
b. Crossfeed valve open.
c. No. 2 fuel shutoff valve open.
d. Defueling valve open.

Fuel from No. 1 tank flows through the pumps, manifold, valves and fueling hose to storage. Similar operations are required for defueling the other tanks.

Defueling of the main tanks only, can also be accomplished by suction through the bypass valves.

CAUTION: WHEN SUCTION DEFUELING NO. 1 TANK ONLY, CLOSE THE BYPASS VALVE IN NO. 2 TANK. THE BYPASS VALVE IS CLOSED MANUALLY, ACCESS ON BOTTOM SKIN OF TANK.

MEASURING STICKS

If a fuel gauge is u/s the quantity must be determined by using the dripsticks (floatsticks in later aircraft). There are 5 (6 -NG) dripsticks in each wing tank and none (4 -NG) in the centre tank. Because of cumulative errors it is recommended that the wings are filled once every few sectors to ensure an even fuel balance. In-flight, the GW must be periodically updated to ensure the accuracy of VNAV speeds, buffet margin and max altitude.