

**WARNING**

To avoid reaching idle cut-off position inadvertently during flight, mixture control should never be extended more than one inch.

**1-23. CARBURETOR AIR.**

1-24. A carburetor heat control, located below and right of the throttle (Figure 1-2, Reference 16), provides selection of either hot or cold induction air (filtered ram air.) When control is in full forward position, cold air is selected. Pulling control to full aft position selects hot air. Normally heat is not required because the airplane is equipped with a pressure-type carburetor not subject to icing; however, when low outside air temperatures are encountered, heat may be used as necessary to maintain mixture temperature in range required for smooth engine operation. Under extreme conditions, if carburetor air filter should be obstructed by ice (indicated by an unaccountable drop in rpm and manifold pressure), selection of carburetor heat provides an alternate source of air.

**CAUTION**

Carburetor heat control should be set only in full on or full off positions. An intermediate position should not be used.

**1-25. PRIMER.**

1-26. The primer pump plunger handle is located at the extreme left side of the control panel. (See Figure 1-2, Reference 37.)

**1-27. STARTER.**

1-28. On L-17B and L-17C airplanes a foot-operated starter button, mounted forward and above pilot's rudder pedals (Figure 1-3, Reference 27), actuates a direct-cranking electric solenoid engaging starter. On L-17A airplanes the starter is engaged by a foot-operated pedal.

**1-29. IGNITION.**

1-30. A conventional ignition switch is located on the left side of the control panel. (See Figure 1-2, Reference 26.)

**1-31. OIL COOLER SHUTTER.**

1-32. A push-pull knob located above the radio panel provides control over the amount of air flowing through the oil cooler. The oil cooler shutter is full open when the knob is in. Move knob to left, to disengage lock, before moving knob either in or out.

**1-33. FUEL SYSTEM.**

1-34. L-17A FUEL SYSTEM. Two fuel tanks, holding approximately 20 gallons each, are installed in the wing, one in each wing panel. (See Figure 1-5.) An accumulator sump tank, mounted between the two tanks and inter-connected with each has a capacity of approximately 1/2 gallon. Fuel from both main tanks is gravity fed into the accumulator sump tank, which ensures an adequate supply of fuel to the engine during all flight maneuvers. From the accumulator tank, fuel is passed through a filter and a shut-off control valve to the two engine-driven pumps; which supply fuel to the carburetor. The output of either pump is sufficient (in case of failure of one) for normal engine operation.

1-35. L-17A MODIFIED AND L-17B FUEL SYSTEMS. On the modified L-17A airplane and the L-17B airplane, the fuel system of the L-17A airplane has been modified as follows (Figure 1-6). The two engine-driven variable displacement pumps have been replaced by a single nonpulsating engine-driven pump and an electric-driven pump. Fuel is normally supplied to the carburetor by the engine-driven pump. The electric pump (Figure 1-3, Reference 39) is used as an auxiliary pump for take-off and landings; or in the event of failure or malfunctioning of the engine-driven pump. Either pump has sufficient output to support normal engine operation. The L-17B modification also incorporates an auxiliary fuel tank and sump tank which are installed beneath the rear seat. The shut-off control valve has been removed, and a three-way valve (Figure 1-3, Reference 23) has been installed. The fuel gage has been replaced by an indicating gage which incorporates two calibration scales and a selector switch (Figure 1-3, Reference 16).

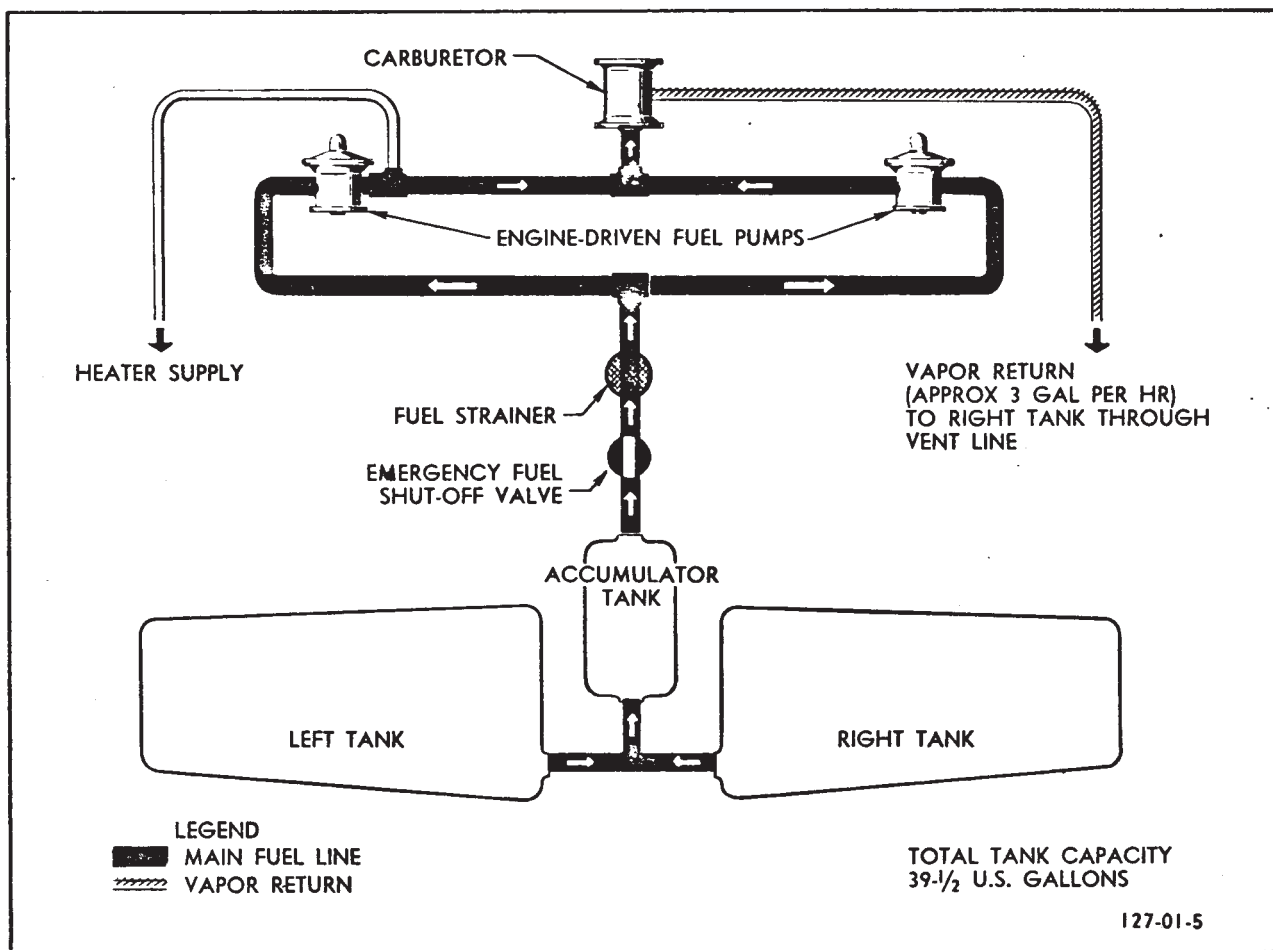
1-36. L-17C Fuel System. The fuel system of the L-17C airplanes is similar in all respects to that of the L-17B airplanes, with the exception of the fuel quantity indicating system. The single double-scale gage of the L-17B airplanes is replaced by two gages on the L-17C airplanes.

1-37. FUEL SPECIFICATION AND GRADE. The fuel used in this aircraft must conform to Specification MIL-F-5572, Grade 80 (recommended) U. S. Army Specification 2-103, Grade 80 (alternate).

**1-38. FUEL SYSTEM CONTROLS.**

1-39. FUEL SHUT-OFF CONTROL VALVE. On L-17A airplanes an emergency fuel shut-off control valve, located forward of the accumulator tank, is operated by a fuel selector valve-control on the center aisle adjacent to the right seat. (See Figure 1-4.) The valve is normally left open but can be positioned to shut off the fuel supply at the firewall in an emergency.

1-40. THREE-WAY FUEL CONTROL VALVE. On L-17C and L-17B airplanes a three-way fuel control



**Figure 1-5. Fuel System, L-17A Airplane**

valve is located on the floor of the main fuselage compartment, immediately forward and to the right of the pilot's seat. This valve is used to permit fuel flow from either the wing or auxiliary tanks to the fuel pumps, or may be used to stop all fuel flow.

**CAUTION**

Do not operate the airplane from the auxiliary fuel tank until the airplane has flown at least one (1) hour or used a minimum of ten (10) gallons of fuel. Use of auxiliary tank fuel, when the main tanks are full, will result in vapor return fuel flowing overboard through the vent lines, as this fluid normally flows into the main tanks.

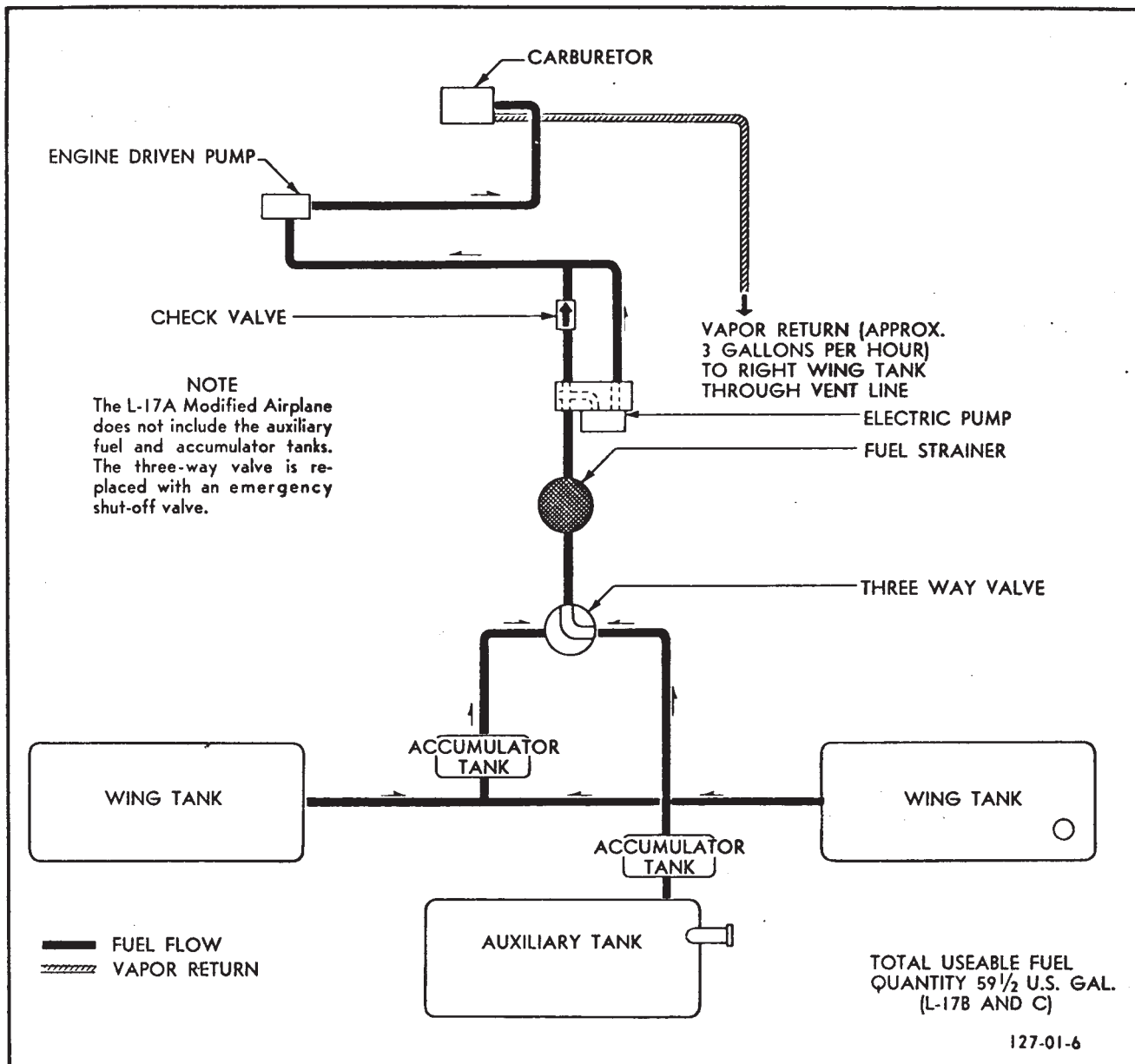
1-41. **ELECTRIC FUEL PUMP SWITCH.** (See Figure 1-3, Reference 39.) This switch is used to turn the electric fuel pump "ON" or "OFF" as necessary.

1-42. **FUEL GAGE SELECTOR SWITCH.** (See Figure 1-3, Reference 16.) On L-17B airplanes this switch is used to control the fuel indicator gage system. Use of this switch allows determination of the fuel remaining in either the wing tanks or the auxiliary tank. A lapse of one minute should be allowed between use of the fuel gage selector switch and reading the fuel quantity on the gage.

1-43. **FUEL QUANTITY GAGES.** Three fuel quantity gage variations will be found on these airplanes.

1-44. **L-17A FUEL QUANTITY GAGE.** A fuel quantity gage (Figure 1-2) indicates the total fuel in both main fuel tanks up to 30 gallons. As the total capacity of the main fuel tanks is 39 1/2 gallons, the gage will show a drop in fuel quantity only after approximately 9 1/2 gallons of fuel have been consumed.

1-45. **L-17B FUEL QUANTITY GAGE.** On L-17B airplanes the fuel gage (Figure 1-3) may be used to indicate the amount of fuel in either the wing tanks or the auxiliary tank. To change the gage indication use the switch (Figure 1-3, Reference 16) located on



**Figure 1-6. Fuel System L-17A Modified, L-17B and L-17C Airplanes.**

the instrument panel. This gage is accurate for either the wing tanks or the auxiliary tank.

#### NOTE

After activating the fuel quantity gage selector switch, allow a one-minute stabilization period to elapse before reading the gage.

1-46. L-17 FUEL QUANTITY GAGES. L-17C airplanes are equipped with two fuel quantity gages; one for the auxiliary fuel tank and one for the wing tanks.

(See Figure 1-3.) The wing tank gage is similar to the gage in the L-17A airplanes. The auxiliary fuel tank gage is accurate for the full capacity of the tank, 21 gallons.

#### 1-47. HYDRAULIC SYSTEM.

1-48. Power for operation of landing gear and flaps is provided by the hydraulic system. (See Figure 1-7.) Pressure, supplied to the system by an engine-driven pump, is manually controlled from the cabin by a push-pull hydraulic power control. When the control is pushed in to the off position, a relief valve in the system is opened to by-pass pump output back to a reservoir, thereby relieving the complete hydraulic