

and center electrode. Such resetting will damage the core insulation.

4-156. **INSTALLING SPARK PLUGS.** To install spark plugs, proceed as follows:

a. Clean rust-preventive compound from shell threads, electrodes, and core insulation of each spark plug.

NOTE

Carbon tetrachloride may be used only on the shell thread to remove rust-preventive compound.

b. Dry spark plugs with air blast.

c. Check electrode gap .010 (+.002 -.001) inch.

d. Install solid copper gasket on each spark plug.

e. Lubricate plug threads lightly with thin film of thread lubricant.

CAUTION

Do not lubricate cylinder insert threads, and avoid getting lubricant on electrodes.

f. Install spark plugs, and tighten to a torque of 300 to 360 inch-pounds.

CAUTION

Do not install any spark plug that has been dropped on floor or hard surface. Do not install or tighten spark plugs when engine is hot. If it is absolutely necessary to install spark plugs on an excessively hot engine, install plugs finger-tight plus 1/2 turn.

4-157. OIL SYSTEM.

4-158. The engine is lubricated by a wet-sump pressure system of 10.5 quarts capacity. The system consists of an oil cooler, oil cooler relief valve, oil cooler shutter, engine oil pump, filter, and pressure regulating valve (See figure 4-39.) Oil, drawn from the sump, is delivered by the pump to the oil cooler and then thru the pressure regulating valve to the engine, from which the oil drains back into the sump. The non-adjustable pressure regulating valve is preset to relieve at approximately 50 psi. Fittings at the front of the engine allow oil pressure to be used for operating the propeller. The filler cap is at the top left side of the engine. The oil quantity dipstick, located at the left rear of the engine, is calibrated in quarts. The engine crankcase is vented by a breather tube leading from the nose section of the engine to the right engine cooling air exit louvre. An oil

temperature bulb is located in the oil cooler relief valve housing.

4-159. OIL COOLER.

4-160. The oil cooler is mounted in the left side of the engine compartment, on the engine mount bulkhead. The cooler consists of cooling fins, by-pass port, and a cooler relief valve mounted in the outlet side on the bottom of the cooler. The non-adjustable cooler relief valve is set to open when a pressure drop across the cooler (created by congealed oil) exceeds 25 psi. Air is directed through the cooler by engine baffles. Oil from the engine enters the cooler at the top, and normally flows through the cooling plates to the outlet port, back to the engine. When the oil is congealed, and a difference in pressure in excess of 25 psi exists across the relief valve, the valve opens and allows the oil to by-pass the cooler back to the engine. When the oil temperature rises, thus reducing the pressure, the relief valve closes and oil is directed to its normal path through the cooling plates.

4-160A. OIL COOLER SHUTTER, L-17B AND L-17C (MODIFIED L-17A) AIRPLANES.

4-160B. A shutter assembly, mounted on the air baffle forward of the oil cooler, is used to partially or completely prevent flow of air through the oil cooler, when higher oil temperatures are desired. The oil cooler shutter is adjusted by a push pull knob on the control panel, above the radio panel cut-out. Movement of the knob aft closes the shutter. The shutter is held in the desired position by the meshing of notches in the control rod with a lock plate attached to the control panel.

4-161. FUEL SYSTEM.

4-162. **GENERAL, L-17A AIRPLANES.** The fuel system consists of two wing tanks, an accumulator tank, two engine-driven fuel pumps, fuel shut-off valve, hand primer, and a fuel quantity transmitter and indicator. (See figure 4-40.) Fuel, gravity fed from the two main fuel tanks into the accumulator tank, flows through an integral finger-type strainer to the two engine-driven pumps. From the pumps, fuel under pressure flows to the carburetor. A fuel shut-off valve, located in the line between the accumulator tank and the fuel pumps, is operated by a push-pull control on the right side of the control panel. The hand primer, located at the upper left corner of the control panel, obtains its fuel supply from the shut-off valve and pumps it directly into the intake manifold. An electrical fuel level transmitter in the left tank registers the fuel level in both tanks. A gage on the instrument panel registers up to 30 gallons of fuel. The tanks are vented by an interconnecting line which extends into the atmosphere under the left side of the fuselage near the leading edge of the wing. To prevent over-flow, the interconnecting vent line is routed to a high position in the fuselage forward of the cabin.

4-163. GENERAL, MODIFIED L-17A AIRPLANES. The fuel system (see figure 4-41) consists of two wing tanks, an auxiliary tank, auxiliary tank sump, accumulator tank, electric-driven pump, engine-driven pump, strainer, check valve, relief valve, three-way valve, hand primer pump, and fuel quantity and pressure indicating systems. Fuel from either the interconnected wing tanks sump or the auxiliary tank sump is supplied to the fuel pumps through the three-way valve. This valve may be used to supply fuel from either wing or auxiliary tanks, or to turn all fuel flow "OFF".

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.

The accumulator sump tank and auxiliary sump tank serve to assure an adequate supply of fuel during maneuvers. From the three-way valve fuel flows through the strainer to the electric pump on to the engine-driven pump and from there to the carburetor. A check valve in the electric pump by-pass line prevents fuel from flowing back into the supply line when this pump is operating. Excess fuel pumped by the engine-driven pump is relieved by a valve in the pump to recirculate until passed to the carburetor. Excess fuel pumped by the electric pump passes through a relief valve in the fuel return line, to be re-circulated by the electric pump. The hand primer pump, located on the upper left corner of the control panel, obtains its fuel supply from the fuel line leading out of the electric pump, and pumps it directly into the intake manifold. The carburetor vapor return line ties in to the wing tank vent system, returning approximately three gallons of fuel per hour to the right hand wing tank. The fuel pressure gage connects to the carburetor. Fuel quantity is indicated by two gages. (See figure 4-64.) As the wing tank fuel gage registers a maximum of 30 gallons, out of a possible 39-1/2 gallons, the gage will not register any amount of fuel in the wing tanks in excess of 30 gallons. The auxiliary tank indicating gage is accurate for the full amount of fuel in the auxiliary tank.

4-164. GENERAL, L-17B AIRPLANES. The fuel system of the L-17B airplanes is similar to that of the modified L-17A airplanes, with the exception of the fuel indicating system. The L-17B airplanes have a single indicating gage (see figure 4-64) which is accurate for the full amount of fuel in either the wing fuel tanks or the auxiliary fuel tank. To change the indication of the gage, use the

fuel gage selector switch (figure 4-64, reference 16).

NOTE

After activating the fuel gage selector switch, allow a 60 second gage stabilization period to elapse before reading the fuel indicating gage.

4-165. WING FUEL TANKS. The wing fuel tanks are of welded aluminum alloy construction. They are beaded for strength, and have no internal baffling. The right tank incorporates the filler neck. The fuel quantity gage transmitter is installed in the left tank. Each tank is bonded to the wing through a bracket welded to the top of the tank. The tanks are wedged into the wing structure, and held in place by a padded cross-bar, which bolts to the wing structure. To gain access to the tanks it is necessary to lift the fuselage from the wing and separate the wing panels. For information regarding wing disassembly refer to paragraph 4-5.

4-166. AUXILIARY FUEL TANK. The auxiliary fuel tank is of beaded aluminum alloy construction, incorporating a filler neck on the right upper side of the tank and a fuel quantity transmitter on the forward side of the tank. Access to the tank is gained by removal of the rear seat.

4-167. FUEL ACCUMULATOR SUMP TANK. The 1/2 gallon accumulator sump tank is located between and below the wing fuel tanks. This tank is installed to insure a constant source of fuel supply during maneuvers, and to act as a sump for the wing fuel tanks. A finger type strainer and a sump drain cock are located on the bottom forward end of the tank. Access is provided to the strainer and drain-cock through an opening on the lower wing surface immediately to the left of the wing center line. To remove the tank from the airplane, the wing must be disassembled according to paragraph 4-5.

4-168. AUXILIARY SUMP TANK. The 1/2 gallon auxiliary sump tank is located below the auxiliary fuel cell, to the left of the wing center splice. A finger type strainer and a drain-cock are located on the bottom of the tank. The strainer is accessible thru the left main wheel well. A hole in the wing skin aft of the wheel well gives access to the drain-cock.

4-169. FUEL SHUT-OFF VALVE. The fuel shut-off valve (a cam-operated, plunger-type valve) is located on the aft, lower right side of the firewall. The fuel shut-off is controlled from the control panel, by a push-pull control. This valve is found on unmodified L-17A airplanes only.

4-170. THREE-WAY VALVE. The three-way fuel control valve (on L-17B's and modified L-17A's) is a simple turning valve, and

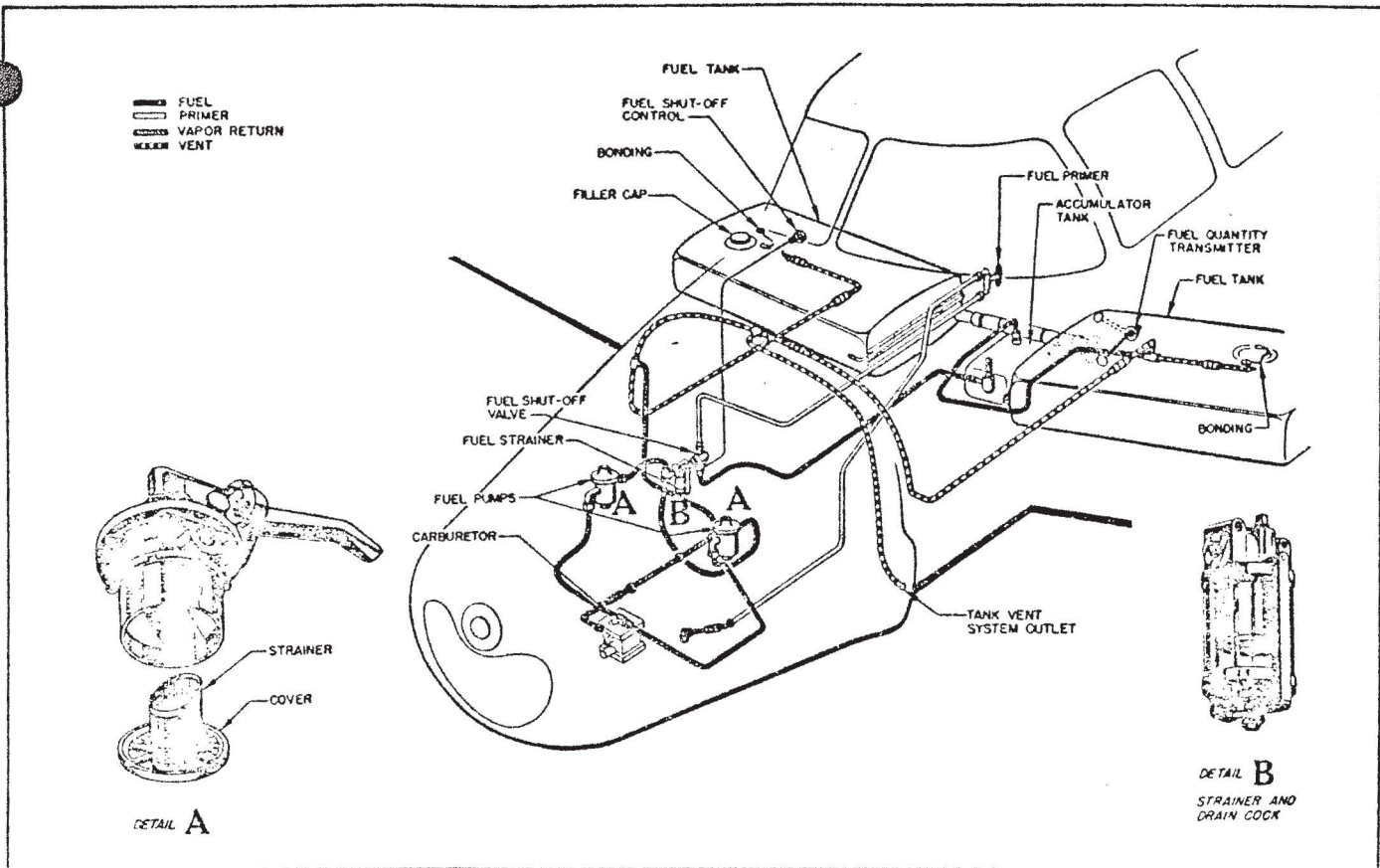


Figure 4-40. Fuel System, L-17A Airplanes

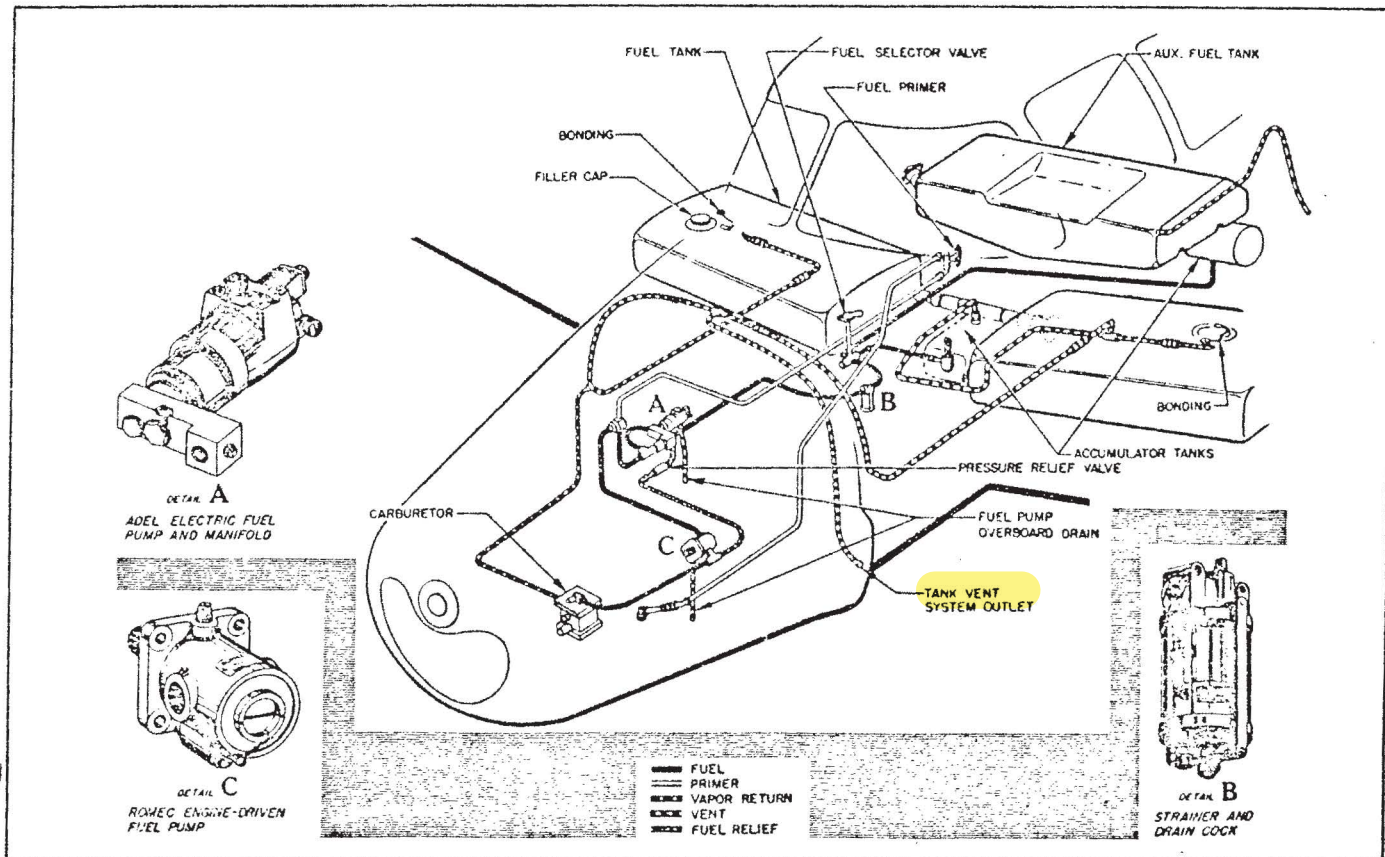
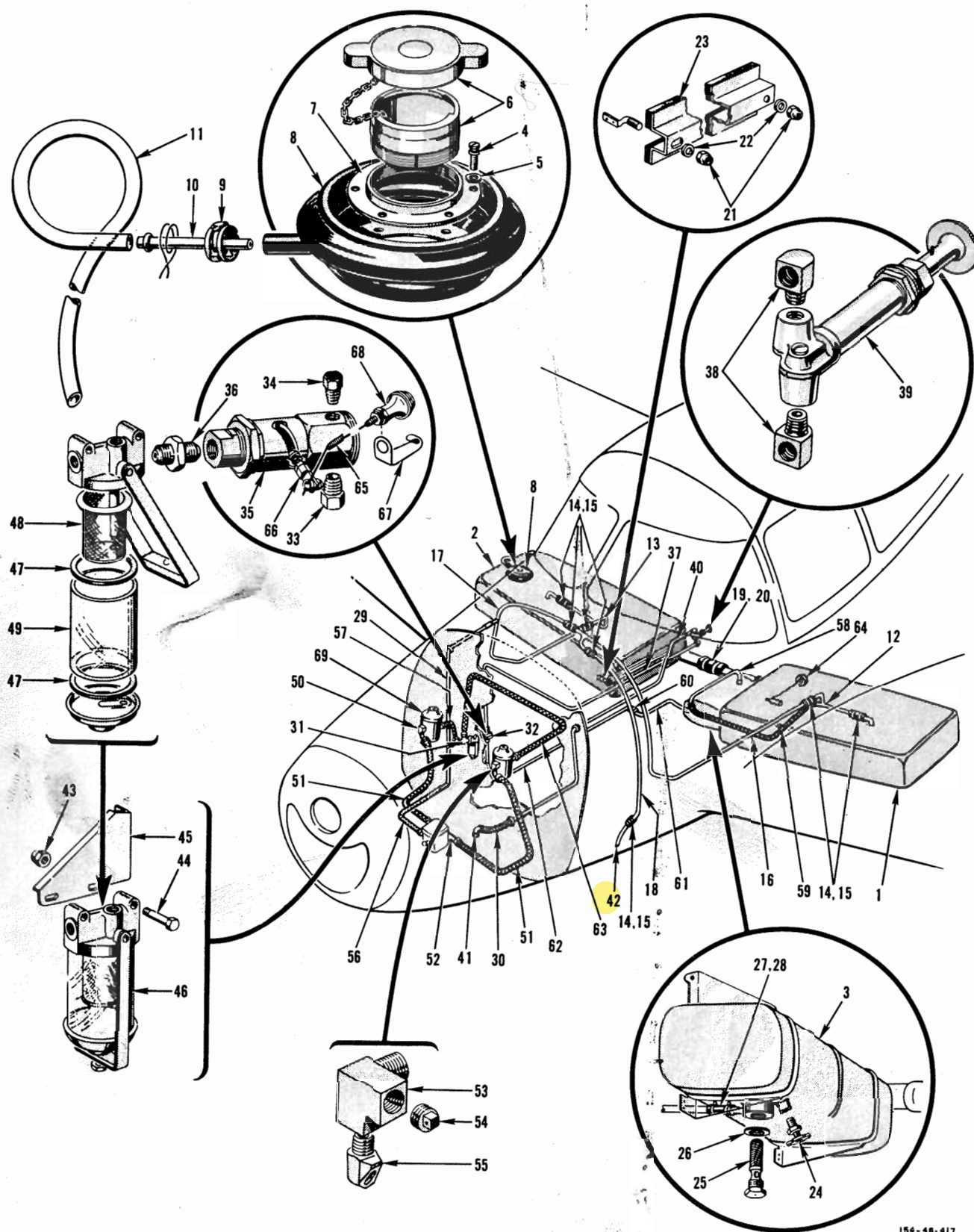


Figure 4-41. Fuel System, L-17B and Modified L-17A Airplanes

Section II
Group Assembly Parts List

AN 01-60LAA-4



156-48-417

Figure 15 - Fuel System

Group Assembly Parts List

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	7	NOMENCLATURE	UNITS PER ASSY.	USAGE CODE
									POWER PLANT AND ENGINE SECTION FUEL SYSTEM L-17A ONLY		
15	145-48001								Fuel System Installation (see fig 1 for next assy)	NP	A
-1	145-48002-1								Tank Assy - Fuel LH	1	A, C
-2	145-48002-2								Tank Assy - Fuel RH	1	A, C
-3	145-48004								Tank Assy - Fuel accumulator	1	A, C
-4	AN502-10-8								Screw - Fillister head machine fine thread	6	ALL
-5	2W1F12-12-47								Washer - Plain	6	ALL
-6	42B3581								Cap and Adapter Assy (AA)	1	ALL
-7	145-48020								Ring - Mounting	1	A
-8	145-48011								Basin Assy - Fuel filler neck spill	1	ALL
-9	A3122-10-59								Clamp (TIN)	1	ALL
-10	145-48001-36								Tube - Overflow line	1	A, C
-11	145-48001-35								Hdse - Fuel filler cap overflow	1	A, C
-12	145-48804								Line Assy - Fuel vent drain	1	ALL
-13	145-48001-34								Line - Fuel RH	1	A, C
-14	A3122-14-59								Clamp - Hose (TIN)	12	A
-15	AN884-4-13								Hdse - Aromatic resistant synthetic	6	A
-16	145-48001-25								Line - Balance	1	A, C
-17	145-48001-45								Line Assy - Vent RH	1	A, C
-18	145-48001-38								Line - Overboard vent	1	A, C
-19	AN737TW58-66								Clamp - Hose	4	ALL
-20	AN884-24-36								Hdse - Aromatic resistant synthetic (use on RH side)	1	A
	AN884-24-16								Hdse - Aromatic resistant synthetic (use on LH side)	1	A
-21	AN365-428								Nut - Self locking	4	ALL
-22	AN960-416								Washer - Plain	4	ALL
-23	145-48017								Support Assy - Fuel tank inboard	2	ALL
-24	CCA1550 1-8								Draincock - Self sealing (CURT)	1	A
-25	145-48016								Screen Assy - Fuel accumulator tank outlet	1	A, C
-26	AN960-16								Washer - Plain	1	ALL
-27	AN737RM26								Clamp - Hose	2	ALL
-28	AN884-6-13								Hdse - Aromatic resistant synthetic	1	A
-29	145-48001-39								Line Assy - Vapor return	1	A
-30	145-48024								Hdse Assy - Primer pump to engine manifold	1	A, C
-31	752X6								Tee - Inverted 45° (WH)	2	A
-32	145-48001-11								Valve Assy - Fuel shut-off	1	A
-33	200X6								Connector - Inverted male (WH)	1	A
-34	200X4								Connector - Inverted male (WH)	1	A
-35	D51								Valve - Fuel shut-off (DEU)	1	A
-36	3325X4								Nipple - Hex (WH)	1	A
-37	145-48001-41								Line Assy - Primer	1	A, C
-38	400X4								Elbow - Inverted male (WH)	2	A
-39	K2405 1-8								Primer (KMCI)	1	A
-40	145-48001-7								Line Assy - Primer 1st section	1	A
-41	145-48025								Injector Assy - Engine manifold primer fuel	1	A, C
-42	145-48001-28								Line - Overboard drain	1	A, C
-43	AN365-428								Nut - Self locking	2	A
-44	AN4-13A								Bolt - Aircraft 1/4-28	2	A
-45	145-48051								Bracket - Fuel strainer support	1	ALL
-46	K2250B2								Strainer Assy, Fuel (KOE)	1	ALL
	* K2250B2-2A								Strainer Assy, Fuel (KOE)	1	ALL
	* K22452								Strainer Assy, Fuel (KOE)	1	ALL
-47	K2212A								Gasket (KOE)	2	ALL
-48	K22471								Element, Filter (KOE)	1	ALL
-49	K2255A								Bowl, Glass	1	ALL
-50	145-48023								Adapter - Fuel pump outlet RH	1	A
-51	75695								Hdse Assy (WH)	2	A
-52	652X6								Tee - Inverted (WH)	1	A
-53	145-53307								Fitting - Heating and ventilating system heater installation	1	ALL
-54	AN913-1								Plug - Square head pipe thread	1	ALL
-55	352X6								Elbow - 45° Inverted (WH)	1	A
-56	76701								Hdse Assy (WH)	1	A
-57	75685								Hdse Assy (WH)	1	A
-58	145-48802-7								Line Assy - Vent drain	1	A
-59	AN884-4-120								Hdse - Aromatic resistant synthetic	1	A
-60	300X6								Union (WH)	1	A
-61	145-48001-12								Line Assy - Main fuel 2nd section	1	A
-62	145-48001-5								Line Assy - Main fuel	1	A
-63	75694								Hdse Assy (WH)	1	A
-64	439140								Transmitter - Fuel level (SW) (see fig 19 for next assy)	Ref	A
	145-43001								Engine Controls Installation (see fig 13 for details)	NP	A
-65	145-43007								Control Assy - Engine controls fuel valve	Ref	A, C
-66	X3058 3-32								Swivel Assy - SPC1	1	A
-67	145-43019-3								Guard - Engine fuel control knob	1	A, C
	145-51005-10								Panel Assy - Instrument complete (see fig 20 for details)	NP	A
-68	145-51061-3								Knob - Instrument panel control	1	A
-69	P625SD6								Pump - Fuel (CIB) (see fig 11 for next assy)	Ref	A
	P624SD6								Pump - Fuel (CIB) (see fig 11 for next assy)	Ref	A
	* Replaces preceding ten										
	NOTE: Usage coding "C" and "ALL" shown to indicate parts interchangeable with L-17B and L-17C fuel systems										

Section II
Group Assembly Parts List

AA 01-100LAA-4

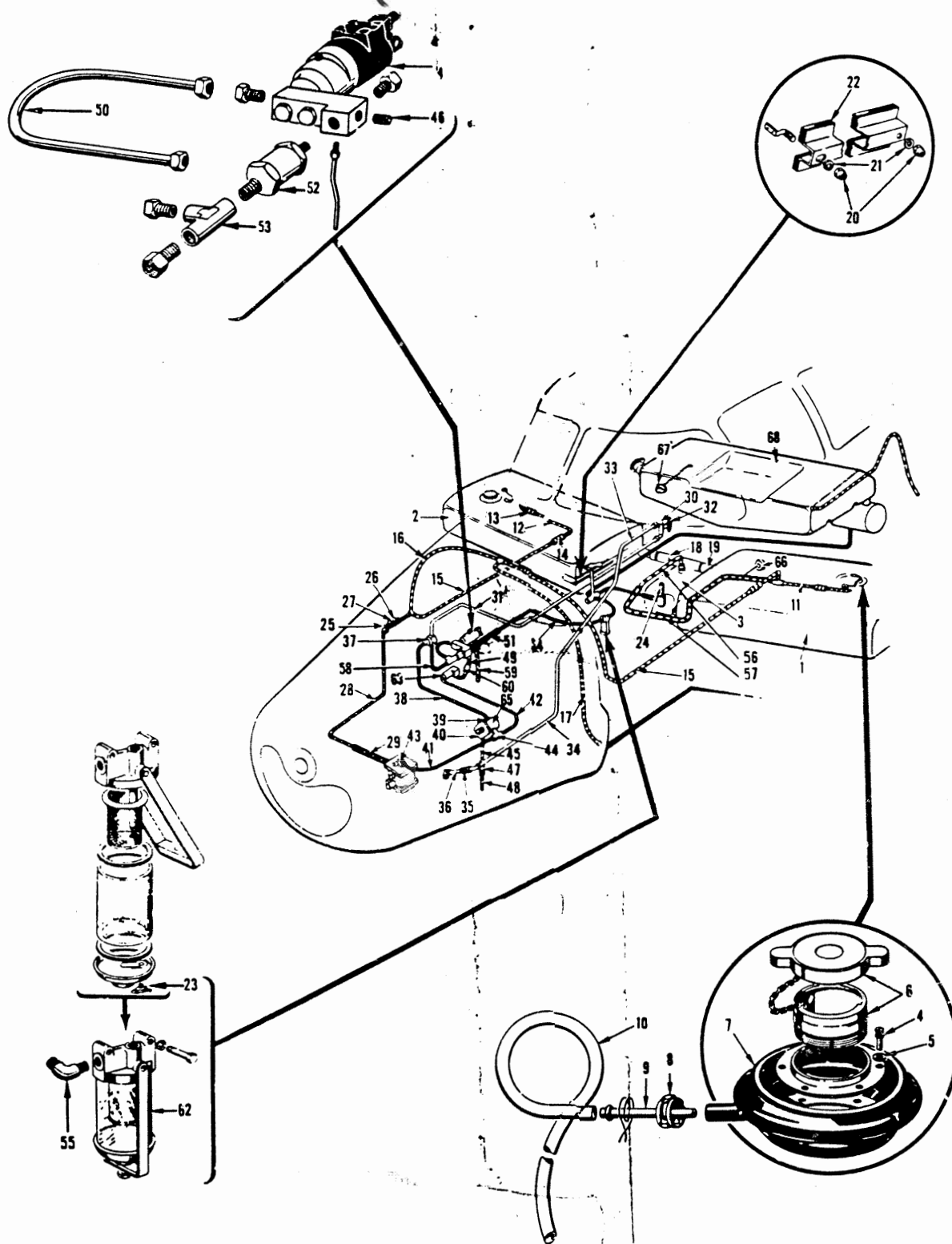


Figure 16 - Fuel System, L-17B and L-17C Airplanes

Group Assembly Parts List

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	7	NOMENCLATURE	UNITS PER ASSY.	USAGE CODE
									POWER PLANT AND ENGINE SECTION FUEL SYSTEM L-17B AND L-17C		
16	154-48001								Fuel System Instal (see fig 15 for detail assy)	NP	B
	154-89005								Kit Instal - Fuel System (L-17B Conversion)	NP	C
-1	145-48002-1								Tank Assy - Fuel LH (see fig 15)	Ref	A, C
	# 145-48002-101								Tank Assy - Fuel LH	1	B
-2	145-48002-2								Tank Assy - Fuel RH (see fig 15)	Ref	A, C
	# 145-48002-104								Tank Assy - Fuel RH	1	B
-3	145-48004								Tank Assy - Fuel Accumulator (see fig 15)	Ref	A, C
	# 145-48006								Tank Assy - Fuel Accumulator	1	B
-4	AN502-10-8								Screw - Filler head machine fine thread	6	ALL
-5	2W1F12-12-47								Washer - Plain	6	ALL
-6	145-48227								Filler Neck Assy	1	C
-7	145-48011								Basin Assy - Fuel filler neck spill	1	ALL
-8	A3122-10-59								Clamp (TIN)	1	ALL
-9	154-48001-111								Tube - Overflow line	1	B
-10	154-48001-110								Hose - Fuel filler cap overflow	1	B, C
-11	145-48804								Line Assy - Fuel vent drain	1	ALL
-12	154-48001-34								Line Assy - Fuel RH	1	B
-13	AN737RM30								Clamp - Hose	12	B, C
-14	MIL-H-6000								Hose - 1/2 ID x 3-1/4	6	B, C
-15	154-48001-25								Line - Balance LH	1	B
	154-48001-26								Line - Balance LH	1	B
-16	154-48001-45								Line Assy - Fuel vent (welded)	1	3
-17	154-48001-38								Line - Overboard vent	1	B
-18	AN737TW58-66								Clamp - Hose	4	ALL
-19	MIL-H-6000								Hose - 1-1/2 ID x 9 (use on RH side)	1	B, C
	MIL-H-6000								Hose - 1-1/2 ID x 4 (use on LH side)	1	B, C
-20	AN365-428								Nut - Self locking	4	ALL
-21	AN960-416								Washer - Plain	4	ALL
-22	145-48017								Support Assy - Fuel tank inboard	2	ALL
-23	W7600-1/8								Drainback - Self sealing (WTR)	4	B, C
-24	145-48016								Screen Assy - Fuel accumulator tank outlet	2	ALL
-25	AN960-16								Washer - Plain	1	ALL
-26	AN737RM26								Clamp - Hose	2	ALL
-27	MIL-H-6000								Hose - 3/8 x 3-1/4	1	C
-28	154-48001-39								Line Assy - Vapor return bulkhead to balance line	1	B, C
	154-48001-100								Line Assy - Vapor return bulkhead to carburetor hose assy	1	B, C
-29	AN6264-4-11-1/2								Hose Assy - Vapor return line carburetor to rigid line	1	A, C
-30	AN833-4D								Elbow	1	B, C
-31	154-48001-41								Line Assy - Primer	1	B, C
-32	K2405 1/8								Primer (KMCI)	1	ALL
	AN822-4								Elbow	2	B, C
-33	154-48001-65								Line Assy - Primer to bulkhead	1	B, C
-34	154-48001-67								Line Assy - Primer to bulkhead to hose assy	1	B, C
-35	AN6264-4-11-1/2								Hose Assy - Primer pump to engine manifold	1	B, C
-36	154-48001-57								Line Assy - Hose assy to injector	1	B, C
-37	145-48232								Fitting - Fuel system bulkhead	1	B, C
-38	AN6264-6-12-1/2								Hose Assy - Main fuel line - firewall to engine driven pump	1	B, C
-39	AN823-6								Elbow	1	B, C
-40	AN813-2								Plug	2	B, C
-41	AN6264-6-30								Hose Assy - Main fuel line - engine driven pump to carburetor	1	B, C
-42	AN6264-4-22								Hose Assy - Fuel return line - engine driven pump to firewall	1	B, C
-43	145-53307								Fitting - Carburetor fuel inlet	1	B, C
-44	145-53307-10								Fitting - Engine driven fuel pump inlet	1	B, C
-45	154-48001-78								Tube Assy - Engine driven fuel pump drain	1	B, C
-46	AN913-1								Plug	1	B, C
-47	AN816								Nipple	1	B, C
-48	154-48001-80								Tube Assy - Engine driven fuel pump drain	1	B, C
-49	154-48001-70								Tube Assy - Firewall to electric fuel pump	1	B, C
-50	154-48001-106								Tube Assy - Electric pump to tee	1	B, C
-51	AN6264-6-8								Hose Assy - Main fuel line rigid line to electric fuel pump	1	B, C
-52	525FG-1/4D								Valve, Swing type check (PA) (see T. O. 6R9-2-1-1)	1	B, C
-53	AN826-6D								Tee	1	B, C
-54	154-48001-49								Line Assy - Fuel line strainer to flexible hose	1	B, C
-55	AN822-6D								Elbow	1	B, C
-56	154-48001-94								Tube Assy - Vent drain	1	B, C
-57	MIL-H-6000								Hose - 1/4 ID x 29	1	B, C
-58	154-48001-47								Line Assy - Main fuel tee to bulkhead fitting	1	B, C
-59	154-48001-52								Line Assy - Drain electric fuel pump	1	B, C
-60	20448-A								Valve - Relief - fuel return line (AP)	1	B, C
-61	AN822-6D								Elbow	1	B, C
-62	K2205B2								Strainer Assy - Fuel (KOE) (see fig 15 for details)	1	B, C
	# 2250B2-2A								Strainer Assy - Fuel (KOE) (see fig 15 for details)	1	ALL
	# K22452								Strainer Assy - Fuel (KOE) (see fig 15 for details)	1	ALL
-63	145-48080								Filter Assy - Fuel Return Line	1	ALL
-64	20113								Pump - Fuel electric driven (AP) (see fig 11)	1	B, C
-65	TF-1100								Pump - Fuel engine driven (TP)	1	B, C
-66	145-51071-2								Transmitter - Fuel level (SW) (see fig 19)	Ref	B, C
-67	145-51071-4								Transmitter - Fuel level (SW) (see fig 19)	Ref	B, C
-68	145-89067-400								Auxiliary Fuel Tank (Underseat) (see fig 17)	Ref	B, C
	# Replaces preceding item										

Section II
Group Assembly Parts List

IN 01-100LAA-4

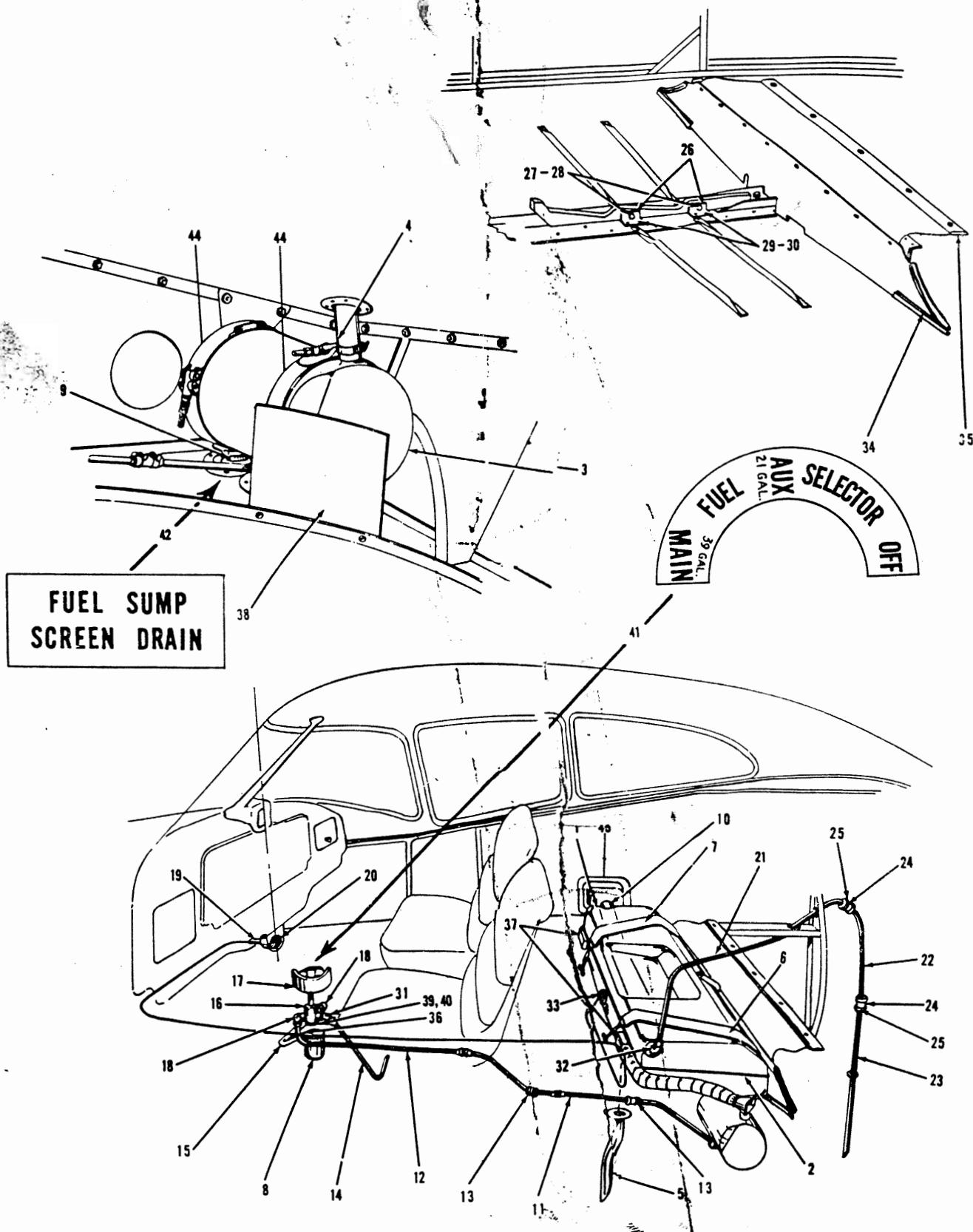


Figure 17 - Fuel System, Underseat Tank

Revised 7 April 1950

Group Assembly Parts List

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	7	NOMENCLATURE	UNITS PER ASSY.	USAGE CODE
									POWER PLANT AND ENGINE SECTION FUEL SYSTEM L-17B AND L-17C		
17											
-1	145-89067-400								Kit Instal - Auxiliary Fuel Tank (Underseat)	1	B, C
-2	145-48304								Tank Assy - Underseat	1	B, C
-3	145-48239								Tank Assy - Accumulator	1	B, C
-4	145-89067-114								Hose - Main tank to accumulator tank	1	B, C
-5	145-53336								Vent Pipe Assy - Underseat tank	1	B, C
-6	145-48241-1								Strap Assy LH	1	B, C
-7	145-48241-2								Strap Assy RH	1	B, C
-8	K2250B								Strainer - Fuel	1	B, C
-9	W-7600-1/8								Draincock - Accumulator tank	1	B, C
-10	42B3581								Cap and Neck Assy - Underseat tank (AA)	1	B, C
-11	145-89067-141								Tube - Accumulator tank to selector valve aft	1	B, C
-12	145-89067-131								Tube Assy - Accumulator tank to selector valve forward	1	B, C
-13	145-89067-106								Hose	1	B, C
-14	145-89067-137								Tube Assy - Selector valve to main tank outlet	2	B, C
-15	145-89067-133								Tube Assy - Selector valve to fuel strainer	1	B, C
-16	W6235-1/4D								Valve - Fuel selector (with 3 inch extension handle) (WTR)	1	B, C
-17	145-48235								Plate - Fuel selector indicator	1	B, C
-18	AN822-6B								Elbow	1	B, C
-19	91396								Resistor (SW)	2	B, C
-20	154-480025								Gauge - Fuel quantity	1	B, C
-21	145-89067-23								Tube Assy - Underseat fuel tank vent	1	B, C
-22	145-89067-12								Tube - Underseat fuel tank vent	1	B, C
-23	145-89067-18								Tube - Underseat fuel tank vent	1	B, C
-24	145-89067-14								Hose	1	B, C
-25	AN748-30								Clamp	2	B, C
-26	145-89067-53								Bracket	4	B, C
-27	AN24-19A								Bolt - Aircraft	4	B, C
-28	AN365-428								Nut - Self locking	2	B, C
-29	AN3-3A								Bolt - Aircraft	3	B, C
-30	AN365-1032								Nut - Self locking	10	B, C
-31	AN823-6								Elbow	20	B, C
-32	AN822-8								Elbow	1	B, C
-33	145-51071-4								Transmitter - Fuel level (see fig 19)	1	B, C
-34	145-53335								Baffle	Ref	B, C
-35	145-53337								Baffle - Canvas	1	B, C
-36	AN816-4								Nipple	1	B, C
-37	145-53334								Retainer	1	B, C
-38	145-89067-70								Shield - Tank assy accumulator	2	B, C
-39	145-48243-3								Plate - Spring	1	B, C
-40	145-48243-5								Plate - Spring	1	B, C
-41	145-89067-128								Decal - Fuel Selector	1	B, C
-42	145-53078								Decal - Filler Cap.	1	B, C
-43	145-89067-8								Scupper - Spill well bracket	1	B, C
-44	820-18								Clamp - Accumulator tank hold down (Marmon Products Co., Inc.)	2	B, C