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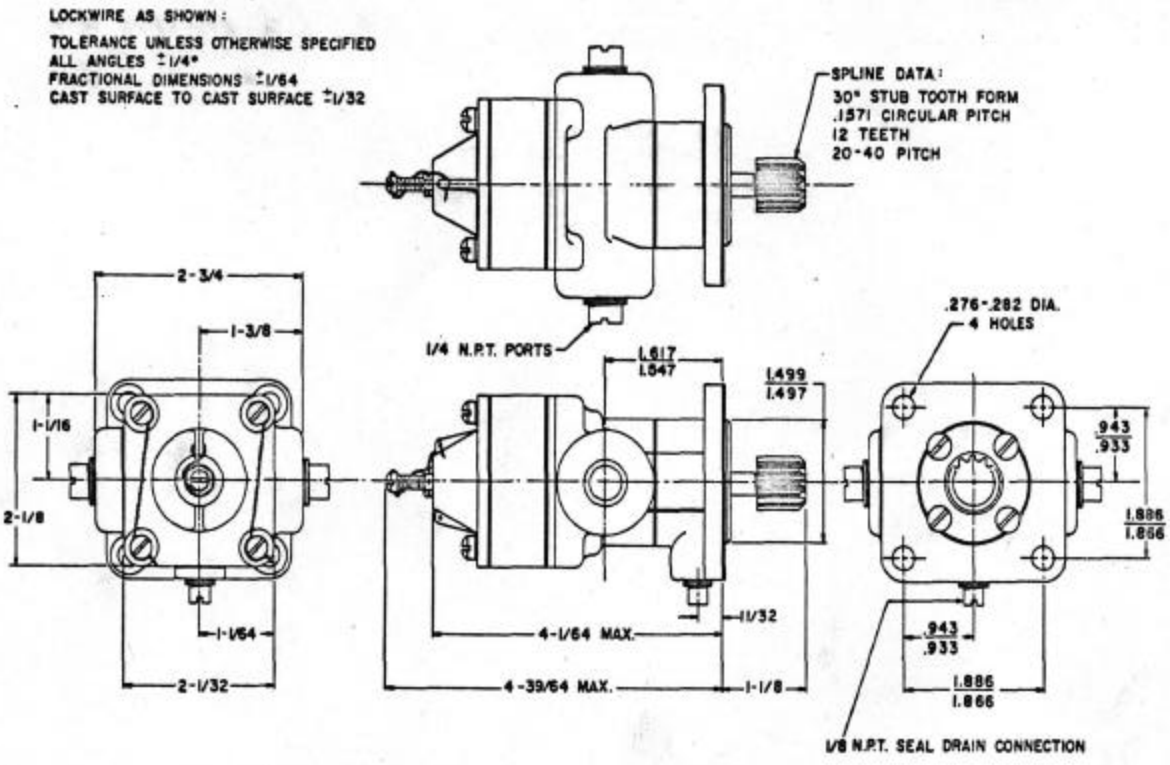
Medaccion
702-6446729

TRW ACCESSORIES DIVISION

ENGINE DRIVEN FUEL PUMP

MODEL TF-1900

TRW INC.
CLEVELAND, OHIO 44117



PERFORMANCE

Subject pumps are to be tested for "Relief Valve Regulation" to the following data: (See Section VI.)

FLOW (lbs/hr)	SPEED (rpm)	DISCHARGE PRESSURE MAXIMUM (psi)	(in. Hg)	MINIMUM (psi)	(in. Hg)
24.0	840	13.0	26.5	9.0	18.3
63.0	3000	13.0	26.5	9.0	18.3
180.0	3800	13.0	26.5	9.0	18.3

PERTINENT DATA

PUMP TYPE: Positive displacement, rotary, vane.

RATED CAPACITY: 85 GPH at 2500 RPM, 0 PSI discharge pressure.

SEAL: Diaphragm type, resistant to aromatic fuels.

TEMPERATURE RANGE: Minus 65°F. to plus 165°F.

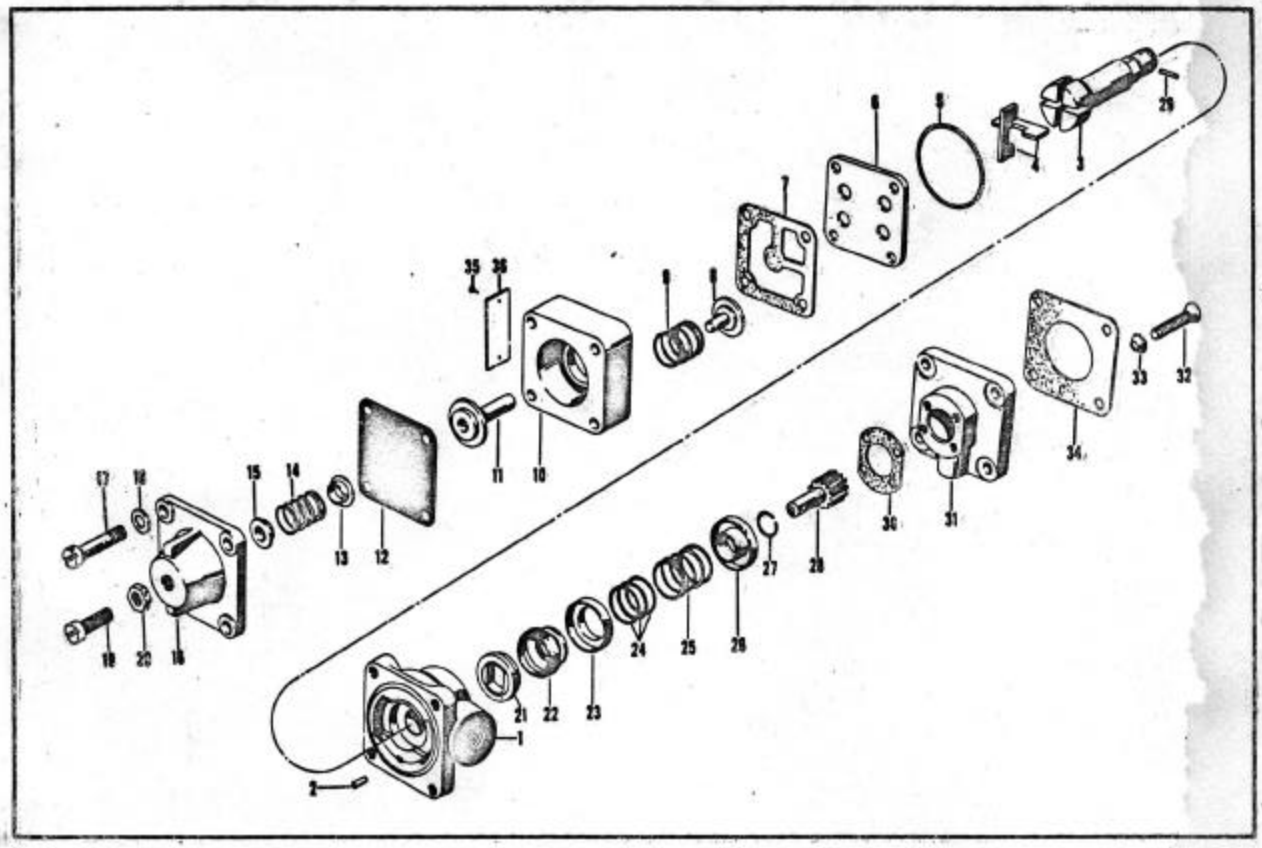
RELIEF VALVE: Attach so that the inlet side corresponds to the inlet side of pump.

ADJUSTMENT RANGE: 5 PSI to 30 PSI.

MOUNTING: Detachable square flange. Four holes. Conforms to AND-20000.

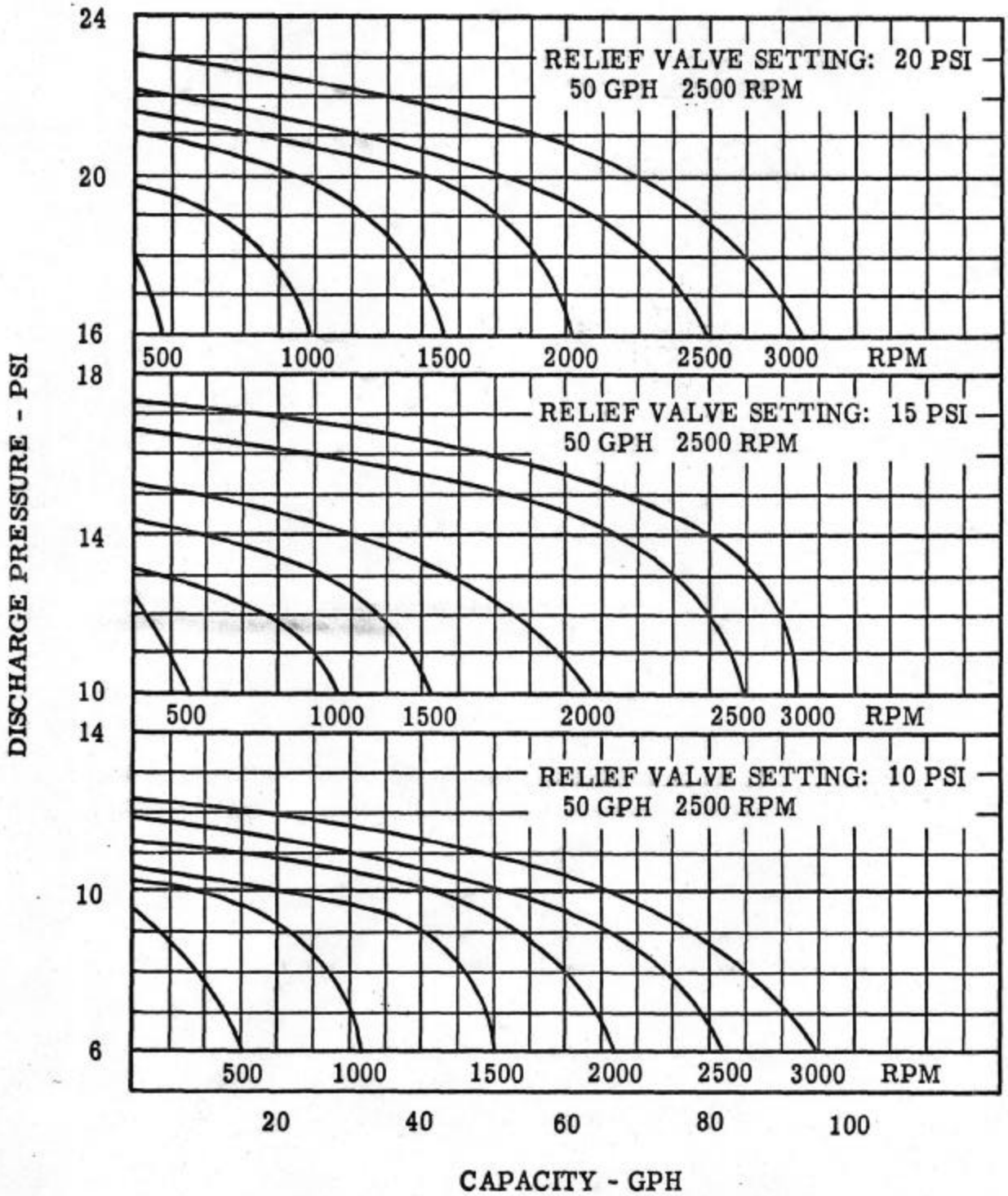
LUBRICATION: Self lubricating. No special lubrication necessary.

WEIGHT: 1.4 lbs. maximum.



Ref. No.	Part Name	Part No.	No. Req.
1	Body Assembly	TF-1931	1
2	Liner Locking Pin	TF-1110	1
3	Rotor	TF-1903	1
4	Blade	TF-1113	2
5	O-Ring Gasket	TF-1194-1	1
6	Thrust Plate	TF-1193	1
7	Relief Valve Gasket	TF-1261	1
8	By-pass Valve Poppet	TF-1141	1
9	By-pass Valve Spring	TF-1140	1
10	Relief Valve Body	TF-1132-1	1
11	Relief Valve Poppet	TF-1156-1	1
12	Relief Valve Diaphragm	TF-1143	1
13	Lower Spring Retainer	TF-1187-1	1
14	Relief Valve Spring	TF-1157	1
15	Upper Spring Retainer	TF-1178-1	1
16	Relief Valve Cover	TF-1146-2	1
17	Cover Screw (AN503-10-22)	TX-90047-28	4
18	Cover Washer (AN960-10L)	TX-90790-34	4

Ref. No.	Part Name	Part No.	No. Req.
19	Valve Adjustment Screw	TF-1148	1
20	Valve Adjustment Nut	TF-1154	1
21	Rotating Fuel Seal	TF-1122	1
22	Seal Diaphragm	TF-1192	1
23	Seal Cup	TF-1124	1
24	Diaphragm Snap Ring	TF-1173	3
25	Seal Spring	TF-1125	1
26	Seal Spring Retainer	TF-1121	1
27	Seal Spring Retainer Snap Ring	TF-1126	1
28	Splined Driver	TF-1920	1
29	Drive Pin	TF-1991	1
30	Mounting Flange Gasket	TF-1160	1
31	Mounting Flange	TF-1196	1
32	Mounting Flange Screw (AN505-8-18)	TX-90065-18	4
33	Lock Washer (AN936C8)	TX-90799-51	4
34	Mounting Gasket	TF-1195	1
35	Drive Screw (AN535-002)	TX-90730	2
36	Nameplate	TF-1109	1


RELIEF VALVE SETTING: 20 PSI
50 GPH 2500 RPM
RELIEF VALVE SETTING: 15 PSI
50 GPH 2500 RPM
RELIEF VALVE SETTING: 10 PSI
50 GPH 2500 RPM
DISCHARGE PRESSURE - PSI
24
20
16
18
14
10
14
10
6
500 1000 1500 2000 2500 3000 RPM
500 1000 1500 2000 2500 3000 RPM
500 1000 1500 2000 2500 3000 RPM
20 40 60 80 100
CAPACITY - GPH

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SECTION I

DESCRIPTION

1a. PURPOSE. The fuel pumps described in this handbook are classified as positive-displacement, rotary-vane type. They are equipped with a spline drive for direct coupling with the engine accessory drive or a tang driver for coupling with a slotted drive on an electric motor.

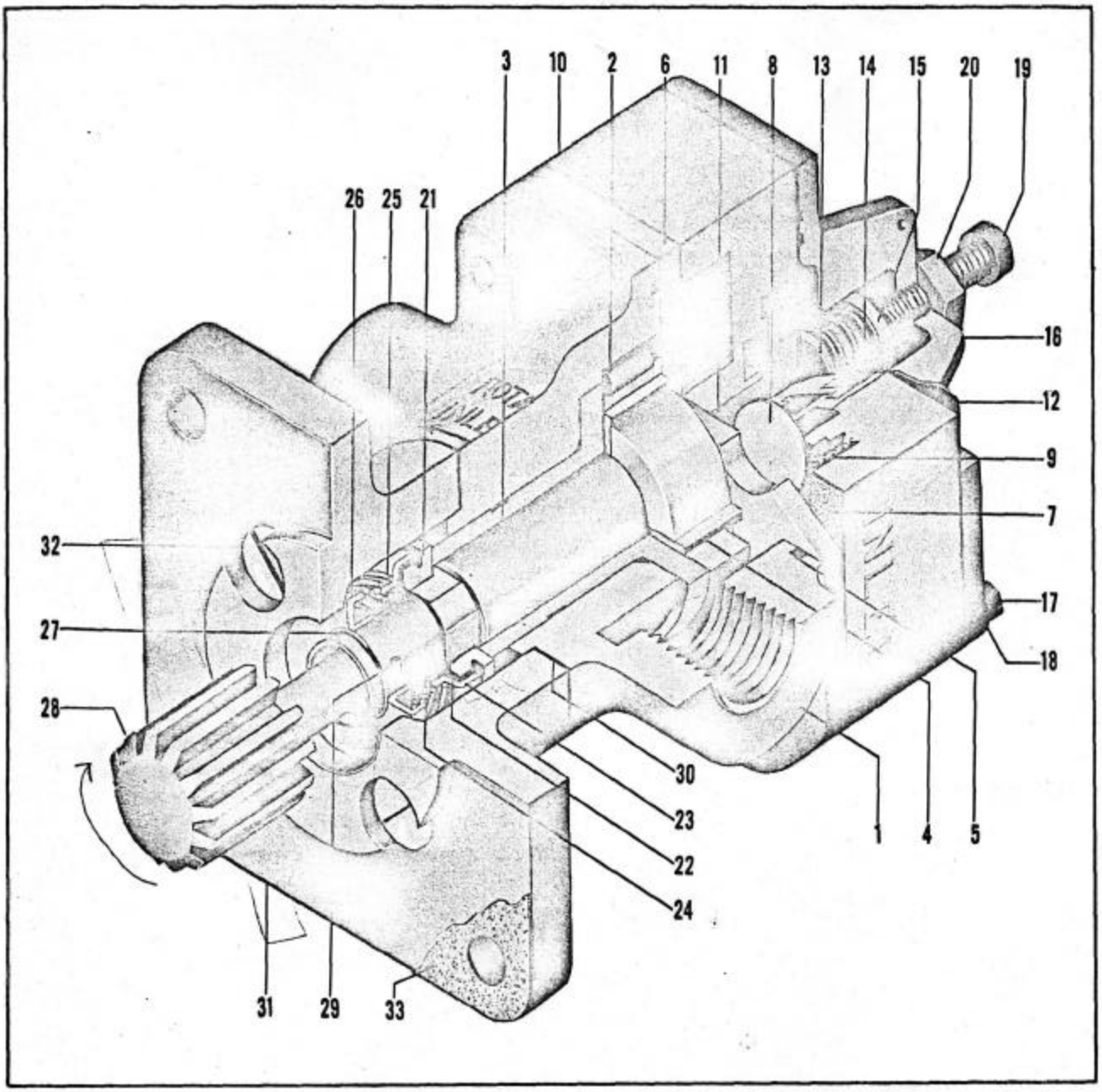
1b. CONSTRUCTION. The pumping mechanism consists of an offset, cantilever type rotor (3) in which are positioned two sliding blades (4), each of which spans the bore of the liner. Rotation of the rotor and blades inside the liner produces a four-vane, constant flow pumping action. A balanced adjustable relief valve mechanism, integral with the pump, provides constant set pressures at normal flow and speed requirements. A bypass valve is incorporated in the relief valve body to allow fuel to flow through when the pump is inoperative.

1c. PUMPING MECHANISM. The fuel pump body assembly (1) houses the pumping mechanism. The inlet and outlet ports are threaded with female standard pipe thread for receiving the connecting lines. Either port may be the inlet, depending on the direction of rotation of the rotor, and the relative position of the relief valve body (10). The rotor (3) is supported by the bearing which is press-fit into the pump body (1). Two identical blades (4) span the bore of the liner which fits tightly in the pump body and is prevented from rotating by the liner locking pin (2).

1d. SEAL PARTS. A seal is maintained between the pump body assembly (1) and the thrust plate (6) by an "O"-ring gasket (5). At the drive end of the rotor, the seal spring retainer (26) is positioned by a snap ring (27) on the rotor shaft. The seal spring (25) is positioned at one end by the seal spring retainer (26) and forces the rotating fuel seal (21) against the seal face of the bearing. A seal between the rotating fuel seal (21) and the rotor shaft is made through the synthetic rubber seal diaphragm (22) which is sealed to the rotor shaft by the diaphragm snap rings (24) and to the rotating fuel seal (21) by the seal cup (23). Positive drive for the rotating fuel seal is obtained by mating flats on the rotor (3) and the rotating fuel seal (21). A cork gasket (30) is positioned between the pump body (1) and the mounting flange casting (31) so that leakage into the seal chamber can pass externally only through the 1/8-inch NPT drain boss. The position of the pump relative to the mounting flange can be varied in order to keep the drain boss at the bottom of the seal chamber when installing the pump.

1e. DRIVE MECHANISM. The rotor (3) is counterbored to accommodate the driver (28). The engine driven fuel pump is equipped with a spline driver and the motor driven pump is equipped with a slotted driver. The driver is secured to the rotor by means of a drive pin (29) which is retained in the rotor by the seal spring retainer (26). In the event of excessive pump overload, the drive pin is sheared, disengaging the pumping mechanism, thereby preventing damage to the pump and driving mechanism.

1f. RELIEF AND BYPASS VALVES. The relief valve body (10), the relief valve cover (16), and the thrust plate (6) are attached to the pump body (1) by four screws (17) and washers (18). A relief valve gasket (7) is located between the thrust plate (6) and relief valve body (10). A relief valve diaphragm (12) is placed between the relief valve body (10) and relief valve cover (16). A spring (9)-loaded bypass valve poppet (8), located on the inlet side of the relief valve body, seats on the thrust plate (6). The relief valve (11) is piloted on its seat by the integral stem which fits in the bore of the relief valve body (10). The relief valve spring (14) is secured at both ends by spring retainers (13 and 15). The pressure which the spring exerts on the relief valve (11) is adjusted by the screw (19) and adjustment nut (10). The valve cover chamber is vented to atmosphere by means of a small hole.



REFERENCE KEY FOR CUTAWAY VIEW OF FUEL PUMP

1. Body Assembly
2. Liner Locking Pin
3. Rotor
4. Blade
5. O-Ring Gasket
6. Thrust Plate
7. Relief Valve Gasket
8. By-pass Valve Poppet
9. By-pass Valve Spring
10. Relief Valve Body
11. Relief Valve Poppet
12. Diaphragm
13. Lower Spring Retainer
14. Spring
15. Upper Spring Retainer
16. Relief Valve Cover
17. Cover Screw
18. Cover Washer
19. Adjustment Screw
20. Adjustment Nut
21. Rotating Fuel Seal
22. Seal Diaphragm
23. Seal Cup
24. Snap Ring
25. Seal Spring
26. Seal Spring Retainer
27. Retainer Snap Ring
28. Driver
29. Drive Pin
30. Mounting Flange Gasket
31. Mounting Flange
32. Mounting Flange Screw
33. Mounting Gasket

SECTION II

INSTALLATION

2a. PRE-INSTALLATION. Remove the shipping plugs from the pump ports and the shipping block from the mounting flange. Drain out the excess shipping oil and wash the pump in a suitable cleaning solvent by submerging it completely and turning the driver with the fingers. If there is a catch or point of severe resistance when the rotor is turned and rewashing fails to remove the obstructions, refer to the overhaul troubles and remedies chart, Section V.

2b. MOUNTING. Check the rotation of the driving element that will engage the pump driver to determine the direction of rotation of the pump rotor. The inlet port designation for either direction of rotation is embossed on the pump body. The relief valve body must be assembled to the pump body so that the words "PUMP INLET" embossed on the relief valve body are adjacent to the pump inlet port. The pump may be mounted in any one of four positions 90 degrees apart, to give the best arrangement for attachment of fuel lines. Clean the pump mounting flange and mounting pad. Use a new mounting gasket when securing the pump and make sure that the pump pilot is fitted into place on the engine or motor mounting pad.

2c. FUEL LINES. Connect inlet and discharge lines to the proper ports, using an approved anti-seize compound. It is desirable to use flexible lines near the pump ports to prevent tubing failure due to engine vibration. Connections should be carefully made and all tubing supported in accordance with approved aircraft practice.

2d. DRAIN LINE. A seal chamber drain boss, provided in the pump mounting flange, must be positioned at the bottom of the pump. Remove the plastic shipping plug and attach a drain line. Direct the open end of this line outside the engine nacelle and faired out so that any drops of fuel leaking by the seal will be carried off by the slipstream. The drain line must extend in a continuous downward direction, in order to be free from traps which would prevent drainage.

2e. PRESSURE ADJUSTMENT. If discharge pressure adjustment is necessary, loosen the adjustment nut (20) before changing the setting. Turning the adjustment screw (19) clockwise increases the pressure setting; counterclockwise decreases the setting. After making the setting, hold the adjustment screw with a screw driver while tightening the adjustment nut (20). Refer to Section VI for test stand adjustment procedure.

SECTION III

OPERATION

3a. PRINCIPLES OF OPERATION. The fuel pumps described in this handbook can be driven by direct coupling to the engine or by an electric motor.

3b. As the fuel pump rotor (3) turns in the liner, the two blades (4) (which provide four vanes) sweep in succession through the clearance space formed by the offset rotor, creating a suction on the inlet side of the pump. In this manner, the fuel is drawn into the pump and, since fuel is practically incompressible, it is forced out through the discharge port by the action of the blades. The combination of successive intakes and discharges, vanes and port spacing, and specially designed contour of the liner bore produces pulsationless flow.

3c. The relief valve (11) may be adjusted to give the desired discharge pressure, and is designed to maintain this pressure over a wide range of flow rates and variations in pump speed. When the pump is operating, the relief valve is always slightly open, and the excess fuel circulates through the pump. The pressure at which fuel is discharged from the pump is proportional to the force exerted on the relief valve by the spring.

3d. When the pump is inoperative, fuel can be passed through the pump by means of the bypass valve (8) without appreciable pressure drop.

3e. OPERATION INSTRUCTIONS. The operation of the fuel pump is entirely dependent on the operation of the drive mechanism, so specific instructions are unnecessary.

SECTION IV

SERVICE INSPECTION, MAINTENANCE, AND LUBRICATION

4a. SERVICE TOOLS. No special tools required to perform any servicing or maintenance.

4b. PREFLIGHT INSPECTION. Check pumps for proper operation.

4c. LUBRICATION. No service lubrication is required for these pumps. If pumps are to be stored however, refer to Section 6g. for instructions.

4d. 30-HOUR INSPECTION. Every 30 hours, inspect pump carefully for proper operation, evidence of fuel leakage, security of mounting, and fuel line connections. Examine vent in relief valve making sure it is clean and clear.

4e. MAJOR OVERHAUL. Pump should be overhauled completely every 800 hours.

4f. SERVICE TROUBLES AND REMEDIES.

TROUBLE	PROBABLE CAUSE	REMEDY
UNIDENTIFIED LEAK.	Fuel line damaged or improperly attached to pump.	Locate source of leakage. Repair or tighten.
	Relief valve not secure on pump.	Tighten screws (17).
SEAL LEAK.	Seal parts failure.	Overhaul pump.
PUMP REFUSES TO ROTATE PROPERLY.	Pump run dry, allowed to overheat and jam.	Overhaul pump.
	Drive pin (29) sheared due to foreign matter jamming pump.	Overhaul pump.
NO PUMPING ACTION WHEN ROTOR STARTS TURNING.	Foreign matter holds relief valve or by-pass valve open.	Overhaul pump.
	Air leaking into intake line.	Locate leak and repair.
	Relief valve gasket (7) incorrectly inserted.	Remove valve, insert gasket so it coincides with webs on relief valve body.
	Relief valve improperly positioned on pump.	Position relief valve assembly so that inlet side of valve is adjacent to pump inlet port.
DISCHARGE PRESSURE TOO LOW.	Valve adjustment nut (20) and adjustment screw (19) improperly set.	Readjust to proper setting, then tighten nut (20) while holding screw (19) with a screw driver.
DISCHARGE PRESSURE SURGES.	Obstruction in fuel lines.	Trace lines. Remove obstruction.
	Faulty by-pass valve (8).	Overhaul pump.
	Faulty relief valve (11).	Overhaul pump.
GASOLINE LEAKAGE THROUGH VENT IN COVER (16).	Relief valve diaphragm (12) damaged.	Overhaul pump.

SECTION V

DISASSEMBLY, INSPECTION, REPAIR AND REASSEMBLY

5a. OVERHAUL TOOLS. No special tools are required to overhaul pump.

5b. GENERAL DISASSEMBLY. The following instructions cover the complete overhaul of the fuel pump described in this handbook. A complete list of overhaul troubles, causes, remedies, and detailed corrective procedures to be followed are listed later in this section. Reference numbers in this section apply to the exploded view on the inside rear cover.

5c. SEAL ASSEMBLY. Clamp the pump carefully in a vise across the face of the inlet and outlet ports. Do not clamp too tightly. Remove the four flat head screws (32) and washers (33). Lift off the mounting flange (31) and discard the two mounting flange gaskets (30 and 34).

Depress the seal spring retainer (26) and detach snap ring (27) permitting spring (25) to expand. The drive pin (29) may now be poked out thru the expanded coils of the spring. The splined driver (28), snap ring (27), spring retainer (26), spring (25) are now freed for easy removal. The rotating fuel seal may next be removed as an assembly. Once removed from the rotor shaft, further disassembly of this seal is simply done by separating the rotating seal (21) from the seal diaphragm (22), in the seal cup (23). Withdraw the diaphragm from the cup and remove and discard the three diaphragm snap rings (24).

5d. Invert pump in vise and remove adjustment screw (19) and nut (20). Remove the cover screws (17) and washers (18). Lift off relief valve cover (16). Discard diaphragm (12), remove spring seats (13 and 15), spring (14), and poppet (11). Remove body (10), gasket (7), bypass valve (8) and spring (9) and thrust plate (6).

5e. Take "O"-ring (5) from groove and discard. From below, press upward on rotor shaft. This offers easy removal of rotor blades (4) and rotor (3). DO NOT ATTEMPT TO REMOVE OR REPLACE THE LINER OR BEARING FROM THE FUEL PUMP BODY. These parts are not serviceable and must be treated as a complete assembly.

5f. CLEANING, INSPECTION, TESTING AND REPAIR. After completely disassembling the pump, wash all parts with approved cleaning solvent in preparation for inspection. Refer to the clearance table when inspecting running parts for excessive wear.

5g. ADJUSTMENT SCREW (19). Check for straightness and for damaged threads. Replace if necessary.

5h. RELIEF VALVE COVER (16). Examine threads in cover for damage and replace if necessary. Make certain that vent in cover is clear.

5i. RELIEF VALVE (11) AND BYPASS VALVE (8). Check the valve seat face for smoothness and trueness and that it seals properly when seated.

5j. THRUST PLATE (6). Examine the rotor thrust surface for excessive wear. Lap surface or replace as necessary.

5k. ROTOR (3) AND BLADES (4). Examine the blades and the rotor for scoring and wear. Replace the blades if damage or wear impairs proper operation. The rotors incorporate two sets of drive pin holes and seal driver flats. If one set is worn then use the other set during reassembly. The rotor need be replaced only when both sets of flats or holes are worn excessively.

5l. BODY ASSEMBLY (1). Examine the liner I. D. for roughness due to excessive wear. Examine the bearing I. D. for wear. Slight scoring of the bearing seal face may be corrected by lapping on a flat oil stone or a hone. Do not use lapping compound. Deep gouges in the bearing seal face is cause for rejection.

> **NOTE**
> The bearing seal face mates with the rotating fuel seal and must be perfectly flat and free of pits, nicks, or scratches to prevent seal leakage. This face must be checked carefully. Exercise great care in refinishing or dressing to keep this surface square with the bearing I.D.

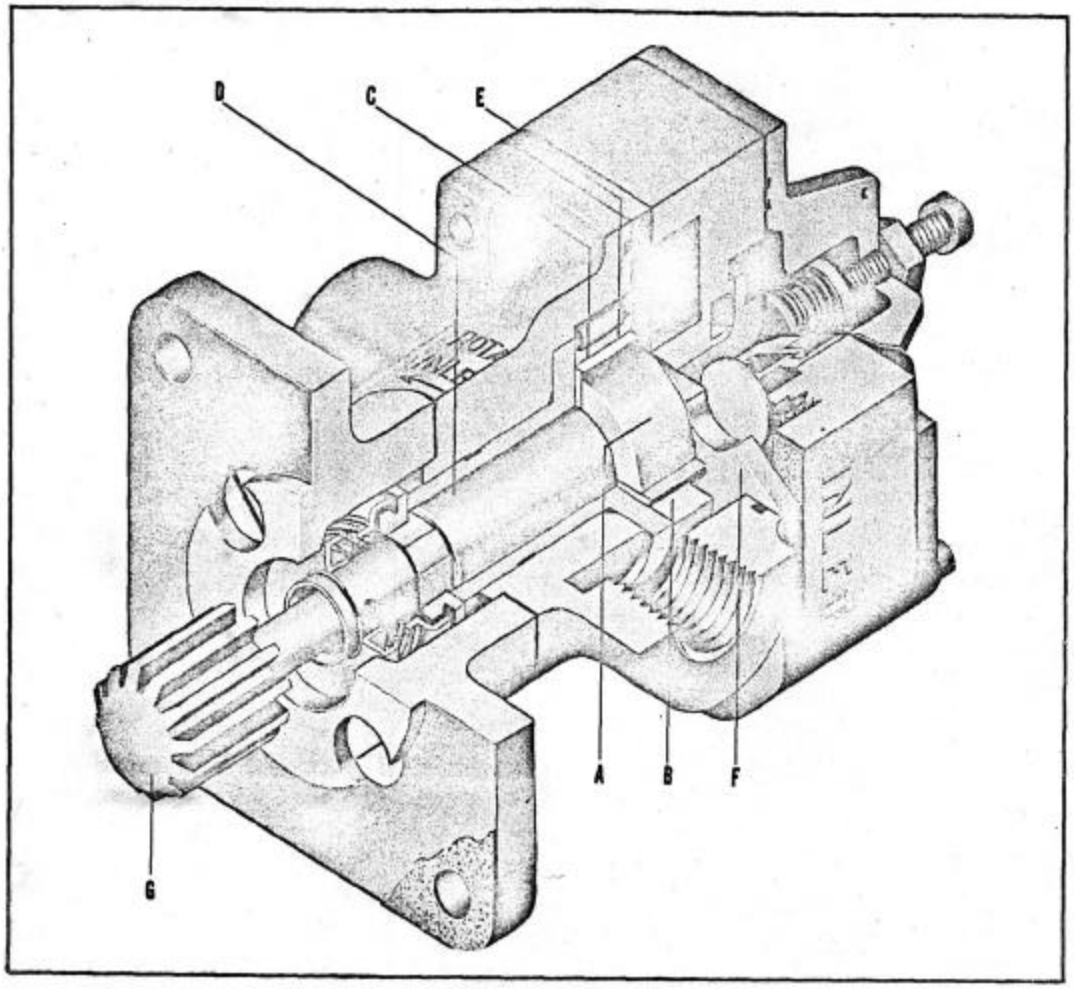
5m. SEAL CUP (23). Examine for corrosion and distortion. Replace the cup if it is defective.

5n. SEAL SPRING RETAINER (26). Inspect retainer to see that it is not distorted and that it allows the seal spring to seat properly.

5o. ROTATING FUEL SEAL (21). This seal should be replaced at overhaul time. In the event of pump repair prior to overhaul, examine seal running face

and the flats on the I.D. If there are signs of wear, pitting, gouges, scratches, nicks or burrs at either place, replace with a new part.

5p. REPLACEMENT PARTS. Replace all of the following parts at each overhaul: "O" ring gasket (5), relief valve gasket (7), relief valve diaphragm (12), seal diaphragm (22), diaphragm snap ring (24), mounting flange gasket (30), lock washers (33), mounting gasket (34), drive pin (29), snap ring (27) and rotating seal (21).



CLEARANCE TABLE

Reference Letter			New Dimensions Min.	New Dimensions Max.	Clearance New Max. & Min.	Clearance Worn (Max.)
A	Rotor hub depth to Body bore depth	Hub depth Bore depth	.3795 .3805	.3800 .3808	.0005 .0013	.0018
B	Liner bore to Blade span in bore	Liner bore Blade span	1.0000 .9980	1.0005 .9987	.0013 .0025	.0050
C	Blade width to Bore depth	Blade width Bore depth	.3794 .3805	.3797 .3808	.0008 .0014	.0015
D	Rotor journal diameter to Bearing I.D.	Rotor diameter Bearing I.D.	.5625 .5617	.5630 .5620	.0005 .0013	.0020
E	Rotor slot to Blade thickness	Rotor slot Blade thickness	.0943 .0933	.0948 .0936	.0007 .0015	.0020
F	Maximum wear on Thrust Plate					.001
G	Driver spline tooth chordal thickness on pitch diameter		.0751	.0771		.073

5-q OVERHAUL TROUBLES, CAUSES, AND REMEDIES.

TROUBLE	PROBABLE CAUSE	REMEDY
SEAL LEAK.	Foreign matter between rotating fuel seal (21) and bearing seal face.	Disassemble seal parts and clean.
	Seal diaphragm (22) I.D. not sealing on rotor (3) shaft.	Replace diaphragm seal.
	Snap rings (24) bent or broken.	Replace snap rings.
	Unflat or damaged bearing seal face.	Repair seal face.
	Rotating fuel seal face not flat.	Re-lap seal.
PUMP DOES NOT ROTATE.	Foreign matter between rotor and liner.	Disassemble, clean; examine for damage. Replace or reassemble as necessary.
	Pump run dry, allowed to overheat and jam.	Disassemble; determine extent of damage to bearing, blades, and liner. Replace or repair where necessary.
	Neck of rotor (3), or possibly drive pin (29) sheared due to foreign matter in pump.	Disassemble and determine cause of pump jamming. Clean pump and replace damaged parts.
	Improper assembly causes rotor and liner to bind.	Disassemble; inspect rotor and liner for rough spots. Replace as necessary. Reassemble.
NO PUMP DISCHARGE PRESSURE.	Relief valve gasket (7) incorrectly installed.	Disassemble relief valve, insert gasket correctly.
DISCHARGE PRESSURE SURGES.	Faulty by-pass valve (8) or relief valve (11).	Replace defective valve.
GASOLINE LEAKAGE THROUGH VENT IN RELIEF VALVE COVER (16).	Relief valve diaphragm (12) damaged.	Replace diaphragm.

5r. REASSEMBLY - SEAL AND PUMP PARTS. Insert rotor (3) in the body assembly (1), guide the rotor in and let it drop into place making sure it bottoms. Slide the new diaphragm snap rings (24) over the collar of the new seal diaphragm (22) and into the groove provided. Insert the rotating fuel seal (21), lapped face out, into the large I.D. of the seal diaphragm. Make sure the seal diaphragm bead engages the fuel seal groove. Press the seal diaphragm and the fuel seal firmly into the large diameter of the seal cup (23) until the diaphragm bottoms. Apply some clean oil to the end of the rotor shaft (3) and on the end of the assembled seal. Line up the flats on the I.D. of the rotating fuel seal (21) with the flats on the rotor, then slide the seal over the shaft until the rotating fuel seal rides against the bearing seal face.

CAUTION

Be sure the bearing seal face and fuel seal face are free from any foreign matter before mating the two parts.

Install the seal spring (25) and the seal spring retainer (26) on the rotor shaft. Next, slip snap ring (27) loosely over stem of driver (28) and insert into rotor shaft (3). Line up the respective holes and install new drive pin (29) thru expanded coils of spring. Next, depress spring and cup to a point below the snap ring groove of rotor shaft and lock snap ring (27) in place. The seal spring retainer is now so positioned

to keep drive pin in place. Add a new gasket (30) and replace pump body assembly (31). Hold secure with four flat head screws and lock washers (32 and 33).

Invert pump and install rotor blades (4) in the attitude shown in the exploded view. Add a new "O"-ring (5) in the groove and be certain that the liner locking pin (2) is securely in place.

5s. RELIEF VALVE PARTS. Insert the bypass valve spring (9) and the bypass valve poppet (8) in place on the webbed side of the relief valve body (10). Next, place a new relief valve gasket (7) on the body, lining up the webs of each part.

> **CAUTION**
>
> Make certain the relief valve gasket (7) is correctly installed, otherwise there will be no discharge pressure when the pump is assembled.

Line up the mounting holes in the corners of the thrust plate (6) and the relief valve body, then lay these parts on the pump body assembly (1) so that the words "PUMP INLET" embossed on the relief valve body appear on the same side as the inlet port on the fuel pump body. Insert the relief valve poppet (11) in the counterbore on the exposed side of the relief valve body (10). Assemble the upper spring retainer (15), spring (14), and lower spring retainer (13) into I. D. of the upper relief valve cover (16). Place a new diaphragm (12) on the flange of the cover (16), lining up the holes in the corners of the two parts. Using the diaphragm to retain the parts within the cover (16), position the cover on the relief valve body (10) and secure all relief valve parts to the pump assembly with the four fillister head screws (17) and washers (18). Assemble the adjustment nut (10) and adjustment screw (19) loosely, since adjustment must be made during final test.

5t. ASSEMBLY TEST. Test the pump for freedom of operation by turning the driver (28) by hand. If the pump is tight, disassemble to check clearance of the blades and rotor slots, and eliminate tight spots. Wash out the pump with approved cleaning solvent to free it of foreign matter. After the pump has been reworked or overhauled, refer to the test procedure outlined in Section VI.

SECTION VI

TEST PROCEDURE

6a. TEST EQUIPMENT. Test equipment should include the following: a mounting pad with coupling to permit pump to be connected to a driving motor of approximately 1/4 H. P. with variable speed drive. A manometer (mercury column) and a rotameter (flow gauge). Fuel inlet and outlet lines controlled by globe valves.

6b. HYDROSTATIC TEST. Connect an air hose to the inlet port and block off the outlet. Submerge pump in Stoddard solvent or equivalent and gradually apply internal air pressure to 20 PSI. There should be no leakage except at shaft seal.

6c. BREAK-IN AND SEAL LEAK TEST. Run in the pump on the test stand for at least 30 minutes at 1700-1800 RPM with a discharge pressure of 5 PSI. Then increase pressure to 20 PSI at same RPM for 5 minutes. If any shaft seal leakage occurs, reject the pump.

6d. RELIEF VALVE REGULATION AND CAPACITY.

(1) Adjust the pump to an original setting of 24.0 lbs/hr. at 10 PSI (20.3 in. hg.) and 840 RPM.

(2) Increase the flow to 63.0 lbs/hr. and the RPM to 3000. The discharge pressure should remain between 9.0 PSI (18.3 in. hg.) and 13.0 PSI (26.5 in. hg.)

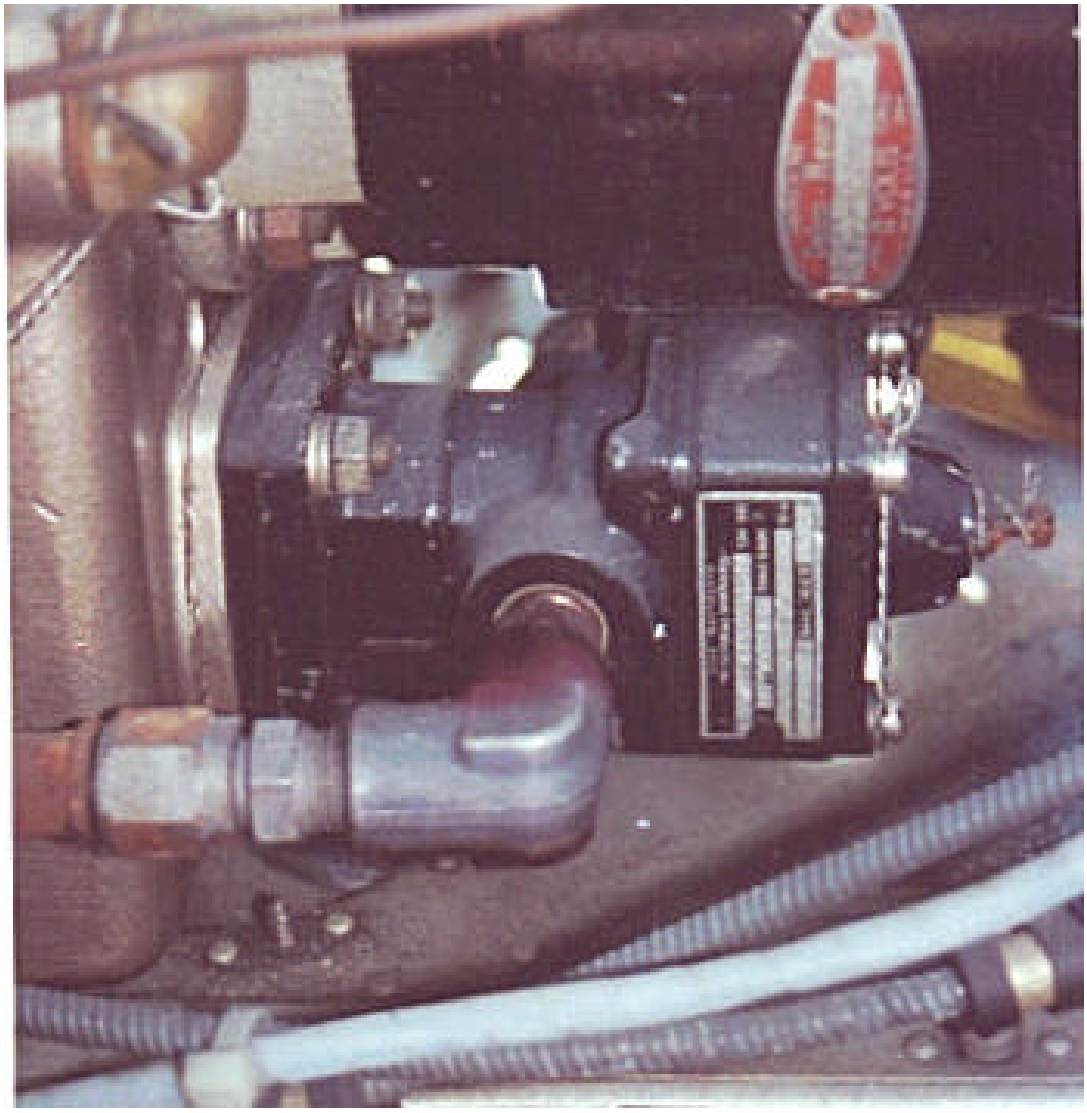
(3) Increase flow to 180 lbs/hr. and RPM to 3800. Discharge pressure should remain as described above.

6e. INLET PRESSURE TEST. Repeat the tests described in the previous paragraph with a fuel pressure of 10 PSI applied to the INLET side of the pump. The discharge pressure should still remain within the range of 9.0 and 13.0 PSI.

6f. TEST FAILURES. If the pump fails to meet these tests it should be returned to overhaul for reworking or reassembling.

6g. FINAL ASSEMBLY. When pump has passed final inspection, lock wire the valve adjustment nut, adjustment screw, and relief valve screws as shown in the installation diagram.

If pump is to be stored, slush liberally with a corrosion preventative compound that is harmless to rubber and then plug all ports. Rotate the driver a few times. Fasten the wooden shipping cover in place to cover the driver and retain the mounting gasket.



Thompson TF-1900 fuel pump in a Continental E225-8 engine