

HYDRAULICALLY OPERATED SINGLE STROKE OIL PUMP



Model **83110**
Series C

SPECIFICATIONS

**Relief valve set at factory for 1,000 P.S.I.

Ratio	Hydraulic Operating Pressure (P.S.I.)	Lubricant Output (cu. in.)	Reservoir Capacity	Hydraulic Inlet	Lubricant Outlet	Lubricant Operating Pressure (P.S.I.)			
						Type of System	Minimum	Maximum	Recommended
25:1	200 Max.	.45*	1 1/2 pints	1/4" N.P.T. Female	1/4" N.P.T. Female	SL-42 SL-43	750	* * 1,000	850

The 83110 Pump is used as the Pumping Unit for a Centralized Lubrication System having a single line circuit of SL-42 and/or SL-43 Injectors dispensing oil.

It is a hydraulically operated single stroke, power return pump and discharges an established amount of lubricant *(.45) into the circuit for each pump stroke (lubrication cycle).

The total quantity of lubricant needed for the lubrication cycle of the system must not exceed the amount of lubricant discharged per pump stroke. Pump may be operated by manual, mechanical or electrical control.

Approximately 18 cubic inches (10 fluid ounces) of hydraulic fluid is needed to cycle the pump.

IMPORTANT: Hydraulic pressure for cycling the pump must not exceed 200 P.S.I. (Refer to Fig. 1). If the pressure does exceed 200 P.S.I. a pressure reducing valve set at 190 P.S.I. must be installed in the hydraulic line between the hydraulic pump and the four way control valve.

*Based on lubricants that are free of entrapped air. Lubricants that are specifically aerated will reduce output of pump.

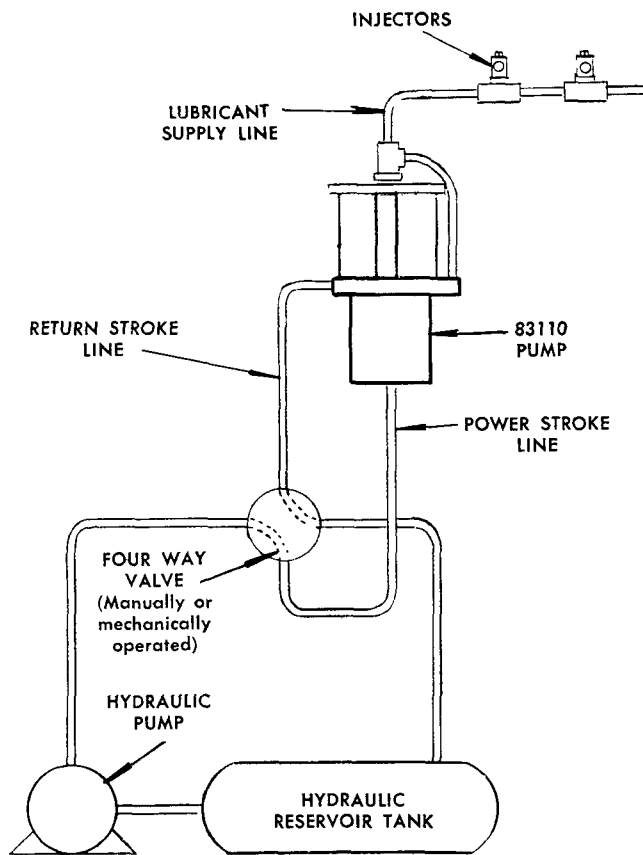


FIG. 1
HYDRAULIC PRESSURE SYSTEM
OF LESS THAN 200 P.S.I.

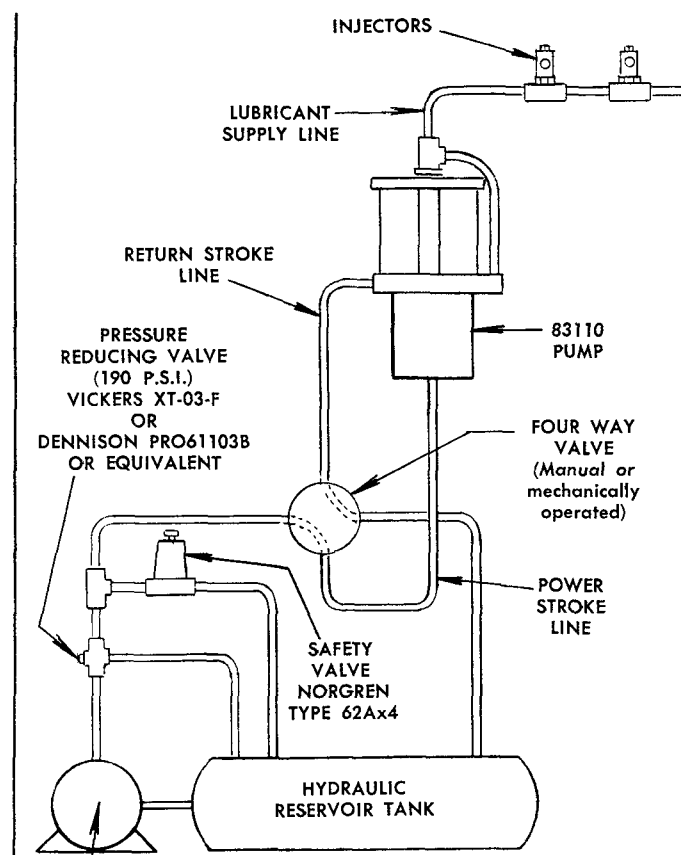
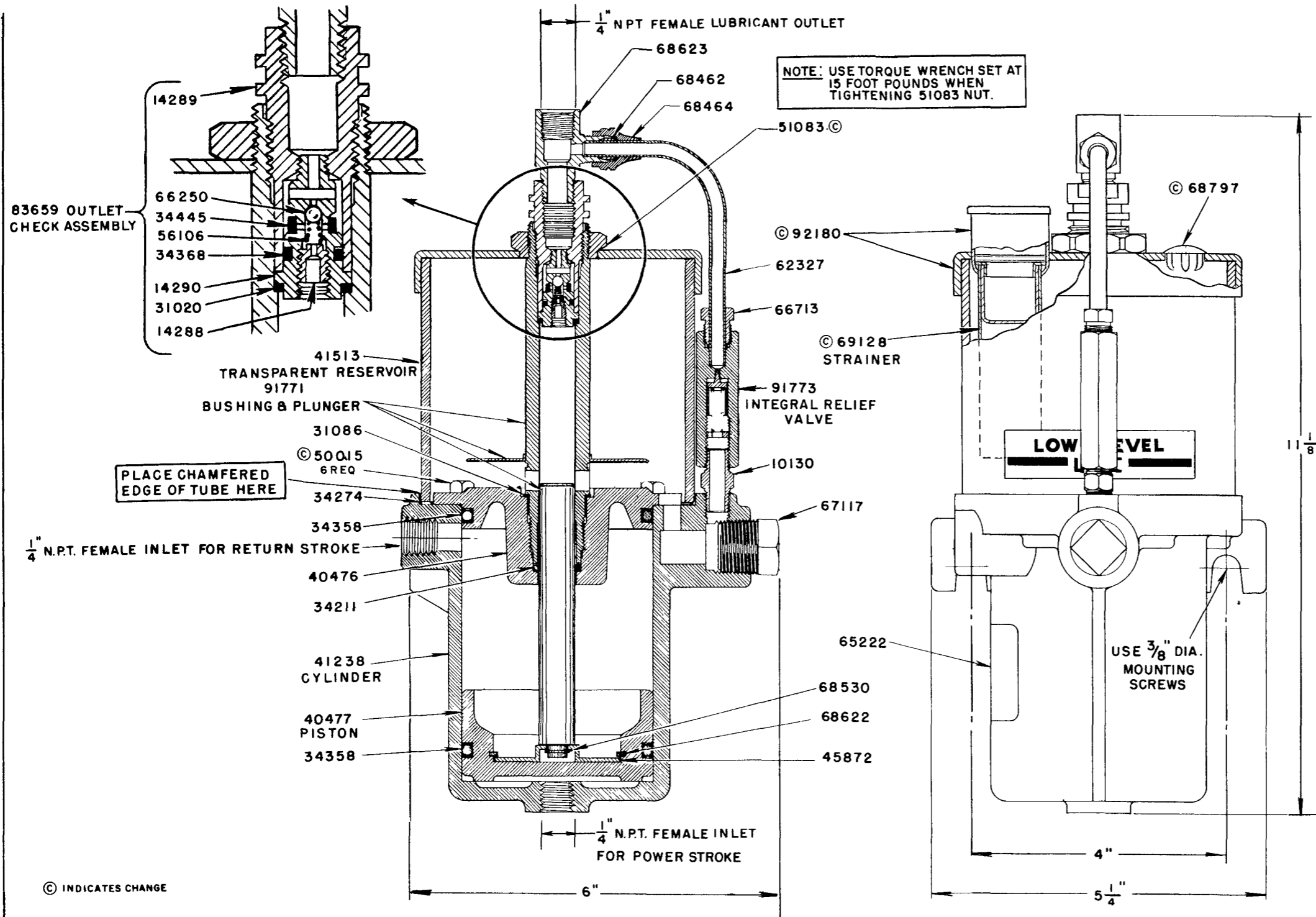


FIG. 2
HYDRAULIC PRESSURE SYSTEM
EXCEEDING 200 P.S.I.
(Pressure must be reduced)

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IMPORTANT — Pump must be installed in a vertical position.

TO FILL RESERVOIR

The reservoir is filled through the filler cap at the top of the reservoir. A strainer is located at the filler cap to prevent the induction of foreign material into the lubricant reservoir. Inspect strainer before filling reservoir. When necessary, lift strainer out and clean thoroughly.

OPERATION OF THE PUMP.

Lubricant in the transparent reservoir flows through the cavity in the bushing.

Hydraulic fluid, entering the bottom of the cylinder, moves the piston up, displacing the hydraulic fluid above the piston. The plunger, attached to the piston, moves upward into the bushing.

As the plunger moves upward, it forces a charge of lubricant from the bushing cavity into the bushing, through the outlet check to the outlet of the pump.

With the hydraulic system for operating the pump restricted to pressures less than 200 P.S.I. and 25:1 ratio of the pump, the lubricant pressure will not exceed 1,000 P.S.I. An integral relief valve designed for approximately 1,000 P.S.I. is built into the pump to prevent damage to the injectors.

After all injectors have cycled (by observing the indicator pins, or approximately a ten second period), the four way valve is actuated (manually, mechanically, or electrically) to reverse the flow of hydraulic fluid from under the piston to the top side of the piston to return the piston and plunger to its down position. In the down position the plunger has retracted below the bushing cavity permitting the cavity to recharge with lubricant.

REPAIR PARTS LIST

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
10130	Nipple	40477	Piston	68462	Sleeve
14288	Ball Stop	41238	Cylinder	68464	Long Nut
14289	Outlet Body	41513	Reservoir	68530	Tru Arc
14290	Gasket Body	45872	Thrust Washer	68622	Tru Arc
31020	Gasket	50115	Machine Screw	68623	Compression Tee
31086	Check Seat Gasket	51083	Nut	68797	Plug Button
34211	"O" Ring	56106	Spring	69128	Strainer
34274	Gasket	62327	Tube	83659	Check Assembly
34358	"O" Ring	65222	Name Plate	91771	Bushing & Plunger Assembly
34368	"O" Ring	66250	Ball		
34445	Gasket	66713	Compression Nut	91773	Safety Unloader
40476	Cylinder End	67117	Pipe Plug	92180	Cover Assembly

WHAT TO DO IF:

PUMP LOSSES PRIME — Check lubricant supply.

SYSTEM FAILS TO CYCLE — Lubricant is leaking by the 66250 ball check or the 34445 packing in the 83659 check and vent assembly. Remove these parts and examine for presence of foreign particles. Clean or replace if worn or damaged.

In reassembling the 83659 check and vent assembly, the spring pressure must be reset. Spring pressure can be varied by the adjusting screw, 14288. The recommended pressure setting is 25 P.S.I. minimum to 75 P.S.I. maximum. An improper setting will affect the pump efficiency.

Failure of injectors to cycle can also be caused by a leak in the supply line. Examine supply lines and connections.

PUMP FAILS TO OPERATE — Check hydraulic system.

TYPES OF INSTALLATION

Pump can be installed so that frequency of lubrication cycle can be controlled manually, mechanically or electrically.

MANUAL CONTROL (Figs. 1 & 2)

Opening of the four way valve for the power stroke of the pump permits hydraulic fluid to enter the bottom of the pump moving the piston and plunger upward for its power stroke to dispense lubricant under pressure (1,000 P.S.I.) through the supply line to the injectors and to the bearings.

Hydraulic fluid above the piston is displaced by the upward movement of the piston and returns to the reservoir tank through the four way valve.

After the injectors have cycled, the four way valve is turned to permit hydraulic fluid to enter the pump above the piston, forcing the piston and plunger downward for the return stroke.

Hydraulic fluid below the piston is displaced by the downward movement of the piston and returns to the reservoir tank through the four way valve.

MECHANICAL CONTROL (Figs. 1 & 2)

Movement of the four way valve is controlled by a mechanical linkage which is attached to a reciprocating motion of the machine.

ELECTRICAL CONTROL (Fig. 3)

An electrical time switch controls a four way solenoid hydraulic valve. The frequency of lubrication cycles can be set as desired by adjustable pins in the time switch.

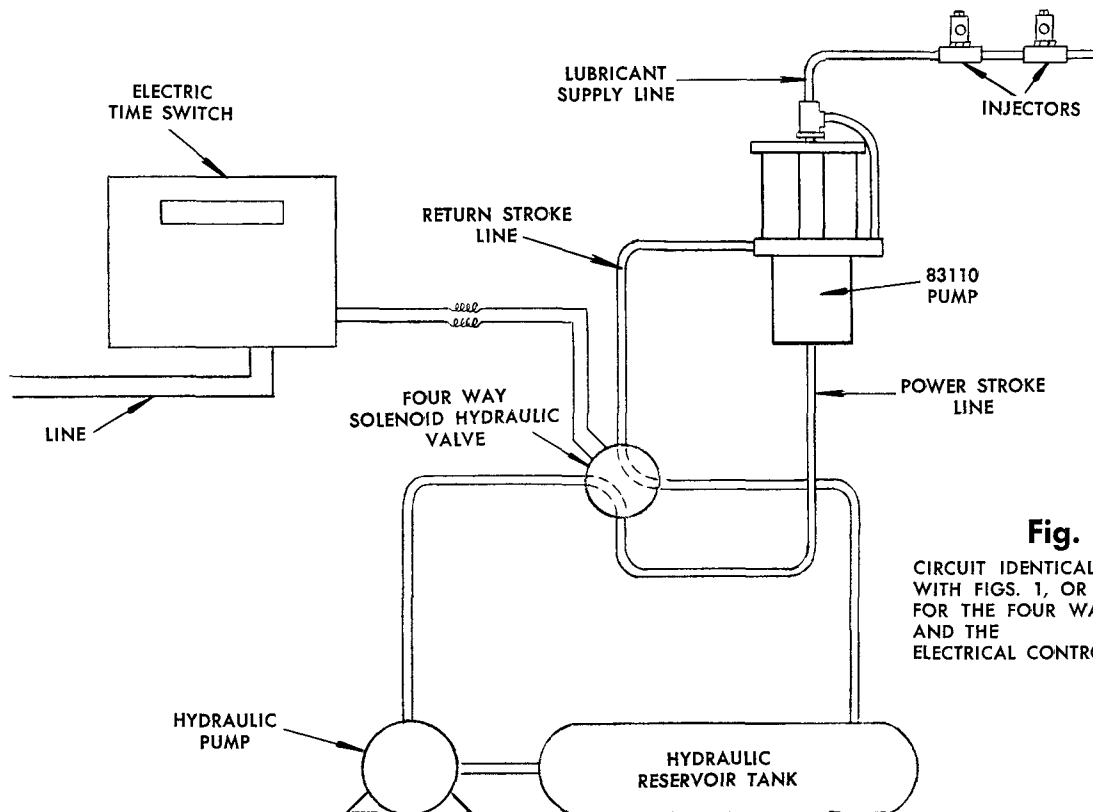


Fig. 3

CIRCUIT IDENTICAL WITH FIGS. 1, OR 2 EXCEPT FOR THE FOUR WAY VALVE AND THE ELECTRICAL CONTROL.

RETAIN THIS INFORMATION FOR FUTURE REFERENCE

When ordering Replacement Parts, List Part Numbers, Descriptions, Model Number, & Series Letter.
LINCOLN ST. LOUIS — Provides a Distributor network that stocks equipment and replacement parts.

Repairs by Authorized Service Depts. List furnished upon request.