

SPECIFICATIONS

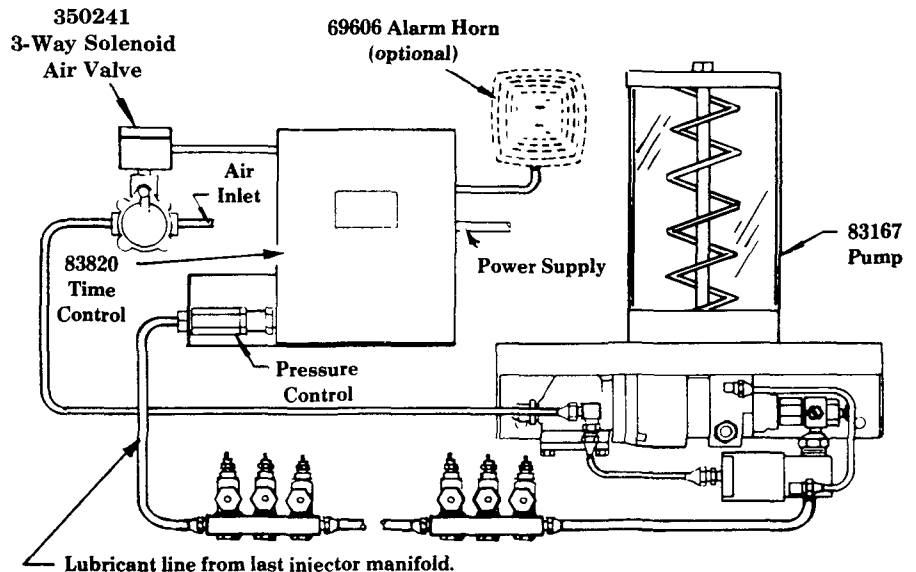
RATIO	LUBRICANT OUTPUT (cu. in.)		RESERVOIR CAPACITY	AIR INLET	LUBRICANT OUTLET	LUBRICANT OPERATING PRESSURE (PSI)			
	PER CYCLE	PER MIN.				TYPE OF SYSTEM	MINIMUM	MAXIMUM	RECOM- MENDED
40:1	*.11	12	12 lbs.	1/8" NPTF	3/4" NPTF	SL-1	1850	3500	2500
						SL-11			
						SL-32	1200	3500	1500
						SL-33			

TYPICAL INSTALLATION

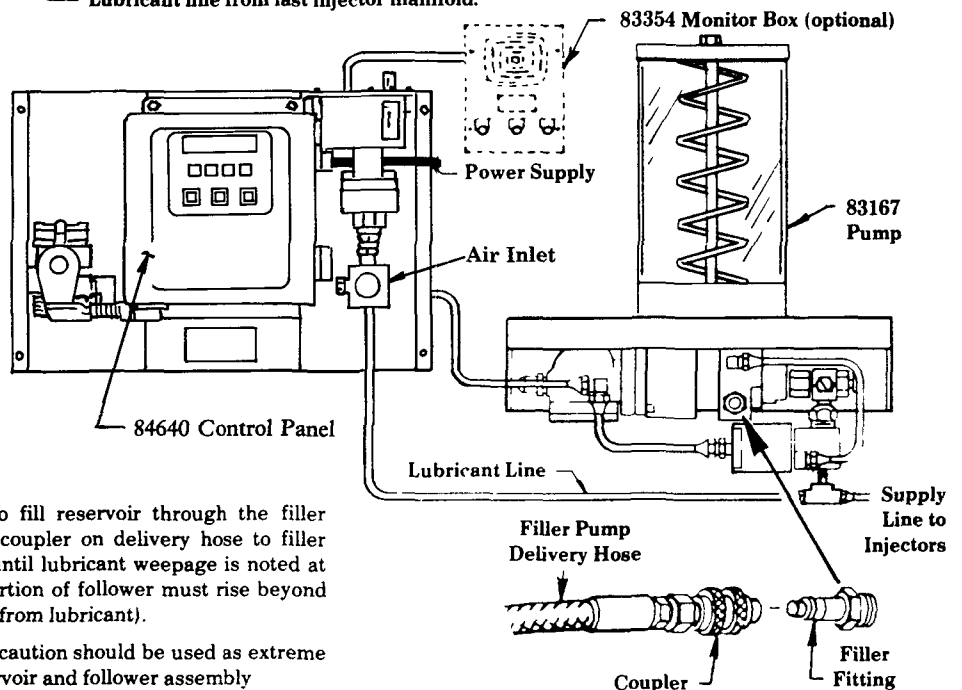
The 83167 Pump is used as the pumping unit for a centralized lubrication system having a single line circuit of SL-1, SL-11, SL-32 or SL-33 Injectors.

It is an air operated reciprocating pump that discharges an established amount of lubricant *.11 cu. in.) into the circuit for each pump cycle.

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



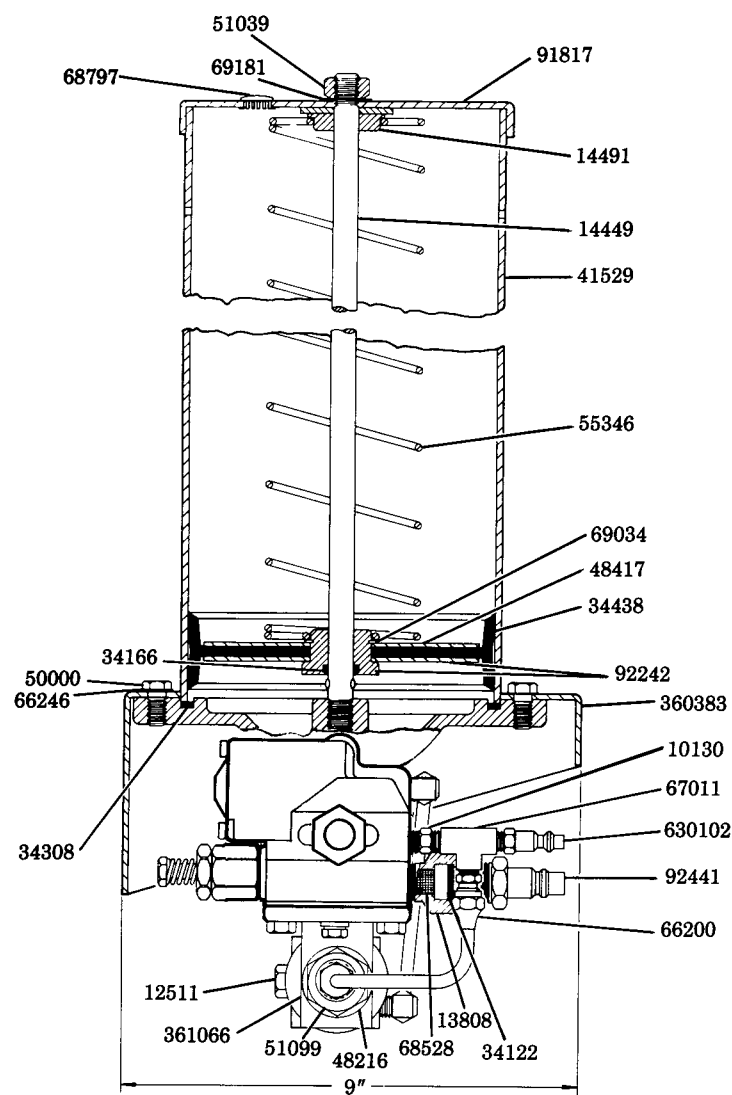
WARNING
DO NOT OPERATE THIS UNIT WITH COMBUSTIBLE GAS



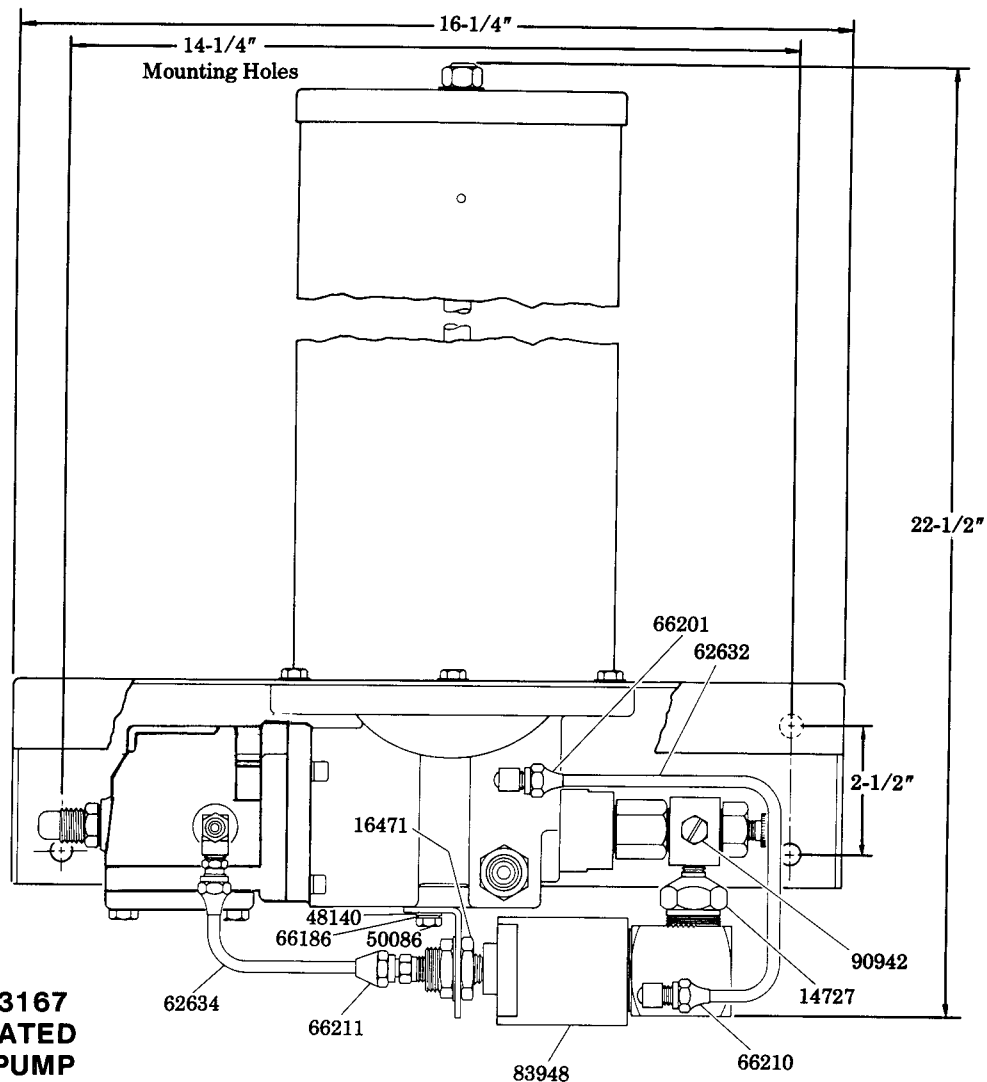
TO FILL RESERVOIR

Use 81834 Manual Filler Pump to fill reservoir through the filler fitting in the pump body. Attach coupler on delivery hose to filler fitting. Stroke filler pump handle until lubricant weepage is noted at air vent hole in reservoir (lower portion of follower must rise beyond air vent hole to expel entrapped air from lubricant).

NOTE: When filling the reservoir, caution should be used as extreme pressure can cause damage to reservoir and follower assembly

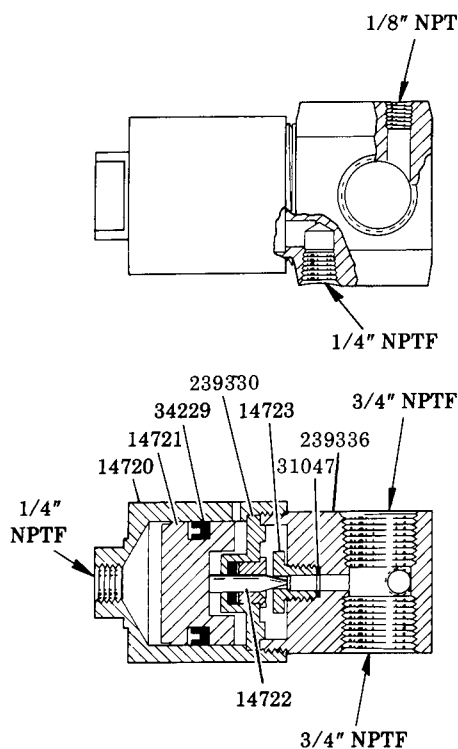


**MODEL 83167
AIR OPERATED
GREASE PUMP**

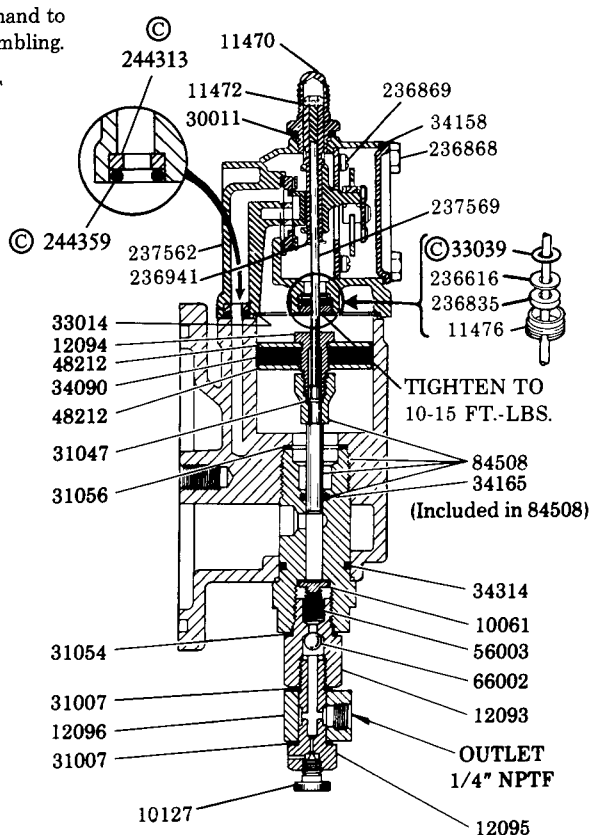


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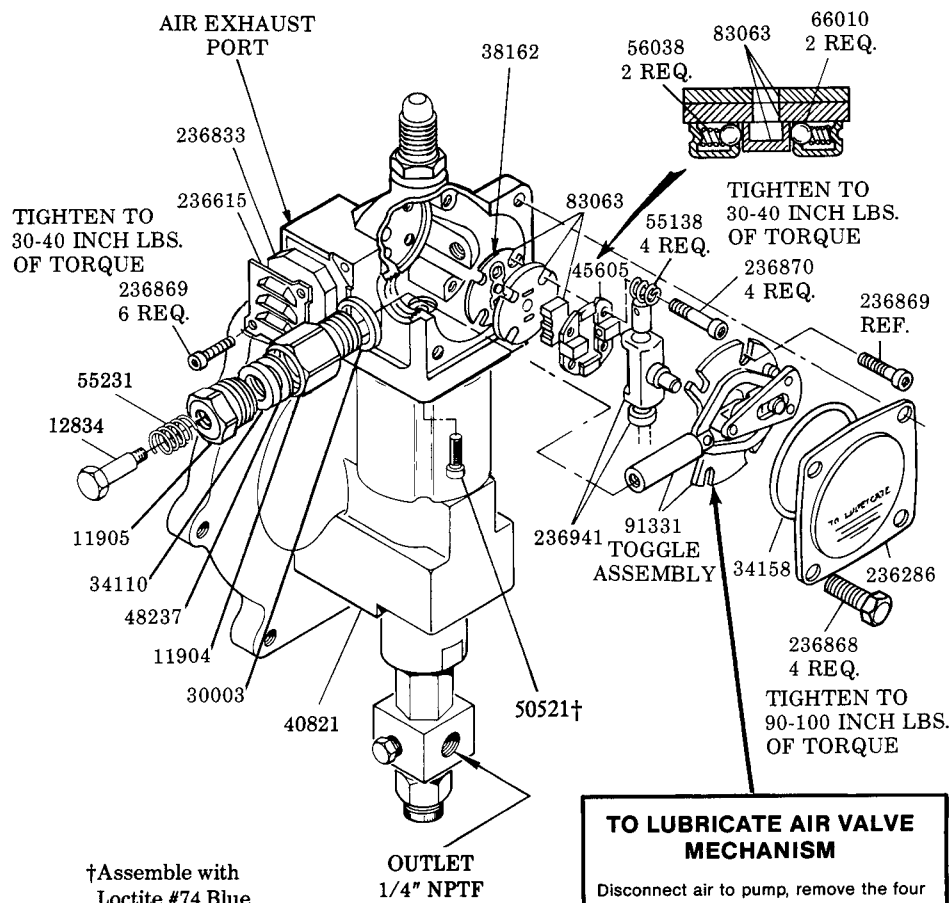
IMPORTANT - Start fasteners by hand to avoid stripping threads when re-assembling.



83948 VENT VALVE



SERVICE PARTS



† Assemble with
Loctite #74 Blue

OUTLET
1/4" NPTF

**TO LUBRICATE AIR VALVE
MECHANISM**

Disconnect air to pump, remove the four cover screws, cover plate and cover plate gasket.

Remove and disassemble the air valve casting from the pump.

The air valve casting should be cleaned or flushed to remove any chips, or other foreign particles prior to re-assembly.

Before replacing the toggle assembly, pack cavity with grease.

Use NLGI No. 1 (light grade) water repellent grease. Approximately 1 1/2 ounces.

Replace cover gasket, cover, and screws. Tighten to avoid air leaks.

Periodic inspection of parts at least once each year is advisable.

Part	Qty.	Description	Part	Qty.	Description	Part	Qty.	Description	Part	Qty.	Description
*10061	1	Pump check disc	*31007	2	Gasket	50086	1	Bolt	83948	1	Vent valve assembly
10127	1	Plug	31047	2	Gasket	50521	4	Screw	84508	1	Bushing, plunger & o-ring assy.
10130	1	Nipple	31054	1	Gasket	51039	1	Nut	*90942	1	Safety unloader
11470	1	Cap	31056	1	Gasket	51099	1	Nut	*91331	1	Toggle plate
*11472	1	Trip rod pin	33014	1	Gasket	55138	4	Spring	91817	1	Reservoir cap
11476	1	Trip rod packing nut	34090	1	Packing	55231	1	Spring	92242	1	Bushing & washer assembly
11904	1	Packing nut	*34110	1	Packing	55346	1	Follower spring	92441	1	Filler fitting
11905	1	Packing cap	*34122	1	Check disc packing	56003	1	Spring	236286	1	Cover
12093	1	Check housing	*34158	1	Gasket (Neoprene)	56038	2	Spring	236615	1	Muffler cover
12094	1	Air piston bolt	34166	1	O-ring (Buna-N)	62632	1	Steel tubing	*236616	1	Gasket
12095	1	Outlet body	*34229	1	Packing (Buna-N)	62634	1	Steel tubing	236833	1	Muffler
12096	1	Outlet block	34308	1	Gasket (Buna-N)	66002	1	Steel ball	*236835	1	Packing
12511	2	Pipe plug	34314	1	O-ring (Buna-N)	*66010	2	Steel ball	236868	4	Screw
12834	1	Spring retainer	34438	1	Follower	66186	1	Lockwasher	236869	6	Screw
13808	1	Adapter	*38162	1	Valve gasket (Buna-N)	66200	1	Str. tube connector	236870	4	Valve seat bolt
14491	1	Retainer washer	40821	1	Base casting	66201	1	90° tube connector	236941	1	Trip shoe assembly
14449	1	Tie rod	41529	1	Reservoir	66210	1	90° tube connector	237562	1	Air valve casting
14720	1	Air cylinder	*45605	1	Valve guide plate	66211	1	Str. tube connector	237569	1	Trip rod
14721	1	Piston	48140	1	Washer	66246	6	Lockwasher	239330	1	Viton packing assembly
*14722	1	Needle	48212	2	Washer	67011	1	Tee	239336	1	Valve body
*14723	1	Valve seat	48216	1	Washer	68528	1	Strainer	*244313	1	Seat
14727	1	Reducer nipple	48237	1	Washer	68797	1	Plug button	*244359	1	O-ring (Buna-N)
16471	1	Support adapter	48417	1	Follower washer	69034	1	Retaining ring	360383	1	Base
30003	1	Gasket	50000	6	Screw	69181	1	Lockwasher	361066	1	Bracket
30011	1	Gasket				*83063	1	Valve slide, seat & gasket assy.	630102	1	Plug

*Recommended Service Parts Inventory

INSTRUCTIONS FOR PUMP USING 84067 CONTROL PANEL

TO PRIME SYSTEM

SUPPLY LINES:

After pump reservoir has been filled with recommended lubricant, loosen all plugs in dead ends of injector manifolds and supply lines. Turn vent plug in pump counter-clockwise one complete turn. Set the delay relay to its maximum four minute position and place timer toggle switch in "A" position (Refer to Service Manual Section C8, Page 178 Series) Close line switch to start pump. Operate pump until lubricant bleeds around vent plug to expel air pockets trapped between the pump and the supply line connection. Tighten vent plug. Continue operating pump until lubricant flows around any plug. Tighten plug. Repeat this procedure until all plug openings are tight and supply lines are primed. Open line switch to shut off pump.

IMPORTANT:

Reset the delay to desired interval (Refer to System Planning Manual)

FEEDER LINES:

Fill each feed line with lubricant before connecting lines to outlets

of injectors and bearings. This will prevent having to cycle each injector to fill the feed line between injector and bearing

INJECTORS:

Check injectors for proper operation by observing the movement of the indicator stems

OPERATION

A cycle timer in the control panel, set for the desired lubrication cycle frequency (Refer to Service Manual Section C8, Page 178 Series), opens the solenoid air valve, permitting air to operate the pump. The pump discharges lubricant through the supply line to the injectors. After the injectors operate (discharge lubricant to the bearings), pump continues to build up lubricant pressure in the supply line until sufficient to open the pressure switch, which breaks the electric circuit to the solenoid air valve which shuts off the air to the pump. Injectors automatically re-charge with lubricant and system is ready for the next lubrication cycle. The pressure switch is factory set for 2,500 psi. The pressure switch can be adjusted if necessary (3,200 psi max.).

INSTRUCTIONS FOR PUMP USING 83820 TIME CONTROL

TO PRIME SYSTEM

SUPPLY LINES:

After pump reservoir has been filled with recommended lubricant, loosen all plugs in dead ends of injectors manifolds and supply lines. Turn vent plug in pump counter-clockwise one complete turn. Set the delay relay to its maximum position (Refer to Service Manual Section C8, Page 133 Series) Depress push button on top of time control to start pump. Operate pump until lubricant bleeds around vent plug to expel air pockets trapped between the pump and the supply line connection. Tighten vent plug. Continue operating pump until lubricant flows around any plug. Tighten plug. Repeat this procedure until all plug openings are tight and supply lines are primed. Open line switch to shut off pump.

IMPORTANT:

Reset the delay relay to desired interval (Refer to System Planning Manual)

FEEDER LINES:

Fill each feed line with lubricant before connecting lines to outlets of injectors and bearings. This will prevent having to cycle each injector to fill the feed line between injector and bearing.

INJECTORS:

Check injectors for proper operation by observing the movement of the indicator stems

OPERATION

The timer (runs constantly when current is on), drives a cam which has lobes set for the desired lubrication cycle frequency (Refer to Service Manual Section C8, Page 133 Series). Lobes engage the micro-switch lever arm to activate the switch, closing the circuit to open the 3-way solenoid air valve permitting air to operate the pump. The pump discharges lubricant through the supply line to the injectors. After the injectors operate (discharge lubricant to the bearings), pump continues to build up lubricant pressure in the supply line until sufficient to operate the pressure control which moves a switch plate, breaking the circuit to the 3-way solenoid air valve, shutting off the air to the pump. Injectors automatically re-charge with lubricant and system is ready for the next lubrication cycle.

The pressure control is factory set for 2,500 psi, adequate for any normal installation. If higher pressure is necessary (2,900 psi maximum), the pressure control can be reset;

- 1) Loosen locknut.
- 2) Turn the housing clockwise into the pressure control body until proper pressure is obtained.
- 3) Tighten locknut.

To lower pressure (1,500 psi minimum);

- 1) Loosen locknut.
- 2) Turn the housing counter-clockwise into the pressure control body until proper pressure is obtained.
- 3) Tighten locknut.

VENT VALVE:

The 83948 Vent Valve is operated by compressed air from the same source which operates the pump. When pump is in operation, air pressure keeps the vent valve closed and lubricant is directed through the outlet and to the injectors. When air to the pump is shut off, vent valve opens and supply line pressure vents back into the reservoir.

SAFETY UNLOADER:

90942 Safety Unloader is provided at the pump outlet to prevent the build-up of dangerously high lubricant pressure in the system. It is factory set to open at approximately 3,750 psi to 4,250 psi.

NOTE: Safety unloader requires no adjustment and should not be tampered with.

WHAT TO DO IF:

Pump loses prime Check lubricant supply

10127 Vent Plug is provided at the pump outlet for expelling air which may be pocketed in the lubricant. If pump operates continuously without discharging lubricant, it is an indication that the pump has lost its prime. Loosen the vent plug one turn until trapped air is pumped out. If pump continues to operate without discharging lubricant, 10061 Pump Check and 66002 Steel Ball may be fouled. Remove and clean checks and check seats.

The 83948 Vent Valve may also be fouled. Foreign material may prevent 14722 Needle from seating properly or 14723 Valve Seat may be worn or damaged. Clean or replace parts.

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

Pump fails to operate Check air supply

RETAIN THIS INFORMATION FOR FUTURE REFERENCE

When ordering replacement parts, list: Part Number, Description, Model Number, and Series Letter.

LINCOLN provides a Distributor Network that stocks equipment and replacement parts.