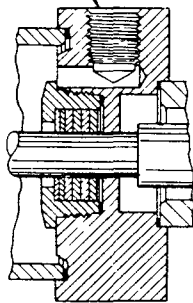
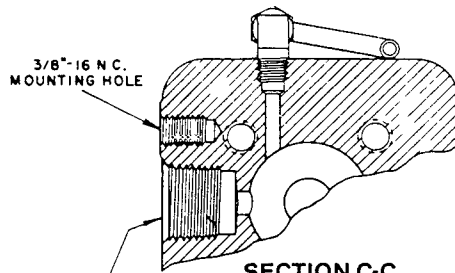


3/8" NPT FEMALE
HYDRAULIC FLUID
CONNECTION



SECTION B-B

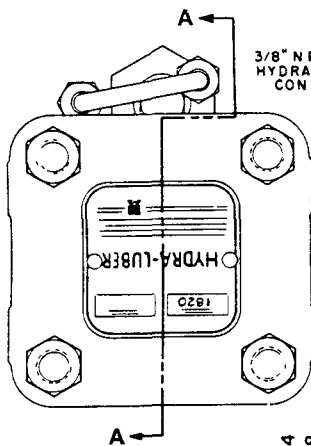
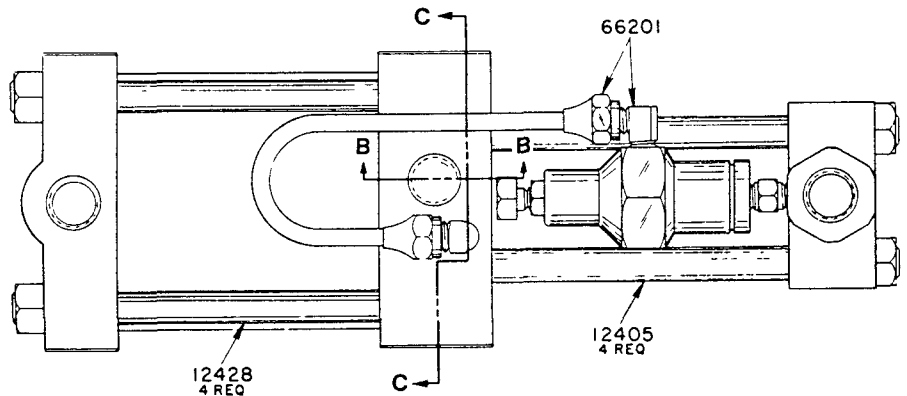
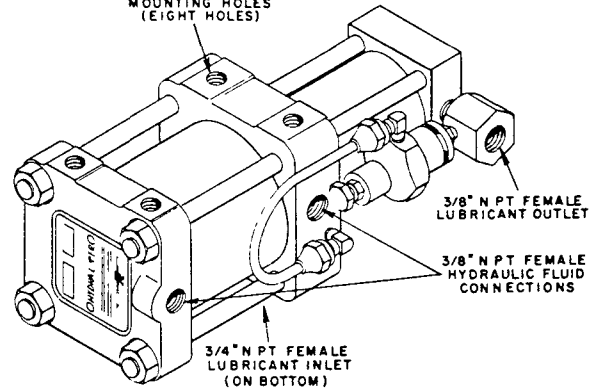
3/8"-16 N.C.
MOUNTING HOLE



SECTION C-C

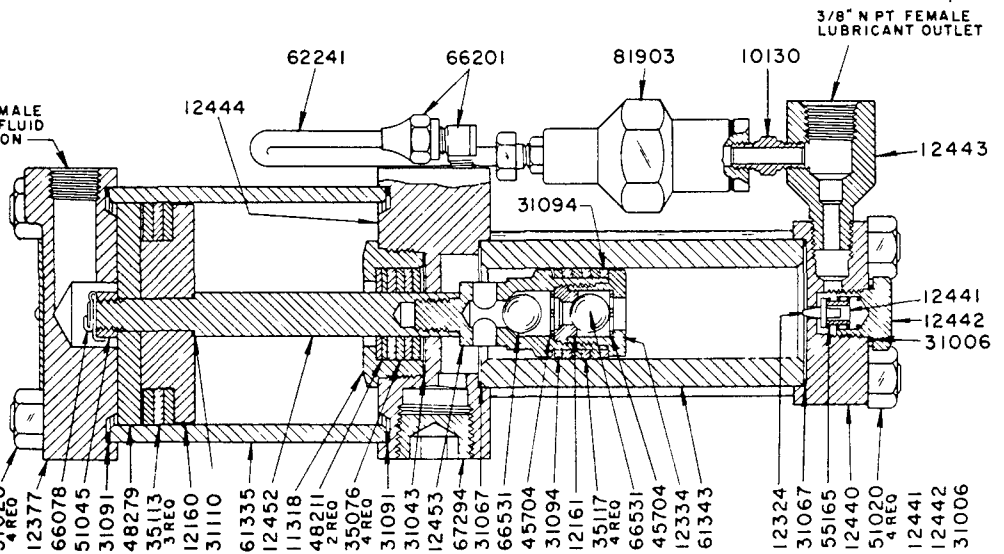
3/4" NPT FEMALE
LUBRICANT INLET

3/8"-16 N.C.
MOUNTING HOLES
(EIGHT HOLES)



3/8" NPT FEMALE
HYDRAULIC FLUID
CONNECTION

A



12444

12428

12405

51020
4 REQ

66078

51045

31091

48279

35113
3 REQ

12160

31110

61335

12452

11318

48211
2 REQ

35076
4 REQ

31091

31043

12453

67294

31067

66531

45704

31094

12161

35117
4 REQ

66531

45704

12334

61343

12324

31067

55165

12440

51020
4 REQ

12441

12442

31006

SECTION A-A

HYDRAULIC OPERATED PUMP

NOTE:
4 way Valve-Movement Cylinder-supply lines and Lubricant Reservoir illustrated are part of hydraulic system of machine to which HYDRAULIC OPERATED PUMP (Model 1820) can be adapted.

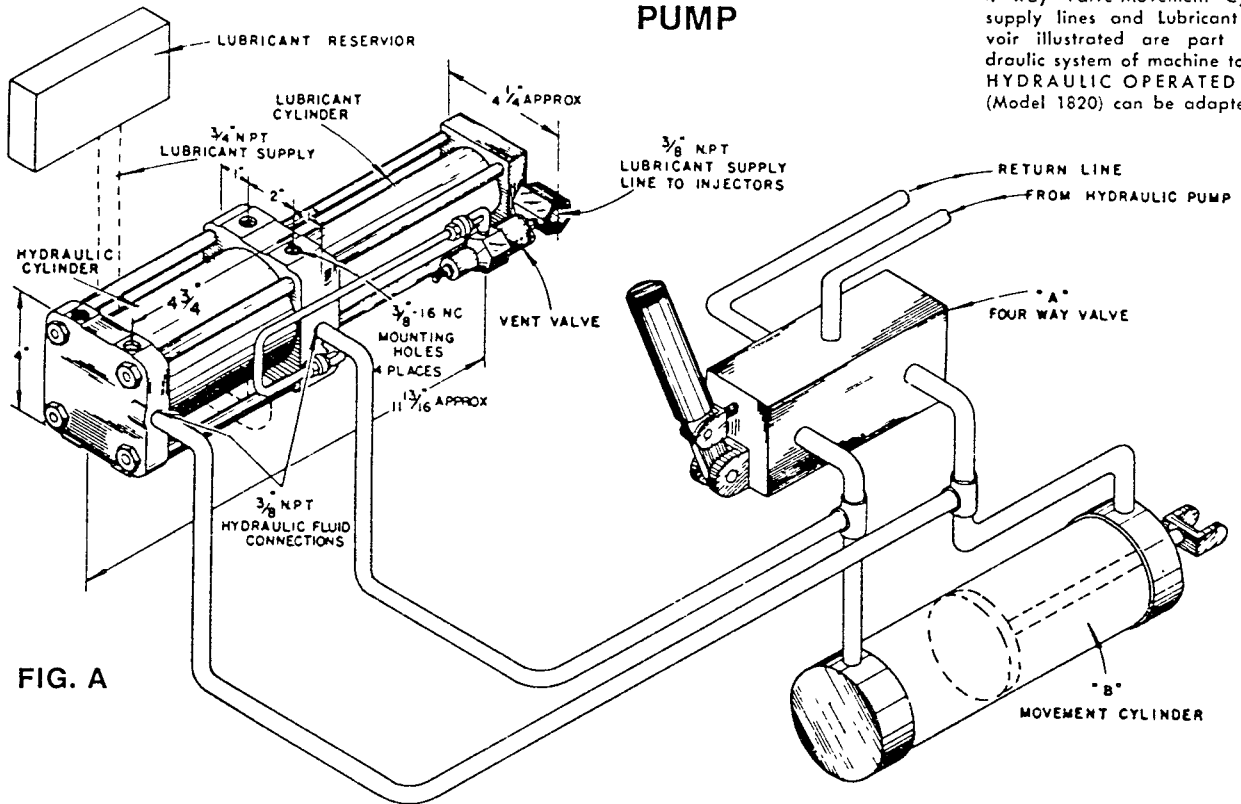


FIG. A

The Lincoln HYDRAULIC OPERATED PUMP is hydraulically actuated for dispensing of oils and light lubricants under pressure. The HYDRAULIC OPERATED PUMP is designed for installation on machinery which utilizes a hydraulic pressure system for operation of various movements of the machine. For example: Coal mining and earth moving equipment, etc. which use a hydraulic pressure system for controlling and operating various movements on the machines, such as raising, lowering or swinging ramps, conveyors and scrapper blades

Fig. "A" illustrates a complete automatic lubrication system for all machines having a hydraulic pressure system. This illustration shows the Lincoln HYDRAULIC OPERATED PUMP used in conjunction with the movement cylinder and four way valve, which are part of the hydraulic system of the machine.

TO PRIME:

Before connecting lubricant supply line between HYDRAULIC OPERATED PUMP and lubricant reservoir, fill lubricant cylinder through inlet port. Continue filling until lubricant is forced through supply line to injectors. Remove plug from injector manifold to bleed air trapped in supply line and manifold.

SPECIFICATIONS

Lubricant pressure — 2,500 P.S.I.G. (Set at factory).

Pressure ratio — Lubricant pressure to hydraulic pressure 5¾ to 1.

Type of lubricant dispensed — Fluid lubricants only.

Power requirements — Minimum hydraulic pressure required to operate pump is 450 P.S.I.G. — Maximum lubricant pressure is factory set at 2,500 P.S.I.G.

Maximum hydraulic pressure — 2,000 P.S.I.G.

Lubricant output per stroke — 2.8 cubic inches.

REPAIR PARTS LIST

Part	Description	Part	Description	Part	Description	Part	Description
10130	Nipple	12405	Tie Rod	31067	Lub Tube Gasket	55074	Valve Spring
10218	Stem Nut	12428	Tie Rod	31091	Hyd. Cylinder Gasket	55165	Check Spring
11318	Gland Packing Nut	12440	Outlet End Plate	31094	Piston Washer	61335	Hydraulic Cylinder
12083	Valve Body	12441	Check Stop	35076	Gland Packing	61343	Lubricant Cylinder
12089	Valve Check	12442	Check Housing	35113	Hyd. Piston Packing	62241	Vent Tube
12090	Valve Seat	12443	Reducing Tee	35117	Piston Packing	66078	Cotter Pin
12142	Spacer	12444	Inlet Block	45704	Ball Stop	66201	Tube Connector
12160	Hydraulic Piston	12452	Piston Rod	48211	Gland Washer	66531	1/2" Dia. Steel Ball
12161	Check Seat	12453	Lubricant Piston	48279	Piston Washer	67294	3/4" Pipe Plug
12212	Spacer	31006	Gasket	50055	3/8"-24 Hex. Hd. Cap Screw	81903	Relief Valve Assembly
12324	Needle	31043	Gland Gasket	51020	7/16"-20 Tie Rod Nut		
12334	Piston Nut	31054	Pump Tube Gasket	51045	7/16"-20 Cast. Nut		
12377	End Plate	31110	Piston Rod Gasket				

DIAGRAMMATIC VIEW OF LINCOLN HYDRAULIC OPERATED PUMP IN OPERATION

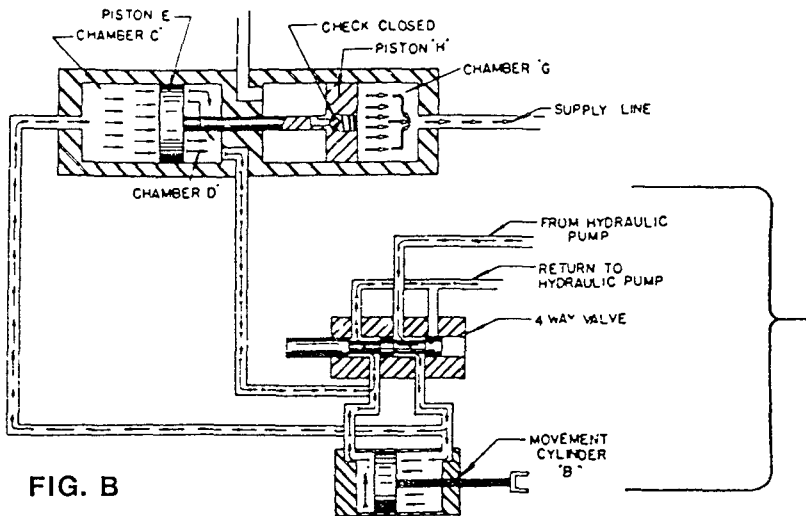


FIG. B

Fig. B. Handle of four way valve in position illustrated admits Hydraulic Fluid under pressure from HYDRAULIC PUMP into MOVEMENT CYLINDER "B" and CHAMBER "C" of HYDRAULIC OPERATED PUMP. PISTONS "E" and "H" forced forward expell Hydraulic Fluid from CHAMBER "D" at same time forcing lubricant from CHAMBER "G" into SUPPLY LINE to Centromatic injector system.

NOTE:

4 way Valve-Movement Cylinder-supply lines illustrated are part of hydraulic system of machine to which HYDRAULIC OPERATED PUMP (Model 1820) can be adapted.

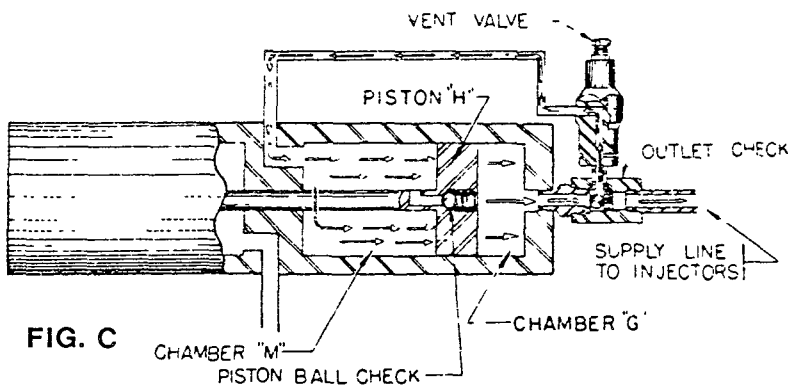


FIG. C

Fig. C. On the forward stroke of PISTON "H" the PISTON BALL CHECK closes, which permits PISTON "H" to force the lubricant from CHAMBER "G" through the open OUTLET CHECK into the SUPPLY LINE to the Centromatic Injectors. The OUTLET CHECK closes on each reverse stroke of PISTON "H" to maintain the lubricant under pressure in the SUPPLY LINE. The lubricant pressure developed in the SUPPLY LINE operates the Injectors, which discharge a measured quantity of lubricant to the bearings. After the Injectors discharge, the lubricant pressure continues to build up in the SUPPLY LINE to a pre-determined pressure which automatically opens the VENT VALVE to release the SUPPLY LINE pressure. The Centromatic Injectors recharge when the pressure in SUPPLY LINE is relieved.

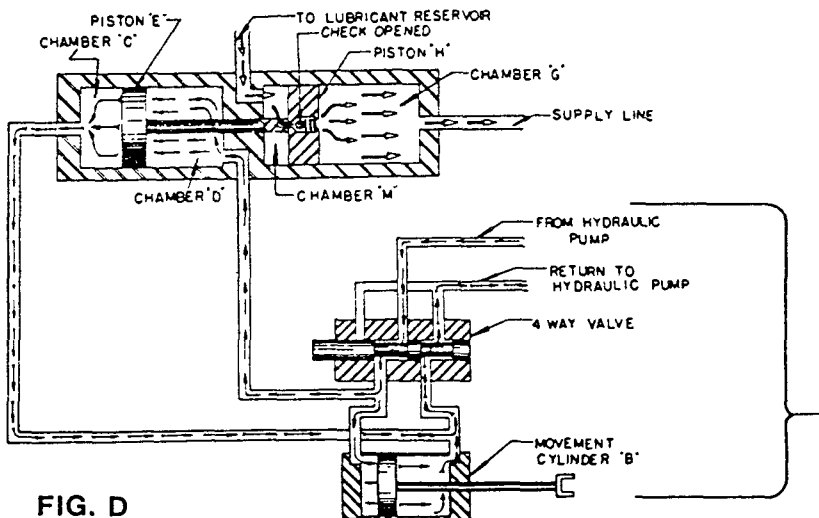


FIG. D

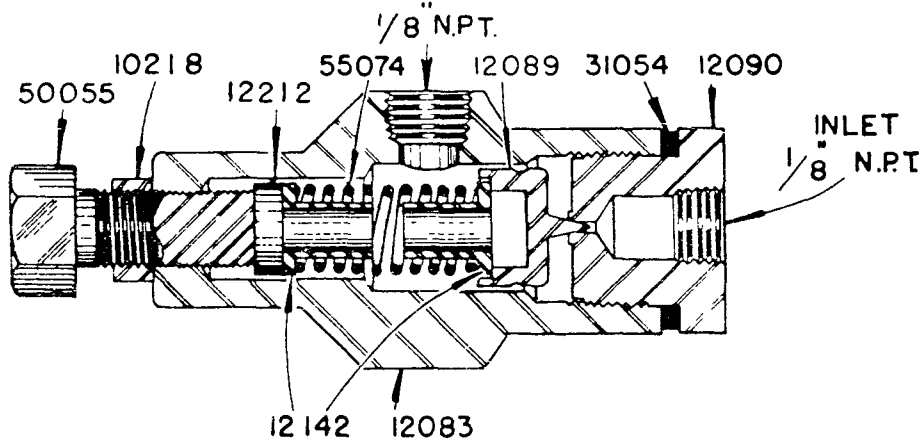
Fig. D. Handle of four way valve in position illustrated admits Hydraulic Fluid under pressure from HYDRAULIC PUMP into MOVEMENT CYLINDER "B" and CHAMBER "D" of HYDRAULIC OPERATED PUMP. PISTONS "E" and "H" forced backward expell Hydraulic Fluid from CHAMBER "C" at same time forces lubricant from CHAMBER "M", supplied by Lubricant Reservoir, through open check into CHAMBER "G".

If desirable, the HYDRAULIC OPERATED PUMP can be installed with its own four way valve coupled directly into the HYDRAULIC PUMP and return lines, making it a complete unit that can be cycled independent of the MOVEMENT CYLINDER.

NOTE:

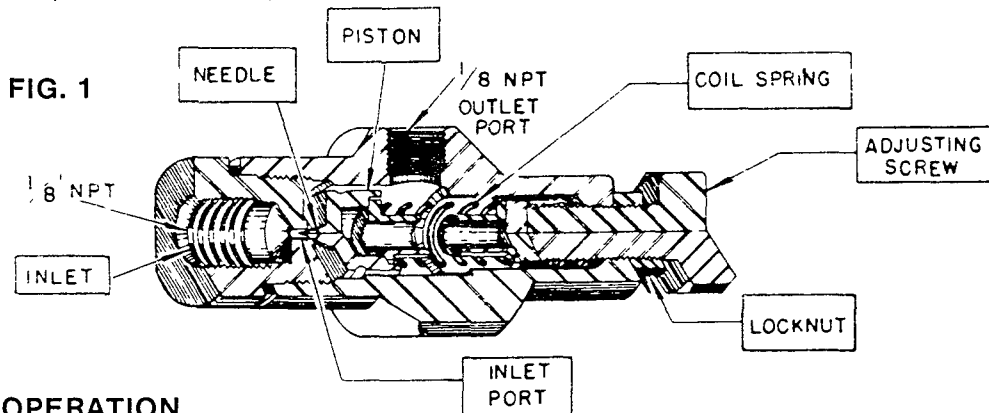
4 way Valve-Movement Cylinder-supply lines illustrated are part of hydraulic system of machine to which HYDRAULIC OPERATED PUMP (Model 1820) can be adapted.

CENTRO-MATIC VENT VALVE MODEL 81903



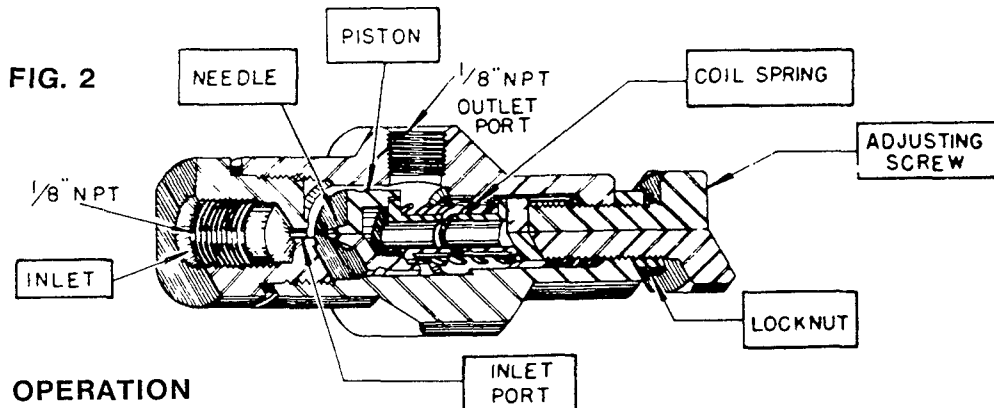
OPERATION OF CENTRO-MATIC VENT VALVE

The LINCOLN CENTRO-MATIC VENT VALVE is designed to relieve the lubricant supply line pressure after the cycle of Centra-Matic injectors has been completed



OPERATION

Fig. 1. Illustrates VALVE in a closed position. NEEDLE POINT of PISTON is held in INLET PORT by force of COIL SPRING. PISTON remains in this position until Lubricant Supply Line Pressure exceeds the force exerted by COIL SPRING.



OPERATION

Fig. 2. Illustrates VALVE opened. When Lubricant Supply Line Pressure on NEEDLE POINT exceeds force of COIL SPRING, the PISTON is forced forward exposing the INLET PORT. Lubricant entering INLET PORT passes around PISTON to OUTLET PORT where it is vented to Container. With pressure relieved in Supply Line, force of COIL SPRING returns PISTON to original position in Fig. 1 with NEEDLE POINT held in INLET PORT. VALVE closed is again ready for another cycle.

ADJUSTMENT

Operating Pressure is determined by force of COIL SPRING which is controlled by the Adjusting SCREW. To increase Operating Pressure turn ADJUSTING SCREW to right. To lower Operating Pressure turn ADJUSTING SCREW to left. A LOCK NUT is provided to hold ADJUSTING SCREW in position.

— 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.