

HYDRAULIC FLOW REVERSER



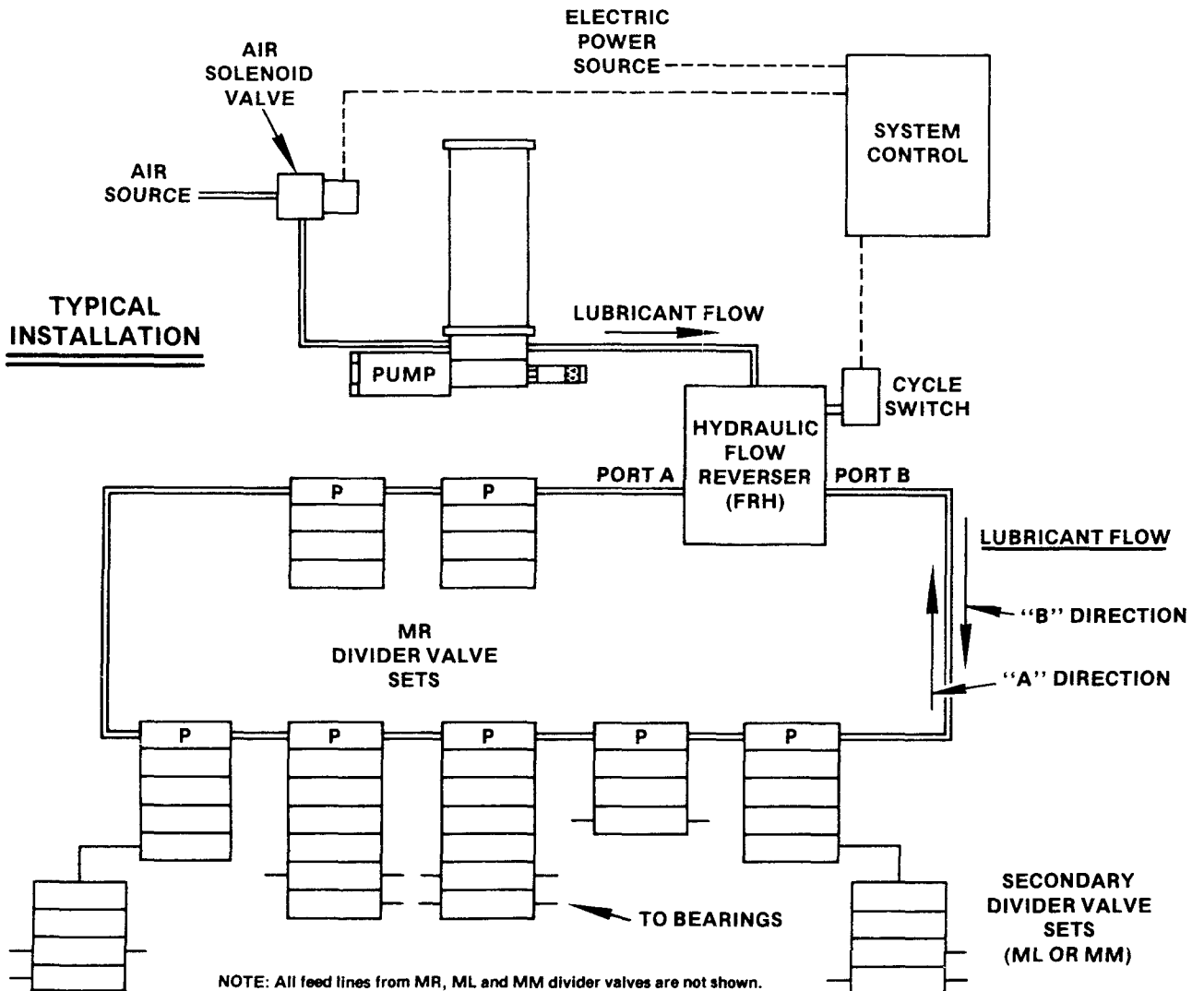
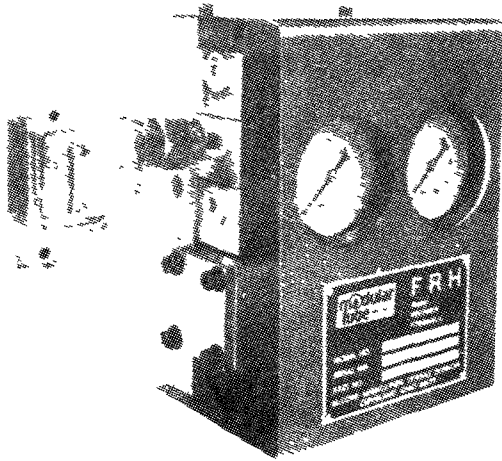
Model 87803

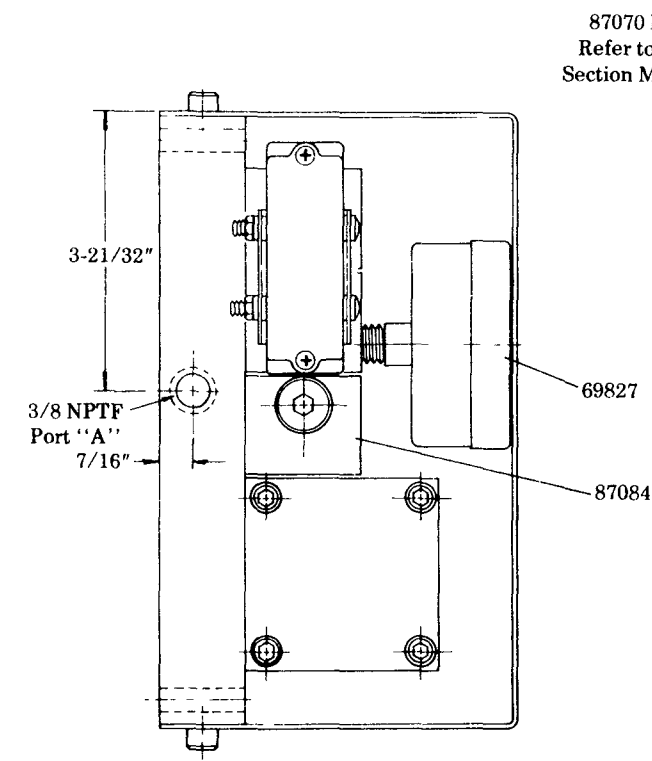
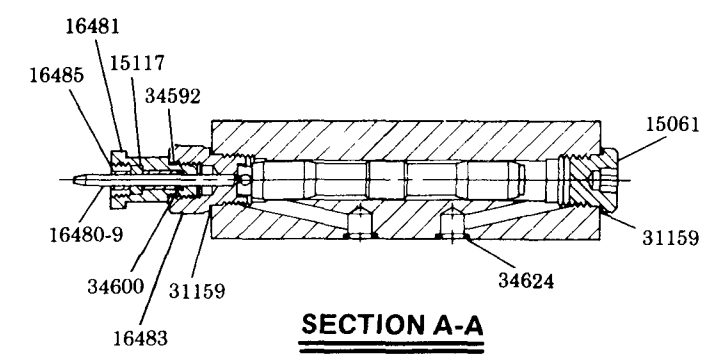
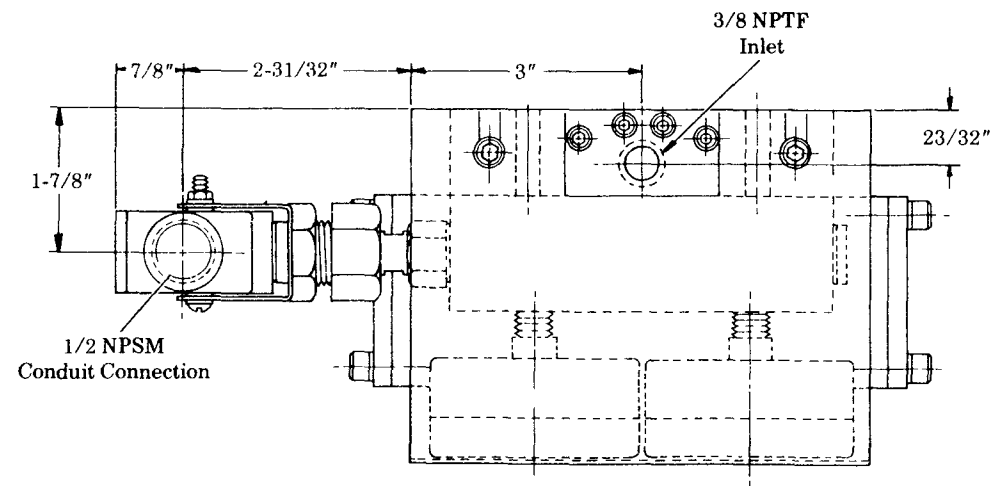
DESCRIPTION

Model 87803 is a Hydraulic Flow Reverser (FRH) used in a single line progressive lubrication system. The FRH consists of two control valves, a cycle switch, a directional valve and a 3 cu. in. accumulator valve. All components are mounted to a base plate containing the lube inlet, two directional ports, and a return to tank connection.

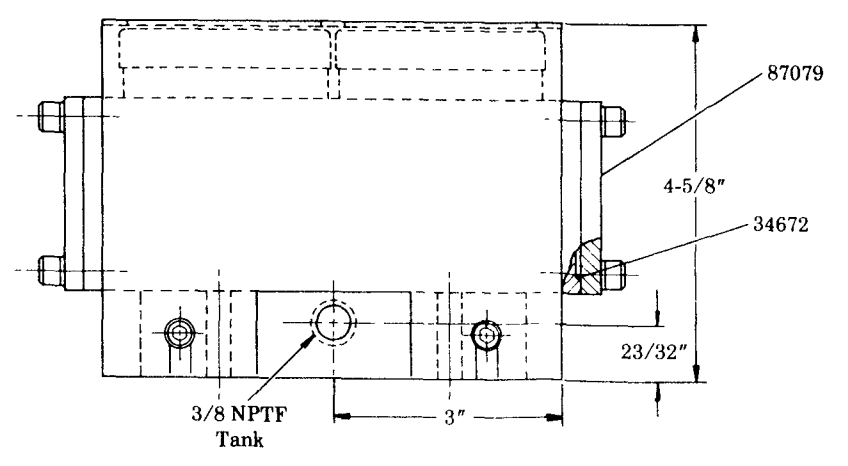
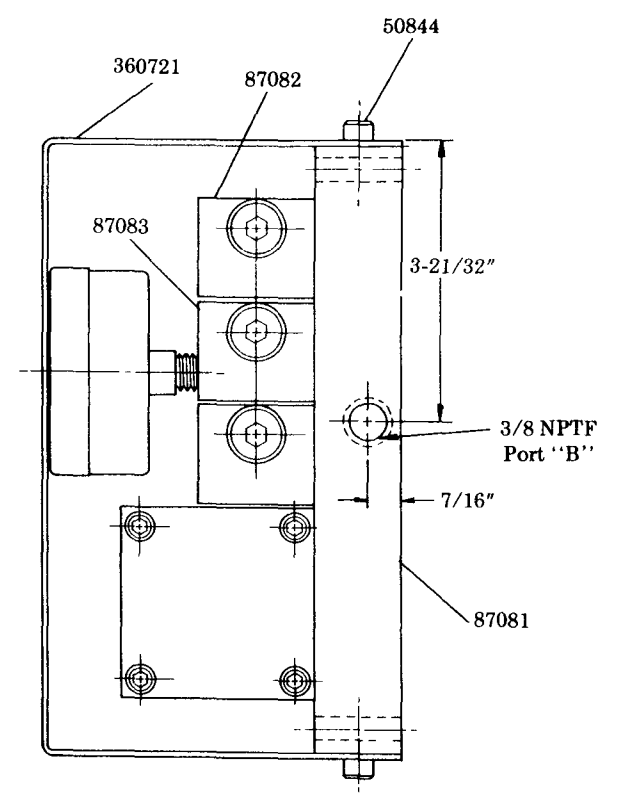
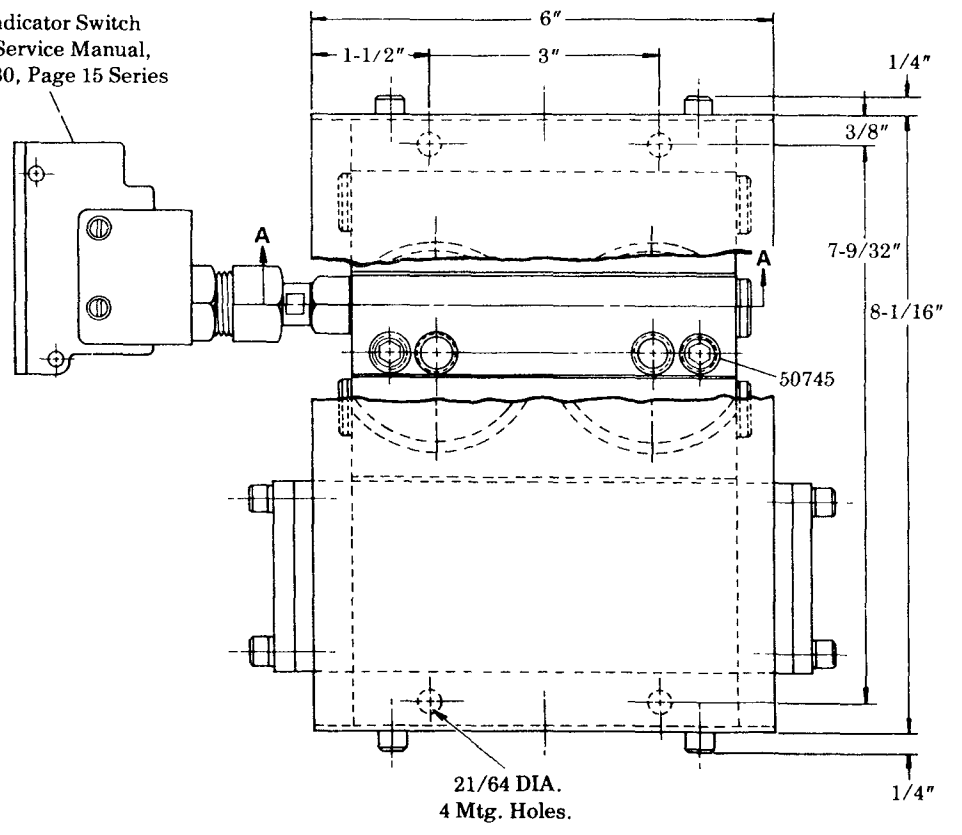
OPERATION

Lubricant flow from the pump enters the FRH and is directed through port "A" to the primary divider valves (MR). This flow causes each divider valve piston to shift, in one direction only, discharging lubricant in sequence. Lubricant discharged from MR divider valves can be subdivided by secondary divider valves (ML or MM). After all MR divider valve pistons have shifted, lubricant flow re-enters FRH through port "B" and through valving is directed back out through port "A". Each MR divider valve piston shifts in opposite direction discharging lubricant in sequence. After all MR divider valve pistons have shifted, flow enters port "A" of FRH. Cycle switch on FRH signals system control that lube cycle is complete and control shuts off pump.





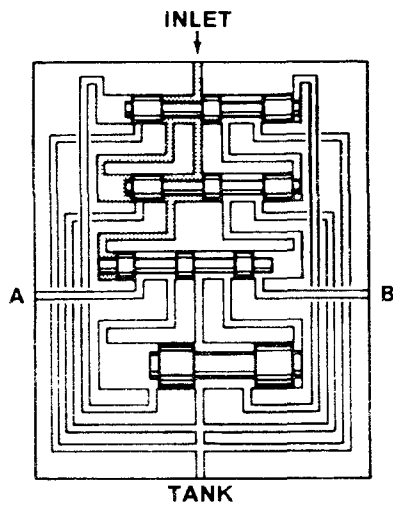
87070 Indicator Switch
Refer to Service Manual,
Section M30, Page 15 Series



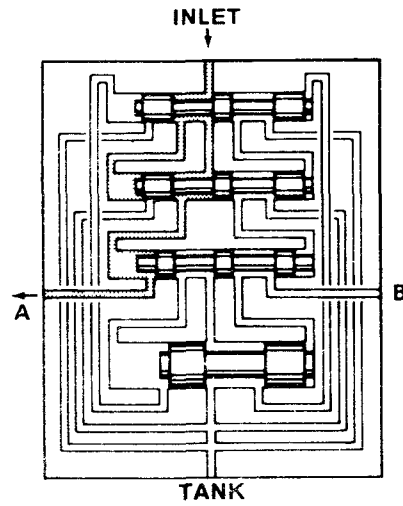
SERVICE PARTS

PART	QUAN.	DESCRIPTION	PART	QUAN.	DESCRIPTION
15061	5	Enclosure plug	50745	2	Screw
15117	1	Bearing	50844	4	Screw
16480-9	1	Indicator pin	69827	2	Pressure gauge
16481	1	Indicator body	87070	1	Indicator switch assembly
16483	1	Indicator adapter	87079	1	Accumulator
16485	1	Bearing retainer	87081	1	Base plate assembly
31159	6	Gasket	87082	1	Reverser block assembly
34592	1	O-ring	87083	1	Indicator & gauge block assembly
34600	1	O-ring	87084	1	Directional block assembly
34624	27	O-ring	360721	1	Cover
34672	2	O-ring			

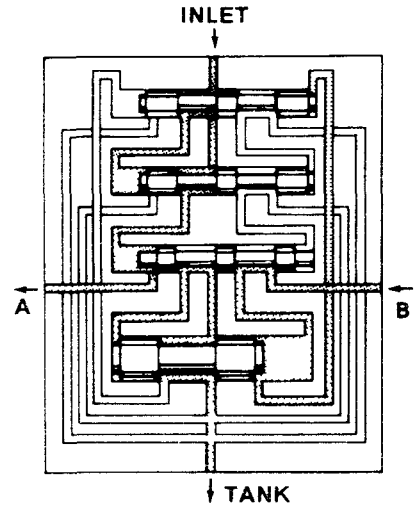
HYDRAULIC FLOW REVERSER (FRH)



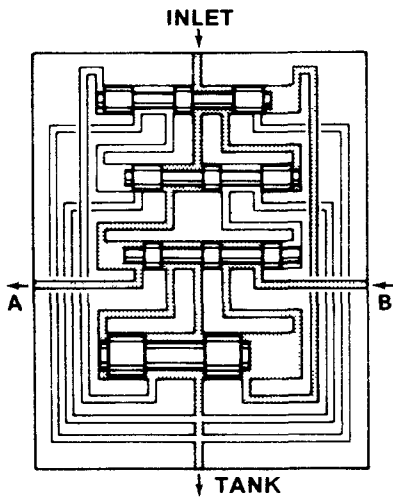
The lubricant flow is directed into the FRH Reverser, and behind the directional piston (fig #1)



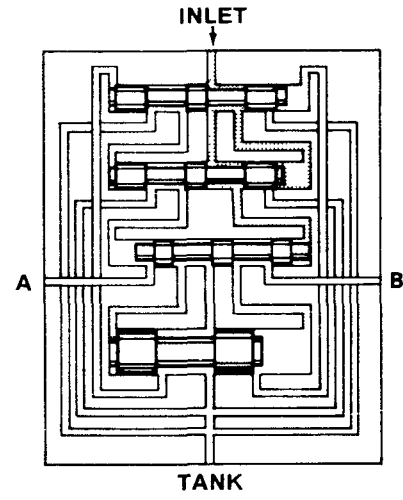
As the lubricant flow moves the directional piston to the right, it allows the flow of lubricant to be directed out port 'A' and into the system (fig #2).



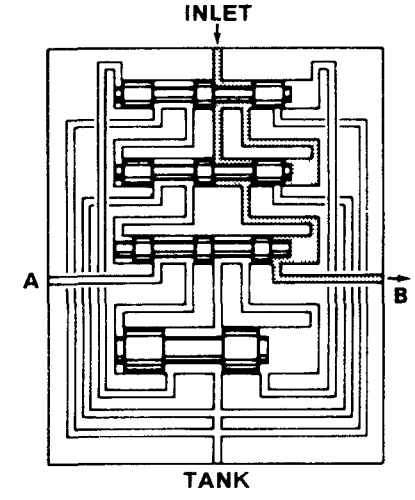
After all the divider valves in the system have been served, the lubricant flow re-enters the FRH Reverser through port 'B', moves the accumulator piston to the left and allows the lubricant to be directed behind the first control piston (fig #3).



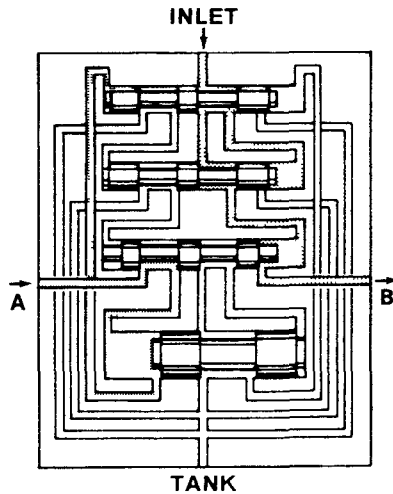
As the accumulator piston moves to the left the excess lubricant behind the accumulator piston is diverted out the tank port and back to the supply reservoir. Lubricant flow coming into the FRH Reverser through port 'B' now moves the first control piston to the left allowing the flow from the inlet to be diverted from port 'A' behind control piston #2, (fig #4)



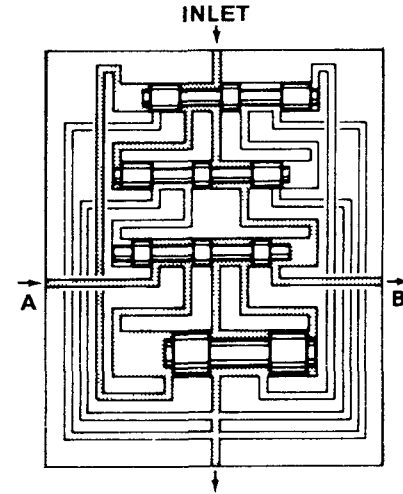
The lubricant flow from the inlet now moves control piston #2, which is connected to the switch, to the left allowing flow to be directed behind the directional piston (fig #5). As control piston #2 moves to the left it energizes the limit switch connected to it, sending a signal to the control panel, and energizes a relay. One half cycle has now been completed.



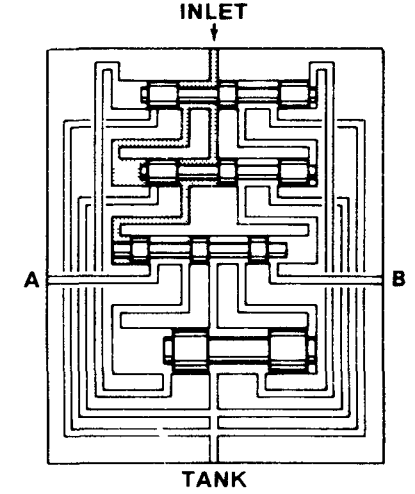
As the lubricant flow moves the directional piston to the left, port 'B' is opened and flow can now move back into the system, in the opposite direction (fig. #6). The flow direction has now been reversed and the second half of the lube cycle has been initiated.



After all of the divider valves in the system have been served from the opposite direction the lubricant flow enters port 'A' and moves the accumulator piston to the right, directing the lubricant behind control piston #1 (fig #7)



As the accumulator piston moves to the right the excess lubricant behind the accumulator piston is again diverted through the tank port and back to the supply reservoir. As the flow of lubricant moves control piston #1 to the right, lube flow, from the inlet is diverted behind control piston #2 (fig #8)



Control piston #2 which is connected to the limit switch is moved to the right by the lubricant flow allowing the limit switch to return to a normally open position. An electrical signal is now picked up by the control panel, indicating a full cycle of the system has now been completed.