

Procedure for Filling and Trouble Shooting Systems

To insure proper operation of the Lube System it is imperative that all tubing and components be filled with lubricant and free of air before start-up. The following procedure should be adhered to for properly filling and purging the system.

Loosen tube nuts at all lubrication points. Loosen the two socket head bleed screws on divider valve. There is one on each side of the modular base segment farthest from inlet. Connect a manual lube pump into inlet or alternate outlet of divider valve.

Operate the manual pump until clear, air free lubricant appears. Then retighten bleed screws and tubing nuts at lubrication points. The system should now be completely filled with clear, air free lubricant and ready for start-up.

Use the correct, clean and filtered lubricant at all times and be sure the reservoir is adequately filled at all times.

SYSTEM MALFUNCTIONS AND THEIR CAUSES

Pump does not discharge lubricant:

- Empty Reservoir
- Air entrapment within the pump
- Defective pump

Divider valve does not cycle:

- Contaminated or stuck piston within this block

Divider valve leaks:

- Valve block screws loose
- "O" Ring not installed
- "O" Ring damaged

Divider valve repeatedly ruptures disc:

- Blocked or crushed line downstream
- Improperly drilled tube fitting
- Disc pressure rating incorrect
- Clogged lube filter
- Entrained air

IF BLOCKAGE OCCURS ANYWHERE IN THE DIVIDER VALVE SYSTEM, PROCEED AS FOLLOWS:

Connect a manual oil pump, with gauge, into the inlet of the master divider valve and try to cycle the system by pumping oil into the master. If the master divider is equipped with indicators and the blockage is down stream of the master, one of the indicator pins in the master will protrude. Blockage is then down the discharge line common to the protruding pin. If the system will not cycle and no indicator pin is "up" in the master divider, blockage is then within the master divider.

If master divider Valve is not equipped with indicators, remove (one at a time) each alternate outlet plug in the master which is common to a discharge port. (When plugs are removed, trapped lubricant will usually surge out of the alternate outlet hole which is common to the blocked out going line). Pump oil into the inlet of the master after each plug is removed and if pressure drops, the blockage is down stream of the last outlet so tested. While pumping oil into the master, with all alternate plugs removed, no oil is discharged at any open port, blockage is within the master divider valve.

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Proceed to the secondary divider valve which is down stream from the blocked port and remove each alternate outlet plug which is common to a discharge port. Insert the manual pump into the alternate outlet port back at the master divider valve which serves lubricant to this secondary assembly. Pump oil into the master alternate outlet and if lubricant is discharged freely through each of the alternate outlets in the secondary, blockage is not in the secondary divider valve, but downstream from it.

Connect the manual pump into each alternate outlet (one at a time) of the secondary block. If while pumping oil into one of the secondary alternate outlets, pressure builds up, the blockage has been located. Look for crushed lines, improperly drilled fitting, a blocked injection point, or entrained air.

If the secondary divider valve will not cycle or discharge lubricant through the open alternate ports, blockage is within the divider valve. If the divider block is blocked internally, it must be removed, disassembled and cleaned.

Previous to divider valve disassembly, it is wise to remove the piston enclosure plugs only, and with strong finger pressure, work the piston back and forth without removing it. If all pistons are movable, replace the enclosure plugs and reset the assembly by pumping oil into the inlet. (The particle of dirt which may have caused the internal blockage may now be dislodged and the assembly may be back in working condition with no further service to be performed.)

If piston is jammed proceed with further disassembly, first making a note of valve block positions on the base. With individual valve blocks on the bench, remove the piston enclosure screws. Working with one block at a time remove the piston. If it appears to be stuck, try removing it from the other direction. Piston may have to be forced out of the block by tapping it with a brass rod. When piston is removed, flush the piston and block in a suitable solvent. Blow out all ports thoroughly and use a small piece of wire re to probe the passageways. Inspect the cylinder bore of scratches or score marks. Inspect the piston in same manner. **IF EITHER OF THESE PARTS IS DAMAGED A NEW VALVE BLOCK SHOULD BE INSTALLED.** If the block and piston both appear to be in good condition, reassemble, making sure the piston slides smoothly and snugly in the bore. The final step is to disassemble and clean the base block..

After the entire assembly has been cleaned, blown-out, inspected and found to be in working condition, reassemble the divider valve blocks on the base in their original order. Test the operation of the assembly with a manual oil pump. If it now functions properly, replace the divider valve assembly in the system and test again for proper system operation.

ALL SERVICING SHOULD BE DONE UNDER THE CLEANEST POSSIBLE CONDITIONS.

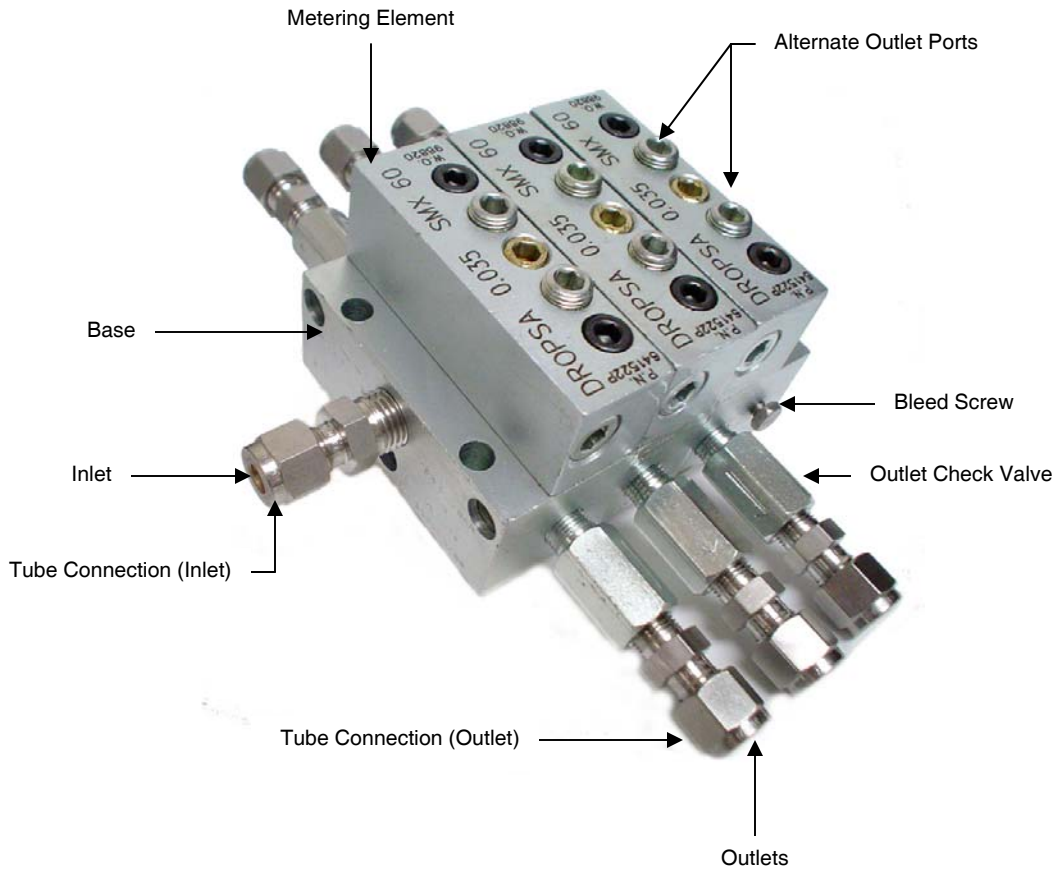
DIFFERENTIAL PRESSURES

It is recommended a **PRESSURE COMPENSATED BALANCING VALVE** be used in divider valve systems when differential pressures exceed approximately 1,000 psi. The balance valve installed between divider valve outlet and injection point on low pressure line, raises the pressure to a balanced condition between low and high pressure differential.

When master and secondary divider valves are used the balance valve can be installed on the low pressure side between master and secondary valves, when applicable.

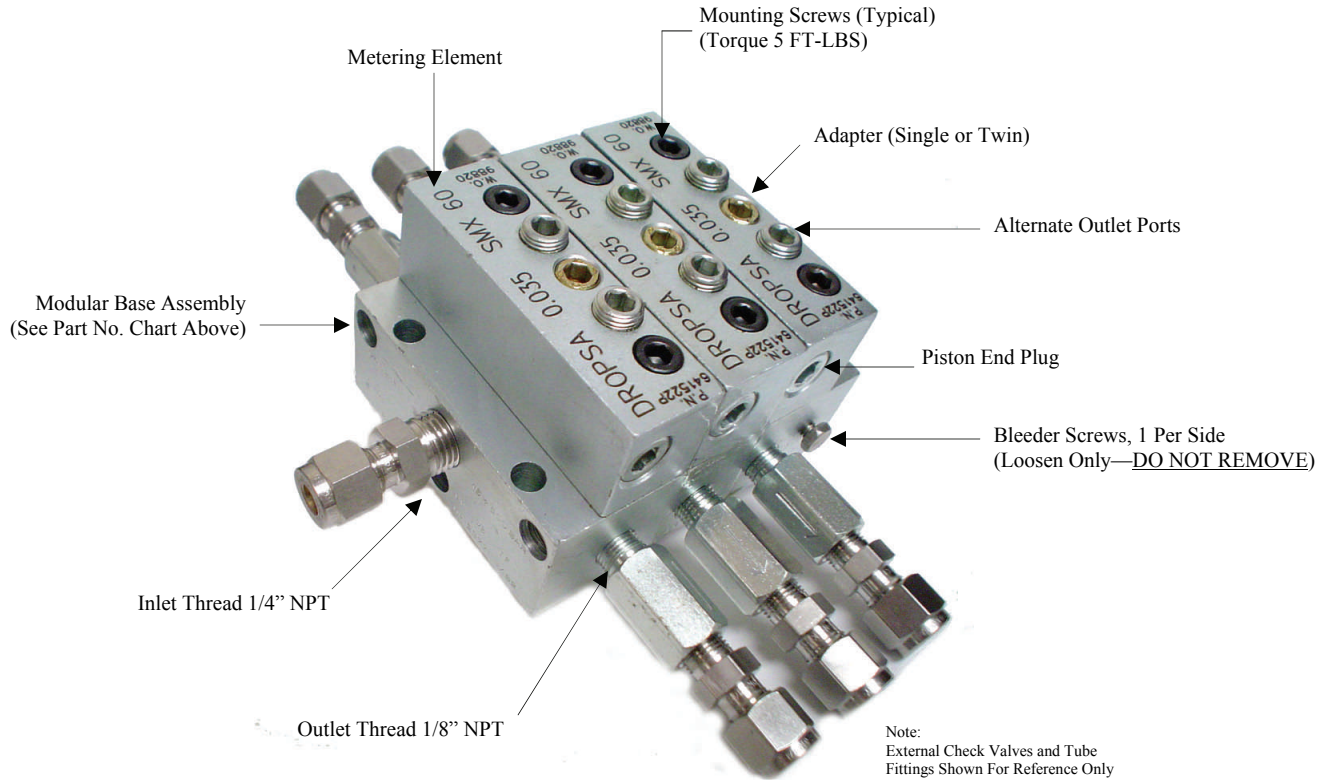
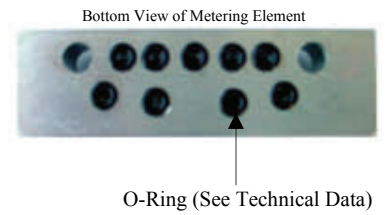
LOCATING BLOCKAGE

1. Check to ensure all Twin Elements "T" have (2) outlets in Base and all Single Elements "S" have (1) outlet and (1) Pipe Plug in Base.
2. Loosen tube connection at inlet and install a hand priming gun. Operate hand priming gun to dispel contamination or air. If necessary loosen (DO NOT REMOVE) the (2) Bleed Screws on each side of the modular Base farthest from the inlet.
3. If high pressure continues, remove (one at a time) each alternate outlet plug, which is common to an outlet port in the base. If pressure gauge drops and the divider valve cycles freely after the plug is removed, the blockage is downstream of that individual outlet. If pressure remains high when pumping oil with all alternate outlet plugs removed, the blockage is within the divider valve.



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Base Plate Components (Standard DropsA Mounting)	
Part No.	Description
643541	Inlet Base Section
643542	Intermediate Base Section
643561	End Base Section
One of each of the above components is required to assemble a 3-Section Divider Valve Base. If additional Sections are required increase the number of intermediate base sections	



Metering Element Sizes		
Displacement cc3	Displacement in3	Metering Element Part No.
.08	.005	641516P
.12	.0075	641790P
.16	.010	641517P
.25	.015	641518P
.35	.020	641519P
.40	.025	641520P
.50	.030	641521P
.60	.035	641522P
.65	.040	641523P

TECHNICAL DATA

Inlet Thread:.....1/4" NPT

Outlet Thread:.....1/8" NPT

Maximum Operating Pressure:..... 7250 PSI

Minimum Operating Pressure:.....215 PSI

O-Ring Material:.....Viton Standard, Buna Optional

- p/n MS-006V (Viton)
- p/n MS-006B (Buna)

Note: (9ea) O-Rings Required Per Metering Element, Inlet Base Section & Intermediate Base Section. End Base Section Does Not Require O-Rings.

Viscosity Range:

Oil Minimum:.....15 cSt (77.31 SSU)

Grease Maximum:.....200 ASTM (NLGI-4)