

PROBLEM	SOLUTION
III. Pump does not Reset.	<p>NOTE: The following describes how to ascertain if the Pump is Resetting properly or not. When the "Reset Button" is held down, there should be a steady exhausting of air coming from (2) places;</p> <p>(a) from the area around the "Reset Button" itself</p> <p>(b) from the Exhaust Port on the Pump.</p> <p>If this is not the case, See SOLUTION A. below.</p> <p>When the "Reset Button" is left up after being depressed, there should be a small burst of additional air exhausted from the Exhaust Port. If this is not the case, see SOLUTION B. below.</p> <p>A. Orifices in the SPOOL are blocked.</p> <ol style="list-style-type: none"> 1. Remove the SPOOL (#3 on Parts List) from the HOUSING (#6 on the Parts list). 2. Use a .020" Max.Dia. drill or wire to clear the small orifices found in both ends of the SPOOL. Push the drill/wire entirely thru the orifice (can be seen in the hole thru the O.D. of the SPOOL). 3. Clean the SPOOL with solvent, blow dry, apply light coat of oil, and re-install it. <p>B. The SPOOL is not shifting.</p> <ol style="list-style-type: none"> 1. Remove the SPOOL (#3 on the Parts List) from HOUSING (#6 on Parts List). 2. Inspect the five (5) "O" RINGS (#4 on Parts List) on the SPOOL for deformation and contamination. 3. Inspect the O.D. of the SPOOL for any deformation that might impede its movement in the bore. 4. Clean the SPOOL with solvent, blow dry, apply light coat of oil, and re-install it. <p>C. If SOLUTION A. and B. above fail, proceed below.</p> <ol style="list-style-type: none"> 1. Inspect the two (2) SEAT's (#15 on Parts List) for deformation on the chamfer which forms the seat for the "O" RING on the POPPET ASSY. 2. Inspect the two (2) POPPET ASSY's (#13 on Parts List) for worn "O" Rings or broken Springs. Replace entire POPPET ASSY if any part of it is bad.
IV. Air leaks continuously at the air exhaust	<p>A. An "O" Ring on the Spool in the Housing may be bad.</p> <ol style="list-style-type: none"> 1. See PROBLEM V. above; proceed at SOLUTION B. <p>B. Air may be leaking past the Air Piston.</p> <ol style="list-style-type: none"> 1. Check the joint at which PISTON (#18 on Parts List) is attached. If it is loose, air will leak past this joint. 2. Inspect the "O" RING (#19 on Parts List) on the PISTON for deformation or contamination.
V. Pump cycles very rapidly; or more rapidly than required for the amount of coolant being used.	<p>A. Coolant is being lost past the Fluid Piston or a Check.</p> <ol style="list-style-type: none"> 1. Check the joint at which PISTON ASSY (#29 on Parts List) is attached. If it is loose, Coolant will leak past this joint. 2. Inspect the "O" RING (#30 on Parts List) on the PISTON ASSY for deformation or contamination. 3. Remove the Plate from the PISTON ASSY that retains two (2) rubber Check Balls. Inspect these Check Balls for deformation. Inspect the Check Ball seats (in the PISTON ASSY) for deformation or contamination. 4. Inspect the CHECK ASSY (#37 on Parts List) as follows: <ol style="list-style-type: none"> a. See if the CHECK ASSY is properly oriented in its seat. Make sure SPRING (#36 on Parts List) is properly oriented and is not broken. b. There should be a Check Ball and Spring inside this CHECK ASSY. If it is missing, locate and remove these parts, and replace the entire CHECK ASSY. c. Inspect the "O" RING (#38 on Parts List) on the CHECK ASSY for deformation and contamination.

INSTALLATION, OPERATION, and TROUBLESHOOTING with REPLACEMENT PARTS LISTING for PowerPump Model P-515

INSTALLATION INSTRUCTIONS FOR POWERPUMP MOUNTED ON PRESSPRAY II BRACKET MODEL.

- A. Locate the PowerPump**
1. Mount the **PowerPump** in the pre-drilled mounting hole with the **Solution Regulator** facing the front of the bracket.
- B. Attach Fittings**
1. Mount the **PowerPump** to the bracket using (4) **SCR022** and securing them with (4) **WAS001** and (4) **NUT004**.
 2. Apply hydraulic sealant to the threads of the **Pressure Gauge** and attach to the front of the **Regulator**.
 3. Remove plug (**FIT003**) from the top of the **UNI Valve** of the **PresSpray II** and insert the elbow fitting (**FIT040**) and aim towards the **PowerPump**.
 4. Attach **FIT003** (plug) into the open air relief hole on the **PowerPump** air valve. This hole is on the same side of the **PowerPump** as the **Fluid Regulator**.
 5. Insert the other **FIT040 Elbow Fitting** in the **Air Inlet** of the **PowerPump**.

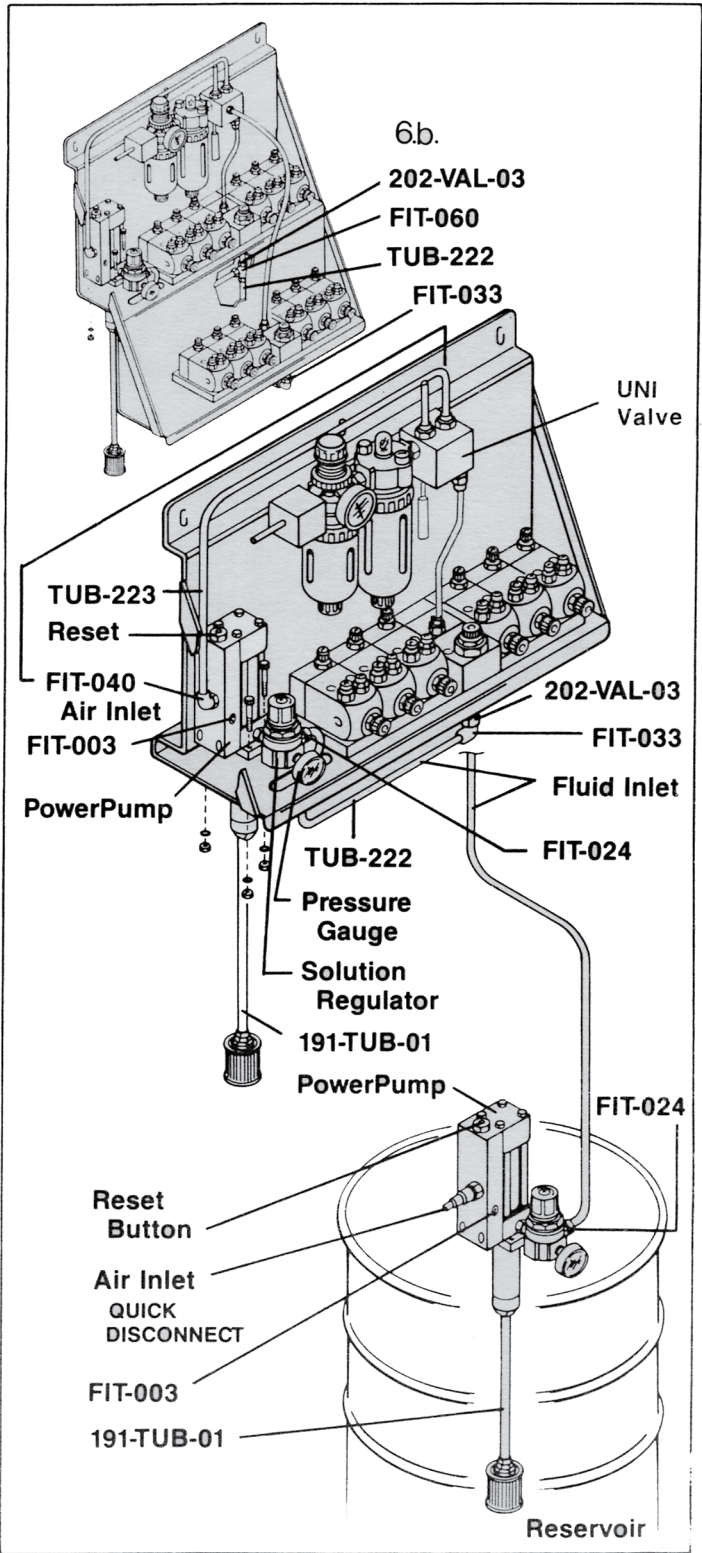
CAUTION: The tapped hole at the rear of the air valve is an exhaust port. Do not plug this hole.

- Mounting of the P-515 PowerPump to P-165, P-166, and P-167.
6. a. Attach elbow fitting (**FIT033**) to the single bracket **PresSpray II** bracket (P-160, P-161, and P-162) at the bottom of 202VAL03.
 6. b. Attach **FIT060 T** adapter into the upper level of the double **PresSpray II** bracket (P-165, P-166, and P-167) at the bottom of 202VAL03.
 7. Attach fluid fitting (**FIT024**) to the outlet port of the **Fluid Regulator** aiming toward the **PresSpray II**.
 8. Attach **TUB223** between the two **FIT040** air fittings.
 9. a. On single bracket **PresSpray II** (P-160, P-161, and P-162) attach **TUB222** between the two **FIT033** fluid fittings.
 9. b. On the double bracket **PresSpray II** (P-165, P-166, and P-167) attach **TUB222** between the **FIT033** on the fluid regulator and the **FIT060 T** adapter.
 10. On the double bracket **PresSpray II** (P-165, P-166, and P-167) attach the second **TUB222** between the **FIT060 T** adapter and the **FIT033** fitting on the lower level of the **PresSpray II** bracket.
 11. Apply hydraulic sealant to the threads of **191TUB01** and insert in the **Solution Inlet** port on the barrel of the **PowerPump**.
- C. Attach the Air Supply**
1. The air will automatically feed to the **PowerPump** when the air is hooked up to **PresSpray II**.

Skip to the Operation Instruction section.

INSTALLATION INSTRUCTIONS FOR BARREL MOUNTING THE POWERPUMP.

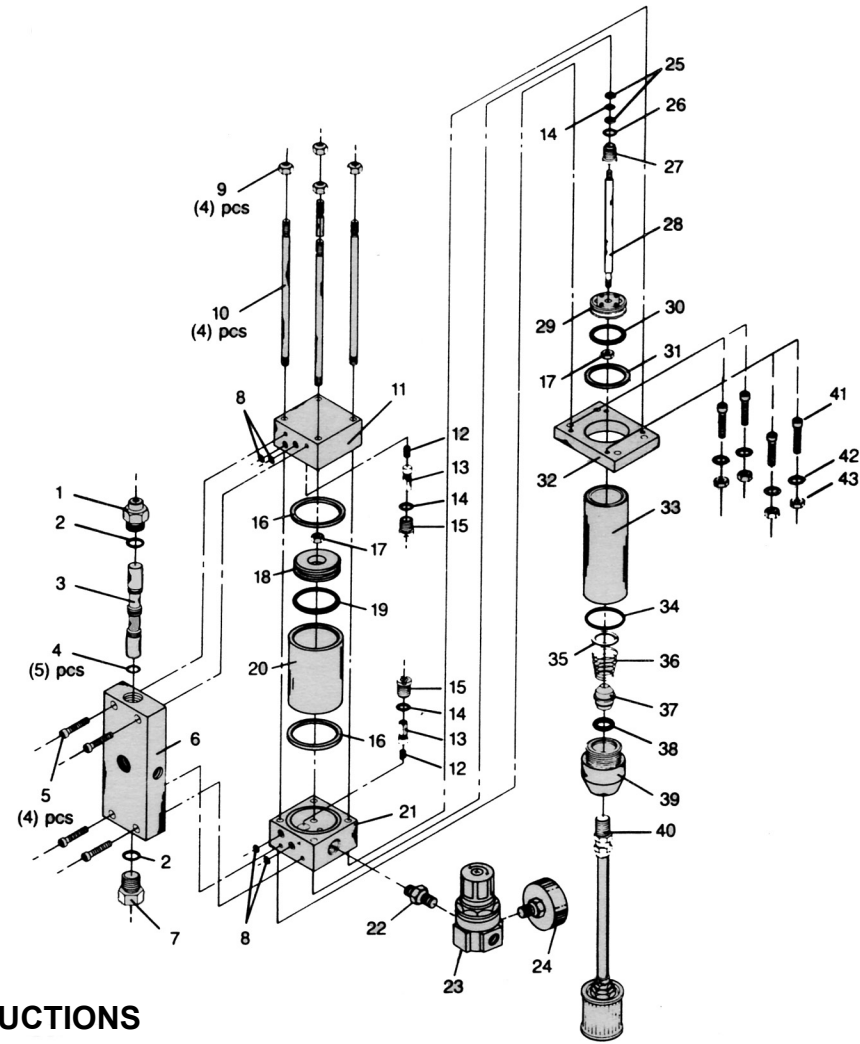
- A. Apply Fittings**
1. Apply hydraulic sealant to the threads of the **Pressure Gauge** and attach to the front of the **Fluid Regulator**.



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PowerPump Models P515



TROUBLESHOOTING INSTRUCTIONS

Always see the supplemental instructions supplied for the **PresSpray II** unit first before continuing below. The following only covers problems with the **PowerPump**.

PROBLEM	SOLUTION
I. Coolant is not being supplied to the PresSpray II.	<p>A. Coolant Reservoir may have run dry.</p> <ol style="list-style-type: none"> If this was the problem, make sure the PowerPump is properly purged of air when restarted. See "START-UP" or "RE-START" at OPERATING INSTRUCTIONS above. <p>B. The PowerPump may have "stalled" or "hung-up"</p> <ol style="list-style-type: none"> Press the ReSet-Button on the Pump. <ol style="list-style-type: none"> If this solves the problem but it repeats, check PROBLEM IV. See PROBLEM V. on how to ascertain if the Pump is properly Re-Setting. <p>C. A Coolant passage may be blocked.</p> <ol style="list-style-type: none"> Check for blockage at the Coolant filter. Check for blockage in the fittings and line that bring coolant to the PresSpray II.
II. Air is being drawn or introduced into the coolant. This problem may cause the pump to stall or the PresSpray II to stop spraying.	<p>A. Coolant Reservoir may have run dry. See PROBLEM III. at SOLUTION A.</p> <p>NOTE: The following SOLUTIONS involve disassembly of the Pump. Before proceeding, closely inspect the Fluid Line to the PresSpray II. The line should be transparent enough to see air bubbles if this problem exists.</p> <p>B. Outside Air may be drawn into the Pump.</p> <ol style="list-style-type: none"> Inspect the TUBE (#41 on Parts List) for cuts or cracks, especially at the ends. Make sure the TUBE's connections are tight. Check if CYLINDER (#33 on Parts List) is tightly torqued against the seal RING (#31 on Parts List); torque to be 100 ft-lbs., applied at flats on end of Barrel. Inspect this seal RING and it's groove for deformation and contamination. Inspect the "O" RING (#34 on Parts List) for cuts or deformation. <p>C. Operating Air may be being introduced into the Coolant.</p> <ol style="list-style-type: none"> Inspect the "O" Ring (#26 on Parts List) which seals between the air and coolant chambers for deformation and contamination.

- Attach the FIT003 (plug) into the open air relief hole on the **PowerPump** air valve. This hole is on the same side of the **PowerPump** as the **Fluid Regulator**.
- Attach **FIT024** (fluid fitting) to the **Outlet Port** of the **Fluid Regulator**.
- Apply hydraulic sealant to the threads of **191TUB01** inlet tubing and attach the tubing to the **Inlet Solution** port.
- Install **FIT033** elbow fitting on the **PresSpray II** unit being fed by the **PowerPump**. This fitting attaches to the bottom of **202VAL03** and should be aimed toward the **PowerPump**.
- Attach .375 diameter tubing from the **Outlet Port** of the **PowerPump** to the inlet fitting on the **PresSpray II**.
- Attach a quick disconnect fitting to the air line which will feed the **PowerPump**.

CAUTION: It is recommended that the shop air that feeds the pump have a FRL unit attached.

CAUTION: The tapped hole at the rear of the **Air Valve** is an **Exhaust Port**. Do not plug this hole.

B. Attach Air Supply.

- Attach the air to the **PowerPump**.

Skip to Operation Instructions.

OPERATION INSTRUCTIONS FOR THE POWERPUMP FOR START-UP OR RESTART AFTER RUNNING DRY.

A. Activate the System

Activate the system by connecting or turning on the shop air to the **PowerPump**.

B. Setup the PresSpray II Unit

Setup and activate the **PresSpray II** system per the operating instructions supplied for that unit.

C. Purge the PowerPump

The **PowerPump** will have to fill with coolant and purge itself of air before it can insure reliable operation. This purging will be done after the pump has cycled a couple of times.

Until this purging of air is done, the pump may tend to "stall" or "hang-up". To correct this condition depress the button labeled **Reset Button** in Fig .1.

FOR GENERAL OPERATION

D. Set the Air Pressure

Operate the system with the shop air to the pump set at between 60 to 100 PSI.

CAUTION: Make sure that this pressure is set at or below the minimum air pressure that will be seen at any given time.
Example: If the air pressure from the air compressor varies from 70 to 100 PSI, the shop air to the pump must be regulated to 70 PSI or below

E. Set the Fluid Pressure

Set the fluid pressure on the **Fluid Regulator** to between 30 and 40 PSI.

F. Supplying Coolant

Always refill the **Fluid Reservoir** before coolant is absent from the sight-gauge. If the **Reservoir** runs dry, make sure the pump is properly purged of air per "start-up" or "restart" above.

G. Shutting the System Down

To shut-down the system, disconnect or turn off the shop air to the pump. Re-connecting or turning shop air back on will restart the system.

REPLACEMENT PARTS LISTING

KEY NO.	DESCRIPTION Part Name or Reference	PART NUMBERS
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The Following Parts are Common to All Models (listed at the right)

		P515
1	VALVE ASSY:relief	505POP02
2	RING,"O":seal	RGO049
3	SPOOL,Valve:air	SPL014
4	RING,"O":seal	RGO017
5	SCREW,Cap:soc hd	SCR028
6	HOUSING,Valve:air	HGS044
7	PLUG,Threaded	PLG016
8	RING,"O":seal	RGO052
9	NUT,Hex;jam	NUT005
10	ROD,Threaded:tie	ROD014
11	PLATE,End:top	PLT029
12	SPRING,Compression:	SPG018
13	POPPET ASSY:relief	505POP01
14	RING,"O":seal	RGO011
15	SEAT,Poppet:	SET010
16	RING,Backup:seal	RGB011
17	NUT,Hex:locking	NUT103
18	PISTON,Air:	PIS013
19	RING,"O":seal	RGO055
20	CYLINDER,Air	CYL024
21	PLATE,End:bottom	PLT028
22	FITTING,Nipple:	FIT053
23	REGULATOR,Fluid:	REG013
24	GAUGE,Fluid:	GAU001
25	RING,Backup:seal	RGB012
26	RING,"O":seal	RGO030
27	GUIDE,Rod:	GID006
28	ROD,Connecting:	ROD015
29	PISTON ASSY:fluid	505PIS01
30	RING,"O":seal	RGO054
31	RING,Backup:seal	RGB010
32	PLATE,Mounting:	PLT030
33	CYLINDER,Fluid:	CYL023
34	RING,"O":seal	RGO056
35	RING,Retainer:	RGR015
36	SPRING,Conical:	SPG208
37	CHECK ASSY:fluid	505CHK01
38	RING,"O":seal	RGO007
39	HOUSING,Check:	HSG043
40	TUBE ASSY:	191TUB01
41	SCREWS (4)	SCR022
42	WASHERS (4)	WAS001
43	NUTS (4)	NUT004

Continued