

EXPRESS WARRANTY AND DISCLAIMER OF IMPLIED WARRANTIES

Lily Corporation unconditionally guarantees its products to be free of defects in material or workmanship and further warrants that, for a period of three months from date of factory shipment, its products will meet the performance criteria stated in Lily Corporation's publications.

There are no other warranties, expressed or implied, including those of merchantability and fitness for particular purposes.

Warning and Safety Precautions

The CD250 can develop fluid pressures in excess of 1000 pounds per square inch. Eye protection should be worn when the machine is being operated. Mechanical members are actuated under extreme forces which can cause severe injuries. Do not energize the machine unless all covers are in place, and all hands, tools, and other objects are outside of the frame of the machine.

Become thoroughly acquainted with first-aid procedures recommended by your resin supplier. If solvents are to be used for cleaning, personnel should become thoroughly acquainted with their characteristics. Most solvents are hazardous under all circumstances and extremely dangerous in non-ventilated areas, or at elevated temperatures.

If the transfer pumps are being supplied by Lily Corporation as part of this dispensing system, please read the warnings and safety precautions supplied by the transfer pump manufacturer. This information is included with this system.

A thorough understanding of the Operator's Manual is crucial to the safe operation of the CD250. Do not attempt to operate this system until thoroughly familiar with its contents. For clarifications or questions please call, email, or fax Lily Corporation.

The Resin Supply

Fluid Connections, continued

These hoses are 3/4" in diameter and are connected to the dispenser with a female 1" JIC fitting and the other end is attached to the manual dispense valve with a female 3/4" JIC fitting.

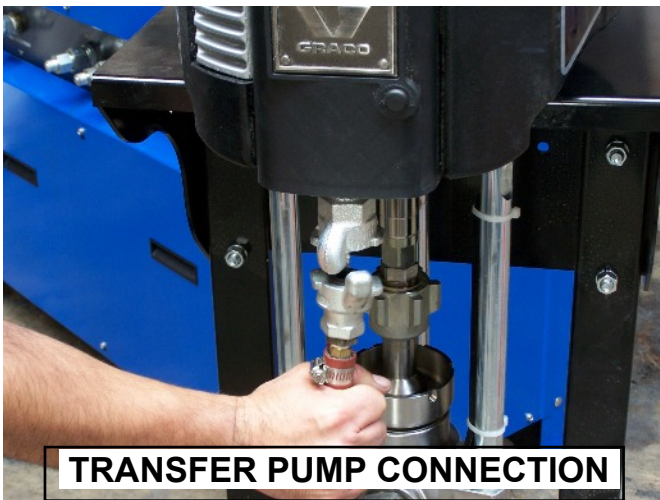
The dispense valve is a simple, manually operated, pair of ball valves.

Please note: When in use, the dispense valve must be completely "OFF" or completely "ON". It must not be used to throttle flow. If it is used to throttle flow, seal wear will be increased and the valve's ability to completely shut off flow will be lost.

The Air Supply

Requirements

The volume of dispensed resin is determined by air pressure. An inadequate supply of air will result in sluggish performance. A 175 cfm air compressor is the MINIMUM required for the proper operation of the CD250 Dispenser. The minimum air pressure required is 60psi. The maximum air pressure to the CD250 dispenser should not exceed 150 psi. For the air requirements of the transfer pumps, refer to the manufacturers operators manual.



The air supply must be clean and dry. Built into the CD250 Dispenser is a moisture separator and a coalescing micro filter. The water separator is an auto draining unit. It will drain the fluid accumulated through a hole in the bottom of the machine. The micro filter has an indicator located on the top of the filter housing to indicate when it needs to be serviced.

Always blow out air hoses before connecting them to remove any accumulated moisture and debris, preventing it from entering the dispenser. The air connections used on the CD250 Dispenser are the Chicago claw style fittings.



Shutting Down

1. When stopping for a material change, end of shift, end of day, etc., you will use a different procedure than if just pausing for a few minutes.
2. Adjust the regulator for the CD250 Dispenser to “0” psi.
3. Turn the CD250 “OFF” by using the switch on the front of the machine. When the switch is “OFF”, the CD250 will make a final dispense cycle and return to the “PARK” position.
4. Once the CD250 has “PARKED”, close the manual dispense valve. At this time the static mixer should be removed and disposed of and the threads of the dispense valve cleaned and lubricated.
5. Adjust the air pressure to the transfer pumps to zero.
6. Disconnect the air supply from the machine.
7. The machine and transfer pumps can be left in this state until the next start-up.

Clean-Up / Maintenance

Since the two components of the resin do not come together until in the disposable mixer, there is no machine clean up. However, there are some small maintenance items that should be done at the end of each shift or day.

First, wipe down the metering pistons with solvent, removing any buildup of material that might be present. Then, lightly coat with a silicone grease. This will keep material from sticking to the pistons.

Then, inspect piston pads for wear. Replace if necessary.

Now, wipe down the air cylinder rod as well as the two guide rods. Access to this area of the machine is achieved by removing the bottom panels. Loosen the 6 bolts holding the panel in place, lift the panel up then out.



Ratio Assurance Procedure cont'd.

11. Once this dispense cycle is complete, wipe the dispense fittings clean, allow accumulated resin within the fittings to drain, and observe the fittings for one minute. If any leakage is visible, the ball valves will need to be rebuilt by replacing the ball valve seals. If there is no leakage, this means the ball valve seals are good and the dispenser is “on ratio”.
12. Reduce the pressure to the transfer pumps to “Zero”.
13. While holding a waste bucket under the outlet fittings, switch the Isolation Valve to the “Open” position.
14. Move the dispenser “ON/OFF” valve to the “OFF” position.
15. Slowly increase the air pressure to the Dispenser and it will make another dispense cycle and “PARK”.
16. Turn all of the pressure regulators back to “Zero” and disconnect your air supply.
17. Re-connect the dispense hoses and replace any covers.

Caution: The above procedure is the only one that assures ratio accuracy. Random volumetric comparisons taken at low pressures or high flow rates do not reveal the condition of the seals. Only an extended and significant fluid pressure can accurately reflect their condition.

SERVICING THE SYSTEM

Lubrication

For information on the lubrication requirements for the transfer pumps, please refer to the manufacturer's owner's manuals. If the transfer pumps are supplied by Lily Corporation then these manuals will be included with the CD250 Operators Manual.

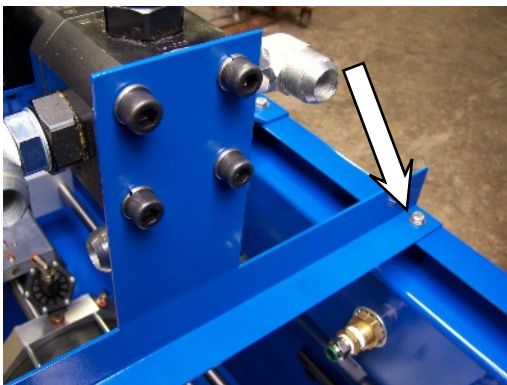
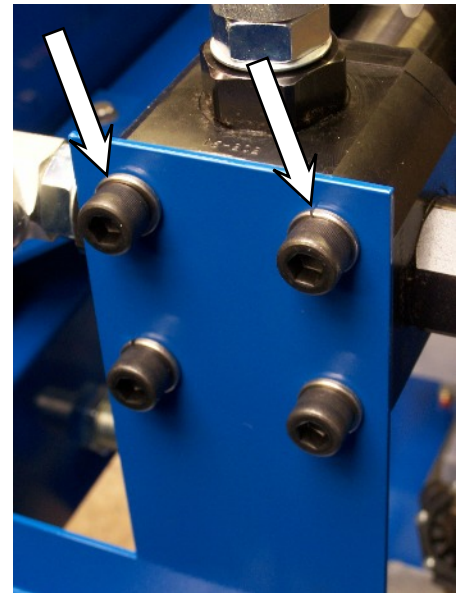
To lubricate the pneumatic circuit of the CD250, remove the top cabinet cover. On the left front of the machine is a manifold that is feeding air to the pneumatic control circuits in the dispenser. Disconnect the 3/8" diameter tube and squeeze a 1" stream of silicone lube into the tube. No other lubrication is needed.

Never use WD-40, 3 in 1 Oil, Marvel Mystery Oil, or any other petroleum based products.

Ball Valve Seal Replacement

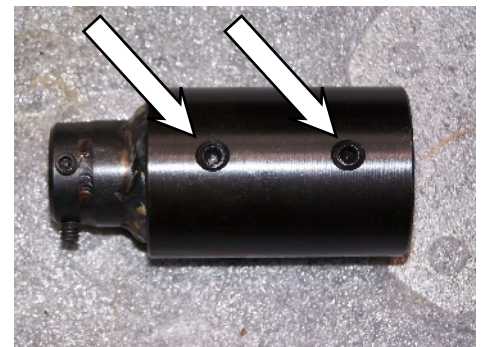
Note: Start this procedure with the CD250 Dispenser in the "Park" position. Then remove the fluid lines from the 4-way ball valve.

Remove the 4 mounting bolts securing the ball valve to the mounting bracket.



Remove the bolts mounting the bracket to the main frame assembly.

Loosen the set screws that secure the coupler to the ball valve actuator shaft.



SERVICING THE SYSTEM

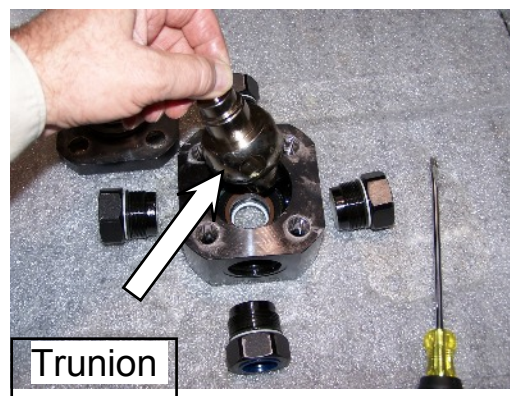
Ball Valve Seal Replacement

Now remove the main fittings from the ball valve body, These will require a **1 5/16"** wrench and the ball valve will need to be held firmly in a vice.

Be careful when removing these main fittings as seals from the ball valve may be removed with the fitting itself.



With the main fittings removed, the ball (trunion) itself can now be removed from the main ball valve body by pulling it up and out of the main valve body. Now, the remaining ball valve seals can be removed.



In the bottom of the main ball valve body you'll find another O-ring seal and Teflon backup as well as another bushing. Using the seal pick supplied with the CD250 remove the old O-ring and replace it with a new one. Inspect the bushing for any unusual wear.



After a thorough cleaning and inspection, the ball valve can be re-assembled. Using silicone grease, lube the O-ring and bushing in the bottom of the main ball valve body and insert the ball (trunion).

Use silicone grease on the seals between the ball and the main fittings then, insert the main fittings into the main ball valve body.

SERVICING THE SYSTEM

Metering Piston Seal Replacement

Open the dispense valve at this time and direct it into a waste bucket.

Manually plug the “bleed” holes on the left side of the air cylinder end cap. This will cause the ball valves to “switch”.

Turn the dispenser air pressure up until the air cylinder moves about half way between the metering cylinders then reduce it to “ZERO”.

Remove the air supply from the dispenser. **Do not turn the machine “OFF” before you remove the air supply.**

Manually push the metering piston back into it’s bore. Depending on which side of the machine you’re working on, epoxy resin will be pushed out through the dispense valve into the waste bucket or out of the “inlet” fitting at the back of the machine. Position a waste bucket here to catch resin as well.

Using the strap wrench supplied with the CD250 Dispenser, remove the catalyst metering assemblies. Material will drain from the hoses feeding the metering cylinder manifolds. This is expected and rags or towels should be on hand for clean up. Do not attempt to remove the metering assemblies with any tool other than a strap wrench as irreparable damage can be done to the metering cylinder.

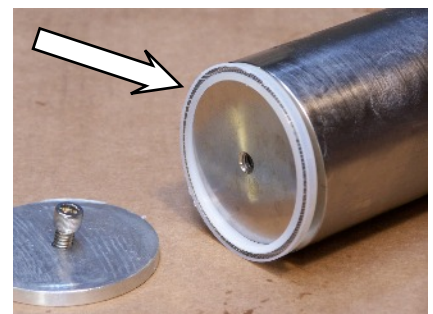
Use the seal pick from the seal kit to remove the O-ring from the bottom of the base manifold. Clean the opening in the bottom of the base manifold then lubricate a new O-ring and install it.

Once the metering assembly has been removed from the base manifold, push the piston from the cylinder bore.

Clean the piston and cylinder bore thoroughly. Examine the cylinder. If its bore is scratched or pitted, it should be replaced.

If the piston is scratched or marred, polish the surface with Scotch-brite or similar until no burr remains to damage the metering cylinder.

Replace the seal with its spring groove facing away from the metering piston.



TROUBLE SHOOTING

Spurts of air, or air bubbles in the material

Check the material level. Even though some material remains, the pump may draw air through the resin as it cavitates just before it is depleted.

Off ratio

Perform ratio assurance check to confirm ball valve performance.

Sluggish flow

To start with, look for an obstruction in the static mixer. Replace the mixer if needed. If flow is still sluggish, disconnect the outlet fittings and observe the resin flow from the outlet ports. If flow is now unrestricted, look for an obstruction in the exterior plumbing.

Verify that the air supply and air pressure is adequate.

Also keep in mind that the viscosity of the resin will affect performance.

Resin leakage at material piston

Replace the piston seals.

Metering piston fails to extend, or extends slowly

Disconnect the material inlet hose at the dispenser and check the flow from the transfer pump. If the flow is restricted, check for an obstruction in the material supply line, or insufficient

delivery from the transfer pump. If the material is adequate, remove the metering assembly and check for freedom of movement within the cylinder. If the piston is seized or binding, service the assembly. If the transfer pump is not delivering as it should, refer to the trouble shooting guide that came with the transfer pump. With the piston fully extended, wipe the piston with solvent and then lubricate well. Material being dispensed is too viscous.

System begins to dispense, but cannot complete a dispense cycle

Obstruction in material outlet lines, clogged static mixer.

System is unresponsive, does not make a dispense stroke, audible air leak at sensor ports

Metering pistons not sealing off sensor ports due to worn or damaged piston pads, replace the pads. Insufficient material pressure to press the pads firmly against the sensor ports.

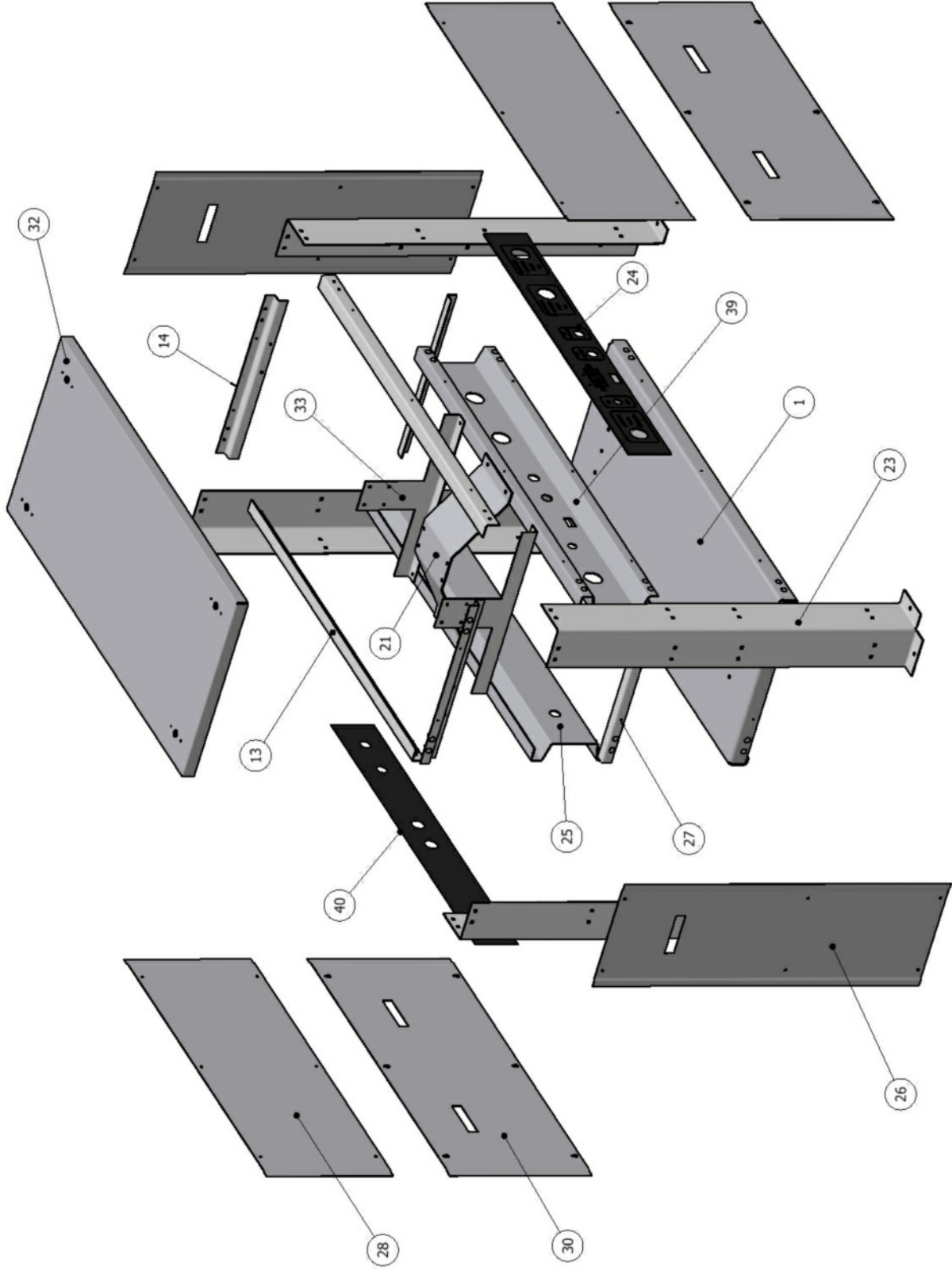
Main air cylinder fails to return following a complete dispense stroke

Defective rapid exhaust valve.

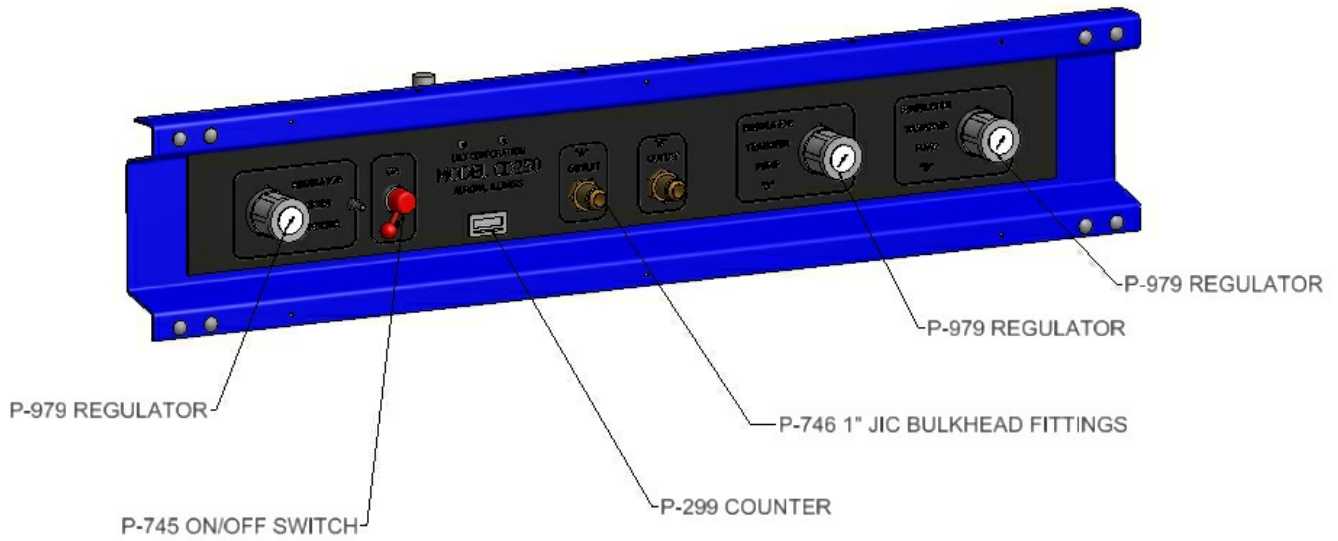
Unit switches before metering piston is fully extended.

Bleed holes in end cap plugged. Remove foreign material.

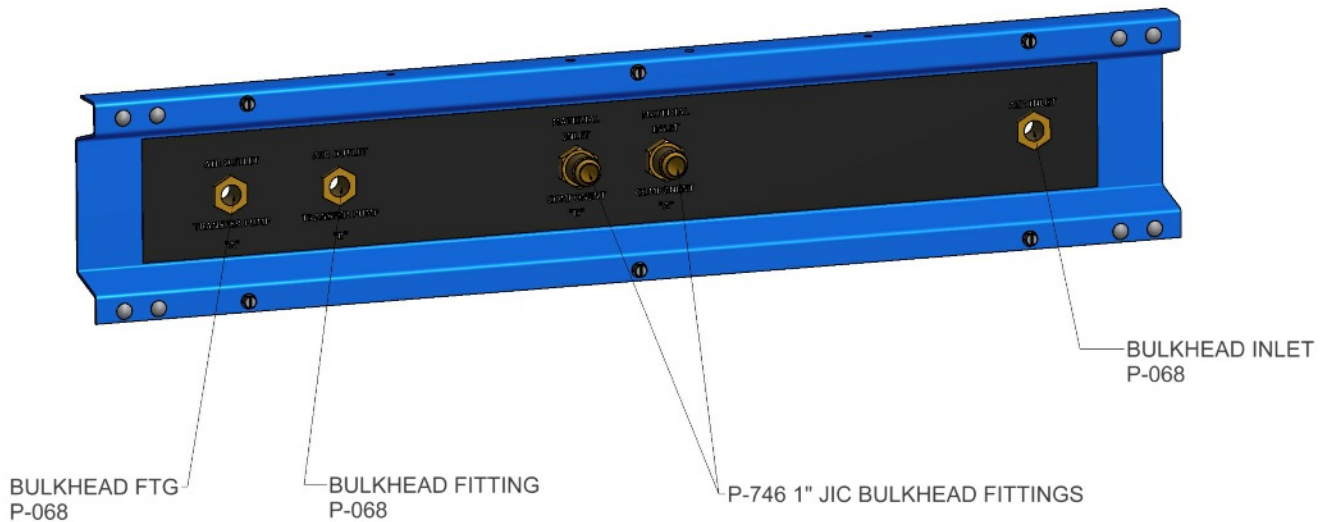
CD250 FRAME ASSEMBLY



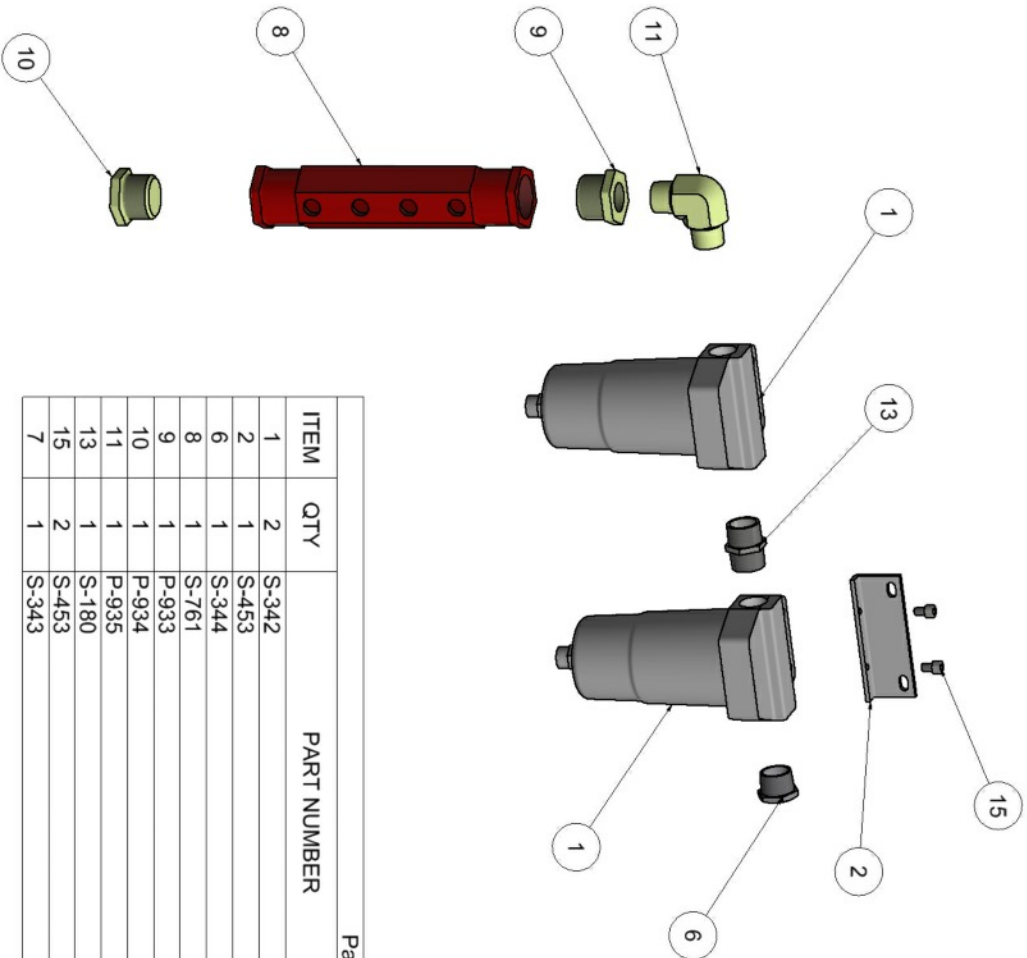
FRONT DASHBOARD CONTROLS



REAR DASHBOARD FITTINGS



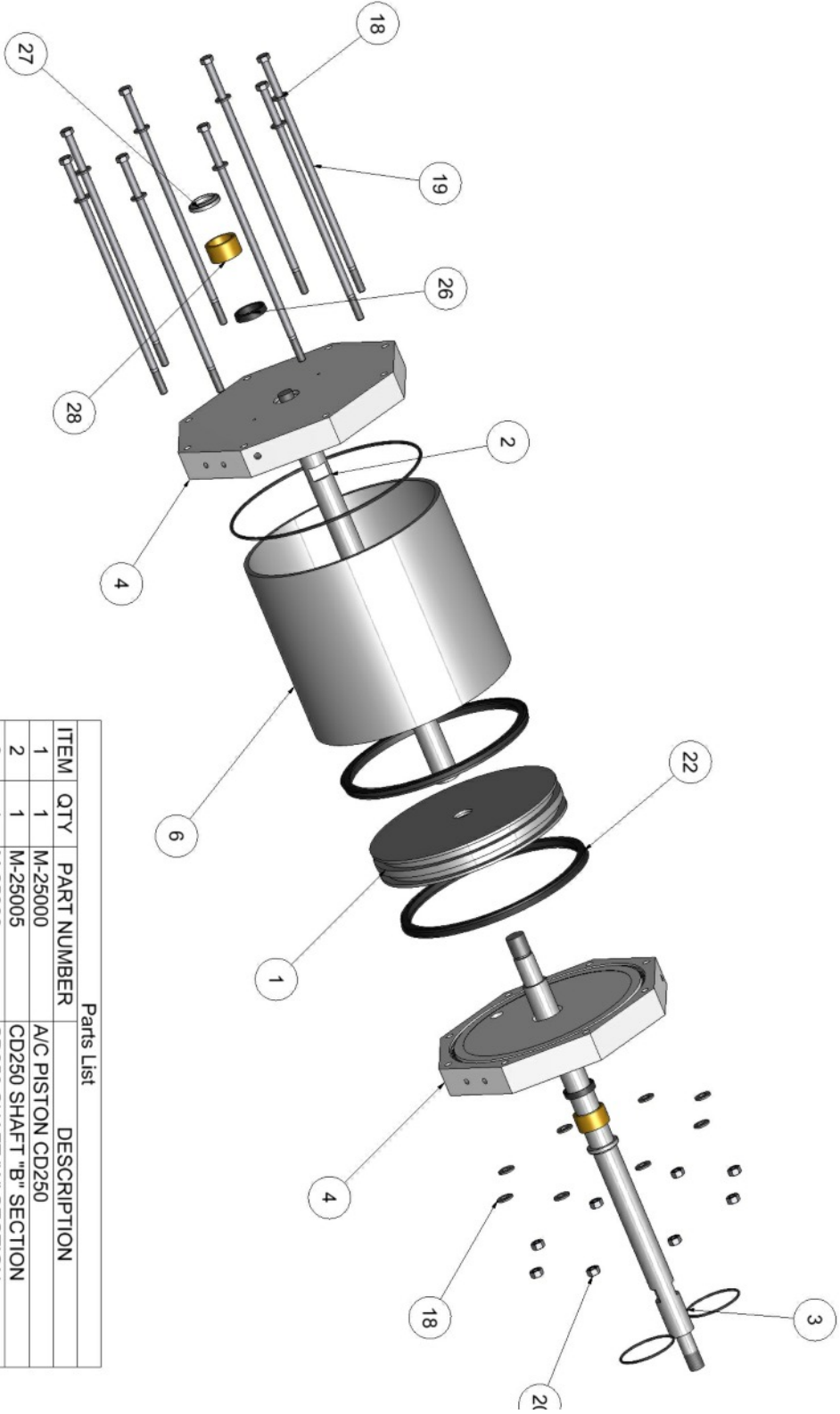
AIR FILTER / MOISTURE SEPERATOR ASSEMBLY



Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	S-342	SMC AMG550-N10BC WATER SEPERATOR
2	1	S-453	SMC AIR FILTER BRACKET INCL. BOLTS
6	1	S-344	1" MNPT X 3/4" FNPT BUSHING
8	1	S-761	AIR MANIFOLD
9	1	P-933	1 1/2 MNPT X 1 FNPT BUSHING
10	1	P-934	1 1/2 HEX HEAD PIPE PLUG
11	1	P-935	1 MNPT ELBOW
13	1	S-180	HEXAGON PIPE NIPPLE 1" NPT
15	2	S-453	SMC AIR FILTER BRACKET INCL. BOLTS
7	1	S-343	AIR/ OIL MIST FILTER SMC # AMH550C-N10-T

CD250 MAIN AIR CYLINDER ASSY

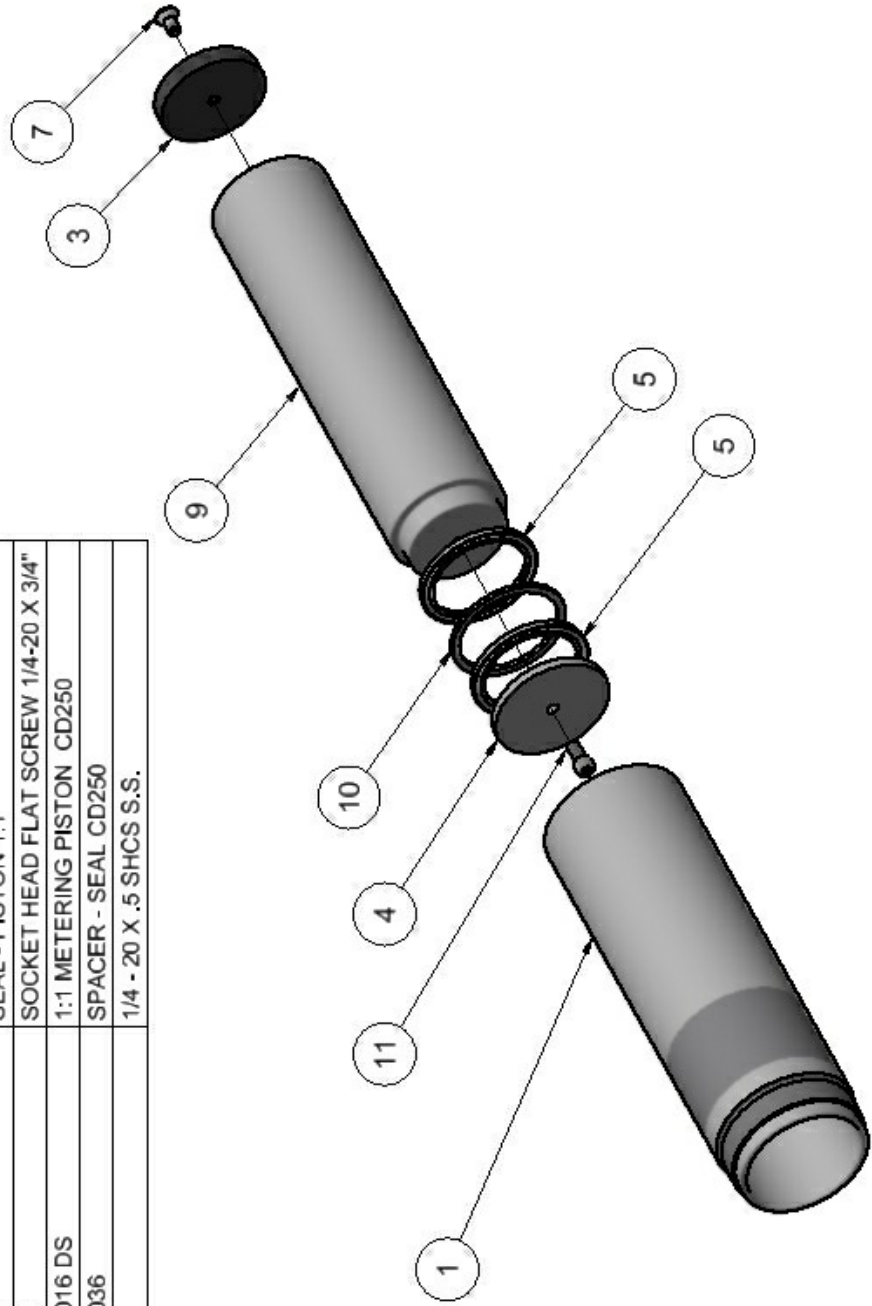


Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	M-25000	A/C PISTON CD250
2	1	M-25005	CD250 SHAFT "B" SECTION
3	1	M-25006	CD250 SHAFT "A" SECTION
4	2	M-25008	AC - CAP - REAR
6	1	M-12001	AC - SLEEVE - 10"
18	16	P-119	3/8" FLAT WASHER
19	8	S-315	3/8-16 X 13.5 HEX BOLT GR. 8
20	8	P-472	3/8" HEX NUT
22	2	P-689	SEAL - 10" PISTON
25	2	P-900	O-RING
26	2	P-352	SEAL - U-CUP - 1.25" ROD
27	2	P-354	SEAL - WIPER 1.25" ROD
28	2	M-320	BUSHING - 1.75 X 2.0 X 1.0

1:1 METERING ASSY

1:1 METERING ASSEMBLY CD250			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	M-12008DS	1:1 METERING CYLINDER CD250
3	1	M-25001	PISTON PAD 1:1 CD250
4	1	M-12012	CAP - PISTON SEAL
5	2	S-220	SEAL - PISTON 1:1
7	1	S-250	SOCKET HEAD FLAT SCREW 1/4-20 X 3/4"
9	1	M-25016 DS	1:1 METERING PISTON CD250
10	1	M-25036	SPACER - SEAL CD250
11	1	S-99	1/4 - 20 X .5 SHCS S.S.



A-255 DIRECTIONAL VALVE ASSEMBLY

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	S-260	PARKER DIRECTIONAL VALVE
5	2	P-940	3/8 TUBE X 3/8 NPT UNION
7	1	S-021	PIPE TEE 1/8 NPT BRASS
8	1	P-174	1/8 NPT X 5/32 UNION
9	1	P-024	TRANSDUCER
11	1	P-176	5/32 X 1/8 NPT SWIVEL ELBOW
12	1	S-930	3/8 TUBE X 3/8 NPT

