115-2X1SC

2K DUAL COMPONENT DISPENSER

IMPORTANT: READ THIS MANUAL CAREFULLY BEFORE INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT

115-211SC	1:1 Dispenser
115-221SC	2:1 Dispenser
115-241SC	4:1 Dispenser

SERVICE KITS

Use only Johnstone replacement parts to insure compatibility and longest life.

- 1:1 Dispenser Repair Kit: 115-211SCRK
- 2:1 Dispenser Repair Kit: 115-221SCRK
- 4:1 Dispenser Repair Kit: 115-241SCRK
- Refill/ Dispense Gun Kit: 120-304RK
- 1:1 Seal Cartridge kit: 115-211SCSLCK
- 2:1 Seal Cartridge kit: 115-221 SCSLCK
- 4:1 Seal Cartridge kit: 115-241 SCSLCK

⚠ WARNING

DO NOT OPERATE DISPENSER AT AIR PRESSURES ABOVE RECOMMENDED MAXIMUM OF 150 PSI (10.3 BAR).

SPECIFICATIONS

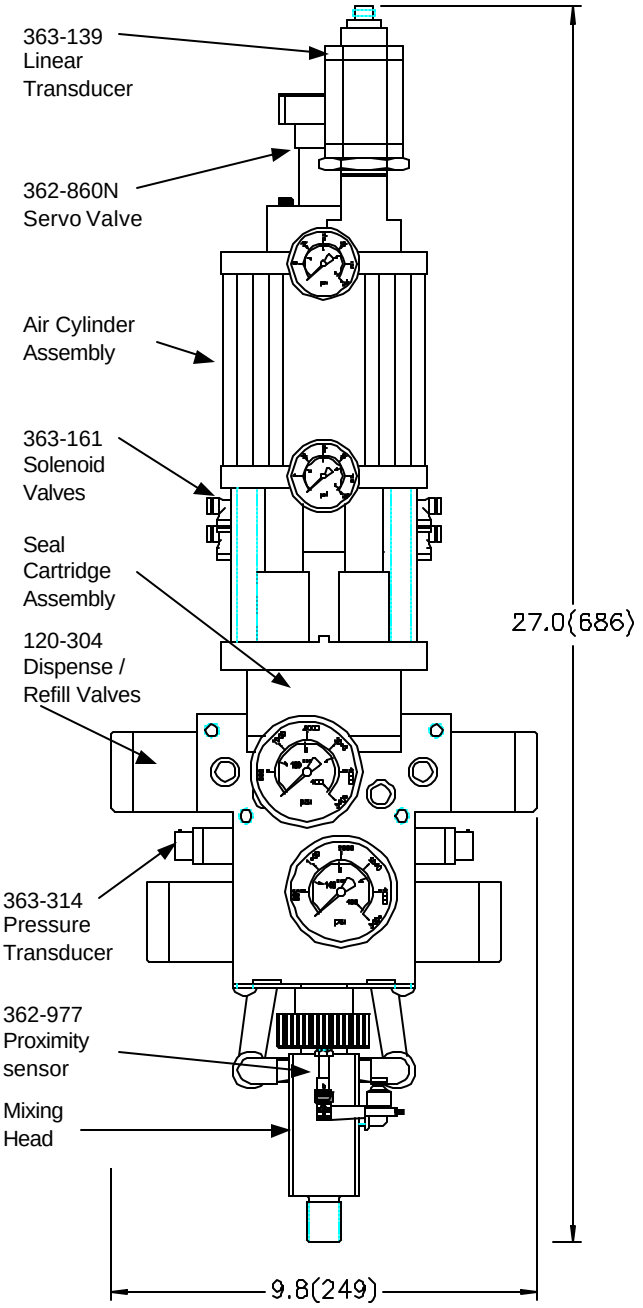
Air Inlet Port Size	1/4" NPT
Fluid Inlet Port Size	3/8" NPT
Air Inlet Pressure Range	20 to 150 PSI
Static Pressure Ratio	13:1
Shot Volume	45cc

MAINTENANCE SCHEDULE

MONTHLY:
Check Air Lines and Material Filter Elements and replace if necessary.

WEEKLY OR WITH EVERY SEAL CHANGE:
Change and add D.I.D.P. oil to the oil cup.
Diisodecyl Phthalate

EVERY SHUTDOWN:
Remove Nozzle, Static Mixing Tube, Tip and Depressurize System.

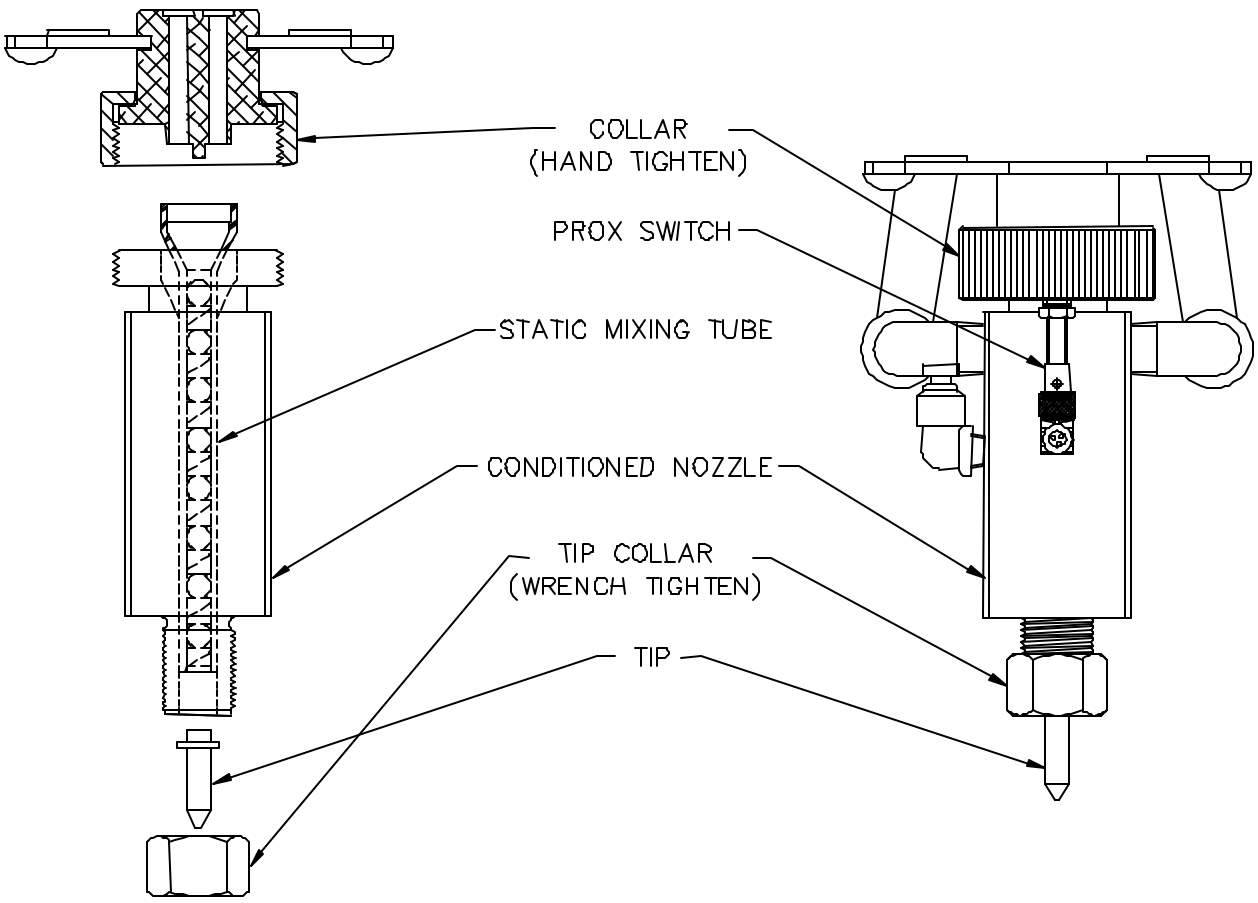


Assembly Solutions
Johnstone Dispensing Systems

Ingersoll-Rand
1872 Enterprise Drive
Rochester Hills MI 48309

Phone (248) 293-5700
Tech Support (866) 284-5509

NOZZLE AND TIP (ALWAYS REMOVE NOZZLE, TIP, AND MIXING TUBE AT SHUTDOWN)



NOTE: STATIC MIXING TUBE SHOULD BE REPLACED EVERY TIME A TIP IS REPLACED TO INSURE CORRECT OPERATION

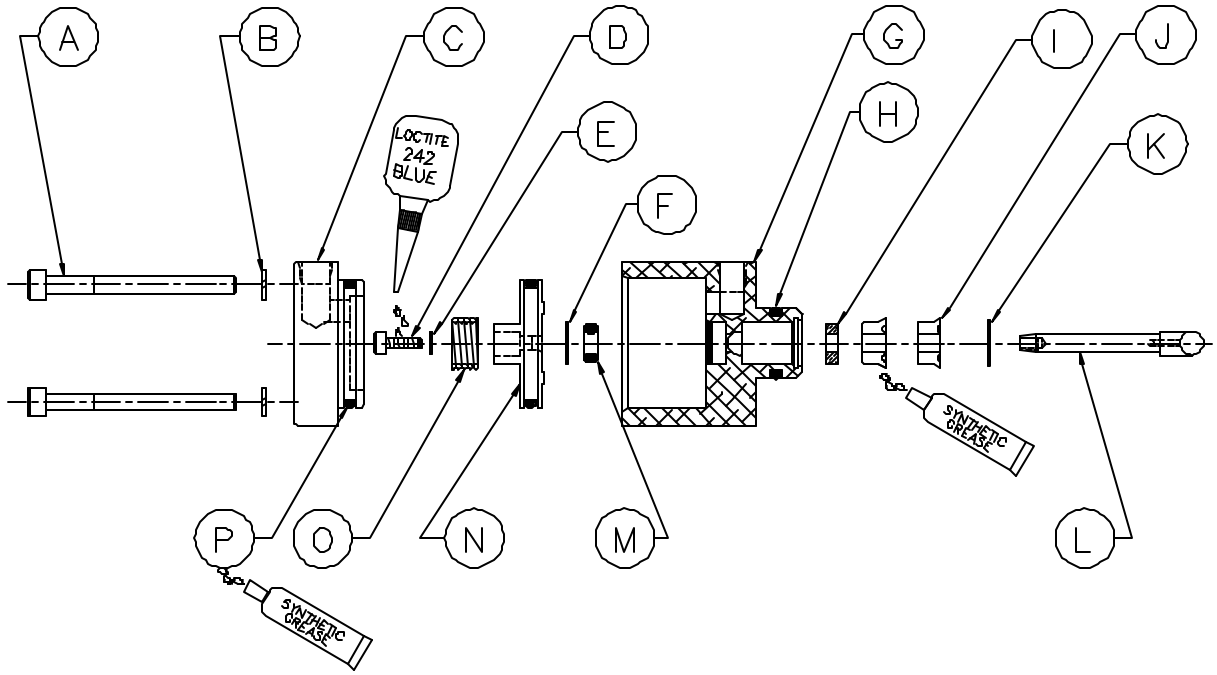
TIP AND STATIC MIXING TUBE REPLACEMENT

1. Using a 7/8 in. wrench, remove the Tip Collar and Tip.
2. Unscrew the Conditioned Nozzle Collar by hand and remove the Static Mixing Tube.
3. Wipe off excess material from the Head and Nozzle.
4. Install a new Static Mixing Tube.
5. Install the Conditioned Nozzle to the Body by tightening the Collar by hand (the Light on the Prox Switch should turn ON).
6. Press a new Tip into the Static mixing Tube and Nozzle.
7. Using a 7/8 in. wrench, tighten the Tip Collar.

NOTE: DO NOT PURGE THE MIXING TUBE WITH THE TIP OFF – THE MIXING ELEMENTS CAN BE PURGED FROM THE MIXING TUBE.

TIP PART NO.	ORIFICE	MATERIAL	USE TIP COLLAR NO.
362-867	∅ 0.032"	CELCON (BLUE)	400-667
363-171	∅ 0.032"	CELCON W/ GLASS BEAD (GREEN)	400-667
363-315A	∅ 0.032"	316 STAINLESS STEEL	403-132B
363-315B	∅ 0.040"	316 STAINLESS STEEL	403-132B
363-315BH	∅ 0.040"	316 STAINLESS STEEL HARDENED	403-132B

1. REFILL/ DISPENSE VALVE (120-304)



(Bold Items in Repair Kit)

DET	QTY	PART NO.	DESCRIPTION		DET	QTY	PART NO.	DESCRIPTION
A	4	350-448	SHCS #10-24		**I**	**1**	**403-411**	**SPACER**
B	4	361-904SS	LOCK WASHER #10		**J**	**2**	**363-367**	**LIP SEAL UHMWPE**
C	1	403-000	CAP		**K**	**1**	**363-321**	**SNAP RING (LARGE)**
D	1	350-911SS	SHCS #5-40		**L**	**1**	**403-193**	**INTERMEDIATE STEM**
E	1	362-717	LOCK WASHER #5		**M**	**1**	**362-718**	**O-RING**
F	**1**	**363-320**	**SNAP RING (SMALL)**		**N**	**1**	**403-001**	**PISTON**
G	1	402-999A	HOUSING		**O**	**1**	**363-072**	**SPRING**
H	**1**	**360-012**	**O-RING**		**P**	**2**	**360-208**	**O-RING**

⚠ WARNING HIGH PRESSURE CAN CAUSE BODILY INJURY. DEPRESSURIZE MATERIAL, WATER AND AIR SYSTEM.

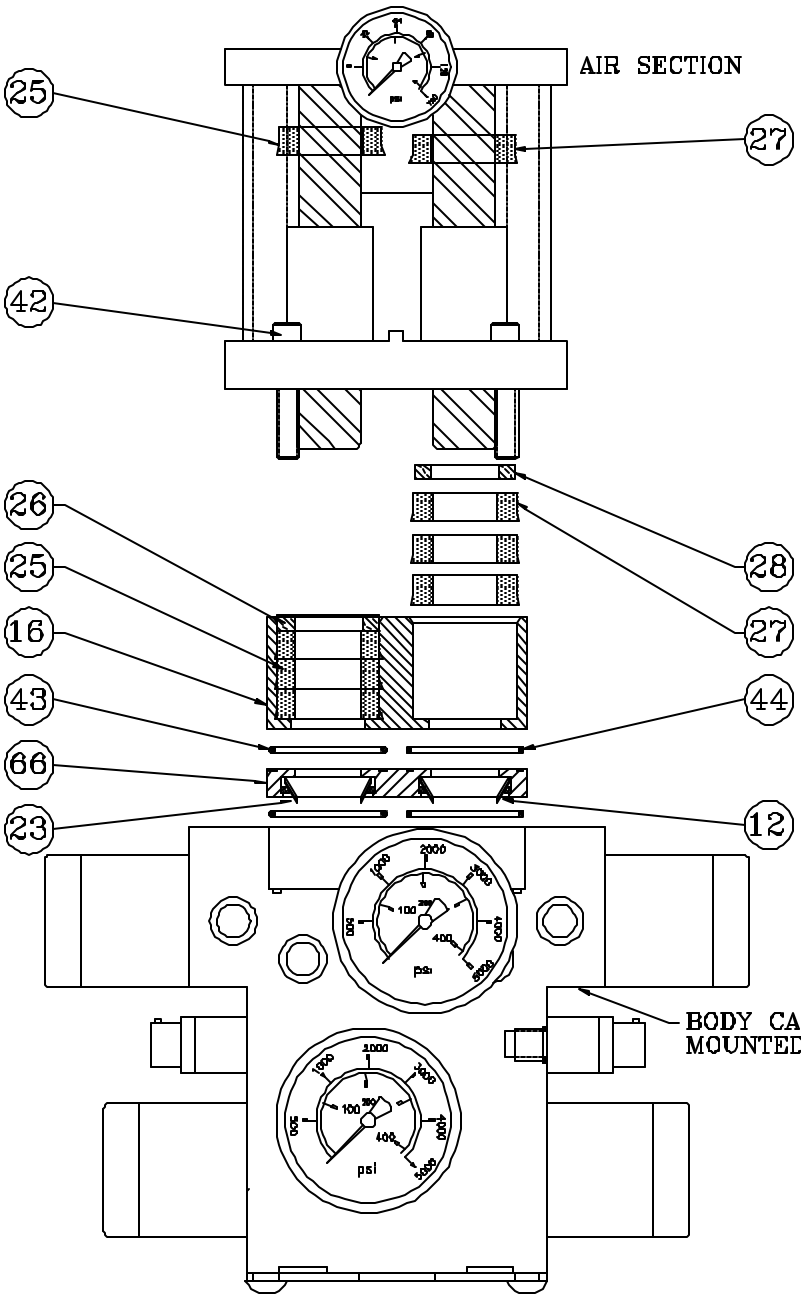
DISASSEMBLY

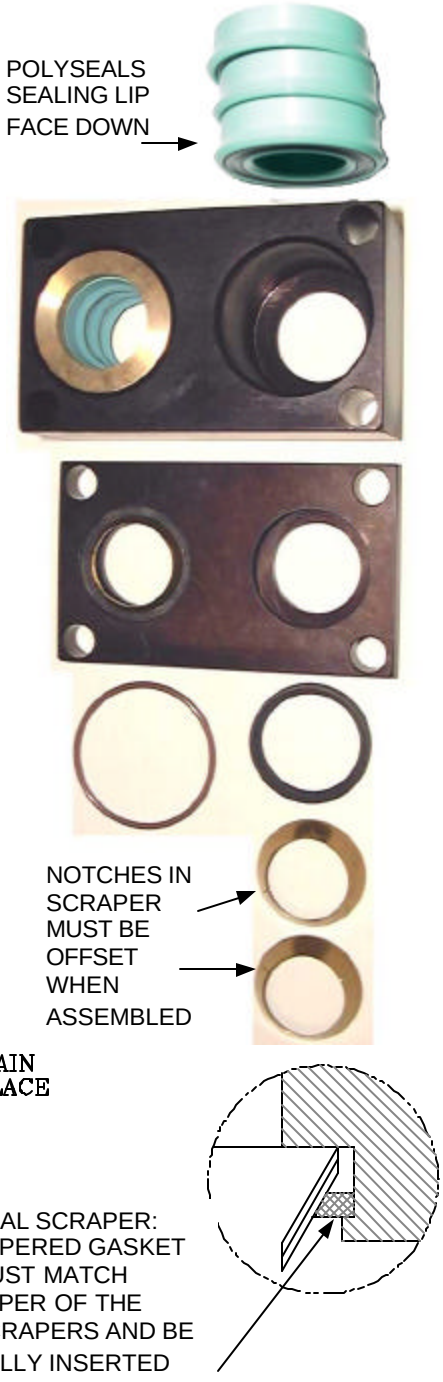
1. Remove four Socket Head Cap Screws (A) and Washers (B) from the Refill/ Dispense Valve and remove it (pull) from the Dispenser.
2. Remove the End Cap (C) and Spring (O).
3. Keeping the end of the Rod (L) from rotating, remove the Screw (D) and Washer (E) from the Piston (N).
4. Pull the Rod (L) out in the direction shown. DO NOT PUSH IN THE OTHER DIRECTION.
5. Remove the Snap Ring (F) and the O-Ring (M).
6. Remove the Snap Ring (K) and push the Seals (J) and Spacer (I) out from the piston side.

ASSEMBLY - INSPECT AND CLEAN ALL PARTS CAREFULLY AND REPLACE IF NECESSARY

1. Place Spacer (I) in the Housing (G). Grease the Seal Area with synthetic grease.
2. Press Seals (J) into the Housing (G) in the direction shown and, using a small arbor press, press the Seals (J) in by pushing on the smaller diameter Lip. DO NOT PRESS IN USING THE LARGER DIAMETER LIP.
3. Press Rod (L) into the Seals (J) in the direction shown until it comes through the O-Ring (M).
4. With O-Ring (P) in place, place the Piston (N) all of the way into the Housing (G) in the direction shown.
5. Add Loctite to the threads of the Socket Head Cap Screw (D) as shown and install it and the Washer (E) through the Piston (N) into the Rod (L).
6. With Spring (O) and O-Ring (P) in place, attach End Cap (C) to Housing (G).
7. With O-Ring (H) in place, attach the Refill/ Dispense Valve to the Dispenser using four Socket Head Cap Screws (A) and Washers (B).

SEAL CARTRIDGE





* Parts change for different ratio models:
(Bold Items in Repair Kit)

DET	QTY	DESCRIPTION	1:1 Part Number	2:1 Part Number	4:1 Part Number
12	**1**	**MAJOR ROD WIPER**	**363-843**	**xxx-xxx**	**363-841**
16	1	SEAL CARTRIDGE	403-578	xxx-xxx	403-593
23	**1**	**MINOR ROD WIPER**	**363-843**	**xxx-xxx**	**363-842**
25	**4**	**MINOR ROD SEAL**	**363-517**	**xxx-xxx**	**363-115**
26	**1**	**MINOR SEAL SPACER**	**403-581**	**xxx-xxx**	**403-595**
27	**4**	**MAJOR ROD SEAL**	**363-517**	**xxx-xxx**	**363-872**
28	**1**	**MAJOR SEAL SPACER**	**403-581**	**xxx-xxx**	**403-585**
43	**2**	**O-RING MINOR**	**363-223**	**360-001**	**363-154**
44	**1**	**O-RING MAJOR**	**363-223**	**xxx-xxx**	**350-885**
66	1	WIPER SEAL CARTRIDGE	**403-576**	**xxx-xxx**	**403-592**

REMOVING THE AIR SECTION FROM THE BODY

⚠ WARNING HIGH PRESSURE CAN CAUSE BODILY INJURY. DEPRESSURIZE MATERIAL, WATER AND AIR SYSTEM.

1. Remove all Pneumatic Tubing to the Air Section (See Pneumatic Hookup Section).
2. Remove the Servo Air Regulator and Linear Transducer from the top of the Air Cylinder.
3. Remove four Socket Head Cap Screws (42) connecting the Air cylinder to the Material Body.
4. Lift the Air Section off of the Body (The Seal Cartridge will come with it).

CHANGING SEALS

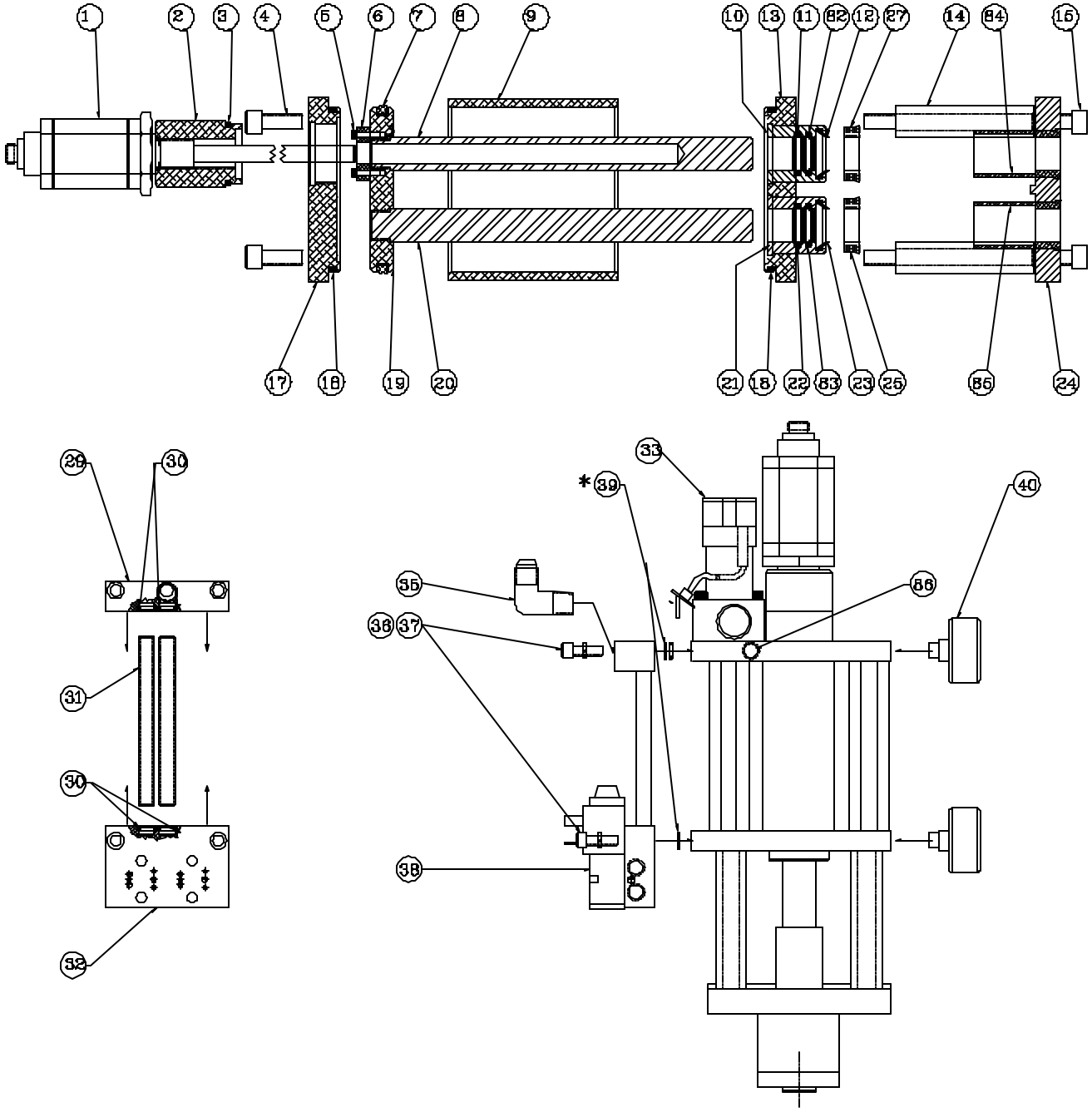
1. Slide the Seal Cartridge (16) and Wiper Seal Cartridge (66) off of the Air Section Rods.
2. Remove the Four SHCS (15) that hold the Spacer Plate (24) to the air cylinder and clean.
3. Remove the Floating Polyseals (25)(27) and clean and inspect the Displacement rods for damage.
4. Lubricate and replace the Floating Polyseals (25)(27). The sealing lips should face the oil cups.
5. Position the four Spacers (14) between Spacer Plate (24) and Bottom Cylinder Plate (13) and insert Socket Head Cap Screws (15). MAKE SURE THE AIR SECTION IS ON A FLAT SURFACE TO TIGHTEN THEM.
6. Press out the Seals (25)(27) and Seal Spacers (26)(28) from the Seal Cartridge (16).
7. Clean out the Seal Cartridge (16) and apply synthetic grease to the inside.
8. Install new Seals (25)(27) Lips facing the material. Be very careful not to damage the seals.
   a. Press the Seals in so that the Large (lip side) goes into the seal Cartridge (16) bore first.
9. Install the Seal Spacers (26)(28) and lubricate the Seals and spacer with synthetic grease.
10. Remove the Tapered Gasket from the Scraper Seal Cartridge (66) and remove the scrapers.
11. Clean out the Seal Scraper Cartridge (66).
12. Install new Seal Scrapers (12) (23). (there are two bronze scrapers in each scraper set)
    a. Place Two Scrapers in the bore so that the notches are offset.
    b. Install the Tapered Gasket into the bore (tapered side should match the scrapers) using a small flat head screwdriver. Ensure that the Gasket is fully inserted into the bore.

13. Install the O-rings (43) (44) into the Seal Scraper Cartridge (66) and lubricate with synthetic grease.
14. Using a small arbor press, push the Seal Cartridge over the Air Cylinders displacement rods.
15. Install the Seal Scraper Cartridge on the Air Cylinder so that the Scrapers face the material.

RE-ATTACHING THE AIR SECTION

1. Clean off excess material from the O-Ring Grooves in the body and install new O-Rings (43)(44).
2. Position Air Section and Seal Cartridge in the slot on the Body and attach using four Hex Head Screws (42) and tighten to 20-ft lbs.
3. Install the Linear Transducer and tighten to 20-ft lbs.
4. Install the Air Servo valve.
5. Install all Pneumatic Tubing to the Air Section (See Pneumatic Hookup Section).
6. Purge the system by doing a manual dispense several times until all of air is out of the material section.

AIR SECTION



(Bold Items in Repair Kit)

DET	QTY	PART NO.	DESCRIPTION		DET	QTY	PART NO.	DESCRIPTION
1	1	363-139	LINEAR TRANS.		29	1	403-295	TOP AIR MANIFOLD
2	1	403-322	SENSOR ADAPTER		**30**	**4**	**363-143**	**O-RING**
3	**1**	**363-160**	**O-RING**		31	2	403-332	AIR TUBE
4	4	363-165	SHCS 3/8-24		32	1	403-296	BOTTOM AIR MANIFOLD
5	2	360-745	SHCS #6-32		33	1	362-860	SERVO VALVE
6	1	363-141	MAGNET		36	4	361-233	LOCK WASHER 1/4
7	**1**	**363-156**	**QUAD RING**		37	4	350-914	SHCS 1/4-20
9	1	403-339B	CYLINDER HOUSING		38	2	363-161	SOLENOID VALVE 24V
14	4	403-334	BODY SPACER		**39**	**3**	**350-361**	**O-RING**
15	4	363-166	SHCS 3/8-24		40	2	363-163	AIR PRESSURE GAGE
18	**2**	**350-360**	**O-RING**		86	1	363-481	EXHAUST MUFFLER

* Parts change for different volume models **(Bold Items in Repair Kit)**

DET	QTY	DESCRIPTION	1:1 Part Number	2:1 Part Number	4:1 Part Number
8	1	MAJOR DISPLACEMENT ROD	403-579	xxx-xxx	403-569
10	1	MAJOR BUSHING	403-580	xxx-xxx	403-584
11	**1**	**O-RING MAJOR ROD**	**363-078**	**xxx-xxx**	**350-004**
12	**2**	**WIPER MAJOR ROD**	**363-843**	**xxx-xxx**	**363-841**
13	1	BOTTOM CYLINDER PLATE	403-359	403-369	403-327
17	1	TOP CYLINDER PLATE	403-358	403-368	403-326
19	1	PISTON	403-361	403-371	403-329
20	1	MINOR DISPLACEMENT ROD	403-579	xxx-xxx	403-597
21	1	MINOR BUSHING	403-580	xxx-xxx	403-600
22	**1**	**O-RING MINOR ROD**	**363-078**	**xxx-xxx**	**363-017**
23	**2**	**WIPER MINOR ROD**	**363-843**	**xxx-xxx**	**363-842**
24	1	SPACER PLATE	403-360C	xxx-xxx	403-328C
25	**1**	**MINOR ROD POLYSEAL**	**363-517**	**xxx-xxx**	**363-115**
27	**1**	**MAJOR ROD POLYSEAL**	**363-517**	**xxx-xxx**	**363-872**
82	**1**	**MAJOR CYL ROD WIPER SEAL**	**363-849**	**xxx-xxx**	**363-850**
83	**1**	**MINOR CYL. ROD WIPER SEAL**	**363-849**	**xxx-xxx**	**363-870**
84	1	SOLVENT CUP MAJOR SIDE	403-555	xxx-xxx	403-549
85	1	SOLVENT CUP MINOR SIDE	403-555	xxx-xxx	403-550

⚠ WARNING HIGH PRESSURE CAN CAUSE BODILY INJURY. DEPRESSURIZE MATERIAL, WATER AND AIR SYSTEM.

DISASSEMBLING THE VALVE MANIFOLDS -

1. Remove two Socket Head Cap Screws (37) from the Top Manifold (29) and two Socket Head Cap Screws (37) from the Bottom Manifold (32) with their Washers (36) and remove the Manifolds from the Air Section.
2. Remove Valve Screws to remove Solenoid Valves (38).
3. Pull Top Manifold (29) from the Bottom Manifold (32) until they come free and remove the Air Tubes (31).

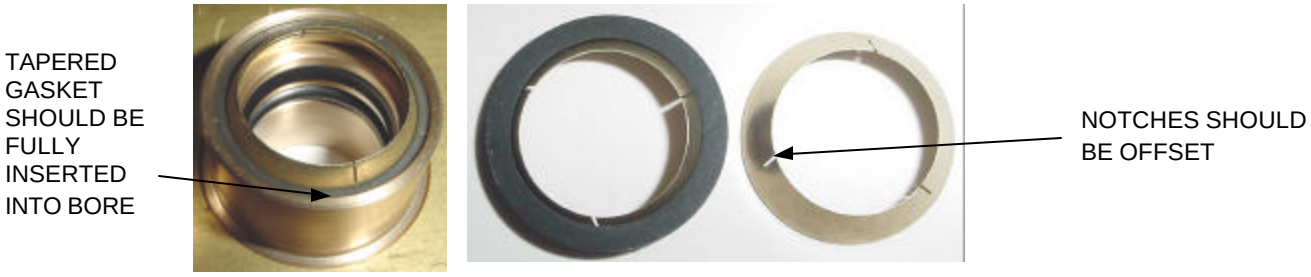
DISASSEMBLING THE AIR SECTION -

1. Remove the Servo Valve (33) by the four Screws at its base.
2. Unscrew the Linear Transducer (1) and Sensor Adapter (2) from the Top Cylinder Plate (17).
3. Remove four Socket Head Cap Screws (15) and Spacers (14) from the Air Section and slide the Spacer Plate (24) off.
4. Remove the Floating Polyseals (25)(27).
5. Slide the Bottom Cylinder Plate (13) off and remove the Piston (19) and Rods (8)(20) assembly.
6. Remove four Socket Head Cap Screws (4) from the Air Section and remove the Top Cylinder Plate (17).
7. Remove the O-rings (11)(22), Wiper Seals (82)(83) and Bronze Wipers (12)(23) from the Major and Minor Rod Bushings (10)(21).

ASSEMBLING THE AIR SECTION

– INSPECT AND CLEAN ALL PARTS CAREFULLY AND REPLACE IF NECESSARY

1. Attach the Cylinder Housing (9) to the Top Cylinder Plate (17) using four Socket Head Cap Screws (4) and lubricate the inside of the housing with synthetic grease.
2. Tighten and Locktite (blue) the Major and Minor Rods (8)(20) to the Air Piston (19).
3. Install the Quad Ring (7) over the Air Piston (19).
   a. Install the Magnet (6) on the Air Piston (19) and Locktite (blue) the two Socket Head Cap Screws (5).
   b. Lubricate Air Piston (19) and Rods (8)(20) assembly into the Housing (9).
4. Install the O-Ring (18) on the Bottom Cylinder Plate (13).
5. Install the O-Rings (11)(22) in the Major and Minor Bushings (10)(21).
   a. Install the Wiper Seal (82)(83) by twisting it into the bushing with a pair on needle nose pliers.
   b. Install new Seal Scrapers (12) (23). (there are two bronze scrapers in each scraper set)
      I. Place Two Scrapers in the bore so that the notches are offset.
      II. Install the Tapered Gasket into the bore (tapered side should match the scrapers) using a small flat head screwdriver. Ensure that the Gasket is fully inserted into the bore.

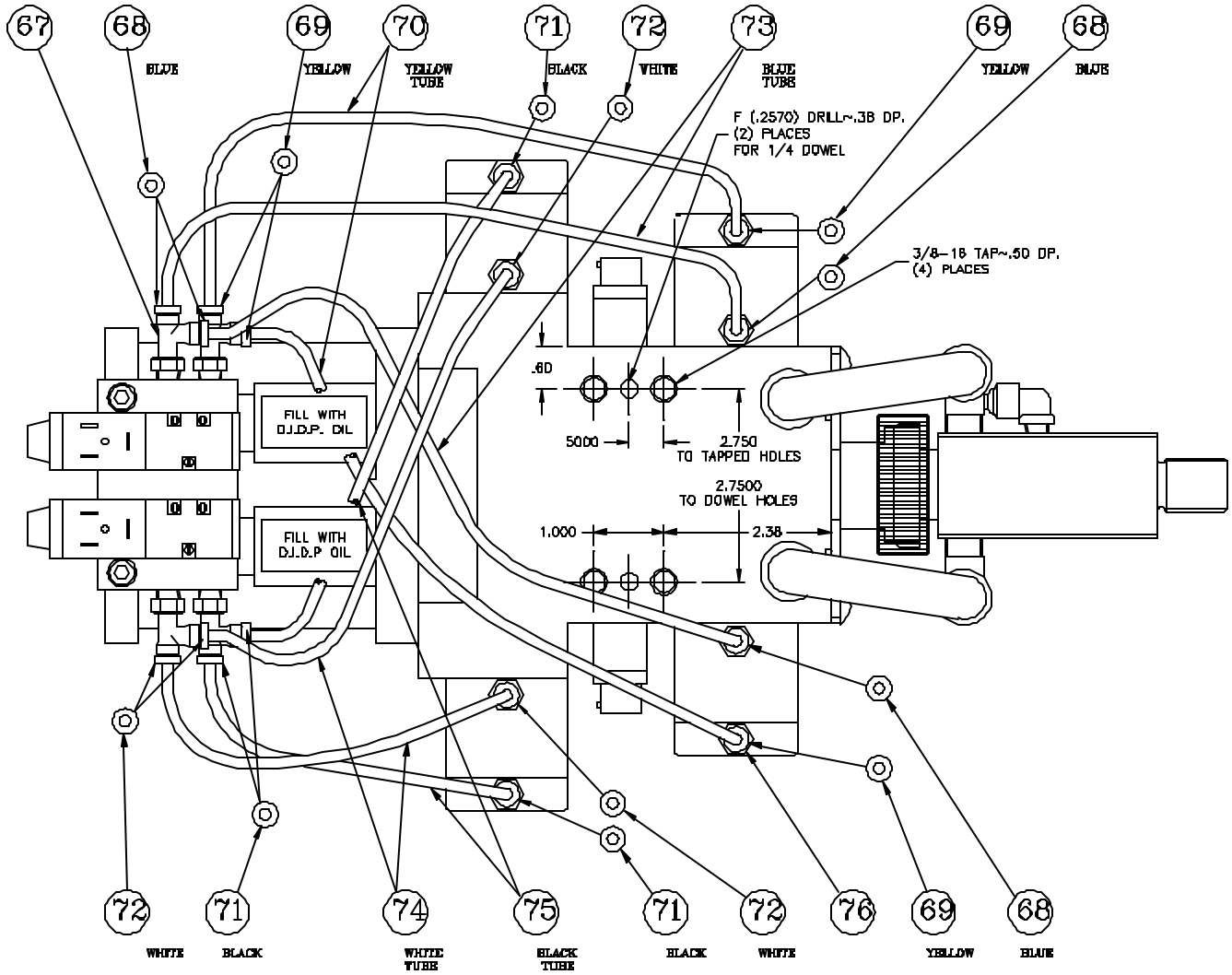


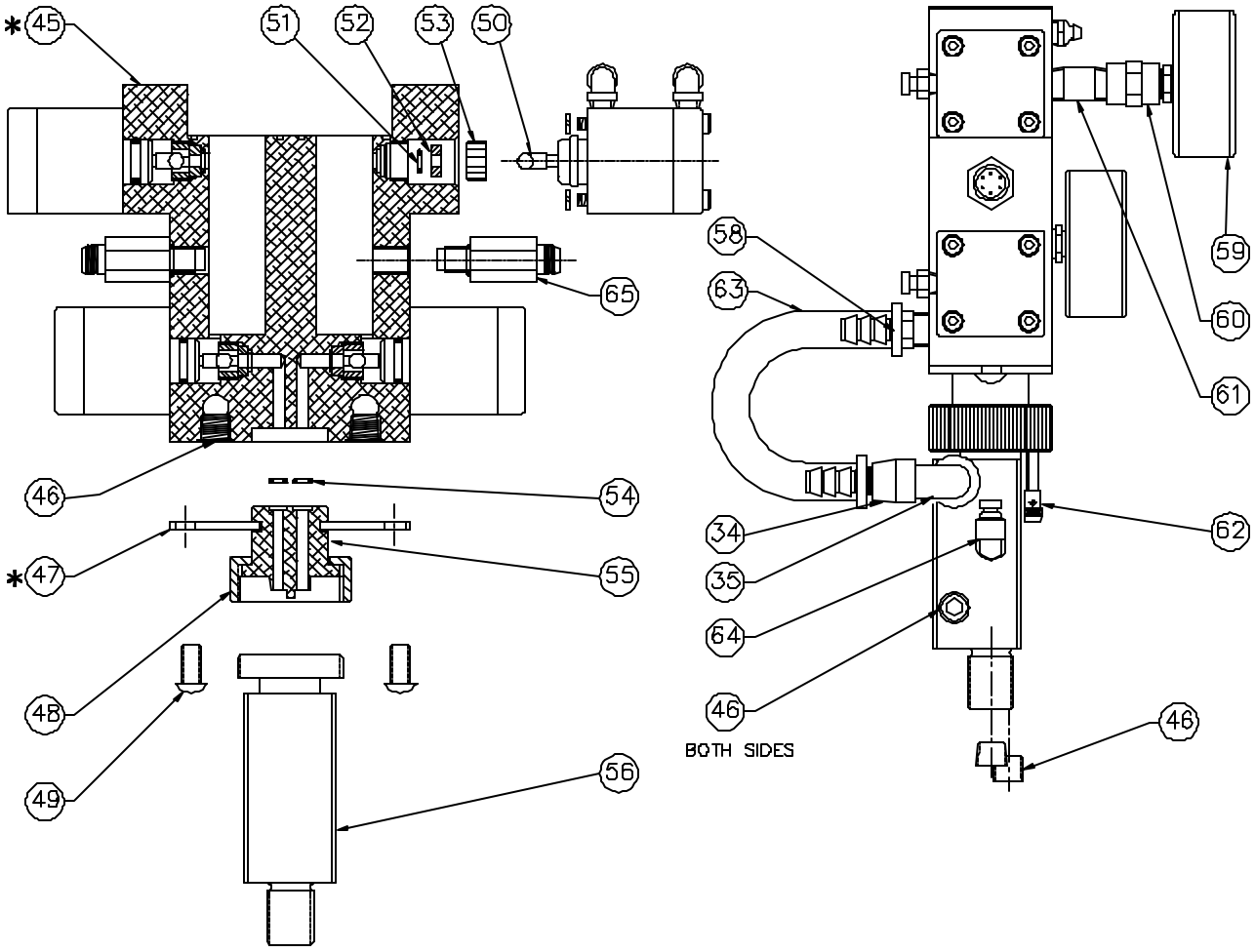
6. Install the Floating Polyseals (25)(27) and Lubricate. The Lips should face the Solvent Cups.
7. Position the four Spacers (14) between Spacer Plate (24) and Bottom Cylinder Plate (13) and insert Socket Head Cap Screws (15). MAKE SURE THE AIR SECTION IS ON A FLAT SURFACE TO TIGHTEN THEM.
8. Install the Sensor Adapter (2) into the Top Cylinder Plate (17) and torque to 20 ft-Lbs.
9. Install the Linear Transducer (1) and tighten to 20-ft Lbs. Only tighten on the Metal Hex below the red part of the sensor.
10. Attach the Servo Valve (33) to the Top Cylinder Plate (17) by the two Screws at its base.

ASSEMBLING THE VALVE MANIFOLDS -

1. Lubricate both ends of the Air Tubes (31) and guide them into the O-Rings (30) embedded in the Top Air Manifold (29) and Bottom Air Manifold (32) as shown.
2. Attach both Solenoid Valves (38) using the Screws and Gasket that come with them.
3. Install O-Rings (39), two into Top Cylinder Plate (17) and one in the bottom Cylinder Plate (13).
4. Place both Manifolds onto the Air Section as shown and install two Socket Head Cap Screws (37) in the Top Manifold (29) and two Socket Head Cap Screws (37) in the Bottom Manifold (32) with their Washers (36).
5. Install the Tubing as shown in the diagram.

DET	QTY	PART NO.	DESCRIPTION
67	4	363-229	MALE RUN TEE 5/32" O.D. X 1/8" NPT
68	4	363-232	MANUAL RELEASE BUTTON BLUE
69	4	363-233	MANUAL RELEASE BUTTON YELLOW
70	2'	363-237	5/32" TUBE POLYETHYLENE YELLOW
71	4	363-231	MANUAL RELEASE BUTTON BLACK
72	4	363-230	MANUAL RELEASE BUTTON WHITE
73	2'	363-236	5/32" TUBE POLYETHYLENE BLUE
74	2'	363-234	5/32" TUBE POLYETHYLENE WHITE
75	2'	363-235	5/32" TUBE POLYETHYLENE BLACK
76	8	363-178	TUBE FITTING 5/32" X 1/8" NPT





* Parts change for different models:

DET	QTY	DESCRIPTION	1:1 Part Number	2:1 Part Number	4:1 Part Number
45	1	BODY	403-357	403-367	403-323
47	1	HOLDER PLATE	403-364	403-356	403-356

(Bold Items in Repair Kit)

DET	QTY	PART NO.	DESCRIPTION		DET	QTY	PART NO.	DESCRIPTION
34	2	363-000B03	HOSE SWIVEL 3/8"		55	1	403-333	BUTTON ADAPTER
35	2	6CTX-S	ELBOW 1/4NPT		56	1	403-335	THREADED NOZZLE
46	6	350-341	PIPE PLUG 1/4NPT		58	2	363-225	BARB FITTING 1/4NPT
48	1	403-354	NOZZLE COLLAR		59	2	362-172	GAGE 0-5000 PSI
49	2	363-224	BHCS 5/16-18		60	1	363-226	COUPLING 1/4NPT
50	4	120-304	VALVE ASSEMBLY		61	1	363-227	PIPE NIPPLE 1/4NPT
51	**4**	**350-165**	**O-RING**		62	1	362-977	PROXIMITY SENSOR
52	**4**	**360-803**	**CARBIDE SEAT**		63	2FT	363-228	HOSE 3/8"
53	4	363-029	SOCKET SCREW		64	1	360-616	TUBE FITTING 1/4"
54	**2**	**350-303**	**O-RING**		65	2	363-314	PRESSURE TRANS.

DISASSEMBLING THE MATERIAL SECTION

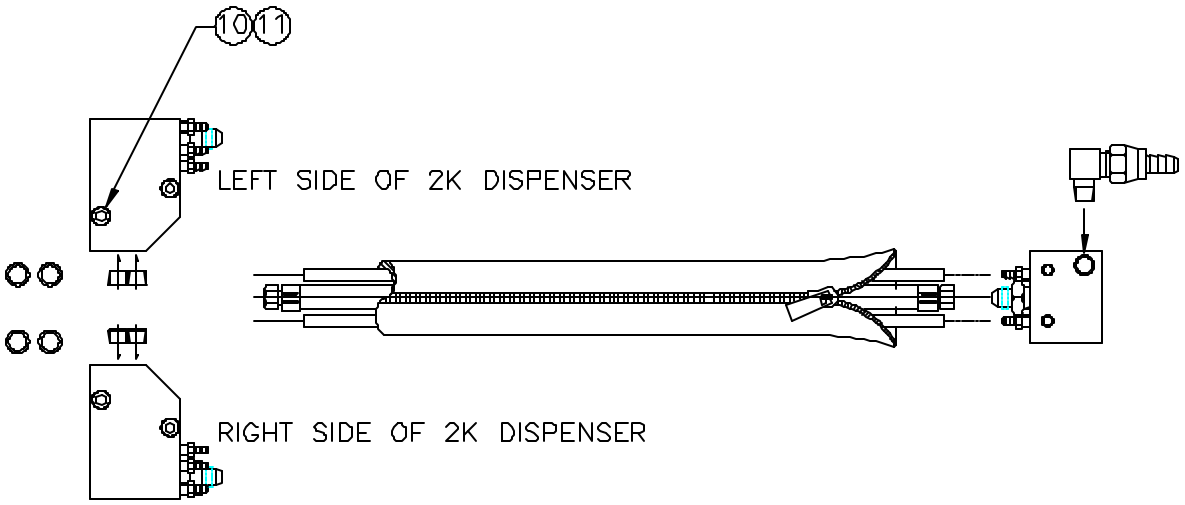
⚠ WARNING HIGH PRESSURE CAN CAUSE BODILY INJURY. DEPRESSURIZE MATERIAL, WATER AND AIR SYSTEM.

1. Remove the Screws from the Refill/ Dispense Valves (50) and remove them from the Body (45).
2. Unscrew the Jam Screw (53) and remove the Carbide Seat (52) and O-Ring (51).
3. Remove the Pressure Transducers (65).
4. Unscrew the Nozzle collar (48) by hand and remove the Nozzle (56). SEE NOZZLE SECTION FOR FURTHER DETAILS.
5. Remove the two Button Head Cap Screws (49) and remove the Holder Plate (47), Button Adapter (55), and Nozzle Collar (48).

ASSEMBLING THE MATERIAL SECTION - INSPECT AND CLEAN ALL PARTS CAREFULLY AND REPLACE IF NECESSARY

1. Replace O-Rings (54) into the Body (45).
2. Slide the Button Adapter (55) through the Nozzle Collar (48) and into the Holder Plate (47) as shown.
3. Install the Nozzle (56) as shown in the NOZZLE SECTION.
4. Place the O-Ring (51) in each Refill/ Dispense hole in the Body (45) and drop four Carbide Seats (52) in place.
   a. Ensure that the Carbide seats (52) are square before installing the Jam Screw (53).
5. Install BUT DO NOT OVERTIGHTEN the Jam Screws (53) and torque them to 10 ft-Lbs.
6. Install the Pressure Transducers (65) DO NOT OVER-TORQUE Maximum torque = 240 in Lbs.
7. Install Refill and Dispense Valves (50).
8. Install Air tubing.

WATER AND MATERIAL LINES



3 0 1 Z S 6 5 R

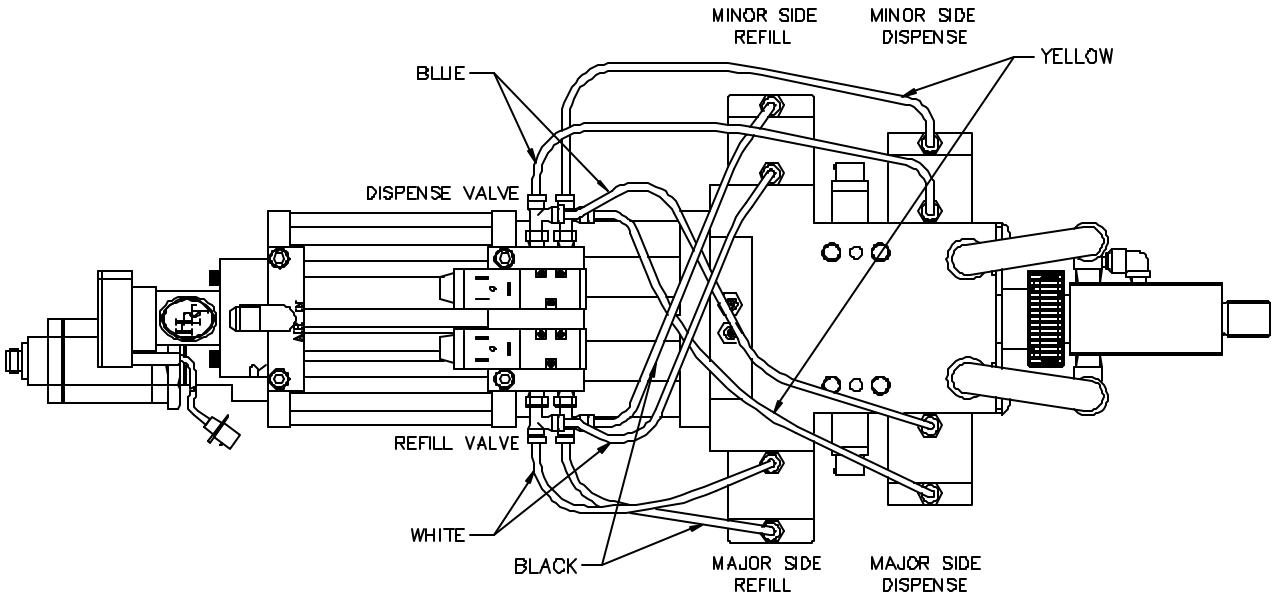
STANDARD COMPONENTS

(1) 361-734 O-RING
(2) 35D-341 PIPE PLUG 1/4" NPT
(3) 35D-448 S H C.S 10-24 X 2"
(4) 361-90455 #10 HIGH COLLAR LOCK WASHER
(5) 362-055 BARB FITTING STR. 1/16" NPT
(6) 362-795 HOSE BARB LOCK
(7) CONNECTOR 9/16"JICM X 3/8" NPT
(8) 8-4CTX-B MALE ELBOW #8 JICM X 1/4" NPT
(9) 30682-8-8B HOSE ADAPTOR #8 JICF X 1/2" HOSE
(10) 35D-919 S H C.S 5/16"-18 X 2"
(11) 361-758 5/16" HIGH COLLAR LOCK WASHER

FOOT LENGTH
3' = 03
5' = 05
7' = 07

DISPENSE GUNS
2K DISPENSER = 2K
2K DISPENSER LEFT = 2L
2K DISPENSER RIGHT = 2R

TUBING LAYOUT



PROBLEM	CAUSE	SOLUTION
Material Leakage Past Rod Seals	Seals are worn	Replace Seals in Seal Cartridge.
	Rod is worn or scored	Clean off or replace rod.
	Cured Material on Rod	Clean off or replace rod.
Material Leakage from Seal Cartridge	Loose Connecting Parts	Tighten four Hex Head Bolts to Body.
	Cut or missing O-Ring	Disassemble using directions in this manual and replace O-Ring.
	Cracked Body	DISCONTINUE USE OF DISPENSER Replace Body immediately.
Material Leakage from Refill Valve Bleeder hole	Valve Seals are worn	Replace Seals in Refill Valve.
	Valve Rod is worn or scored	Clean off or replace rod.
	Cured Material on Valve Rod	Clean off or replace rod.
Material Leakage from Transducer Well	Transducer is loose	Tighten BUT DO NOT OVERTIGHTEN the Transducer
	Cut or missing O-Ring	Replace O-Ring
Dispenser Not Refilling Properly	Low Air Pressure to Intensifier	Make sure air to the Intensifier is above 60psig.
	Low Material Pressure from Pumps	Make sure there is at least 500 psig of material pressure at the Dispenser.
	Refill Valve malfunctioning	Rebuild or replace Refill Valve.
Low Volume Faults	Material has changed viscosity	Change system parameters to account for change.
	Tip is plugging	Clean out or replace Dispense Tip & Mixing Tube.
	Position Transducer is out of calibration or malfunctioning	Replace Position Transducer.
High Volume Faults	Material has changed viscosity	Change system parameters to account for change.
	Tip is worn	Replace Dispense Tip & Mixing Tube.
System Lagging on Refill or Dispense	Servo Valve contaminated	Clean out or replace the Servo Valve. Assure that air is properly filtered (coalescing-type).
	Air Leakage past Piston.	Clean out the Air Section and replace Quad Ring if necessary.
Bead is Too Large at the Start of the Dispense	Feed Pump pressure is too high.	Reduce Feed Pump pressure to be at or lower than the Dispense Pressure.