115-1X5SC

1K PRECISION DISPENSER

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

115-125SC	25cc Close-Coupled Dispenser
115R125SC	25cc Remote Gun Dispenser
115-175SC	75cc Close-Coupled Dispenser
115R175SC	75cc Remote Gun Dispenser

SERVICE KITS

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

- 25cc Repair Kit: 115-125SCRK
- 75cc Repair Kit: 115-175SCRK
- Seal Cartridge Repair Kit: 115-175SCSLCK
  Repairs both 25cc and 75cc Cartridges
- Refill Gun Repair Kit: 120-304RK
- Dispense Gun Repair Kit: 105B038RK

⚠ WARNING

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

SPECIFICATIONS

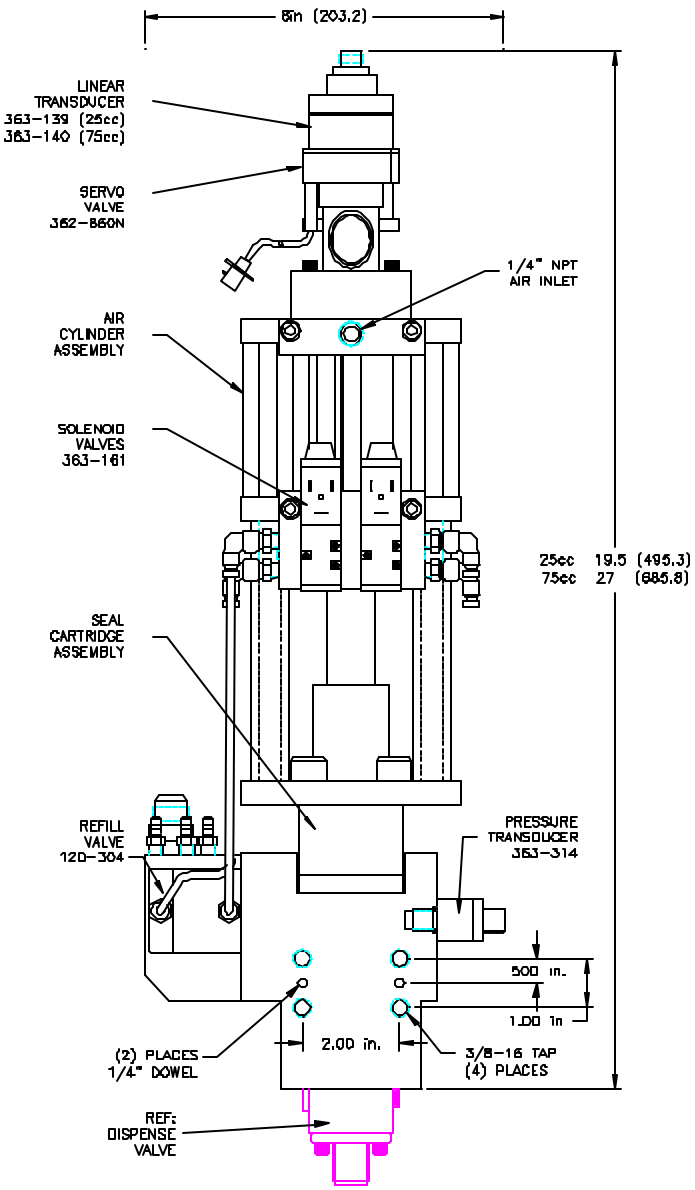
Air Inlet Port Size	1/4" NPT
Fluid Inlet Port Size	3/8" NPT
Air Inlet Pressure Range	20 to 150 PSI
Static Pressure Ratio	16:1
Shot Volume	25cc or 75cc

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:
Depressurize System.



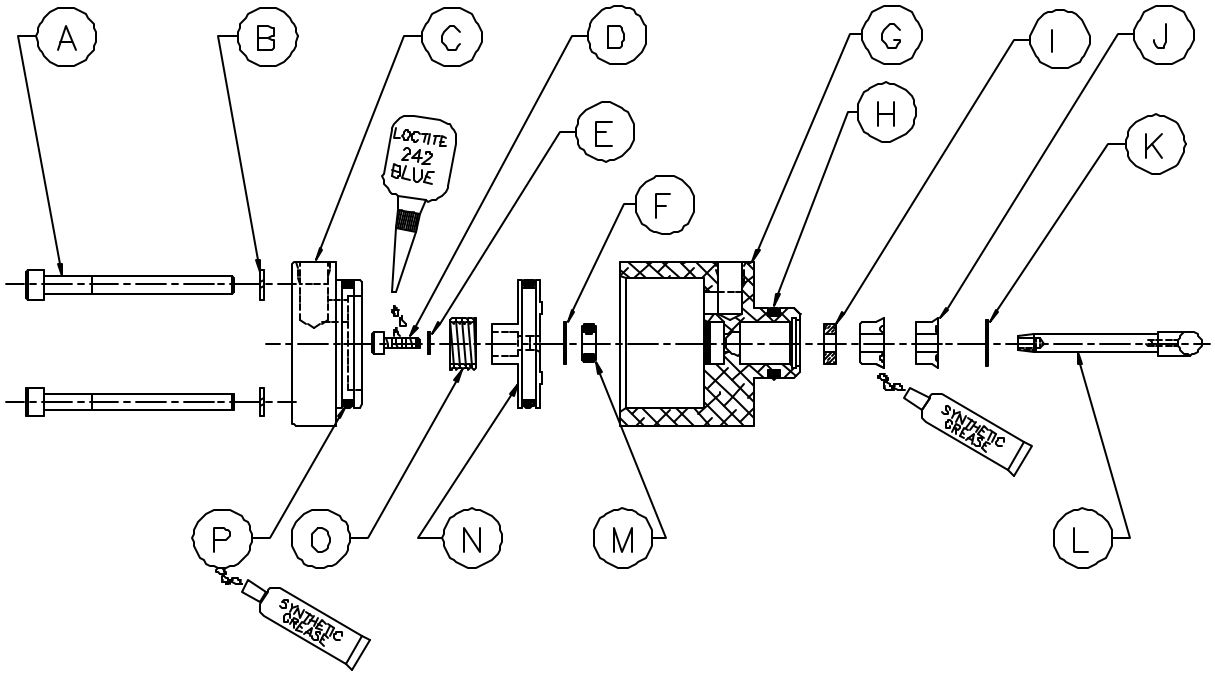
25cc #115-125SC Shown

Assembly Solutions
Johnstone Dispensing Systems

Ingersoll-Rand
1872 Enterprise Drive
Rochester Hills MI 48309

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

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.

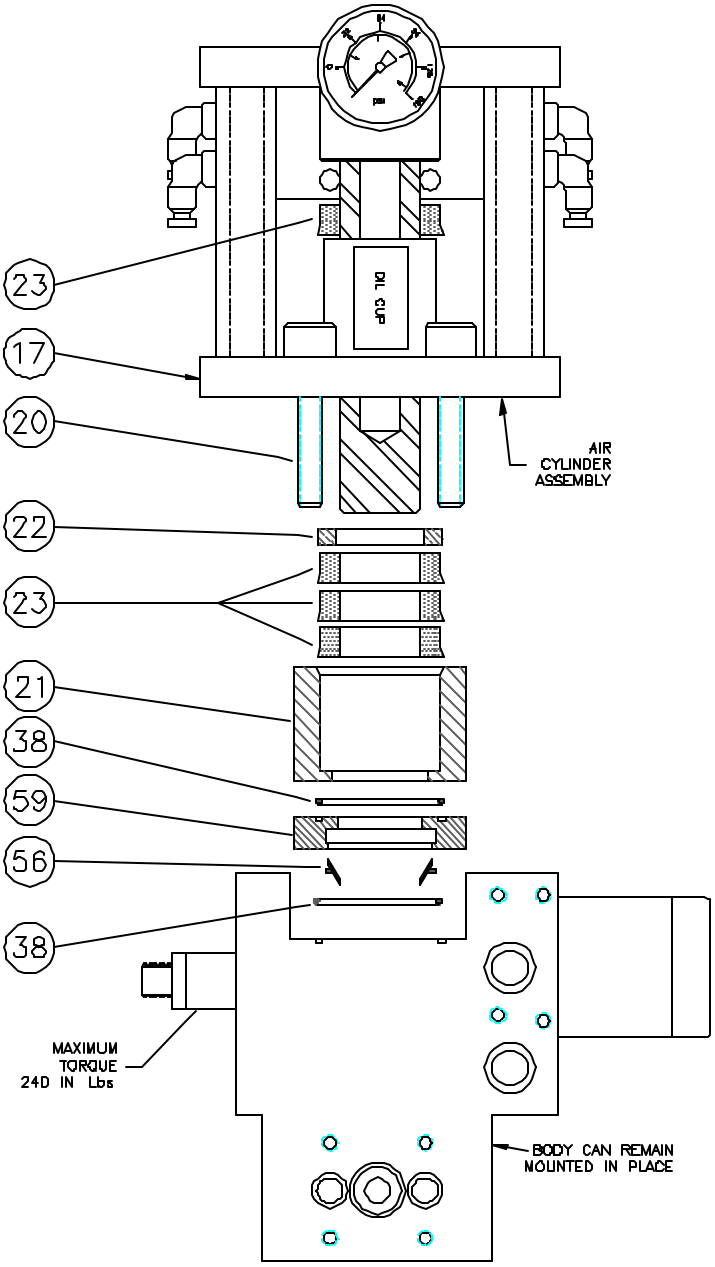
DISASSEMBLY

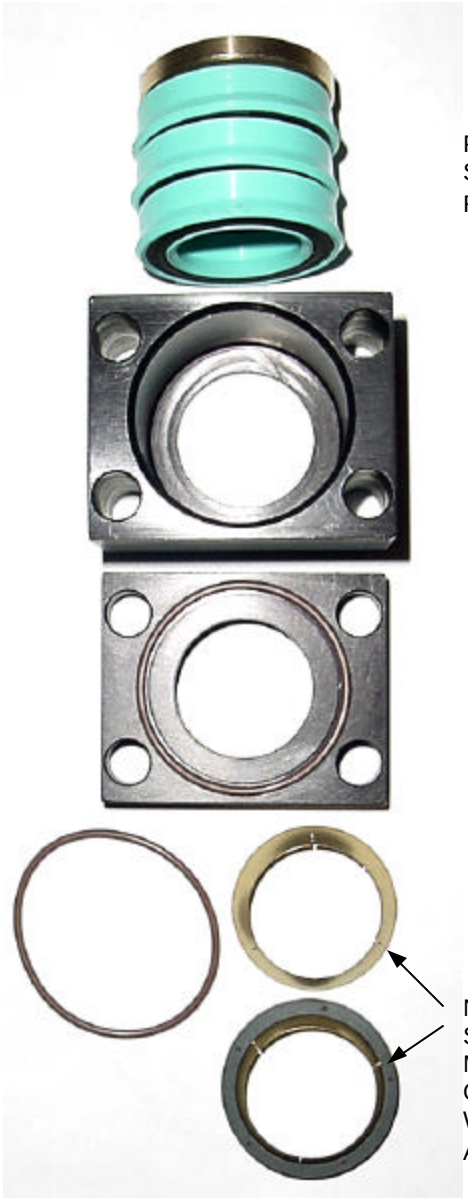
1. Remove four Socket Head Cap Screws (A) and Washers (B) from the Refill/ Dispense Valve and remove it (pull) from the Dispenser.
2. Remove the End Cap (C) and Spring (O).
3. Keeping the end of the Rod (L) from rotating, remove the Screw (D) and Washer (E) from the Piston (N).
4. Pull the Rod (L) out 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).

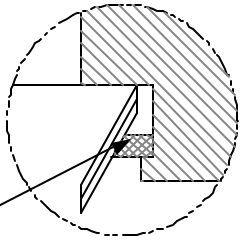
SEAL CARTRIDGE





POLYSEALS SEALING LIP FACE DOWN

NOTCHES IN SCRAPER MUST BE OFFSET WHEN ASSEMBLED



SEAL SCRAPER: TAPERED GASKET MUST MATCH TAPER OF THE SCRAPERS AND BE FULLY INSERTED

Items in Repair Kit)

DET	QTY	DESCRIPTION	Part Number
21	1	SEAL CARTRIDGE	403-583
22	1	SEAL SPACER	403-585
23	**4**	**FLOURATREL SEAL**	**363-872**
38	**2**	**O-RING**	**350-885**
56	**1**	**BRONZE SCRAPER**	**363-841**
59	**1**	**SCRAPER CARTRIDGE**	**403-571**

CHANGING THE SEAL CARTRIDGE

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

REMOVING THE AIR SECTION FROM THE BODY

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 (20) 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

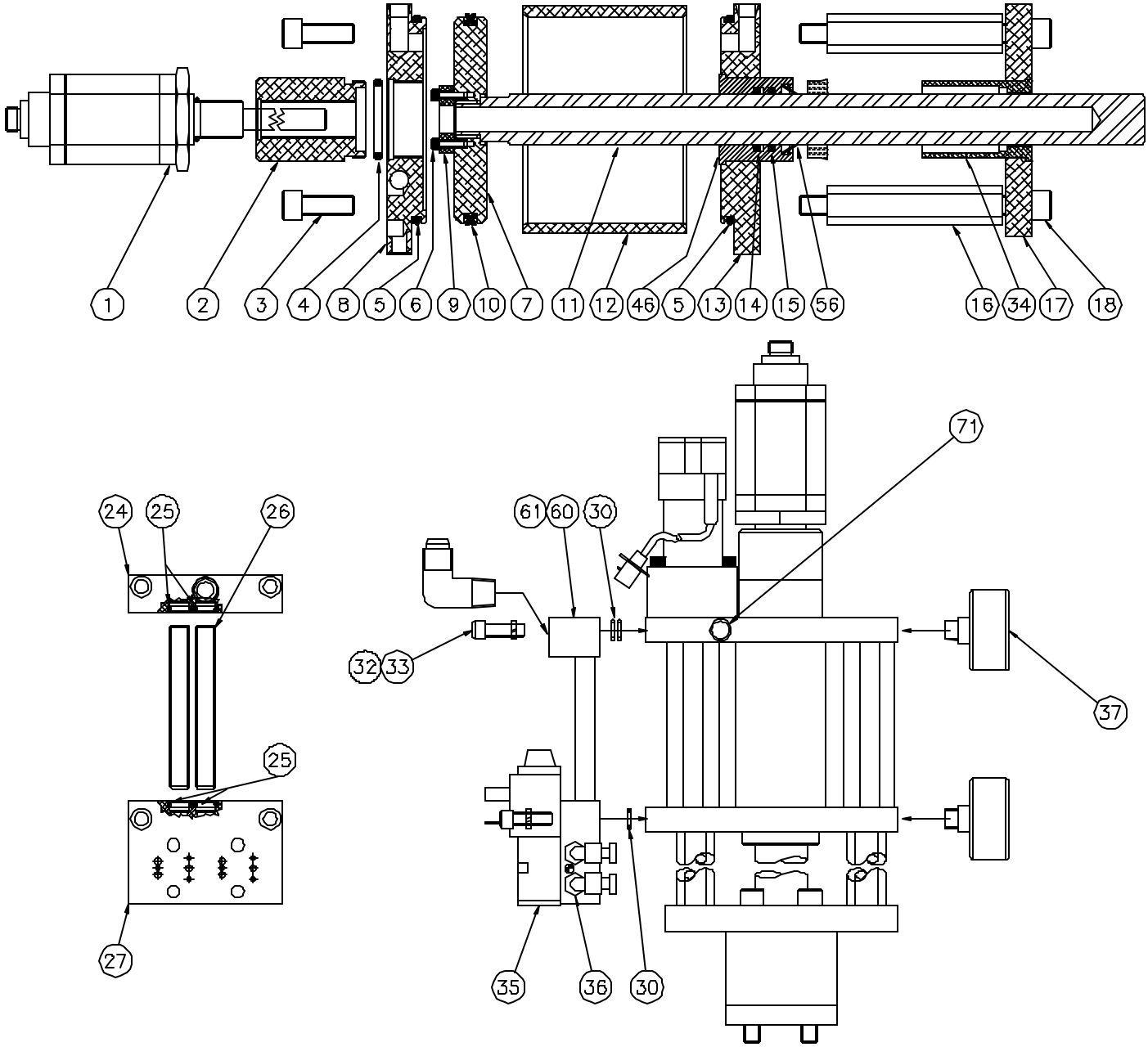
1. Slide the Seal Cartridge (21) and Wiper Seal Cartridge (59) off of the Air Section Rod.
2. Remove the Four SHCS (18) that hold the Spacer Plate (17) to the air cylinder and clean.
3. Remove the Floating Polyseals (23) and clean and inspect the Displacement rod for damage.
4. Lubricate and replace the Floating Polyseals (23). The sealing lips should face the oil cups.
5. Position the four Spacers (16) between Spacer Plate (17) and Bottom Cylinder Plate (13) and insert Socket Head Cap Screws (18). MAKE SURE THE AIR SECTION IS ON A FLAT SURFACE TO TIGHTEN THEM.
6. Press out the Seal (23) and Seal Spacer (22) from the Seal Cartridge (21).
7. Clean out the Seal Cartridge (21) and apply synthetic grease to the inside.
8. Install new Seals (23) 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 (21) bore first.
9. Install the Seal Spacer (22) and lubricate the Seals and spacer with synthetic grease.
10. Remove the Tapered Gasket from the Scraper Seal Cartridge (59) and remove the scrapers.
11. Clean out the Seal Scraper Cartridge (59).
12. Install new Seal Scraper (56). (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 (38) into the Seal Scraper Cartridge (59) 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-Ring (38).
2. Position Air Section and Seal Cartridge in the slot on the Body and attach using four Socket Head Screws (20) 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



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

DET	QTY	DESCRIPTION	25cc PART NO.	75cc PART NO.
1	1	LINEAR TRANSDUCER	363-139	363-140
11	**1**	**DISPLACEMENT ROD**	**403-587**	**403-582**
12	1	CYLINDER HOUSING	403-339A	403-339
26	2	AIR TUBE	403-298	403-299

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

DET	QTY	PART NO.	DESCRIPTION		DET	QTY	PART NO.	DESCRIPTION
2	1	403-322	SENSOR ADAPTER		21	1	403-583	SEAL CARTRIDGE
3	4	363-165	SHCS 3/8-24		**22**	**1**	**403-585**	**SEAL SPACER**
4	**1**	**363-160**	**O-RING**		**23**	**4**	**363-872**	**FLOURATREL SEAL**
5	**2**	**350-360**	**O-RING**		24	1	403-295	TOP AIR MANIFOLD
6	2	360-745	SHCS #6-32		**25**	**4**	**363-143**	**O-RING**
7	1	403-342	PISTON 1K		27	1	403-296	BOTTOM AIR MANIFOLD
8	1	403-344	TOP CYL. PLATE		28	1	362-860N	SERVO VALVE 0-10vdc
9	1	363-141	MAGNET		**30**	**5**	**350-361**	**O-RING**
10	**1**	**363-156**	**QUAD RING**		32	4	350-914	SHCS 1/4-20 X 3/4
13	1	403-340	BOTTOM CYL PLATE		33	4	361-233	LOCK WASHER 1/4
14	**1**	**350-561**	**O-RING**		34	1	403-549	SOLVENT CUP (OIL)
15	**1**	**363-850**	**WIPER SEAL**		35	2	363-174	SOLENIOD VALVE 24vdc
16	1	403-334	SEAL SPACER		36	4	363-174	5/32”TUBE to 1/8” NPT
17	1	404-343C	SPACER PLATE 1K		37	2	363-163	AIR GAUGE
18	4	363-166	SHCS 3/8-24 X 4 1/2		46	1	403-584	BUSHING 1K
19	4	350-036	LOCK WASHER 5/16		56	2	363-841	BRONZE SCRAPER
20	4	363-888	SHCS 5/16-18 X 2 3/4		59	1	403-571	SCRAPER CARTRIDGE

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

DISASSEMBLING THE VALVE MANIFOLDS -

1. Remove two Socket Head Cap Screws (32) from the Top Manifold (24) and two Socket Head Cap Screws (32) from the Bottom Manifold (27) with their Washers (33) and remove the Manifolds from the Air Section.
2. Remove Valve Screws to remove Solenoid Valves (35).
3. Pull Top Manifold (24) from the Bottom Manifold (37) until they come free and remove the Air Tubes (26).

DISASSEMBLING THE AIR SECTION -

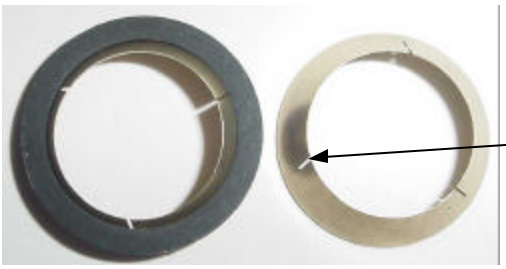
1. Remove the Servo Valve (28) by the two Screws at its base.
2. Unscrew the Linear Transducer (1) and Sensor Adapter (2) from the Top Cylinder Plate (8).
3. Remove four Socket Head Cap Screws (18) and Spacers (16) from the Air Section and slide the Spacer Plate (17) off.
4. Remove the Floating Polyseal (23).
5. Slide the Bottom Cylinder Plate (13) off and remove the Piston (7) and Rod (11) assembly from the Air Cylinder (12).
6. Remove four Socket Head Cap Screws (3) from the Air Section and remove the Top Cylinder Plate (8).
7. Remove the O-rings (14), Wiper Seals (15) and Bronze Scraper (56) from the Rod Bushing (46).
8. Clean and inspect all parts.

ASSEMBLING THE AIR SECTION -

– INSPECT AND CLEAN ALL PARTS CAREFULLY AND REPLACE IF NECESSARY

1. Install the O-ring (5) on the Top Cylinder Plate (8) and lubricate with synthetic grease.
2. Attach the Cylinder Housing (12) to the Top Cylinder Plate (8) using four Socket Head Cap Screws (3) and lubricate the inside of the housing with synthetic grease.
3. Tighten and Locktite (blue) the Displacement Rod (11) to the Air Piston (7).
4. Install the Quad Ring (10) over the Air Piston (7).
   a. Install the Magnet (9) on the Air Piston (7) and Locktite (blue) the two Socket Head Cap Screws (6).
   b. Lubricate Air Piston (7) and Displacement Rod (11) assembly into the Air Housing (12).
5. Install the O-Ring (5) on the Bottom Cylinder Plate (13).
6. Install the O-Rings (14) in the Bottom Cylinder Plate Bushing (46).
   a. Install the Wiper Seal (15) by twisting it into the bushing with a pair on needle nose pliers.
   b. Install new Seal Scraper (56). (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.

TAPERED GASKET SHOULD BE FULLY INSERTED INTO BORE



NOTCHES SHOULD BE OFFSET

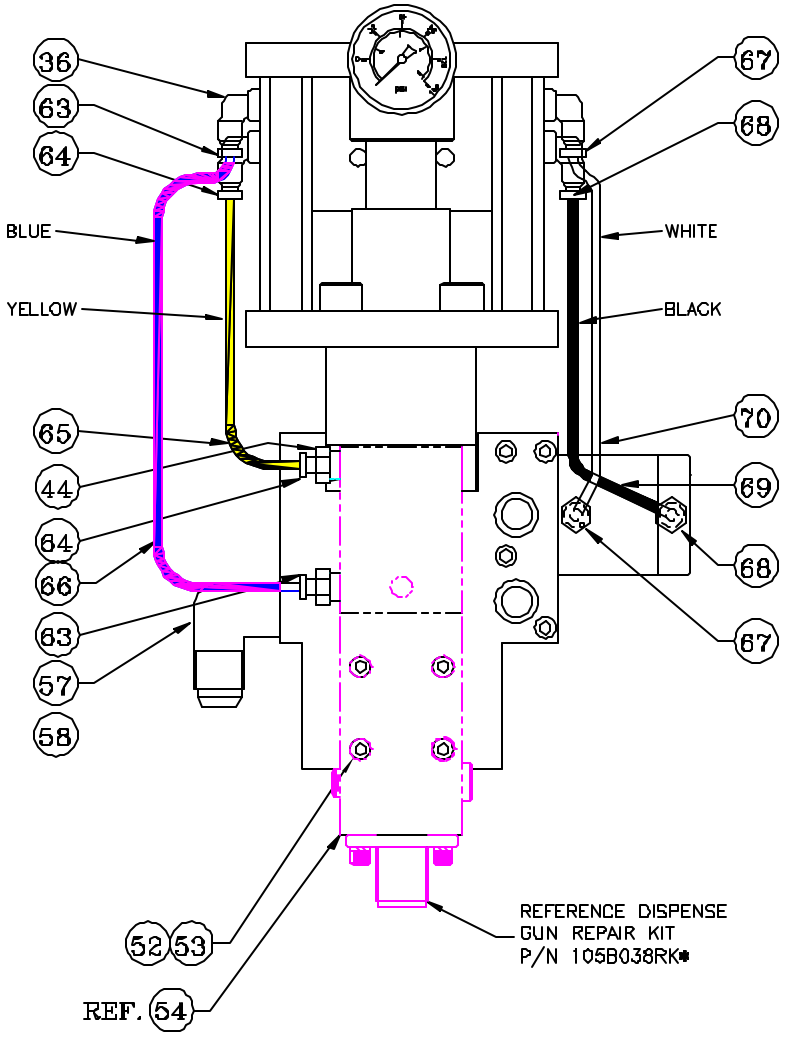
7. Install the Bottom Cylinder Plate Assembly (13)(46) over the Displacement Rod (11). The air gauge ports should be aligned.
8. Install the Floating Polyseal (23) and Lubricate. The Lips should face the Solvent Cups.
9. Position the four Spacers (16) between Spacer Plate (17) and Bottom Cylinder Plate (13) and insert Socket Head Cap Screws (18). MAKE SURE THE AIR SECTION IS ON A FLAT SURFACE TO TIGHTEN THEM.
10. Install the Sensor Adapter (2) into the Top Cylinder Plate (8) and torque to 20 ft-Lbs.
11. Install the Linear Transducer (1) and tighten to 20-ft Lbs. Only tighten on the Metal Hex below the red part of the sensor.
12. Attach the Servo Valve (28) to the Top Cylinder Plate (17) by the two Screws at its base. The “R” port faces the exhaust muffler (71).

ASSEMBLING THE AIR MANIFOLD -

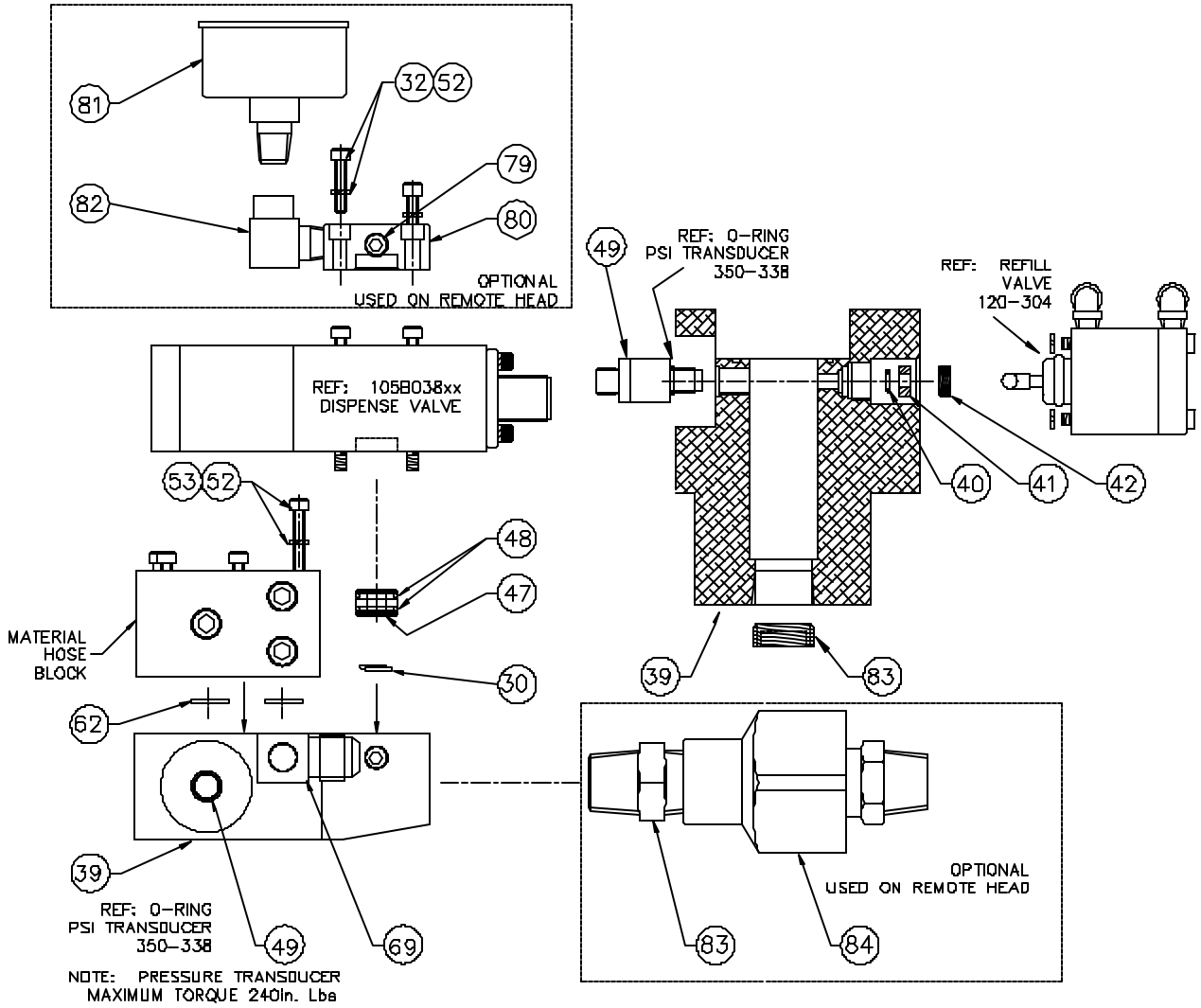
1. Lubricate both ends of the Air Tubes (36) and guide them into the O-Rings (25) embedded in the Top Air Manifold (24) and Bottom Air Manifold (27) as shown.
2. Attach both Solenoid Valves (35) using the Screws and Gasket that come with them.
3. Install O-Rings (30), two into Top Cylinder Plate (8) 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 (32) in the Top Manifold (24) and two Socket Head Cap Screws (32) in the Bottom Manifold (27) with their Washers (33).
5. Install the Tubing as shown in the diagram.

DET	QTY	PART NO.	DESCRIPTION
36	4	363-174	5/32" TUBE X 1/8" NPT SWIVEL
44	4	363-178	5/32" TUBE X 1/8" NPT MALE FITTING
63	2	363-232	MANUAL RELEASE BUTTON BLUE
64	2	363-233	MANUAL RELEASE BUTTON YELLOW
65	2'	363-237	5/32" TUBE POLYETHYLENE YELLOW
66	2'	363-236	5/32" TUBE POLYETHYLENE BLUE
67	2	363-230	MANUAL RELEASE BUTTON WHITE
68	2	363-231	MANUAL RELEASE BUTTON BLACK
69	2'	363-235	5/32" TUBE POLYETHYLENE BLACK
70	1'	363-841	5/32" TUBE POLYETHYLENE WHITE

TUBING LAYOUT:



MATERIAL SECTION



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

			MODEL NUMBERS			
DET	QTY	DESCRIPTION	115-125	115-175	115R125	115R175
38	1	BODY	403-341	403-341A	403-341	403-341A
79	3	SEAL PLUG 1/8" NPT	-	-	350-195	350-195
80	1	PLUG BLOCK	-	-	403-277	403-277
81	1	GAUGE 0-5000PSI	-	-	362-172	362-172
82	1	STR. ELBOW 1/4NPT	-	-	350-214	350-214
83	1	NIPPLE OR PLUG	360-034	360-034	362-503AQ	362-503AQ
84	1	SWIVEL 3/4" NPT	-	-	361-581	361-581

DET	QTY	PART NO.	DESCRIPTION		DET	QTY	PART NO.	DESCRIPTION
30	**5**	**350-361**	**O-RING**		49	1	362-126	PSI TRANSDUCER
32	4	350-358	SHCS #10-24		**REF**	**1**	**350-338**	**O-RING**
40	**1**	**350-165**	**O-RING**		52	12	361-904SS	LOCK WASHER #10
41	**1**	**360-803**	**CARBIDE SEAT 1/2"**		53	8	350-448	SHCS #10-24
42	1	363-029	SOCKET JAM SCREW		57	1	8-4CTX-B	MALE ELBOW 1/4NPT
47	1	403-337	BUTTON ADAPTER		**62**	**2**	**361-734**	**O-RING**
48	**2**	**361-889**	**O-RING**					

DISASSEMBLING THE MATERIAL SECTION

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

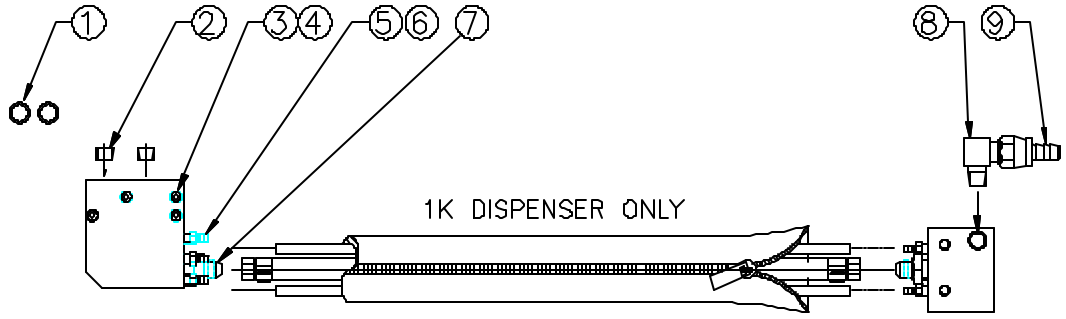
1. Remove the four SHCS that hold the120-304 Refill Valve (53) and remove it from the Body (39).
   a. Clean the Refill Valve. (see refill valve section)
2. Unscrew the Jam Screw (42) and remove the Carbide Seat (41) and O-Ring (40).
3. Remove the Pressure Transducer (49).
4. Remove the four SHCS (53)(32) that hold on the Dispense Valve (105B038xx) or optional Remote Plug Block (80)
5. Remove the Button Adapter (47) and discard the two O-Rings (48).
6. If necessary remove the Material Hose Block by removing the four SHCS (53)

ASSEMBLING THE MATERIAL SECTION –

INSPECT AND CLEAN ALL PARTS CAREFULLY AND REPLACE IF NECESSARY

1. Place the water O-Rings (30) into the Body (39).
2. Replace the O-Rings (48) on the Button Adapter (47), lubricate and insert it into the Body (39).
3. Place the Dispense Valve (105B038xx) or Remote Plug Block (80) over the Button Adapter (47) and tighten the four SHCS (53)(32).
4. Place the O-Ring (40) in the Refill Valve counter bore in the Body (39) and drop the Carbide Seat (41) in place.
   a. Ensure that the Carbide seats (41) are square before installing the Jam Screw (42).
5. Install BUT DO NOT OVERTIGHTEN the Jam Screws (42) and torque them to 10 ft-Lbs.
6. Install Refill and Dispense Valves (120-304) and tighten the four SHCS (53).
7. Install the Pressure Transducer (49) DO NOT OVER-TORQUE Maximum torque = 240 in Lbs.
8. If the Material Hose Block was removed replace the two O-Rings (62) and tighten the four SHCS (53)
9. Install Air tubing. (see assembling the air manifold)

WATER AND MATERIAL LINES



3 0 1 Z S 6 5 R — — 1 K

STANDARD COMPONENTS

(1) 361-734 O-RING
(2) 350-341 PIPE PLUG 1/4" NPT
(3) 350-448 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) 362-785 HOSE BARB LOCK
(7) CONNECTOR 9/16"JICM X 3/8" NPT
(8) B-4CTX-B MALE ELBOW #B JICM X 1/4" NPT
(9) 30682-6-8B HOSE ADAPTOR #6 JICF X 1/2" HOSE
(10) 350-818 S.H.C.S. 5/16"-18 X 2"
(11) 361-786 5/16" HIGH COLLAR LOCK WASHER

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

DISPENSE GUNS
1K DISPENSER = 1K

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 200 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.
	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.
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 (More common on Remote Gun Applications)	Feed Pump pressure is too high.	Reduce Feed Pump pressure to be at or lower than the Dispense Pressure.