

Encore® HD Pump Control Unit and Power Supply Pneumatic Upgrade Kit



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Description

Use this upgrade kit to update the pneumatic assemblies in the Encore® HD pump control unit and power supply to enhance performance of pneumatic system.

See Figure 1 for a reference of the components to be replaced in the following procedures.

NOTE: For systems with a dual pump control unit and power supply, a dual version of the kit is available.

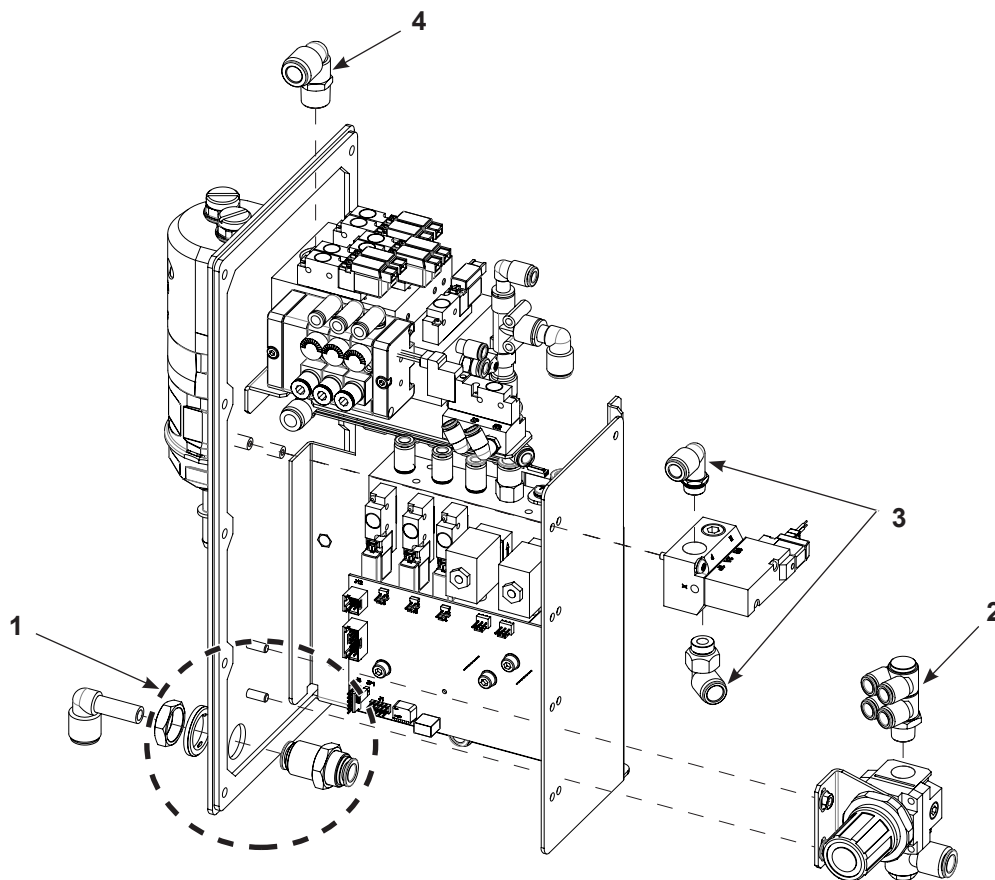


Figure 1 Components for Replacement

- | | |
|----------------------|------------------------------|
| 1. Bulkhead fittings | 3. Solenoid valve fittings |
| 2. Regulator fitting | 4. Manifold assembly fitting |

Disassembly



WARNING: Shut off the controller and disconnect the power cord or disconnect and lock out power at a breaker or disconnect ahead of the controller before opening the controller enclosures. Failure to observe this warning could result in a severe electrical shock and personal injury.



CAUTION: Electrostatic sensitive device. To avoid damaging the controller circuit boards, wear a grounding wrist strap and use proper grounding techniques when making repairs.

Remove Panel Assembly

1. Disconnect the main power and air.
2. Remove the pump and power unit from the dolly, stand, or wall/rail mount unit. Move the pump and power unit to a work bench.
3. See Figure 2. Remove the ten screws (2) securing the panel assembly (3) to the enclosure (1).
4. Slowly remove panel assembly.

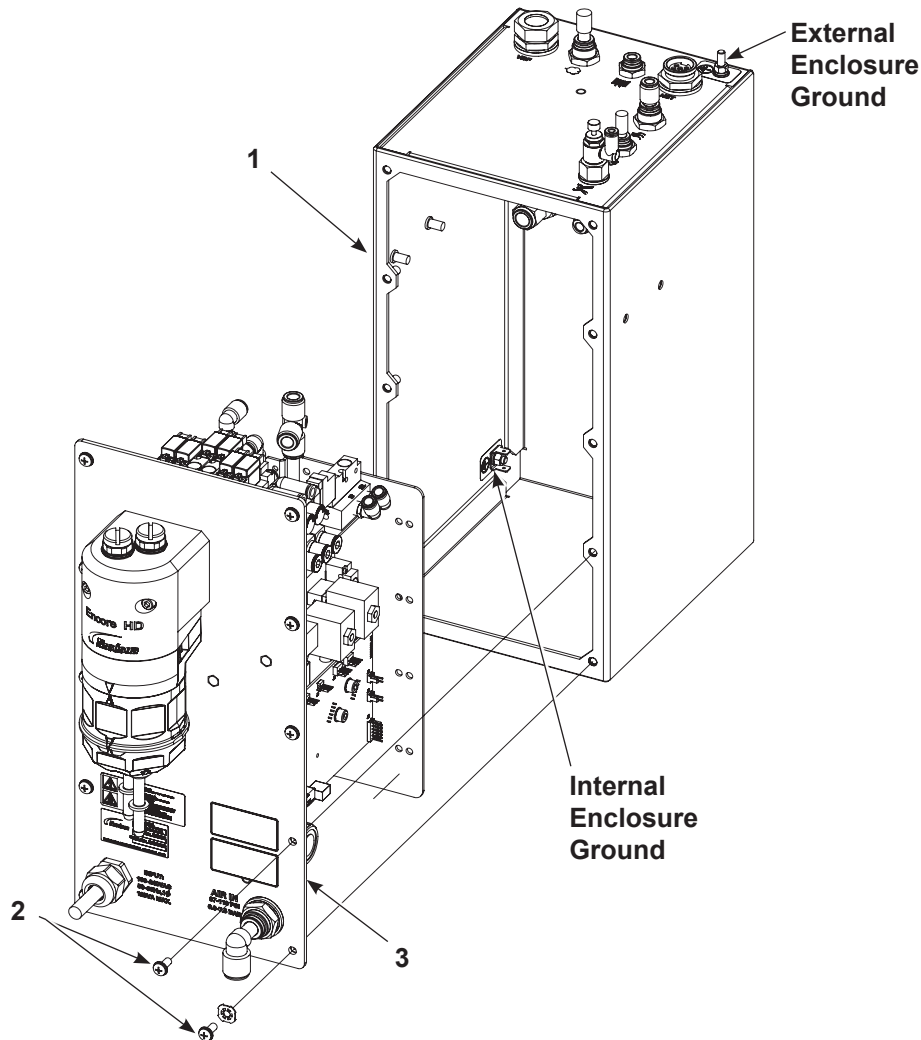


Figure 2 Sub-Panel Removal

Disconnect Tubing

See Figure 3. Remove and discard the following labeled tubing: A, B, C, D, E, X.

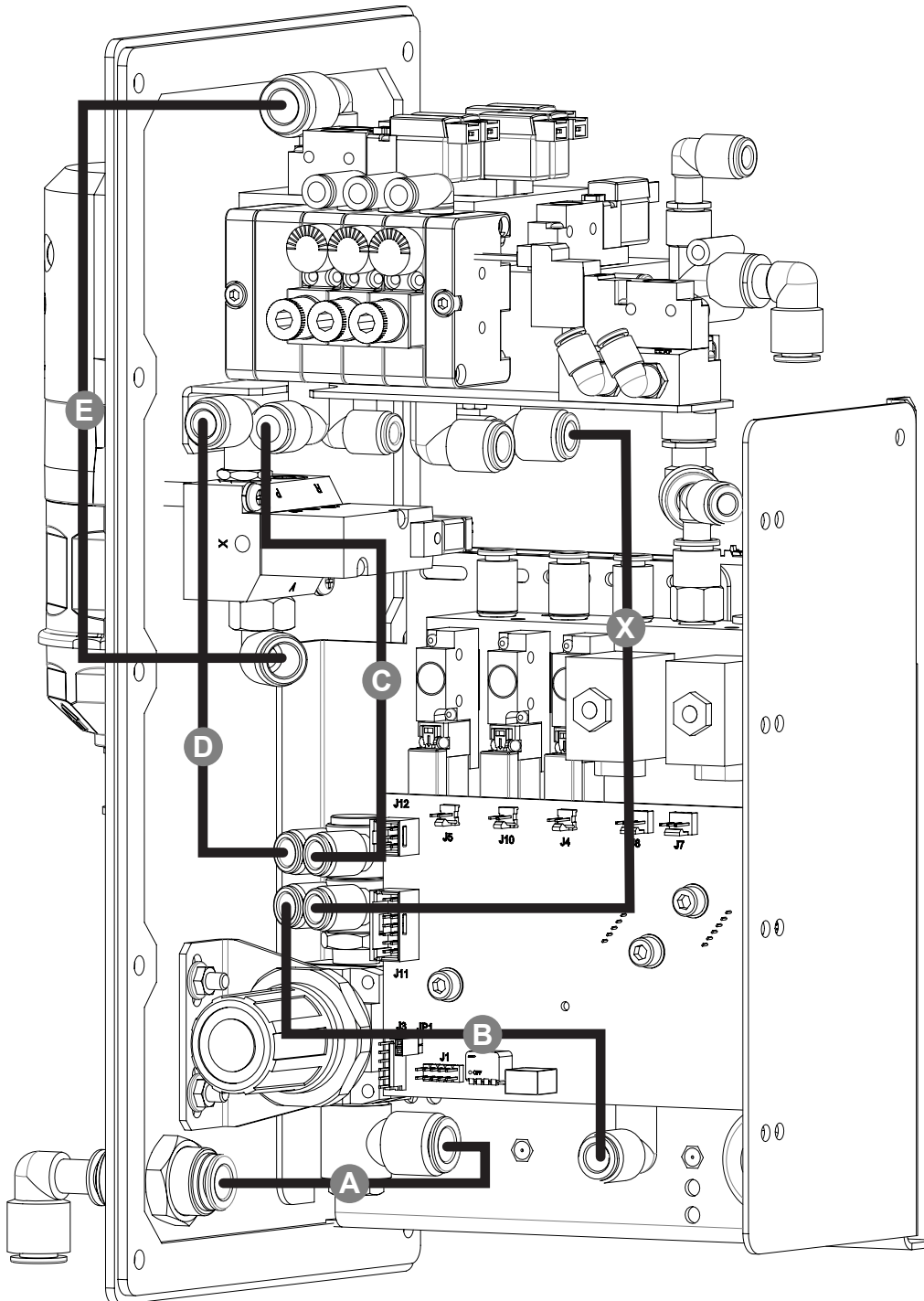


Figure 3 Remove Tubing

Replacing Regulator Fittings

Removing Regulator and Old Fitting

See Figure 4.

1. Remove the regulator (4) from the enclosure by loosening the nuts (3) securing the bracket (1).
2. Use a wrench to separate the fitting (2) from the regulator.
3. Retain the nuts (3) for reassembly. Discard the fitting (2).

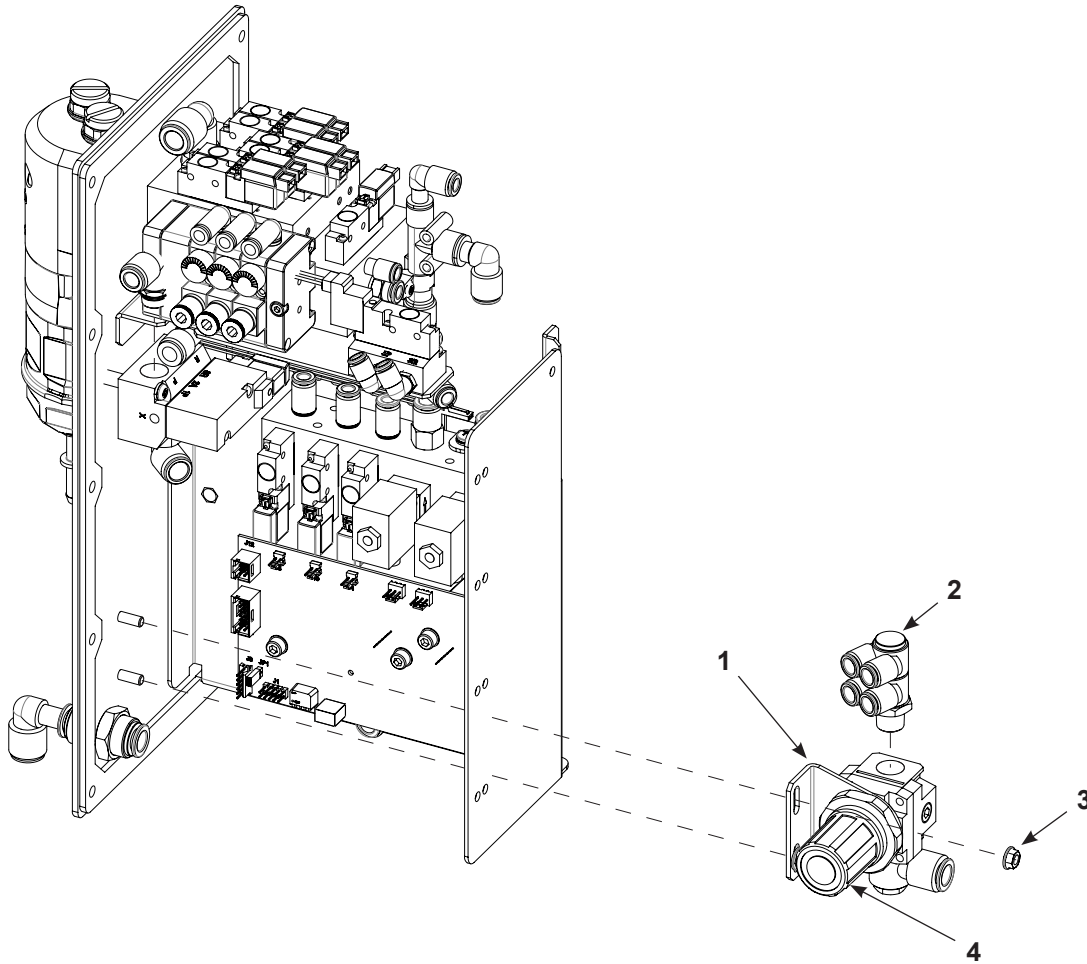


Figure 4 Removing Regulator and Fittings

Installing New Regulator Fittings

See Figure 5 and refer to Table 1 for replacing regulator fittings.

1. Connect and tighten the male branch connector (2) into the top of the regulator (5).
2. Push the elbow (4) into the regulator.
3. Place the bracket (1) over the studs and use the nuts (2) to tighten the regulator to the enclosure.

Table 1 Parts for Replacing Regulator Fittings

Item	Part	Description	Note
1	-----	BRACKET	
2	1620478	FITTING, BRANCH, 90, DUAL, 8 MM T X R1/4	
3	-----	NUTS	A
4	1052893	ELBOW, PLUGIN, 10 MM T X 10 MM STEM, PLASTIC	
5	-----	REGULATOR	A

NOTE: A. Retained part from disassembly. Not included in upgrade kit.

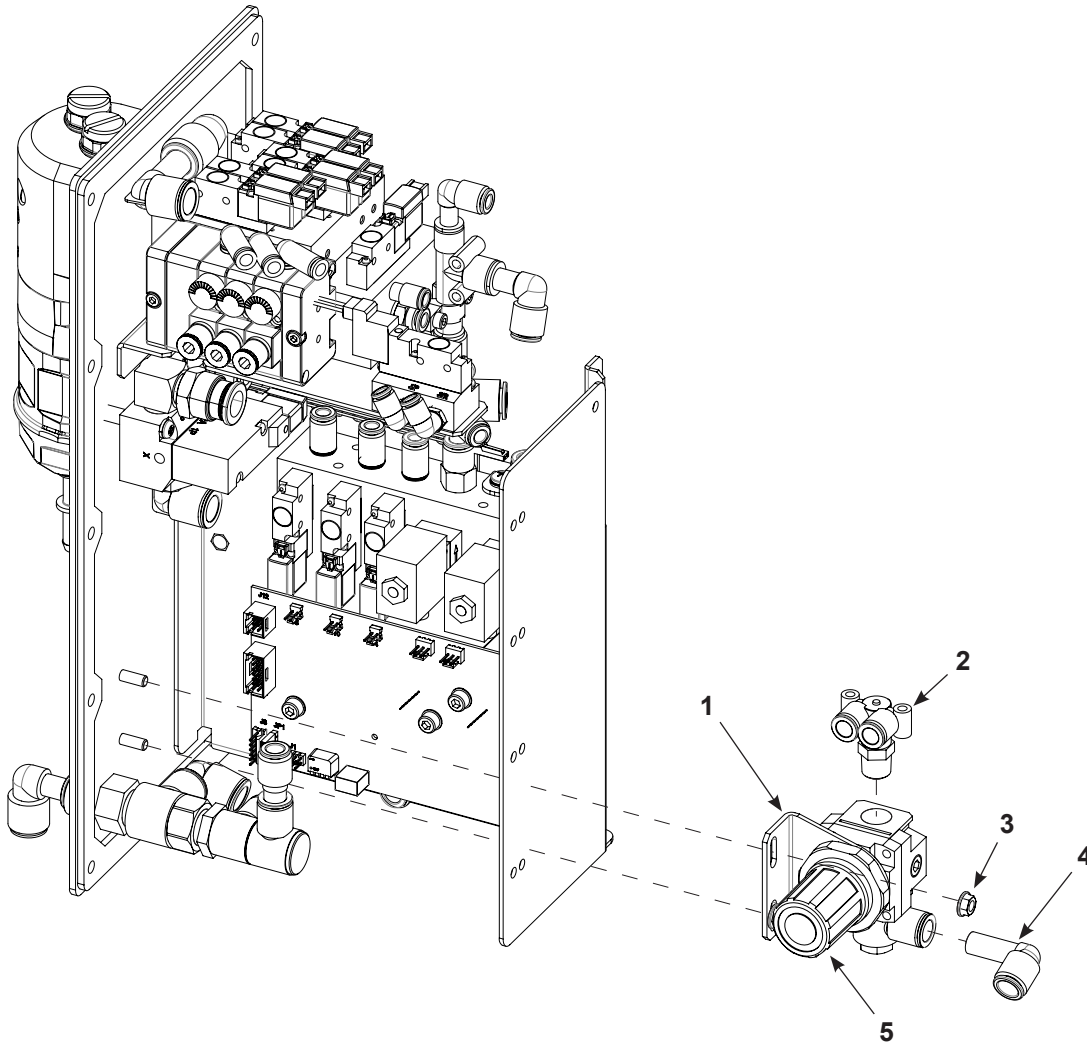


Figure 5 Installing New Regulator Fittings

Replacing Bulkhead Fittings

Removing Bulkhead Parts

See Figure 6.

1. Remove the elbow fitting (1) and retain for reassembly.

NOTE: While removing items in the next step, note the orientation of the sealing washer (2). This same orientation will need to be used in reassembly.

2. Use a wrench on the flats of the bulkhead nut (3) and loosen to remove the nut and bulkhead (3).
3. Retain the sealing washer (2) for reassembly. Discard the nut and bulkhead.

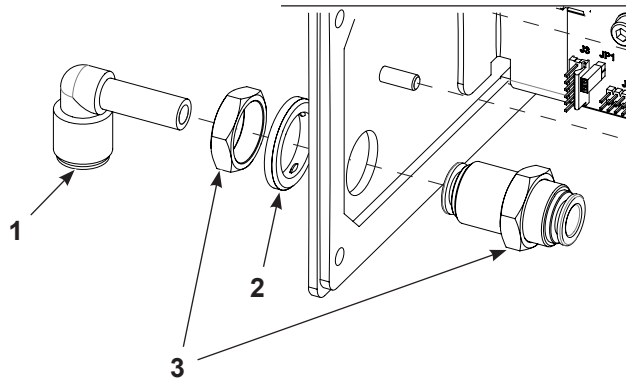


Figure 6 Removing Bulkhead Parts

Installing New Bulkhead Parts

See Figure 7 and refer to Table 2 for replacing bulkhead parts and fittings.

1. Connect and tighten the tee (5) and the double elbow fitting (6) together. Connect and tighten the assembly to the bulkhead (3).
2. Install the bulkhead (3) and the retained sealing washer (2) with proper orientation onto the panel.
3. Install the 12 mm elbow (4) and reducer (7) onto the assembly as shown.

Table 2 Parts for Bulkhead Replacement

Item	Part Number	Description	Note
1	1052893	ELBOW, PLUGIN, 10 MM T X 10 MM STEM, PLASTIC	A
2	939122	SEAL, CONDUIT FITTING, 1/2, BLUE	A
3	1620463	UNION, F BULKHEAD, 10 MM T X RC3/8	
4	1620465	ELBOW, PLUGIN, 12 MM T X 12 MM STEM, PLASTIC	
5	1620464	TEE, RUN, R3/8 MALE X RC3/8 FEMALE, 12 MM T	
6	1620479	FITTING ,M , DOUBLE ELBOW, 10 MM T X R3/8, WITH SEAL	
7	1045098	REDUCER, 10 MM STEM X 8 MM T	

NOTE: A. Retained part from disassembly. Not included in upgrade kit.

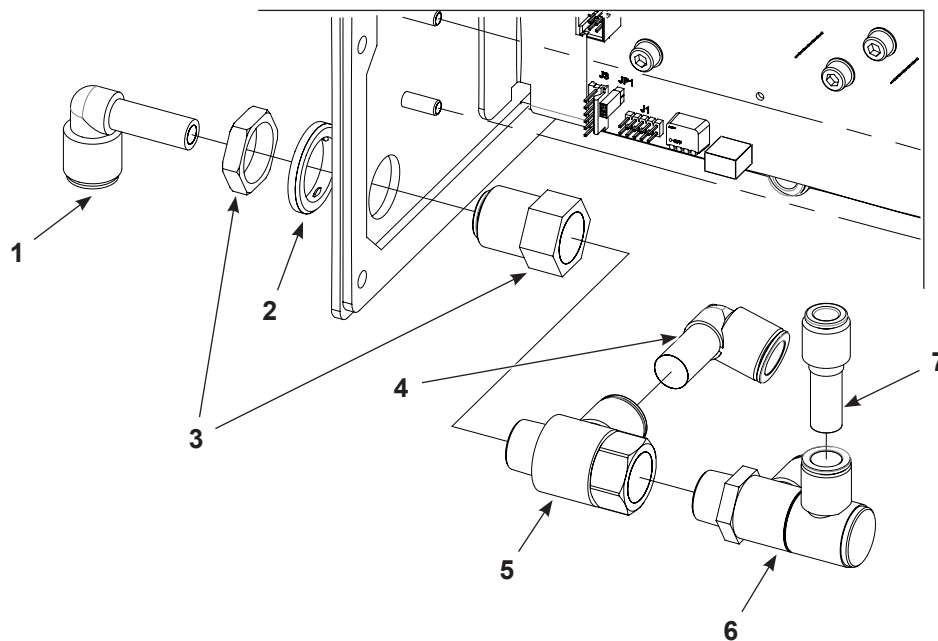


Figure 7 Installing New Bulkhead Parts

Replacing Solenoid Valve Fittings

Remove Old Solenoid Fittings

See Figure 8.

1. Remove the screws (4) and washers (3) to remove the solenoid valve (2) from the enclosure.
2. Use a wrench on the flats of the fittings (1, 5) to remove them from the solenoid valve.
3. Retain the solenoid valve (2), screws (4), and washers (3) for reassembly. Discard the old fittings (1, 5).

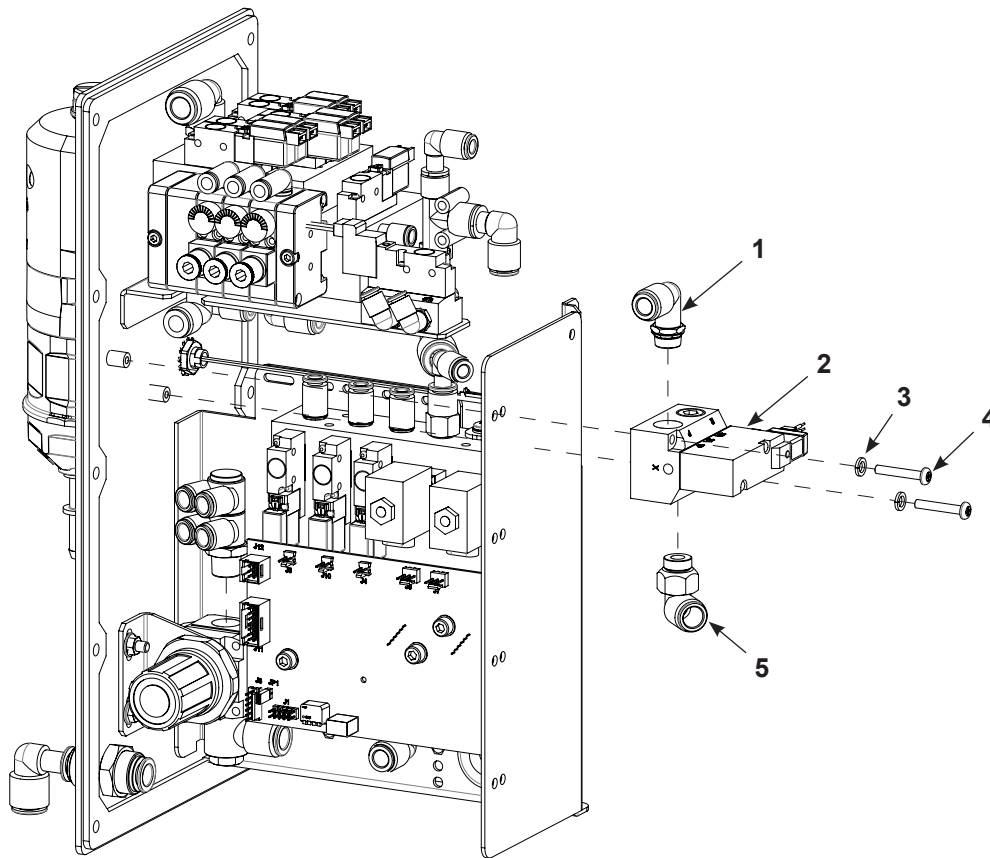


Figure 8 Removing Solenoid Valve Fittings

Installing New Solenoid Valve Fittings

See Figure 9 and refer to Table 3 for replacing regulator fittings.

1. Apply PTFE tape to male thread of elbow (1). Connect and tighten the elbow (1) and connector with seal (2). Connect and tighten the assembly onto the solenoid valve (5).
2. Connect and tighten the elbow connector (6) into the bottom of solenoid valve (5).
3. Use the screws (4) and washers (3) to mount the solenoid valve onto the panel.

Table 3 Parts for Replacing the Solenoid Valve Fittings

Item	Part	Description	Note
1	973157	ELBOW, PIPE, STREET, 1/4, BRASS	
2	1620462	CONNECTOR, MALE, 12 MM T, 1/4 NPT, WITH SEAL	
3	-----	WASHER	A
4	-----	SCREW	A
5	-----	SOLENOID VALVE	A
6	972093	CONNECTOR, MALE, ELBOW, 12 MM T X 1/4 UNI	

NOTE: A. Retained part from disassembly. Not included in upgrade kit.

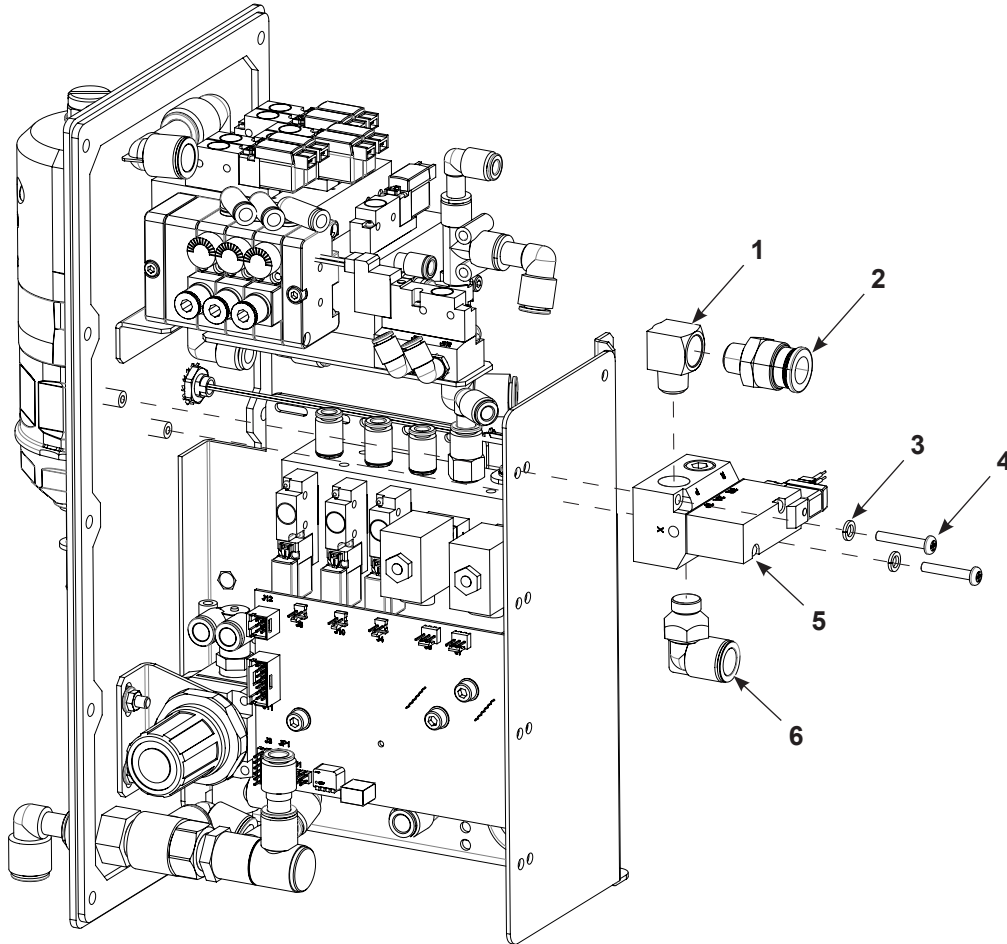


Figure 9 Installing New Solenoid Valve Fittings

Replacing the Manifold Assembly Fitting

Removing the Fitting from the Manifold Assembly

See Figure 10.

1. Note the position of the valves (3) as they are installed on the manifold assembly (4) for later reassembly. Remove the valves with seals (3) from the manifold assembly (4) by loosening the screws (2).
2. Use a wrench on the flats of the elbow (1) to remove it from the manifold assembly.
3. Retain the valves for reassembly. Discard the elbow.

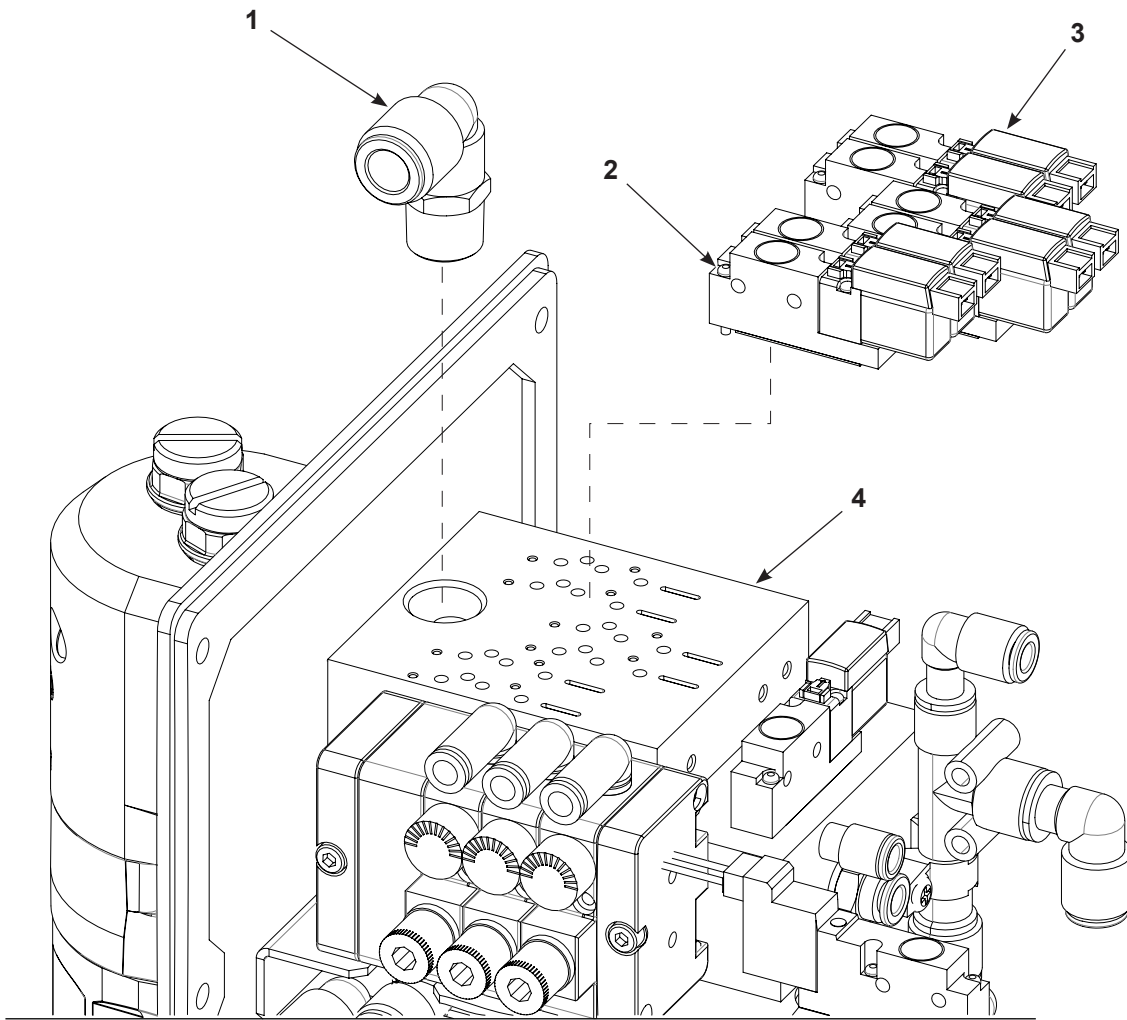


Figure 10 Removing Parts from Manifold Assembly

Installing the New Fittings on the Manifold Assembly

See Figure 11 and refer to Table 4 for replacing the manifold assembly fittings.

1. Use a wrench to install and tighten the connector (2) onto the manifold assembly (5) using the flats on the 3/8 UNI connector (2).
2. Reinstall the valves with seals (4) in the same place as noted in the removal procedure. Use the screws (3) to secure the valves (4) to the manifold assembly (5).
3. Install the 12 mm extended elbow (1) into the 3/8 UNI connector (2).

Table 4 Parts for Replacing the Manifold Assembly Fittings

Item	Part	Description	Note
1	1620477	ELBOW, EXTENDED, PLUGIN, 12 MM X 12 MM STEM, PLASTIC	
2	972094	CONNECTOR, MALE, ELBOW, 12 MM T X 3/8 UNI	
3	-----	SCREWS	A
4	-----	VALVES	A
5	-----	MANIFOLD ASSEMBLY	A

NOTE: A. Retained part from disassembly. Not included in upgrade kit.

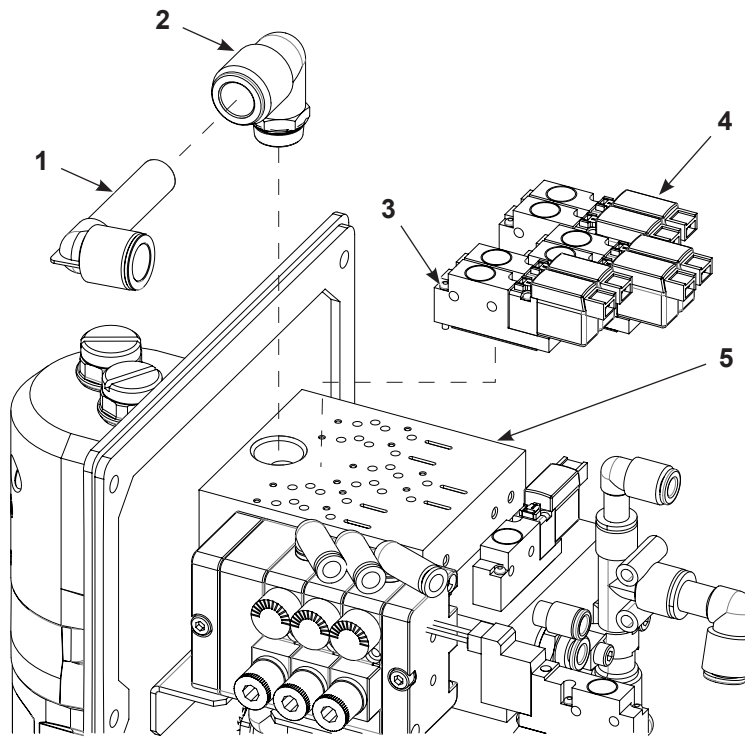


Figure 11 Installing New Fitting on Manifold Assembly

Installing New Tubing

See Figure 12. Install the new tubing from the upgrade kit.

NOTE: All tubing in kit is labeled except for tubing A and Z.

After tubing is properly routed, the panel assembly can be reinstalled onto the power unit enclosure (see Figure 2).

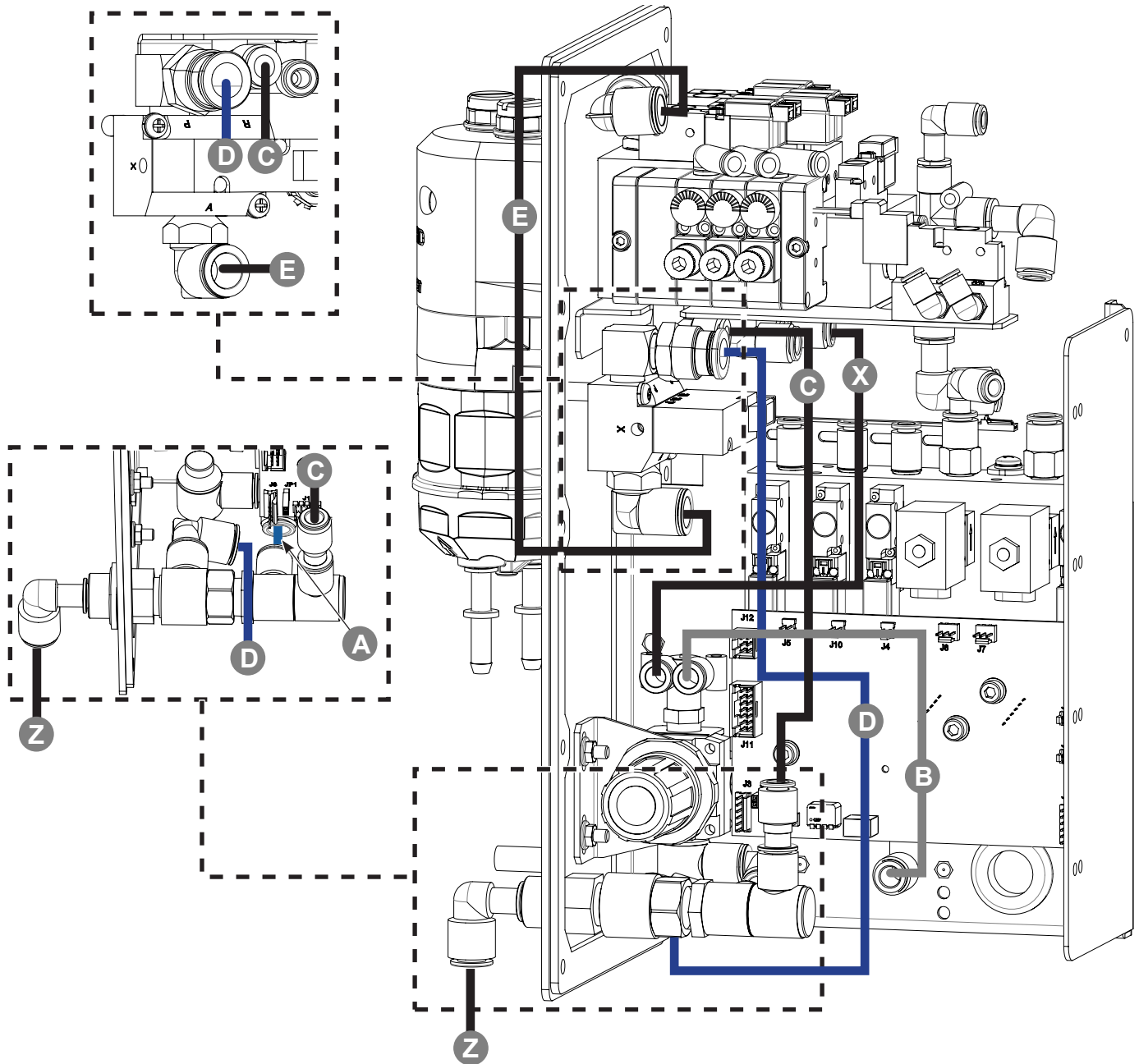


Figure 12 New Tube Routings

Replacing Air Filter

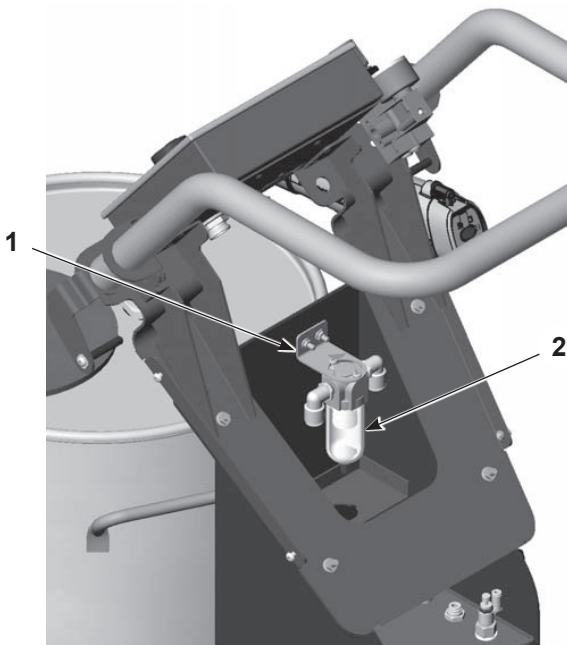
NOTE: This section is only applicable systems with air filter, such as dollies or standalones, or wall/rail mount systems that included an optional filter.

Removing Old Filter

See Figure 13 for location and removal of the filter on different applications.

1. Disconnect tubing to the filter (2).
 - a. **For Mobile Dolly and Wall/Rail Mount Units Only:** Discard inlet and outlet tubing.
 - b. **For Standalone Units Only:** Retain outlet tubing and discard inlet tubing.
2. Remove mounting hardware (1) and filter (2) from the assembly. Retain the mounting screws for installing the new filter/regulator.
3. **For Dual Standalone Units Only:** Retain the dual connector fitting (3) for installation on the new filter/regulator.

Mobile Dolly Systems



Single and Dual Standalone Systems

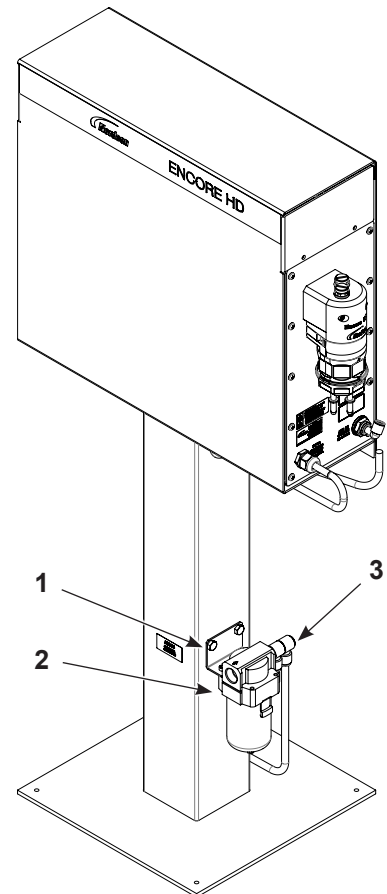


Figure 13 Filter Locations

Installing New Filter/Regulator

See Figure 14 and Figure 15 and refer to Table 5 for install the new filter/regulator.

1. Install the 12 mm connector (5) to the new filter/regulator (1).
2. Install the 10 mm fitting into filter/regulator:
 - a. **For Mobile Dolly, Single Standalone, and Wall/Rail Mount Units Only:** Install the single 10 mm connector (2) into the filter regulator.
 - b. **For Dual Standalone Units only:** Install the retained dual connector (3) into the filter regulator.
3. Using the existing hardware (6), install the filter/regulator assembly onto the unit by the mounting bracket (4).
4. Apply new air input labels to the unit.

NOTE: For standalone units, make sure to place labels on each pump control unit and on the stand.
5. Connect tubing to the filter/regulator.
 - a. **For Mobile Dolly and Wall/Rail Mount Units Only:** New inlet and outlet tubing provided in kit.
 - b. **For Standalone Units Only:** Reuse retained outlet tubing. New inlet tubing provided in kit.
6. Set new regulator pressure to 95 psi (6.5 bar, 0.65 MPa).

Table 5 Parts for Replacing Filter Regulator

Item	Part	Description	Note
1	1620461	REGULATOR, AIR, WITH BRACKET AND GAGE, 8-123 PSI, R1/2	
2	1607246	CONNECTOR, MALE, ELBOW, 10 MM X R1/2	
3	-----	DUAL CONNECTOR	A
4	-----	MOUNTING BRACKET	B
5	1605531	CONNECTOR, MALE, ELBOW, 12 MM T X R1/2	
6	-----	MOUNTING HARDWARE	A
7	1620759	LABEL, AIR INPUT	
Z	900740	TUBING, POLYURETHANE, 10/6.5-7 MM	C

NOTE: A. Existing part from disassembly. Not included in upgrade kit.

B. Included with filter/regulator.

C. Tubing is not labeled with letter in kit.

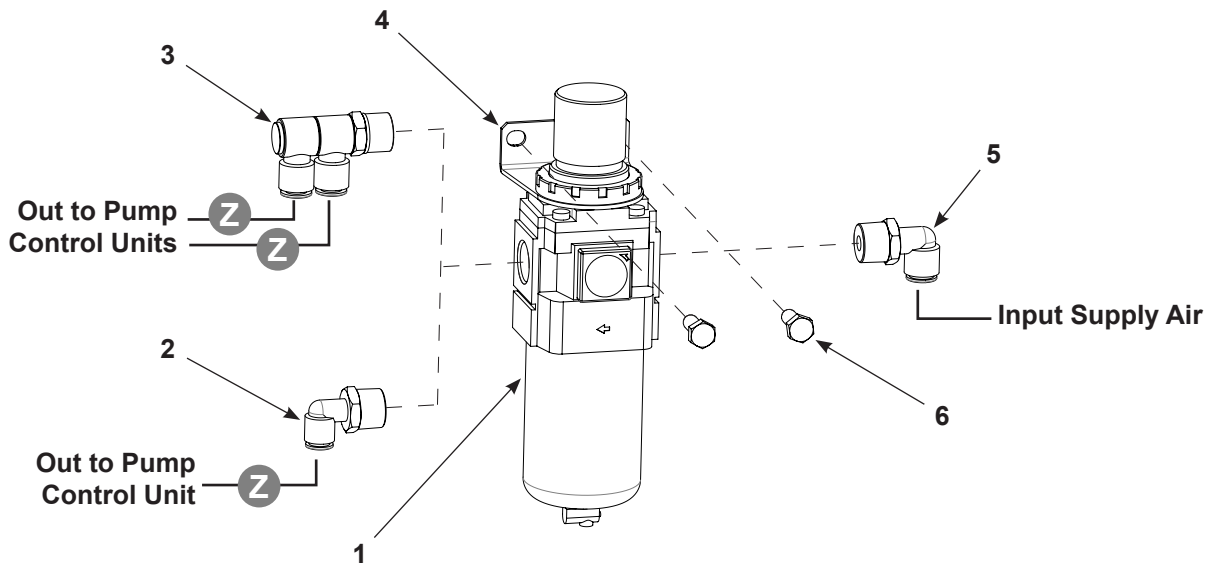


Figure 14 Installing New Filter Regulator

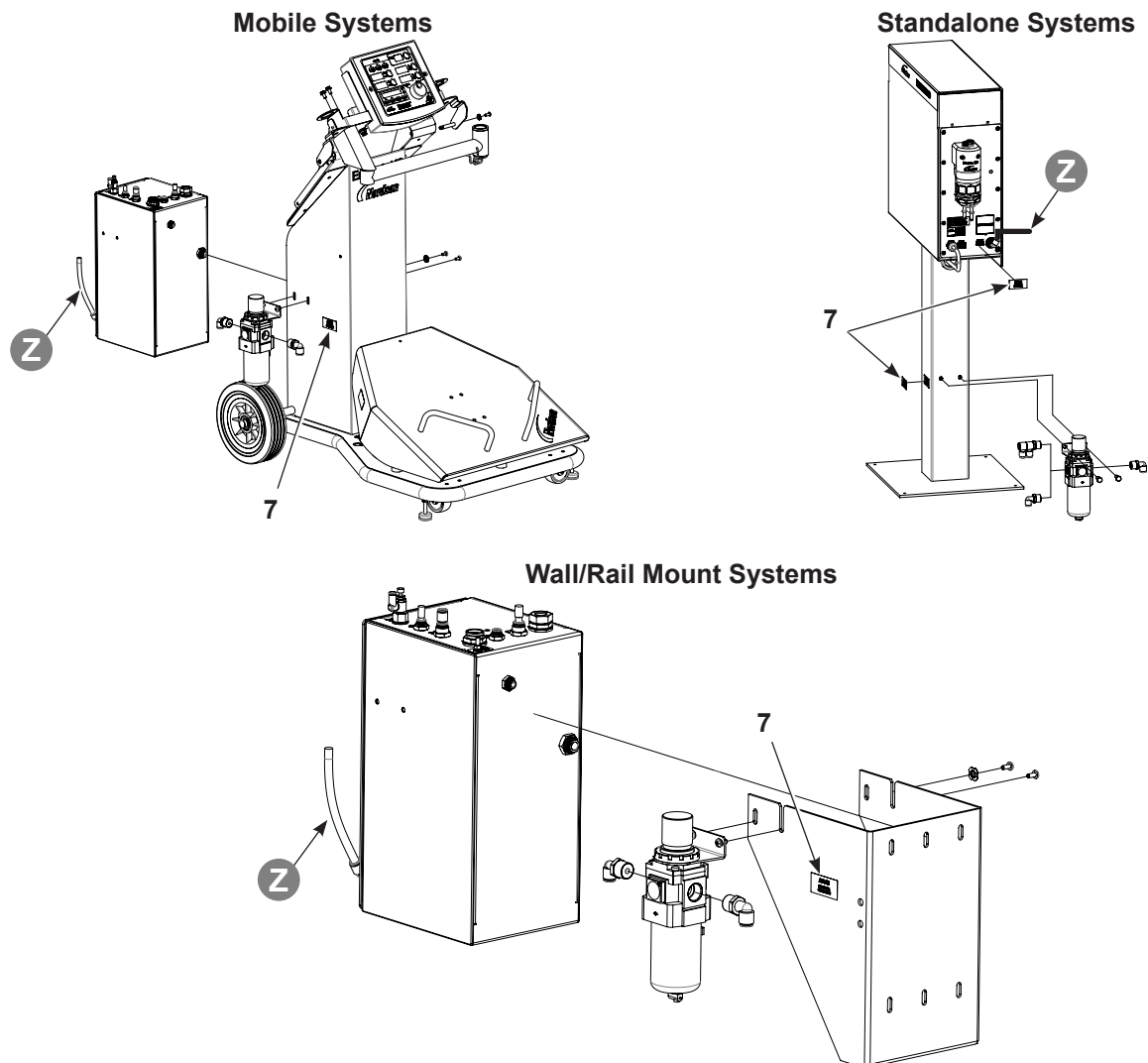


Figure 15 Filter/Regulator Location Mounting and Label Locations

Parts

See Figure 16 and the following parts list.

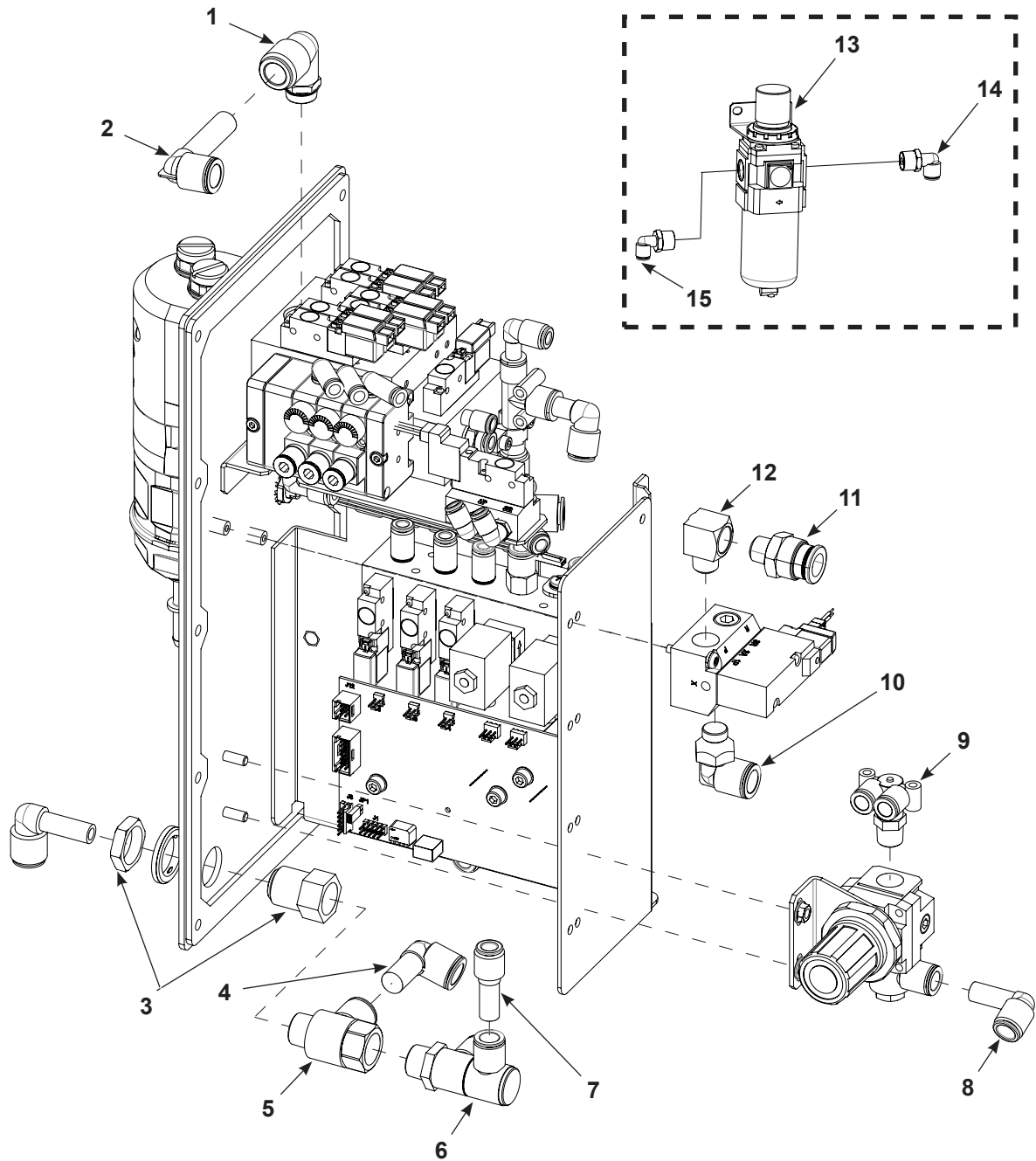


Figure 16 Pneumatic Upgrade Kit

Item	Part	Part	Description	Quantity Single/Dual	Note
—	1620843	—	KIT, PNEUMATIC UPGRADE, MANUAL SYSTEM, ENCORE HD, SINGLE	—	
—	—	1620844	KIT, PNEUMATIC UPGRADE, MANUAL SYSTEM, ENCORE HD, DUAL	—	
1	972094	972094	CONNECTOR, MALE, ELBOW, 12MM T X 3/8 UNI	1/2	
2	1620477	1620477	ELBOW, EXTEND, PLUGIN, 12 MM X 12MM STEM, PLASTIC	1/2	
3	1620463	1620463	UNION, F BULKHEAD, 10 MM T X RC3/8	1/2	
4	1620465	1620465	ELBOW, PLUGIN, 12 MM T X 12 MM STEM, PLASTIC	1/2	
5	1620464	1620464	TEE, RUN, R3/8 MALE X RC3/8 FEMALE, 12 MM T	1/2	
6	1620479	1620479	FITTING ,M , DOUBLE ELBOW, 10 MM T X R3/8, WITH SEAL	1/2	
7	1045098	1045098	REDUCER, 10 MM STEM X 8 MM T	1/2	
8	1052893	1052893	ELBOW, PLUGIN, 10 MM T X 10 MM STEM, PLASTIC	1/2	
9	1620478	1620478	FITTING, BRANCH, 90, DUAL, 8 MM T X R1/4	1/2	
10	972093	972093	CONNECTOR, MALE, ELBOW, 12 MM T X 1/4 UNI	1/2	
11	1620462	1620462	CONNECTOR, MALE, 12 MM T, 1/4 NPT, WITH SEAL	1/2	
12	973157	973157	ELBOW, PIPE, STREET, 1/4, BRASS	1/2	
13	1620461	1620461	REGULATOR, AIR, WITH BRACKET AND GAGE, 8-123 PSI, R 1/2	1/1	
14	1605531	1605531	CONNECTOR, MALE, ELBOW, 12 MM T X R 1/2	1/1	
15	1607246	—	CONNECTOR, MALE, ELBOW, 10 MM X R 1/2	1/0	
NS	226690	226690	TUBING, POLYURETHANE, 12/8 MM, BLUE	5.39 m/6.21 m	
NS	900618	900618	TUBE, POLYURETHANE, 8 MM OD, BLUE	0.81 m/1.61 m	
NS	900740	900740	TUBING, POLYURETHANE, 10/6.5-7 MM	0.28 m/0.1 m	
NS	1620759	1620759	LABEL, AIR INPUT, ENCORE HD	2/3	

NS: Not Shown

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