

Rhino[®] SD/XD Depressurization Modules for Electric Changeover Controls

Description

Rhino[®] SD/XD depressurization modules relieve material pressure by flowing material under the follower plate.

Four depressurization modules are available:

- 24 Vdc ISO 5599/2 Size-1 Base with DeviceNet[™] I/O Block Cable
- 24 Vdc Automotive 125-Series Base with DeviceNet I/O Block Cable

NOTE

A cable is supplied with the controller, J-box, or by another source for the following depressurization modules.

- 120 Vac ISO 5599/2, Size-1 Base without DeviceNet I/O Block Cable
- 24 Vdc/120 Vac Automotive 125-Series Base without DeviceNet I/O Block Cable

Refer to the Interconnect drawing provided with your system documentation for electrical connections.

Repair

Repair procedures are limited to replacing the depressurization valve packing cartridge.



- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.
- To prevent serious injury, relieve system and material pressure before disconnecting any hoses.
- Disconnect and lock out power to the system before performing repairs.

Remove the Packing Cartridge

1. See Figure 1. Disconnect the hose (7) from the fitting (6).
2. Remove the screws (1) securing the air cap (2) to the valve body (5).

! CAUTION !

Do not damage the dispensing valve body while removing the packing cartridge.

3. Use a small screwdriver to pry the packing cartridge (4) out of the valve body (5).

Install a New Packing Cartridge

1. Lubricate the O-rings and glyde-ring on the new packing cartridge (4) with TFE grease.
2. Install the new packing cartridge in reverse order of the removal procedures. Tighten the screws (1) to 7–8 ft-lb (9.5–10.8 N•m).

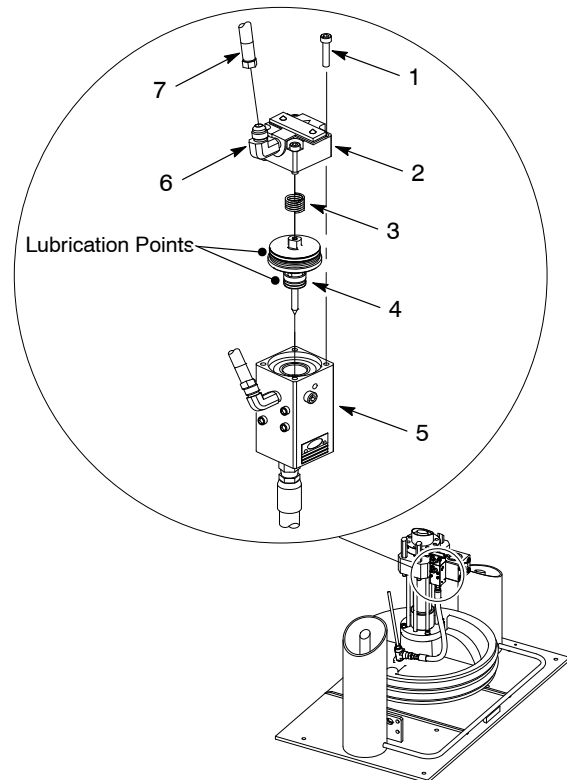


Figure 1 Replacing a Valve Packing Gland (55-Gallon Follower Plate Shown)

Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative.

NOTE

Refer to your system documentation for specific recommended spare parts.

Common Parts

These parts are common to the depressurization modules. See Figure 2 and refer to the following parts list.

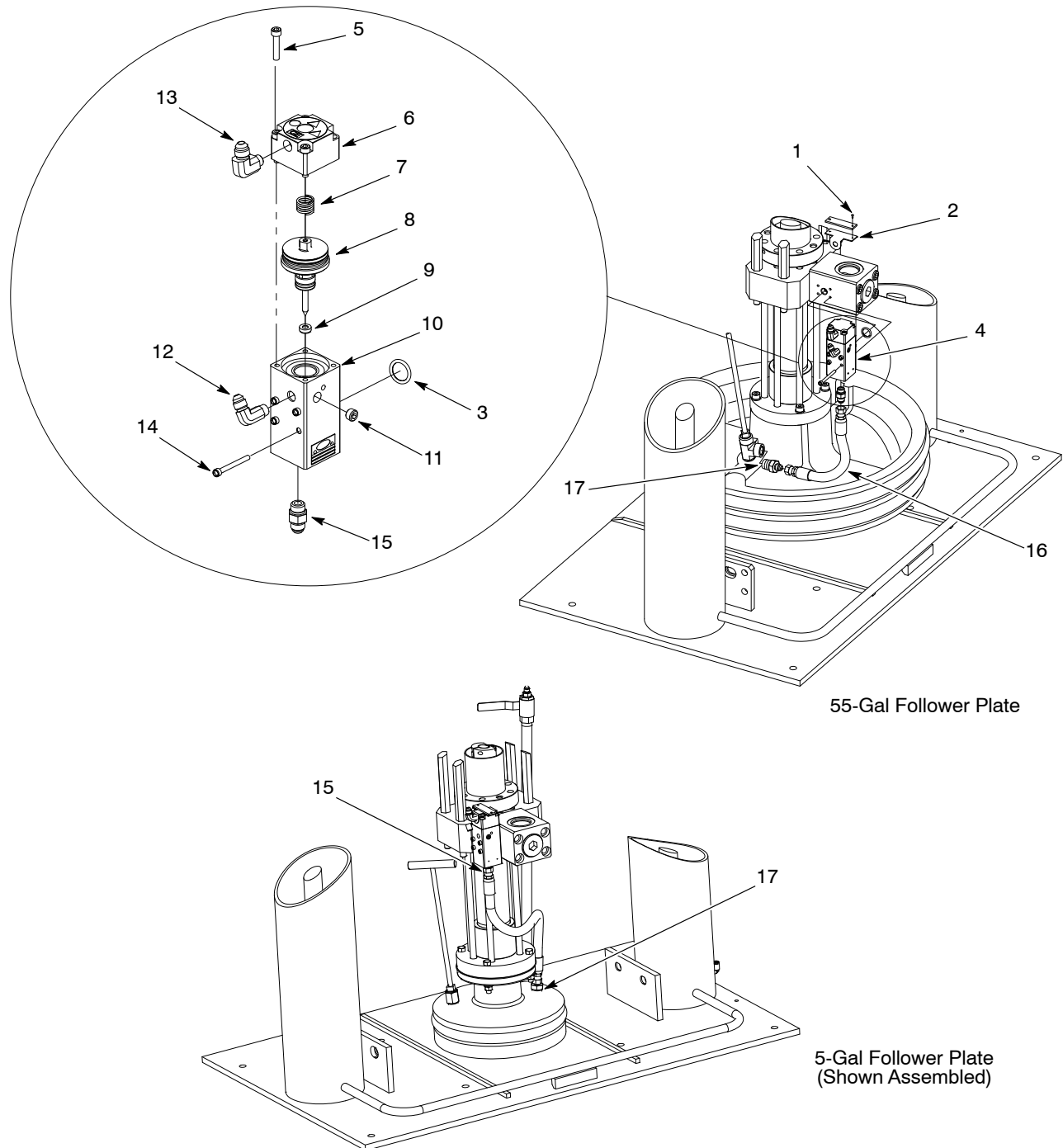


Figure 2 Common Parts

Item	Part	Description	Qty	Note
—	1039516	MODULE, depressurization, ISO 5599/2, size 1 base, Rhino SD/XD, 24 Vdc, with DeviceNet cable	—	
—	1043680	MODULE, depressurization, ISO 5599/2, size 1 base, Rhino SD/XD, 120 Vdc, without DeviceNet cable	—	
—	1043681	MODULE, depressurization, Automotive 125 Series base, Rhino SD/XD, 24 Vdc, with DeviceNet cable	—	
—	1057289	MODULE, depressurization, Automotive 125 Series base, Rhino SD/XD, 24 Vdc/120 Vac, without DeviceNet	—	
1	985112	• RIVET, pop, $\frac{3}{32}$ x 0.250, black oxide	2	
2	1024891	• PLATE, label mounting, 90 degree, $\frac{1}{8}$ NPT	1	
3	941151	• O-RING, Viton, 0.688 x 0.875 x 0.094, 10515	1	
4	1039086	• VALVE ASSEMBLY, depressurization	1	
5	-----	• • SCREW, socket, M5 x 25, black	4	
6	237942	• • CAP, air	1	
7	237947	• • SPRING, compression	1	
8	-----	• • CARTRIDGE, packing, UHMW-PE	1	A
9	-----	• • SEAT, carbide	1	
10	-----	• • BODY, valve	1	
11	973402	• • PLUG, pipe, $\frac{1}{8}$	1	
12	972151	• • ELBOW, male, 37 degree, $\frac{7}{16}$ -20 x $\frac{1}{8}$ NPT	1	
13	329740	• • ELBOW, male, 37 degree, $\frac{1}{2}$ -20 x $\frac{1}{8}$ NPT	1	
14	-----	• SCREW, socket, M5 x 55, black	4	
15	972121	• CONNECTOR, 37 degree, $\frac{9}{16}$ -18, straight thread	1	
16	329565	• HOSE, high-pressure, -6 JIC 37, $\frac{3}{8}$ x 18 in	1	
17	972771	• CONNECTOR, male, 37 degree, $\frac{9}{16}$ -18, x $\frac{1}{2}$	1	
NOTE A: Order Packing Cartridge Kit 238345.				

Depressurization Modules

24 Vdc ISO 5592/2 Size 1 Valve Base with DeviceNet I/O Block Cable

See Figure 3 and refer to the following parts list.

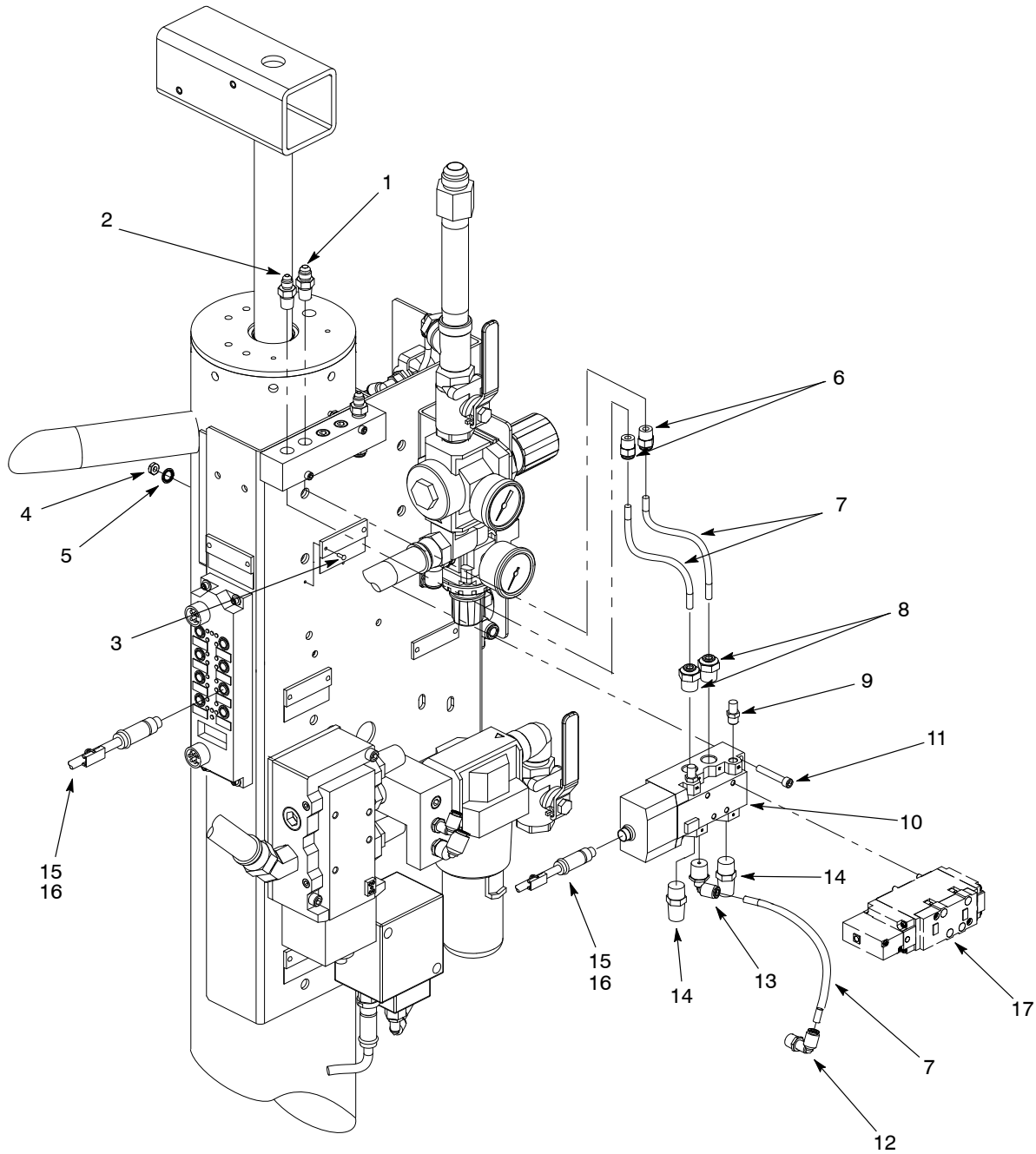


Figure 3 24 Vdc ISO 5592/2 Size 1 Valve Base with Cable for Device Net I/O Block

Item	Part	Description	Qty	Note
—	1039516	MODULE, depressurization, ISO base, Rhino SD/XD, 24 Vdc, with DeviceNet cable	1	
—	1606563	MODULE, depressurization, ISO base, flame resistant, blue	1	
1	1006226	• CONNECTOR, 37-deg flare, $\frac{5}{16}$ T x $\frac{1}{4}$ NPT	1	
2	972000	• CONNECTOR, male, 37 deg, $\frac{7}{16}$ –20 x $\frac{1}{4}$	1	
3	-----	• SCREW, drive, 4 x 0.312	2	
4	-----	• NUT, hex, heavy, $\frac{1}{4}$ –20, per ISO 4035	2	
5	-----	• WASHER, lock, $\frac{1}{4}$, per ISO 7089	2	
6	971265	• CONNECTOR, male, $\frac{1}{4}$ tube x $\frac{1}{4}$ NPT	2	
7	-----	• TUBING, $\frac{1}{4}$ O.D. polyethylene, flame resistant	2.08 ft	A
	-----	• TUBING, $\frac{1}{4}$ OD, nylon, flame resistant, blue	2.08 ft	B
8	971672	• CONNECTOR, male, $\frac{1}{4}$ tube x $\frac{3}{8}$ NPT	2	
	-----	• MUFFLER, exhaust, $\frac{1}{8}$ -in. NPT, male	2	B
10	1043426	• BASE, manifold, $\frac{3}{8}$ NPT, 5 port, ISO size 1	1	
11	-----	• SCREW, socket, $\frac{1}{4}$ –20 x 1.750, Grade 8, per ISO 4762	2	
12	971266	• ELBOW, male, 0.25 tube x 0.25 NPT	1	
13	972216	• ELBOW, male, $\frac{1}{4}$ tube x $\frac{3}{8}$ NPT	1	
14	177452	• MUFFLER, exhaust, $\frac{3}{8}$ in. NPT male	2	A
15	1044825	• CABLE, 4-pin micro dc, 18 AWG, 0.5m, male/female	1	
16	939110	• STRAP, cable, 0.875 diameter	2	
17	1044954	VALVE, ISO, size 1, 2-position, 4-way, 24 Vdc, SMC	1	C
NOTE A: For 1039516 depressurization module. B: For 1606563 depressurization module. C: This part is application specific and not included in the module.				

120 Vac ISO 5592/2 Size 1 Valve Base without DeviceNet I/O Block Cable

See Figure 4 and refer to the following parts list.

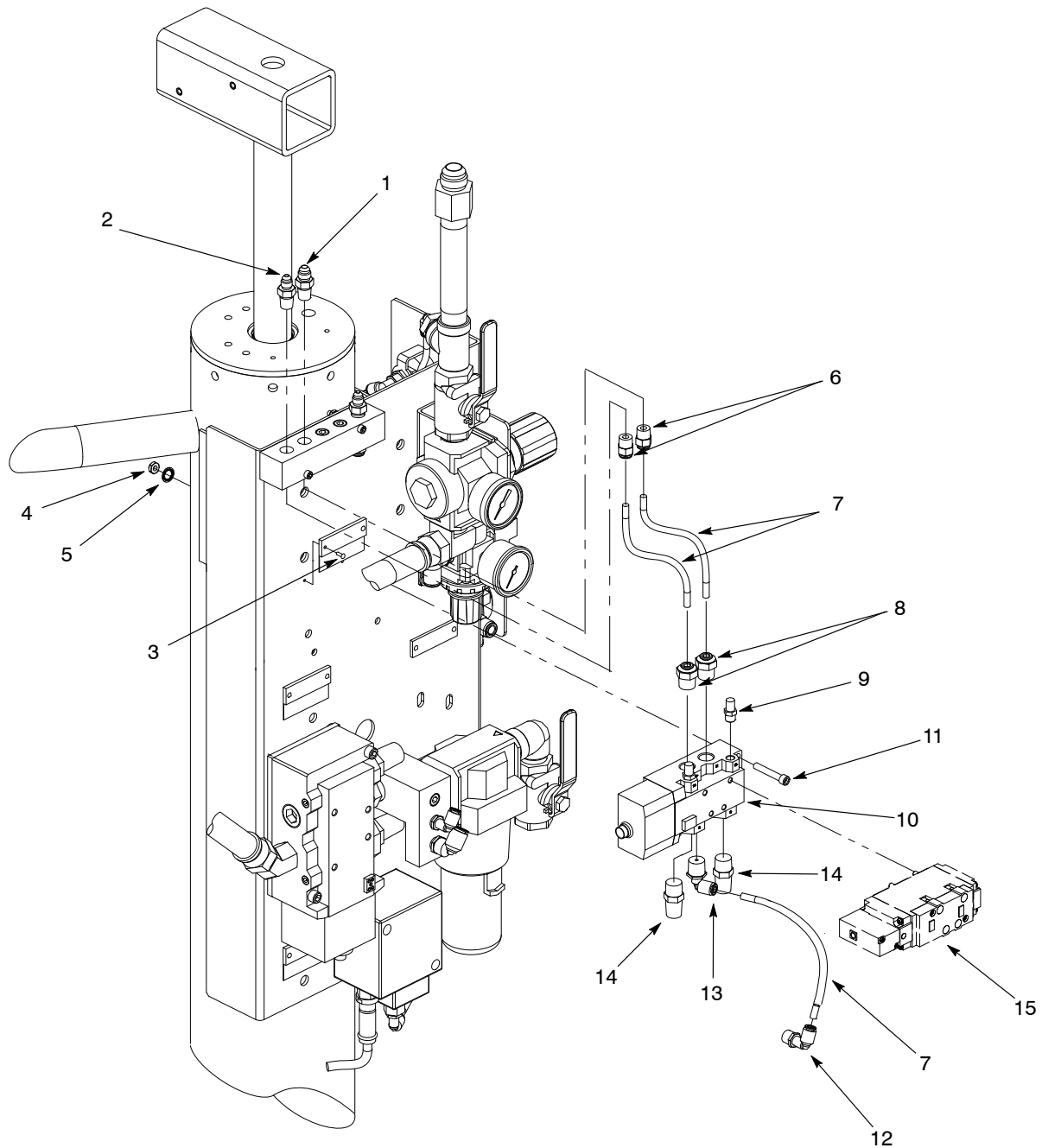


Figure 4 120 Vac ISO 5592/2 Size 1 Valve Base without DeviceNet I/O Cable

Item	Part	Description	Qty	Note
—	1043680	MODULE, depressurization, ISO base, Rhino SD/XD, 120 Vdc, without DeviceNet cable	—	
1	1006226	• CONNECTOR, 37-deg flare, $\frac{5}{16}$ T x $\frac{1}{4}$ NPT	1	
2	972000	• CONNECTOR, male, 37-deg, $\frac{7}{16}$ -20 x $\frac{1}{4}$	1	
3	-----	• SCREW, drive, 4 x 0.312	2	
4	-----	• NUT, hex, heavy, $\frac{1}{4}$ -20, per ISO 4035	2	
5	-----	• WASHER, lock, $\frac{1}{4}$ per ISO 7089	2	
6	971265	• CONNECTOR, male, $\frac{1}{4}$ tube x $\frac{1}{4}$ NPT	2	
7	-----	• TUBING, $\frac{1}{4}$ OD polyethylene, flame resistant	2.08 ft	
8	971672	• CONNECTOR, male, $\frac{1}{4}$ tube x $\frac{3}{8}$ NPT	2	
9	170269	• MUFFLER, exhaust, $\frac{1}{8}$ inch NPT	2	
10	1043426	• BASE, manifold, $\frac{3}{8}$ NPT, 5 port, ISO size 1	1	
11	-----	• SCREW, socket, $\frac{1}{4}$ -20 x 1.750, class 12.9, per ISO 4762	2	
12	971266	• ELBOW, male, 0.25 tube x 0.25 NPT	1	
13	972216	• ELBOW, male, $\frac{1}{4}$ tube x $\frac{3}{8}$ NPT	1	
14	177452	• MUFFLER, exhaust, $\frac{3}{8}$ inch NPTF	2	
15	1046487	VALVE, ISO, size 1, 2-position, 4-way, 120 Vac, SMC	1	A
NOTE A: This part is application specific and not included in the module.				

24 Vdc Automotive 125 Series Valve Base with DeviceNet I/O Block Cable

See Figure 5 and refer to the following parts list.

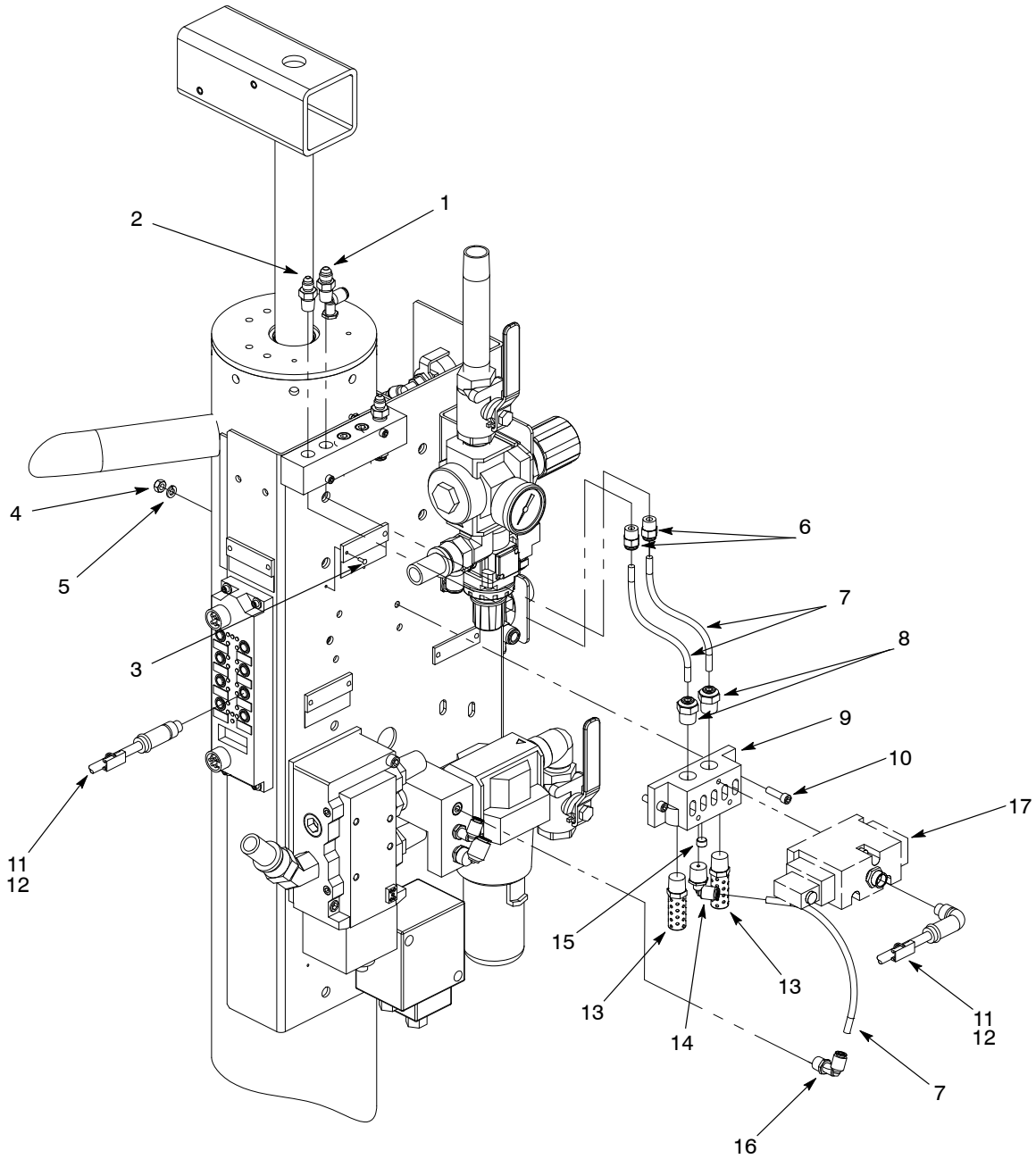


Figure 5 24 Vdc Automotive 125 Series Valve Base with DeviceNet I/O Block Cable

Item	Part	Description	Qty	Note
—	1043681	MODULE, depressurization, automotive 125 Series base, Rhino SD/XD, 24 Vdc, with DeviceNet cable	—	
1	1006226	• CONNECTOR, 37-deg flare, $\frac{5}{16}$ T x $\frac{1}{4}$ NPT	1	
2	972000	• CONNECTOR, male, 37-deg, $\frac{7}{16}$ -20 x $\frac{1}{4}$	1	
3	-----	• SCREW, drive, 4 x 0.312	2	
4	-----	• NUT, hex, heavy, $\frac{1}{4}$ -20, per ISO 7089	2	
5	-----	• WASHER, lock, $\frac{1}{4}$, per ISO 7089	2	
6	971265	• CONNECTOR, male, $\frac{1}{4}$ tube x $\frac{1}{4}$ NPT	2	
7	1010810	• TUBING, $\frac{1}{4}$ OD polyethylene, flame resistant	2.08 ft	
8	971672	• CONNECTOR, male, $\frac{1}{4}$ tube x $\frac{3}{8}$ NPT	2	
9	1602016	• BASE, manifold, $\frac{3}{8}$ NPT, 5 port	1	
10	-----	• SCREW, socket, $\frac{1}{4}$ -20 x 0.875 in., class 12.9, per ISO 4762	2	
11	1045885	• CABLE, 90-deg, Micro DC, 18 AWG, 1m, male/female	1	
12	939110	• STRAP, cable, 0.875 diameter	2	
13	1019099	• MUFFLER, exhaust, $\frac{3}{8}$ inch NPT male	2	
14	972216	• ELBOW, male, $\frac{1}{4}$ tube x $\frac{3}{8}$ NPT	1	
15	973483	• PLUG, pipe, socket, $\frac{1}{8}$ inch	1	
16	971266	• ELBOW, male, 0.25 tube x 0.25 NPT	1	
17	1025059	VALVE, 125 Series, 24 Vdc, 4-pin Micro, Automatic Valve	1	A
17	1025096	VALVE, 125 Series, 24 Vdc, 4-pin Micro, Numatics	1	A
17	1025097	VALVE, 125 Series, 24 Vdc, 4-pin Micro, MAC Valve	1	A
17	1057778	VALVE, 125 Series, 24 Vdc, 4-pin Micro, Parker	1	A
NOTE A: This part is application specific and not included in the module.				

24 Vdc/120 Vac Automotive 125 Series Valve Base without DeviceNet I/O Block Cable

See Figure 6 and refer to the following parts list.

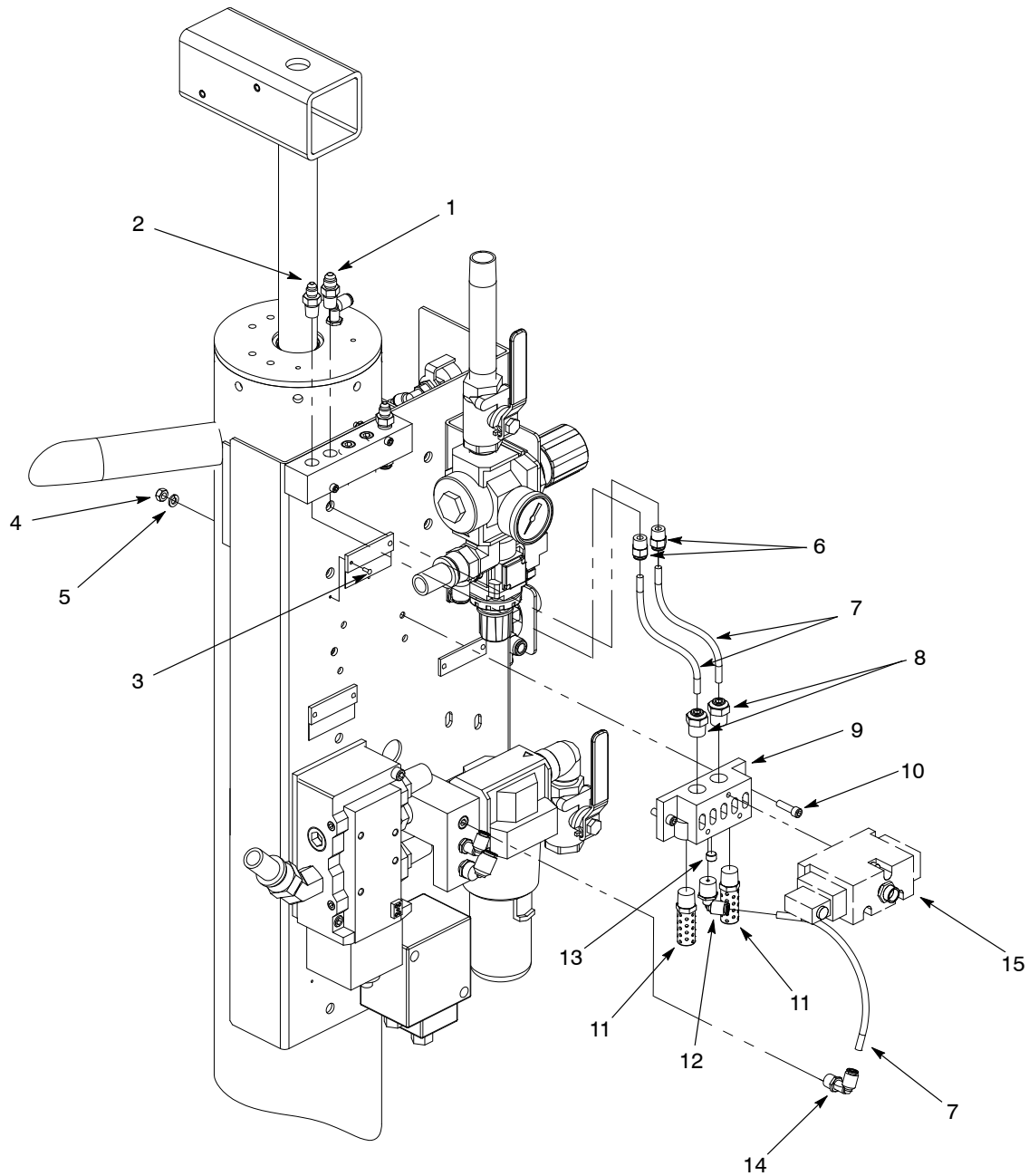


Figure 6 24 Vdc/120 Vac Automotive 125 Series Valve Base without DeviceNet I/O Block Cable

Item	Part	Description	Qty	Note
—	1057289	MODULE, depressurization, Automotive 125 Series base, Rhino SD/XD, 24 Vdc/120 Vac, without DeviceNet	—	
1	1006226	• CONNECTOR, 37-deg flare, $\frac{5}{16}$ T x $\frac{1}{4}$ NPT	1	
2	972000	• CONNECTOR, male, 37-deg, $\frac{7}{16}$ -20 x $\frac{1}{4}$	1	
3	-----	• SCREW, drive, 4 x 0.312	2	
4	-----	• NUT, hex, heavy, $\frac{1}{4}$ -20, per ISO 4035	2	
5	-----	• WASHER, lock, $\frac{1}{4}$, class 12.9, per ISO 7089	2	
6	971265	• CONNECTOR, male, $\frac{1}{4}$ tube x $\frac{1}{4}$ NPT	2	
7	1010810	• TUBING, $\frac{1}{4}$ OD polyethylene, flame resistant	2.08 ft	
8	971672	• CONNECTOR, male, $\frac{1}{4}$ tube x $\frac{3}{8}$ NPT	2	
9	1602016	• BASE, manifold, $\frac{3}{8}$ NPT, 5 port	1	
10	-----	• SCREW, socket, $\frac{1}{4}$ -20 x 0.875 in., class 12.9, per ISO 4762	2	
11	1019099	• MUFFLER, exhaust, $\frac{3}{8}$ inch NPT male	2	
12	972216	• ELBOW, male, $\frac{1}{4}$ tube x $\frac{3}{8}$ NPT	1	
13	973483	• PLUG, pipe, socket, $\frac{1}{8}$ inch	1	
14	971266	• ELBOW, male, 0.25 tube x 0.25 NPT	1	
15	1025059	VALVE, 125 Series, 24 Vdc, 4-pin Micro, Automatic Valve	1	A
15	1025096	VALVE, 125 Series, 24 Vdc, 4-pin Micro, Numatics	1	A
15	1025097	VALVE, 125 Series, 24 Vdc, 4-pin Micro, MAC Valve	1	A
15	1057778	VALVE, 125 Series, 24 Vdc, 4-pin Micro, Parker	1	A
NOTE A: This part is application specific and not included in the module.				

Depressurization Module, G-Port Base

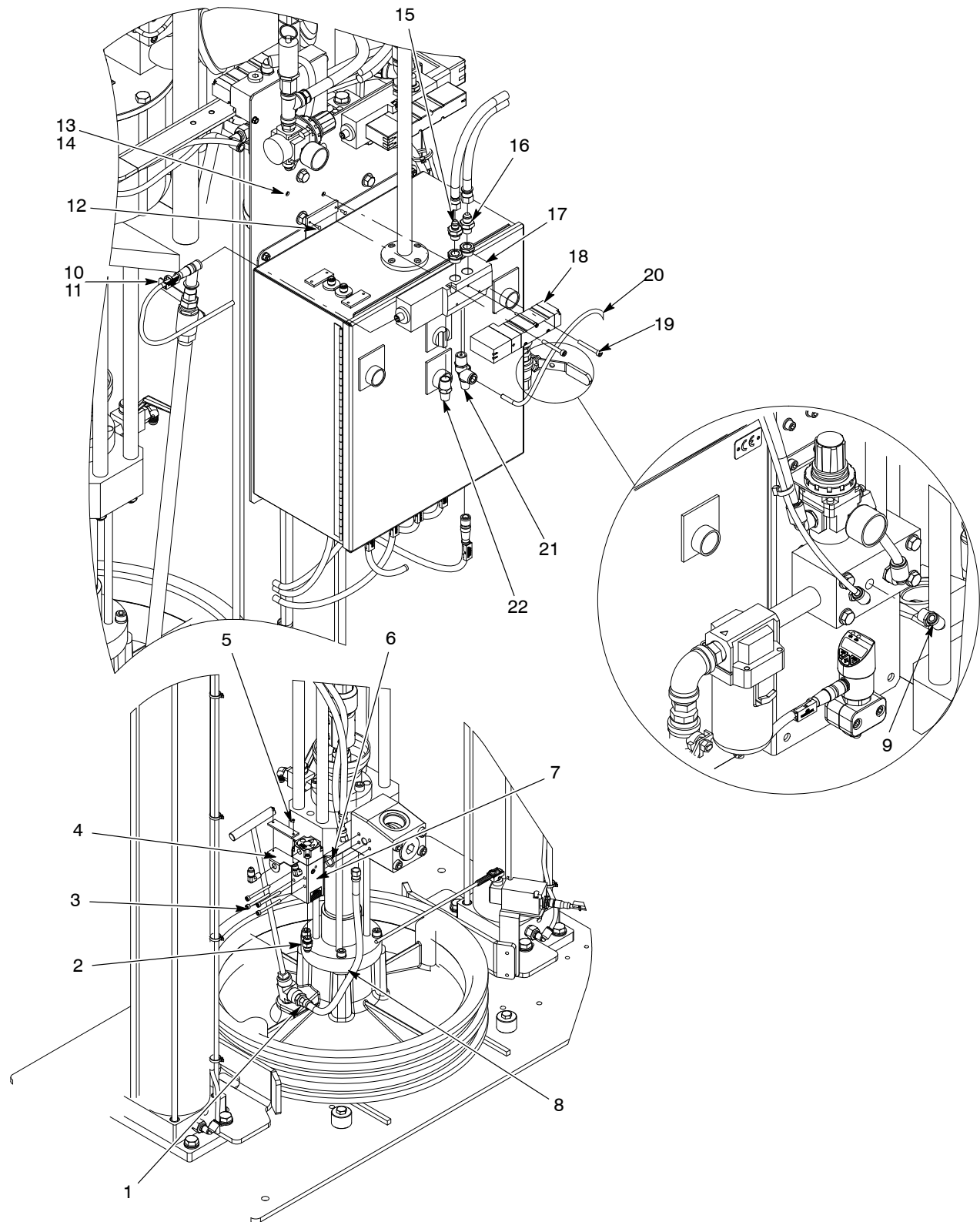


Figure 7 Depressurization Module, G-Port Base

Item	Part	Description	Qty	Note
—	1613462	MODULE, depressurization, G-port base	—	
1	972771	• CONNECTOR, male, 37, 9/16-18 x 1/2, steel	1	
2	972121	• CONNECTOR, 37 hydraulic, 9/16-18, straight thread	1	
3	-----	• SCREW, socket, M5 x 55, black, class 12.9, per ISO 4762	4	
4	-----	• PLATE, label, mounting, 90 degree, 1/8 NPT	1	
5	985112	• RIVET, pop, 3/32 x .250, black oxide	2	
6	941151	• O-RING, Viton [®] , 0.688 x .0875 x 0.094, 10515	1	
7	-----	• VALVE ASSEMBLY, depressurization, Auto-Flo	1	
8	329565	• HOSE, 06-06-06 x 1.5 ft., HP, synthetic, synthetic, H3	1	
9	-----	• ELBOW, male, 6 mm tube x G 1/4	1	
10	939110	• CABLE TIE, 3.9 in., 185 °F/85 °C, nylon, natural	2	
11	1046023	• CABLE ASSEMBLY, 4-conduit, 1 M, male/female, 22 AWG, 250 V	1	
12	-----	• SCREW, drive, round, 4 x 0.312, zinc	2	
13	984706	• NUT, hex, M5, steel, zinc	2	
14	983401	• WASHER, lock, M, SPT, M5, steel, zinc	2	
15	-----	• CONNECTOR, male, 37, 7/16-20 x 3/8 G	1	
16	-----	• CONNECTOR, male, 37, 1/2-20 x 3/8 G	1	
17	-----	• BASE, manifold, G 3/8, 5, port, VQ4000	1	
18	-----	• VALVE, 2-position, 4-way, 24 VDC, VQC4000	1	
19	982374	• SCREW, socket, M5 x 40, black, class 12.9, per ISO 4762	2	
20	1082731	• TUBING, 6 mm, nylon, blue, flame resistant	4	
21	-----	• ELBOW, male, 6 mm tube x G 3/8	1	
22	-----	• MUFFLER, R 3/8	2	
NS: Not Shown				

Depressurization Module, Heated

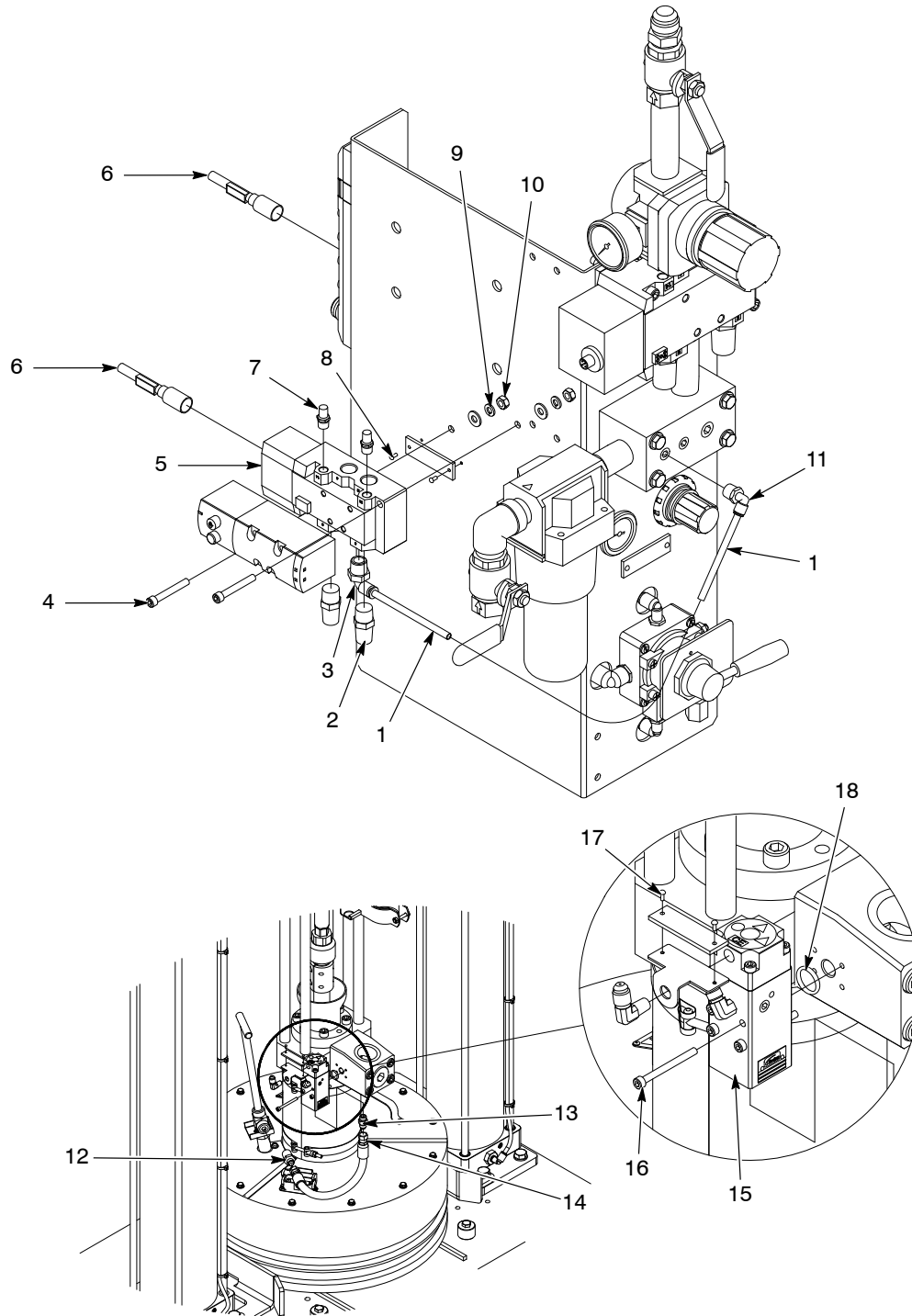


Figure 8 Depressurization Module, G-Port Base

Item	Part	Description	Qty	Note
—	1614627	MODULE, depressurization, Rhino SD2, heated	—	
1	-----	• TUBING, ¼ OD polyethylene, flame resistant	1.5 ft	
2	177452	• MUFFLER, exhaust, ¾ in. NPTF	2	
3	972216	• ELBOW, male, ¼ tube x ¾ NPT	1	
4	-----	• SCREW, socket, ¼-20 x 1.750, zinc, class 12.9, per ISO 4762	2	
5	-----	• BASE, manifold, ¾ NPT, 5 port, ISO size 1	1	
6	1044825	• CABLE, 4-pin micro DC, 22 AWG, 0.5 M, male/female	2	
	939110	• CABLE TIE, 3.9 in., 185 °F/85 °C, nylon, natural	2	
7	170269	• MUFFLER, exhaust, ½ in. NPT	2	
8	-----	• SCREW, drive, round, 4 x 0.312, zinc	2	
9	-----	• WASHER, lock, E, split, ¼, steel, zinc	2	
10	-----	• NUT, hex, heavy, ¼-20, steel, zinc	2	
11	971266	• ELBOW, male, 0.25 tube x 0.25 NPT	1	
12	972771	• CONNECTOR, male, 37, 9/16-18 x ½, steel	1	
13	972121	• CONNECTOR, 37 hydraulic, 9/16-18, straight thread	1	
14	329565	• HOSE, 06-06-06 x 1.5 ft, HP, synthetic, synthetic, H3	1	
15	1613977	• VALVE ASSEMBLY, depressurization, Auto-Flo II	1	
16	-----	• SCREW, socket, M5 x 55, black	4	
17	985112	• RIVET, pop, 3/32 x 0.250, black oxide	2	
18	941151	• O-RING, Viton, 0.688 x 0.875 x 0.094, 10515	1	
NS: Not Shown				

Consumables

Sealant, adhesives, and lubricants to use where instructed.

Item	Part	Application
Pipe/thread/hydraulic sealant PST	900481	Apply to threads of applicable parts.
Parker O-ring lubricant	1612251	Apply to applicable O-rings.
Mobil SHC™ 624 lubricant	1609570	Apply to applicable O-rings.

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