

Rhino® SD3/XD3 Automatic Shutdown (ASD) to Automatic Crossover (ACO) Conversion Kit

Description



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

The Rhino® automatic shutdown (ASD) to automatic crossover (ACO) conversion kit connects two Rhino unloaders. When one unloader fully empties its container, the ACO control valve shuts off that unloader's air motor and turns on the air motor to a second unloader.

Installation

Pneumatic Control Module Cover Removal



WARNING: Shut-off all air and lock out air supply before beginning installation.

See Figure 1.

1. Loosen the regulator nuts (4).
2. Remove the elevator control valve handle (3).
3. Remove the elevator control valve nut (2).
4. Remove the cover (1) from the control module (5).

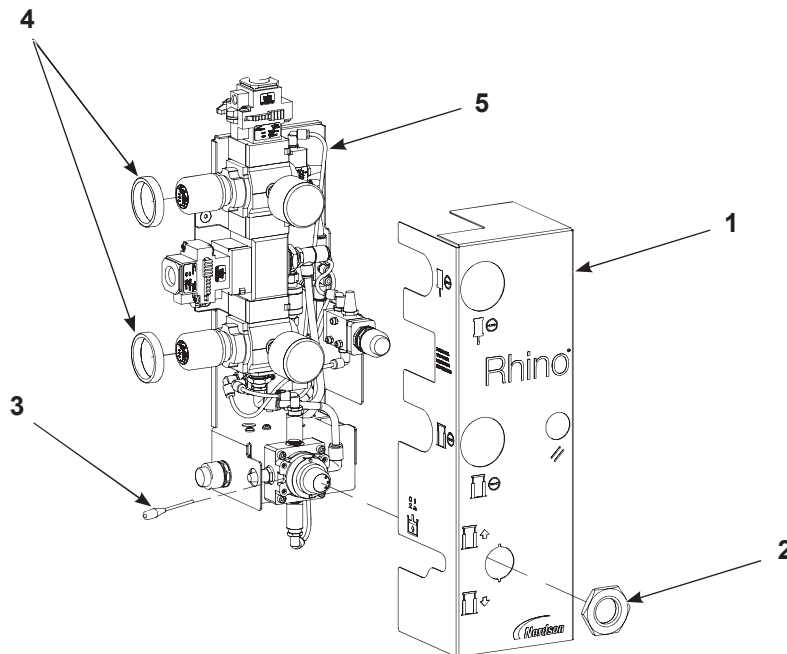


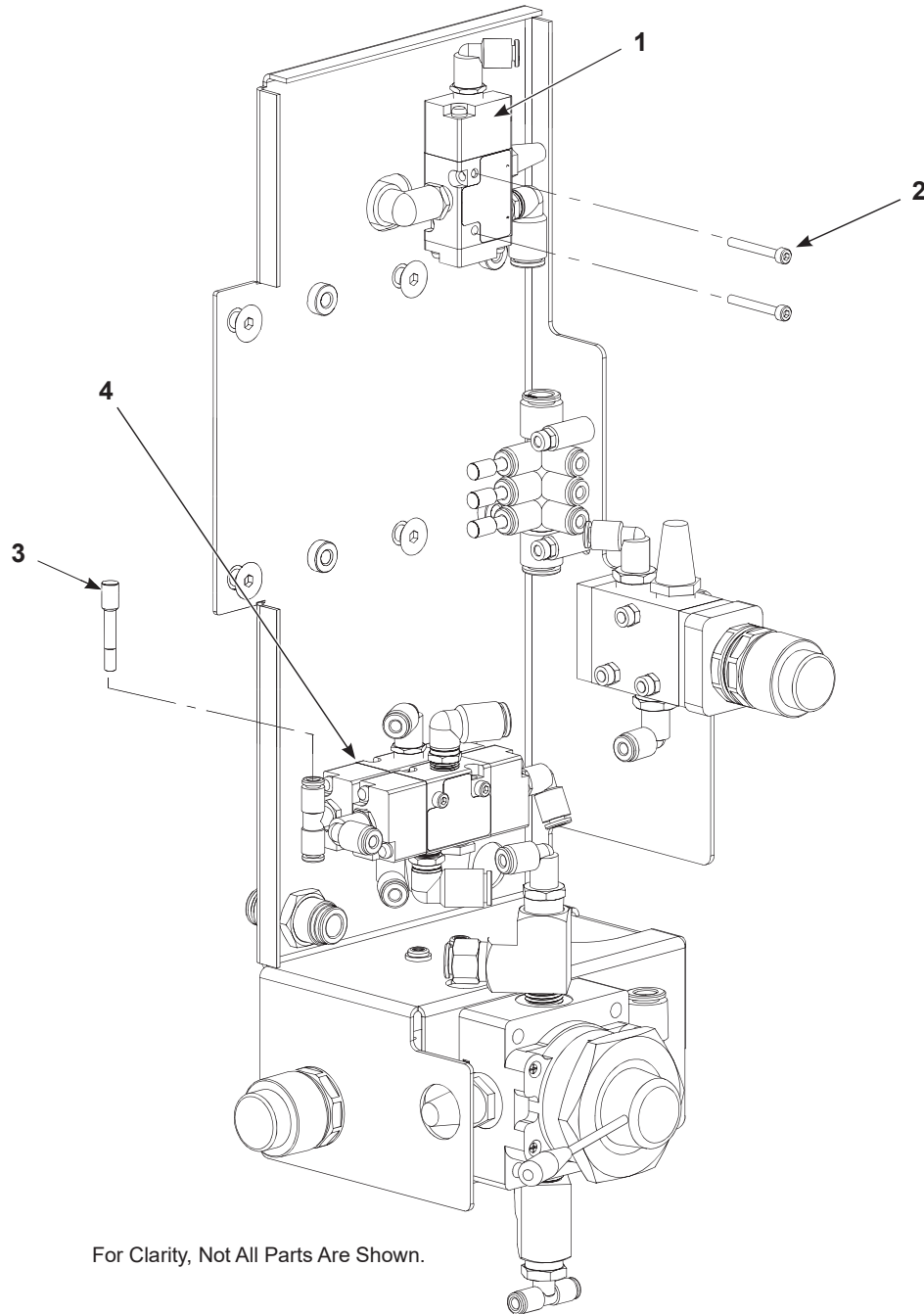
Figure 1 Pneumatic Control Module Cover - Removal

- | | | |
|-------------------------------|----------------------------------|-------------------|
| 1. Cover | 3. Elevator control valve handle | 5. Control module |
| 2. Elevator control valve nut | 4. Regulator nut | |

ACO Conversion Kit Installation

See Figure 2.

1. Remove the plug (3) from the memory valve (4).
2. Remove and discard the two screws (2) from the air motor control valve (1).



For Clarity, Not All Parts Are Shown.

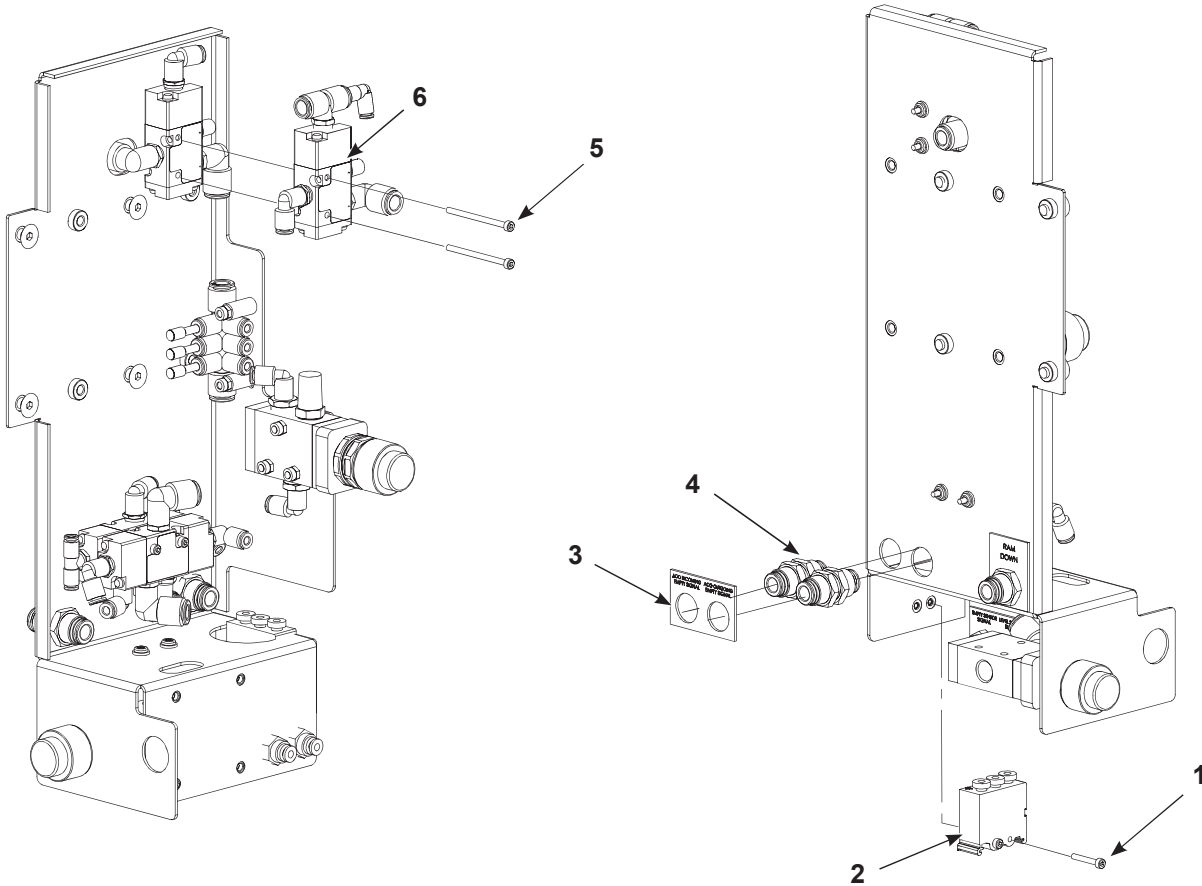
Figure 2 ACO Conversion Kit Installation

- | | |
|----------------------------|-----------------|
| 1. Air motor control valve | 3. Plug |
| 2. Screw | 4. Memory valve |

ACO Valve Installation

See Figure 3.

1. Install the ACO control valve (6) using two screws (5).
2. Install the logic shuttle valve (2) using two screws (1).
3. Install the label (3).
4. Install the two bulkheads (4a/4b).



For Clarity, Not All Parts Are Shown.

Figure 3 ACO Valve Installation

- | | | |
|------------------------|-------------------------------------|----------------------|
| 1. Screw (M3 x 20 mm) | 4a. Bulkhead fitting (ACO incoming) | 6. ACO control valve |
| 2. Logic shuttle valve | 4b. Bulkhead fitting (ACO outgoing) | |
| 3. Label | 5. Screw (M3 x 45 mm) | |

Tubing Installation

See Figure 4 and refer to Figure 3.

1. See Figure 4. Completely remove the 4 mm tube routed to port 27 (14) of the memory valve (13).
2. Route a new 4 mm tube from port 27 (14) of the memory valve (13) to port 27 (6) of the logic shuttle valve (4).
3. Route the tube removed in step 1, from port 28 (1) of the air motor control valve (17) to port 28 (7) of the logic shuttle valve (4).
4. Remove the 4 mm tube routed to port 29 (10) of the reset valve (9).
5. Route a new 4 mm tube from port 29 (10) of the reset valve (9) to port 29 (8) of the logic shuttle valve (4).
6. Remove the 4 mm tube routed to port 30 (5) of the memory valve (13).
7. Route a new 4 mm tube from port 30 (5) of the memory valve (13) to port 30 (15) of the ACO control valve (16).
8. Install a new 4 mm tube from port 32 (2) of the ACO control valve (16) to port 32 (12) of the memory valve (13).
9. See Figure 4 and refer to Figure 3. Install a new 8 mm tube to port 33 (18) of the ACO control valve (16) and connect the opposing end to the bulkhead fitting [(ACO outgoing)(4b)].
10. See Figure 4 and refer to Figure 3. Install a new 8 mm tube to port 31 (3) of the ACO control valve (16) and connect the opposing end to the bulkhead fitting [(ACO incoming)(4a)].

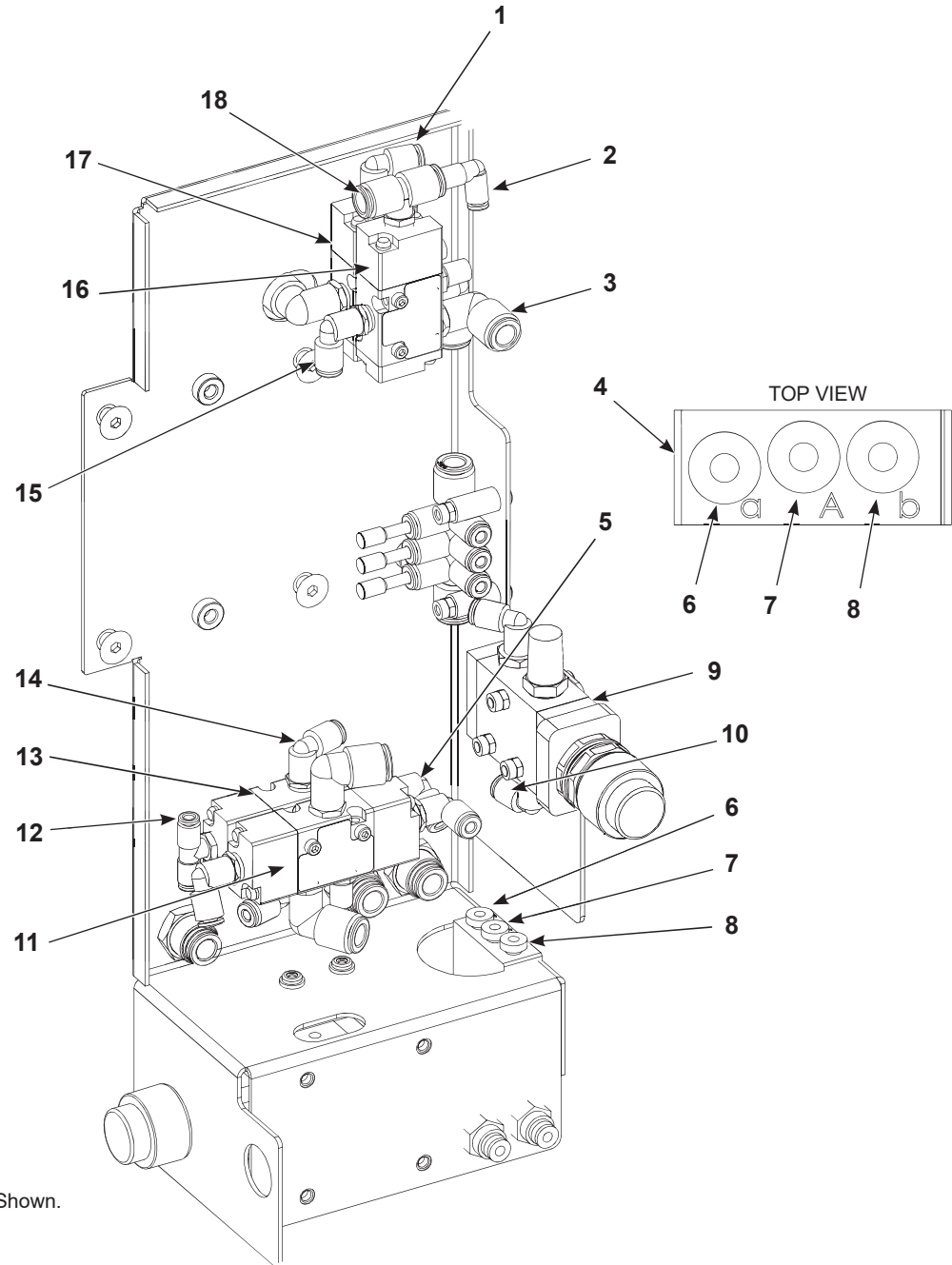


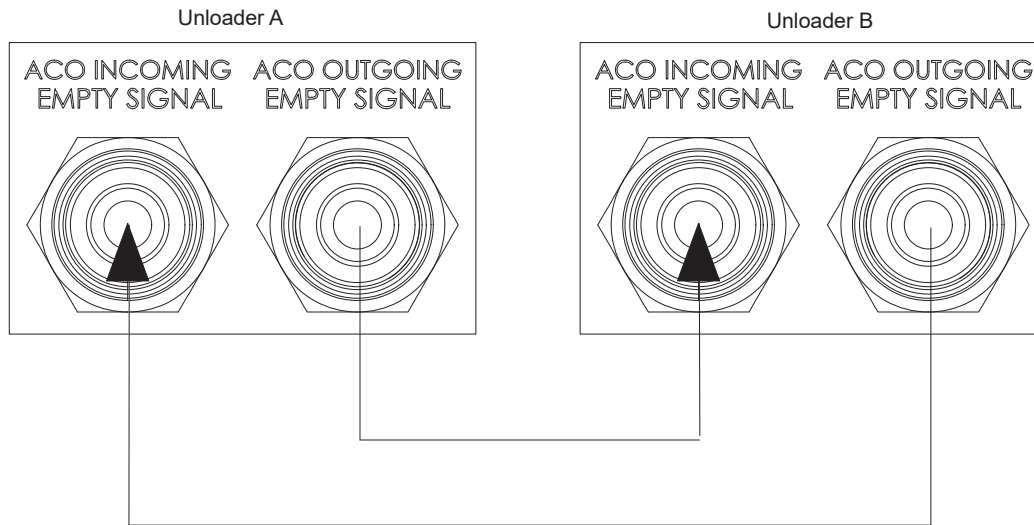
Figure 4 Tubing Installation

- | | | |
|--------------------------------------|----------------------------------|---------------------------------|
| 1. Port 28 (Air motor control valve) | 7. Port 28 (logic shuttle valve) | 13. Memory valve |
| 2. Port 32 (ACO control valve) | 8. Port 29 (logic shuttle valve) | 14. Port 27 (memory valve) |
| 3. Port 31 (ACO control valve) | 9. Reset valve | 15. Port 30 (ACO control valve) |
| 4. Logic shuttle valve | 10. Port 29 (reset valve) | 16. ACO control valve |
| 5. Port 30 (memory valve) | 11. Blow-off control valve | 17. Air motor control valve |
| 6. Port 27 (logic shuttle valve) | 12. Port 32 (memory valve) | 18. Port 33 (ACO control valve) |

Unloader Connections

See Figure 5.

1. Using 8 mm tubing, connect the ACO Outgoing Empty Signal port of unloader A to the ACO Incoming Empty Signal of unloader B.
2. Using 8 mm tubing, connect the ACO Outgoing Empty Signal port of unloader B to the ACO Incoming Empty Signal of unloader A.



For Clarity, Not All Parts Are Shown.

Figure 5 Unloader Connections

Parts

To order parts, contact Nordson customer support at (800) 433-9319 or contact a local Nordson representative.

ASD to ACO Conversion Kit

See Figure 6 and refer to the following parts list.

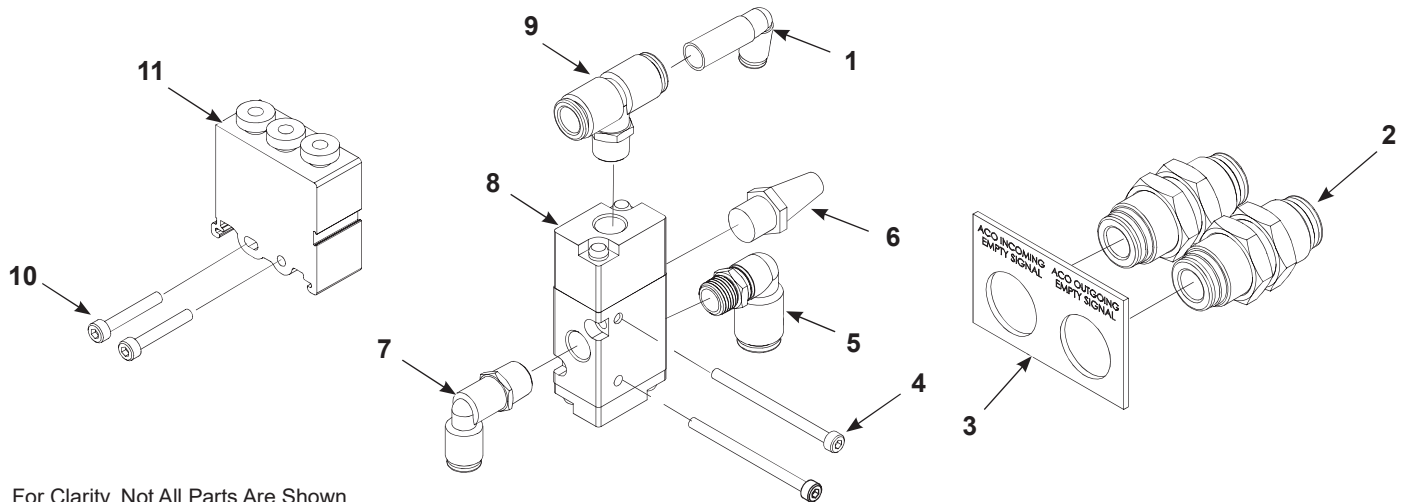


Figure 6 ASD to ACO Conversion Kit

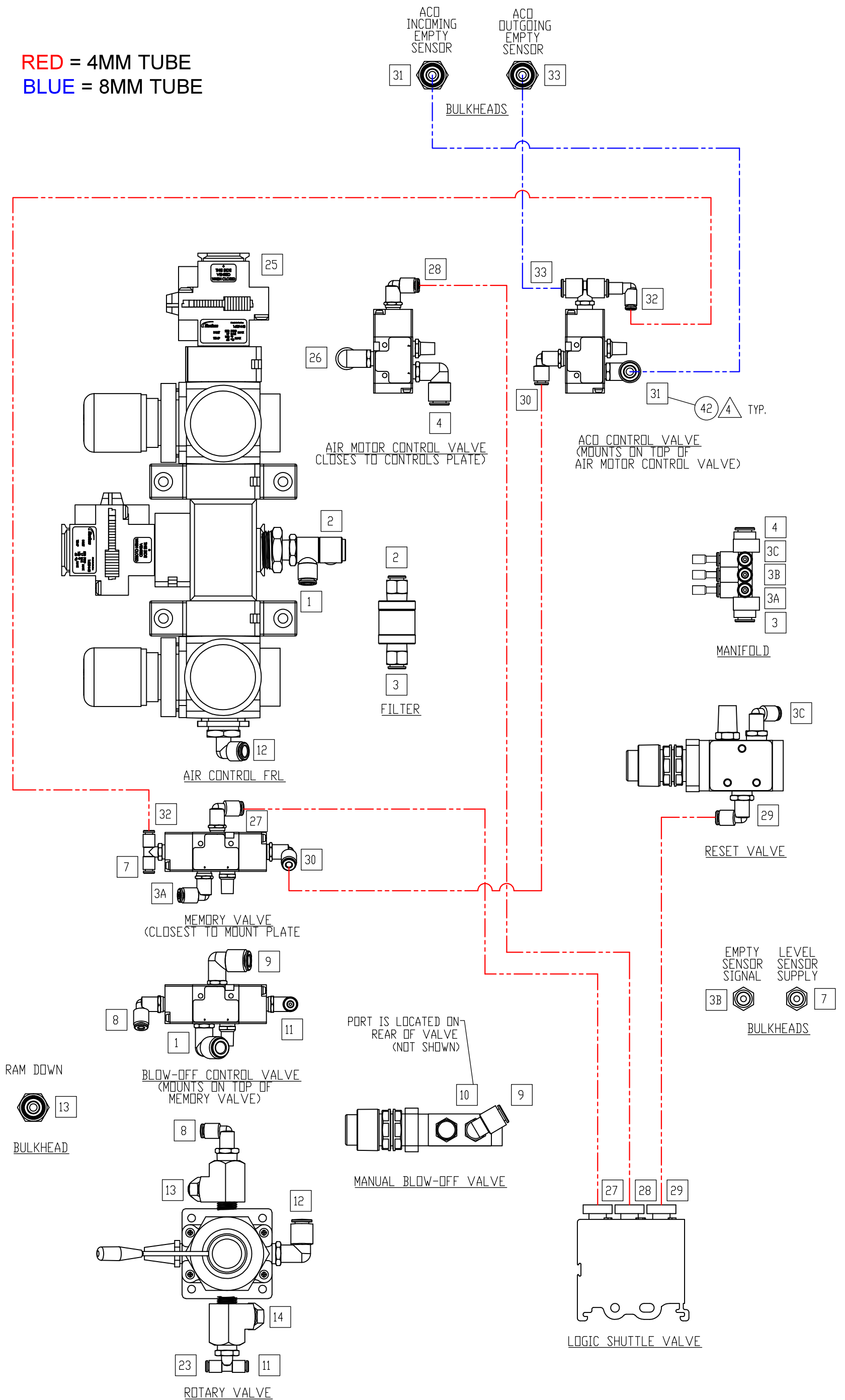
Item	Description	Quantity
1610920 - KIT, control, ASD to ACO conversion, R73G		1
1	• ELBOW, plug-in, 4-mm tube x 8-mm stem, plastic	1
2	• CONNECTOR, bulkhead, 8-mm T x 8-mm T, flame-retardant	2
3	• LABEL, signal, ACO	1
4	• SCREW, socket, M3 x 45 mm long, zinc, Class 12.9, per ISO 4762	2
5	• ELBOW, male, 4-mm tube x R 1/8	1
6	• MUFFLER, exhaust, R 1/8	1
7	• ELBOW, male, 8-mm tube x R 1/8	1
8	• VALVE, air, 3/2-way, R 1/8, normally open	1
9	• TEE, male, 8-mm tube x R 1/8	1
10	• SCREW, socket head, M3 x 20-mm long, steel, zinc, Class 12.9, per ISO 4762	2
11	• VALVE, pneumatic, logic, element, 3-port	1
NS	• TUBING, polyurethane, 4-mm OD, black	3.9 ft (1.2 m)
NS	• TUBING, polyurethane, 8-mm OD, black	59.1 ft (18.0 m)
NS	• ADHESIVE, pipe/thread/hydraulic sealant	AR
AR: As Required		
NS: Not Shown		

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RED = 4MM TUBE
BLUE = 8MM TUBE



10023541 - RHINO ASD-ACO CONVERSION SCHEM
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REV 01, 4/24/25, ECO CM-107939