

A7A Stainless Steel Valve



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

1. Description



WARNING: System or material pressurized. Relieve pressure. Failure to observe may result in serious burns.

See Figure 1. The valve is a compact stainless steel airless spray valve. It may be used in a wide variety of applications, most specifically as a component of the CanWorks manifold assembly.

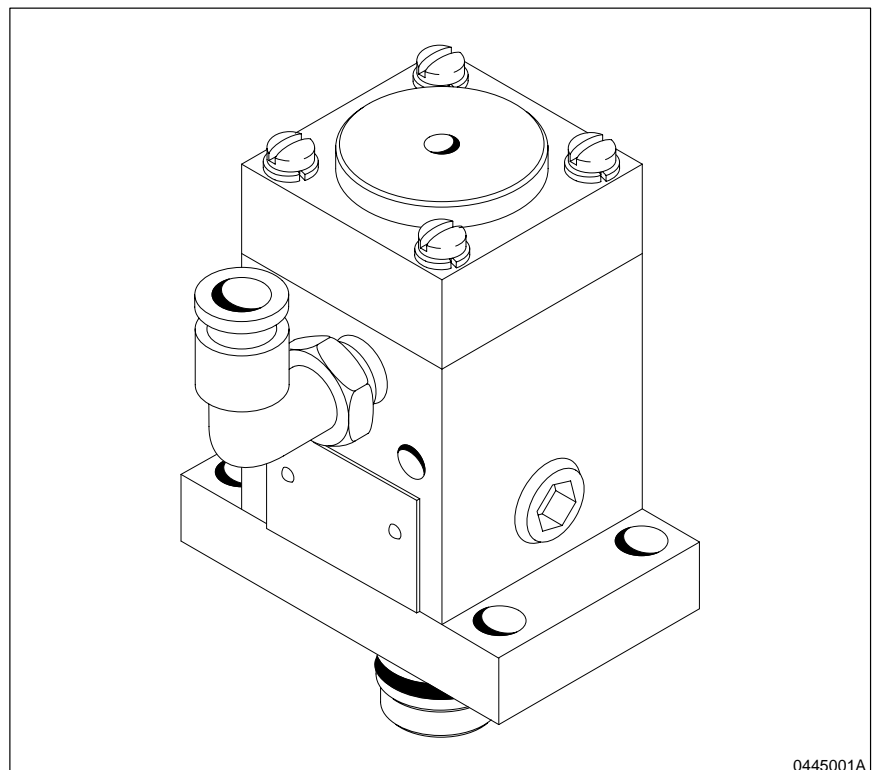
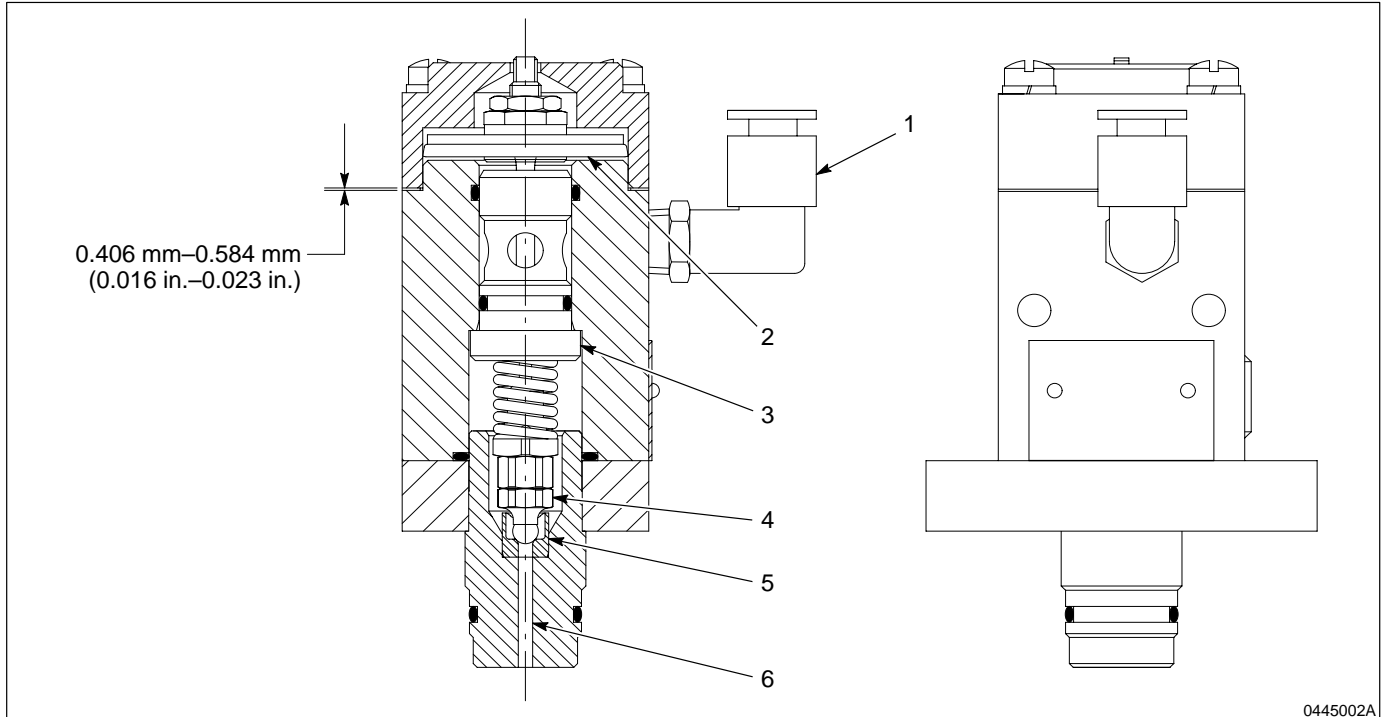


Fig. 1 A7A Stainless Steel Valve

Theory of Operation

See Figure 2. When the valve is actuated, air enters at the air input (1). This air lifts the piston/locknut assembly (2), and allows the packing cartridge (3) and the ball tip (4) to rise. The coating material passes through the opening in the seat (5), and exits the port (6). When the air pressure is removed, the ball tip (4) returns to the seat (5) and stops the flow of coating material.



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Fig. 2 Valve Operation

- | | | |
|----------------------------|----------------------|---------|
| 1. Air input | 3. Packing cartridge | 5. Seat |
| 2. Piston/locknut assembly | 4. Ball tip | 6. Port |

2. Installation

See Figure 3. To install the valve, perform the following steps:

1. Apply lubricant to the O-ring (20).
2. Insert the valve into the manifold assembly.
3. Tighten the socket screws (19).
4. Install pneumatic line to air inlet (12).
5. Connect fluid tubing to fluid inlet (11) or insert the pipe plug (14).

3. Repair

NOTE If possible, flush the valve with clean solvent before removing the valve from the system.

Disassembly

1. Remove both the fluid and air pressure to the valve.
2. Remove the A7A valve from the manifold assembly.
3. See Figure 3. Remove the screws (1), lockwashers (2), and cylinder (3) from the gun body (13).
4. Remove the gasket (4) from the gun body (13).
5. Remove the locknut (5).
6. Remove the seal nut (8).
7. Remove the screws (19) attaching the valve adapter (18) to the gun body (13).
8. Pull the valve adapter (18) and O-ring (11) from the gun body (13).
9. Remove the packing cartridge (15) with the ball tip (16) by pushing at the air cylinder end.
10. Check the ball tip (16) for wear or scoring, and replace the ball tip if necessary.
11. Check the packing cartridge (15) and O-ring (11). Replace the packing cartridge or O-ring if necessary.

Assembly

1. See Figure 3. After coating the packing cartridge (15) with a small amount of non-detergent grease, install the packing cartridge.
2. Install the valve adapter (18). Tighten the screws (19) evenly to compress the packing cartridge spring.
3. Insert the seal nut (8) and O-ring (9) into the piston disc (10).
4. Screw the piston/locknut assembly (7) into the packing cartridge (15) clockwise until it rests against the gun body (13).
5. Screw the piston/locknut assembly (7) counterclockwise $\frac{3}{4}$ until a 0.41 to 0.58-mm (0.016 to 0.023-in.) gap exists between the piston and the gun body (13).
6. Hold the piston/locknut assembly (7), and lock it into place with the locknut (5) and thread locking compound.

4. Parts

See Figure 3. If you need assistance when ordering parts, contact your Nordson Corporation representative.

Item	Part	Description	Quantity	Note
—	334 867	Valve assembly, A7A, stainless steel	1	
—	-----	• Valve assembly, A7A, stainless steel	1	
1	981 140	• • Screw, fillister-head, #10-32 x 1.00, slotted, zinc	4	
2	983 120	• • Lockwasher, external, split, #10, steel, nickel	4	
3	153 028	• • Cylinder	1	
4	153 031	• • Gasket, gun, H20	1	A
5	984 539	• • Locknut, #10-32, upper	1	A
6	900 424	• • Compound, thread lock, VC-3	AR	
7	-----	• • Piston, locknut, assembly	1	A
8	240 274	• • •Nut, seal, lock	1	A
9	940 090	• • •O-ring, Viton, 0.208 ID x 0.070 in. wide, brown	1	A
10	-----	• • •Disc, piston	2	

NOTE A: This part is also available in the A7A Piston with seals repair kit, part 106 230.

AR: As Required

Continued on next page

Item	Part	Description	Quantity	Note
NS	-----	• • • Retainer, piston	1	
NS	-----	• • • Seal, piston	1	
11	940 159	• • O-ring, EPR, 0.563 x 0.688 x 0.063 in.	2	B, C
12	972 119	• • Elbow, male, 1/4 tube x 1/8 NPT	1	
13	-----	• • Body, gun	1	
14	900 784	• • Cap/plug, tapered, 0.485 OD	1	
15	170 497	• • Cartridge, packing, stainless steel, EPR	1	
NS	330 438	• • Plate, adapter, valve	1	B
16	-----	• • • Tip, ball	1	B
NS	-----	• • • Seat, cartridge	1	B
17	940 176	• • • O-ring, EPR, 0.688 x 0.813 x 0.063 in.	1	A, B, C
18	-----	• • Adapter, valve	1	
19	981 893	• • Screw, socket head, #10-32 x 0.500, zinc	4	
20	940 159	• • O-ring, EPR, 0.563 x 0.688 x 0.063 in.	2	B, C
NS	900 755	• • Cap/plug, tapered, 0.788 OD	1	
NS	900 481	• • Adhesive, pipe/thread/hydraulic sealant	AR	
NS	703 191	• • Plug, pipe, socket, flush, stainless steel, 1/4 in.	1	D
NS	981 800	• • Screw, drive, round, 0 x 0.125 in., zinc	2	
NS	900 223	• • Lubricant, O-ring, Parker, 4 oz	AR	
NS	152 999	• Wrench	1	

NOTE A: This part is also available in the A7A Piston with seals repair kit, part 106 230.

B: This part is also available in the seat assembly service kit, part 330 242.

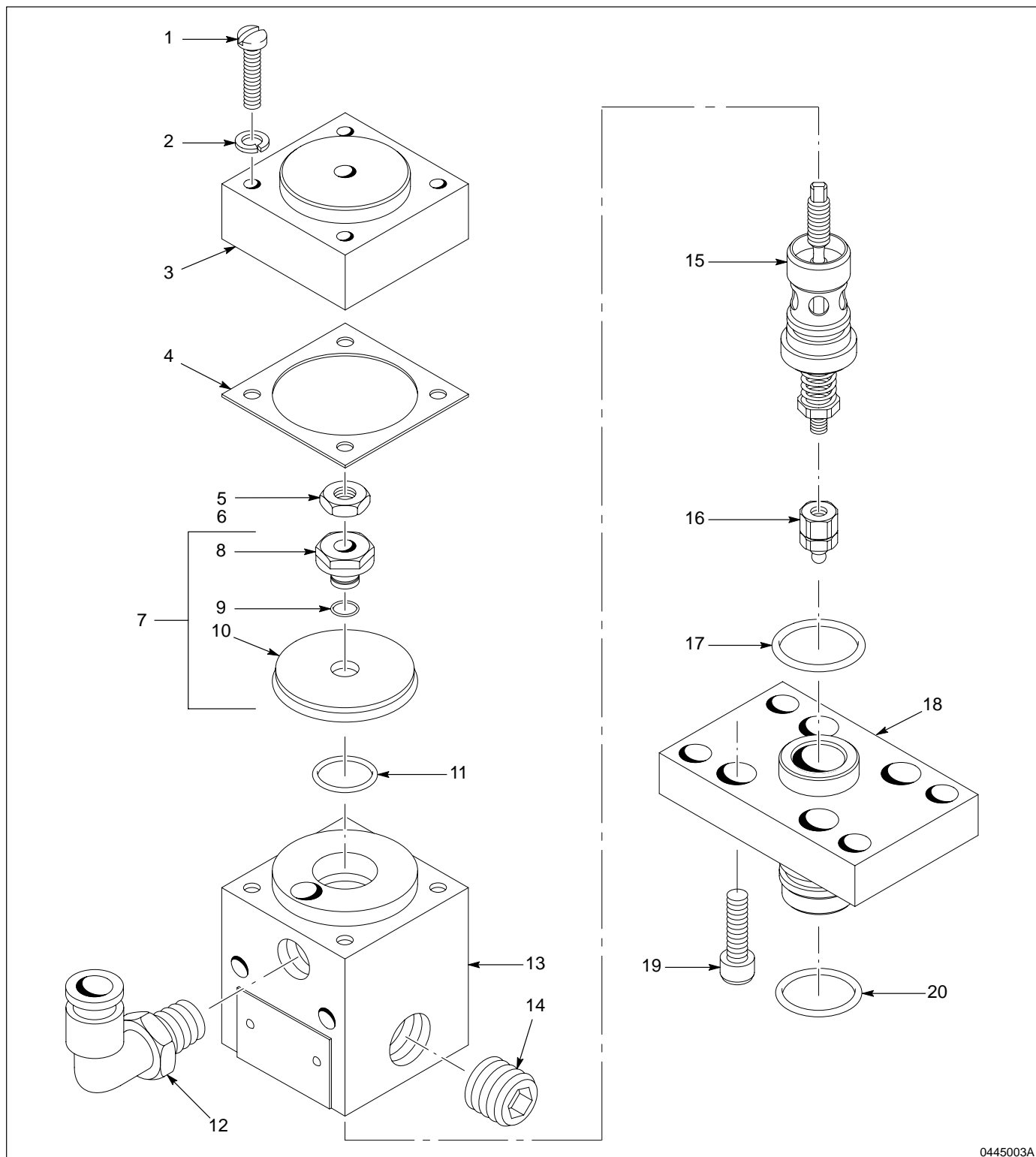
C: This part is also available in the A7A valve EPR soft goods service kit, part 334 877.

D: This is a special-order part. Contact your Nordson Corporation representative for more information.

AR: As Required

NS: Not Shown

Parts (contd.)



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Fig. 3 Exploded View of the A7A Stainless Steel Valve

Service Kits

See Figure 3.

Seat Assembly

Item	Part	Description	Quantity	Note
—	330 242	Service kit, seat assembly	1	
11	940 159	• O-ring, EPR, 0.563 x 0.688 x 0.063 in.	2	
NS	-----	• Seat, valve	1	
16	-----	• • Tip, ball	1	
NS	-----	• • Seat, cartridge	1	
18	-----	• • Adapter, valve	1	
17	940 176	• O-ring, EPR, 0.688 x 0.813 x 0.063 in.	1	

NS: Not Shown

A7A Piston with Seals

Item	Part	Description	Quantity	Note
—	106 230	Service kit, piston with seals, A7A	1	
4	153 031	• Gasket, gun, H20	1	
NS	153 022	• Piston, assembly, H20	1	
7	-----	• • Piston, locknut, assembly	1	
8	240 274	• • •Nut, seal, lock	1	
9	940 090	• • O-ring, Viton, 0.208 ID x 0.070 in. wide, brown	1	
5	984 539	• • Locknut, #10-32, upper	1	
11	940 159	• O-ring, EPR, 0.563 x 0.688 x 0.063 in.	2	
18	940 176	• O-ring, EPR, 0.688 x 0.813 x 0.063 in.	1	

NS: Not Shown

A7A Valve EPR Soft Goods

Item	Part	Description	Quantity	Note
NS	334 877	Kit, soft goods, A7A valve, EPR	1	
11	940 159	• O-ring, EPR, 0.563 x 0.688 x 0.063 in.	2	
NS	940 136	• O-ring, EPR, 0.438 x 0.563 x 0.063 in.	1	
17	940 176	• O-ring, EPR, 0.688 x 0.813 x 0.063 in.	1	
NS: Not Shown				

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