

NHR-X-X Feed Hoppers



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



WARNING: Wear an approved respirator, protective clothing, and gloves when handling powder. Avoid skin contact with powder coating or breathing powder particles.

Description

This instruction sheet provides specifications; installation and operation instructions; and parts lists for the following hoppers:

- NHR-2-25
- NHR-2-50
- NHR-2-80
- NHR-8-80

The hoppers are shipped fully assembled, with lids that include pump adapter and pickup tube assemblies, vent tubes, and hopper fill plug. Powder pumps are sold separately or are included in configured systems.

Specifications

	NHR-2-25	NHR-2-50	NHR-2-80	NHR-8-80
Powder Capacity:	11 kg (25 lb)	23 kg (50 lb)	36 kg (80 lb)	36 kg (80 lb)
*Pump Knockouts:	2	2	2	8
*Pump Adapters Included:	1	1	1	2
Dimensions				
Height:	43 cm (17 in.)	62 cm (24.5 in.)	86 cm (33.8 in.)	86 cm (33.8 in.)
Diameter:	40.00 cm (15.75 in.)	40.00 cm (15.75 in.)	40.00 cm (15.75 in.)	40.00 cm (15.75 in.)
Weight (Empty):	8 kg (18 lb)	9.5 kg (21 lb)	11.5 kg (26 lb)	11.5 kg (26 lb)
**Weight (Full to Capacity):	19.5 kg (43 lb)	32.5 kg (71 lb)	47.5 kg (106 lb)	47.5 kg (106 lb)
Operating Fluidizing Pressure:	0.1–0.6 bar (2–8 psi)	0.1–0.6 bar (2–8 psi)	0.1–0.6 bar (2–8 psi)	0.1–0.6 bar (2–8 psi)
Fluidizing Air Tubing:	10-mm OD	10-mm OD	10-mm OD	10 mm-OD
*Pumps and additional adapters must be ordered separately.				
**Weight may vary depending on type of powder.				

Installation

Hopper Body Installation

See Figure 1.

1. When assembling the body (1) on the fluidizing drum (4), make sure the body is centered on the gasket (2). Verify that there are equal amounts of the gasket exposed along the edge of the body. If exposed gasket is not equally distributed, reposition the body.
2. Lock the body (1) in place by clamping clamps A and C down together. Then, repeat for clamps B and D.
3. Re-verify that the gasket (2) is exposed equally along the inside edge of the body (1).

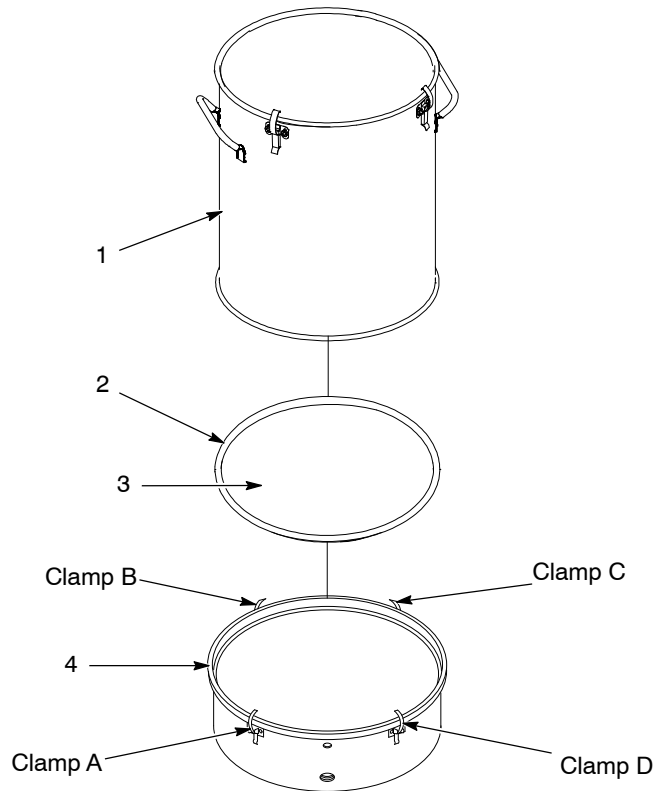


Figure 1 Hopper Body Installation

- | | |
|-----------|---------------------|
| 1. Body | 3. Fluidizing plate |
| 2. Gasket | 4. Drum |

Basic Installation and Connections

These hoppers are used primarily with Nordson powder spray handguns and control units mounted on two-wheeled dollies. The gun control units include controls for fluidizing, atomizing, and flow rate air.

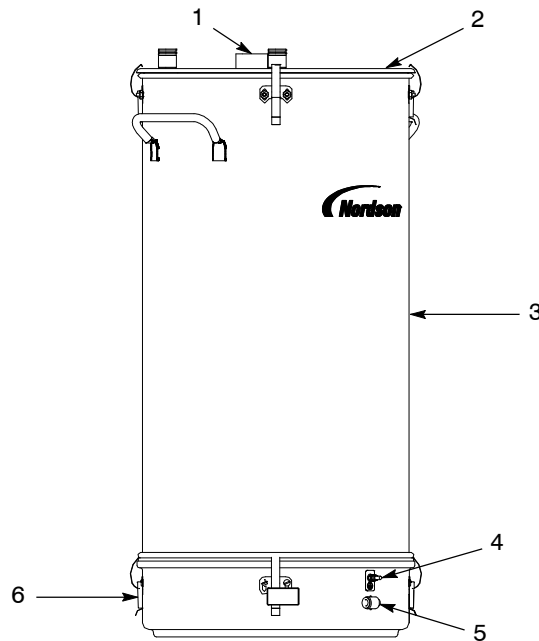
See Figure 2.

1. Make sure the fluidizing drum (6) and lid (2) are securely clamped to the body (3), and that all gaskets are undamaged and sealing properly.
2. Connect 10-mm flexible air tubing to the fitting labeled AUX on the rear or side of the control unit, or another source of regulated fluidizing air. Connect the opposite end of the tubing to the fluidizing air connector (5).



WARNING: All electrically conductive equipment in the spray area must be grounded. Ungrounded or poorly grounded equipment can store an electrostatic charge which can give personnel a severe shock or arc and cause a fire or explosion.

3. Connect the ground wire shipped with the hopper from a true earth ground to the ground stud (4).
4. Make sure the pump adapter O-rings are installed correctly in the adapter grooves. Install the pump on the adapter with a slight twisting motion.
5. Connect the flexible vent hose shipped with the hopper to the vent hose adapter (1). Secure the hose to the adapter with a hose clamp. Connect the other end of the hose to the booth powder collector to prevent vented powder from contaminating the room air.



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Figure 2 NHR-X-X Feed Hoppers

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|----------------------|-----------------------------|
| 1. Vent hose adapter | 4. Ground stud |
| 2. Lid | 5. Fluidizing air connector |
| 3. Body | 6. Fluidizing drum |

Installing Additional Pumps

If you wish to install additional pumps, you must order a pump adapter for each pump. The adapter must be installed in a hole in the lid. If you have a NHR-2-80 hopper, you can order the NHR-8-80 lid, which has eight holes in it, or you can knock out additional holes. No more than eight pumps can be installed, due to space limitations.

Operation



WARNING: Wear an approved respirator, protective clothing, and gloves when handling powder. Avoid skin contact with powder coatings, or breathing powder particles.

1. Verify that the hopper has been properly grounded.
2. Fill the hopper half full of powder, to provide room for expansion as the powder is fluidized. Do not overfill. Overfilling may prevent powder from being fully fluidized, and affect coating performance.
3. Turn on the fluidizing air, and adjust the regulator until the powder is gently “boiling.” The air mixed with the powder will cause it to increase in volume. Fluidize the powder for five or ten minutes to make sure it is evenly fluidized and no clumps are left before spraying.

Maintenance

Periodically, empty the hopper and clean the interior. Clean the fluidizing plate and inspect it for signs of air contamination. If the plate is discolored and appears to be contaminated, replace it. Check your air supply and correct any contamination problems.

NOTE: Inspect and verify hopper ground connection periodically.

Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use these five-column parts lists, and the accompanying illustrations, to describe and locate parts correctly.

NHR-2-XX Hoppers

See Figure 3.

Item	NHR-2-25 Parts	NHR-2-50 Parts	Description	Quantity	Note
—	1071420		HOPPER, packaged, NHR-2-25	1	
		1070536	HOPPER, packaged, NHR-2-50		
1	1008082	1008082	• HOSE, flexible, 3 m (10 ft)	1	
2	970966	970966	• CLAMP, hose	1	
3	1608053	1608053	• PLATE, fluidizing	1	
4	1608054	1608054	• GASKET, U-channel	1	
5	1074531	1074531	• DRUM, fluidizing	1	A
6	1074337		• BODY, hopper, packaged, 25 lb	1	
6		1074336	• BODY, hopper, packaged, 50 lb		
7	981170	981170	• • SCREW, truss, unslotted, 10–32 x 0.375 in.	8	
8	984120	984120	• • NUT, hex, small pattern	8	
9	164064	164064	• • LATCH, hopper, curve base	4	
10	1074532	1074532	• LID, hopper, packaged	1	B
11	1074868		• TUBE, pickup, 25 lb, packaged	1	
11		163555	• TUBE, pickup, 50 lb, packaged		
12	152227	152227	• • ADAPTER, pump, vibratory box feeder	1	
13	941185	941185	• • O-RING, silicone, conductive, 0.875 x 1.062 in.	2	
14	941145	941145	• • O-RING, silicone, conductive, 0.625 x 0.812 in.	2	
15	164063	164063	• • MOUNT, pump	1	
16	1070534		• • TUBE, pickup, 0.360-in. ID x 10 in.	1	
16		164065	• • TUBE, pickup, 0.360-in. ID x 18 in.		
17	983055	983055	• • WASHER, pump mount	1	
18	939613	939613	• • LOCKNUT, conduit, 3/4-in. NPS	1	
19	1074535	1074535	• ELBOW, male, 3/8-in. RPT x 10-mm tube	1	
NOTE A: Refer to <i>Fluidizing Drum</i> on page 10 for a parts breakdown.					
NOTE B: Refer to <i>NHR-X-X Hopper Lids</i> on page 9 for a parts breakdown.					

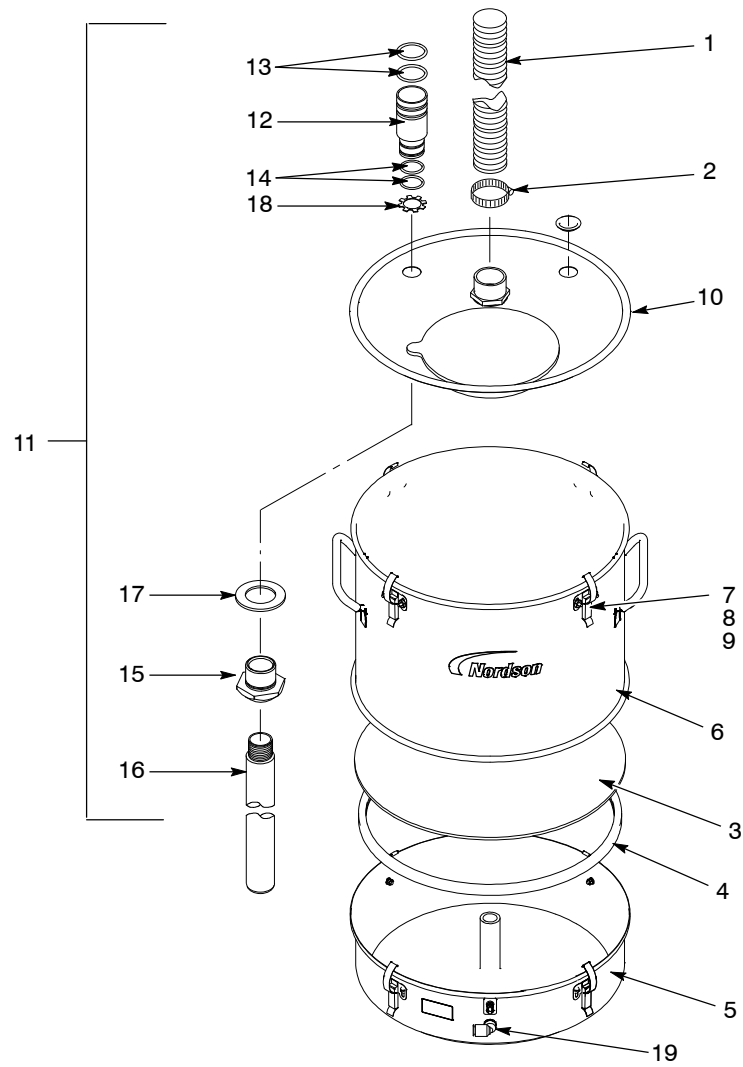


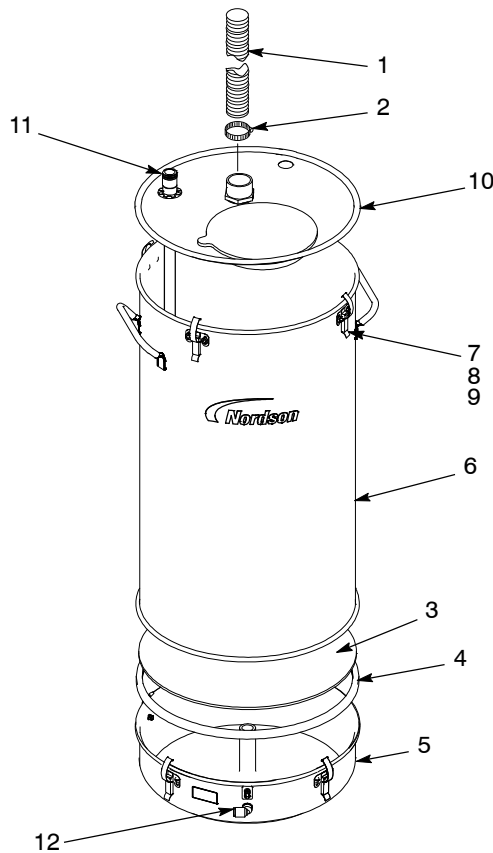
Figure 3 NHR-2-25 and NHR-2-50 Hoppers

NHR-2-80 Hopper

NOTE: The NHR-2-80 hopper is a two pump Venturi hopper.
See Figure 4.

Item	Part	Description	Quantity	Note
—	1074573	HOPPER, packaged, NHR-2-80	1	
1	1008082	• HOSE, flexible, 3 m (10 ft)	1	
2	970966	• CLAMP, hose	1	
3	1608053	• PLATE, fluidizing	1	
4	1608054	• GASKET, U-channel	1	
5	1074531	• DRUM, fluidizing	1	A
6	1074338	• BODY, hopper, packaged	1	
7	981170	• • SCREW, truss, unslotted, 10–32 x 0.375 in.	8	
8	984120	• • NUT, hex, machined	8	
9	164064	• • LATCH, hopper, curve base	4	
10	1074532	• LID, hopper, packaged	1	B
11	163556	• TUBE, pickup, 80 lb, packaged	1	C
12	1074535	• ELBOW, male, 3/8-in. RPT x 10-mm tube	1	

NOTE A: Refer to *Fluidizing Drum* on page 10 for a parts breakdown.
 B: Refer to *NHR-X-X Hopper Lids* on page 9 for a parts breakdown.
 C: Refer to *Pickup Tube and Pump Adapter for 80 lb Hoppers* on page 11 for a parts breakdown.



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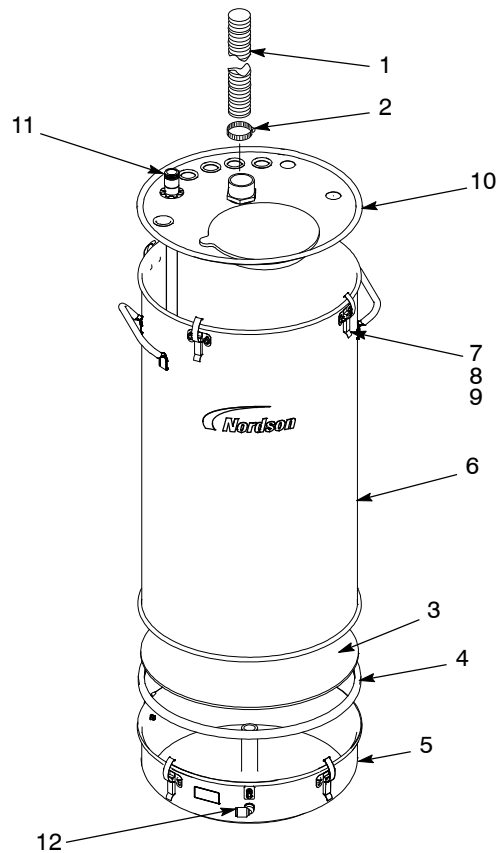
Figure 4 NHR-2-80 Hopper

NHR-8-80 Hopper

NOTE: The NHR-8-80 hopper is an eight pump Venturi hopper.
See Figure 5.

Item	Part	Description	Quantity	Note
—	1072449	HOPPER, packaged, NHR-8-80	1	
1	1008082	• HOSE, flexible, 3 m (10 ft)	1	
2	970966	• CLAMP, hose	1	
3	1608053	• PLATE, fluidizing	1	
4	1608054	• GASKET, U-channel	1	
5	1074531	• DRUM, fluidizing	1	A
6	1074338	• BODY, hopper, packaged	1	
7	981170	• • SCREW, truss, unslotted, 10–32 x 0.375 in.	8	
8	984120	• • NUT, hex, machined	8	
9	164064	• • LATCH, hopper, curve base	4	
10	1074575	• COVER, hopper, NHR-8, assembly, packaged	1	B
11	163556	• TUBE, pickup, 80 lb, packaged	2	C
12	1074535	• ELBOW, male, $\frac{3}{8}$ -in. RPT x 10-mm tube	1	

NOTE A: Refer to *Fluidizing Drum* on page 10 for a parts breakdown.
NOTE B: Refer to *NHR-X-X Hopper Lids* on page 9 for a parts breakdown.
NOTE C: Refer to *Pickup Tube and Pump Adapter for 80 lb Hoppers* on page 11 for a parts breakdown.



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Figure 5 NHR-8-80 Hopper

NHR-X-X Hopper Lids

NOTE: Use with Venturi or HD hoppers.

Item	Part	Description	Quantity	Note
—	1074532	LID, hopper, packaged, NHR-2-X	1	A
—	1074575	LID, hopper, packaged, NHR-8-80	1	B
1	1008081	• NUT, conduit, 1.25 in.	1	
2	1008080	• GASKET, vent stack	1	
3	1008079	• FITTING, pvc, 1 1/4 in., male adapter	1	
4	1070199	• PLUG, hopper fill, NHR	1	
NS	1074539	GASKET LID SERVICE KIT	1	

NOTE A: Used on all NHR-2-X hoppers. Has two knockouts for pump adapters.

B: Used on NHR-8-80 hoppers and can replace the lid used for NHR-2-80 hoppers. Has eight knockouts for pump adapters.

NS: Not Shown

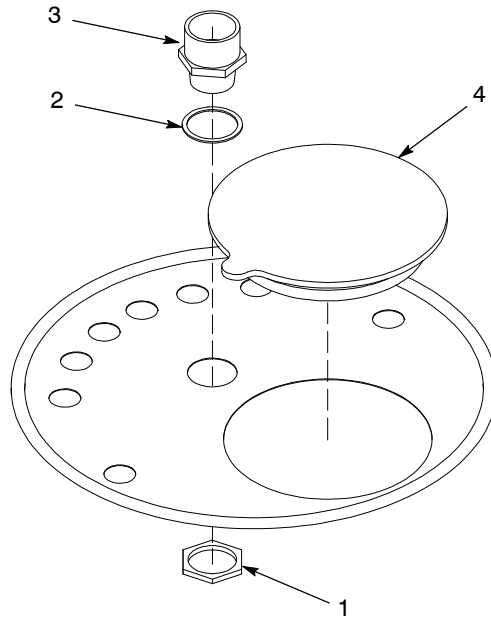


Figure 6 HR-X-X Hopper Lid

NHR Fluidizing Drum

See Figure 7. The fluidizing drum is common to all NHR-X-X Hoppers.

Item	Part	Description	Quantity	Note
—	1074531	DRUM, fluidizing	1	
1	1074535	• ELBOW, male, 3/8-in. RPT x 10-mm tube	1	
2	984702	• NUT, hex, M5, brass	2	
3	983401	• LOCK WASHER, split, M5, steel, zinc	11	
4	983021	• WASHER, flat, 0.203 x 0.405 x 0.040 in., brass	1	
5	982126	• SCREW, pan head, M5 x 25, brass	1	
6	240674	• TAG, ground	1	
7	164064	• LATCH, hopper, curve base	4	
8	982000	• SCREW, pan head, M5 x 10, zinc	8	
9	983123	• WASHER, flat, 0.219 x 0.500 x 0.049 in.	7	
10	984706	• NUT, hex, M5, steel, zinc	8	

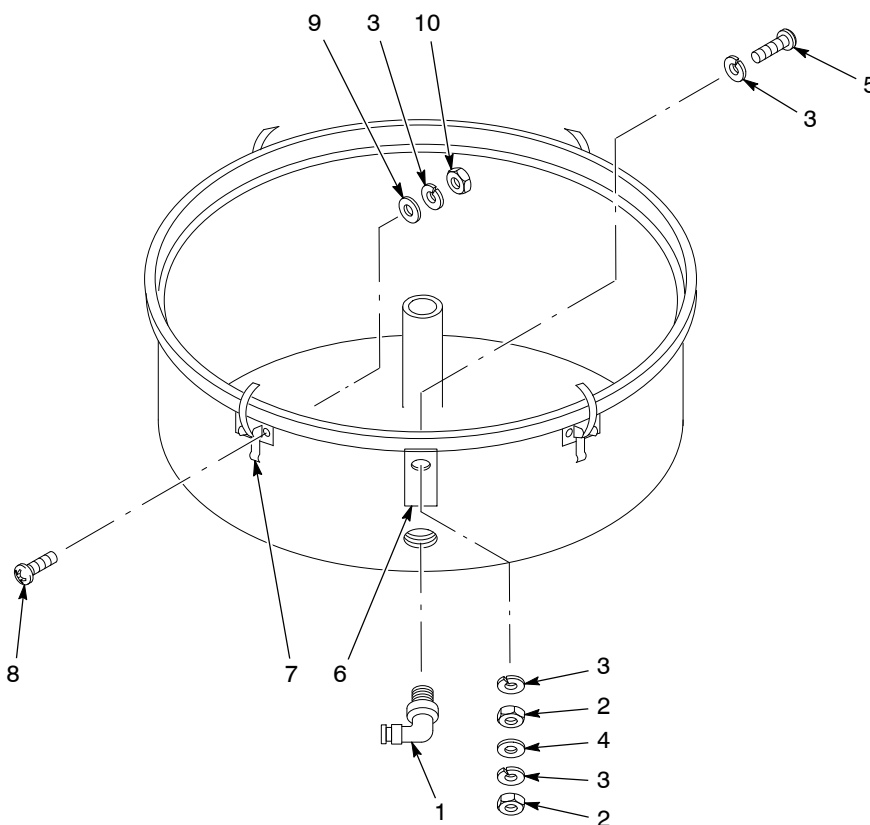


Figure 7 NHR Fluidizing Drum

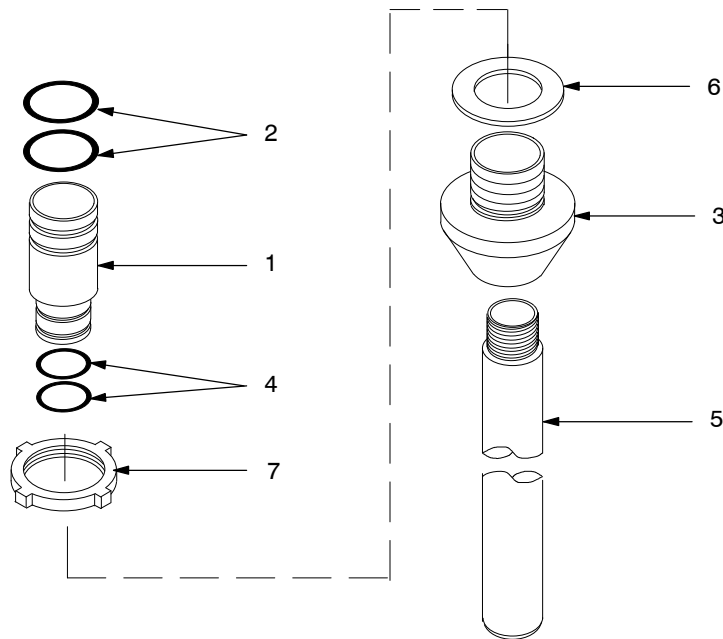
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Pickup Tube and Venturi Pump Adapter for 80 lb Hoppers

See Figure 8.

Item	Part	Description	Quantity	Note
—	163556	TUBE, pickup, 80 lb, packaged	1	
1	152227	• ADAPTER, pump, vibratory box feeder	1	
2	941185	• O-RING, silicone, conductive, 0.875 x 1.062 in.	2	A
3	164063	• MOUNT, pump	1	
4	941145	• O-RING, silicone, conductive, 0.625 x 0.812 in.	2	
5	152223	• TUBE, pickup, 0.360-in. ID x 24 in.	1	
6	983055	• WASHER, pump mount	1	
7	939613	• LOCKNUT, conduit, ³ / ₄ -in. NPS	1	

NOTE A: Do not replace with non-conductive O-rings.



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Figure 8 Pickup Tube and Venturi Pump Adapter for 80 lb Hoppers

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