

Sure Coat[®] 90 Degree Spray Extension

Description

The 90 Degree Spray Extension is used on Sure Coat Automatic Powder Spray Guns. It allows powder to be sprayed at right angles to the gun mounting orientation.

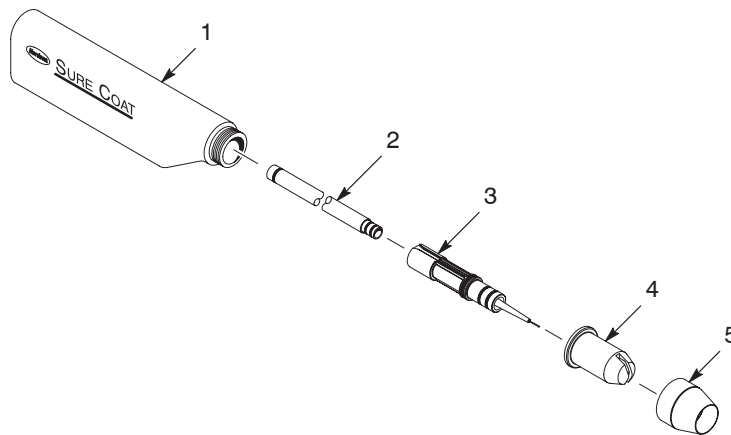
The extension ships with one 4-mm flat-spray nozzle. An optional 2.5-mm flat spray nozzle is also available (refer to *Parts*). When the extension is installed on the spray gun, it replaces the spray gun nozzle, nozzle nut, and electrode support.

Installation



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

1. If the gun is in use, purge it before installing the 90 degree spray extension.
2. See Figure 1. Unscrew the nozzle nut (5) and remove it, the nozzle (4), and the electrode support (3) from the automatic spray gun (1). The powder tube (2) will come out with the electrode support.
3. Clean the powder tube and re-install it in the gun.



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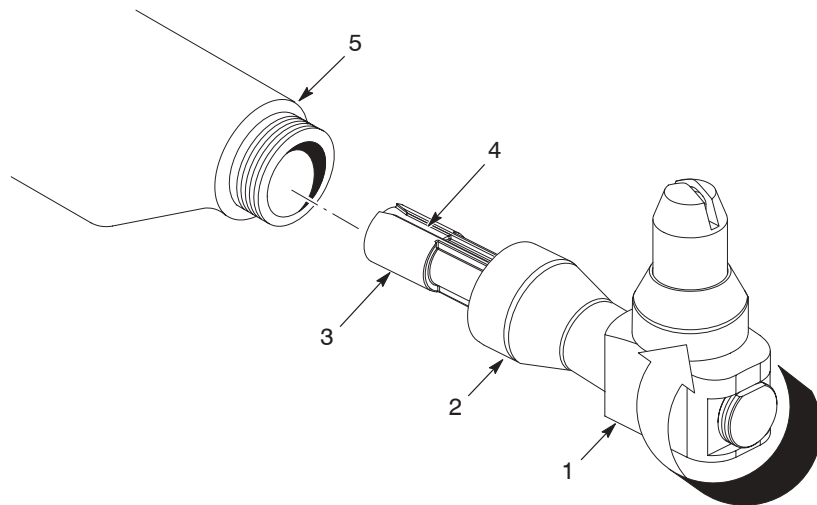
Figure 1 Removing the Standard Nozzle from the Spray Gun

- | | |
|------------------------|---------------|
| 1. Automatic spray gun | 4. Nozzle |
| 2. Powder tube | 5. Nozzle nut |
| 3. Electrode support | |

Installation *(contd)*

4. See Figure 2. Slide the spray extension electrode support (3) into the spray gun (5). The powder tube (recessed inside the gun bore) fits into the electrode support, and the support keyway (4) slides over the key inside the gun bore.
5. Thread the extension nut (2) onto the gun and hand-tighten it.
6. To orient the nozzle to any angle other than straight up, loosen the extension nut and rotate the extension body (1) clockwise only (as viewed when standing in front of the gun) to the desired angle.

NOTE: If changing the nozzle angle, do not rotate the body counterclockwise. Doing so could loosen the threaded connection between the body and the extension adapter and break the high voltage connection.



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Figure 2 Installation on Spray Gun

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|----------------------|------------------------|
| 1. Extension body | 4. Support keyway |
| 2. Extension nut | 5. Automatic spray gun |
| 3. Electrode support | |

Repair

While repairing the spray extension, replace any parts with carbon tracking or pin holes.

Removal

1. If the gun is in use, purge it before removing the 90 degree spray extension.
2. See Figure 2. Unscrew the nut (2) and pull the extension (1) out of the spray gun.
3. If the powder tube comes out of the gun with the extension, pull it out of the electrode support (3), clean it, and reinstall it in the gun.

Disassembly

See [Figures 3 and 4](#).

1. Unscrew the nozzle nut (20) and remove the nozzle (19).
2. Unscrew the vertical electrode holder (18) from the electrode adapter (16). Remove the short electrode (17).
3. Pull the electrode adapter (16) out of the body (12).
4. Pull the resistor electrode (13) out of the electrode adapter.
5. Unscrew the extension adapter (9) from the body.
6. Pull the electrode support assembly (1) out of the extension adapter.
7. Unscrew the horizontal electrode holder (7) from the electrode support.
8. Remove the long electrode (6) from the electrode holder.
9. Remove all O-rings (4, 5, 8, 10, 14, and 15) from their grooves.

Cleaning and Inspection

1. Clean the spray extension parts with low-pressure compressed air and a clean, soft cloth. Wipe off all dielectric grease and remove any impact-fused powder with a plastic or wooden tool. Do not use tools that will scratch plastic. Powder will build up and impact-fuse on scratches.

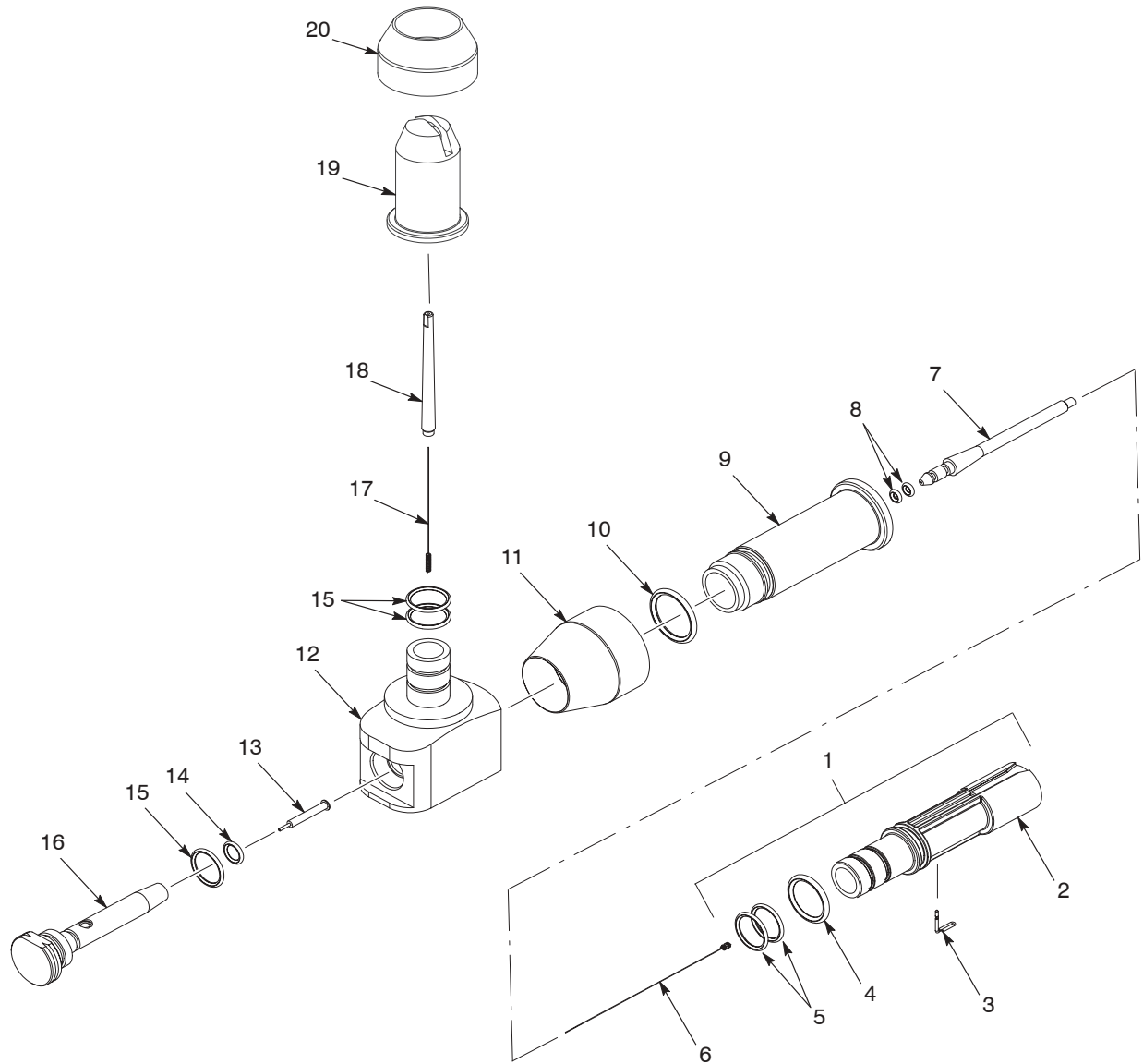


CAUTION: Do not immerse the spray extension or its parts in alcohol, or allow the O-rings to come in contact with alcohol. Do not use any other solvents.

NOTE: If necessary, remove the O-rings and clean the parts with a cloth lightly dampened with isopropyl or ethyl alcohol.

2. Replace any O-rings that are damaged or swollen.
3. Replace any parts that are damaged or show signs of carbon tracking or pinholing.
4. Clean dielectric grease off any parts that will be reused.

NOTE: The electrode support (2) and contact (3) are not serviceable. If it must be replaced, you must order a complete electrode support assembly. Refer to *Parts* for ordering information.



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Figure 3 Spray Extension Repair

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|--------------------------------|------------------------|-------------------------------|
| 1. Electrode support assembly | 8. O-rings (2) | 15. O-rings (3) |
| 2. Electrode support | 9. Extension adapter | 16. Electrode adapter |
| 3. Contact | 10. O-ring | 17. Short electrode |
| 4. O-ring | 11. Nut | 18. Vertical electrode holder |
| 5. O-rings (2) | 12. Body | 19. Flat spray nozzle |
| 6. Long electrode | 13. Resistor electrode | 20. Nozzle nut |
| 7. Horizontal electrode holder | 14. O-ring | |

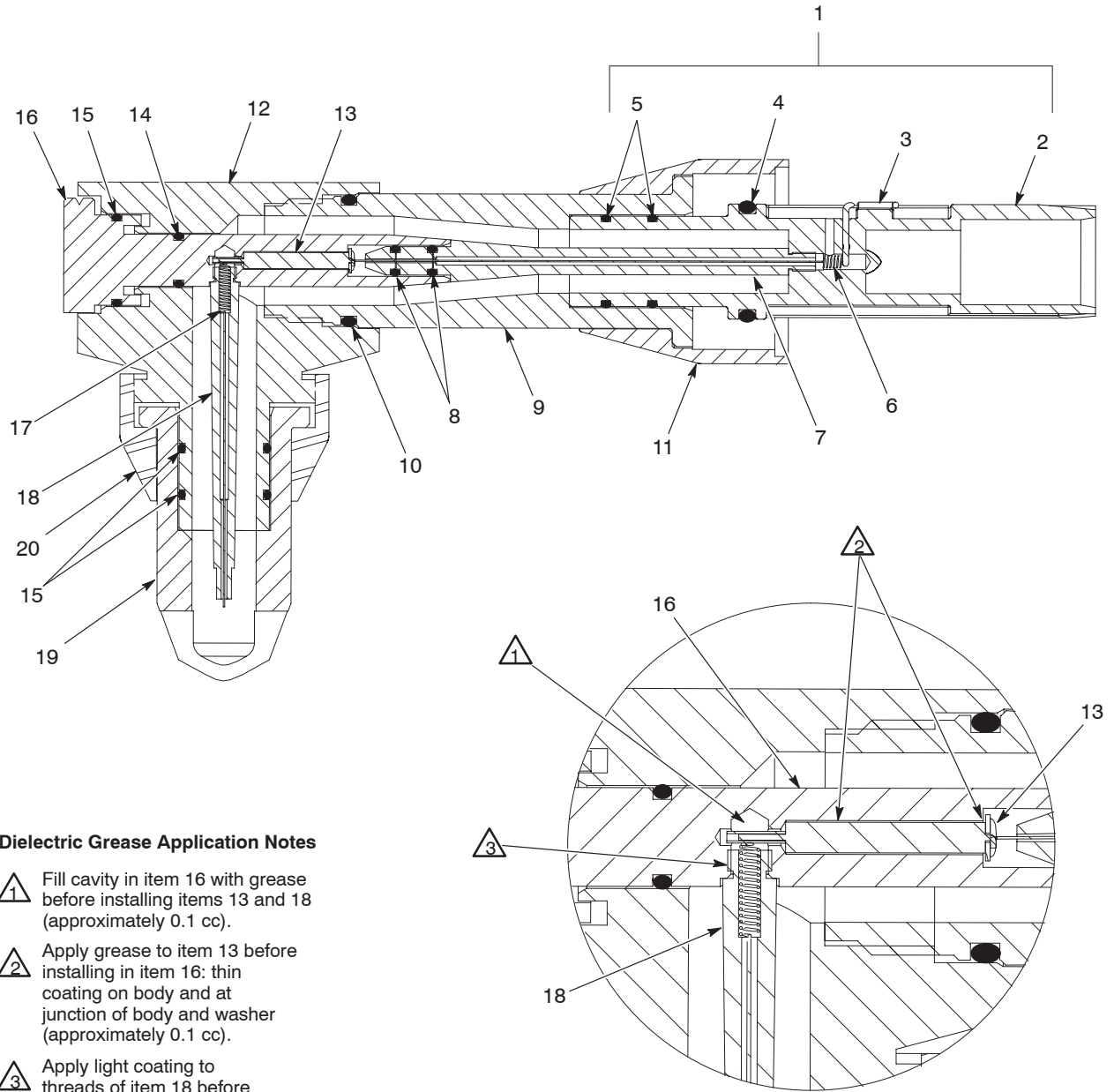
Reassembly

See [Figures 3](#) and [4](#).



WARNING: Follow the dielectric grease application instructions shown in [Figure 4](#) carefully. Failure to apply dielectric grease as described in this procedure will void agency approvals and create an ignition hazard.

1. Install all O-rings (4, 5, 8, 10, 14, and 15) in their grooves.
2. Install the long electrode (6) into the horizontal electrode holder (7).
3. Screw the horizontal electrode holder into the electrode support (2).
4. Fill the cavity in the side of the electrode adapter (16) with approximately 0.1 cc of dielectric grease.
5. Apply a thin coating of dielectric grease to the body of the resistor electrode (13), and a fillet of dielectric grease (approximately 0.1 cc) all the way around the junction of the electrode body and end washer.
6. Install the resistor electrode into the electrode adapter.
7. Install the short electrode (17) into the vertical electrode holder (18).
8. Lightly lubricate the threads of the vertical electrode holder with dielectric grease.
9. Screw the vertical electrode holder into the electrode adapter. Wipe off any dielectric grease on the outside of the holder and adapter.
10. Unscrew the vertical electrode holder from the electrode adapter.
11. Install the the electrode adapter into the body (12). The flat on the adapter ensures that it can be installed only one way.
12. Insert the vertical electrode holder through the body and thread it into the electrode adapter.
13. If you removed the nut (11) from the extension adapter (9), reinstall it.
14. Screw the extension adapter into the body.
15. Install the electrode support assembly (1) into the extension adapter, making sure the horizontal electrode holder fits into the end of the electrode adapter. Make sure the electrode support assembly is fully seated into the extension adapter.
16. Check the continuity and resistance of the high voltage path as described in [Continuity and Resistance Check](#).
17. Install the flat spray nozzle (19) on the body and secure it with the nozzle nut (20).



Dielectric Grease Application Notes

- ① Fill cavity in item 16 with grease before installing items 13 and 18 (approximately 0.1 cc).
- ② Apply grease to item 13 before installing in item 16: thin coating on body and at junction of body and washer (approximately 0.1 cc).
- ③ Apply light coating to threads of item 18 before installing in item 16.

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Figure 4 Spray Extension Assembly

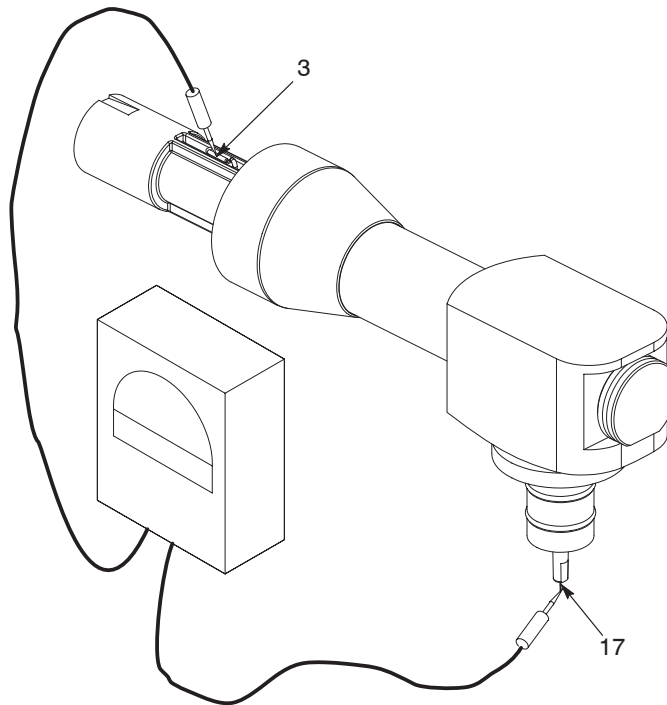
- | | | |
|--------------------------------|------------------------|-------------------------------|
| 1. Electrode support assembly | 8. O-rings (2) | 15. O-rings (3) |
| 2. Electrode support | 9. Extension adapter | 16. Electrode adapter |
| 3. Contact | 10. O-ring | 17. Short electrode |
| 4. O-ring | 11. Nut | 18. Vertical electrode holder |
| 5. O-rings (2) | 12. Body | 19. Flat spray nozzle |
| 6. Long electrode | 13. Resistor electrode | 20. Nozzle nut |
| 7. Horizontal electrode holder | 14. O-ring | |

Continuity and Resistance Check

See Figure 5.

If the powder being sprayed is not charging properly, check the continuity and resistance of the high voltage path, from the contact (3) to the end of the electrode (17), with a 500 volt megohm meter.

The reading should be 18–24 megohms. If it is not, disassemble the extension and reassemble it again, making sure dielectric grease is applied properly and that all parts are undamaged.



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Figure 5 Continuity and Resistance Check

3. Contact

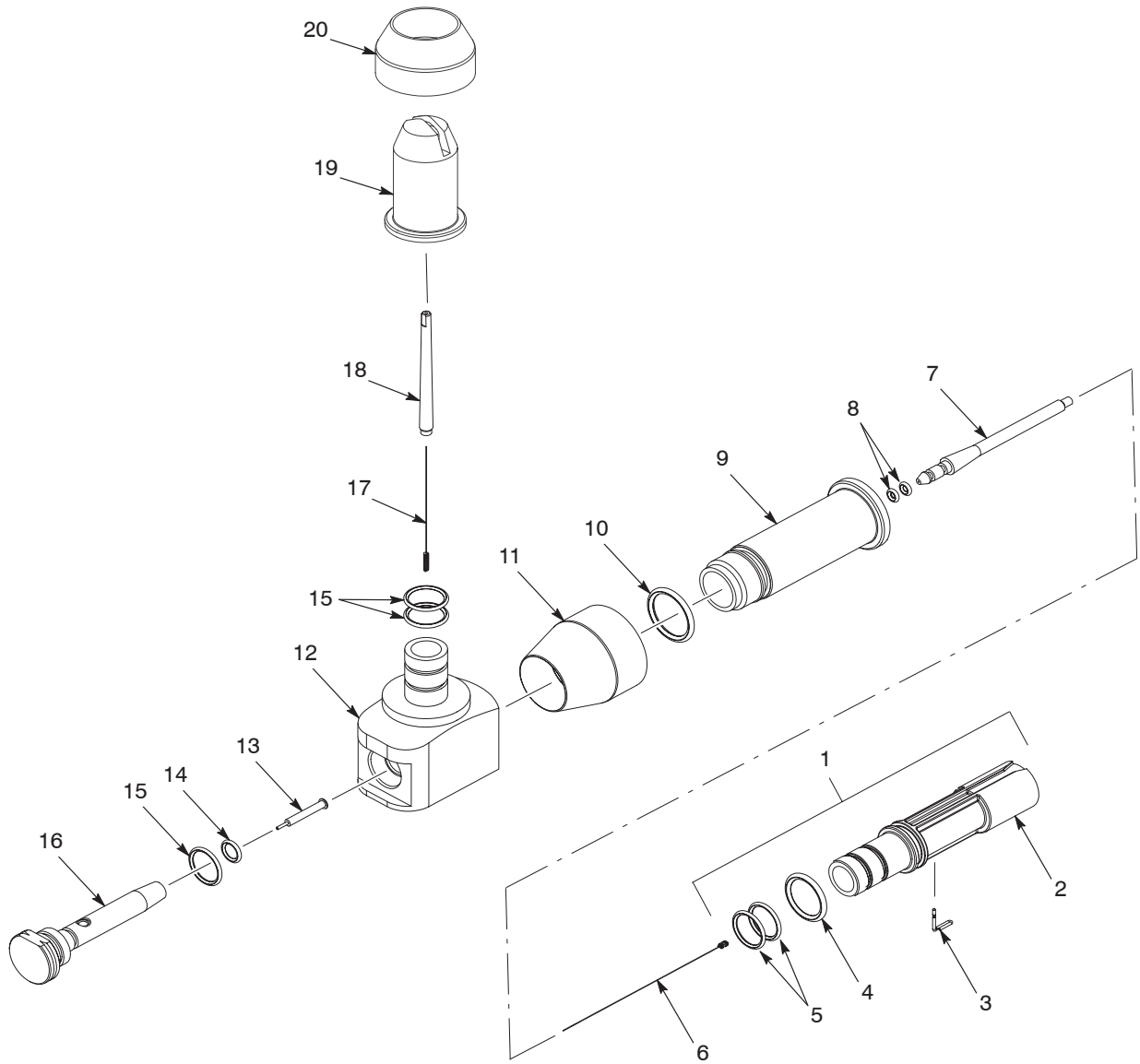
17. Electrode

Parts

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

See Figure 6.

Item	Part	Description	Quantity	Note
–	1012985	Extension, spray, 90 degree	1	
1	1010752	• Support, electrode, 13 mm ID, packaged	1	
2	-----	• • Support, electrode, gun	1	
3	-----	• • Contact, wire, electrode	1	
4	941162	• • O-ring, silicone, 0.750 x 0.937 x 0.094 in.	1	
5	940163	• • O-ring, silicone, 0.625 x 0.750 x 0.063 in.	2	
6	1012992	• Electrode, spring contact, 0.094 in. diameter	1	
7	1012989	• Holder, electrode, horizontal	1	
8	940066	• O-ring, silicone, 0.125 x 0.250 x 0.063 in.	2	
9	1012987	• Adapter, extension, 90 degree	1	
10	941181	• O-ring, silicone, 0.875 x 1.063 x 0.094 in.	1	
11	1005028	• Nut, lock, nozzle	1	
12	1012988	• Body, extension, 90 degree	1	
13	1012997	• Electrode, 20 megohm resistor, packaged	1	
14	940117	• O-ring, silicone, 0.312 x 0.438 x 0.063 in.	1	
15	940163	• O-ring, silicone, 0.625 x 0.750 x 0.063 in.	3	
16	1012990	• Adapter, electrode connection	1	
17	1012994	• Electrode, spring contact, 0.086 in. diameter	1	
18	1012993	• Holder, electrode, vertical	1	
19	1010661	• Nozzle, flat spray, 13 mm ID, 4 mm	1	
20	1012996	• Nut, nozzle, spray extension	1	
NS	245733	Dielectric grease, 3 cc applicator, (box of 12)	1	A
NS	1010662	Nozzle, flat spray, 13 mm ID, 2.5 mm	1	A
NOTE A: Optional parts, not shipped with spray extension, order separately.				
AR: As Required				
NS: Not Shown				



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Figure 6 Spray Extension Parts

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