

Diffuser and Nozzle Extension Installation for Versa-Spray[®] and Versa-Spray[®] II Automatic Guns used with Versa-Spray[®] II Control Units

Introduction

This instruction sheet covers the installation of the kits listed below. It also includes a nozzle extension repair procedure, test specifications for the extension resistor, and parts lists for the kits.

Part	Kit	Function
183538	Gun diffuser	Injects air into the powder-air mixture to evenly blend it before it reaches the nozzle
183537	Nozzle extension	Prevents powder particles from collecting on the electrode by sending air through the center of the nozzle extension and out around the electrode
183536	Gun diffuser and nozzle extension	Includes all of the components necessary to install both a gun diffuser and nozzle extension

Installation

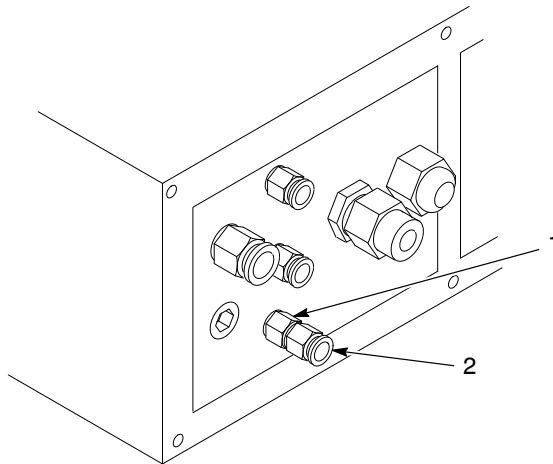


WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Diffuser Installation

NOTE: Disregard this procedure if a diffuser is already installed on your gun.

1. See Figure 1. Remove the plug from the GUN port on the control unit.
2. Wrap the restrictor (orifice) (1) threads with PTFE tape and install it in the GUN port.
3. Install the tube connector (2) into the restrictor.



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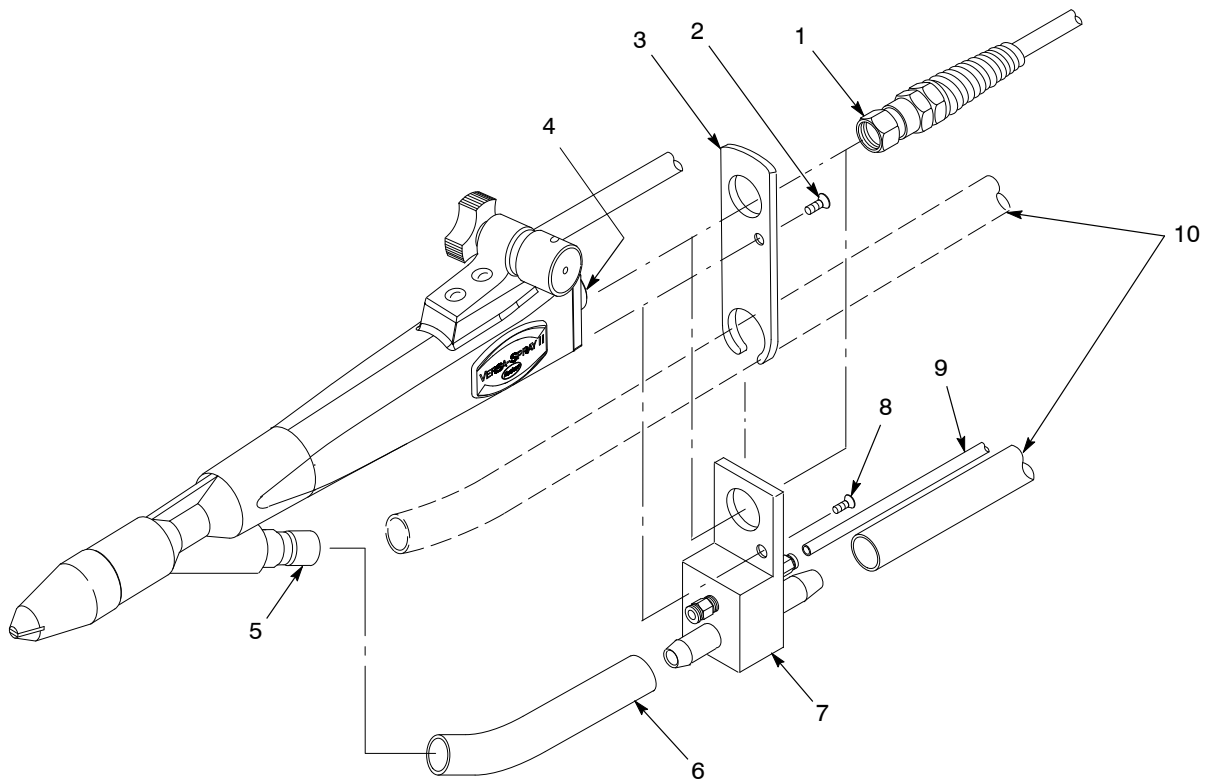
Figure 1 Restrictor and Tube Connector Installation

1. Restrictor

2. Tube connector

4. See Figure 2. Disconnect the cable (1) from the multiplier (4).
5. Disconnect the powder feed hose (10) from the hose adapter (5). Remove the hose from the hose bracket (3).
6. Remove the screw (2) and hose bracket (3) from the end of the gun and set them aside.
7. Install the diffuser (7) on the end of the gun and secure it with the screw provided (8).
8. Install the 210-mm (8.25-in.) length of feed hose (6) between the diffuser (7) and the hose adapter (5).
9. Connect the powder feed hose (10) to the diffuser (7).
10. Connect the cable (1) to the multiplier (4).
11. Install 6-mm air tubing (9) between the diffuser (7) and the control unit tube connector (See Figure 1, (2)). Cut the tubing to a length approximately 1 foot longer than the gun cable.

NOTE: You must separately order air tubing to connect the diffuser to the control unit. Refer to *Parts* in this instruction sheet for tubing part numbers.



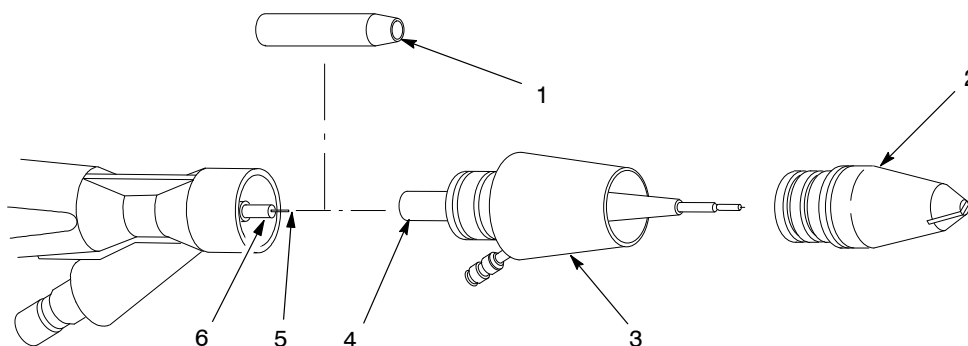
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Figure 2 Diffuser Installation

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|-----------------|-----------------------------|-----------------------------|
| 1. Cable | 5. Hose adapter | 8. Screw |
| 2. Screw | 6. Feed hose (short length) | 9. Air tubing |
| 3. Hose bracket | 7. Diffuser | 10. Feed hose (long length) |
| 4. Multiplier | | |

Nozzle Extension Installation

1. See Figure 3. Remove the nozzle (2) and wear sleeve (1) from the gun.
2. Install the nozzle extension (3) onto the gun. The resistor probe (6) fits into the nozzle extension wear sleeve (4). Be careful not to damage the electrode (5).
3. Install the nozzle into the nozzle extension.



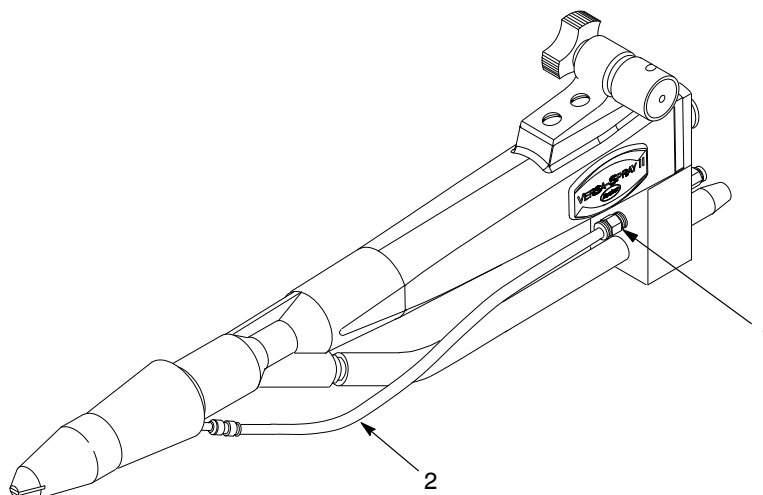
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Figure 3 Nozzle Extension Installation

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|----------------------|---------------------------------|-------------------|
| 1. Wear sleeve | 3. Nozzle extension | 5. Electrode |
| 2. Flat-spray nozzle | 4. Nozzle extension wear sleeve | 6. Resistor probe |

NOTE: Skip step 4 if you are installing the 183536 diffuser and nozzle extension kit. The diffuser included in this kit has a 6-mm tube connector installed in place of the plug.

4. See Figure 4. Remove the plug from the diffuser and install the 6-mm tube connector (1) in the open port.
5. Install the 210-mm (8.25-in.) length of 6-mm air tubing (2) included with the kit between the diffuser and the nozzle extension.



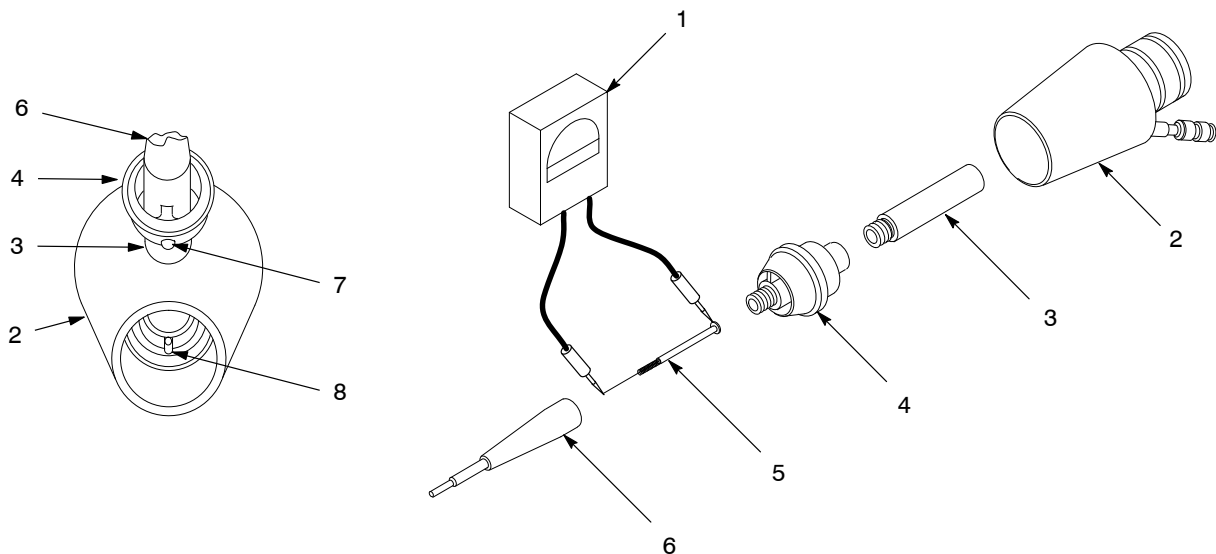
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Figure 4 Air Tubing Connections

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|------------------------|--------------------|
| 1. 6-mm tube connector | 2. 6-mm air tubing |
|------------------------|--------------------|

Nozzle Extension Repair

1. See Figure 5. Push on the wear sleeve (3) to get the wear sleeve/spider/resistor holder assembly (3, 4, 5, 6) out of the nozzle adapter (2).
2. Unscrew the wear sleeve (3) and resistor holder (6) from the spider (4).
3. Remove the resistor (5) from the resistor holder.
4. Test the resistor continuity and resistance with a megohm meter. The megohm meter should read between 18 and 22 megohms at 500 volts. If the reading is out of this range, replace the resistor.
5. Replace any worn or damaged parts.
6. Install the resistor in the resistor holder.
7. Install the wear sleeve and resistor holder onto the spider.
8. Align the small pin (7) on the spider with the slot (8) in the nozzle adapter. Press the spider/resistor holder assembly (3, 4, 5, 6) back into the nozzle adapter.



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Figure 5 Nozzle Extension Repair

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|-------------------|--------------------|---------|
| 1. Megohmmeter | 4. Spider | 7. Pin |
| 2. Nozzle adapter | 5. Resistor | 8. Slot |
| 3. Wear sleeve | 6. Resistor holder | |

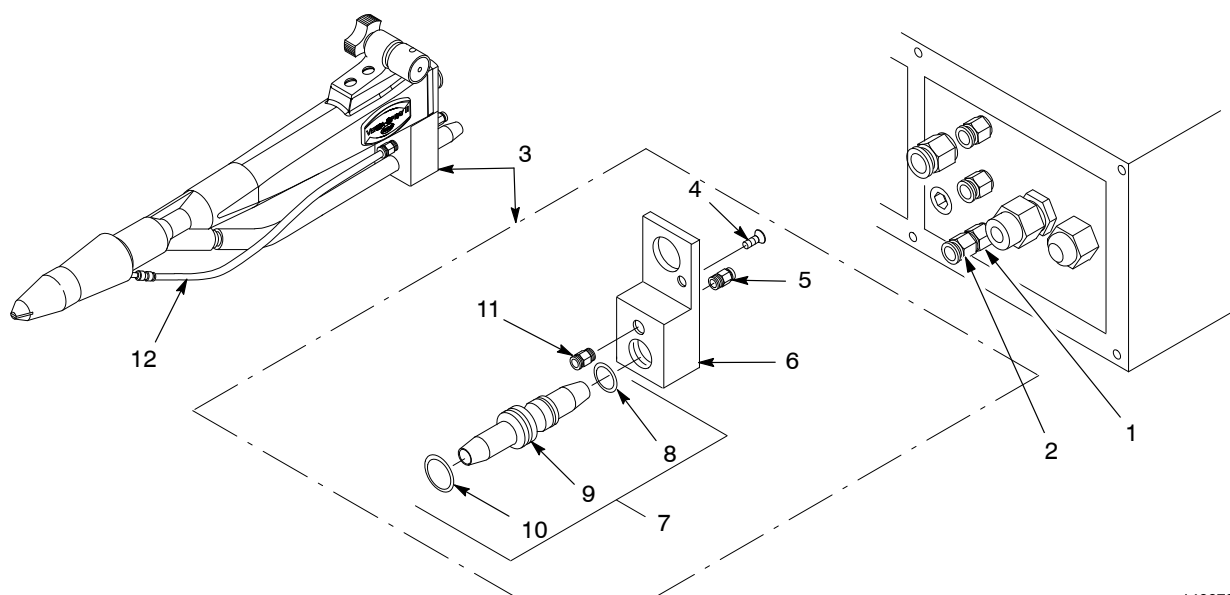
Parts Lists

Diffuser Kit

See Figure 6.

Item	Part	Description	Quantity	Note
—	183538	KIT, VS2 diffuser with hardware	1	
1	972243	• ORIFICE, 0.026, 1/8-in. NPT x 1/8-in. NPT	1	
2	972141	• CONNECTOR, male, 6-mm tube x 1/8-in BSPT	1	
3	-----	• DIFFUSER, Versa-Spray II, plugged	1	
4	982142	• • SCREW, flat head, M3 x 10	1	
5	972141	• • CONNECTOR, male, 6-mm tube x 1/8-in. BSPT	1	
6	169655	• • BRACKET, VS2 gun diffuser	1	
7	169661	• • KIT, connector, VS2 gun diffuser	1	
8	940163	• • • O-RING, silicone, 0.625 x 0.750 x 0.063 in.	1	
9	-----	• • • CONNECTOR, VS2 gun diffuser	1	
10	940182	• • • O-RING, silicone, 0.750 x 0.875 x 0.063 in.	1	
11	973402	• • PLUG, 1/8-in. NPT	1	
12	900650	• TUBING, powder, 1/2-in. ID	AR	A

NOTE A: Bulk part number. Order in 1-ft increments.
AR: As Required



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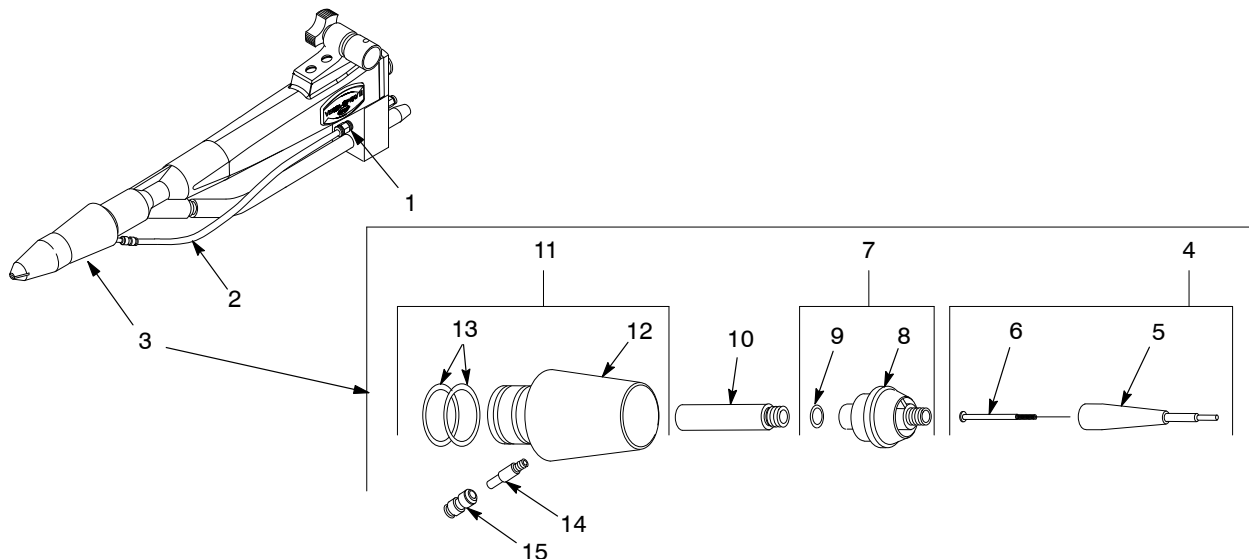
Figure 6 Diffuser Kit

Nozzle Extension Kit

See Figure 7.

Item	Part	Description	Quantity	Note
—	183537	KIT, VS2 extension, auto gun	1	
1	972141	• CONNECTOR, male, 6-mm tube x 1/8-in BSPT	1	
2	900742	• TUBING, polyurethane, 6 mm, blue	AR	A
3	183334	• KIT, extension, nozzle	1	
4	183645	• • SERVICE KIT, resistor, with holder, VS2	1	
5	179182	• • • HOLDER, resistor	1	
—	183646	• • • SERVICE KIT, resistor, nozzle extension, VS2	1	
6	-----	• • • • RESISTOR, nozzle extension, VS2	1	
7	182255	• • KIT, spider, with O-ring	1	
8	-----	• • • SPIDER, air inlet, VS2	1	
9	940104	• • • O-RING, silicone, 0.250 x 0.375 x 0.063 in.	1	
10	173179	• • SLEEVE, wear, VS2	1	
11	182254	• • KIT, adapter, nozzle, VS2, with O-ring	1	
12	-----	• • • ADAPTER, nozzle, VS2	1	
13	941181	• • • O-RING, silicone, 0.875 x 1.063 x 0.094 in.	2	
14	173177	• • FITTING, M6, straight	1	
15	971790	• • UNION, straight, 6 mm, plastic	1	

NOTE A: Bulk part number. Order in 1-ft increments.
AR: As Required



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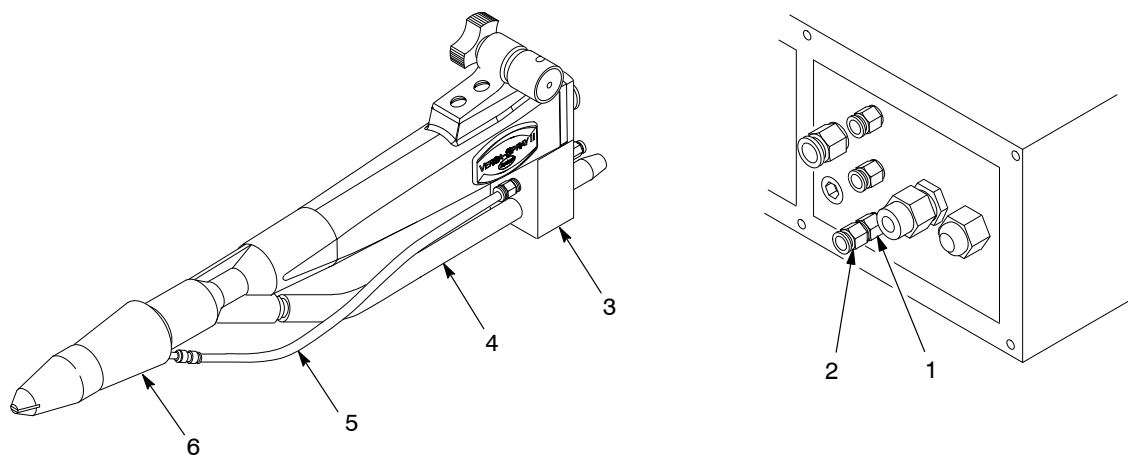
Figure 7 Nozzle Extension Kit

Diffuser and Nozzle Extension Kit

See Figure 8.

Item	Part	Description	Quantity	Note
—	183536	KIT, VS2 diffuser and extension	1	
1	972243	• ORIFICE, 0.026, 1/8-in. NPT x 1/8-in. NPT	1	
2	972141	• CONNECTOR, male, 6-mm tube x 1/8-in BSPT	1	
3	-----	• DIFFUSER, Versa-Spray II	1	A
4	900650	• TUBING, powder, 1/2-in. ID	AR	B
5	900742	• TUBING, polyurethane, 6 mm, blue	AR	B
6	183334	• EXTENSION, nozzle	1	C

NOTE A: Refer to the diffuser kit parts list and illustration for parts.
 B: Bulk part number. Order length desired in 1-ft increments.
 C: Refer to the nozzle extension kit parts list and illustration for parts.
 AR: As Required



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Figure 8 Diffuser and Nozzle Extension Kit

Powder Feed and Air Tubing

These are bulk part numbers. Order them in one-foot increments.

Part	Description	Note
900650	TUBING, powder, 1/2-in. ID	
900742	AIR TUBING, 6-mm, polyurethane	

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