

# **Ion Collector Kits for Versa-Spray<sup>®</sup> and Versa-Spray<sup>®</sup> II Automatic Guns**

## **Description**

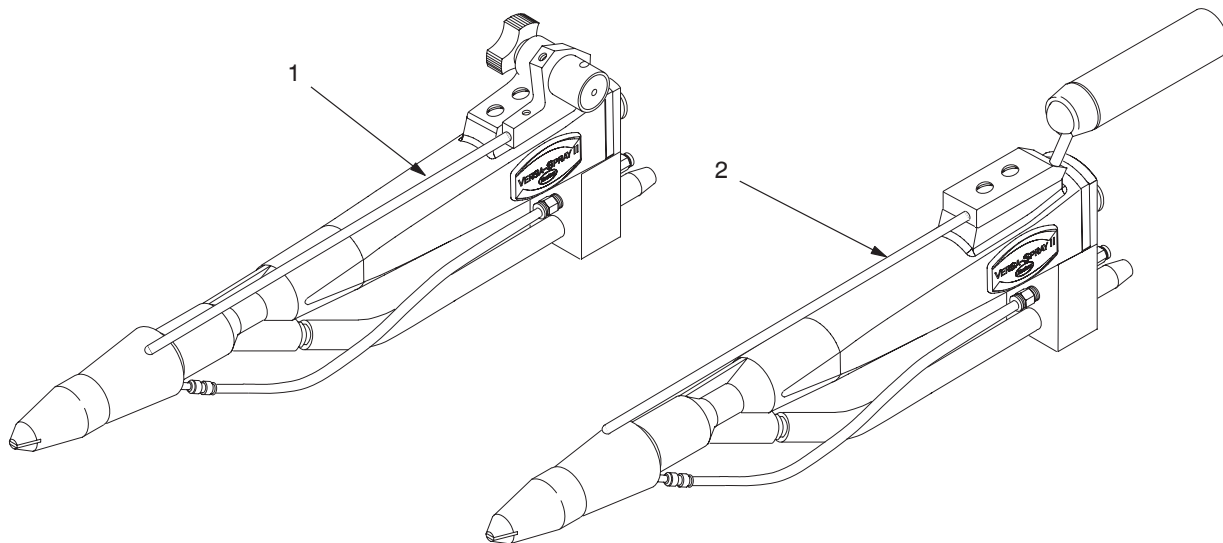
This instruction sheet covers the ion collector kits for Versa-Spray and Versa-Spray II automatic guns. One kit is for guns with Shur-Lok mounts; the other is for guns with in-line ball mounts.

189491            Kit, Shur-Lok, ion collector

189490            Kit, ball mount, ion collector

The ion collector can improve the smoothness and appearance of cured powder coatings. It collects ions emitted from the gun's charging electrode instead of allowing them to deposit on the part. This can reduce the rate of charge buildup in the powder deposited on the part, which may reduce defects in the cured coating such as "pinholing" and "orange peel."

The distance from the end of the rod to the end of the charging electrode is adjusted by sliding the rod through the bracket or mounting plate. The rod is electrically grounded through the gun mounting bar.



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**Figure 1    Ion Collector Kits (Shown Installed on Versa-Spray II Guns)**

**1. Shur-Lok mount kit**

**2. In-line ball mount kit**

## Installation

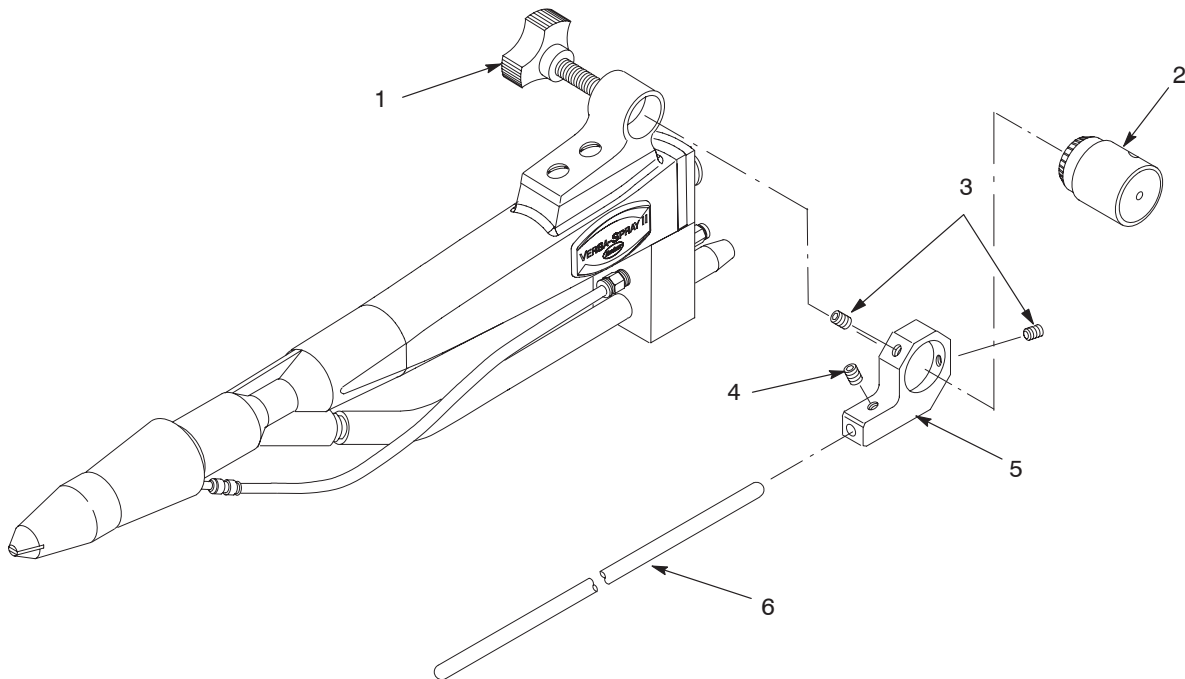


**WARNING:** Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

### *Shur-Lok Mount Ion Collector Kit*

1. Before installing the ion collector kit on the gun, coat several parts. Note the current ( $\mu\text{A}$ ) shown on the control unit display when coating the parts. Cure the coatings.
2. See Figure 2. Install the set screws (3 and 4) into the ion collector bracket (5). Do not screw the set screws all the way in.
3. Install the rod (6) into the ion collector bracket. Tighten the set screw (4).
4. Remove the gun from the pivot sleeve (2) by unscrewing the Shur-Lok mount knob (1). Note the position of the gun relative to the gun mounting bar.
5. Place the ion collector bracket, with the chamfer around the center hole facing out, over the knurled end of the pivot sleeve.
6. Screw the knob into the pivot sleeve, adjust the gun to its previous position, and tighten the knob.
7. Hold the rod parallel with the centerline of the gun, then tighten the set screws (3).

**NOTE:** When the gun is installed on a mounting bar and positioned, make sure the rod remains parallel with the gun centerline. Loosen the set screws (3) to adjust the rod position.



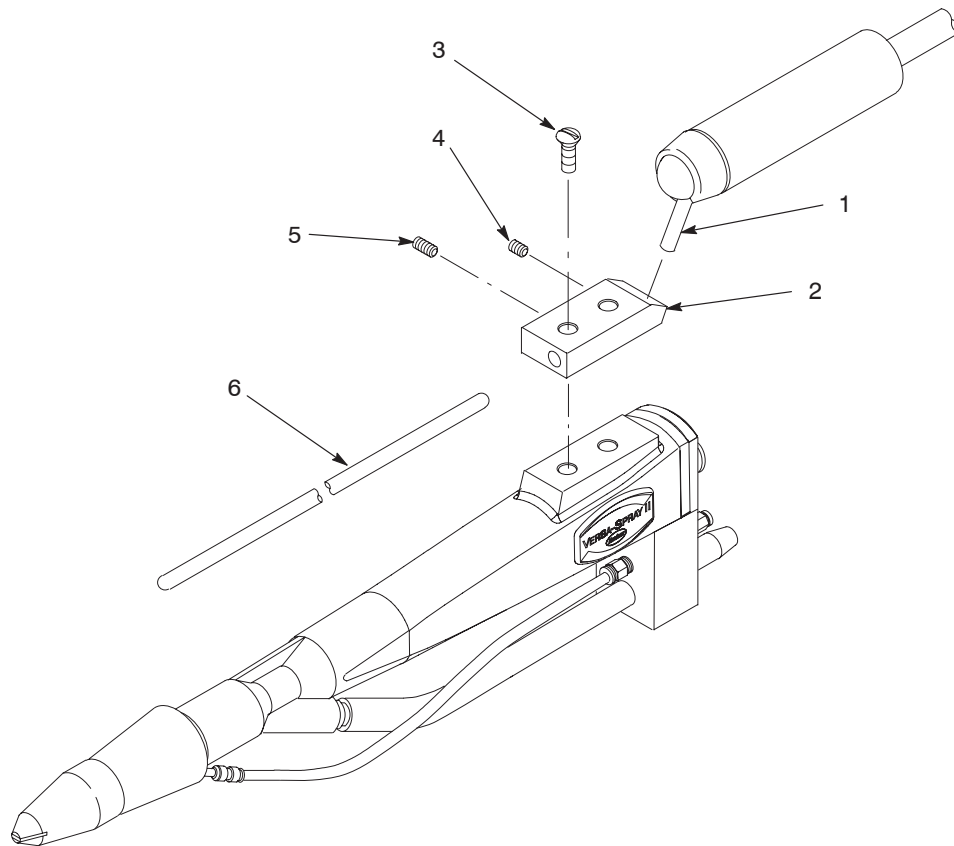
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Figure 2 Shur-Lok Mount Ion Collector Kit Installation

- |                        |               |                          |
|------------------------|---------------|--------------------------|
| 1. Shur-Lok mount knob | 3. Set screws | 5. Ion collector bracket |
| 2. Pivot sleeve        | 4. Set screw  | 6. Rod                   |

## ***In-Line Ball Mount Ion Collector Kit***

1. Before installing the ion collector kit on the gun, coat several parts. Note the current ( $\mu\text{A}$ ) shown on the control unit display when coating the parts. Cure the coatings.
2. See Figure 3. Loosen the set screw (4) in the gun's existing ball mount plate (2) and remove the gun from the pivot ball shaft (1).
3. Remove the two screws (3) securing the old ball mount plate (2) to the gun.
4. Install the set screws (4 and 5) in the new ball-mount plate as shown in Figure 3. Do not screw the set screws all the way in.
5. Install the rod (6) into the ball mount plate (2). Tighten the set screw (5).
6. Install the new ball mount plate on the gun with the two screws removed in step 3.
7. Attach the gun to the mounting bar by installing the pivot ball shaft in the new ball-mount plate. Tighten the set screw (4).



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Figure 3 In-Line Ball Mount Ion Collector Kit Installation

- |                     |                          |                           |
|---------------------|--------------------------|---------------------------|
| 1. Pivot ball shaft | 3. Screws                | 5. Set screw (16-mm long) |
| 2. Ball mount plate | 4. Set screw (8-mm long) | 6. Rod                    |

## Adjusting Rod Length

After the ion collector kit is installed, the distance from the end of the ion collector rod to the tip of the gun's charging electrode must be adjusted.

- If the end of the rod is too far away from the tip of the electrode, the ion collector will not collect any ions or improve the appearance of the cured coating.
- If the end of the rod is too close to the tip of the electrode, powder particles may not be charged efficiently and the powder transfer efficiency may be reduced.

Finding the best location for the ion collector rod requires experimentation.

1. Before installing the ion collector kit on the gun, coat several parts. Note the current ( $\mu\text{A}$ ) shown on the control unit display when coating the parts. Cure the coatings.
2. Install the ion collector kit on the gun as described in the *Installation* procedures.
3. Loosen the set screw (See [Figure 2](#), (4), and [Figure 3](#) (5)) and slide the rod through the bracket or mounting plate until the end of the rod is far away from the front end of the gun.
4. Turn on the electrostatic voltage and spray powder with a part in front of the gun. Slide the rod forward until the current shown on the control unit display is 5 to 7  $\mu\text{A}$  higher than that displayed in step 1. Tighten the set screw.
5. Cure the coating on the test parts. Compare the surface finish on these parts with the finish on the parts coated in step 1 (before the ion collector kit was installed).
6. If the desired improvement in the surface finish has not been obtained, loosen the set screw and slide the rod forward approximately 1 in. Tighten the set screw.
7. Repeat steps 5 and 6 until the desired improvement in surface finish is obtained.

# Parts

## Shur-Lok Mount Ion Collector Kit

See Figure 4.

Item	Part	Description	Quantity	Note
—	189491	KIT, Shur-Lok, ion collector	1	
1	189482	• ROD, ion collector, 11 in.	1	
2	982067	• SCREW, set, cup, M5 x 5, black	3	
3	189488	• BRACKET, Shur-Lok, ion collector	1	
NS	982628	• SCREW, socket, M5 x 10, stainless steel	3	A
NOTE A: Optional, replaces item 2.				
NS: Not Shown				



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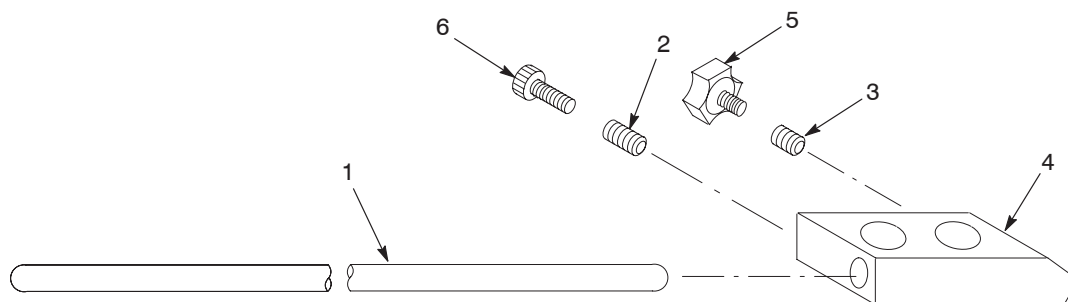
Figure 4 Shur-Lok Ion Collector Kit Parts

## In-Line Ball Mount Ion Collector Kit

See Figure 5.

Item	Part	Description	Quantity	Note
—	189490	KIT, ball mount, ion collector	1	
1	189482	• ROD, ion collector, 11 in.	1	
2	982394	• SCREW, set, dog, M6 x 16, black	1	
3	982595	• SCREW, set, cone, 6 mm x 8 mm, stainless steel	1	
4	189486	• PLATE, ball mount, ion collector	1	
5	129592	KNOB, clamping, M6 x 12	1	A
6	982030	SCREW, socket, M6 x 20, black	1	B

NOTE A: Optional, replaces item 3.  
 B: Optional, replaces item 2.  
 NS: Not Shown



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Figure 5 In-Line Ball Mount Ion Collector Kit Parts

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