

# Instructions/Parts List



Part No. 245282

## Round Pattern Kit

FOR THE PRO™ Xs4 AA ELECTROSTATIC AIR-ASSISTED SPRAY GUN ONLY

309448A

### Installation

#### **WARNING**

##### **Fluid Injection Hazard**



The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or electric shock, follow the **Pressure Relief Procedure** before installing the kit.

##### **Pressure Relief Procedure**

1. Turn the ES ON/OFF valve OFF.
2. Lock the trigger.
3. Turn off the air bleed valves to the fluid source and to the gun.
4. Unlock the trigger.
5. Trigger the gun into a grounded metal waste container to relieve the fluid pressure.
6. Lock the trigger.

7. Open the pump drain valve and all other fluid drain valves in the system, having a waste container ready to catch the drainage. Leave the drain valve(s) open until you are ready to spray again.
8. If the nozzle or hose is completely clogged or pressure is not fully relieved, slowly loosen the hose end coupling. Now clear the nozzle or hose.

##### **To Help Reduce Spray Tip Clogging**

- Install the 100 mesh in-line fluid filter, Part No. 210500, ahead of the gun.
- Remove the gun fluid filter, Part No. 205264, and clean or replace it. See the gun repair manual 309295 to remove the filter.

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### To Install the Kit

1. Flush the gun as instructed in the gun manual 309295 or 309296.
2. Relieve the pressure, page 1.
3. Remove the retaining ring (A), tip guard (B), air cap (C), and tip assembly (D). See Fig. 1.

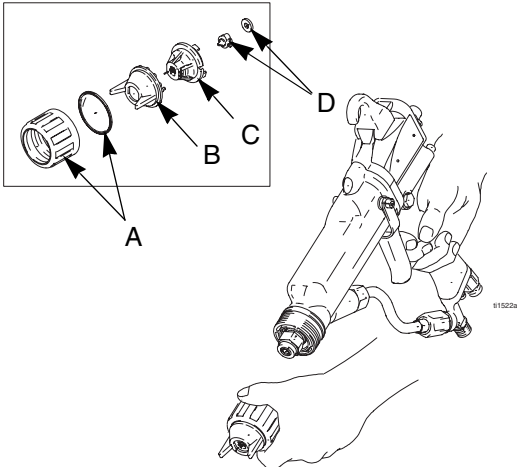


Fig. 1. Remove the Air Cap

4. Install the diffuser/seal assembly (1), air cap/electrode assembly (2), and cover (3) onto the gun. Tighten the cover firmly. See Fig. 2.

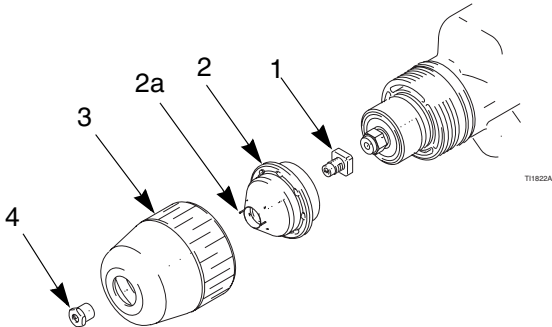


Fig. 2. Install the Round Spray Kit

5. Install the spray tip (4) and tighten it using the wrench (5) provided. See Fig. 3. When tightening, only grip the end of the wrench with your fingers; do not grip the wrench cross-arms (E).

|   |
|---|
| <b>! CAUTION</b>  |
| Overtightening the spray tip (4) can damage the tip and cause poor spray performance. |

|  |
|--|
| <b>! CAUTION</b>   |
| Do not operate the gun with a damaged electrode. Make sure the electrode (2a) is in place before tightening the cover. |

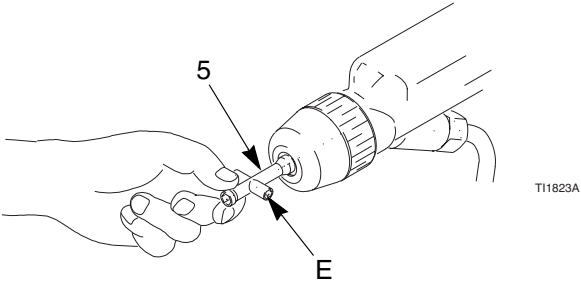


Fig. 3. Tighten the Spray Tip

### Install or Replace the Electrode

If the electrode (2a) needs to be replaced or reinstalled, insert the two ends of the electrode into the two small air cap (2) holes until both electrode ends protrude through the front of the air cap. Refer to Fig. 2 and the "Parts" drawing on page 6.

# Operation

## ! WARNING

### Fluid Injection Hazard

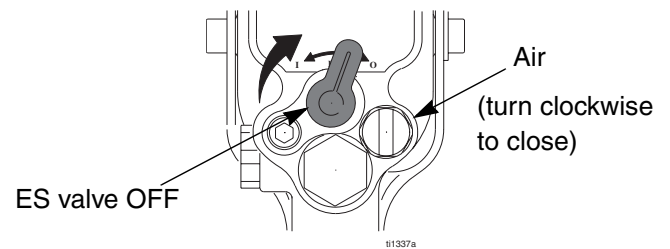


This equipment operates at very high fluid pressure. Spray from the gun, hose leaks, or ruptured components can inject fluid into your body and cause an extremely serious injury, including the need for amputation. Splashing fluid in the eyes or on the skin can also cause serious injury.

- Fluid injected into the skin might look like just a cut, but is a serious injury. **Get immediate medical attention.**
- Do not point the gun at anyone or at any part of the body. Do not put your hand or fingers over the spray tip. Do not stop or deflect fluid leaks with your hand, body, glove, or rag.
- Lock the trigger safety when you stop spraying.
- Follow the “**Pressure Relief Procedure**”, page 1, when you stop spraying and before cleaning, checking, or repairing equipment.
- Check the hoses and couplings daily. Replace worn, damaged, or loose parts immediately. Permanently coupled hoses cannot be repaired; replace the entire hose.
- Tighten all fluid connections before each use.
- See instruction manuals 309295 and 309296 for complete warnings and instructions for safe operation.

1. Adjust the air hose inlet pressure according to the instructions in the gun instruction manual 309295.

2. Turn the ES ON/OFF valve OFF and close the atomizing air adjustment valve. See Fig. 4.



**Fig. 4. Gun Adjustments**

3. Atomization fluid pressure will vary based on the viscosity of the fluid, the flow rate desired, and other characteristics of your system. To adjust the fluid pressure to achieve the desired flow rate:
  - a. Use a starting fluid pressure of about 300 psi (2.1 MPa, 21 bar) for light viscosity fluids (about 20 centipoise) or about 600 psi (4.2 MPa, 42 bar) for medium viscosity fluids (about 42 centipoise).
  - b. Spray quickly across a test surface (*quick-pass*), holding the gun about 12 in. (305 mm) from the surface. Note the atomization (particle size).
  - c. Increase the fluid pressure by 100 psi (0.7 MPa, 7 bar) increments and spray test patterns until the atomization does not improve significantly (particle size no longer reduces); **do not** exceed the guns *Maximum Fluid Pressure* of 3000 psi (21 MPa, 210 bar).

**NOTE:** See the “**Spray Tip Chart**”, page 5, for fluid flow information. Refer to Spray Pattern Troubleshooting, page 4, to correct spray pattern problems.

4. Use the gun's atomization air adjustment valve to adjust the air flow to the air cap. Lower air flow will give a softer spray (less velocity). Too little air may cause spitting.
5. Turn the ES ON/OFF valve ON. The gun is now ready to spray.


## Recommended Spraying Distance

The recommended spraying distance is 8-12 in. (203-305 mm) from the front of the gun to the object being sprayed. Since the round pattern tip emits a very soft spray, the electrostatic attraction of the floating particles is relatively strong. To minimize having paint spray attracted to the gun and operator, avoid spraying with the gun too far away from the grounded object being sprayed.




## Tip Clogging

If the tip clogs, stop spraying immediately and relieve pressure (see page 1). Remove the spray tip (4) with the wrench (5) provided. Use a soft brush dampened with a compatible solvent to clean the fluid passages on the back side of the tip plate and the front of the diffuser (1).

## Flushing and Cleaning

 **WARNING**

**Fire, Explosion, and Electric Shock Hazard**

To reduce the risk of fire, explosion, or electric shock, turn the ES ON/OFF valve OFF before flushing or cleaning the gun or round spray kit parts.

1. Relieve the pressure (see page 1).
2. Loosen the cover (3) and remove the round spray kit parts (1, 2, 4). See Fig. 2.

**NOTE:** See the "Spray Tip Chart", page 5, for fluid flow information. Refer to "Spray Pattern Troubleshooting", page 5, to correct spray pattern problems.

3. Flush and clean the gun as instructed in manuals 309295 and 309296.
4. Use a soft brush to clean the round spray parts with a compatible solvent (refer to "Parts", page 6, for kit materials).

# Spray Tip Chart

| Part No. | Size No. | Approximate Flow Rates for Light to Medium Viscosity Coatings (20-40 centipoise)* |                           |                            |
|----------|----------|---|---------------------------|----------------------------|
|          |          | 300 psi (2.1 MPa, 21 bar)   | 600 psi (4.2 MPa, 42 bar) | 1200 psi (8.4 MPa, 84 bar) |
| 236836   | 4A       | 2.5 oz/min (73 cc/min)  | 4.1 oz/min (120 cc/min)   | 5.7 oz/min (170 cc/min)    |
| 236837   | 6A       | 2.9 oz/min (86 cc/min)  | 5.1 oz/min (150 cc/min)   | 7.4 oz/min (220 cc/min)    |
| 236838   | 7A       | 3.2 oz/min (95 cc/min)  | 5.4 oz/min (160 cc/min)   | 7.8 oz/min (230 cc/min)    |
| 236839   | 5B       | 5.4 oz/min (160 cc/min)   | 7.8 oz/min (230 cc/min)   | 11.0 oz/min (330 cc/min)   |
| 236840   | 7B       | 7.1 oz/min (210 cc/min)   | 9.1 oz/min (270 cc/min)   | 14.2 oz/min (420 cc/min)   |
| 236841   | 9B       | 8.8 oz/min (260 cc/min)   | 11.8 oz/min (350 cc/min)  | 17.9 oz/min (530 cc/min)   |
| 236842   | 11B      | 11.8 oz/min (350 cc/min)  | 16.2 oz/min (480 cc/min)  | 23.7 oz/min (700 cc/min)   |

\* Flows are based on white acrylic, enamel paint.

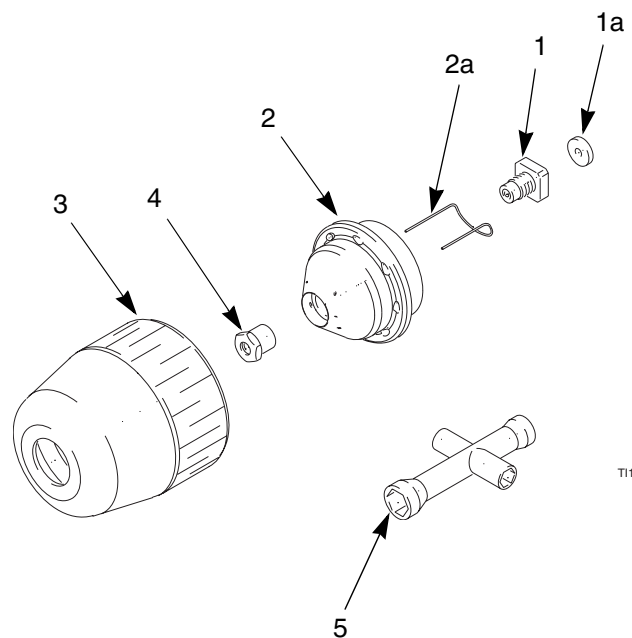
## Spray Pattern Troubleshooting

| Problem                                      | Possible Cause               | Solution   |
|--|------------------------------|--|
| Spray is too forceful (high velocity).       | Air flow too high.           | Use gun atomizing air adjustment valve to reduce air flow.                           |
|  | Spray tip worn.              | Replace tip.   |
|  | Diffuser worn.               | Replace diffuser.  |
|  | Fluid flow too high.         | Use smaller tip or lower pressure.   |
| Spray gun spitting.                          | Air flow too low.            | Use gun atomizing air adjustment valve to increase air flow.                         |
|  | Tip size is too large.       | Use smaller tip.   |
| Tip clogging.                                | Paint not properly filtered. | Clean or replace gun filter. Install in-line filter or clean/replace in-line filter. |
|  | Tip size is too small.       | Use larger tip.  |
| Distorted spray pattern (heavy to one side). | Tip is clogged.              | See above.   |
|  | Worn or damaged spray tip.   | Replace tip.   |

# Parts

## Part No. 245282

| Ref. No. | Part No. | Description  | Qty |
|----------|----------|--|-----|
| 1        | 236768   | DIFFUSER/SEAL ASSY; stainless steel, carbide, epoxy; includes item 1a              | 1   |
| 1a       | 183459   | . SEAL; ultra-high molecular weight polyethylene                                   | 1   |
| 2        | 245294   | AIR CAP/ELECTRODE ASSY; acetal homopolymer; includes item 2a                       | 1   |
| 2a       | 198748   | . ELECTRODE; stainless steel   | 1   |
| 3        | 245297   | COVER; nylon   | 1   |
| 4        | 236xxx   | SPRAY TIP; stainless steel, ceramic, epoxy; customer's choice; see chart on page 5 | 1   |
| 5        | 189780   | WRENCH   | 1   |



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