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**Contact Us**

Nordson Corporation welcomes requests for information, comments, and inquiries about its products. General information about Nordson can be found on the Internet using the following address:


Address all correspondence to:
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Attn: Customer Service
555 Jackson Street
Amherst, OH 44001

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## Change Record

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<tr>
<td>01</td>
<td>8/18</td>
<td>New Release</td>
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Encore® Automatic PE Powder Spray Gun

Safety

Read and follow these safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

All phases of equipment installation must comply with all federal, state, and local codes.
**Personal Safety**

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- Obtain and read Safety Data Sheets (SDS) for all materials used. Follow the manufacturer’s instructions for safe handling and use of materials, and use recommended personal protection devices.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

**Fire Safety**

To avoid a fire or explosion, follow these instructions.

- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your material SDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.
**Grounding**

**WARNING:** Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

Grounding inside and around the booth openings must comply with NFPA requirements for Class II Division 1 or 2 Hazardous Locations. Refer to NFPA 33, NFPA 70 (NEC articles 500, 502, and 516), and NFPA 77, latest conditions.

- All electrically conductive objects in the spray areas shall be electrically connected to ground with a resistance of not more than 1 megohm as measured with an instrument that applies at least 500 volts to the circuit being evaluated.
- Equipment to be grounded includes, but is not limited to, the floor of the spray area, operator platforms, hoppers, photoeye supports, and blow-off nozzles. Personnel working in the spray area must be grounded.
- There is a possible ignition potential from the charged human body. Personnel standing on a painted surface, such as an operator platform, or wearing non-conductive shoes, are not grounded. Personnel must wear shoes with conductive soles or use a ground strap to maintain a connection to ground when working with or around electrostatic equipment.
- Operators must maintain skin-to-handle contact between their hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If gloves must be worn, cut away the palm or fingers, wear electrically conductive gloves, or wear a grounding strap connected to the gun handle or other true earth ground.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments or cleaning powder spray guns.
- Connect all disconnected equipment, ground cables, and wires after servicing equipment.

**Action in the Event of a Malfunction**

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the equipment.

**Disposal**

Dispose of equipment and materials used in operation and servicing according to local codes.
Description

The Encore Automatic Porcelain Enamel (PE) Powder Spray Gun electrostatically charges and sprays porcelain enamel (frit) powder coatings.

The gun is equipped with a 100 kV integral electrostatic power supply and electrode air-wash to prevent powder from collecting on the electrode. The guns have a straight-through powder path to minimize impact fusion.

The guns are used with the Nordson Encore iControl System or Encore LT Automatic Controllers, which provide electrostatic voltage control, electrode air-wash air, and powder pump air.

A ceramic conical nozzle and 38-mm deflector is shipped with the gun. Optional equipment includes:

- 8, 12, and 16-meter (26, 39, 52-ft) control cables.
- 4-meter (13 ft) extension cable
- 4-ft (121 cm) fixed or articulating bar mounts.
- ion collector kit.
- 4 and 6-mm flat spray nozzles.
- 4 and 6-mm corner spray nozzles.

![Encore Automatic PE Powder Spray Gun with Conical Nozzle](image)

Figure 1  Encore Automatic PE Powder Spray Gun with Conical Nozzle

1. Conical deflector
2. Conical pattern adjuster
3. Nozzle nut
4. Gun body
5. Mounting bracket
6. Tube adapter
7. Powder hose adapter
Specifications

<table>
<thead>
<tr>
<th>Input Rating</th>
<th>Output Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>+/- 19 VAC, +/-1 A (Peak)</td>
<td>100 KV, 100 μA</td>
</tr>
</tbody>
</table>

- Air Quality: <5μ particulates, dew point <10 °C (50 °F)
- Max Relative Humidity: 95% non-Condensing
- Ambient Temperature Rating: +15 to +40 °C (59–104 °F)
- This applicator is used with Porcelain Enamel powders which are non-flammable.

Dimensions and Weights

Encore PE Bar-Mount Gun
Weight: 897 grams (1.98 lbs)

Figures 2 Gun Dimensions and Weights (with Conical Nozzle)

Serial Number Label

NOTE: The gun serial number contains the location, year, and month it was manufactured. The serial number starts with “AA10A”. The “AA” means the product was built in Amherst, Ohio, the “10” meaning the year 2010. The “A” means the month of January, “B” would be February, and so on.
Installation

**Standard Articulated Bar Mount Kit**

1. See Figure 3. Install the tube adapter (3) into the end of the adjusting rod (9) and secure it by tightening the set screw (10) with a 4-mm hex key.
   - To move the gun tip from side to side, loosen the right button screw (1).
   - To tilt the gun tip up or down, loosen the tilt knob (4).
   - To rotate the adjusting rod or slide the adjusting rod forward or back, loosen the locking handle (5).

2. Position the clamp (7) on a 1 inch mounting bar and tighten the clamp handle (6).

3. Bundle the powder hose, 4-mm clear electrode air-wash tubing, and gun cable together and secure them to the adjusting rod with Nordson Velcro straps. Connect them to the spray gun as shown in Figure 5.

---

**Figure 3** Standard Articulated Bar-Mount Gun Mounting

1. Button screws
2. Tilt bracket
3. Tube adapter
4. Tilt knob
5. Locking handle
6. Clamp handle
7. Clamp
8. Locking body
9. Adjusting rod
10. Set screw
Optional Articulated and Fixed Gun Bar Mount Kits

See Figure 4. These optional bar mount kits have large inner diameter adjusting rods (1), through which the powder hose, air tubing, and gun cable can be routed. The tube adapter (2) shipped with the spray gun cannot be used with these kits. It must be exchanged for the tube adapter provided with the kits.

1. Unscrew and remove the knob and washer (5, 4) from the gun mounting bracket (3).

2. Remove the standard tube adapter (not shown) from the gun mounting bracket.

3. Slide the end of the optional tube adapter (2) into the gun mounting bracket and align the hole in the end of the tube adapter with the holes in the gun mounting bracket.

4. Install the knob and washer through the mounting bracket and tighten.

5. See Figure 5. Pull (in the following order) the gun cable, 4-mm clear electrode air-wash tubing, and powder hose through the end mounting tube and out the cutout. Connect them to the spray gun as shown in Figure 5.

![Articulating Bar Mount](image1)

![Fixed Bar Mount](image2)

Figure 4 Optional Gun Bar Mount Kits

1. Adjusting rod
2. Tube adapter
3. Bar mount bracket
4. Washer
5. Knob
**Gun Connections**

1. Connect the powder hose (1) to the hose connector and secure the hose with a hose clamp (4).
2. Connect the 4-mm clear electrode air-wash tubing (2) to the barbed fitting.
3. Connect the gun cable (3) to the receptacle and tighten the cable nut securely.

**Standard Bar Mount Connections**

**Optional Bar Mount Connections**

Figure 5  Gun Connections

1. Powder hose  
2. Electrode air wash tubing  
3. Gun cable  
4. Hose clamp
Optional Ion Collector Installation

The ion collector collects ions emitted from the gun’s charging electrode instead of allowing them to deposit on the part. This reduces 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, and can improve the smoothness and appearance of cured powder coatings.

After installing the ion collector, adjust the collector rod position for best results as described in Adjusting the Ion Collector Rod.

1. See Figure 6. Install the mounting block (1) on the gun with the M5 lockwasher and screw (2, 3).
2. Insert the collector rod (5) into the block and secure it with the M5 x 8 set screw (4) included in the ion collector kit.
3. Slide the multi-point tip (6) onto the nozzle nut and attach it to the collector rod with the M3 screw (7).

NOTE: Remove the pattern adjust sleeve from the conical nozzle before installing the multi-point tip.

Adjusting the Ion Collector Rod

Use this procedure to find the optimum position of the multi-point tip for the application.

- If the ion collector tips are 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 ion collector tips are too close to the tip of the electrode, powder particles may not be charged efficiently and the powder transfer efficiency may be reduced.

1. Before installing the ion collector rod on the gun, coat several parts. Note the current (μA) shown on the control unit display when coating the parts. Cure the coatings.
2. Install the ion collector kit on the gun.
3. Loosen the set screw (4) and move the multi-point tip 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 μA 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 step 5 until the desired improvement in surface finish is obtained.
Changing From Conical to Flat or Corner Spray Nozzle

**WARNING:** Turn off the spray gun and ground the electrode before performing this procedure. Failure to observe this warning could result in a severe electrical shock.

**CAUTION:** The deflector cap (1) and deflector (2) must be removed before removing the nozzle nut from the spray gun. If they are not removed first, the electrode support (8) could be subjected to damage and may have to be replaced.

See Figure 7. To change from the standard conical nozzle to a flat or corner spray nozzle, the following items should be ordered:

- the applicable nozzle (9)
- a new nozzle nut (5)
- a flat spray electrode holder kit (items 7, 10, and 11).

Refer to *Parts* section of this manual for optional nozzles, nozzle nut, and electrode holder kit.

1. With finger, hold the deflector (2) from turning while unscrewing the deflector cap (1).
2. Pull the deflector (2) off the conical electrode holder (6).
3. Unscrew the nozzle nut (5) and remove it along with the pattern adjuster sleeve (3) and conical nozzle (4) from the spray gun.
4. Remove the electrode support assembly (6, 7, and 8) from the spray gun. Use low-pressure compressed air to clean the assembly. Inspect for wear and damage. Refer to *Electrode Support Assembly Replacement* in the *Repair* section of this manual.
5. Unscrew the conical electrode holder (6) from the electrode support (8)
6. Install the 6 mm ID x 20 mm long polyurethane wear sleeve (10) over the end of the flat electrode holder (11).
7. Insert the new electrode (7) into the flat electrode holder (11).
8. Screw the flat electrode holder into the electrode support. Install the electrode support assembly (7, 8, 10, and 11) into the spray gun.
9. Install the flat spray or corner spray nozzle (9) onto the electrode support (8), then install the new nozzle nut on the spray gun.
Changing From Conical to Flat or Corner Spray Nozzle (contd)

Figure 7   Changing From Conical to Flat or Corner Spray Nozzle (shown with Flat Spray Nozzle).

1. Deflector cap
2. Deflector
3. Pattern adjuster sleeve
4. Conical nozzle
5. Nozzle nut
6. Conical electrode holder
7. Electrode
8. Electrode support assembly (XD Shown)
9. Flat spray nozzle
10. Wear sleeve
11. Flat electrode holder
Operation

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

**WARNING:** This equipment can be dangerous unless it is used in accordance with the rules laid down in this manual.

Automatic and manual control of electrostatic output, air-wash air flow, and pump air flow, are provided by the Nordson iControl System or the Encore LT Automatic Controllers. Spray gun triggering and positioning are provided by the iControl System, a Nordson Axis Controller, or a PLC supplied either by Nordson or the customer. Refer to your controller manual for programming information and instructions.

**Cleaning Conical Nozzles and Deflectors**

**WARNING:** Turn off the spray gun and ground the electrode before performing this procedure. Failure to observe this warning could result in a severe electrical shock.

**WARNING:** Release the spray gun trigger, put the controller to sleep, and ground the electrode before performing this procedure. Failure to observe this warning could result in a severe electric shock.

**CAUTION:** Purge the spray gun and press the Enable/Disable button to put the controller to sleep and prevent accidental spray gun triggering.
CAUTION: The deflector cap (1) and the deflector (2) must be removed before removing the nozzle nut from the spray gun. If they are not removed first, the electrode support (8) could be subjected to damage and may have to be replaced.

1. See Figure 8. Hold the deflector (2) with finger while unscrewing the deflector cap (1). Gently pull the deflector (2) off the conical electrode holder (6).
2. Unscrew the nozzle nut (5) counterclockwise and remove the nut, conical nozzle (4) and pattern sleeve (3) from the spray gun.
3. Remove the electrode support assembly (6, 7, and 8) from the spray gun. Use low-pressure compressed air to clean the assembly. Inspect the assembly for wear or damage. Refer to the Electrode Support Assembly Replacement instructions in the Repair section of this manual.
4. Clean all parts with low-pressure compressed air. Inspect all parts and replace any that are worn or damaged.
5. Inspect the electrode holder (6). If the electrode support is worn or damaged, unscrew it from the electrode support (8), then remove the electrode (7). Install the electrode in the new holder, then screw the holder into the electrode support. Install the electrode support assembly (6, 7, and 8) into the spray gun.
6. Screw the nozzle nut onto the spray gun.
7. Install the deflector onto the electrode holder. Do not bend the end of the electrode.
8. Screw the deflector cap onto the electrode holder tight.

NOTE: Press the Enable/Disable button to wake up the controller and resume the operation.

Figure 8  Cleaning a Conical Nozzle


Note: The electrode holder used with a Conical spray nozzle is not interchangeable with Flat/Crner spray nozzles.
Cleaning Flat and Corner Spray Nozzles

**WARNING:** Release the spray gun trigger, put the controller to sleep, and ground the electrode before performing this procedure. Failure to observe this warning could result in a severe electric shock.

**WARNING:** Turn off the spray gun and ground the electrode before performing this procedure. Failure to observe this warning could result in a severe electrical shock.

**CAUTION:** Purge the spray gun and press the Enable/Disable button to put the controller to sleep and prevent accidental spray gun triggering.

1. See Figure 9. Unscrew the nozzle nut (1) counterclockwise
2. Pull the nozzle nut (1) and nozzle (2) off the spray gun. Remove the nozzle from the nut and clean both with low-pressure compressed air and clean cloths. Replace if worn or damaged.
3. Remove the electrode support assembly (3, 4, 5, and 6) from the spray gun. Use low-pressure compressed air to clean the assembly. Inspect the assembly and replace it if worn or damaged. Refer to the Electrode Support Assembly Replacement in the Repair section of this manual.
4. Inspect the wear sleeve (3) and the electrode holder (4). If either is worn or damaged, replace them with the flat spray electrode holder kit.
   a. Unscrew the electrode holder and sleeve from the electrode support assembly (6).
   b. Install the new sleeve (3) over the new electrode holder (4).
   c. Install the electrode (5) in the new holder, then screw the holder into the electrode support assembly (6).
5. Install the electrode support assembly back into the spray gun.
6. Install the nozzle (2) onto the electrode support (4), then screw the nozzle nut (1) onto the spray gun body clockwise until finger tight.

**NOTE:** Press the Enable/Disable button to wake up the controller and resume operation.

![Figure 9 Cleaning a Flat/Corner Spray Nozzle](image)

**Note:** The electrode holder used with a Flat/Corner spray nozzle is not interchangeable with a Conical spray nozzle.
Maintenance

**WARNING:** Turn off the electrostatic voltage and ground the gun electrode before performing the following tasks. Failure to observe this warning could result in a severe shock.

### Daily Maintenance

**NOTE:** Depending on your application, you may not need to perform this procedure every day. If you regularly perform color changes with a powder feed center, the spray gun is purged internally each time a color change is performed. If this is the case, perform this procedure every 2–3 days.

1. Purge the spray guns, then shut them off.
2. Disconnect the powder hose from the powder pump. Blow any remaining powder out of the powder hose and spray gun with an OSHA-approved, low-pressure air gun. Never blow air through the powder hose from the spray gun into the powder pump.
3. See Figure 7. Remove the nozzle from the gun:
   - **Conical Nozzle:** Unscrew the deflector cap (1), then remove the deflector (2). Unscrew the nozzle nut (4) and remove it along with the nozzle and pattern sleeve (3) from the gun.
   - **Flat or Corner Spray Nozzle:** Unscrew the nozzle nut (4) and remove it along with the nozzle (8) from the gun.
4. Pull the electrode support (7) out of the gun.
5. Disconnect the powder hose from the gun.
6. Blow out the gun from the powder hose connector toward the front end.
**Daily Maintenance (contd)**

7. If you are using a conical nozzle, pull the pattern sleeve (3) off the nozzle nut and nozzle. Clean all parts removed with a low-pressure blow gun. Wipe the parts with a clean, dry cloth.

8. Inspect the ceramic nozzles, pattern sleeve, and electrode support and holder for wear. Replace worn or damaged parts.

9. Check the hose adapter and powder tube inside the gun for wear and replace if worn or damaged.

10. Re-assemble the gun and return to service.

**Weekly Maintenance**

Check the resistance of the power supply and electrode support assembly with a megohm meter, as described in the troubleshooting procedures. Replace the power supply, electrode support resistor, or both, if the resistance readings do not fall within the specified ranges. Refer to *Continuity and Resistance Checks* in the *Troubleshooting* section for more information.
**Troubleshooting**

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

These troubleshooting procedures cover only the most common problems. Refer to the Encore iControl Hardware Manual for control-related problems. If you cannot solve a problem with the information provided in these manuals, contact your local Nordson representative for help.

**NOTE:** iFlow modules are used in the iControl controller to control pump air flow. Refer to your iControl manuals for problems related to iFlow modules.

### General Troubleshooting Chart

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Uneven pattern, unsteady or inadequate powder flow</td>
<td>Blockage in spray gun, powder hose, or pump</td>
<td>1. Purge the spray gun. Remove the nozzle and electrode support and clean them.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Disconnect the powder hose from the spray gun and blow out the powder tube with an air gun.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Disconnect the powder hose from the pump and spray gun and blow out the hose. Replace the hose if it is clogged with powder.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Disassemble and clean the pump.</td>
</tr>
<tr>
<td>Nozzle, deflector, or electrode support worn, affecting pattern</td>
<td>Remove, clean, and inspect the nozzle, deflector, and electrode support. Replace worn parts as necessary. If excessive wear is a problem, reduce the flow and atomizing air.</td>
<td></td>
</tr>
<tr>
<td>Damp powder</td>
<td>Check the powder supply, air filters, and dryer. Replace the powder supply if contaminated.</td>
<td></td>
</tr>
<tr>
<td>Low pump air flow/pressure</td>
<td>Adjust pump air flow/pressure.</td>
<td></td>
</tr>
<tr>
<td>Improper fluidization of powder in feed hopper</td>
<td>Increase the fluidizing air pressure. If the problem persists, remove the powder from the hopper. Clean or replace the fluidizing plate if contaminated.</td>
<td></td>
</tr>
<tr>
<td>iFlow module out of calibration</td>
<td>Perform the Re-Zero Procedure in the iControl hardware manual.</td>
<td></td>
</tr>
</tbody>
</table>

*Continued...*
<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. <strong>Voids in powder pattern</strong></td>
<td>Worn nozzle or deflector</td>
<td>Remove and inspect the nozzle or deflector. Replace worn parts.</td>
</tr>
<tr>
<td></td>
<td>Plugged electrode support or powder tube</td>
<td>Remove the electrode support and clean it. Remove powder tube if necessary and clean it.</td>
</tr>
<tr>
<td></td>
<td>Electrode air-wash flow too high</td>
<td>Air-wash flow is controlled by a fixed orifice. Refer to your controller manual for more troubleshooting information.</td>
</tr>
<tr>
<td>3. <strong>Loss of wrap, poor transfer efficiency</strong></td>
<td>Low electrostatic voltage</td>
<td>Increase the electrostatic voltage.</td>
</tr>
<tr>
<td></td>
<td>Poor electrode connection</td>
<td>Remove the nozzle and electrode support. Clean the electrode and check for carbon tracking or damage. Check the electrode support resistance as shown on page 22. If the electrode support is good, remove the gun power supply and check its resistance as shown on page 22.</td>
</tr>
<tr>
<td></td>
<td>Poorly grounded parts</td>
<td>Check the conveyor chain, rollers, and part hangers for powder buildup. The resistance between the parts and ground must be 1 megohm or less. For best results, 500 ohms or less is recommended.</td>
</tr>
<tr>
<td>4. <strong>No kV output from the spray gun (display shows 0 kV when gun triggered), but powder is spraying</strong></td>
<td>Damaged gun cable</td>
<td>Perform the <em>Gun Cable Continuity Checks</em> on page 23. If an open or short is found, replace the cable.</td>
</tr>
<tr>
<td></td>
<td>Spray gun power supply shorted</td>
<td>Perform the <em>Power Supply Resistance Test</em> on page 22.</td>
</tr>
<tr>
<td>5. <strong>No kV output from the spray gun (interface shows kV output) but powder is spraying</strong></td>
<td>Spray gun power supply open</td>
<td>Perform the <em>Power Supply Resistance Test</em> on page 22.</td>
</tr>
<tr>
<td></td>
<td>Damaged gun cable</td>
<td>Perform the <em>Gun Cable Continuity Test</em> on page 23. If an open or short is found, replace the cable.</td>
</tr>
<tr>
<td>6. <strong>Powder build up on the electrode tip</strong></td>
<td>Insufficient electrode air-wash flow</td>
<td>Air-wash flow is controlled by a fixed orifice. Check the air-wash tubing, and check for flow at the output fitting when the gun is triggered on. Refer to your controller manual for more troubleshooting information.</td>
</tr>
</tbody>
</table>

Continued...
<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. <strong>Low powder flow or powder flow surging</strong></td>
<td>Low supply air pressure</td>
<td>iControl console air supply pressure must be greater than 5.86 bar (85 psi). Encore LT Automatic Controllers require 4.0–7.6 bar (58–110 psi).</td>
</tr>
<tr>
<td></td>
<td>iControl module air pressure regulator set too low</td>
<td>Adjust the iControl regulator to 5.86 bar (85 psi). Refer to the iFlow Air Flow Verification Kit instruction sheet.</td>
</tr>
<tr>
<td></td>
<td>Supply air filter plugged or filter bowl full – water contamination of flow controller</td>
<td>Remove bowl and drain water/dirt. Replace filter element if necessary. Clean system, replace components if necessary.</td>
</tr>
<tr>
<td></td>
<td>iFlow module flow valve or Encore LT flow valve plugged</td>
<td>Refer to your controller manual.</td>
</tr>
<tr>
<td></td>
<td>Air tubing kinked or plugged</td>
<td>Check flow and atomizing air tubing for kinks.</td>
</tr>
<tr>
<td></td>
<td>Pump throat worn</td>
<td>Replace pump throat.</td>
</tr>
<tr>
<td></td>
<td>Pump not assembled correctly</td>
<td>Check and re-assemble pump.</td>
</tr>
<tr>
<td></td>
<td>Pick-up tube blocked</td>
<td>Check for debris or bag (VBF units) blocking pick-up tube.</td>
</tr>
<tr>
<td></td>
<td>Fluidizing air too high</td>
<td>If fluidizing air is set too high the ratio of powder to air will be too low.</td>
</tr>
<tr>
<td></td>
<td>Fluidizing air too low</td>
<td>If fluidizing air is set too low the pump will not operate at peak efficiency.</td>
</tr>
<tr>
<td></td>
<td>Powder hose plugged</td>
<td>Blow out powder hose with compressed air.</td>
</tr>
<tr>
<td></td>
<td>Powder hose kinked</td>
<td>Check for a kinked powder hose.</td>
</tr>
<tr>
<td></td>
<td>Powder hose too long</td>
<td>Shorten hose.</td>
</tr>
<tr>
<td></td>
<td>Gun powder path plugged</td>
<td>Check hose connector, powder tube, and electrode support for impact fusion or debris. Clean as necessary with compressed air.</td>
</tr>
<tr>
<td></td>
<td>Flow and atomizing air tubing reversed</td>
<td>Check flow and atomizing air tubing routing and correct if incorrect.</td>
</tr>
<tr>
<td>8. <strong>No KV when gun is triggered ON, powder flow OK</strong></td>
<td>KV set to zero</td>
<td>Change KV to a positive value.</td>
</tr>
<tr>
<td></td>
<td>Check the Alarm screen for messages.</td>
<td>Refer to your controller manual for troubleshooting procedures.</td>
</tr>
<tr>
<td>9. <strong>No powder flow when gun is triggered ON, kv OK</strong></td>
<td>Total air set to zero</td>
<td>Change the total flow to a positive value.</td>
</tr>
<tr>
<td></td>
<td>Input air turned OFF</td>
<td>Check the iControl console air supply.</td>
</tr>
<tr>
<td>10. <strong>Gun flow % does not increment, always 0</strong></td>
<td>Total air set to zero</td>
<td>If the total air is set to zero the flow percent cannot be adjusted. Change the total flow to a positive value.</td>
</tr>
</tbody>
</table>
**Power Supply Resistance Test**

Use a meg–ohm meter to check the resistance of the power supply, from the J2–3 feedback terminal at the connector to the contact pin inside the front end. The resistance should be between 280–320 meg ohms. If the reading is infinite, switch the meter probes. If the resistance falls outside this range, replace the power supply.

![Power Supply Resistance Test Diagram](image)

**Electrode Support Resistance Test**

Use a meg–ohm meter to measure the resistance of the electrode support assembly from the contact ring on the back to the electrode in the front. The resistance should be 19–21 meg ohms. If the resistance is out of this range repair or replace the electrode support assembly.

Refer to Electrode Support Repair on page 29 to repair the electrode support assembly.

![Electrode Support Resistance Test Diagram](image)
Cable Continuity Tests

Use a standard ohmmeter to check the gun cables and harness for continuity.

Gun Receptacle Harness

This harness connects the power supply (voltage multiplier) to the gun cable.

Gun Extension Cable

This 4-meter cable is optional.
Standard Gun Cables

These cables are available in 8, 12, and 16-meter (26, 39, 52 ft) lengths.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>&quot;X&quot; LENGTH</th>
<th>RESISTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1097537</td>
<td>26.0 FEET 6.00 IN (8M)</td>
<td>162 OHM ± 1%</td>
</tr>
<tr>
<td>1097539</td>
<td>39.5 FEET 6.00 IN (12M)</td>
<td>243 OHM ± 1%</td>
</tr>
<tr>
<td>1097540</td>
<td>52.0 FEET 6.00 IN (16M)</td>
<td>324 OHM ± 1%</td>
</tr>
</tbody>
</table>

Figure 14  Gun Cable
Repair

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

Preparation

1. Shut off the electrostatic voltage and powder pump air at the controller. Purge the gun to blow any remaining powder out of the powder hose and gun.
2. Blow off the exterior of the gun, then disconnect the powder hose, gun cable, and air wash tubing from the gun.
3. Remove the gun from the mounting bar and move it to a clean workbench.

Replacing the Powder Tube

**WARNING:** Wear protective gloves and safety glasses during this procedure. The powder tube is glass and can shatter if not handled with care.

1. Unscrew the hose adapter with powder tube (29) from the end cap (28) and pull it out of the spray gun. The powder tube should come out with the hose adapter.

**NOTE:** If the powder tube separates from the hose adapter fitting, carefully remove the tube from the end cap wearing protective gloves.

2. Insert the powder tube into the end cap and through the gun bodies, then thread the adapter into the end cap and finger tighten securely.

Figure 15 Powder Tube Replacement

29. Hose adapter with powder tube  
28. End cap
Replacing the Power Supply

1. Remove the nozzle and electrode support assembly as described on page 12. If using a conical nozzle, always remove the deflector cap and deflector first.

2. Remove the hose adapter and powder tube as described on page 25.

3. See Figure 16. Unscrew and remove the two Philips head screws (31) and internal-toothed lock washers (32) from the end cap (28).

4. Carefully separate the end cap/rear body assembly (27, 28) from the front body assembly.

5. Insert a small flat-bladed screwdriver into the slot on the harness connectors and separate the receptacle harness (24) from the power supply harness.

6. See Figure 17. Disconnect the clear air wash tubing from the barbed fitting (23) inside the rear body.

7. If replacing the cable receptacle, barbed fitting, or rear gun body:
   a. See Figure 17. Use a 4-mm hex wrench to remove the hex head screw (25) and washer (26) and disconnect the ground terminal.
   b. Use a 1/4-in. deep well socket to unscrew the barbed fitting. Remove it and the lock washer from the end cap.
   c. See Figure 16. Unscrew the lock nut from the receptacle, then remove the receptacle and harness from the end cap.
   d. If replacing the rear gun body, separate the rear gun body from the end cap. Install the end cap on a new rear gun body.
   e. Discard the nut that is included with the new barbed fitting, then with the lock washer installed on the fitting, install it through the rear gun body and thread it into the end cap. Tighten the fitting securely.

Figure 16 Gun Disassembly – Powder Tube Replacement

- 16A. Filter assembly
- 24. Receptacle harness
- 27. Rear body
- 28. End cap
- 31. Screws
- 32. Lock washers

Figure 17 Receptacle Lock Nut

Harness Connectors
f. Install a new receptacle into the end cap/rear gun body and secure it with the lock nut.

g. See Figure 17. Connect the ground terminal to the end cap with the hex head screw and washer (25, 26).

Figure 17  Gun Disassembly – Cable Receptacle and Barbed Fitting Replacement

8. Carefully remove the two small 3-mm Allen nuts (21) holding the screw plate (20) up against the bulkhead (19). Thread adhesive is used on the stud threads.

9. Remove the screw plate, then the bulkhead, from the gun body (16).

10. Slide the power supply (17) out of the gun body. Note how the ridges on the power supply and gun body act as locator guides.

11. If installing new air wash tubing and filter (filter assembly, 16A), pry the filter out of the front of the gun body and pull the tubing through the front. Install a new filter assembly in the gun body.

12. Install a new power supply into the gun body, making sure the locator guides mate properly, and press on the rear of the power supply to ensure it is seated against the contact in the front.

13. Check the bulkhead gasket (18). If it is damaged, remove it and replace it with a new one.
Replacing the Power Supply (contd)

14. Install the bulkhead in the gun body, routing the power supply harness and air wash tubing through the appropriate holes.

15. Install the screw plate over the studs, apply a drop of Loctite 222 thread adhesive to each stud, then install the nuts on the studs and tighten them to 0.45 N•m (64 inch-ounces).

16. See Figure 17. Connect the air wash tubing to the barbed fitting, and the power supply harness to the cable receptacle harness.

17. See Figure 16. Install the end cap and rear gun body assembly on the gun body, making sure not to pinch the harness wires.

18. Install the two Phillips-head screws and lockwashers (31, 32) in the end cap and torque the screws to 0.55 N•m (79 inch-ounces).

19. See Figure 15. Install the powder tube (22) into the adapter (30) with a twisting motion to insert the tube past the internal O-ring until it is fully seated.

20. Insert the powder tube into the end cap and through the gun bodies, then thread the adapter into the end cap and tighten securely.

![Figure 18 Gun Disassembly - Power Supply Replacement](image)

Electrode Support Sleeve Replacement – XD Version

NOTE: The XD Electrode Support Assembly ships with new gun assemblies.

Electrode Support Details: (See Figure 19)

- The electrode support consists of items (3 and 4).
- The electrode support (4) contains a resistor. If the resistor fails, the entire assembly must be replaced.
- The electrode holder (1) and electrode (2) are sold separately. Conical and flat/corner spray nozzles use different electrode holders.

1. Unscrew the electrical holder (1) and remove the electrode (2).
2. Visually inspect and replace if damaged the following electrode support assembly items:
   - The ceramic spider (4a).
   - The PU seal (4b).
3. Install the electrode into the electrode holder, then screw the electrode holder into the ceramic spider.

Figure 19  XD Electrode Support Assembly Replacement.

1. Electrode holder
2. Electrode
3. O-ring
4. Electrode support assembly
4a. Ceramic spider
4b. PU seal
Electrode Support Sleeve Replacement – SD Version

NOTE: The SD Electrode Support Assembly is available as an option

SD Electrode Support Details: (See Figure 20)

- The SD electrode support consists of items (3, 4, 5 and 6).
- The sleeve (4) and spring (5) are sold as a kit.
- The support assembly (6) contains a resistor. If the resistor fails, the entire assembly must be replaced.
- The electrode (2) and electrode holder (1) are sold separately. Conical and flat/corner spray nozzles use different electrode holders.

Before removing the sleeve from the support, make sure to have a replacement kit on hand. The spring will be damaged when sleeve is pulled out of the support. The spring conducts the electrostatic voltage to the electrode.

1. Unscrew the electrode holder (1) and remove the electrode (2).
2. Pull the sleeve (4) out of the support (6).
3. Pull the spring (5) out of the sleeve (4) and ceramic spider (3).
4. Pull the spider out of the sleeve. Inspect the spider and sleeve for wear and damage. Discard worn or damaged parts.
5. Install the spider into the keyways in the sleeve, align the holes in both.
6. Install the spring into the holes in the sleeve and the spider.
7. Carefully compress the spring (5), align the sleeve key and support keyway, and insert the sleeve into the support until the spring snaps into the hole inside the support.
8. Install the electrode into the electrode holder, then screw the electrode holder into the ceramic spider.

Figure 20 Electrode Support Sleeve Replacement

<table>
<thead>
<tr>
<th>1. Electrode holder</th>
<th>3. Ceramic spider</th>
<th>5. Compression spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. electrode</td>
<td>4. Sleeve</td>
<td>6. Electrode support assembly</td>
</tr>
</tbody>
</table>
This page intentionally left blank.
Parts

To order parts, call the Nordson Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative. Parts can also be ordered on the Internet at http://www.enordson.com.

Spray Gun

Figure 21  Spray Gun
See Figure 21.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1601811</td>
<td>• RETAINER, deflector, 38 mm, Encore PE</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>245523</td>
<td>• DEFLECTOR, 38 in. diameter, ceramic</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>945016</td>
<td>• O-RING, silicone, 0.251, x 0.400 x 0.074 in.</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>246578</td>
<td>• INSERT, Pyrex</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>940331</td>
<td>• O-RING, silicone, 2.00 x 2.175 x 0.063 in.</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>942240</td>
<td>• O-RING, hot paint, 1.75 x 2.00 x 0.125 in.</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>7</td>
<td>982455</td>
<td>• SCREW, set, M6 x 1.0 x 8, nylon, black</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>8</td>
<td>1601433</td>
<td>• SLEEVE, pattern shaper, Encore PE</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>9</td>
<td>1602039</td>
<td>• O-RING, Buna N, 46 x 3, 70 Duro</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>10</td>
<td>1601814</td>
<td>• HOLDER, electrode, conical, Encore PE</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>11</td>
<td>1602041</td>
<td>• ELECTRODE, spring contact, Encore PE</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>12</td>
<td>1612354</td>
<td>• SUPPORT ASSEMBLY, electrode, Encore PE</td>
<td>1</td>
<td>B, C</td>
</tr>
<tr>
<td>13</td>
<td>1612461</td>
<td>• O-RING, buna N, 24.0 x 1.0 mm</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>1601430</td>
<td>• NOZZLE, conical, ceramic, Encore PE</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>15</td>
<td>1601431</td>
<td>• NUT, nozzle, Encore PE</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>16</td>
<td>1601422</td>
<td>• RING, retaining, nozzle, Encore PE</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>17</td>
<td>1608279</td>
<td>• KIT, negative power supply/auto body, Encore</td>
<td>1</td>
<td>D</td>
</tr>
<tr>
<td>18</td>
<td>1088558</td>
<td>• FILTER ASSEMBLY, handgun</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>1088502</td>
<td>• GASKET, multiplier cover, handgun, Encore</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>1097520</td>
<td>• BULKHEAD, body, front, auto, Encore</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>1101381</td>
<td>• PLATE, screw</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>1097522</td>
<td>• NUT, Allen, 4–40, stainless steel</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>1081616</td>
<td>• FITTING, bulkhead, barb, dual, 10–32 x 4 mm</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>815666</td>
<td>• SCREW, socket, M5 x 0.8 x 12, zinc</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>983127</td>
<td>• WASHER, lock, internal, M5, zinc</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>1097518</td>
<td>• BODY, gun rear, auto, Encore</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>1097514</td>
<td>• RECEPTACLE, gun harness</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>1601420</td>
<td>• CAP, end, bar gun, Encore PE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>1608283</td>
<td>• KIT, adapter assembly with tube</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>940160</td>
<td>• O-RING, hot paint, 0.625 x 0.75 x 0.063 in.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>983520</td>
<td>• WASHER, lock, internal, M3, steel, zinc</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>1605696</td>
<td>• SCREW, socket head, recessed, M3 x 35 mm</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>1097546</td>
<td>• ADAPTER, tube, mount, bar</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>1097545</td>
<td>• BALL, chrome steel, 6.5 mm diameter, 25, C63</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>345385</td>
<td>• SCREW, set, flat, M8 x 20, fastener</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>1097542</td>
<td>• BRACKET, mount, bar</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>1102293</td>
<td>• KNOB, T–handle, 5/16–18 x 1.5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>1102294</td>
<td>• WASHER, flat, 0.34 x 0.74 x 0.06, nylon</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>982503</td>
<td>• SCREW, button, socket, M5 x 10, zinc</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>939247</td>
<td>• CLAMP, hose, Snap-It</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE A:** Refer to Optional Nozzles on page 36 for flat and corner spray nozzles. Conical and flat/corner spray nozzles use different electrode holders and a new nozzle nut is also required.

**B:** Refer to Figure 22 and parts list for repair parts for the XD Electrode Support Assembly kit.

**C:** Refer to Figure 23 and parts list for repair parts for the optional SD Electrode Support Assembly kit.

**D:** Application Specific: Order part number 1609053 if a positive power supply is needed. The positive power supply is sold separately from the gun body (1098453).
## Electrode Support Assemblies

![XD Electrode Support Assembly](image)

Figure 22  XD Electrode Support Assembly

See Figure 22.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1612354</td>
<td>SUPPORT ASSEMBLY, electrode, Encore PE XD</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>1612461</td>
<td>O-RING, Buna N, 24 mm x 1 mm</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NOTE A: XD Electrode Support Assembly ships with new spray guns.

![SD Electrode Support Assembly – Option](image)

Figure 23  SD Electrode Support Assembly

See Figure 23.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1601423</td>
<td>SUPPORT ASSEMBLY, electrode, Encore PE, SD</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>1602193</td>
<td>KIT, sleeve, Encore PE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1601429</td>
<td>SPRING, compression, 0.088 OD x 0.75 long</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1602192</td>
<td>KIT, electrode support, Encore PE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1601428</td>
<td>SPIDER, ceramic, Encore PE</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NOTE A: SD Electrode Support Assembly is sold as an optional repair part.
Cables

These cables connect the spray gun to the gun controller (Encore iControl Integrated Control Unit or Encore LT Automatic Controller).

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1097537</td>
<td>CABLE, auto, Encore, 8 meter (26.25 ft)</td>
<td></td>
</tr>
<tr>
<td>1097539</td>
<td>CABLE, auto, Encore, 12 meter (39.4 ft)</td>
<td></td>
</tr>
<tr>
<td>1097540</td>
<td>CABLE, auto, Encore, 16 meter (52.5 ft)</td>
<td></td>
</tr>
<tr>
<td>1601344</td>
<td>CABLE, extension, Encore auto, 4 meter (13.1 ft)</td>
<td>A</td>
</tr>
</tbody>
</table>

**NOTE A:** Use between spray gun and 8, 12, or 16 meter cable.
**Optional Flat and Corner Spray Nozzles**

Spray guns are shipped with a conical nozzle. If replacing the conical nozzle with an optional flat or corner spray nozzle, order a new nozzle nut and flat spray electrode holder kit along with a nozzle.

- **1601744**  
  6 mm Flat Spray Nozzle

- **1601745**  
  4 mm Flat Spray Nozzle

- **1601748**  
  6 mm Corner Spray Nozzle

- **1601749**  
  4 mm Corner Spray Nozzle

- **1602194**  
  Flat Spray Electrode Holder Kit

- **1601431**  
  Nozzle Nut

Figure 24  Optional Flat and Corner Spray Nozzles
**Standard Articulating Gun Bar**

This gun bar is used with the tube adapter shipped with the spray gun. It clamps onto 1-in. diameter mounting bars.

![Standard Articulating Gun Bar Diagram](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>341727</td>
<td>GUN BAR, aluminum, 1.25-in. OD x 4 ft., assembly</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>327732</td>
<td>BODY, locking, 1.25 in. diameter</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>327704</td>
<td>ROD, adjusting, aluminum, 1.25 in. OD x 4 ft</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>327733</td>
<td>SLEEVE, locking, 1.25 in. diameter</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>248669</td>
<td>BODY, adjust mounting</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>248957</td>
<td>HANDLE, adjust, 9/32 x 1.77 in.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>249074</td>
<td>HANDLE, adjust, 9/32 x 2.75 in.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>983061</td>
<td>WASHER, flat, 0.406 x 0.812 x 0.065 in., zinc</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Optional Articulating Gun Bar

This gun bar allows the powder hose, air tubing, and gun cable to be routed through the adjusting rod to the rear of the gun. It includes a tube adapter that replaces the standard tube adapter shipped with the spray gun.

Figure 26 Optional Articulating Gun Bar

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1601743</td>
<td>KIT, articulating bar mount, 4 ft., Encore</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>327732</td>
<td>BODY, locking, 1.25 in. diameter</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1601444</td>
<td>ROD, adjusting, stainless steel, 1.25 in. OD x 4 ft</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>327733</td>
<td>SLEEVE, locking, 1.25 in. diameter</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>248669</td>
<td>BODY, adjust mounting</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>248957</td>
<td>HANDLE, adjust, 3/8−16 x 1.77 in.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>249074</td>
<td>HANDLE, adjust, 3/8−16 x 2.75 in.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>983061</td>
<td>WASHER, flat, 0.406 x 0.812 x 0.065 in., zinc</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1601432</td>
<td>ADAPTER, tube, mount, bar, Encore PE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1097545</td>
<td>BALL, chrome steel, 6.5 mm dia., 25, C63</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>345385</td>
<td>SCREW, set, flat, M8 x 20, fastener</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Optional Fixed Gun Bar

This gun bar allows the powder hose, air tubing, and gun cable to be routed through the adjusting rod to the rear of the gun. It includes a tube adapter that replaces the standard tube adapter shipped with the spray gun.

Figure 27 Optional Fixed Gun Bar

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1601742</td>
<td>KIT, universal, bar mount, 4 ft., Encore</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>345385</td>
<td>SCREW, set, flat, M8 x 20, fastener</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1097545</td>
<td>BALL, chrome steel, 6.5 mm dia., 25, C63</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1601432</td>
<td>ADAPTER, tube, mount, bar, Encore PE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1601444</td>
<td>ROD, adjusting, stainless steel, 1.25 in. OD x 4 ft</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1103254</td>
<td>CLAMP, bar, transition, universal</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1103253</td>
<td>CAP, clamp, bar, universal</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1103423</td>
<td>SCREW, flat, socket, M8 x 40, steel, black oxide</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
**Optional Ion Collector Kit**

Refer to page 10 or the instruction sheet supplied with the ion collector kit for installation and adjustment instructions.

![Diagram of Ion Collector Kit](image)

**Figure 28 Ion Collector Kit**

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1602227</td>
<td>KIT, collector, ion, Encore PE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>• ROD, ion collector, offset</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>982017</td>
<td>• SCREW, pan, rec, M3 x 8, zinc</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>• TIP, ion collector, multi-point</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1097543</td>
<td>• SCREW, set, nylon tip, M5 x 8, black</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>• BLOCK, ion collector, Encore PE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>983401</td>
<td>• WASHER, lock, split, M5, steel, zinc</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>982636</td>
<td>• SCREW, button, socket, M5 x 12, zinc</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
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EU DECLARATION of Conformity

Product:


Description: This is an automatic electrostatic powder spray system, including applicators, control cables and associated controllers used for spraying porcelain enamel powders. The porcelain enamel powders are non-flammable. The spray area is classified as non-hazardous.

Applicable Directives:
2006/42/EC - Machinery Directive
2014/30/EU - EMC Directive
2014/35/EU - Low Voltage Directive

Standards Used for Compliance:
EN/ISO12100
EN1953
EN60204
EN50177

Principles:
This product has been manufactured according to good engineering practice. The product specified conforms to the directive and standards described above.

Applicator energy level is less than 2mJ, Type A-P, per EN50177

DNV – ISO9001 Certified

_____________________
Date: 14Feb2018
Vance Wilson
Engineering Manager
Industrial Coating Systems
Amherst Ohio, USA

Nordson Authorized Representative in the EU
Person authorized to compile the relevant technical documentation.
Contact: Operations Manager
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Heinrich-Hertz-Straße 42-44
D-40699 Erkrath

Nordson Corporation • Westlake, Ohio