Encore® Automatic Porcelain Enamel HD Powder Spray Gun

Customer Product Manual

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For parts and technical support, call the Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

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– Original document –

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Change Record

Revision	Date	Change
01	2/18	New Release.
02	2/22	Removed ball from page 8-2 and updated associated BOM on page 8-3.
03	6/22	Revised for UKCA Compliance.
04	11/22	Updated power resistance test.
05	12/23	Updated range for resistence test.
06	03/25	Updated manufacturer address

Section 1
Safety

Introduction

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 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 Material 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.

- Ground all conductive equipment. Use only grounded air and fluid hoses. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one megohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored. Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.
- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors. Refer to local codes or your material SDS for guidance.
- Do not disconnect live electrical circuits when 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.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- 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 system electrical power. Close hydraulic and pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the system.

Disposal

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

Section 2
Description

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

The guns are used with the Nordson Encore iControl® System or Encore HD manual controllers for robot applicaitons, which provide electrostatic voltage control, electrode air-wash air, and powder pump air.

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.

A ceramic conical nozzle and a 38-mm deflector are 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

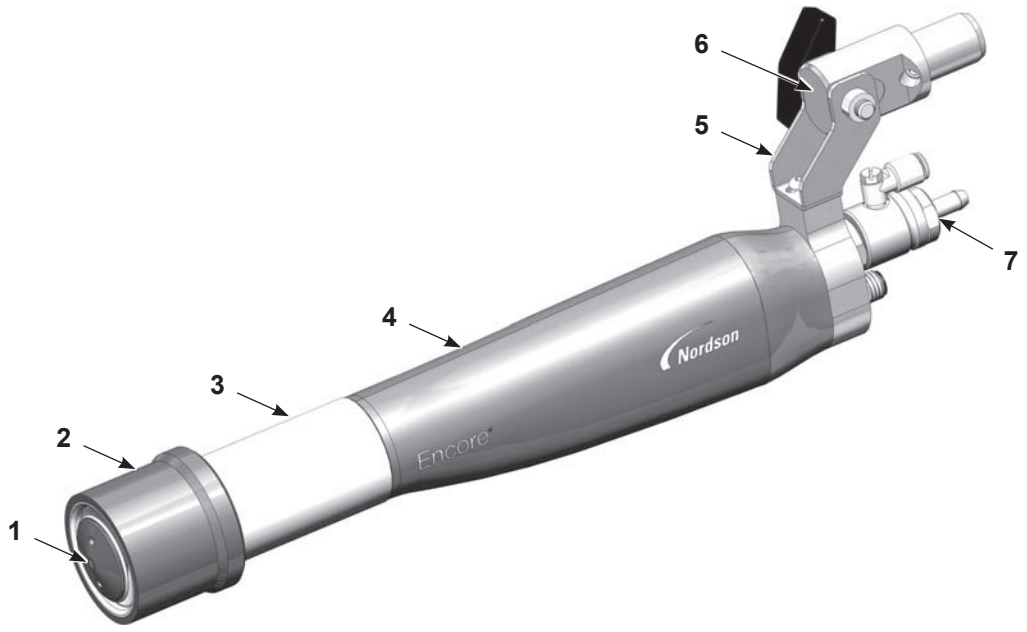


Figure 2-1 Encore Automatic PE HD Powder Spray Gun with Conical Nozzle

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

Specifications

Input Rating	Output Rating
+/− 19 VAC, +/−1 A (Peak)	100 KV, 100 µA

- 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 Weight

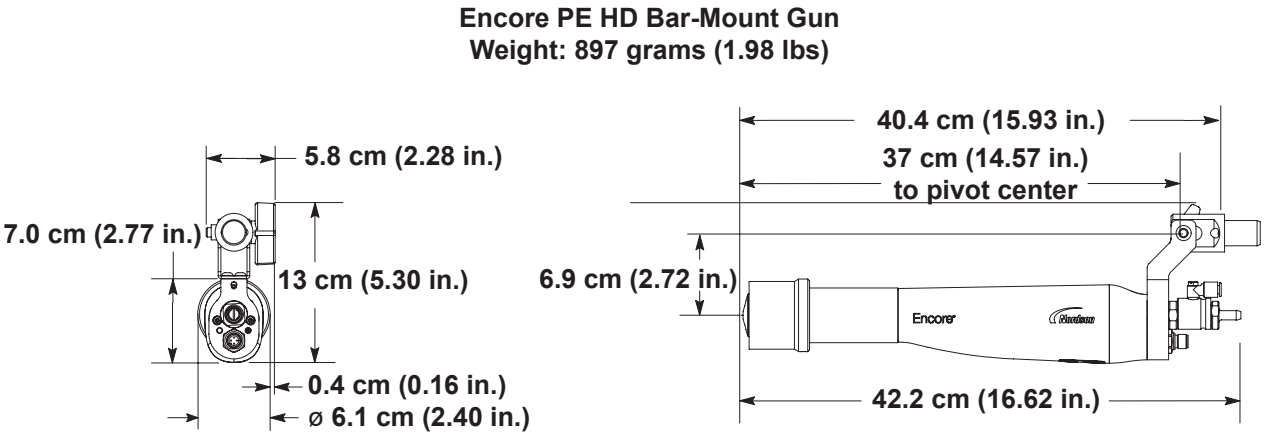
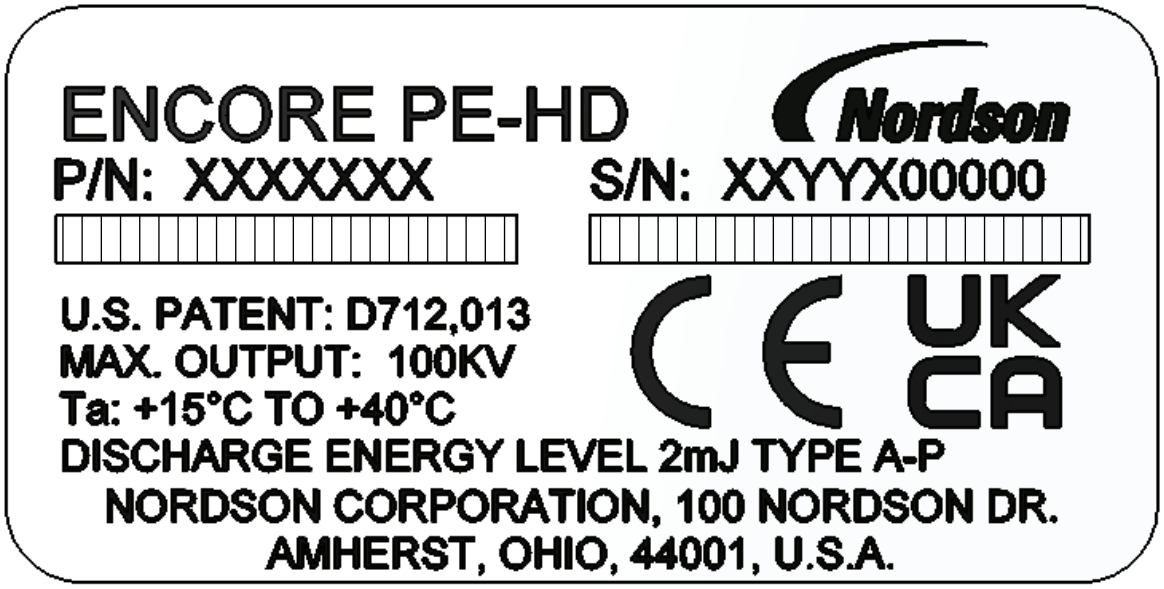


Figure 2-2 Gun Dimensions and Weight (with Conical Nozzle)

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” indicates that the product was built in Amherst, Ohio. The “10” indicates the year 2010. The final letter “A” indicates the month of January, “B” would be February, and so on.



Section 3

Installation

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

Standard Articulated Bar Mount Kit

1. See Figure 3-1. 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 spray gun tip from side to side, loosen the right button screw (1).
   - To tilt the spray 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 spray gun cable together and secure them to the adjusting rod with Nordson Velcro straps. Connect them to the spray gun as shown in Figure 3-3.

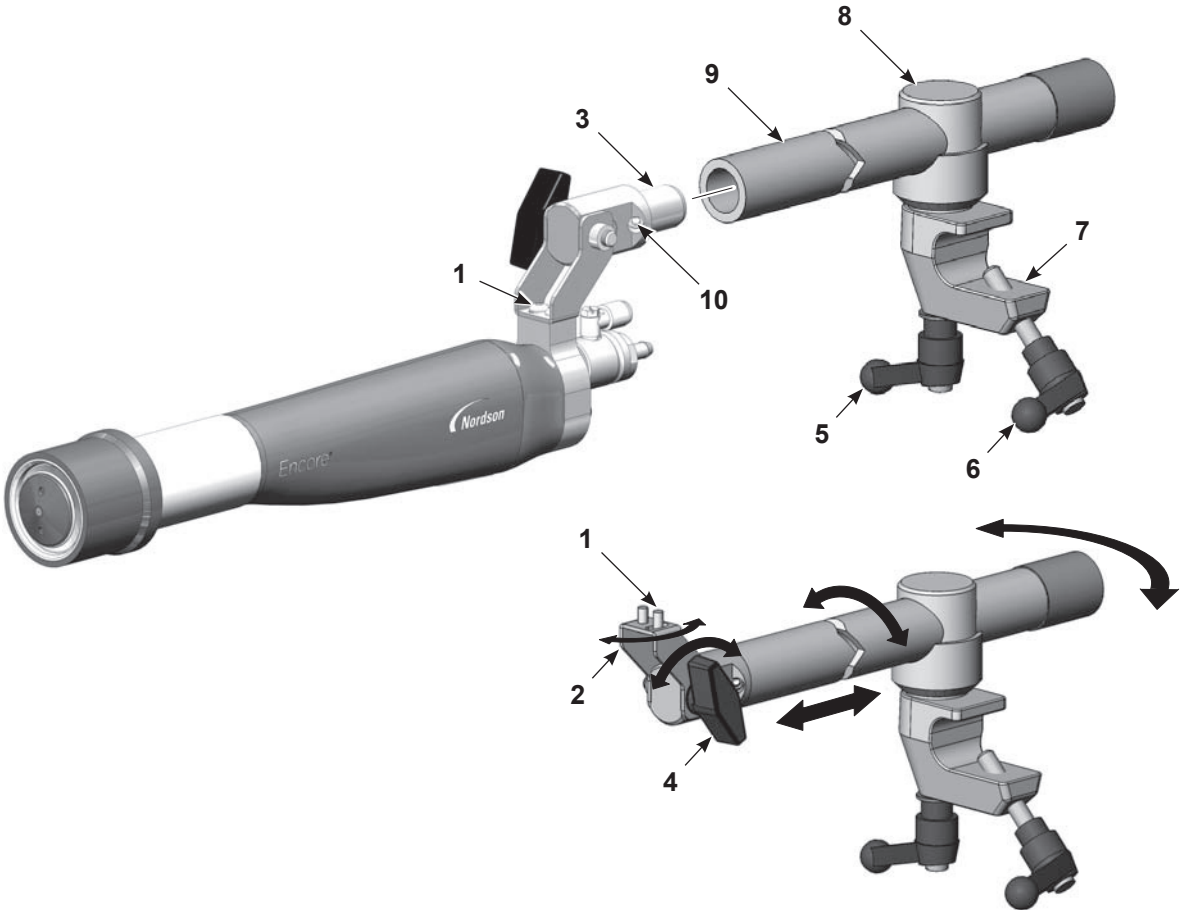


Figure 3-1 Standard Articulated Bar-Mount Spray Gun Mounting

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 Spray Gun Bar Mount Kits

See Figure 3-2. The optional bar mount kits have large inner diameter adjusting rods (1), through which the powder hose, air tubing, and spray 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 spray gun mounting bracket (3).
2. Remove the standard tube adapter (not shown) from the spray gun mounting bracket.
3. Slide the end of the optional tube adapter (2) into the spray gun mounting bracket and align the hole in the end of the tube adapter with the holes in the spray gun mounting bracket.
4. Install the knob and washer through the mounting bracket and tighten.
5. See Figure 3-3. Pull (in the following order) the spray 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 3-3.

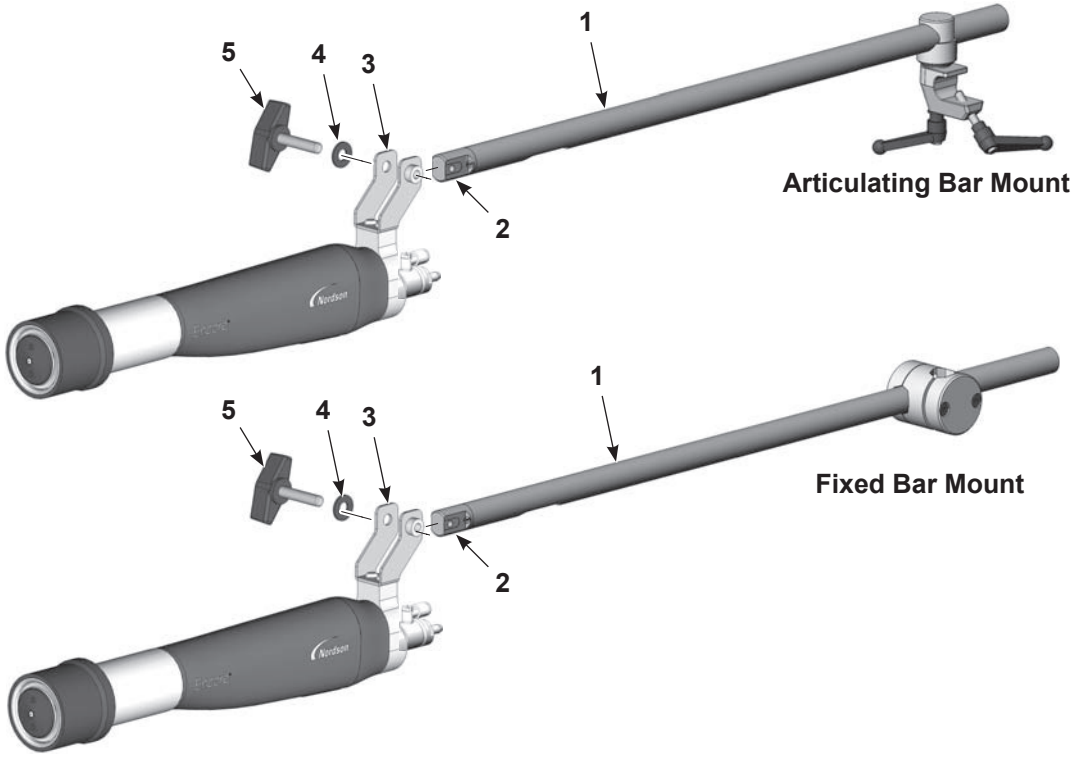


Figure 3-2 Optional Spray Gun Bar Mount Kits

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

Spray Gun Connections

See Figure 3-3.

1. Connect the powder hose (1) to the hose adapter (5).
2. Connect the 4-mm clear electrode air-wash tubing (2) to the barbed fitting (6).
3. Connect the spray gun cable (3) to the receptacle and tighten the cable nut securely.
4. Connect the atomizing air tubing (4) to the atomizing air fitting, as shown.

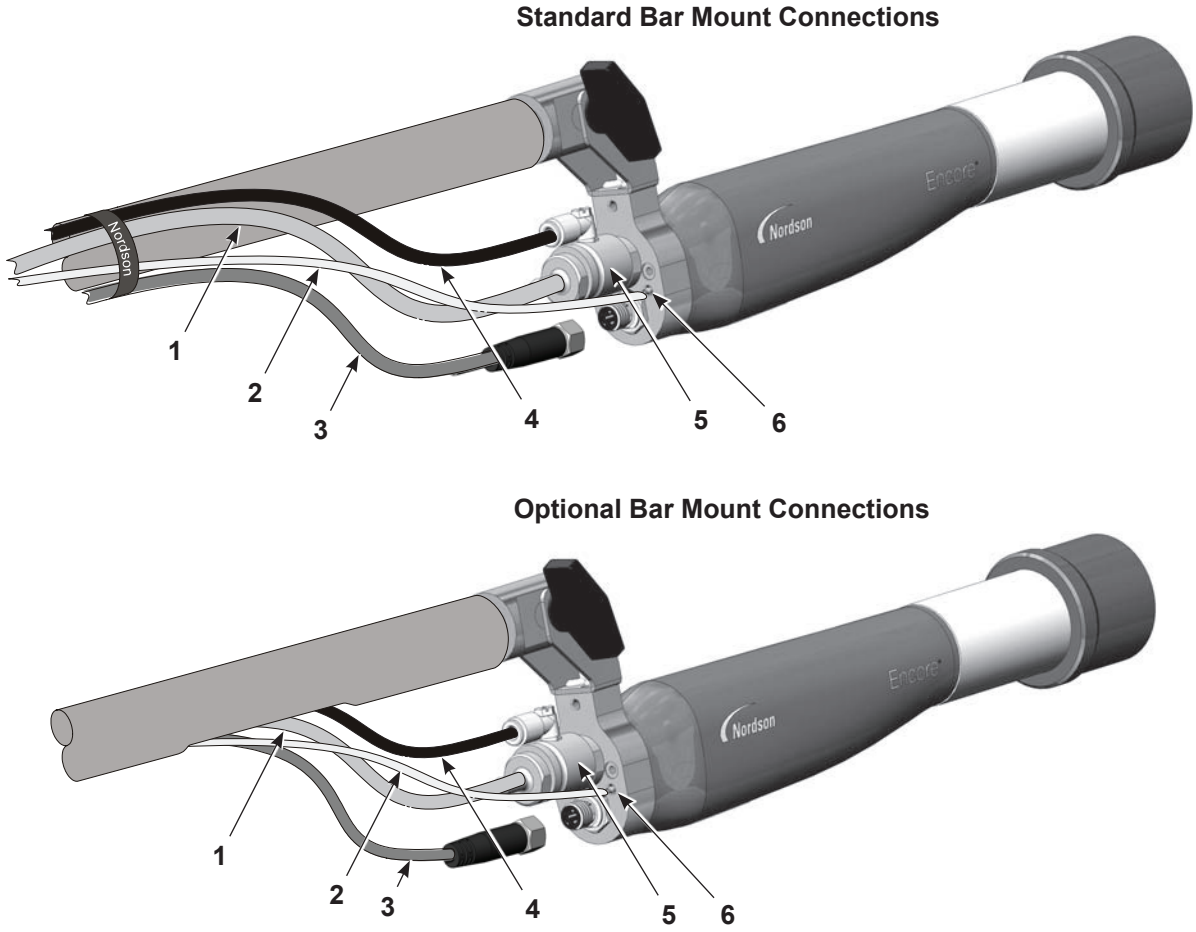


Figure 3-3 Spray Gun Connections − Conical Nozzle Shown

1. Powder hose
2. Electrode air wash tubing
3. Spray gun cable
4. Atomizing air tubing
5. Hose adapter
6. Barbed fitting

Optional Ion Collector Installation

The ion collector collects ions emitted from the spray 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 3-4. Install the mounting block (1) on the spray gun with the M5 lock washer 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.

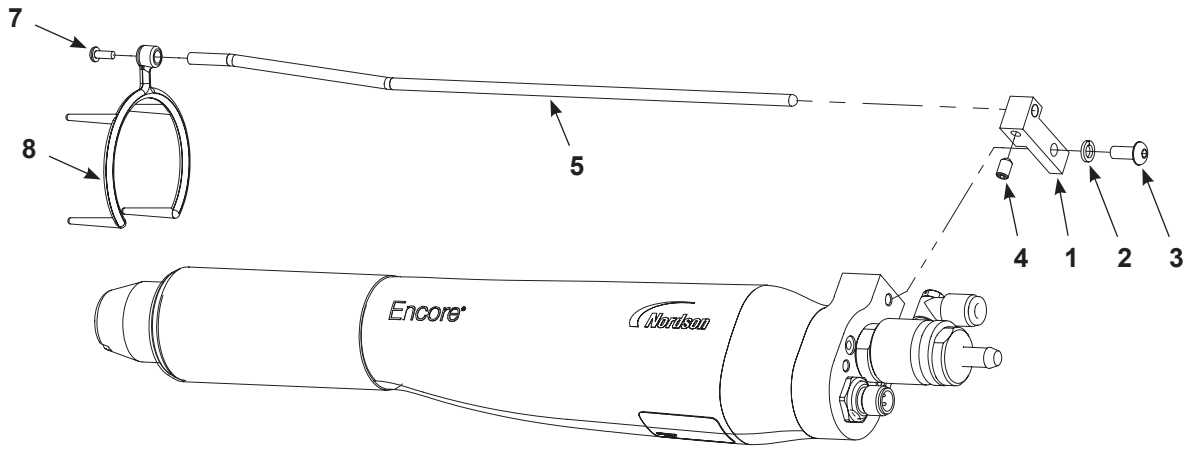


Figure 3-4 Spray Gun Connections − Conical Nozzle Shown

1. Mounting block
2. Lock washer
3. M5 screw
4. M5 x 8 set screw
5. Collector rod
6. Multi-point tip
7. M3 screw

Adjusting the Ion Collector Rod

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

NOTE: 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.

NOTE: 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 spray 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 spray gun.
3. See Figure 3-4. Loosen the set screw (4) and move the multi-point tip away from the front end of the spray gun.
4. Turn on the electrostatic voltage and spray powder with a part in front of the spray 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 this test procedure 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 3-5. 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 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 from the spray gun.

4. Remove the electrode support assembly (6, 7, 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 Replacement Assembly Repair* 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.
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) into the new nozzle nut, then install the nozzle nut on the spray gun.

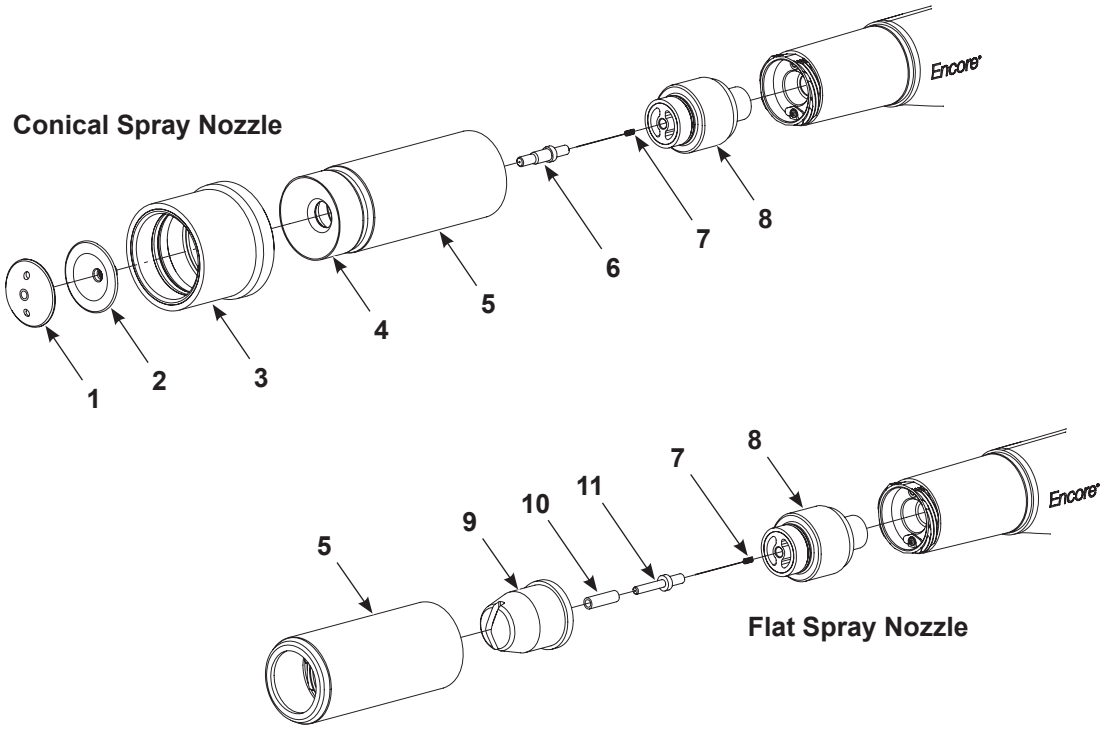


Figure 3-5 Changing From Conical to Flat or Corner Spray Nozzle (Shown with Flat Spray Nozzle)

1. Deflector cap
2. Deflector
3. Pattern 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

Section 4

Operation

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

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 HD manual controllers for robot applications. 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 electrical shock.

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

CAUTION: The deflector cap (1) and deflector (2) must be removed before removing the nozzle nut (5) from the gun. If they are not removed first, the electrode support (8) could be subjected to damage and may have to be replaced.

Cleaning Conical Nozzles and Deflectors(contd)

1. See Figure 4-1. Hold the deflector (2) with finger while unscrewing the deflector cap (1). Gently pull the deflector off the conical electrode holder (6).
2. Unscrew the nozzle nut (5) 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 and damage. Refer to *Electrode Support Assembly Replacement* in the *Repair* section of this manual.
4. Clean all parts with low-pressure compressed air. Inspect all parts and replace if worn or damaged.
5. Inspect the electrode holder (6). If the electrode holder is worn or damaged, unscrew it from the electrode support, then remove the electrode (7). Install the electrode in the new holder, then screw the holder in the electrode support (8). 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 until tight.

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

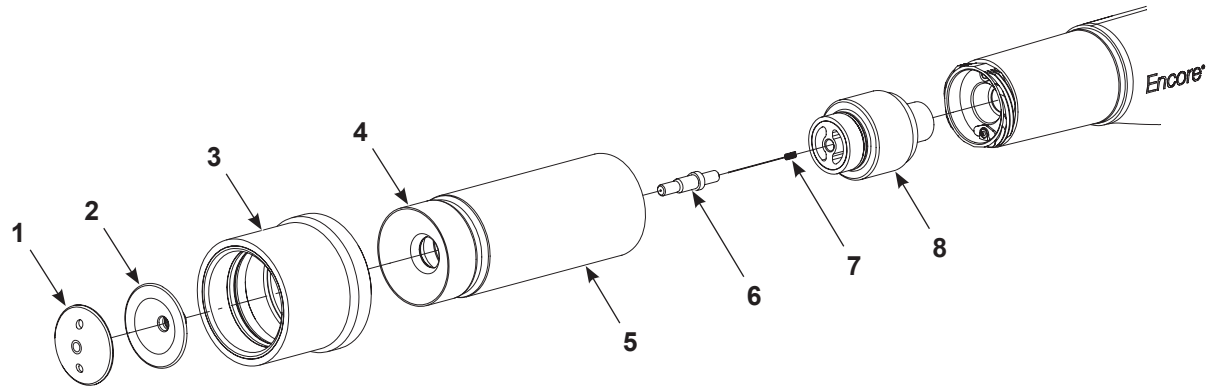


Figure 4-1 Cleaning a Conical Nozzle

1. Deflector cap
2. Deflector
3. Pattern sleeve
4. Conical nozzle
5. Nozzle nut
6. Electrode holder (See Note)
7. Electrode
8. Electrode support assembly (XD shown)

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

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 electrical 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 Enable/Disable button to put the controller to sleep to prevent accidental gun triggering.

1. See Figure 4-2. 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 Electrode Support Assembly Replacement in the Repair section of this manual.
4. Inspect the wear sleeve (3) and electrode holder (4). If either is worn or damaged, replace them with the flat spray electrode holder kit.
   a. Unscrew electrode holder and sleeve from the electrode support assembly (6).
   a. Install the new sleeve (3) over the new electrode holder (4).
   b. 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 (6), 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.

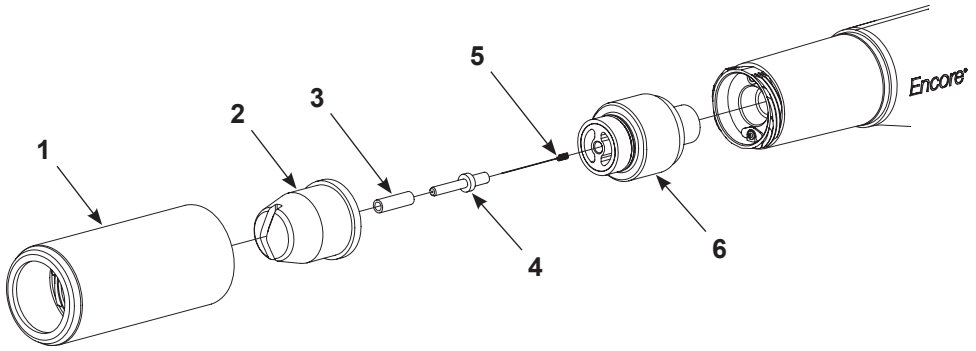


Figure 4-2 Cleaning Flat and Corner Spray Nozzles

1. Nozzle nut
2. Nozzle (flat spray shown)
3. Wear sleeve
4. Electrode holder (See Note)
5. Electrode
6. Electrode support assembly (XD shown)

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

Section 5
Maintenance

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

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. See Figure 3-5. 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.
3. Pull the electrode support (7) out of the gun.
4. Disconnect the powder hose from the gun.
5. Blow out the gun from the powder hose connector toward the front end.
6. 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.
7. Inspect the ceramic nozzles, pattern sleeve, and electrode support and holder for wear. Replace worn or damaged parts.
8. Check the hose adapter and powder tube inside the gun for wear and replace if worn or damaged.
9. 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.

Section 6

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 to control pump air flow. Refer to your iControl manuals for problems related to iFlow modules.

General Troubleshooting Chart

Problem	Possible Cause	Corrective Action
1. Uneven pattern, unsteady or inadequate powder	Blockage in spray gun, powder hose, or pump	1. Purge the spray gun. Remove the nozzle and electrode support and clean them. 2. Disconnect the powder hose from the spray gun and blow out the powder tube with an air gun. 3. Disconnect the powder hose from the pump and gun and blow out the hose. Replace the hose if it is clogged with powder. 4. Disassemble and clean the pump. 5. Adjust pump assist air. See pump manual for more information.
	Nozzle, deflector, or electrode support worn, affecting pattern	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.
	Damp powder	Check the powder supply, air filters, and dryer. Replace the powder supply if contaminated.
	Low pump air flow/ pressure	Adjust pump air flow/pressure.
	Improper fluidization of powder in feed hopper	Increase the fluidizing air pressure. If the problem persists, remove the powder from the hopper. Clean or replace the fluidizing plate if contaminated.
	iFlow module out of calibration	Perform the *Re-Zero Procedure* in the *iControl* hardware manual.
2. Voids in powder pattern	Worn nozzle or deflector	Remove and inspect the nozzle or deflector. Replace worn parts.
	Plugged electrode support or powder tube	Remove the electrode support and clean it. Remove powder tube if necessary and clean it.
	Electrode air-wash flow too high	Air-wash flow is controlled by a fixed orifice. Refer to your controller manual for more troubleshooting information.
3. Loss of wrap, poor transfer efficiency	Low electrostatic voltage	Increase the electrostatic voltage.
	Poor electrode connection	Remove the nozzle and electrode support. Clean the electrode and check for carbon tracking or damage. Check the electrode support resistance as shown in this section. If the electrode support is good, remove the gun power supply and check its resistance as shown in this section.
	Poorly grounded parts	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.

Continued...

Problem	Possible Cause	Corrective Action
4. No kV output from the spray gun (display shows 0 kV when gun triggered), but powder is spraying	Damaged gun cable	Perform the *Gun Cable Continuity Checks* in this section. If an open or short is found, replace the cable.
	Spray gun power supply shorted	Perform the *Power Supply Resistance Test* in this section.
5. No kV output from the spray gun (interface shows kV output) but powder is spraying	Spray gun power supply open	Perform the *Power Supply Resistance Test* in this section.
	Damaged gun cable	Perform the *Gun Cable Continuity Test* in this section. If an open or short is found, replace the cable.
6. Powder build up on the electrode tip	Insufficient electrode air-wash flow	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.
7. Low powder flow or powder flow surging	Low supply air pressure	The iControl console and the Encore HD manual controller for robot applications both require air supply pressure to be greater than 5.86 bar (85 psi).
	iFlow module air pressure regulator set too low	Adjust the iControl regulator to 5.86 bar (85 psi). Refer to the iFlow Air Flow Verification Kit instruction sheet.
	Supply air filter plugged or filter bowl full − water contamination of flow controller	Remove bowl and drain water/dirt. Replace filter element if necessary. Clean system, replace components if necessary.
	Air tubing kinked or plugged	Check flow and atomizing air tubing for kinks.
	Pump not assembled correctly	Check and re-assemble pump.
	Pick-up tube blocked	Check for debris or bag (VBF units) blocking pick-up tube.
	Fluidizing air too high	If fluidizing air is set too high the ratio of powder to air will be be too low.
	Fluidizing air too low	If fluidizing air is set too low the pump will not operate at peak efficiency.
	Powder hose plugged	Blow out powder hose with compressed air.
	Powder hose kinked	Checked for a kinked powder hose.
	Incorrect pump assist air setting	Adjust pump assist air. See pump manual for more information.
	Gun powder path plugged	Check hose connector, powder tube, and electrode support for impact fusion or debris. Clean as necessary with compressed air.
8. No KV when gun is triggered ON, powder flow OK	KV set to zero	Change KV to a positive value.
	Check the Alarm screen for messages.	Refer to your controller manual for troubleshooting procedures.
9. No powder flow when gun is triggered ON, kV OK	Input air turned OFF	Check the iControl console air supply.

Power Supply Resistance Test

Use a megohm 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 megohms. If the reading is infinite, switch the meter probes. If the resistance falls outside this range, replace the power supply.

NOTE: There are multiple variables that can affect the Meg−Ohm readings of your meter (temperature and measurement voltage). If the Meg−Ohm meter output voltage differs from the 500 VDC setting, it will have a direct impact on the measurement accuracy. Measurements should also be taken at room temperature 22°C or 72°F. Allow time for the multiplier to cool to room temperature for repeatable results.

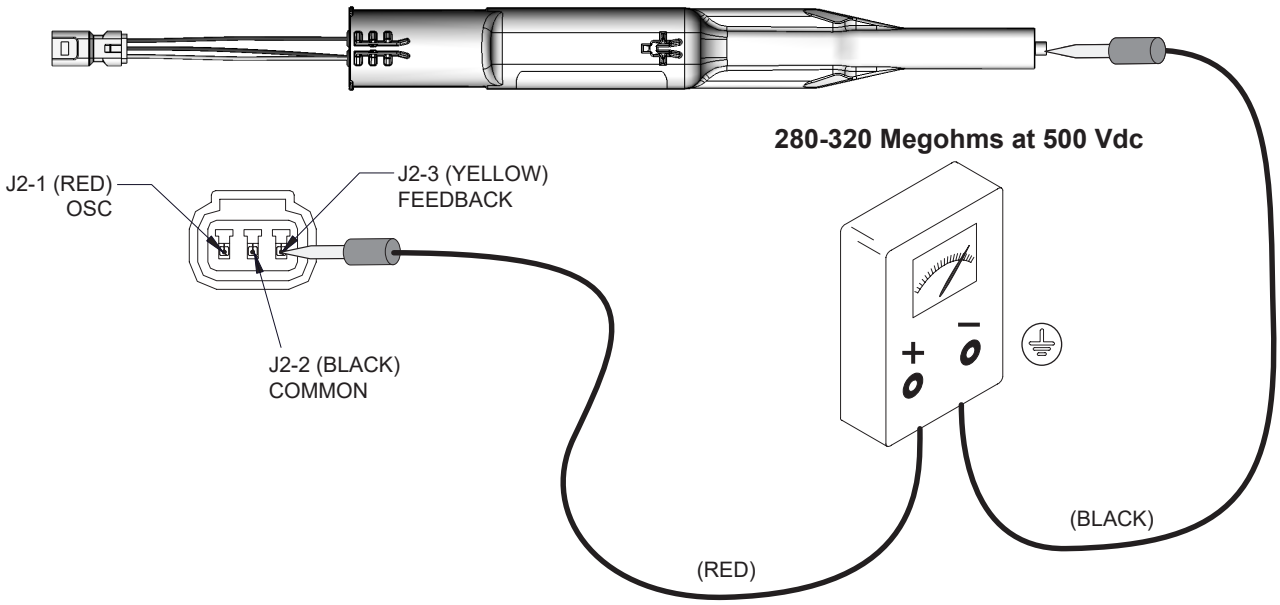


Figure 6-1 Power Supply Resistance Test

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 19-23 meg ohms. If the resistance is out of this range repair or replace the electrode support assembly .

Refer to *Electrode Support Repair* in the Repair section to repair the electrode support assembly.

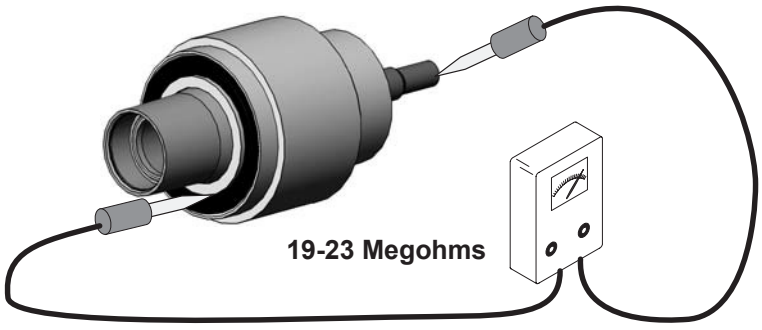


Figure 6-2 Electrode Support Resistance Test

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.

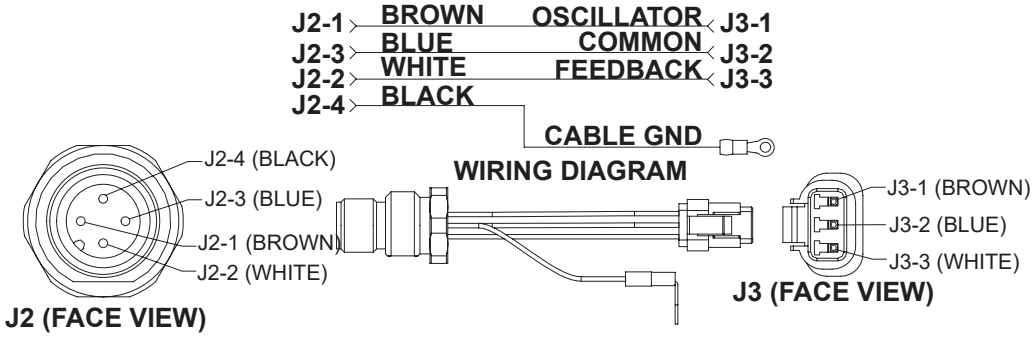


Figure 6-3 Gun Receptacle Harness

Gun Extension Cable

This 4-meter cable is optional.

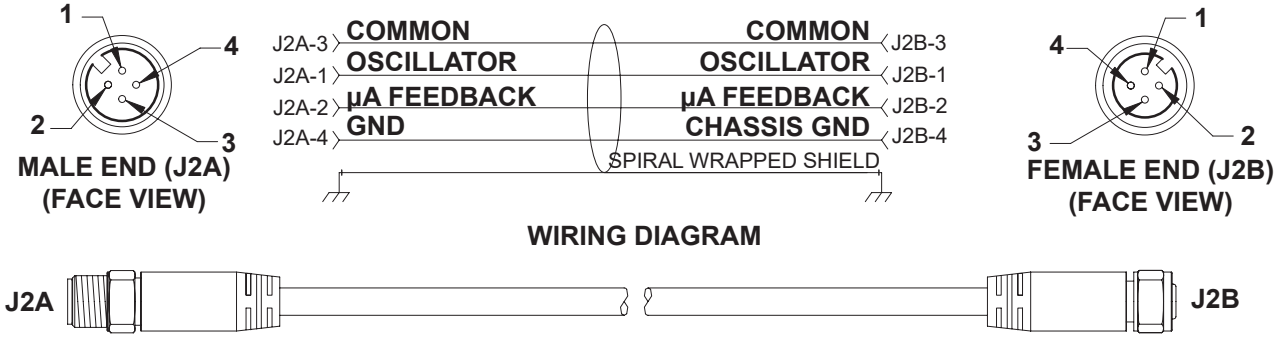
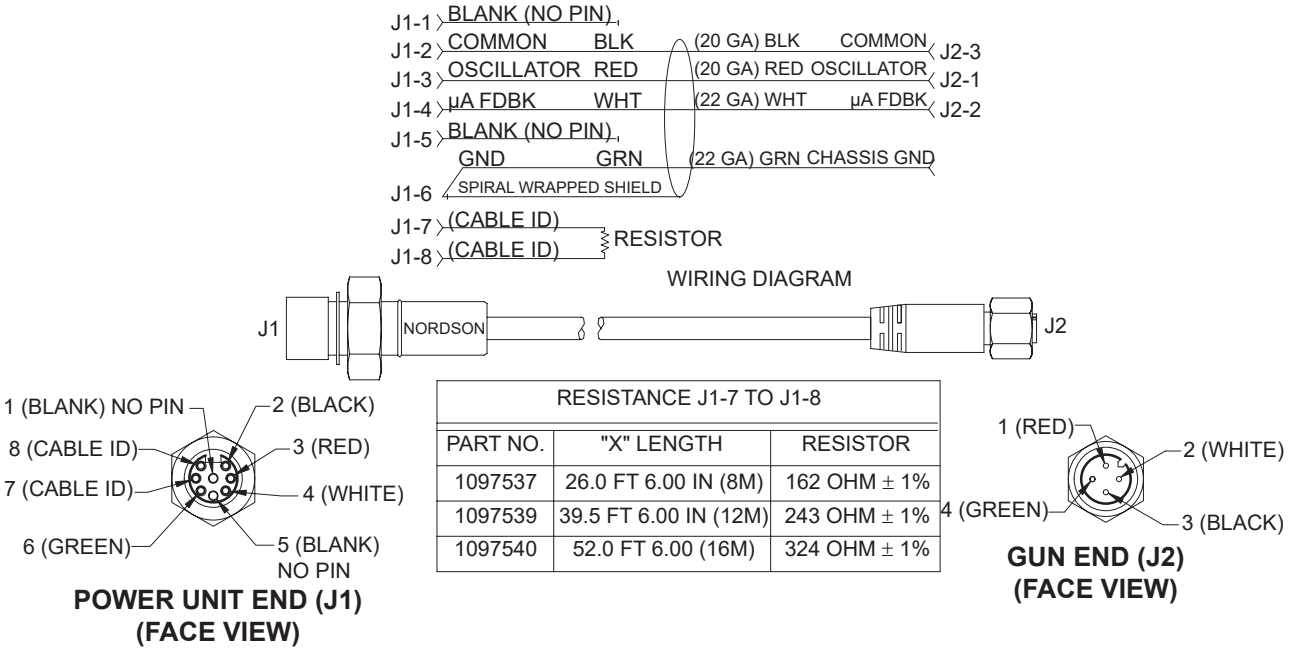


Figure 6-4 Gun Extension Cable

Standard Gun Cables

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



RESISTANCE J1-7 TO J1-8

PART NO.	"X" LENGTH	RESISTOR
1097537	26.0 FT 6.00 IN (8M)	162 OHM ± 1%
1097539	39.5 FT 6.00 IN (12M)	243 OHM ± 1%
1097540	52.0 FT 6.00 (16M)	324 OHM ± 1%

Figure 6-5 Gun Cable

Section 7
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 during this procedure.

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 tighten securely.

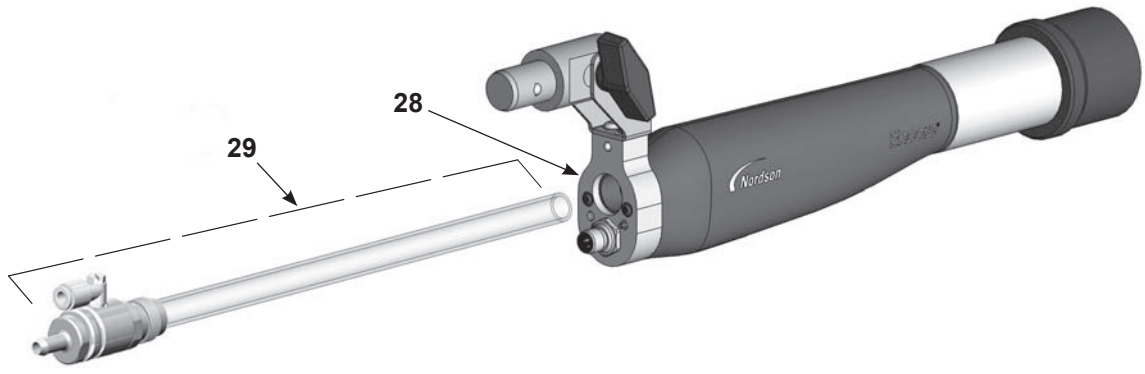


Figure 7-1 Powder Tube Replacement

29. Hose adapter with powder tube
28. End cap

Replacing the Power Supply

1. Remove the nozzle and electrode support assembly as described in *Electrode Support Sleeve Replacement* procedure in this section. If using a conical nozzle, always remove the deflector cap and deflector first.
2. Remove the hose adapter and powder tube as described in the *Replacing the Powder Tube* in this section.
3. See Figure 7-2. Unscrew and remove the two socket-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.

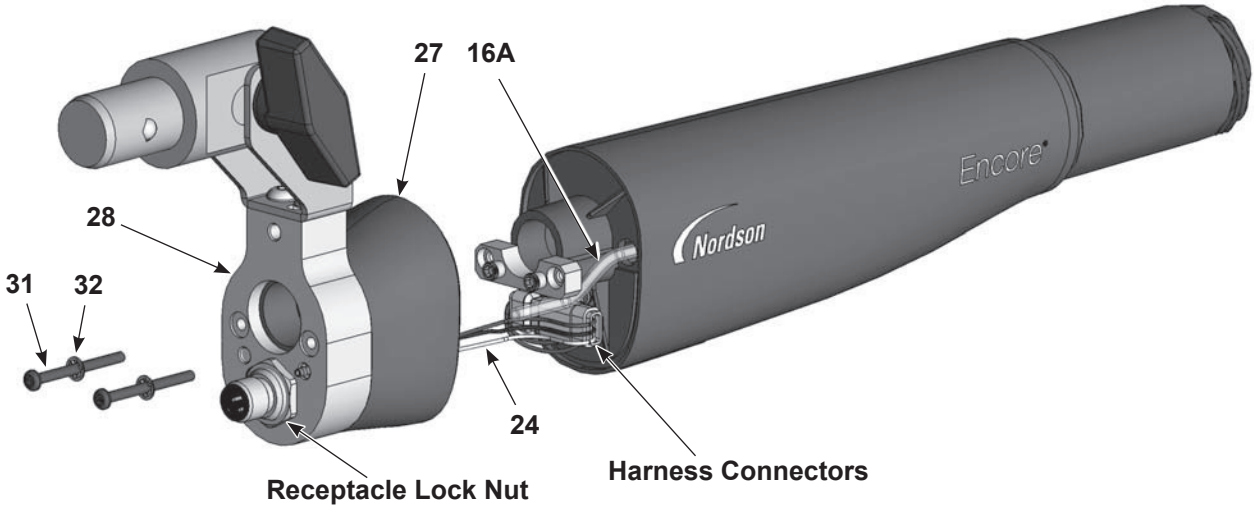


Figure 7-2 Gun Disassembly − Powder Tube Replacement

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

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 7-3. 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 7-3. 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 7-2. 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.

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

g. See Figure 7-3. Connect the ground terminal to the end cap with the hex head screw and washer (25, 26).

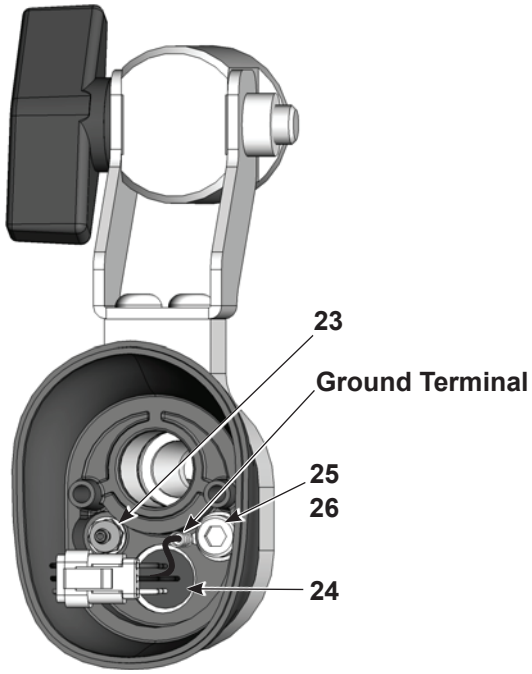


Figure 7-3 Gun Disassembly − Cable Receptacle and Barbed Fitting Replacement

23. Barbed fitting
24. Cable receptacle
25. Screw
26. Lock washer

8. Carefully remove the two small 3-mm Allen nuts (21) holding the screw plate (20) 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 7-3. Connect the air wash tubing to the barbed fitting, and the power supply harness to the cable receptacle harness.
17. See Figure 7-2. 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 socket-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 7-1. 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.

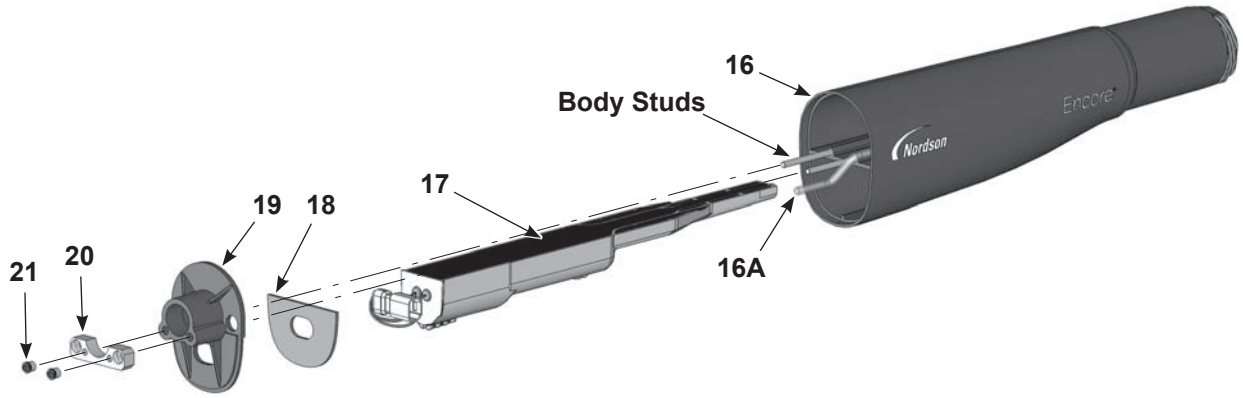


Figure 7-4 Gun Disassembly − Power Supply Replacement

16. Body
16A. Filter assembly
17. Power supply
18. Gasket
19. Bulkhead
20. Screw plate
21. Nuts

Electrode Support Sleeve Replacement − XD Version

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

XD Electrode Support Details: (See Figure 7-5)

- 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 electrode holder (1) and remove the electrode (2).
2. Visually inspect the following areas of the electrode support assembly. Replace the entire assembly if either area is damaged.
   - 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.

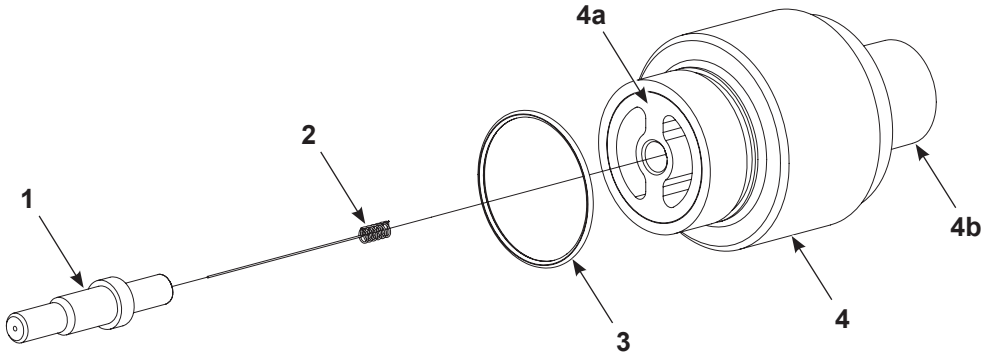


Figure 7-5 XD Electrode Support Assembly

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 7-6)

- The electrode support consists of items (3, 4, 5, and 6)
- The sleeve (4) and spring (5) are sold as a kit.
- The electrode support (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 the 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, aligning the holes in both.
6. Install a new spring into the holes in the sleeve and spider.
7. Carefully compress the spring, 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 spider.

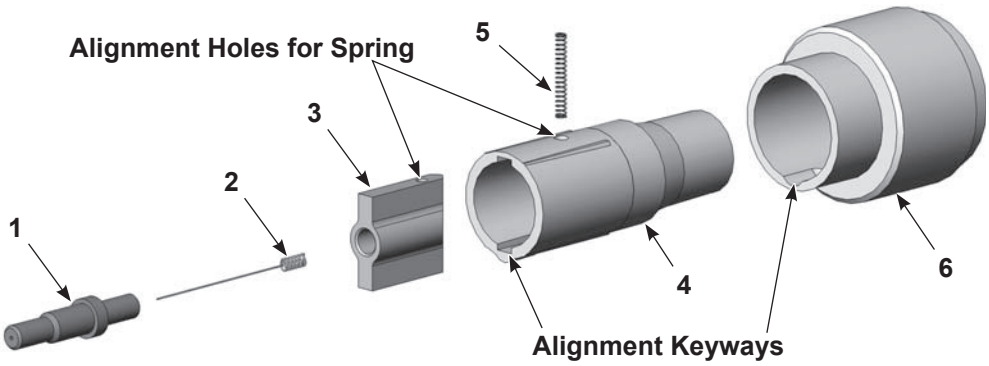


Figure 7-6 Electrode Support Sleeve Replacement

1. Electrode holder
2. Electrode
3. Ceramic spider
4. Sleeve
5. Spring
6. Electrode support assembly

Section 8
Parts

Introduction

To order parts, call the Nordson Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The number in the Part column is the Nordson Corporation part number. A series of dashes in this column (- - - - - -) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

Item	Part	Description	Quantity	Note
—	- - - - - -		—	
1	- - - - - -			

Spray Gun

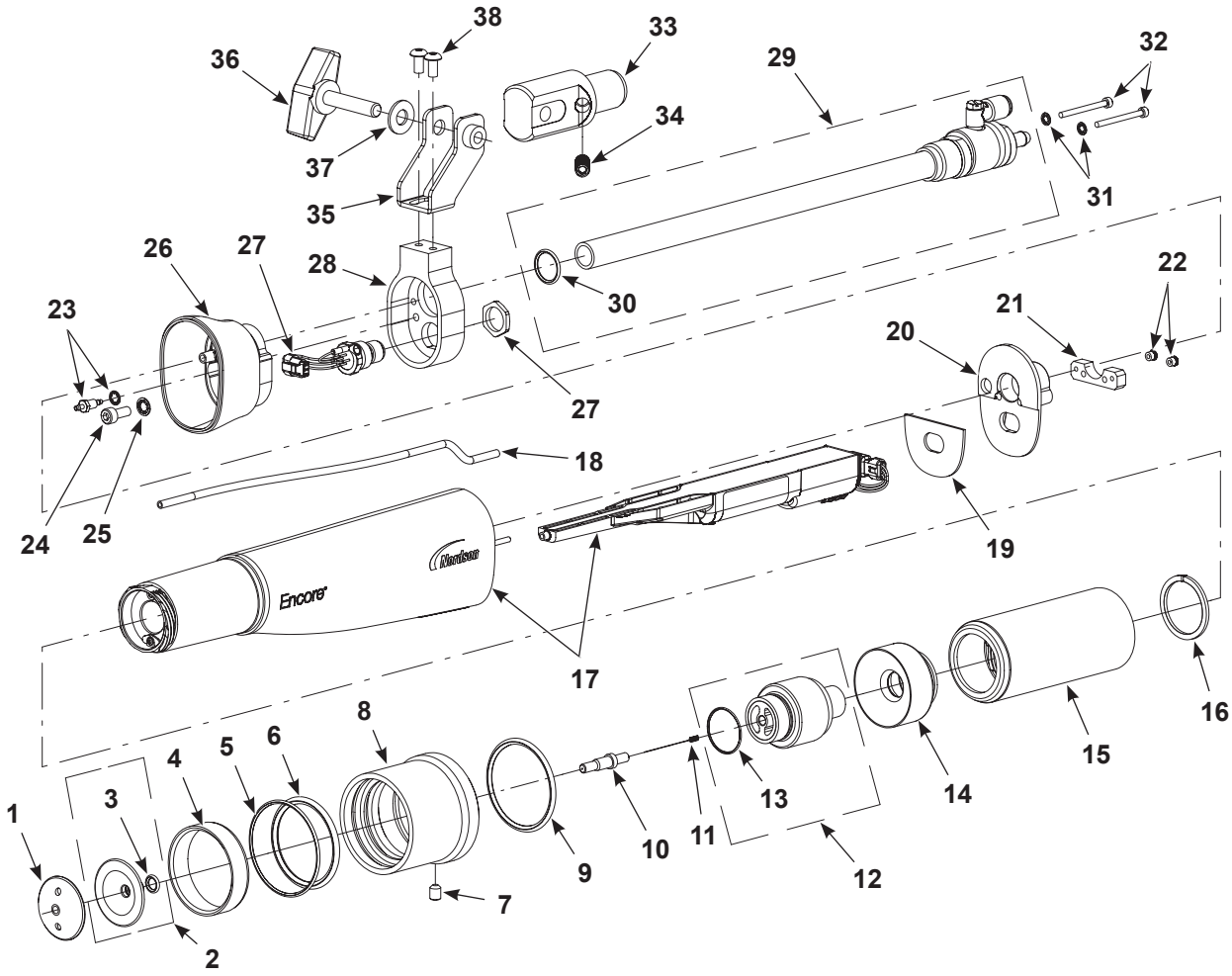


Figure 8-1 Spray Gun

See Figure 8-1 and the following parts list.

Item	Part	Description	Quantity	Note
–	1605440	SPRAY GUN, auto, bar mount, Encore PE	1	
1	1601811	• RETAINER, deflector, 38 mm, Encore PE	1	A
2	245523	• DEFLECTOR, 38 in. diameter, ceramic	1	A
3	945016	• • O-RING, silicone, 0.251, x 0.400 x 0.074 in.	1	A
4	246578	• INSERT, Pyrex	1	A
5	940331	• O-RING, silicone, 2.00 x 2.175 x 0.063 in.	1	A
6	942240	• O-RING, hot paint, 1.75 x 2.00 x 0.125 in.	1	A
7	982455	• SCREW, set, M6 x 1.0 x 8, nylon, black	1	A
8	1601433	• SLEEVE, pattern shaper, Encore PE	1	A
9	1602039	• O-RING, Buna N, 46 x 3, 70 Duro	1	A
10	1601814	• HOLDER, electrode, conical, Encore PE	1	A
11	1602041	• ELECTRODE, spring contact, Encore PE	1	A

Item	Part	Description	Quantity	Note
12	1612354	• SUPPORT ASSEMBLY, electrode, Encore PE, XD	1	B, C
13	1612461	• • O−RING, Buna N, 24 mm x 1 mm	1	
14	1601430	• NOZZLE, conical, ceramic, Encore PE	1	A
15	1601431	• NUT, nozzle, Encore PE	1	A
16	1601422	• RING, retaining, nozzle, Encore PE	1	A
17	1608279	• KIT, negative power supply/auto body, Encore	1	D
18	1088558	• • FILTER ASSEMBLY, handgun	1	
19	1088502	• GASKET, multiplier cover, handgun, Encore PE	1	
20	1097520	• BULKHEAD, body, front, auto, Encore PE	1	
21	1101381	• PLATE, screw	1	
22	1097522	• NUT, Allen, 4−40, stainless steel	2	
23	1081616	• FITTING, bulkhead, barb, dual, 10−32 x 4 mm	1	
24	815666	• SCREW, socket, M5 x 0.8 x 12, zinc	1	
25	983127	• WASHER, lock, internal, M5, zinc	1	
26	1097518	• BODY, gun rear, auto, Encore PE	1	
27	1097514	• RECEPTACLE, gun harness	1	
28	1601420	• CAP, end, bar gun, Encore PE	1	
29	1608284	• KIT, external diffuser with tube, Encore PE	1	
30	940160	• • O-RING, hot paint, 0.625 x 0.75 x 0.063 in.	1	
31	1605696	• SCREW, socket head, M3 x 35 mm	2	
32	983520	• WASHER, lock, internal, M3, steel, zinc	2	
33	1097546	• ADAPTER, tube, mount, bar	1	
34	345385	• SCREW, set, flat, M8 x 20, fastener	1	
35	1097542	• BRACKET, mount, bar	1	
36	1102293	• KNOB, T−handle, 5/16−18 x 1.5	1	
37	1102294	• WASHER, flat, 0.34 x 0.74 x 0.06, nylon	1	
38	982503	• SCREW, button, socket, M5 x 10, zinc	1	
NS	939247	• CLAMP, hose, Snap-It	1	

NOTE: A. Refer to Optional Nozzles in this section for flat and corner spray nozzles. Conical and flat/corner spray nozzles use different electrode holders and a new nozzle nut is required.

B. Refer to Figure 8-2 and parts list for repair parts for the XD Electrode Support Assembly kit.

C. Refer to Figure 8-3 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

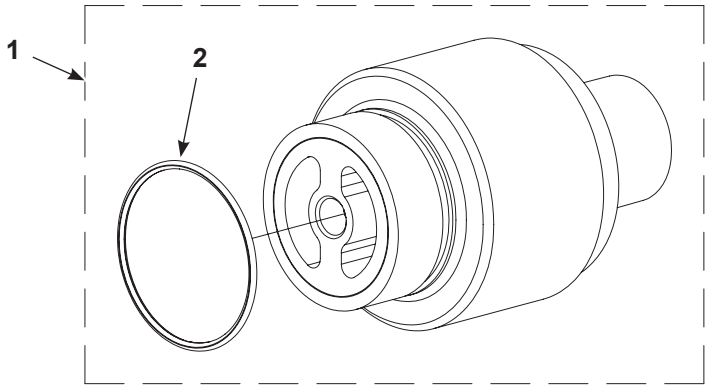


Figure 8-2 XD Electrode Support Assembly

See Figure 8-2.

Item	Part	Description	Quantity	Note
1	1612354	SUPPORT ASSEMBLY, electrode, Encore PE XD	1	A
2	1612461	• O−RING, Buna N, 24 mm x 1 mm	1	
NOTE: A. XD Electrode Support Assembly ships with new spray guns.				

SD Electrode Support Assembly − Option

See Figure 8-3.

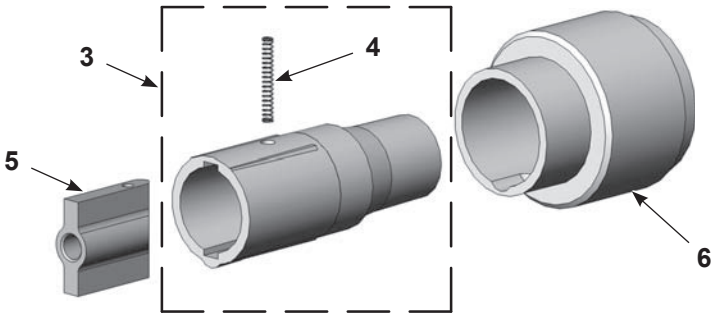


Figure 8-3 SD Electrode Support Assembly

Item	Part	Description	Quantity	Note
−	1601423	SUPPORT ASSEMBLY, electrode, Encore PE, SD	1	A
3	1602193	• KIT, sleeve, Encore PE	1	
4	1601429	• • SPRING, compression, 0.088 OD x 0.75 long	1	
5	1602192	• KIT, electrode support, Encore PE	1	
6	1601428	• SPIDER, ceramic, Encore PE	1	
NOTE: A. SD Electrode Support Assembly is sold as an optional repair part.				

External Diffuser Kit

External Diffuser with Tube Kit

See Figure 8-4.

Figure 8-4 External Diffuser with Tube Kit

Item	Part	Description	Quantity	Note
–	1608284	KIT, external diffuser with tube, Encore PE	1	
1	1605432	• ADAPTER ASSY, external diffuser, Encore PE	1	A
NOTE: A. See Figure 8-5.				

Adapter Assembly Kit

See Figure 8-5.

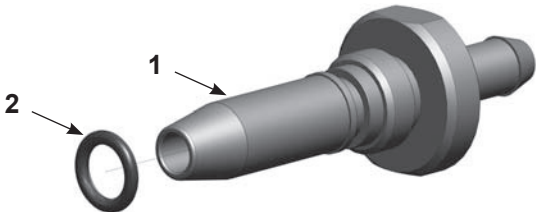


Figure 8-5 Adapter Assembly Kit

Item	Part	Description	Quantity	Note
–	1605432	KIT, adapter assembly, external diffuser, Encore PE	1	
1	–––––––	• ADAPTER, Encore PE	1	
2	940117	• O-RING, silicone, 0.312 x 0.438 x 0.063	1	

Section 9
Options

Cables

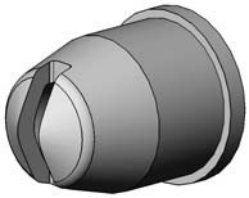
These cables connect the spray gun to the gun controller (Encore iControl Integrated Control Unit or Encore PE HD Automatic Controller).

Part	Description	Note
1097537	CABLE, auto, Encore, 8 meter (26.25 ft)	
1097539	CABLE, auto, Encore, 12 meter (39.4 ft)	
1097540	CABLE, auto, Encore, 16 meter (52.5 ft)	
1601344	CABLE, extension, Encore auto, 4 meter (13.1 ft)	A
NOTE: A. Use between spray gun and 8, 12, or 16 meter cable.		

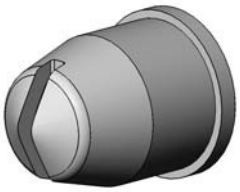
Optional Flat and Corner Spray Nozzles

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.

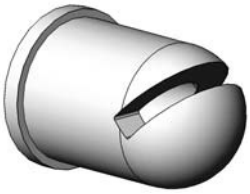
1601744
6 mm Flat Spray Nozzle



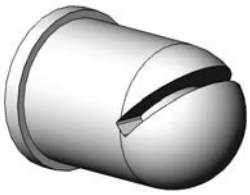
1601745
4 mm Flat Spray Nozzle



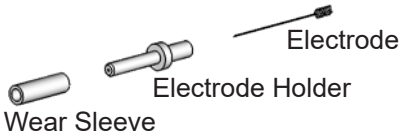
1601748
6 mm Corner Spray Nozzle



1601749
4 mm Corner Spray Nozzle



1602194
Flat Spray Electrode Holder Kit



1601431
Nozzle Nut

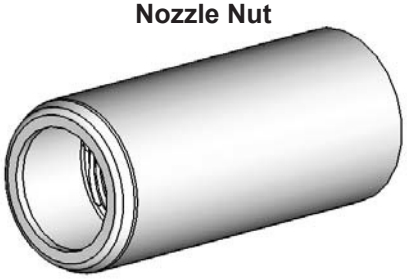


Figure 9-1 Optional Flat and Corner Spray Nozzles

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.

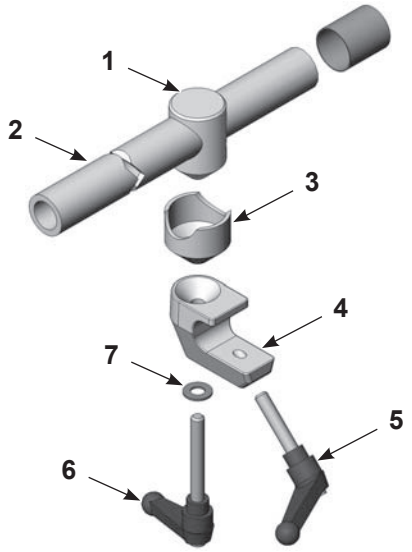


Figure 9-2 Standard Articulating Gun Bar

Item	Part	Description	Quantity	Note
–	341727	GUN BAR, aluminum, 1.25-in. OD x 4 ft., assembly	1	
1	327732	• BODY, locking, 1.25 in. diameter	1	
2	327704	• ROD, adjusting, aluminum, 1.25 in. OD x 4 ft	1	
3	327733	• SLEEVE, locking, 1.25 in. diameter	1	
4	248669	• BODY, adjust mounting	1	
5	248957	• HANDLE, adjust, 3/8−16 x 1.77 in.	1	
6	249074	• HANDLE, adjust, 3/8−16 x 2.75 in.	1	
7	983061	• WASHER, flat, 0.406 x 0.812 x 0.065 in., zinc	1	

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.

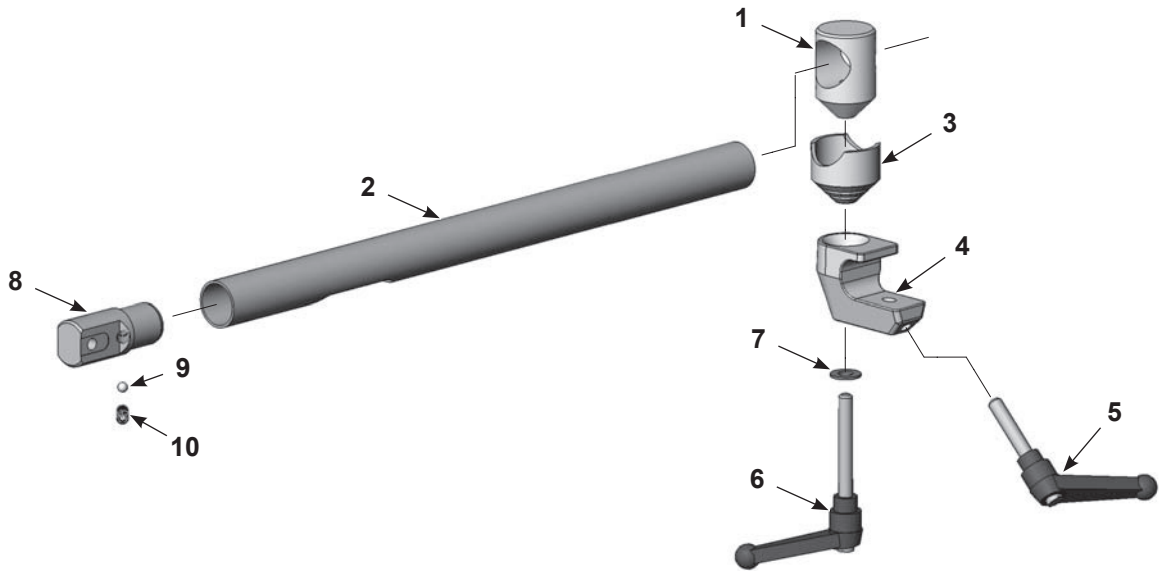


Figure 9-3 Optional Articulating Gun Bar

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

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.

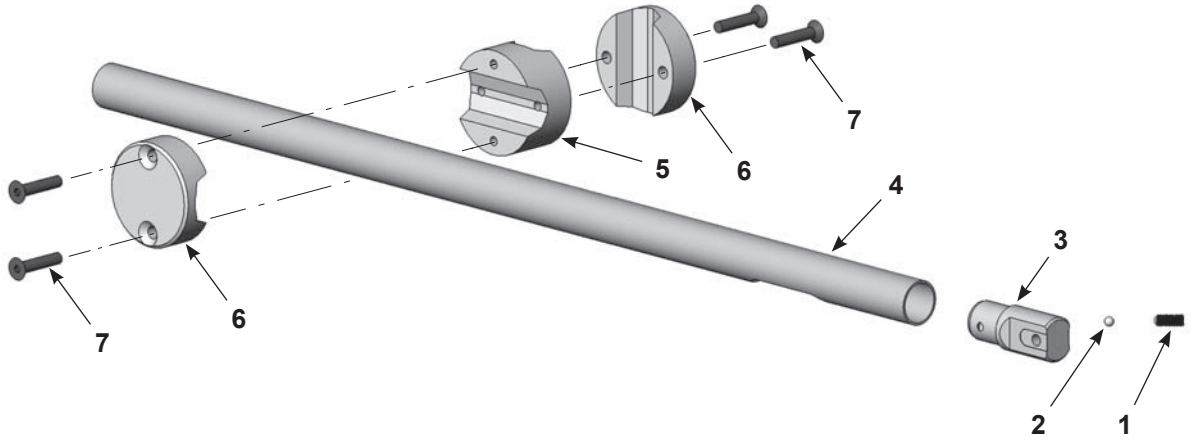


Figure 9-4 Optional Fixed Gun Bar

Item	Part	Description	Quantity	Note
–	1601742	KIT, universal, bar mount, 4 ft., Encore PE HD	1	
1	345385	• SCREW, set, flat, M8 x 20, fastener	1	
2	1097545	• BALL, chrome steel, 6.5 mm dia., 25, C63	1	
3	1601432	• ADAPTER, tube, mount, bar, Encore PE HD	1	
4	1601444	• ROD, adjusting, stainless steel, 1.25 in. OD x 4 ft	1	
5	1103254	• CLAMP, bar, transition, universal	1	
6	1103253	• CAP, clamp, bar, universal	2	
7	1103423	• SCREW, flat, socket, M8 x 40, steel, black oxide	4	

Optional Ion Collector Kit

Refer to the *Installation* section or the instruction sheet supplied with the ion collector kit for installation and adjustment instructions.

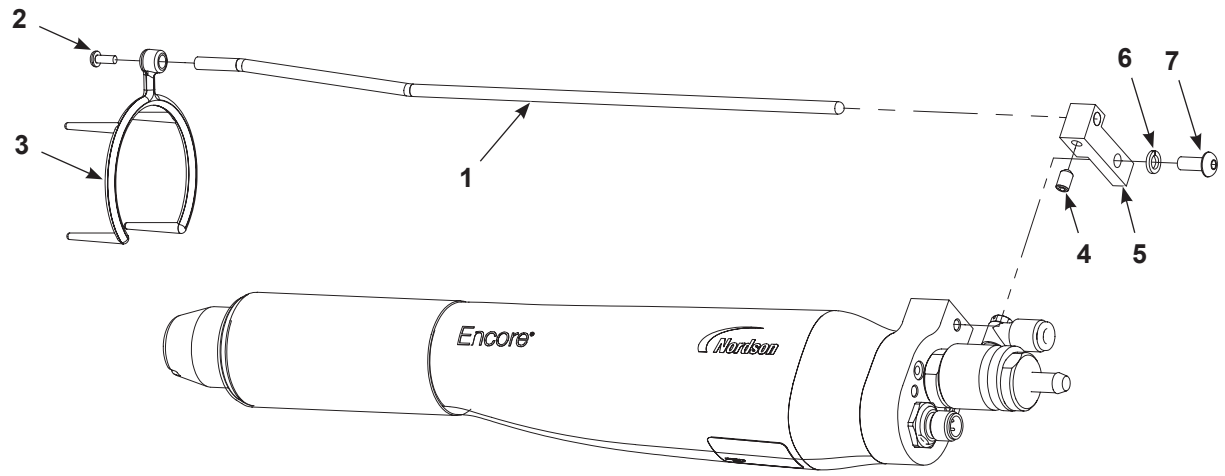


Figure 9-5 Ion Collector Kit

Item	Part	Description	Quantity	Note
–	1602227	KIT, collector, ion, Encore PE HD	1	
1	- - - - - -	• ROD, ion collector, offset	1	
2	982017	• SCREW, pan, rec, M3 x 8, zinc	1	
3	- - - - - -	• TIP, ion collector, multi-point	1	
4	1097543	• SCREW, set, nylon tip, M5 x 8, black	1	
5	- - - - - -	• BLOCK, ion collector, Encore PE HD	1	
6	983401	• WASHER, lock, split, M5, steel, zinc	1	
7	982636	• SCREW, button, socket, M5 x 12, zinc	1	

EU DECLARATION of Conformity

This Declaration is issued under the sole responsibility of the manufacture.

Product:

Models: Encore PE – HD Automatic Applicators for use with Encore HD iControl 2 Controllers. Or, in Robot applications the Encore PE – HD can be used with an Encore HD/XT Manual Interface and its associated Power Supply Cabinet.

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	EN61000-6-3
EN1953	EN61000-6-2
EN60204	EN55011
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: 20FEB2025

Jeremy Krone
Supervisor Product Development Engineering
Industrial Coating Systems
Amherst, Ohio, USA

Nordson Authorized Representative in the EU
Person authorized to compile the relevant technical documentation.
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Nordson Deutschland GmbH
Heinrich-Hertz-StraBe 42-44
D-40699 Erkrath

UK DECLARATION of Conformity

This Declaration is issued under the sole responsibility of the manufacture. Product:

Models: Encore PE – HD Automatic Applicators for use with Encore HD iControl 2 Controllers. Or, in Robot applications the Encore PE – HD can be used with an Encore HD/XT Manual Interface and its associated Power Supply Cabinet.

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 UK Regulations
Supply Machinery Safety 2008
Electrical Equipment Safety 2016
Electromagnetic Compatibility Regulation 2016

Standards Used for Compliance:
EN/ISO12100 EN61000-6-3 EN1953
EN61000-6-2
EN60204 EN55011
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: 15OCT2024

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