Econo-Coat®
Manual Powder Spray Gun

Customer Product Manual
Part 1013760E
Issued 10/03

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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NORDSON CORPORATION • AMHERST, OHIO • USA

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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: http://www.nordson.com.

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Econo-Coat Manual 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 Material Safety Data Sheets (MSDS) 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 MSDS 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.

All work conducted inside the spray booth or within 1 m (3 ft) of booth openings is considered within a Class 2, Division 1 or 2 Hazardous location and must comply with 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 Econo-Coat manual powder spray gun electrostatically charges and sprays organic powder coatings. The integral power supply (IPS) voltage multiplier is user-replaceable.

NOTE: The spray gun should be used only with the Econo-Coat manual powder spray gun control unit.

Spray Gun Components

Refer to Table 1 for a description of the spray gun's major components.

See Figure 1.

Table 1 Spray Gun Components

Item	Description	Function
1	Storage Hook	Allows the spray gun to be safely hung for storage
2	Voltage Multiplier	Converts the control unit's low-voltage power to high electrostatic voltage
3	Electrode Assembly	Uses the electrostatic voltage produced by the voltage multiplier to charge the powder being sprayed
4	Nozzle **NOTE:** Standard conical nozzle is shown. Other nozzles are available. Refer to *Options* on page 21 for optional nozzles and ordering information.	Shapes the pattern of the spray as it exits the spray gun With the conical nozzle shown, the pattern adjuster (4a) may be slid toward or away from the deflector (4b) to modify the spray pattern • To create a narrower spray pattern, slide the pattern adjuster toward the deflector • To create a wider spray pattern, slide the pattern adjuster away from the deflector
5	Inlet Adapter	Connects the powder feed hose to the spray gun
6	Trigger	Activates the spray gun, sending charged powder out of the nozzle
7	Cable	Supplies power to the spray gun and relays current and feedback information to the control unit **NOTE:** An optional 4-meter extension cable is available. Refer to *Spray Gun Parts* on page 18 for ordering information.

Description *(contd)*

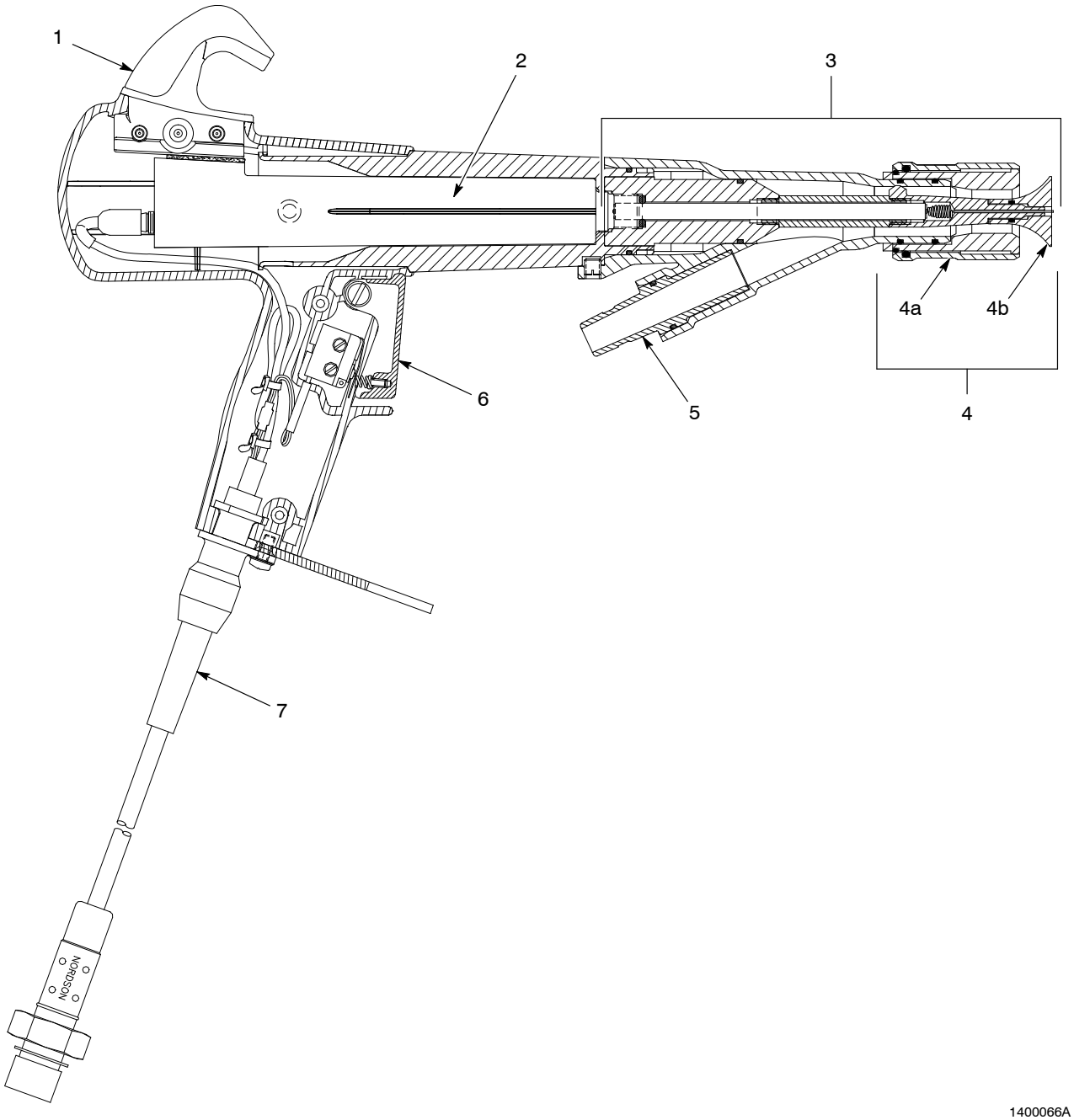


Figure 1 Spray Gun Components

Theory of Operation

See Figure 1.

When the operator pulls the trigger (6), the voltage multiplier (2) generates an electrostatic field around the electrode in the spray gun's nozzle (4).

The spray gun's control unit sends compressed air through the powder pump, which draws fluidized powder up the pickup tube, through the powder feed hose, and into the spray gun.

When the powder reaches the spray gun, the powder flows into the inlet adapter (5); around the electrode assembly (3), where the powder is electrostatically charged; and out the nozzle. The charged powder is then attracted to grounded parts in the spray booth.

Powder coatings typically are fluidized in one of two ways:

Feed Hopper: Powder is placed in a hopper, which has a porous membrane called a fluidizing plate at the bottom of the hopper. The powder in the hopper is fluidized when compressed air is forced through the fluidizing plate.

Vibratory Box Feeder: A box of powder is placed on the vibratory box feeder, which vibrates the box to maintain even distribution of powder in the box. The powder in the box is fluidized when compressed air is introduced at the bottom of the pump's pickup tube.

Specifications

NOTE: Because of continuous technological improvements, specifications are subject to change without notice.

Table 2 Spray Gun Specifications

Air Pressures	
Flow Rate	2 bar (30 psi)
Atomizing	0.7 bar (10 psi)
Electrical Requirements	
Voltage Output	95 kV maximum
Current Output	100 μA maximum

NOTE: Supply air must be clean and dry. Use a regenerative desiccant or refrigerated air dryer capable of producing a 3.4 °C (38 °F) or lower dewpoint at the maximum input air pressure. Use a filter system with prefilters and coalescent-type filters capable of removing oil, water, and dirt in the submicron range.

Connections

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

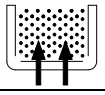
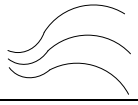
See Figure 2.

Refer to Table 3 for a description of the connections required to install the Econo-Coat manual powder spray gun.

If your spray gun is part of a mobile powder spray system, refer to the installation instructions provided with the system. The installation instructions included in this manual are for installing a standalone spray gun.

NOTE: Refer to your control unit and powder pump manuals for more detailed installation instructions.

Table 3 Connections

Item	Description	Size	Control Unit Back Panel Connection	Other Equipment Connection
1	Ground Wire	—		True Earth Ground
2	Fluidizing Air Tubing (Blue)	10-mm OD		Fluidizing Air Elbow Fitting
3	Atomizing Air Tubing (Blue)	8-mm OD		Powder Pump Connector **A**
4	Flow Rate Air Tubing (Black)	8-mm OD		Powder Pump Connector **F**
5	Feed Hose	12.7-mm ($^1/_2$-in.) ID	(not connected to control unit)	Powder Pump Outlet; Spray Gun Inlet
6	Spray Gun Cable	—	**GUN OUTPUT** (See Note)	Spray Gun Handle (prewired)
7	POWER INPUT Cable	—	**POWER INPUT** (prewired)	Main Power Supply
8	Air Supply Tubing (Blue)	10-mm OD	**IN 0–100 PSI 0–7 BAR**	Main Air Supply
NOTE: Tighten the gun cable retaining nut to 6 N•m (4.4 ft-lb). An optional 4-meter extension cable is available. Do not add more than two extension cables to the gun cable.				

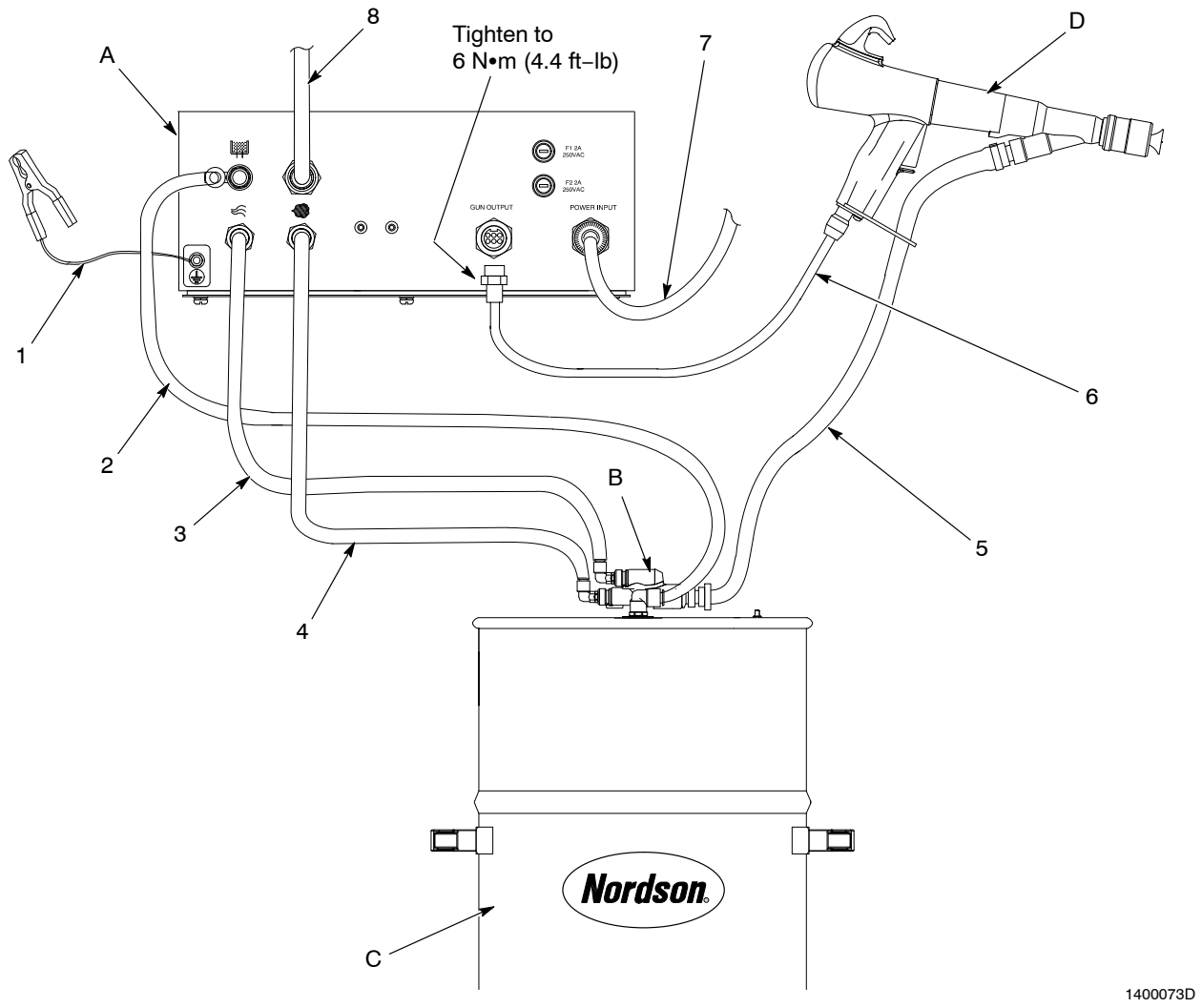


Figure 2 Connections

A. Control unit
B. Powder pump
C. Hopper
D. Spray gun
1. Ground wire
2. Blue, 10-mm air tubing (fluidizing)
3. Blue, 8-mm air tubing (atomizing)
4. Black, 8-mm air tubing (flow rate)
5. Feed hose
6. Gun cable
7. POWER INPUT cable
8. Blue, 10-mm air tubing (IN)

Note: Typical powder pump and hopper shown. Connections for a vibratory box feeder system are different than those shown. Refer to the *Econo-Coat Mobile Powder Spray System with Box Feeder* instructions for box feeder connections.

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.

WARNING: This apparatus shall be used only in spraying areas according to EN 50177 or under equivalent conditions.

WARNING: Do not operate the spray gun if the resistance of the multiplier or electrode assembly are not within the ranges specified in this manual. Failure to observe this warning may result in personal injury, fire, or property damage.

WARNING: All conductive equipment in the spray area must be connected to a true earth ground. Failure to observe this warning may result in a severe shock.

Startup

Make sure that the following conditions have been met before operating the Econo-Coat manual powder spray gun:

- All of the *Connections* on page 6 have been completed.
- The air supply system's filters and dryer are working properly.
- The booth exhaust fans are operating.
- The powder recovery system is operating.

1. Set the kV and fluidizing and pump air pressures as described in the *Operation* section of the control unit manual.
2. Point the spray gun into the spray booth and pull the trigger.
3. Modify the spray pattern as desired.

   See Figure 1.

   - For a narrower spray pattern, slide the nozzle's pattern adjuster (4a) toward the deflector (4b).
   - For a wider spray pattern, slide the nozzle's pattern adjuster (4a) away from the deflector (4b).

NOTE: Refer to the *Operation* section of the control unit manual for kV and air pressure adjustments.

Shutdown

1. Turn the power switch on the control unit to the off position.
2. Set all air pressures to zero and relieve system air pressure.
3. Ground the spray gun electrode to discharge any residual voltage.
4. Perform the *Daily Maintenance* procedure on page 9.

Maintenance

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

WARNING: Turn off the gun control unit and disconnect the system from its power source before performing any of the following tasks. Failure to observe this warning may result in a severe shock.

WARNING: Relieve system air pressure and disconnect the system from its input air supply before performing any of the following tasks. Failure to observe this warning may result in personal injury.

Daily Maintenance

Use the following procedure to clean the spray gun.

See Figure 3.

NOTE: If necessary, remove any O-rings and clean parts using a cloth dampened with isopropyl or ethyl alcohol. Do not immerse the parts in alcohol. Do not use any other solvents.

CAUTION: Carefully remove any fused powder from parts using a wooden or plastic dowel or similar tool. Do not use tools that will scratch the plastic. Powder will build up and impact fuse on any scratches.

1. Turn off the control unit and disconnect the system from its input power source.
2. Relieve system air pressure and disconnect the system from its input air supply.
3. Disconnect the powder feed hose (6) from the pump.
4. Point the spray gun into the booth and blow out the powder from the spray gun and powder feed hose using low-pressure, compressed air.
5. Remove the nozzle parts (3).
6. Disconnect the powder feed hose and remove the inlet adapter (5).
7. Loosen the set screw (4) and pull the body (2) straight away from the spray gun until the body clears the electrode assembly (1). Be careful not to damage the electrode assembly while removing the body.
8. Clean all parts with low-pressure, compressed air.
9. Inspect all O-rings and replace any that are damaged.

Periodic Maintenance

Perform the *Resistance and Continuity Tests* on pages 12–13.

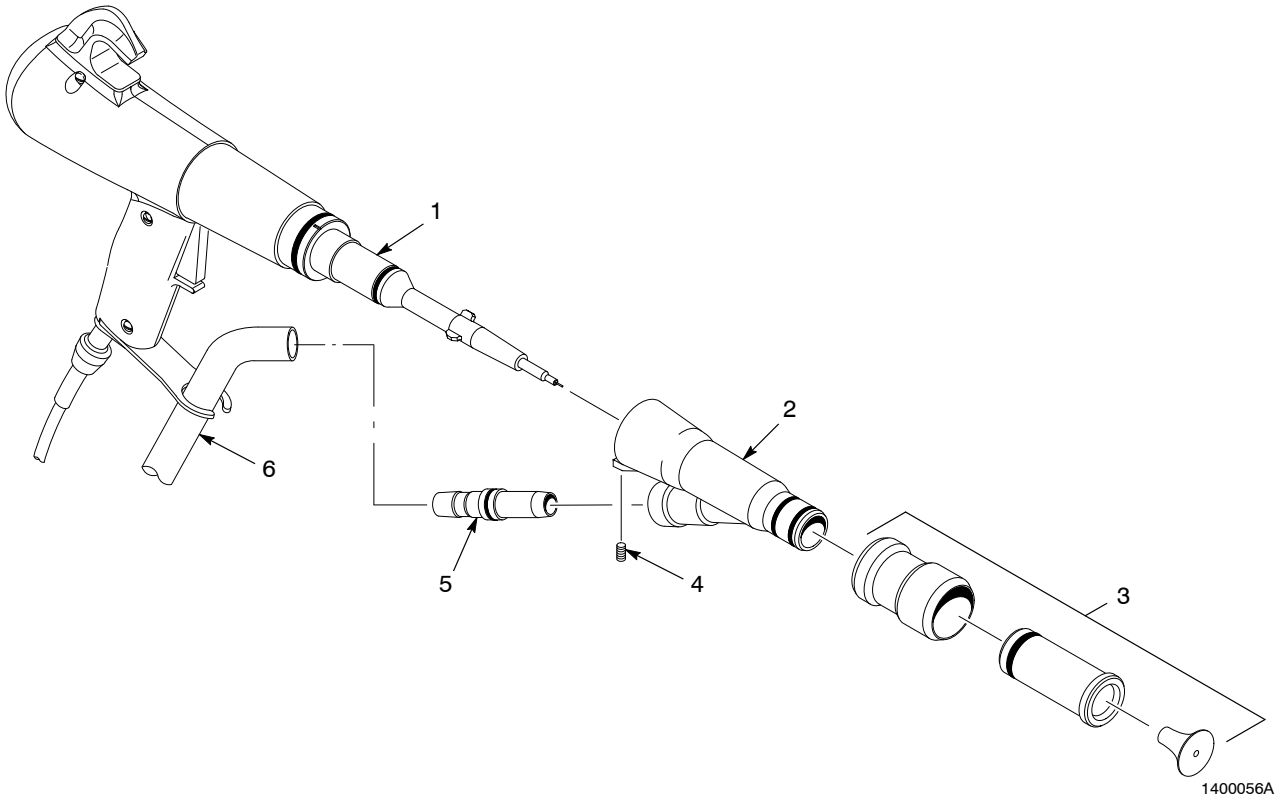


Figure 3 Daily Maintenance

1. Electrode assembly
2. Body
3. Nozzle parts
4. Set screw
5. Inlet adapter
6. Powder feed hose

Troubleshooting

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

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

Problem	Possible Cause	Corrective Action
1. Uneven spray pattern; unsteady or inadequate powder flow	Blockage in spray gun, feed hose, or pump	Perform the *Daily Maintenance* procedure on page 9.
		Replace the feed hose if it is clogged with fused powder.
		Disassemble and clean the pump.
	Poor fluidization of powder in hopper	Increase the fluidizing air pressure.
		Hopper Systems: Remove the powder from the hopper. Clean or replace the fluidizing plate if it is contaminated.
		Box Feeder Systems: Replace the fluidizing disk insert at the end of the pickup tube. Refer to your mobile powder spray system instructions.
	Moisture in powder	Check the powder supply, air filters, and dryer.
		Replace the powder supply if it is contaminated.
	Worn nozzle	Remove, clean, and inspect the nozzle. Replace the nozzle if necessary.
		If excessive wear or impact fusion is present, reduce the flow rate and atomizing air pressures.
	Low atomizing or flow rate air pressure	Increase the atomizing and/or flow rate air pressures.

Continued...

Problem	Possible Cause	Corrective Action
2. Loss of wrap; poor transfer efficiency	Low electrostatic voltage	Increase the electrostatic voltage.
	Poor electrode connection	Perform the *Voltage Multiplier and Electrode Assembly Resistance Test* on page 12.
	Poorly grounded parts	Check the part hangers for powder buildup. The resistance between the parts and the ground must be 1 megohm or less. For best results, the resistance should be 500 ohms or less.
3. No kV output from the spray gun	Damaged spray gun cable	Perform the *Spray Gun Cable Continuity Tests* on page 13. If an open or short circuit is found, replace the cable.
	Malfunctioning trigger switch	With the trigger switch actuated, check for continuity between pins 1 and 2 of the control unit end of the gun cable. If there is no continuity, replace the cable.
	Malfunctioning voltage multiplier	Perform the *Voltage Multiplier and Electrode Assembly Resistance Test* on page 12.
	Poor electrode connection	Perform the *Voltage Multiplier and Electrode Assembly Resistance Test* on page 12.
	Malfunctioning control unit	Unplug the gun end of the cable from the voltage multiplier. With the trigger switch actuated, check for 21 Vdc between pins 2 and 3 of the gun end of the gun cable. If the reading is not 21 Vdc, contact your Nordson representative.
4. No kV output and no powder output	Malfunctioning trigger switch or cable	With the switch actuated, check for continuity between pins 1 and 2 of the control unit end of the cable. If no short or open circuit is found in the trigger switch, check the continuity across the cable. If no continuity is found across the cable, replace the cable.

Resistance and Continuity Tests

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

Voltage Multiplier and Electrode Assembly Resistance Test

See Figure 4.

1. Disassemble and clean the spray gun's powder path. Refer to the *Daily Maintenance* procedure on page 9 for instructions.
2. Remove the three screws securing the halves of the spray gun handle. Separate the handles to access the electrostatic components.
3. Disconnect the cable connector from the voltage multiplier and remove the multiplier (3) and electrode assembly (4) from the spray gun.
4. Connect the shorting plug (1) to the voltage multiplier connector (2).
5. Connect a megohmmeter's (6) probes to the electrode (5) and shorting plug ring-tong terminal. If the reading is infinite, switch the probes.
6. The megohmmeter should read between 140 and 210 megohms at 500 volts. If the reading is not in this range, perform the *Electrode Assembly Resistance Test*.
7. Replace any parts that have burn-through holes or arc tracks.

NOTE: When you have completed the resistance tests, install a new heat sink pad on the gun hook before you assemble the spray gun. Refer to *Heat Sink Pad Replacement* on page 16.

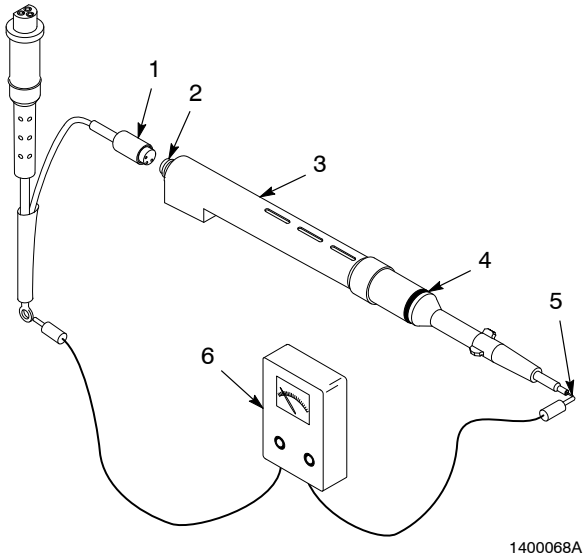


Figure 4 Voltage Multiplier and Electrode Assembly Resistance Test

1. Shorting plug
2. Multiplier connector
3. Multiplier assembly
4. Electrode assembly
5. Electrode
6. Megohmmeter

Electrode Assembly Resistance Test

See Figure 5.

1. Perform the *Voltage Multiplier and Electrode Assembly Resistance Test*.
2. Unscrew the electrode assembly (2) from the voltage multiplier.
3. Connect the megohmmeter's probes to the electrode (1) and the contact pin (3).
4. The megohmmeter should read between 2 and 10 megohms at 500 volts. If the reading is not in this range, replace the electrode assembly.

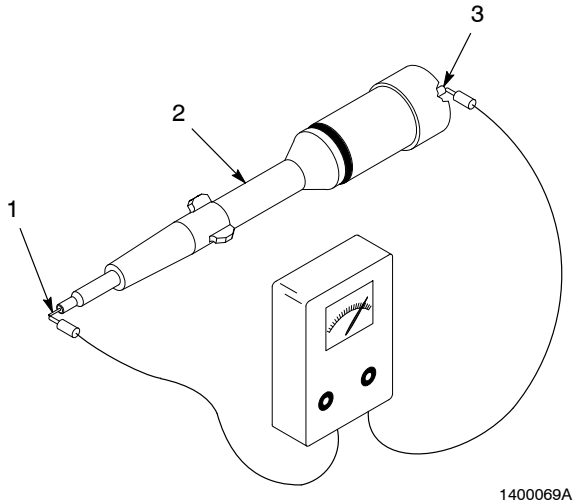


Figure 5 Electrode Assembly Resistance Test

1. Electrode
2. Electrode assembly
3. Contact pin

Spray Gun Cable Continuity Tests

See Figure 6.

Pin Functions

Refer to Table 4 and see Figure 6 for the functions of the cable pins.

Table 4 Control Unit End Pin Functions

Control Unit End	
Pin	**Function**
1	Trigger
2	Common
3	+ Vdc
4	μA Feedback
5	Blank
6	Ground
Multiplier End	
Pin	**Function**
1	+ Vdc
2	μA Feedback
3	Common
Trigger Switch	
Pin	**Function**
1	Trigger
2	Common
3	Not Connected

Control Unit End to Multiplier End Continuity Test

Refer to Table 5 and see Figure 6 for a list of continuity tests to perform between the control unit end and the voltage multiplier end.

Table 5 Control Unit End to Multiplier End Continuity Test

Control Unit End Pin	Multiplier End Pin
3	1
4	2

Control Unit End to Trigger Switch Continuity Test

See Figure 6.

While the trigger is pulled, test for continuity between pins 1 and 2 of the control unit end of the cable.

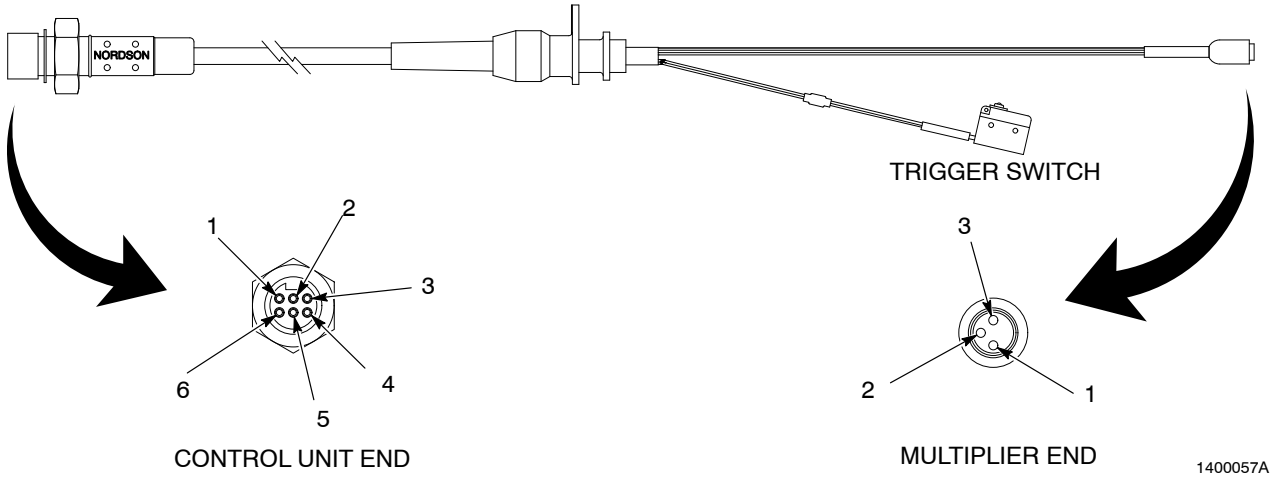


Figure 6 Spray Gun Cable Pins

Repair

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

WARNING: Turn off the control unit and disconnect the system from its input power source before performing any of the following tasks. Failure to observe this warning may result in a severe shock.

WARNING: Relieve system air pressure and disconnect the system from its input air supply before performing any of the following tasks. Failure to observe this warning may result in personal injury.

Electrode Assembly Replacement

See Figure 7.

1. Turn off the control unit and disconnect the system from its input power source.
2. Relieve system air pressure and disconnect the system from its input air supply.
3. Disconnect the spray gun cable from the control unit.
4. Disconnect the powder feed hose and remove the inlet adapter (5) from the spray gun.
5. Pull the nozzle parts (3) straight off the spray gun.
6. Loosen the set screw (4) and pull the body (2) straight off the spray gun until the body clears the electrode assembly (9). Be careful not to damage the electrode assembly.
7. Grasp the electrode assembly near the spray gun and unscrew it from the voltage multiplier (8).
8. Follow steps 3–7 in reverse to install the new electrode assembly.

Voltage Multiplier Replacement

See Figure 7.

1. Perform steps 1–7 of the *Electrode Assembly Replacement* procedure.
2. Remove the three screws (17) and the right handle (16).
3. Disconnect the cable connector (7) and remove the extension (1) and voltage multiplier (8) from the left handle (6).
4. Replace the heat sink pad (18). Refer to *Heat Sink Pad Replacement* on page 16 for instructions.
5. Connect the cable connector to the new voltage multiplier and install the voltage multiplier into the extension.

NOTE: When assembling the handles and extension, make sure that the pins on the side of the extension are aligned with the appropriate space in each handle.

6. Carefully set the voltage multiplier and extension into the left handle. Secure the right handle to the left handle using the screws.
7. Perform the *Electrode Assembly Replacement* procedure in reverse to install the electrode assembly.

Cable Replacement

See Figure 7.

1. Perform steps 1–7 of the *Electrode Assembly Replacement* procedure.
2. Remove the screw (14) and the hose bracket (13).
3. Remove the three screws (17) and the right handle (16).
4. Disconnect the cable connector (7) and remove the extension (1) and voltage multiplier (8) from the left handle.

NOTE: Do not lose the trigger actuator (10) when you remove the trigger switch.

5. Remove the two screws (12) and the trigger switch (11).
6. Lift the cable out of the left handle (6).

NOTE: Before you install the multiplier, install a new heat sink pad (18). Refer to *Heat Sink Pad Replacement* on page 16 for instructions.

7. Install a new cable by following steps 1–6 in reverse.

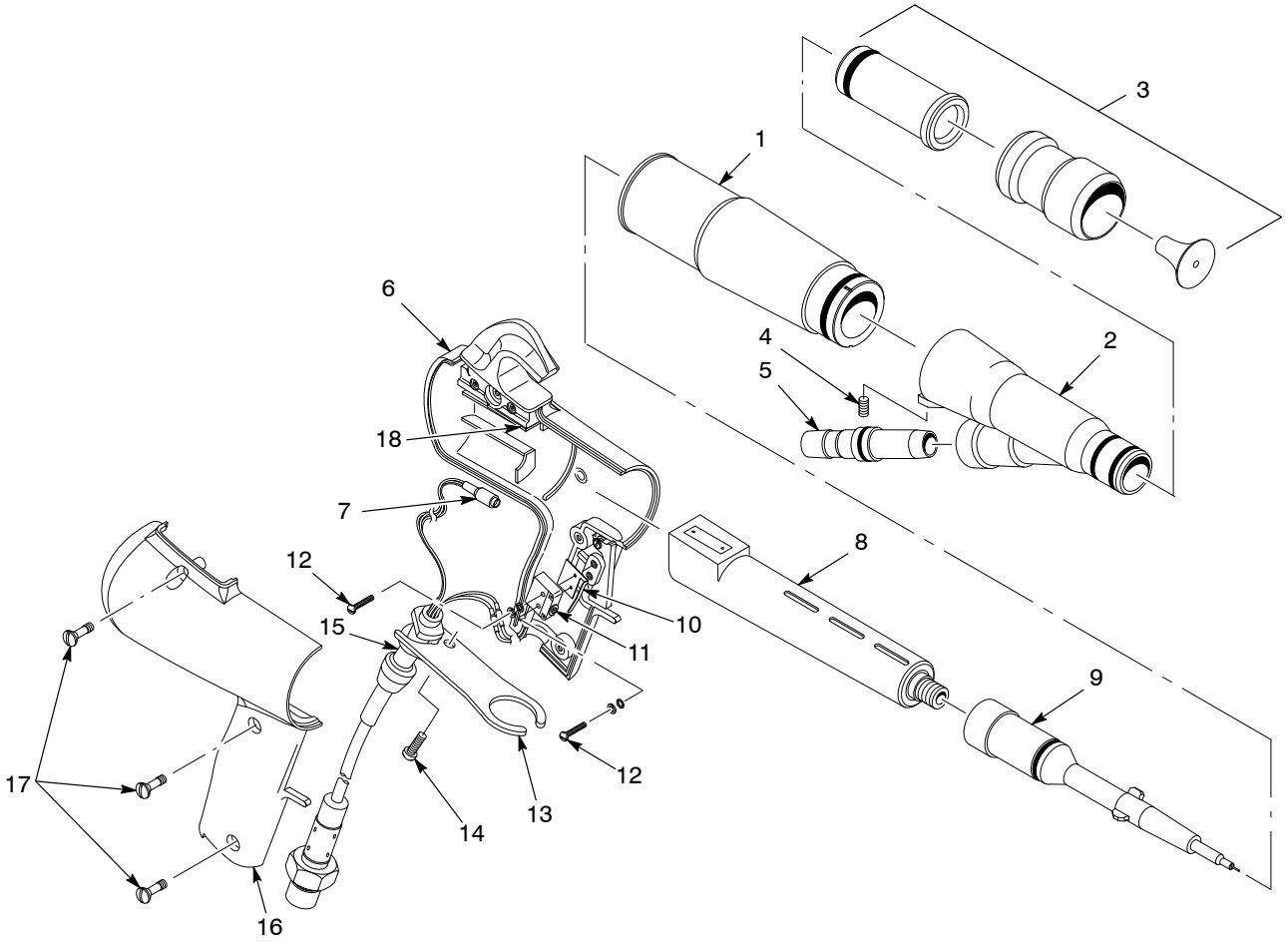


Figure 7 Spray Gun Repair

1. Extension
2. Body
3. Nozzle
4. Set screw
5. Inlet adapter
6. Left handle
7. Cable connector
8. Voltage multiplier
9. Electrode assembly
10. Trigger actuator
11. Trigger switch
12. Screws (2)
13. Hose bracket
14. Screw with integral lock washer
15. Cable base
16. Right handle
17. Screws (3)
18. Heat sink pad

Heat Sink Pad Replacement

Install a new heat sink pad each time that you remove the multiplier from the spray gun.

1. Remove the multiplier from the spray gun. Refer to *Voltage Multiplier Replacement* on page 14 for instructions.
2. Remove the hook from the left handle.
3. See Figure 8. Remove the old heat sink pad (2) from the hook (1). Remove any remaining adhesive from the hook using a razor blade and a cloth dampened with isopropyl alcohol.
4. Peel the plastic liner off one side of the new heat sink pad.
5. Place the heat sink pad on the bottom of the hook, making sure that the edge of the pad is flush with the front edge of the hook.
6. Remove the plastic liner from the bottom of the new heat sink pad.
7. Install the hook into the left handle and assemble the spray gun.

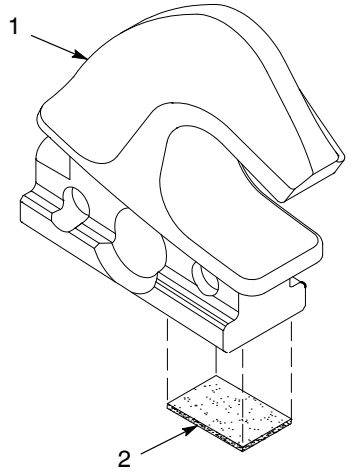


Figure 8 Heat Sink Pad Replacement

1. Hook
2. Heat sink pad

Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use this five-column parts list, and the accompanying illustration, to describe and locate parts correctly.

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
—	0000000	Assembly	1	
1	000000	• Subassembly	2	A
2	000000	• • Part	1	

Spray Gun Parts

See Figure 9.

Item	Part	Description	Quantity	Note
—	1008645	HANDGUN, Econo-Coat	1	
1	1003337	• EXTENSION, handgun	1	
2	940243	• O-RING, silicone, 1.125 x 1.250 x 0.063 in.	1	
3	1003336	• BODY, handgun	1	
4	940182	• O-RING, silicone, 0.750 x 0.875 x 0.063 in.	2	
5	309445	• NOZZLE, conical, 26 mm, with O-rings	1	
6	309450	• • PATTERN ADJUSTER, 26 mm deflector, with O-ring	1	
7	941224	• • • O-RING, silicone, 1.125 x 1.312 x 0.094 in.	1	
8	309448	• • NOZZLE, conical, 26 mm, with O-ring	1	
9	940212	• • • O-RING, silicone, 0.938 x 1.063 x 0.063 in.	1	
10	173141	• DEFLECTOR, 26 mm, flat, Tivar, with O-ring	1	
11	940084	• • O-RING, silicone, 0.188 x 0.312 x 0.063 in.	1	
12	982539	• SCREW, slotted, M6 x 6, nylon, black	1	
13	134386	• ADAPTER, hose, with O-ring, universal	1	
14	- - - - - -	• • ADAPTER, hose	1	
15	940163	• • O-RING, silicone, 0.625 x 0.750 x 0.063 in.	1	
16	- - - - - -	• HOOK, handgun	1	
17	1032181	• KIT, Econo-Coat handgun handle	1	
18	- - - - - -	• • HANDLE, left, handgun	1	
19	- - - - - -	• • HANDLE, right, handgun	1	
20	982064	• • SCREW, oval head, slotted, M4 x 12, zinc	3	
21	132334	• PIVOT, trigger	1	
22	133783	• SPRING, trigger, return	1	
23	125617	• TRIGGER, handgun, modular	1	
24	982370	• SCREW, pan head, slotted, M2 x 5, zinc	1	
25	1001202	• CABLE, handgun	1	
26	982847	• SCREW, pan head, recessed, M4 x 10, with lock washer	1	
27	132345	• BRACKET, cable/tube, retaining	1	
28	803210	• SCREW, pan head, #2-56 x 0.500 in. long	2	
29	983113	• WASHER, lock, e, split, 2, slotted, zinc	2	
30	983510	• WASHER, flat, e, 0.94 x 0.188 x 0.025 in.	2	
31	132336	• ACTUATOR, switch	1	
32	288552	• MULTIPLIER, 95 kV, negative	1	
33	1013629	• ELECTRODE ASSEMBLY, handgun, packaged	1	A
34	1045722	• SERVICE KIT, heat sink pad	1	B
NS	302103	• NOZZLE, flat spray, 4 mm	1	
35	1036142	CABLE, handgun, 4-meter extension	1	C

NOTE A: Refer to *Electrode Assembly* on page 20 for a breakdown of the parts included in this assembly.

B: Order this kit to replace the heat sink pad each time that the multiplier is removed from the spray gun.

C: Optional extension cable. Do not add more than two extension cables to the gun cable.

NS: Not Shown

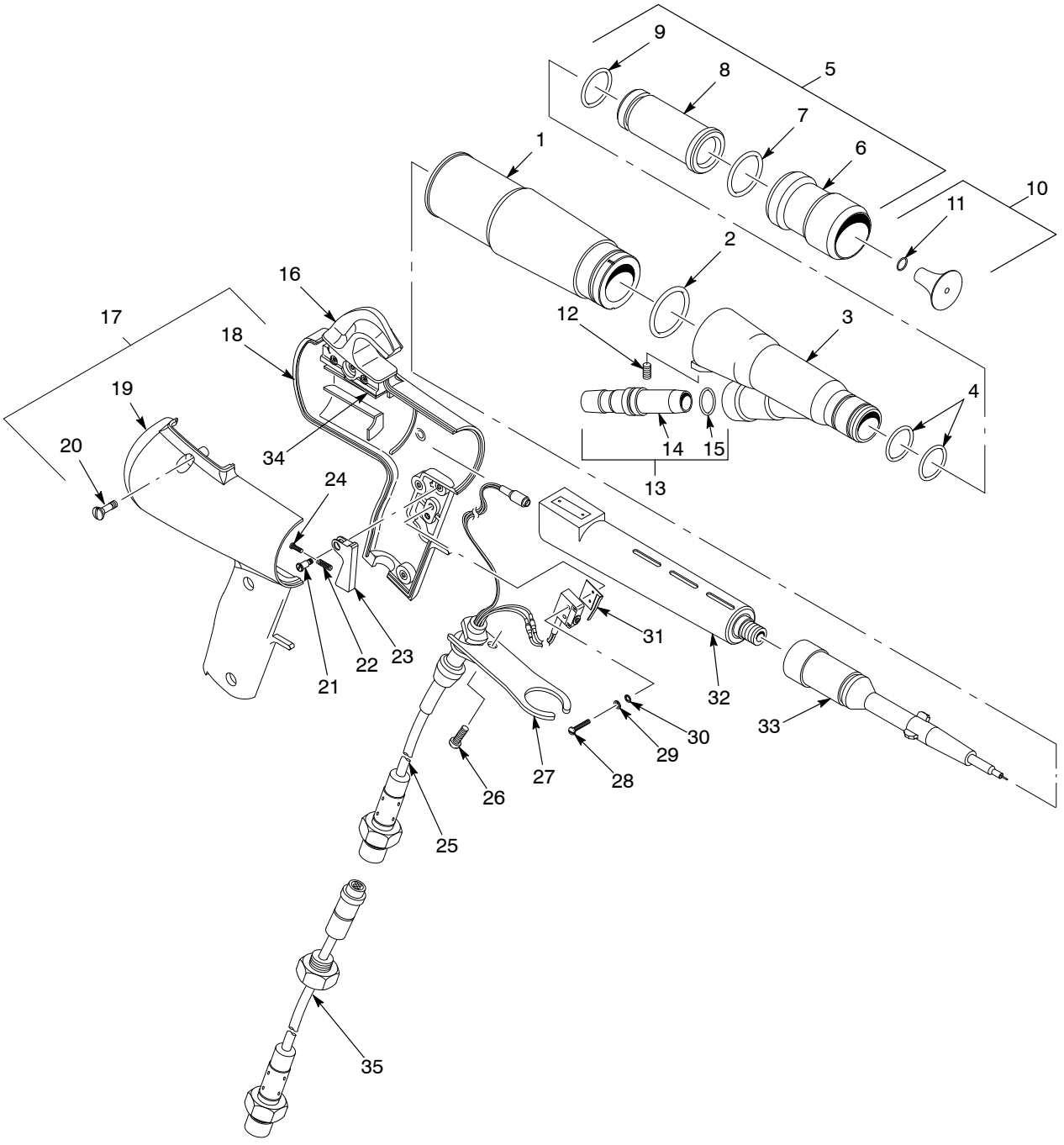


Figure 9 Spray Gun Parts

Electrode Assembly

See Figure 10.

Item	Part	Description	Quantity	Note
—	1013629	ELECTRODE ASSEMBLY, handgun, packaged	1	
1	1005060	• SUPPORT, electrode, handgun	1	
2	941081	• O-RING, silicone, 0.250 x 0.438 x 0.094 in.	1	
3	940182	• O-RING, silicone, 0.750 x 0.875 x 0.063 in.	1	
4	- - - - - -	• CABLE, core	1	
5	1005061	• SLEEVE, wear, handgun	1	
6	288554	• HOLDER, cable, electrode	1	
7	288560	• ELECTRODE, spring, contact	1	

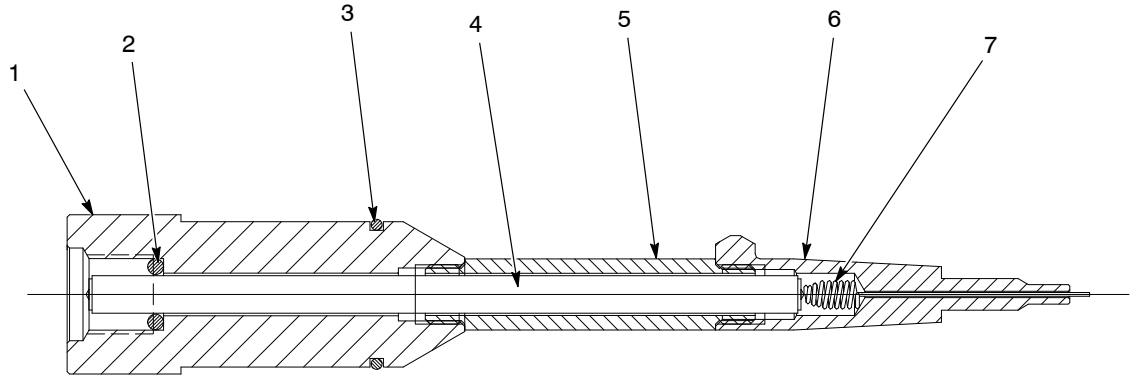


Figure 10 Electrode Assembly Parts

Options

This section includes optional equipment available for the Econo-Coat manual powder spray gun. Contact your Nordson representative for ordering information.

Deflectors

See Figure 11.

Item	Part	Description	Quantity	Note
1	135865	14-mm deflector, Tivar, with O-ring	1	
1	147880	16-mm deflector, Tivar, with O-ring	1	
1	173138	19-mm deflector, Tivar, with O-ring	1	
2	173141	26-mm deflector, Tivar, with O-ring	1	
2	249233	38-mm deflector, Tivar, with O-ring	1	
3	940084	• O-RING, silicone, 0.188 x 0.312 x 0.063 in.	1	A
NOTE A: This O-ring is included with all deflectors.				

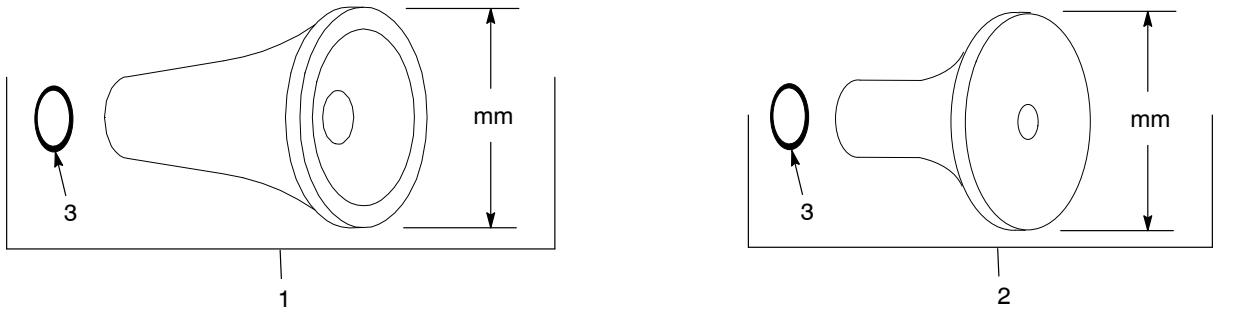


Figure 11 Deflectors

Pattern Adjusters

See Figure 12.

Item	Part	Description	Quantity	Note
1	309444	19-mm pattern adjuster	1	A
1	309450	26-mm pattern adjuster	1	B
2	309446	38-mm pattern adjuster	1	C

NOTE A: This pattern adjuster can be used with 14-, 16-, and 19-mm deflectors.
B: This pattern adjuster can only be used with a 26-mm deflector.
C: This pattern adjuster can only be used with a 38-mm deflector.

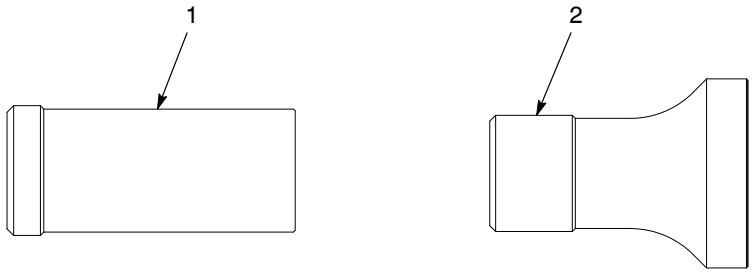


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Figure 12 Pattern Adjusters

Glass-Filled PTFE Flat-Spray Nozzles

See Figure 13.

Item	Part	Description	Quantity	Note
1	302108	2.5-mm flat-spray nozzle, glass-filled PTFE	1	
1	302109	3-mm flat-spray nozzle, glass-filled PTFE	1	
1	302110	4-mm flat-spray nozzle, glass-filled PTFE	1	
1	302111	6-mm flat-spray nozzle, glass-filled PTFE	1	

Tivar Flat-Spray Nozzles

See Figure 13.

Item	Part	Description	Quantity	Note
1	302101	2.5-mm flat-spray nozzle, Tivar	1	
1	302102	3-mm flat-spray nozzle, Tivar	1	
1	302104	6-mm flat-spray nozzle, Tivar	1	
2	302105	60° Cross-Cut nozzle, 2.5-mm slot, Tivar	1	
3	302106	90° Cross-Cut nozzle, 2.5-mm slot, Tivar	1	
4	302107	CASTLE nozzle, 2.5-mm slot, Tivar	1	

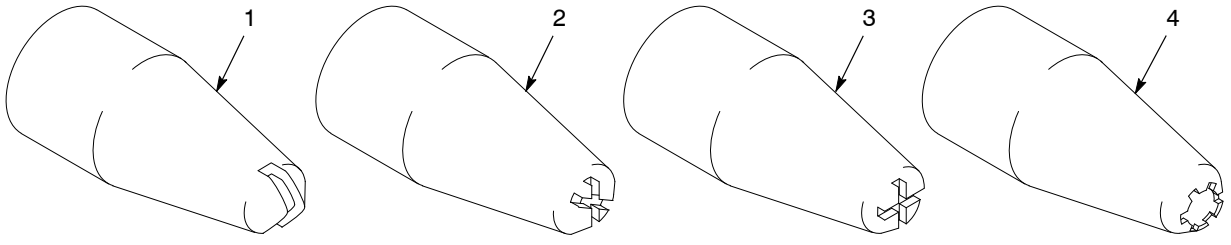

Figure 13 Flat-Spray Nozzles

Lance Extensions

Part	Description	Note
305799	150-mm LANCE EXTENSION	
305800	300-mm LANCE EXTENSION	

Powder and Air Tubing

Order tubing in increments of 1 foot.

Part	Description	Note
900740	AIR TUBING, 10-mm OD, black, polyurethane	
900618	AIR TUBING, 8-mm OD, blue, polyurethane	
900619	AIR TUBING, 8-mm OD, black, polyurethane	
900650	POWDER TUBING, 12.7-mm ($^1/_2$-in.) ID blue	
900648	POWDER TUBING, 11-mm ID, blue	A
900649	POWDER TUBING, 9.5-mm ($^3/_8$-in.) ID, blue	A
NOTE A: These optional powder feed hose sizes may improve powder flow and pattern, depending on your application.		

Shorting Plug

See Figure 14.

Use this shorting plug to perform the *Resistance and Continuity Tests* described in *Troubleshooting*.

Item	Part	Description	Quantity	Note
1	161411	PLUG, shorting, IPS	1	

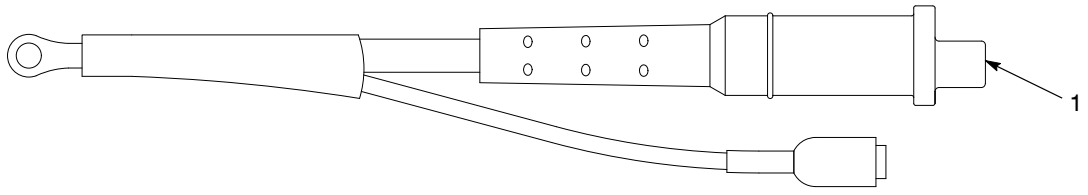

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Figure 14 Shorting Plug