Tribomatic® II Extended Automatic Powder Spray Gun

Customer Product Manual
Part 334691B03
Issued 7/06

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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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.

Address all correspondence to:

Nordson Corporation
Attn: Customer Service
555 Jackson Street
Amherst, OH 44001

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 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.

Section 2
Description

Introduction

The Nordson extended Tribomatic II automatic powder spray gun uses friction (the tribo effect) to electrostatically charge powder coating particles as compressed air forces them through the spray gun. The spray gun is used with a Tribomatic II controller and powder pump.

See Figure 2-1. The spray gun consists of a diffuser (1), extension (2), charge module (3), and various optional sprayheads (4). The standard spray gun has a PTFE charge module for use with organic powder coatings. The spray gun mounts to a reciprocator or oscillator, or to a fixed gun stand. An optional gun holder adapter allows existing Tribomatic gun holders to be used with gun mounting bars.

The spray gun uses the same wide variety of optional nozzles and sprayheads available for use with the original Tribomatic automatic powder spray gun. Options are listed in Table 2-1.

Table 2-2 lists the characteristics of the PTFE and Tivar materials used in the Tribomatic II powder spray guns. Use this table to identify the materials used in your spray gun.

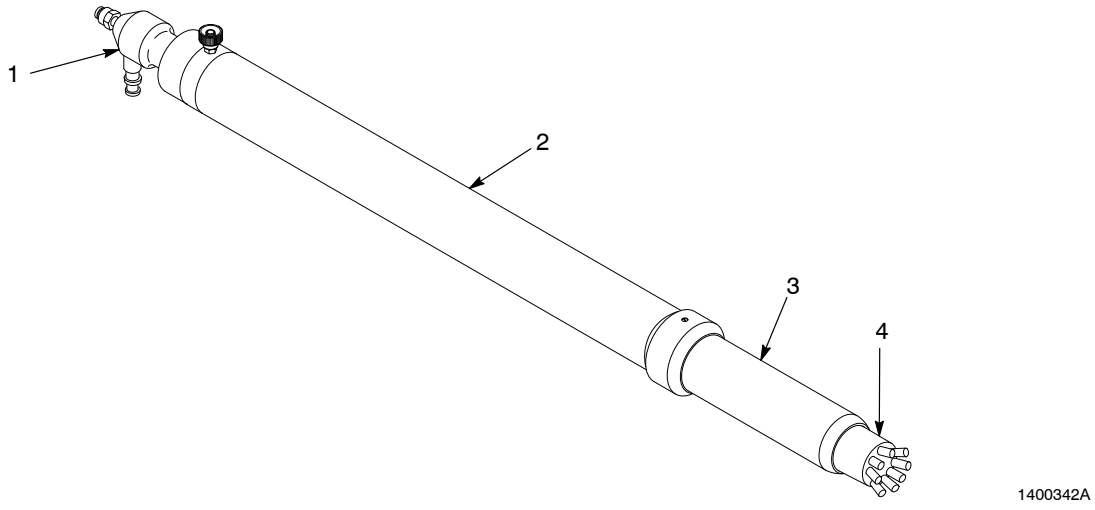

Figure 2-1 Extended Tribomatic II Automatic Gun

1. Diffuser
2. Extension
3. Charge module
4. Sprayhead

Operation

Flow rate air pumps powder out of the feed hopper and forces it through the feed hose to the diffuser. Diffuser air mixes with the powder and increases its speed. The powder and air mixture then passes between the inner and outer wear sleeves inside the charge module. The collision of the powder particles with the walls of the wear sleeves electrostatically charges both the powder particles and the wear sleeves.

The wear sleeves are grounded through the gun body, ground wire, and control unit. The charge picked up by the sleeves is displayed in microamperes at the control unit. The display indicates how well the powder is charging. The higher the number, the stronger the charge the powder is receiving. The strength of the charge the powder receives will vary depending on many factors, including the powder type and its speed through the spray gun.

Options

Table 2-1 lists the options are available for the extended Tribomatic II automatic powder spray gun. Unless otherwise noted, refer to *Options* on page 7-9 in the *Parts* section for part numbers and ordering information.

Table 2-1 Options

Option	Description
Tribomatic sprayheads and nozzles	Available in PTFE. Connect directly to the charge module. Refer to the *Tribomatic Optional Sprayheads and Nozzles* instruction sheet for more information.
Gun mounting bar	Use to mount an automatic gun on a 25.4-mm (1-in.) round or square fixed gun stand or gun mover arm.
Gun holder adapter	Allows old-style Tribomatic gun holders to be used with gun mounting bars and the Tribomatic II automatic gun.
Lance extensions	Use to spray powder into recesses. Available in 100-, 150-, or 300-mm lengths.
Deflectors for lance extensions	Available in Tivar, with and without holes.
Versa-Spray nozzles	Must be used with one of the optional lance extensions described above. Refer the *Optional Nozzles for Versa-Spray and Versa-Spray II Guns* instruction sheet for more information.
Powder feed hose, air tubing, spiral-cut tubing, and hose clamps	Available in both metric and English ID and OD sizes and in bulk lengths.

Material Descriptions

Table 2-2 describes the two types of plastics used in the Tribomatic II powder spray guns and the powder compatible with each type. Use this table to determine which type of plastic is used in your spray gun.

Table 2-2 Material Description and Usage

Material	Appearance	Usage
PTFE	Opaque white	Standard material for inlet and outlet distributors and wear sleeves in automatic spray guns. Shorter wear-life than Tivar, but reduces or eliminates impact-fusion.
Tivar	Grayish, translucent white	Longer wear-life than PTFE, but some powders may impact-fuse to Tivar. Switch to PTFE if impact-fusion is a problem.

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.

Mounting

1. See Figure 3-1. Install the gun mount (2) on a fixed gun stand or gun mover arm (1).
2. Tighten the gun mount adjuster (3).
3. Loosen the gun holder adjuster (5) and slide the spray gun through the gun holder (4). Tighten the adjuster.
4. Loosen the gun mount adjuster and position the spray gun. Tighten the adjuster.
5. Rotate the spray gun to the desired position, then tighten the gun mount adjuster (6).

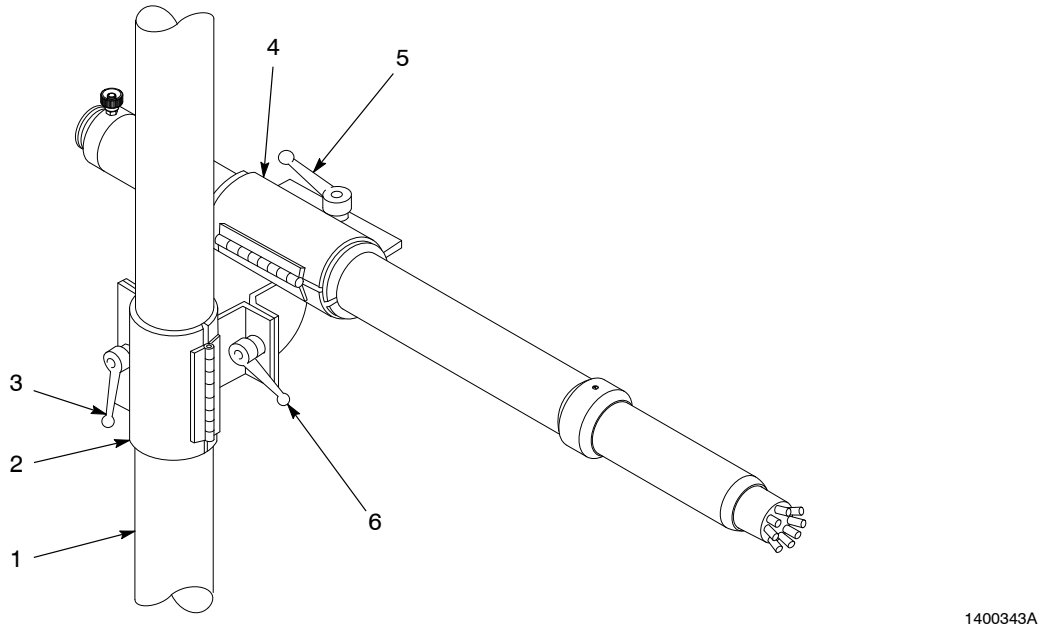

Figure 3-1 Mounting the Tribomatic II Extended Automatic Powder Spray Gun

1. Fixed gun stand or gun mover arm
2. Gun mount
3. Gun mount adjuster
4. Gun holder
5. Gun holder adjuster
6. Gun mount adjuster

Feed Hose, Air Tubing, and Ground Wire Connections

CAUTION: Do not overtighten threaded parts. Overtightening threaded parts will strip the threads.

1. See Figure 3-2. Install the diffuser (1) onto the threaded connector at the end of the extension (3). Hand tighten the diffuser lock nut.
2. Install 6-mm blue air tubing (8) between the diffuser and the control unit and install 6-mm black flow rate air tubing between the control unit and the powder pump.
3. Connect powder feed hose (7) to the barbed diffuser fitting, route the hose to the powder pump, and connect it to the pump outlet connector. Use snap clamps to secure the hose to the diffuser and pump adapters. Wrap spiral-cut tubing around the hose where necessary to prevent it from kinking and cutting off the flow of powder.
4. Connect a ground wire (6) to the ground stud (2). Tighten the knurled knob to secure the wire.
5. Route the ground wire to the control unit and connect it to the gun ground terminal in the rear panel.

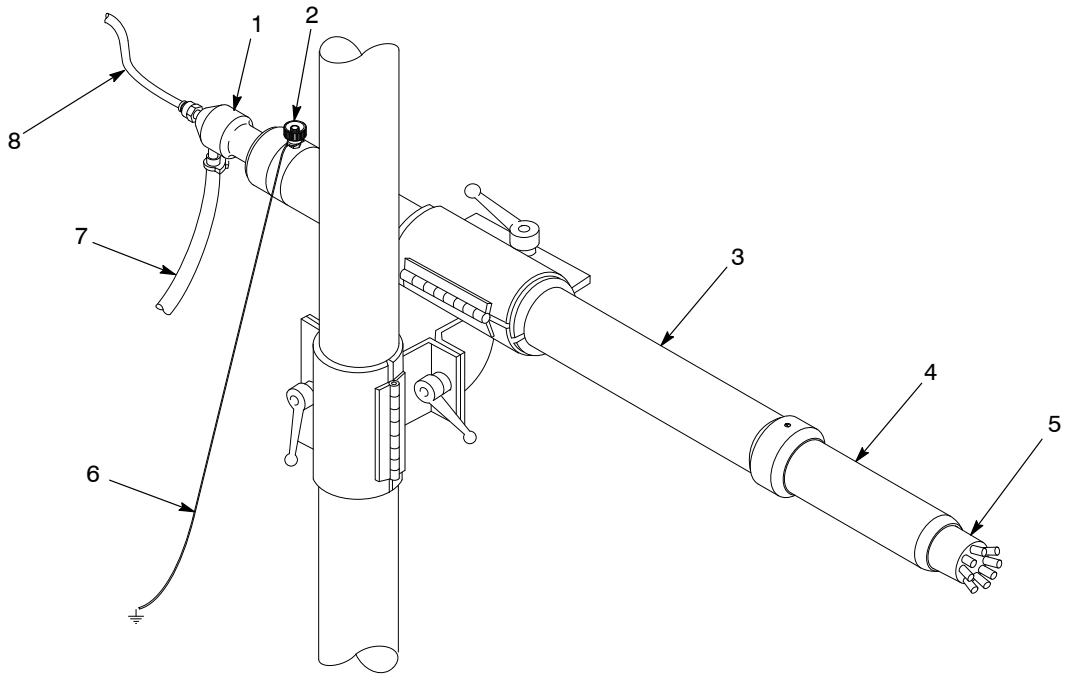

Figure 3-2 Connecting Feed Hose, Air Tubing, and Ground Wire

1. Diffuser
2. Ground Stud
3. Extension
4. Charge module body
5. Sprayhead
6. Ground wire
7. Powder feed hose
8. 6-mm Blue air tubing

NOTE: The cone is only used with the original Tribomatic gun.

6. See Figure 3-3. Before installing a sprayhead on the gun, remove the nozzle cone (1) from the interior of the sprayhead base (2) with a pair of pliers.
7. See Figure 3-2. Install the sprayhead (5) on the end of the charge module body (4) with a twisting motion. Tighten the set screws around the circumference of the charge module body to secure the sprayhead.
8. Adjust the spray gun-to-workpiece distance and position.

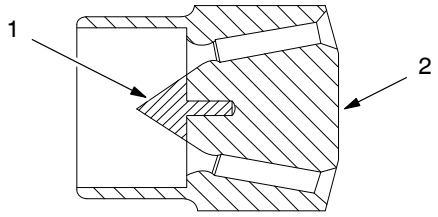

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Figure 3-3 Removing the Nozzle Cone

1. Nozzle cone
2. Sprayhead base

Installing Nozzles on Sprayheads

Figure 3-4 illustrates the various ways in which the nozzles can be installed.

Item	Nozzle	Installation
1	Cylindrical	Install on sprayhead tubing ends or on threaded or angled nozzles. The eight-orifice nozzle must be installed on a cylindrical nozzle. Cylindrical nozzles are also used as connectors.
2	Flat	
3	Pinpoint	
4	Eight-Orifice	
5	Threaded	Use to modify standard sprayheads. They are threaded on one end to screw into the sprayhead base.
6	Angled	Install on existing sprayhead nozzles, using cylindrical nozzles as connectors. These nozzles are not threaded.

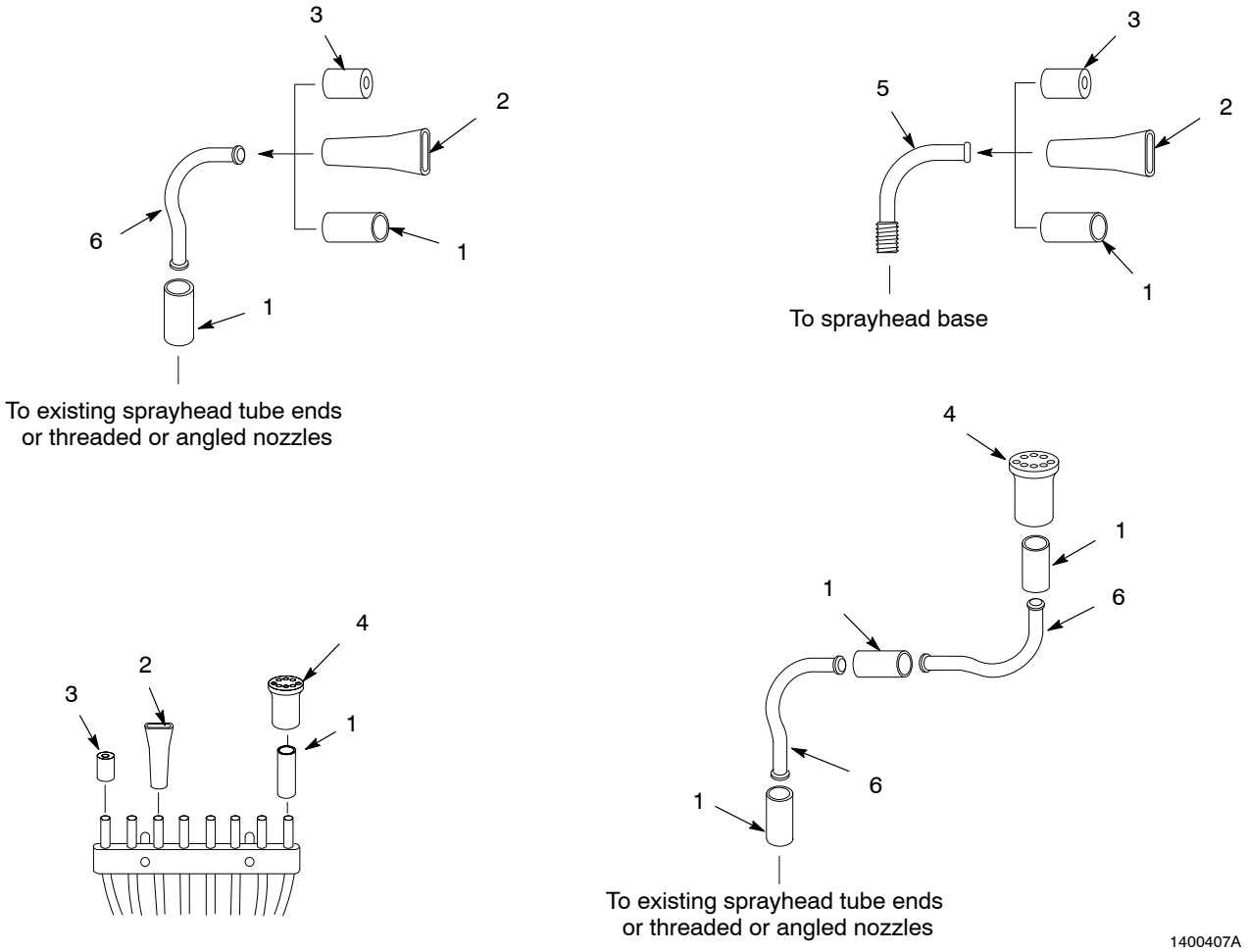

Figure 3-4 Installing Nozzles on Sprayheads

1. Cylindrical nozzles
2. Flat nozzles
3. Pinpoint nozzles
4. Eight-orifice nozzles
5. Threaded nozzles
6. Angled nozzles without threads

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.

WARNING: All electrically conductive equipment in the spray area must be grounded. Ungrounded or poorly grounded equipment can store an electrostatic charge which can give personnel a severe shock or arc and cause a fire or explosion.

WARNING: Make sure the spray gun is grounded before spraying powder or cleaning the spray gun with compressed air. Without a ground connection the spray gun will become electrostatically charged. Personnel touching the spray gun could receive a shock.

Introduction

Each automatic powder spray gun is controlled by one gun control unit which houses electrical controls, a digital display, and regulators and gauges for flow rate and diffuser air. Refer to the control unit manual for operation instructions.

Operation

Powder volume, velocity, and atomization are controlled by the flow rate and diffuser air pressure settings. As a starting point, set air pressures to

Flow rate (ejector) air pressure	1.8 bar (26 psi)
Diffuser (atomizing) air pressure	2.5 bar (36 psi)

Keep the flow rate air pressure as low as possible. Maintain the same ratio of diffuser air-to-flow rate air without reducing the charging level. Reduce the diffuser air pressure if powder is being blown out of recesses. Build coating thicknesses slowly. Reduce air pressures to keep overspray to a minimum.

Experiment with the part hanger configuration and part density. Reduce the space between parts to keep overspray to a minimum. Keep the air velocity through the booth as close to the minimum required by law as practical without violating safety.

Operation *(contd)*

Use different sprayheads for different part shapes. Select the appropriate nozzle for the parts being coated:

- Pinpoint nozzles for penetration
- Eight-orifice nozzles for flat surfaces
- Cylindrical nozzles for general purpose coating

Angle the nozzles to meet and follow the parts as they move through the booth. Typical nozzle-to-part distance is 20–25 cm (8–10 in.). Coat the inside surfaces and recessed areas first, then coat the outside surfaces and open areas.

Daily Maintenance

WARNING: Make sure the spray gun is grounded before spraying powder or cleaning the spray gun with compressed air. Without a ground connection the spray gun will become electrostatically charged. Personnel touching the spray gun could receive a shock.

1. Remove the powder feed hose from the pump and the air tubing from the pump and diffuser. Use an OSHA-approved air gun to clean the hose, diffuser, and charge module with compressed air.

NOTE: Never blow powder through the feed hose back into the pump. Turn on the booth exhaust fan, disconnect the hose from the pump, and blow out the hose from the pump end into the booth.

2. Remove the diffuser from the extension. Disassemble the diffuser and clean the parts with compressed air and a clean, soft cloth. Check the powder contact parts for wear and replace worn parts.
3. Remove the rear connector and blow out the gun body.
4. Blow out the extension, charge module, and sprayhead.
5. Disassemble and clean the charge module. Check the powder contact parts for wear and replace worn parts.

NOTE: Never use a knife or other sharp object to clean plastic parts. Powder will build up on scratches on the powder contact surfaces. The powder particles can fuse on impact and clog the spray gun.

WARNING: All electrically conductive equipment in the spray area must be grounded. Ungrounded or poorly grounded equipment can store an electrostatic charge which can give personnel a severe shock or arc and cause a fire or explosion.

6. Make sure all conductive equipment in the spray area, including the spray guns, are connected to a true earth ground. The resistance from part to ground, through the hangers and conveyor, must not exceed one megohm. For best results, the resistance should be less than 500 ohms.

Section 5
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. Powder does not flow when control unit turned on	No supply air or pressure set too low	Make sure the control unit is getting air. Check the supply air pressure.
	Blockage in system	Shut down and clean the system starting with the pump. Check the air dryer for proper operation. Drain the air filters and inspect the filter elements. Make sure the powder supply in the feed hopper is dry.
	Powder is not fluidized in hopper	Increase the air pressure to the hopper.
	Control unit malfunction; solenoid valve is not opening	Repair or replace the control unit.
	Flow rate (ejector) air pressure too low	Increase the flow rate air pressure.
2. Powder puffing from spray gun	Blockage in system	Shut down the system. Clean the system starting with the pump.
	Pump venturi throat worn out	Change the venturi throat.
	Diffuser (atomizing) air pressure too high or incorrect ratio of diffuser to flow rate air pressure	Decrease the diffuser air pressure or increase the flow rate air pressure.
	Powder feed hose ID too large or hose too short	Change to a smaller ID hose or change the hose length. Best results are obtained when a hose is 4–6 m (13–20 ft) long.

Continued...

Problem	Possible Cause	Corrective Action
3. Poor powder charging—no electrostatic wrap or adhesion	Flow rate air pressure too high or diffuser air pressure too low	Decrease the flow rate air pressure or increase the diffuser air pressure.
	Parts not properly grounded	Check the conveyor and hangers with a standard ohmmeter for coating buildup that could affect the ground. Resistance between the parts and the ground must not exceed one megohm. For best results, resistance should not exceed 500 ohms.
	Too much moisture in compressed air supply	Check the air dryer for proper operation. Use a refrigerated or regenerative desiccant air dryer that can produce a 3.4 °C (38 °F) or lower dew point at 7 bar (100 psi). Drain the air filter and check the filter element.
	Inner and outer wear sleeves worn	Disassemble the spray gun. Reverse the inner and outer wear sleeves (turn end-for-end). Replace the sleeves if necessary.
	Too many fine particles in powder supply	Replace the powder supply with virgin powder. Consult with the powder manufacturer.
	Powder not suitable for tribo-charging	Consult with the powder manufacturer.
4. Inadequate powder flow	Flow rate air pressure too low	Increase the flow rate air pressure.
	Wet powder clogging system	Check the air filters, dryer, and powder supply. Service the filters and/or the dryer and change the powder supply.

Section 6
Repair

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

Service Kits

See Figure 6-1. Two main service kits are available for the extended Tribomatic II automatic powder spray gun:

Item	Service Kit	Kit Contents
A	Charge module	Parts included in the wear sleeve replacement kit, plus the inlet and outlet wear sleeves and distributors. Refer to page 7-6 in the *Parts* section.
B	Wear sleeve	Parts subject to the most wear: inner and outer wear sleeves, spacing ring, and positioning ring. Refer to page 7-5 in the *Parts* section.

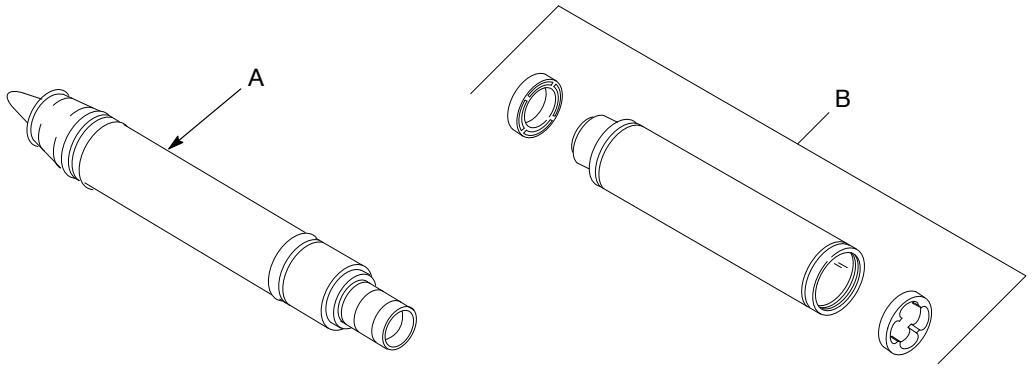

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Figure 6-1 Service Kits

A. Charge module service kit B. Wear sleeve service kit

Charge Module Cutaway Drawing

The cutaway drawing below shows how the parts of the charge module fit together. Refer to this drawing when assembling the charge module.

NOTE: The numeric callouts in this section match the item numbers in the spray gun's main parts list. Refer to the *Parts* section for a complete parts list and ordering information.

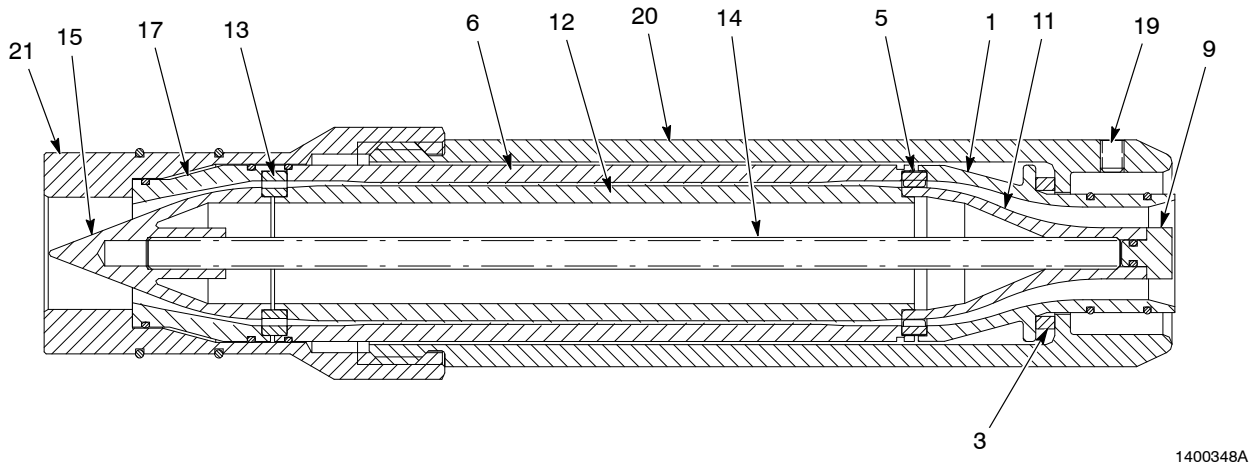

Figure 6-2 Charge Module Cutaway Drawing

1. Outlet wear sleeve assembly[1]
3. Spring
5. Spacing ring[1,2]
6. Outer wear sleeve[1,2]
9. Outlet distributor plug
11. Outlet distributor[1]
12. Inner wear sleeve[1,2]
13. Positioning ring[1,2]
14. Stud[1]
15. Inlet distributor[1]
17. Inlet wear sleeve[1]
19. Set screws
20. Extension tube
21. Body

Note: 1—Provided with charge module service kit.

Note: 2—Provided with wear sleeve service kit.

Prepare for Disassembly

WARNING: Use ground straps to avoid shock during cleaning.

1. Shut off the flow rate and diffuser air.
2. Disconnect the powder feed hose from the pump and the diffuser air tubing from the diffuser.
3. Leave the ground wire attached to the spray gun. Make sure the booth exhaust fan is operating.

NOTE: The charge module remains assembled during step 4.

4. Blow through the feed tubing into the diffuser, extension, and charge module.
5. Remove the diffuser from the gun extension and blow out the extension.
6. Remove the charge module and blow out the wear sleeves and extension tube.
7. Remove the sprayhead.

Charge Module Service Kit Installation

1. See Figure 6-3. Unscrew the extension tube (20) from the gun extension (25). Pull the extension tube out of the gun extension, and slide it off the inner/outer wear sleeve assembly (A). The outlet wear sleeve assembly (1) will remain inside the extension tube.
2. Pull the inner/outer wear sleeve assembly from the gun extension. The inlet wear sleeve assembly will stay in the gun extension.

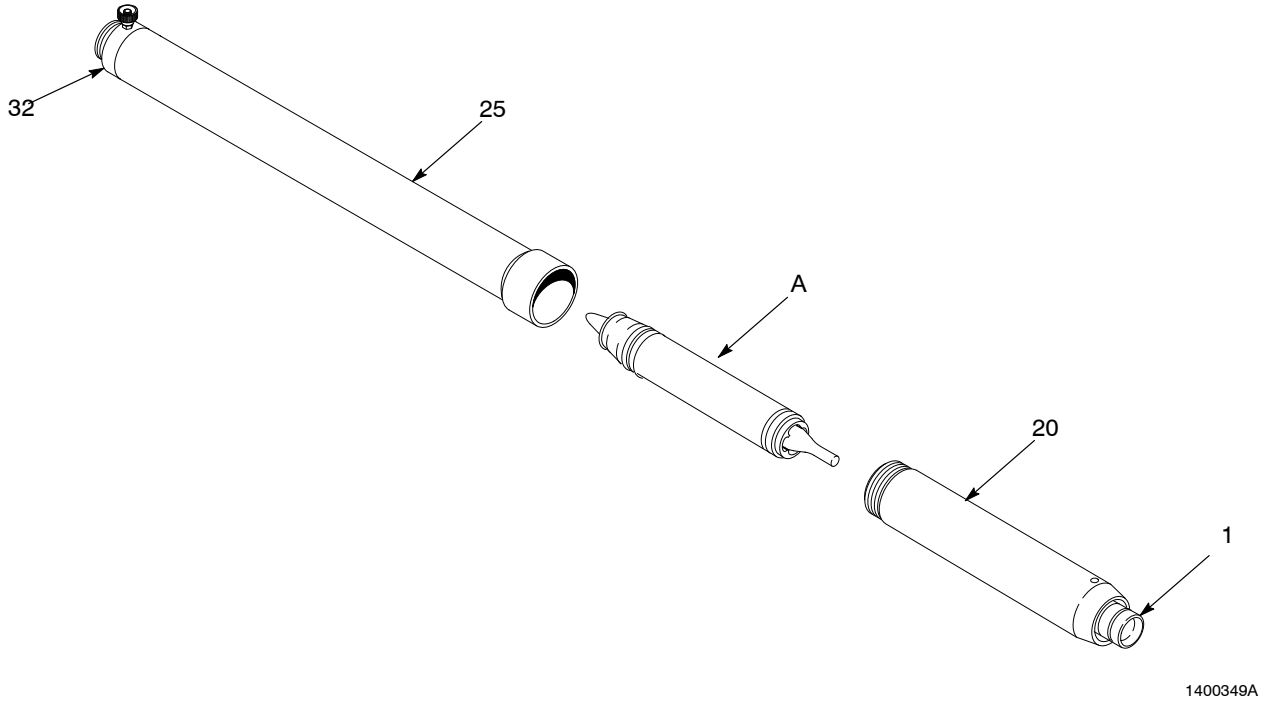

Figure 6-3 Installing the Charge Module Service Kit—Steps 1 and 2

1. Outlet wear sleeve assembly
20. Extension tube
25. Gun extension
32. Rear connector
A. Inner/outer wear sleeve assembly

3. See Figure 6-4. Push the inlet wear sleeve assembly (16) out of the gun extension (25) using a wooden dowel or piece of $^3/_4$-in. OD schedule 40 PVC pipe.
4. Remove the outlet wear sleeve assembly (1) from the extension tube (20). Clean the gun extension and extension tube with a clean, lint-free cloth.

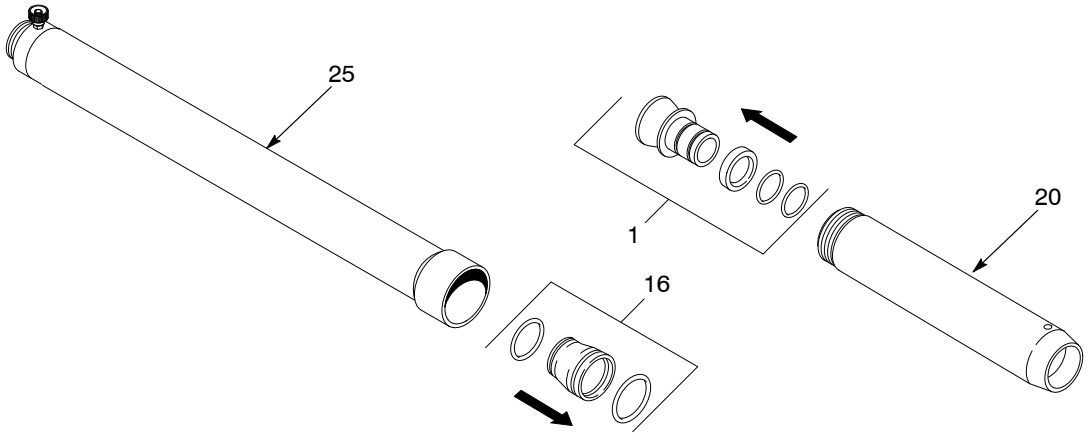

Figure 6-4 Installing the Charge Module Service Kit—Steps 3 and 4

1. Outlet wear sleeve assembly
16. Inlet wear sleeve assembly
20. Extension tube
25. Gun extension

5. See Figure 6-5. Remove the inlet wear sleeve assembly (16) from the service kit and install it in the gun extension (25).
6. Remove the outlet wear sleeve assembly (1) from the service kit and install it in the extension tube (20).

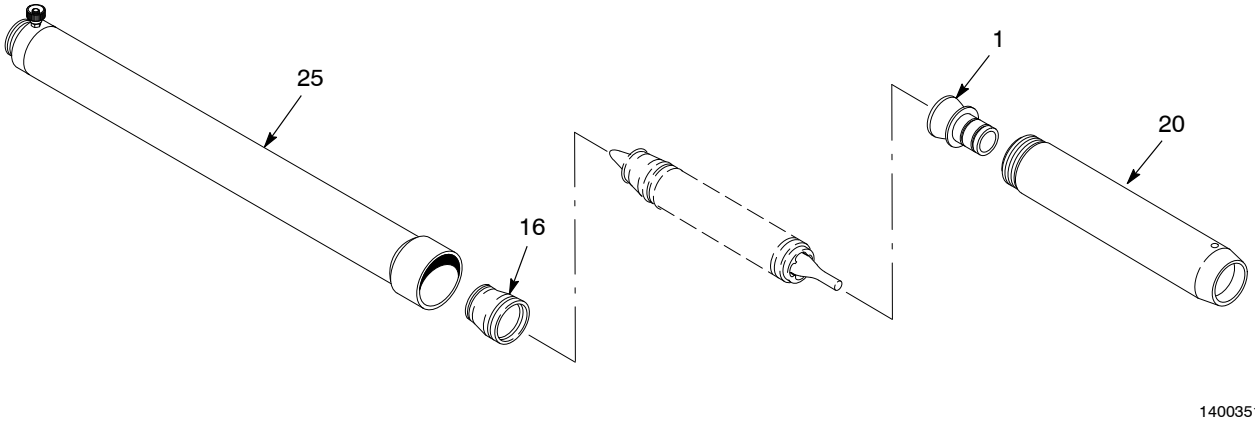

Figure 6-5 Installing the Charge Module Service Kit—Steps 5 and 6

1. Outlet wear sleeve assembly
16. Inlet wear sleeve assembly
20. Extension tube
25. Gun extension

Charge Module Service Kit Installation *(contd)*

7. See Figure 6-6. Insert the inner/outer wear sleeve assembly (A) into the gun extension (25) as shown. Twist and push to seat the positioning ring (13). Make sure the positioning ring fits into the groove in the ID of the inlet wear sleeve.
8. Make sure the spacing ring (5) is in place in the end of the outer wear sleeve. Slide the extension tube (20) over the inner/outer wear sleeve assembly. Hand tighten the extension tube into the gun extension.
9. Install the sprayhead and diffuser. Reconnect the powder feed tubing and diffuser air line.

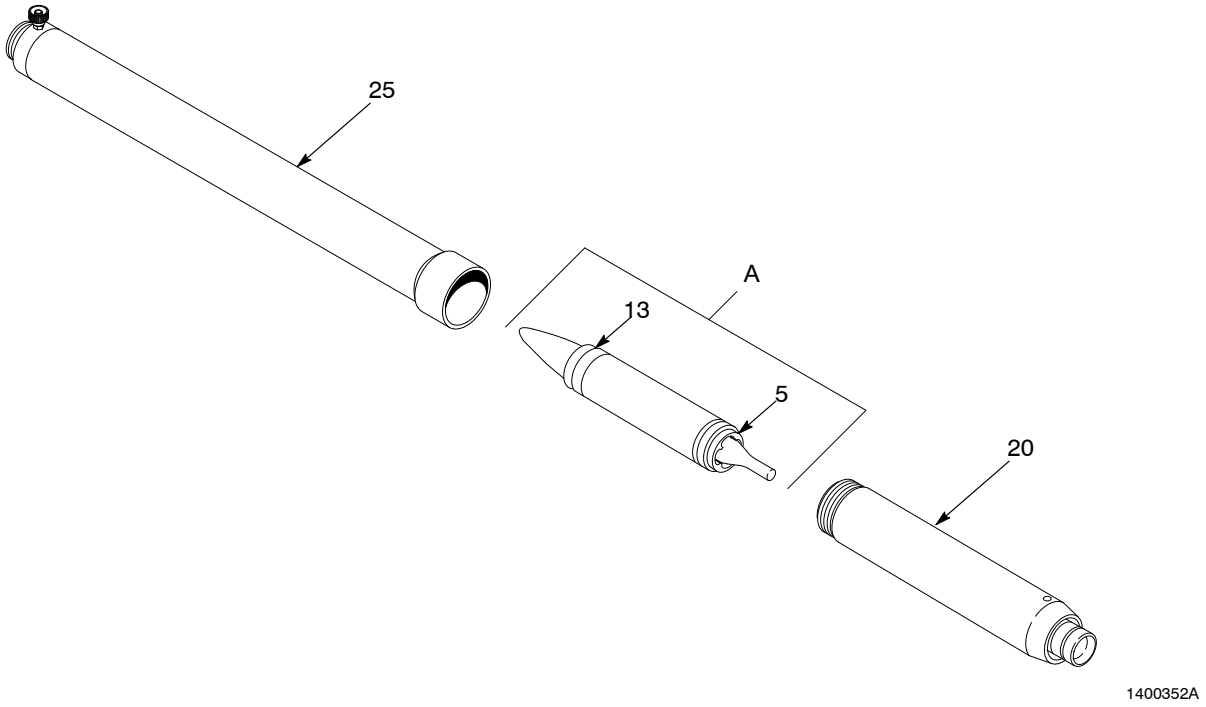

Figure 6-6 Installing the Charge Module Service Kit—Steps 7 and 8

5. Spacing ring
13. Positioning ring
20. Extension tube
25. Gun extension
A. Inner/outer wear sleeve assembly

Inner/Outer Wear Sleeve Service Kit Installation

1. Perform steps 1 and 2 in the *Charge Module Service Kit Installation* procedure on page 6-4.
2. See Figure 6-7. Hold the outer wear sleeve (6) in your hand and push on the outlet distributor (8). Discard the outer wear sleeve and spacing ring (5).

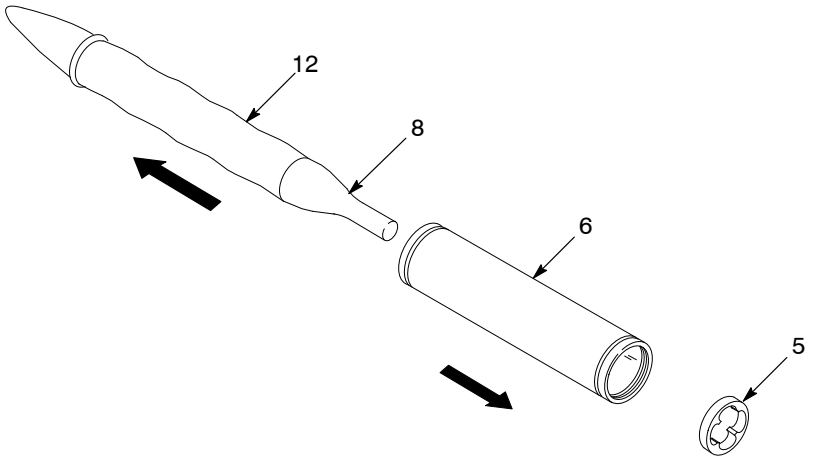

Figure 6-7 Installing the Inner/Outer Wear Sleeve Service Kit—Step 2

5. Spacing ring
6. Outer wear sleeve
8. Outlet distributor
12. Inner wear sleeve

3. See Figure 6-8. Unscrew the inlet distributor (15) or outlet distributor (8) from the stud (14).
4. Remove the distributors and stud from the inner wear sleeve (12). Discard the inner wear sleeve and positioning ring (13).
5. Slide the new positioning ring onto one end of the new inner wear sleeve.

NOTE: The spacing and positioning rings, as well as the inner and outer wear sleeves, are reversible.

6. Screw the inlet distributor onto one end of the stud. Insert the stud into the positioning ring end of the inner wear sleeve. Screw the outlet distributor onto the stud and tighten it securely by hand.

Inner/Outer Wear Sleeve Service Kit Installation *(contd)*

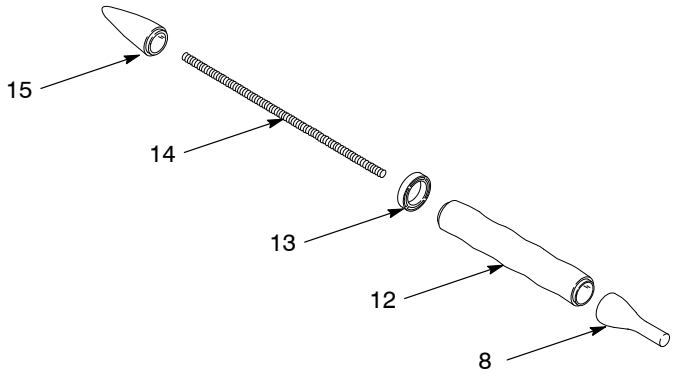

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Figure 6-8 Installing the Inner/Outer Wear Sleeve—Steps 3, 4, 5 and 6

8. Outlet distributor
12. Inner wear sleeve
13. Positioning ring
14. Stud
15. Inlet distributor

7. See Figure 6-9. Push the inner wear sleeve assembly (12) into the new outer wear sleeve (6) until the positioning ring (13) seats properly into the outer wear sleeve.
8. Install the new spacing ring (5) over the inner wear sleeve assembly. Seat it in the end of the outer wear sleeve.
9. Perform steps 7, 8, and 9 in the *Charge Module Service Kit Installation* procedure on page 6-6.

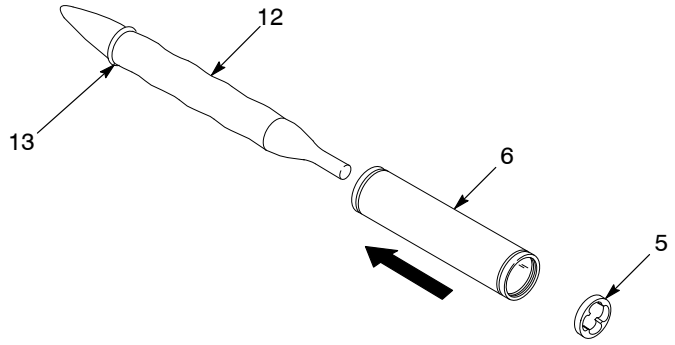

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Figure 6-9 Installing the Inner/Outer Wear Sleeve—Steps 7 and 8

5. Spacing ring
6. Outer wear sleeve
12. Inner wear sleeve
13. Positioning ring

Section 7
Parts

Introduction

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

See Figure 7-1.

Item	Part	Description	Quantity	Note
—	1020307	MODULE, charge, Tribomatic II extended, threaded	1	
—	631207	• SERVICE KIT, charge module, Tribomatic II	1	
1	631221	• • SLEEVE, wear, outlet, assembly	1	
2	940224	• • • O-RING, silicone, 1.000 x 1.125 x 0.063 in.	4	
3	631222	• • • SPRING, silicone, 1.25 x 1.50 in.	1	
4	631223	• • • SLEEVE, wear, outlet	1	
5	631220	• • RING, spacing	1	A, B
6	631212	• • SLEEVE, wear, outer	1	B
7	940284	• • O-RING, silicone, 1.375 x 1.500 x 0.063 in.	2	B, C
8	631224	• • DISTRIBUTOR, outlet	1	
9	631237	• • • PLUG, distributor, outlet, Tivar	1	
10	940066	• • • O-RING, silicone, 0.125 x 0.250 x 0.063 in.	1	
11	631236	• • • DISTRIBUTOR, outlet, PTFE	1	
12	631216	• • SLEEVE, wear, inner	1	B
13	631210	• • RING, positioning	1	A, B
14	631211	• • STUD, M8 x 9.65 long nylon	1	
15	631234	• • DISTRIBUTOR, inlet	1	
16	631232	• • SLEEVE, wear, inlet, assembly	1	
17	631233	• • • SLEEVE, wear, inlet	1	
18	940243	• • • O-RING, silicone, 1.125 x 1.250 x 0.063 in.	1	
19	982455	• SCREW, set, M6 x 1.0 x 8, nylon, black	3	
20	1013982	• EXTENSION, Tribomatic, purge, threaded	1	
—	1020404	• SERVICE KIT, Tribomatic II, extended, threaded	1	
21	1020256	• • BODY, Tribomatic II, extended, threaded	1	
22	940284	• • O-RING, silicone, 1.375 x 1.50 x 0.063	2	
23	631289	• • CONNECTOR, carbon with spring	1	
24	631290	• • DIFFUSER, Tribomatic II extended	1	
25	631295	• • HOUSING, extension	1	
26	631287	• • TUBE, powder, Tribomatic II extended	1	
27	631288	• • CABLE, complete, Tribomatic II extended	1	
28	631285	• • CONNECTION, signal	1	
29	982427	• • SCREW, pan head, slotted, M3 x 6, zinc	1	
30	630073	• • KNOB, chargetube, ground stud	1	
31	630088	• • GROUND STUD with nut	1	
32	1021431	• • CONNECTOR, gun, rear, threaded	1	
33	631296	• • O-RING, EPDM, 48 x 2	1	
NS	630025	O-RING, 25.12 x 1.78 in., EPDM	AR	D

NOTE A: Order positioning and spacing ring service kit, part 631209. Refer to page 7-5.

B: Order inner/outer wear sleeve service kit, part 631208. Refer to page 7-5.

C: O-ring included in inlet wear sleeve assembly, item 16.

D: Optional O-ring. Can be used in place of item 2, O-ring, part 940224. Must be ordered separately.

AR: As Required

NS: Not Shown

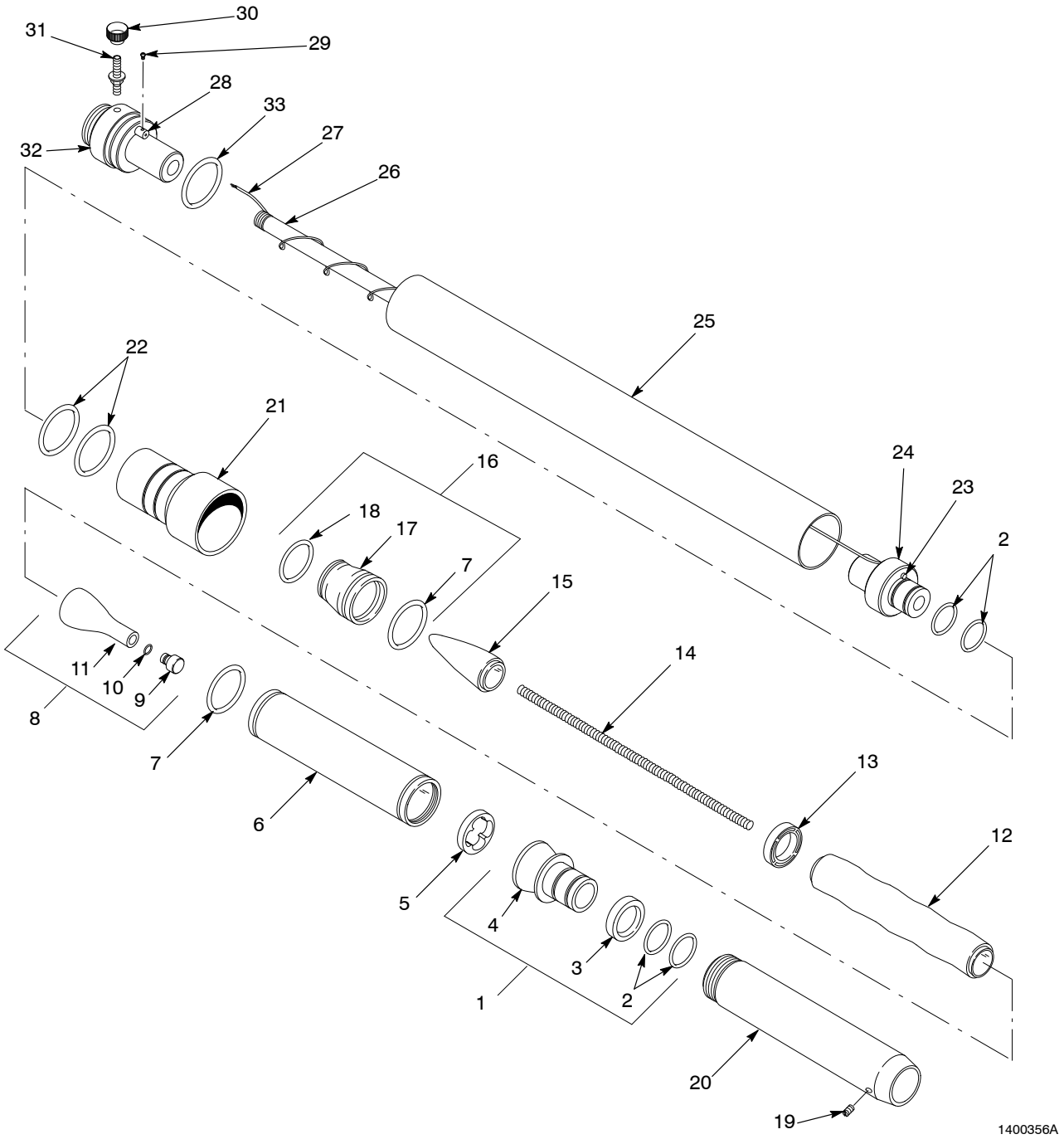

Figure 7-1 Spray Gun Parts

Diffuser Parts List

See Figure 7-2.

Item	Part	Description	Quantity	Note
—	1013886	KIT, service, diffuser, Tribomatic, purge	1	
—	- - - - - -	• DIFFUSER, Tribomatic, purge	1	
1	972080	• • CONNECTOR, male, $^1/_4$-in. tube x $^1/_8$-in. NPTF	1	
2	940224	• • O-RING, silicone, 1.000 x 1.125 x 0.063 in.	2	
3	939247	• CLAMP, hose, snap-it	1	
NS	247006	• CLAMP, hose, 0.673–0.795-in. OD	1	
NS: Not Shown				

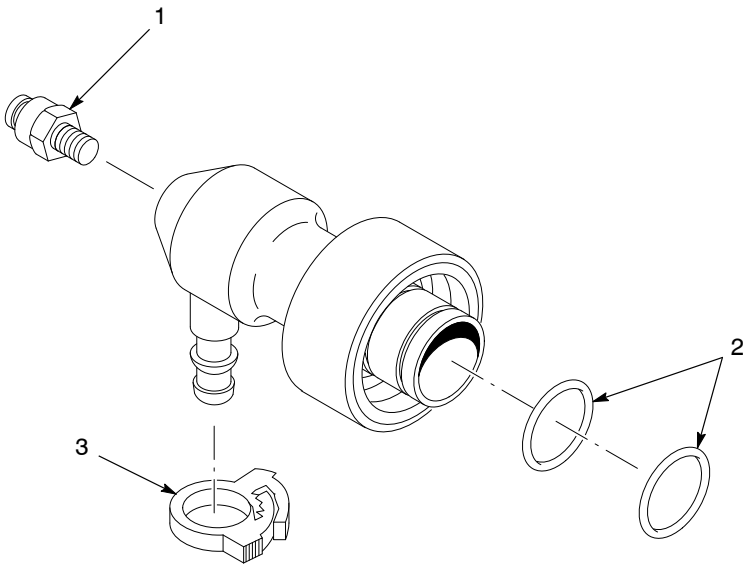

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Figure 7-2 Diffuser

Inner/Outer Wear Sleeve Service Kit

See Figure 7-3. Item numbers are identical to those in Figure 7-1.

Item	Part	Description	Quantity	Note
—	631208	SERVICE KIT, inner and outer	1	
5	631220	• RING, spacing	1	A
6	631212	• SLEEVE, wear, outer	1	
7	940284	• O-RING, silicone, 1.375 x 1.500 x 0.063 in.	1	
12	631216	• SLEEVE, wear, inner	1	
13	631210	• RING, positioning	1	A
NOTE A: Also available as a set. Order positioning and spacing ring service kit, part 631209.				

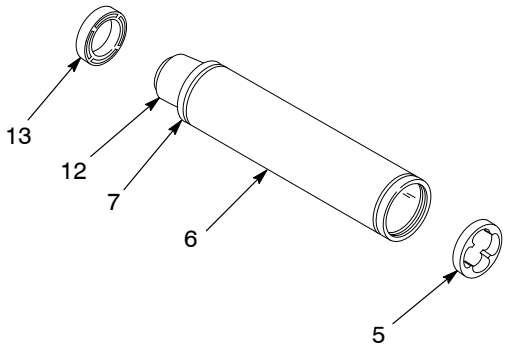

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Figure 7-3 Inner/Outer Wear Sleeve Service Kit

Positioning and Spacing Ring Service Kit

See Figure 7-4. Item numbers are identical to those in Figure 7-1.

Item	Part	Description	Quantity	Note
—	631209	SERVICE KIT, positioning and spacing rings	1	
5	631220	• RING, spacing	1	
13	631210	• RING, positioning	1	

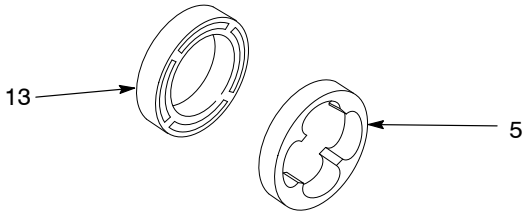

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Figure 7-4 Positioning and Spacing Ring Service Kit

Charge Module Service Kit

See Figure 7-5. Item numbers are identical to those in Figure 7-1. Kit is shipped fully assembled.

Item	Part	Description	Quantity	Note
—	631207	SERVICE KIT, charge module, Tribomatic II	1	
1	631221	• SLEEVE, wear, outlet, assembly	1	
2	940224	• • O-RING, silicone, 1.000 x 1.125 x 0.063 in.	4	
3	631222	• • SPRING, silicone, 1.25 x 1.50 in.	1	
4	631223	• • SLEEVE, wear, outlet	1	
5	631220	• RING, spacing	1	A
6	631212	• SLEEVE, wear, outer	1	
7	940284	• O-RING, silicone, 1.375 x 1.500 x 0.063 in.	2	
8	631224	• DISTRIBUTOR, outlet	1	
9	631237	• • PLUG, distributor, outlet, Tivar	1	
10	940066	• • O-RING, silicone, 0.125 x 0.250 x 0.063 in.	1	
11	631236	• • DISTRIBUTOR, outlet, PTFE	1	
12	631216	• SLEEVE, wear, inner	1	
13	631210	• RING, positioning	1	A
14	631211	• STUD, M8 x 9.65 long nylon	1	
15	631234	• DISTRIBUTOR, inlet	1	
16	631232	• SLEEVE, wear, inlet, assembly	1	
17	631233	• • SLEEVE, wear, inlet	1	
18	940243	• • O-RING, silicone, 1.125 x 1.250 x 0.063 in.	1	
NS	630025	O-RING, 25.12 x 1.78, EPDM	AR	B

NOTE A: Also available as a set. Order the positioning and spacing ring service kit, part 631209. Refer to page 7-5.

B: Optional O-ring. Can be used in place of item 2, part 940224. Must be ordered separately.

AR: As Required

NS: Not Shown

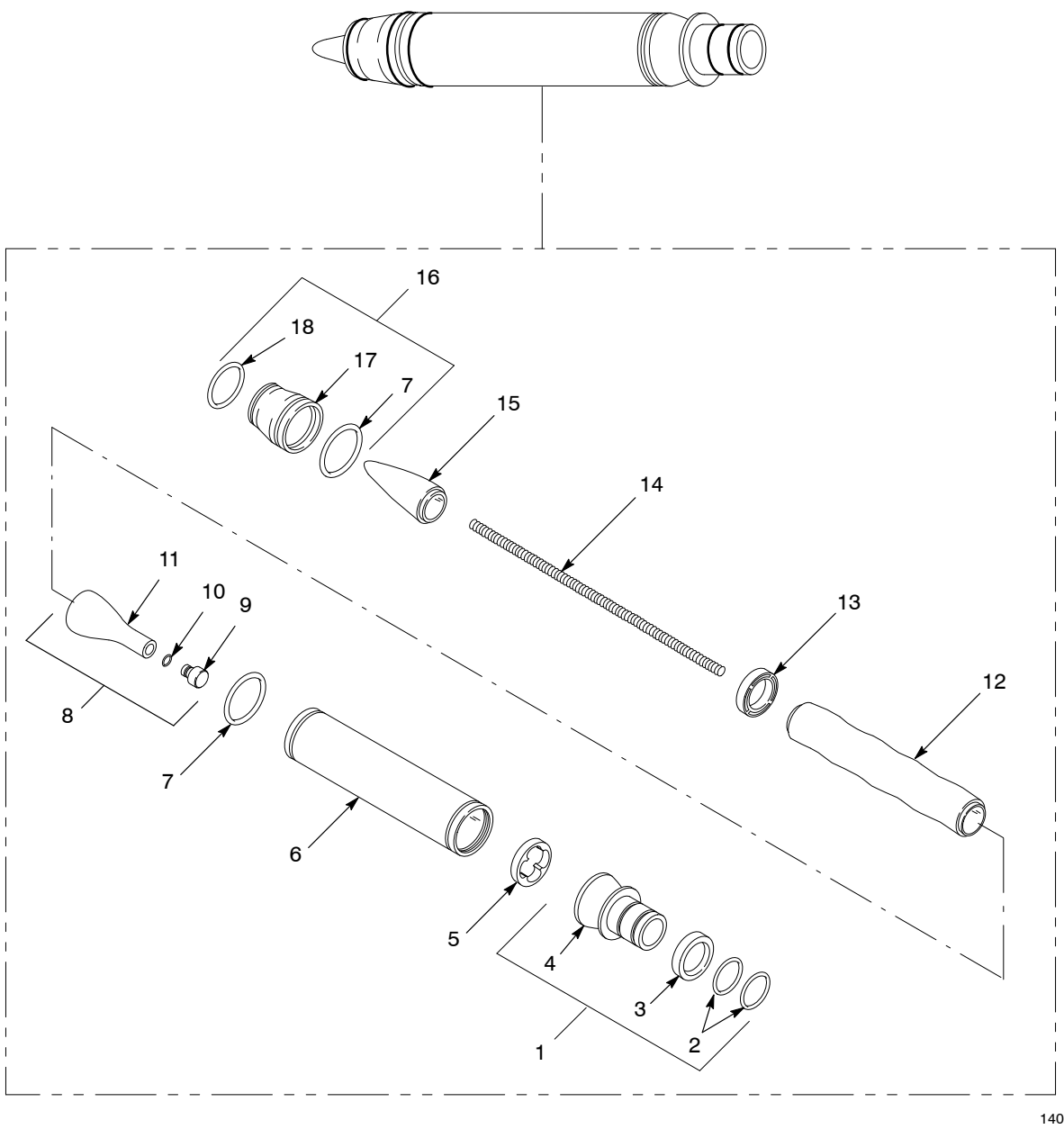

Figure 7-5 Charge Module Service Kit

Gun Holder Kits

See Figure 7-6.

Item	Part	Description	Quantity	Note
1	630089	LEFT HAND GUN HOLDER, adjustable	1	
2	630021	RIGHT HAND GUN HOLDER, adjustable	1	

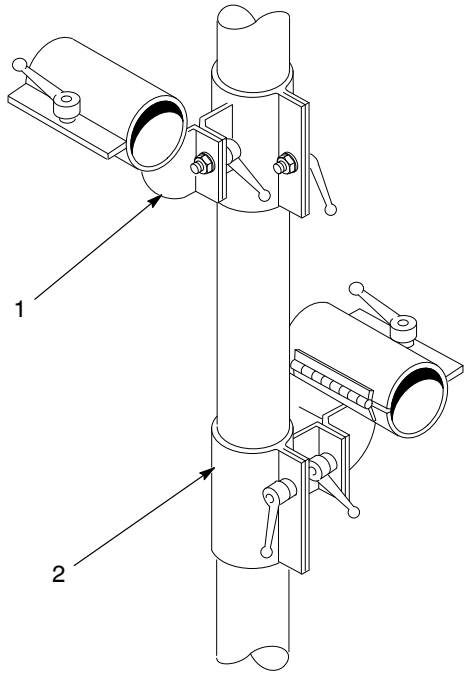

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Figure 7-6 Gun Holder Kits

Options

Powder Feed Hose and Air Tubing

Part	Description	Note
Powder Feed Hose		
630061	12 mm (PVC)	A
630237	10 mm (PVC)	A
900549	LOW-FLOW, $^3/_8$ in. (black rubber)	B
900550	HIGH-FLOW, $^1/_2$ In. (black rubber)	B
900649	9.5-mm (0.37-in.) ID (blue rubber)	B
900648	11-mm (0.44-in.) ID (blue rubber)	B
900650	12.7-mm (0.50-in.) ID (blue rubber)	B
Air Tubing		
900509	BLACK POLYETHYLENE, $^1/_4$-in. OD	B
900730	BLUE POLYURETHANE, $^1/_4$-in. OD	B
900741	BLACK POLYURETHANE, 6-mm OD	B
900742	BLUE POLYURETHANE, 6-mm OD	B
630597	BLUE PVC, 6-mm OD	A
630598	BLACK PVC, 6-mm OD	A

NOTE A: Order in one-meter increments from Nordson Corporation, European Distribution Center.
B: Order in one-foot increments from Nordson Corporation, Amherst, Ohio.

Lance Extensions

See Figure 7-7. Lance extensions are used to spray powder into recesses. Versa-Spray electrostatic gun nozzles can be installed on a lance extension.

Item	Part	Description	Quantity	Note
—	631385	Extension, lance, 100 mm	1	
—	631386	Extension, lance, 150 mm	1	
—	631387	Extension, lance, 300 mm	1	
1	631395	• 100-mm NOZZLE ADAPTER, Tribomatic II	1	
1	631396	• 150-mm NOZZLE ADAPTER, Tribomatic II	1	
1	631397	• 300-mm NOZZLE ADAPTER, Tribomatic II	1	
2	145558	• NOZZLE, 32 mm, with O-rings	1	
3	941181	• • O-RING, silicone, 0.875 x 1.063 x 0.094 in.	2	
4	941205	• • O-RING, silicone, 1.000 x 1.188 x 0.094 in.	1	
5	144759	• ADJUSTER, pattern, 32 mm	1	
6	631390	• SUPPORT, deflector, Tribomatic II	1	
7	631391	• DEFLECTOR, 26 mm, Versa-Spray, Tivar, holes	1	A
8	940084	• • O-RING, silicone, 0.188 x 0.312 x 0.063 in.	1	
9	631393	• DISTRIBUTOR, cone, Tribomatic II	1	B
10	940066	• • O-RING, silicone, 0.125 x 0.250 x 0.063 in.	1	
NS	144758	• NOZZLE, 32 mm	1	

NOTE A: A Tivar deflector with no holes is available. Order part 133734.

B: This part replaces the plug in the end of the Tribomatic II outlet distributor.

NS: Not Shown

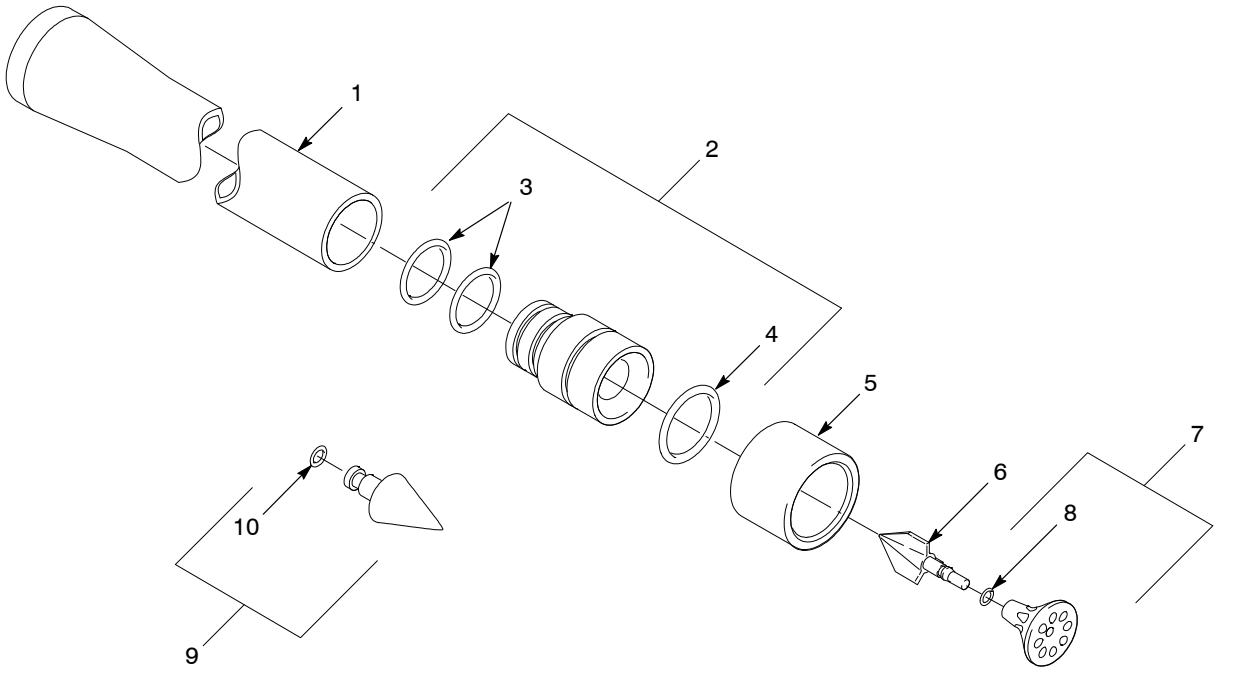

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Figure 7-7 Lance Extensions

Gun Holder Adapter Conversion Kit

WARNING: The adjusting rod must be grounded to prevent electrical shock. Dangerous electrostatic charges can accumulate on ungrounded conductive parts in the spray booth.

Part	Description	Note
631451	CONVERSION KIT, adapter, gun holder to gun bar	

Miscellaneous Options

Part	Description	Note
939247	CLAMP, hose, 0781–0.875 in.	
247006	CLAMP, hose, 0.673–0.795 in.	
900517	TUBING, spiral-cut, 0.62-in. ID	A
931191	WIRE, vinyl, 14-gauge, green with yellow	A
NOTE A: Order in one-foot increments.		

Versa-Spray Nozzles

Nordson Versa-Spray gun nozzles can be used on Tribomatic II automatic powder spray guns. They must be installed on one of the optional lance extensions listed in this section. For more information, contact your Nordson Corporation representative, or refer the *Optional Nozzles for Versa-Spray and Versa-Spray II Guns* instruction sheet, part 1037936.