

Model C-1 Electrostatic Airless Spray Gun

Customer Product Manual

Part 104 326D

OBSOLETE



Nordson Corporation welcomes requests for information, comments and inquiries about its products.

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Model C-1 Electrostatic Airless Spray Gun

1. Safety

This section contains general safety instructions for using your Nordson equipment. Task- and equipment-specific warnings are included in other sections of this manual where appropriate. Note all warnings and follow all instructions carefully. Failure to do so may result in personal injury, death, or property damage.

To use this equipment safely,

- read and become familiar with the general safety instructions provided in this section of the manual before installing, operating, maintaining, or repairing this equipment.
- read and carefully follow the instructions given throughout this manual for performing specific tasks and working with specific equipment.
- store this manual within easy reach of personnel installing, operating, maintaining, or repairing this equipment.
- follow all applicable safety procedures required by your company, industry standards, and government or other regulatory agencies. Refer to the National Fire Protection Association (NFPA) standard 33 and to federal, state, regulatory agency, and local codes for rules and regulations covering installation and operation of spray systems.
- obtain and read Material Safety Data Sheets (MSDS) for all materials used.

Safety Symbols

Become familiar with the safety symbols presented in this section. These symbols will alert you to safety hazards and conditions that may result in personal injury, death, or property and equipment damage.



WARNING: Failure to observe this warning may result in personal injury, death, or equipment damage.

Safety Symbols (contd)



WARNING: Risk of electrical shock. Failure to observe this warning may result in personal injury, death, or equipment damage.



WARNING: Disconnect equipment from line voltage. Failure to observe this warning may result in personal injury, death, or equipment damage.



WARNING: Risk of explosion or fire. Fire, open flames, and smoking prohibited.



WARNING: Wear protective clothing, safety goggles, and approved respiratory protection. Failure to observe may result in serious injury.



WARNING: Hot! Risk of burns. Wear heat-protective clothing, safety goggles with side shields and/or heat-protective gloves depending on the symbol shown.



WARNING: System or material pressurized. Relieve pressure. Failure to observe this warning may result in serious injury or death.



WARNING: Injection. Do not point this device at yourself or other personnel. Failure to observe this warning may result in serious injury or death.

Safety Symbols (contd)

CAUTION: Failure to observe may result in equipment damage.



CAUTION: Hot surface. Failure to observe may result in burns.

Qualified Personnel

“Qualified personnel” is defined here as individuals who thoroughly understand the equipment and its safe operation, maintenance, and repair. Qualified personnel are physically capable of performing the required tasks, familiar with all relevant safety rules and regulations, and have been trained to safely install, operate, maintain, and repair the equipment. It is the responsibility of the company operating this equipment to see that its personnel meet these requirements.

Intended Use

WARNING: Use of this equipment in ways other than described in this manual may result in personal injury, death, or property and equipment damage. Use this equipment only as described in this manual.

Nordson Corporation cannot be responsible for injuries or damages resulting from nonstandard, unintended applications of its equipment. This equipment is designed and intended only for the purpose described in this manual. Uses not described in this manual are considered unintended uses and may result in serious personal injury, death, or property damage. Unintended uses may result from taking the following actions:

- making changes to equipment that have not been recommended or described in this manual or using parts that are not genuine Nordson replacement parts
- failing to make sure that auxiliary equipment complies with approval agency requirements, local codes, and all applicable safety standards
- using materials or auxiliary equipment that are inappropriate or incompatible with your Nordson equipment
- allowing unqualified personnel to perform any task

Installation

Read the installation section of all system component manuals before installing your Nordson equipment. A thorough understanding of system components and their requirements will help you to install this equipment safely and efficiently.



WARNING: Failure to follow these safety procedures can result in personal injury or death.

- Allow only qualified personnel to install Nordson equipment.
- Use only approved equipment. Using unapproved equipment in an approved system may void agency approvals.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Follow all instructions for installing components and accessories.
- Install all electrical, pneumatic, gas, and hydraulic connections to local code.
- Install locking, manual, shutoff valves in the air supply lines to the system. This allows you to relieve air pressure and lock out the pneumatic system before undertaking maintenance and repairs.
- Install a locking disconnect switch or breaker in the service line ahead of any electrical equipment.
- Use only electrical wire of sufficient gauge and insulation to handle the rated current demand. All wiring must meet local codes.
- Ground all electrically conductive equipment. Ungrounded conductive equipment can store a static charge which could ignite a fire or cause an explosion if a hot spark is discharged.
- Route electrical wiring, electrostatic cables, and air hoses and tubing along a protected path. Make sure they will not be damaged. Do not bend electrostatic cables around a radius of less than 6 in. (152 mm).
- Install safety interlocks and approved, fast-acting fire detection systems. These shut down the spray system and any flammable liquid supply if a ventilation or electrical problem occurs, a fire is detected, or other emergency situation develops.

Installation (contd)

- Make sure the spray area floor is conductive to ground and that the operator's platform is grounded.
- Use only designated lifting points or lugs to lift and move heavy equipment. Always balance and block loads when lifting to prevent shifting. Lifting devices must be inspected, certified, and rated for a greater weight than the equipment being lifted.
- Do not use unapproved fluid hoses. Solvents may cause them to deteriorate rapidly which may allow flammable or pressurized material to escape.
- Protect components from damage, wear, and harsh environmental conditions.
- Allow ample room for maintenance, material supply container drop-off and loading, panel accessibility, and cover removal.
- Protect equipment with safety devices as specified by applicable safety regulations.
- If safety devices must be removed for installation, install them immediately after the work is completed and check them for proper functioning.

Operation

Only qualified personnel, physically capable of operating the equipment and with no impairments to their judgement or reaction times, should operate this equipment.

Read all component manuals before operating this equipment. A thorough understanding of system components and their operation will help you operate the system safely and efficiently.

- Use this equipment only in the environments for which it is rated. Do not operate this equipment in humid, flammable, or explosive environments unless it has been rated for safe operation in these environments.
- Before starting this equipment, check all safety interlocks, fire-detection systems, and protective devices such as panels and covers. Make sure all devices are fully functional. Do not operate the system if these devices are not working properly. Do not deactivate or bypass automatic safety interlocks, locked-out electrical disconnects, or pneumatic valves.

Operation (contd)

- Know where *EMERGENCY STOP* buttons, shutoff valves, and fire extinguishers are located. Make sure they work. If a component malfunctions, shut down and lock out the equipment immediately.
- Before operating, make sure all conductive equipment, objects being sprayed, and fluid containers are connected to a true earth ground.
- Never operate equipment with a known malfunction or leak.
- Never point handguns or applicator nozzles at yourself or other persons.
- Never touch exposed electrical connections on equipment while the power is ON.
- Do not operate the equipment at pressures higher than the rated maximum working pressure of any component in the system.
- Shut off moving equipment before taking measurements or inspecting workpieces.
- Know the pinch points, temperatures, pressures, and material composition for all equipment that you are working with. Recognize potential hazards associated with these and exercise appropriate caution.
- Wear shoes with conductive soles, such as leather, or use grounding straps to maintain a connection to ground when working with or around electrostatic equipment.
- Do not wear or carry metallic objects (jewelry or tools) while working with or around electrostatic equipment. Ungrounded metal can store a static charge and cause harmful shocks.
- Maintain skin-to-metal contact between your hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If wearing gloves, cut away the palm or fingers.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments to powder spray guns.
- If you notice electrical arcing in a spray area, shut down the system immediately. An arc can cause a fire or explosion.
- Keep parts of the body or loose clothing away from rotating parts. Remove personal jewelry and cover or tie back long hair.

Operation (contd)

- Wear National Institute of Occupational Safety and Health (NIOSH) approved respirators while operating spray equipment and when performing maintenance and cleaning tasks.
- Wear eye protection when operating spray equipment.
- Wear gloves and protective clothing to protect your skin from materials.
- Keep paint pumps, pressure pots, and containers of flammable coating materials or solvents far enough away from spray booths to prevent their inclusion in a booth fire.
- Do not smoke in the spray area. A lit cigarette could ignite a fire or cause an explosion.
- Treat all high-pressure fittings and hoses as if they could leak. High-pressure compressed air can be injected under the skin and cause serious injury or death.
- Do not use materials that will corrode the equipment.
- Do not attempt to operate electrical equipment if standing water is present.
- Wash exposed skin frequently with soap and water, especially before eating or drinking. Do not use solvents to remove coating materials from your skin.

Less-Obvious Dangers

Operators should also be aware of less-obvious dangers in the workplace that often cannot be completely eliminated:

- exposed surfaces on the equipment which may be hot or have sharp edges and cannot be practically safeguarded
- electrical equipment which may remain energized after the equipment has been shut off
- vapors and materials which may cause allergic reactions or other health problems
- automatic hydraulic, pneumatic equipment, or mechanical parts that may move without warning
- unguarded, moving mechanical assemblies

Action in the Event of a System or Component Malfunction

Do not operate a system that contains malfunctioning components. If a component malfunctions, turn the system OFF immediately.

- Disconnect and lock out electrical power. Close and lock out hydraulic and pneumatic shutoff valves and relieve pressures.
- Allow only qualified personnel to make repairs. Repair or replace the malfunctioning component according to instructions provided in its manual.

Maintenance and Repair

Allow only qualified personnel to perform maintenance, troubleshooting, and repair tasks. Only persons who are properly trained and familiar with Nordson equipment are permitted to service this equipment.

- Always wear appropriate protective clothing and use safety devices when working on this equipment.
- Follow the recommended maintenance procedures in your equipment manuals.
- Do not service or adjust any equipment unless another person trained in first aid and CPR is present.
- Disconnect, lock out, and tag electrical power at a disconnect or breaker in the service line ahead of electrical equipment before servicing.
- Relieve air and fluid pressures before servicing equipment. Follow the specific instructions in this manual.
- Use only genuine Nordson replacement parts. Using unapproved parts or making unapproved modifications to equipment may void agency approvals and create safety hazards.



WARNING: Note the flash point of the cleaning solvent used. Only use controlled methods and equipment, such as temperature-controlled or explosion-protected heaters, to heat cleaning solvent. Observe explosion-prevention regulations and follow applicable safety instructions.

- Refer to the MSDS before using solvents to clean this equipment. The MSDS will provide use, storage, and disposal information about the solvent. Read this information carefully and follow instructions.

Maintenance and Repair (contd)

- Never use an open flame to clean the unit or components of the unit.
- Do not store flammable materials in the spray area or room. Keep paint pumps, pressure pots, and containers of flammable coating materials or solvents far enough away from spray booths to prevent their inclusion in a booth fire. If a fire or explosion occurs, flammable materials in the area will increase the chances and the extent of personal injuries and property damage.
- Make sure that the room where you are working is sufficiently ventilated. Avoid breathing vapors over prolonged periods of time.
- Check interlock systems periodically to ensure their effectiveness.



WARNING: Operating faulty or electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program.

- Check all ground connections periodically with a megohm meter. Resistance to ground must not exceed one megohm. If sparks or arcing occur, shut down the system immediately.
- Connect all disconnected equipment ground cables and wires after servicing the equipment. Ground all conductive equipment.



WARNING: Service lines connected to panel disconnect switches will still be energized unless power is shut off at another disconnect ahead of the panel. Make sure the power is off before servicing. Wait 5 minutes for capacitors to discharge after shutting off the electrical power.

- Turn off the electrostatic power supply and ground the gun electrode before adjusting or cleaning the nozzles, fluid tips, or air caps.
- If a “power on” test is required, perform the test carefully and then shut off and lock out power as soon as the test is over.
- Never troubleshoot the power supply without first disconnecting all external power supplies and discharging the high-voltage capacitors with an insulated screwdriver.
- Ground electrodes and electrostatic cable ends before touching them.

Maintenance and Repair (contd)

- Do not attempt to service electrical equipment if there is standing water present. Do not service electrical equipment in a high-humidity environment.
- Use tools with insulated handles when working with electrical equipment.
- Keep high-voltage connection points clean and insulated with dielectric grease or oil.
- Do not attempt to service a moving piece of equipment. Shut off the equipment and lock out power. Secure equipment to prevent uncontrolled movement.

Material and Solvent Precautions



WARNING: Hot! Risk of burns. Wear heat-protective clothing, eye protection with side shields and/or heat-protective gloves.



Heated materials may cause severe burns on contact. Remember that some materials, even solid materials, may retain heat for some time. If you are burned by a heated material, immediately cool the affected skin with lots of cool, clean water. Do not try to remove hot, melted material from the skin. Seek immediate medical attention.

High-pressure fluids, unless they are safely contained, are extremely hazardous. A jet of high-pressure fluid can act like a knife or needle, penetrate skin and muscle, and inject itself into your body. Injected fluids can cause toxic poisoning.

Do not treat an injection injury as minor. Seek medical care immediately. Inform the medical staff at the hospital that you have an injection injury and identify the fluid that was injected. If possible, give the doctor copies of the MSDS for the injected fluid and for any additives, such as solvents, that are in the injected fluid.

Also, Nordson recommends that you carry a National Safety Equipment Manufacturers Association (NSEMA) wallet card to give to emergency medical staff in the event of an injection injury. These cards are supplied with the equipment. Additional cards are available free from Nordson Corporation.

Material and Solvent Precautions (contd)



WARNING: Injection hazard. Do not go near a known leak in a hose or fitting, and stay clear of all spray nozzles or orifices. Do not point an applicator at yourself or other personnel. The high-pressure fluid into the body causing serious injury or death.

To prevent an injection injury, take some basic safety precautions when operating your equipment.

- Always handle spray applicators carefully. Do not point a pressurized gun at yourself or other personnel.
- Never place hands, fingers, or other parts of your body directly over a spray nozzle or in front of a leak in a high-pressure system.
- Never “back-flush” the nozzles. Blocking a nozzle causes the high-pressure fluid to reverse direction and can lead to an injection injury.
- Always relieve system pressure before servicing equipment. Trigger all applicators and bleed off system pressure.

Halogenated hydrocarbon solvents can cause an explosion when used with aluminum components in a pressurized fluid pumping system (pumps, heaters, filters, valves, spray guns, and tanks). The explosion could cause serious bodily injury, death, or substantial property damage. No available stabilizers will prevent this violent reaction from happening.



WARNING: Never use halogenated hydrocarbon solvents to clean aluminum parts or to flush any system. Cleaning agents, coatings and paints, or adhesives may contain halogenated hydrocarbon solvents. Obtain and read the MSDS for each material and solvent being used.

- Use nonhalogenated solvents.
- Contact your solvent supplier to determine whether your existing materials and solvents contain halogenated hydrocarbons or to obtain a suitable, nonhalogenated hydrocarbon solvent for cleaning and flushing your system.

**Material and Solvent
Precautions** *(contd)*

- [See Table 1](#). Check the labels on your solvent containers. Halogenated hydrocarbon solvents can be recognized if any of the following elements are listed in the name of the product or as an ingredient:

<u>Element</u>	<u>Symbol</u>	<u>Prefix</u>
Flourine	F	“Flouro-”
Chlorine	Cl	“Chloro-”
Bromine	Br	“Bromo-”
Iodine	I	“Iodo-”

If you are now using halogenated hydrocarbon solvents in pressurized systems with aluminum components, perform the following steps:

- Pump the system empty, shut off the pumps, and relieve the system pressure.
- Disassemble and inspect the system components. Replace any damaged or corroded parts.
- Thoroughly clean all noncorroded parts with nonhalogenated hydrocarbon.
- Contact your coatings, solvent, or adhesive supplier for a nonhalogenated solvent to thoroughly flush the entire system before operating it.
- If you must continue to use halogenated hydrocarbon solvents, consult your Nordson representative about compatible Nordson components.

**Material and Solvent
Precautions** (contd)

Table 1 Solvents Containing Halogenated Fluids

Chlorinated Solvents	Iodinated Solvents	Brominated Solvents	Fluorocarbon Solvents
Carbon Tetrachloride	Ethyl Iodide	Ethylene Dibromide	Dichlorofluoromethane
Chloroform	Methyl Iodide	Methyl Bromide	Trichlorofluoromethane
Ethylene Dichloride	N-butyl Iodide	Methylene Chlorobromide	Freon
Methylene Chloride	Propyl Iodide		
1-1-1 Trichloroethane			
Monochlorobenzene			
Orthodichlorobenzene			
Perchloroethylene			
Trichloroethylene			

Disposal

Dispose of equipment and materials used in operation and cleaning according to your local regulations.

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Safety Labels

Table 2 contains the text of the safety label on this equipment. The safety label is provided to help you operate and maintain your equipment safely. See Figure 1 for the location of the safety label.

Table 2 Safety Labels

Item	Part	Description
1.	241 162	WARNING: High voltage. Read manual before using. All conductive objects in area must be grounded.
—	600 001	<p>WARNING: The following procedures <u>MUST</u> be followed when working with this electrostatic spray equipment. Failure to follow these instructions may result in a fire and/or serious personal injury. Display this warning on the spray booth.</p> <ol style="list-style-type: none"> 1. NO SMOKING. Keep open flames, hot surfaces, and sparks from torches or grinding away from booth. 2. Turn the electrostatic power unit <u>OFF</u> when the spray gun is not in use. 3. Appropriate control interlocks and fire suppression apparatus must be installed and operative. 4. Ground the power unit, the spray booth, work hangers, conveyor rollers, channels, and all other conductive objects within approximately 3 m (10 ft) of the electrostatic spray gun. <u>THE FLOOR MUST BE CONDUCTIVE AND GROUNDED.</u> 5. Examine all equipment at the beginning of each work period and repair or replace any damaged, loose, or missing parts. 6. Maintain grounding of all work pieces. Work hangers, conveyor rollers, channels, etc. <u>MUST BE CLEAN.</u> Electrical sparks from discharge of static accumulation are capable of igniting fires. If any sparking is seen around the workpiece, conveyors, or other metal objects in the area, immediately shut down the process and correct grounding before continuing process. 7. Operator must be grounded to prevent shocks from static electricity. Floor surface must be conductive. Footwear and gloves must be static dissipative in accordance with ANSI Z41-1991. 8. Before cleaning the nozzle or performing any work on the electrostatic spray gun, turn off the power unit and ground the nozzle. The nozzle <u>MUST BE REMOVED</u> for cleaning. Use a non-flammable solvent in a non-conductive container, i.e. glass container.

Continued on next page

Safety Labels (contd)

Item	Part	Description
		<p>9. NEVER use or store flammable solvents in the spray area.</p> <p>10. Make no modification to this electrostatic equipment or its fluid feed system without written permission from Nordson Corporation, 555 Jackson Street, Amherst, OH, 44001, U.S.A.</p> <p>11. When providing an air supply to an electrostatic waterborne hand spray gun, the air hose must be electrically conductive in nature. Continuity between end fittings must be 1 megohm or less.</p> <p>12. Refer to: Instruction manuals; appropriate federal, state, and local regulations; and to ANSI/NFPA 33 for further guidance and requirements for safe operations.</p> <p>If you have questions concerning this electrostatic spray equipment, call (216) 988-9411, and ask to speak with the Liquid Systems Group Technical Service Department.</p> <p>Nordson Corporation, Amherst, OH, 44001, U.S.A.</p>

Safety Label Location

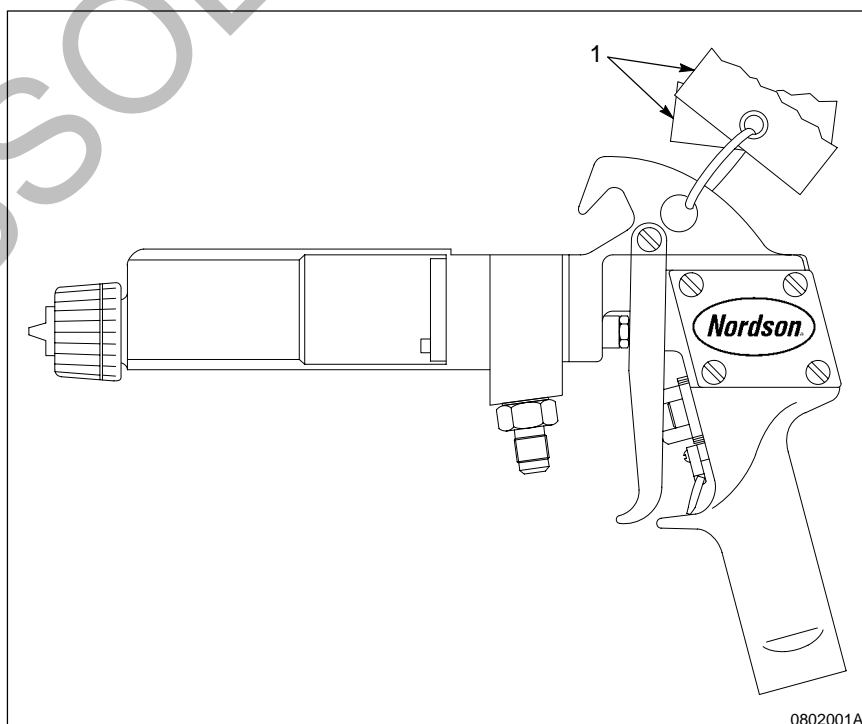


Fig. 1 Model C-1 gun safety label location

1. Safety labels

2. Description

See Figure 2. The Model C-1 Airless Electrostatic Hand Gun is part of an airless coating system, available in a circulating and non-circulating versions. The gun body (1) is aluminum. The gun extension (4) is a non-conductive engineering plastic. The Model C-1 guns can spray at fluid pressures up to 103.4 bar (1500 psi).

The Model C-1 gun uses an electrostatic power supply to supply the electrostatic charge to the sprayed coating. The electrostatic charge reaches the gun through an electrostatic cable. The electrostatic cable is a high-resistance cable, which drops the effective voltage before carrying the current from the electrostatic power supply to the gun. You can purchase the cable in 8-, 12-, and 16-meter lengths (25 ft, 37 ft, or 50 ft, respectively).

You must order the IFC 100 electrostatic cable and the EPU-8/C-1 or the EPS8/C-1 power supply as separate parts. Refer to the ordering information in the *Parts* section of this manual.

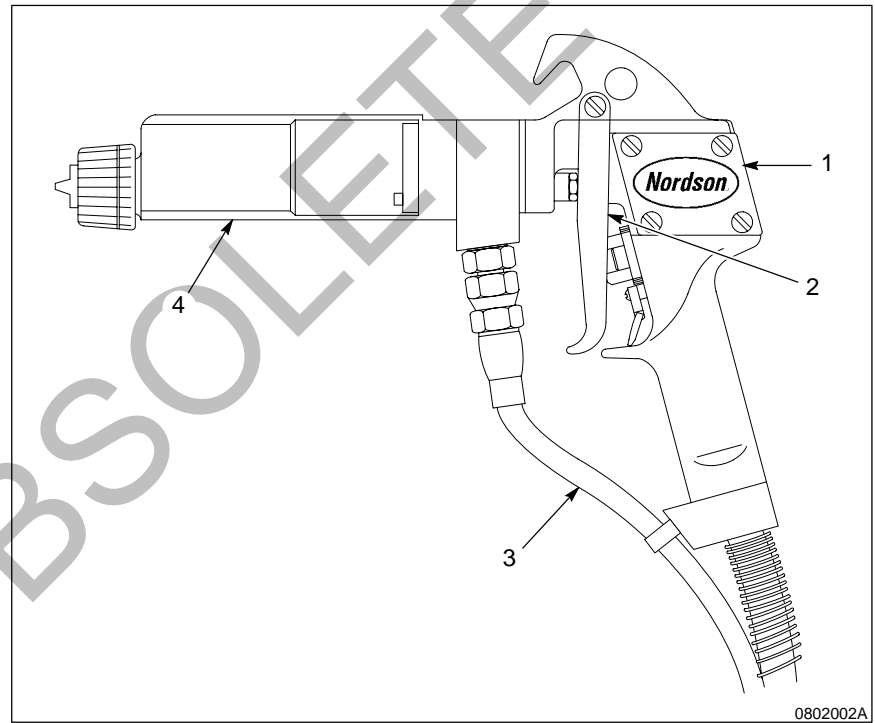


Fig. 2 Model C-1 gun

- 1. Gun
- 2. Gun trigger
- 3. Fluid inlet
- 4. Gun extension

2. Description (contd.)

Nordson Corporation designed the Model C-1 gun for use with the EPU-8/C-1 or the EPS8/C-1 electrostatic power supply and IFC-100 cable. These components, when used together, are approved by Factory Mutual (FM) and the Canadian Standards Association (CSA).

See Figure 2. Pressurized coating material enters the Model C-1 gun (1) at the fluid inlet (3). When the operator pulls the gun trigger (2), the gun sprays the coating material and the power supply starts, passing an electrostatic charge to the coating material. When the operator releases the gun trigger in a non-circulating system, the gun stops spraying the coating material. When the operator releases the gun trigger in a circulating system, the coating material passes through the gun, through a circulation valve, and back to the pump. The operator can also drain the coating into a waste bucket.

The specifications for the Model C-1 gun are as follows:

Specification	Metric	U.S.
Length	28.6 cm	11.25 in.
Height	20.3 cm	8.00 in.
Width	4.5 cm	1.75 in.
Weight	0.8 kg	26.0 oz
Maximum output current	170 μ A	170 μ A
Output voltage	76 kV (\pm 3 V)	76 kV (\pm 3 V)
Maximum fluid input pressure	103 bar	1500 psi

3. Installation



WARNING: Allow only qualified personnel to perform the following tasks. Observe and 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: Use only the EPU-8/C-1 or the EPS8/C-1 electrostatic power supply and IFC-100 cable with the C-1 gun. Do not substitute any unauthorized power supply or cable. Use of unauthorized cables or power supplies can cause destruction of property, electrocution, explosion, fire, or death.



WARNING: Before installing the Model C-1 gun, relieve all pressure and turn off the electrical power to the system. Failure to observe this warning can result in serious personal injury or death.



WARNING: Before you start the electrostatic system, ground all electrically conductive objects near the spray area (workpieces, hangers, conveyors, paint supplies, fire extinguishers, spray equipment, waste containers, and especially the operators) to a true earth ground. Ground operators by maintaining skin-to-gun contact, wearing leather-soled shoes, and walking on a clean, conductive steel or concrete floor. If objects are not grounded, an electrical charge can accumulate and discharge a spark, creating a fire hazard.



WARNING: Do not remove the nozzle during operation or with the hydraulic pressure turned on. Removing the nozzle while under pressure can cause coating material to inject into your skin. If you do need to remove the nozzle, allow only personnel trained in maintenance of the gun and nozzle to remove the nozzle using the nozzle tool. Refer to the *Disassembling the Gun* in the *Repair* section for more information on using the nozzle tool.

NOTE: Inadequately grounded work pieces lose efficiency for electrostatic attraction when sprayed, and can create arcs between the part and ground.

Installing the Gun

See Figure 3 and install your Model C-1 gun as follows:

1. Install the power supply according to the power supply manual.

NOTE: Nordson Corporation ships new electrostatic cables with protective copper braid taped to the cable.

2. Remove the gun extension (1) and the insulating tube (2).
3. Remove the cover plate and the microswitch (3).

NOTE: If you are installing a previously-installed cable, use the Cable Cleaning Service Kit to thoroughly clean the electrostatic cable before installation. Do not touch the cable ends after cleaning. Apply dielectric grease to the resistor before assembling.

4. Install the electrostatic cable into the gun and slide the cable into the cable bore (5) at the base of the gun handle (4).
5. Push the cable into the cable bore (5) until it stops, then use a pencil or a tool that will not cut or abrade the cable to move the cable tip into the angle and toward the front of the gun.
6. Move the cable into the gun until the cable retaining nut reaches the base of the gun handle (4).



WARNING: Make sure that the cable does not turn while you tighten the cable retaining nut, otherwise, cable damage and a shock hazard can occur.

7. Tighten the cable retaining nut.
8. Remove the protective copper braid from the cable.
9. Separate the two small control wires from the electrostatic cable. Connect the control wires to the microswitch (3).
10. Set the trigger stop (6) in the up or locked position. Install the microswitch (3) with the switch actuating lever (8) just touching the packing cartridge puller (9).



WARNING: Do not perform the microswitch adjustment with the cable installed in the power supply. If you perform this adjustment with the cable connected to the power supply, a serious shock can result.

Installing the Gun (contd)

11. Do the following to adjust the microswitch (3):

- a. Engage the microswitch trigger stop (6). You should not hear the click of the microswitch.
- b. Disengage the trigger stop and pull the gun trigger (7). You should hear the click of the microswitch as the switch energizes.
- c. If the microswitch does not make a click as it energizes, loosen the screws that retain the switch to the handle and move the switch toward the packing cartridge puller (9). Tighten the screws, and then repeat steps a and b.

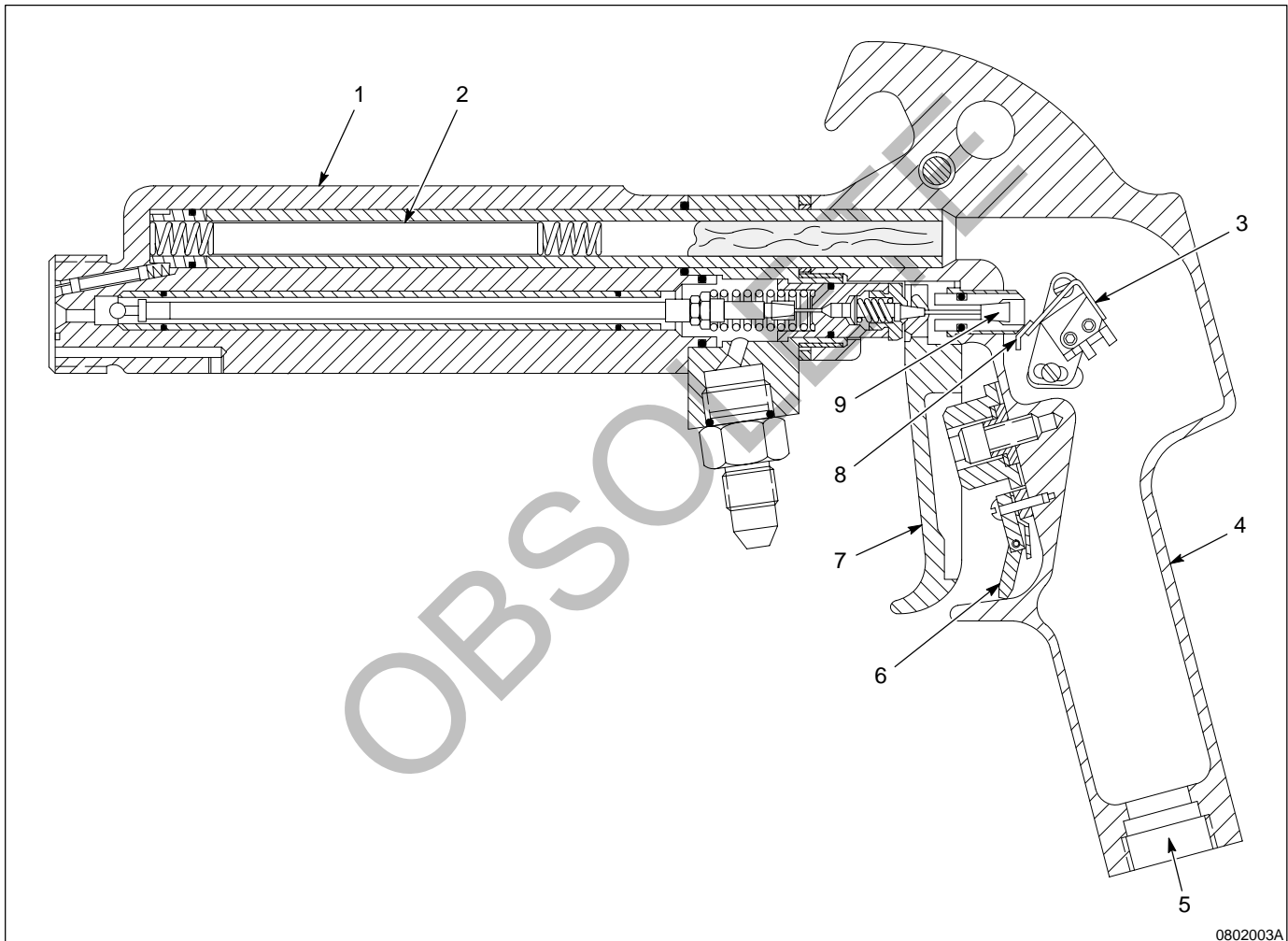


Fig. 3 Installing the Model C-1 gun

- | | | |
|--------------------|-----------------|-----------------------------|
| 1. Gun extension | 4. Gun handle | 7. Gun trigger |
| 2. Insulating tube | 5. Cable bore | 8. Switch actuating lever |
| 3. Microswitch | 6. Trigger stop | 9. Packing cartridge puller |

Installing the Gun (contd)

12. Slide the insulating tube (2), with the resistor facing outward, over the electrostatic cable tip. Push the insulating tube until the cable tip causes grease to extrude from the front of the tube and past the resistor.
13. Install the gun extension (1) and the cover plate onto the gun.
14. Use the nozzle tool to install the correct nozzle and turbulence plate or restrictors. The nozzle seats against the conductive seal washer of the extension. Refer to *Disassembling the Gun* in the *Repair* section, for more information about using the nozzle tool.
15. Fill the power supply cable well with insulating oil.
16. Install the end of the electrostatic cable containing the brass tag into the well of the power supply. Tighten the cable fitting, and then wipe away any oil spilled during this step.
17. Attach the fluid hose(s) to the fluid inlet(s) on the gun.
18. Establish a protected path for the cable between the gun and the power supply. Anchor the cable and the air and fluid hoses so any strain is applied only to the hoses. This ensures that cable damage will not occur by striking other objects or by severe flexing.

NOTE: Refer to the *Electrostatic Cable Care and Installation* manual for specific information concerning your electrostatic cable.

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4. Maintenance



WARNING: If you remove the electrostatic cable during maintenance of the gun, refer to the Installation section for correct installation steps. Incorrect installation or use of electrostatic power systems or cables other than the EPU-8/C-1 or the EPS8/C-1 electrostatic power supply or the IFC-100 cable can cause destruction of property, electrocution, explosion, fire, or death.



WARNING: Early cable failure is usually due to the presence of air in the cable/resistor bore, which allows the presence of a corona when applying electrostatic power. This corona causes rapid degradation of cable and gun components that can result in a loss of operating safety by creating an ignition hazard.

The electrostatic cable is the high voltage link between the power supply and the Model C-1 gun. Because it conducts high voltage, it is subject to electrical break down such as burn through or carbon tracking if it is not correctly maintained.



CAUTION: Do not soak or clean the outside of the cable with ketones or other active solvents, including lacquer thinner; they will damage the outer cover and cause electrical breakdown.

If you remove the cable from the gun, clean the end of the cable and cable guide hole with the Cable Cleaning Service Kit. Do not touch the cable ends after cleaning. Apply dielectric grease to the resistor before assembling.

Rough usage of the cable can cause premature cable failure. Rough usage includes excessive whipping of a loose cable on an automatic spray machine, bending the cable around a small radius, walking on or driving over the cable, or stretching the cable.

For complete information about the electrostatic power supply, refer to the manual that accompanied your unit. Also refer to the *Electrostatic System Checks* manual for more information about maintenance of the electrostatic system.



CAUTION: Do not allow coating material to build up around the gun extension or nozzle. This type of buildup can provide a path to ground, causing poor coating transfer and premature failure of the gun.

Keep the gun as clean as practical. At the end of each work shift, use solvent to flush the hydraulic supply lines from the coating delivery system to the gun. Also flush the nozzles and restrictors.

5. Troubleshooting



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



CAUTION: Perform all resistance readings with the electrical power source turned off. Using an ohmmeter with the power turned on can cause instrument damage.

For complete information about electrostatic problems, refer to the *Electrostatic System Checks* manual.

NOTE: To troubleshoot the power supply, refer to your power supply manual.

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.

This troubleshooting procedure is designed to help you troubleshoot the Model C-1 gun. Note that any problem can have a number of reasons for occurring; therefore, check all possible causes for any given problem.

Troubleshooting Mechanical Problems

Table 3 provides troubleshooting procedures for correcting mechanical problems. If multiple causes exist, the table lists those problems in the order of importance.

	Problem	Page
1.	Spitting or incorrect gun activation or deactivation	24
2.	Fluid leaking around nozzle or packing cartridge	24
3.	Loss of wrap — Red lamp on power supply ON	24
4.	Loss of wrap — Red lamp on power supply OFF	25

Troubleshooting Mechanical Problems (contd)

Table 3 Mechanical Problems with the Model C-1 Gun

Problem	Possible Cause	Corrective Action
<p>1. Spitting or incorrect gun activation or deactivation</p>	<p>Needle dragging</p> <p>Extension assembly worn</p> <p>Defective power supply</p>	<p>Clean hardened coating material from needle assembly and retainer seat passage. Old style (white) needle assemblies may be swollen; replace with most current needle design.</p> <p>Replace extension assembly.</p> <p>Disconnect the IFC-100 electrostatic cable from the power supply. Refer to the power supply manual for troubleshooting.</p>
<p>2. Fluid leaking around nozzle or packing cartridge</p>	<p>Worn or dirty air cylinder O-rings</p> <p>Dirt or nicks on mating surfaces</p> <p>Worn packing cartridge</p> <p>Damaged O-ring around the packing cartridge</p>	<p>Replace air cylinder and clean O-rings.</p> <p>Clean nozzle and extension assembly mating surfaces.</p> <p>Replace packing cartridge.</p> <p>Replace O-ring around packing cartridge.</p>
<p>3. Loss of wrap — Red lamp on power supply ON</p>	<p>Poorly grounded workpieces</p> <p>Dirt on outside of gun</p> <p>Dirt on ends of electrostatic cable, current limiting resistor, or inside of extension assembly</p>	<p>Clean hooks, hangers, conveyor rollers, and channels.</p> <p>Clean gun with a mild solvent and dry with a lint-free cloth.</p> <p>Clean cable with Cable Cleaning Service Kit.</p>

Troubleshooting Mechanical Problems (contd)

Problem	Possible Cause	Corrective Action
<p>3. Loss of wrap — Red lamp on power supply ON (contd.)</p>	<p>Damaged current limiting resistor</p> <p>Defective cable</p> <p>Defective power supply</p> <p>Defective resistor insulating tube in extension assembly</p> <p>Coating material polarity altered</p>	<p>Measure resistor continuity. Replace resistor if reading is higher than 180 Ω or lower than 170 Ω.</p> <p>Measure voltage output with Nordson hand-held kV meter.</p> <p>Measure voltage output with Nordson hand-held kV meter.</p> <p>Check insulating tube for burn-through. If signs of arcing or burning are evident, replace insulating tube.</p> <p>Make sure coating materials are as specified by the manufacturer or by initial test.</p>
<p>4. Loss of wrap — Red lamp on power supply OFF</p>	<p>Defective power supply</p> <p>Defective resistor insulating tube in extension assembly</p> <p>Coating material polarity altered</p> <p>Conductive seal washer either missing or insulated with coating materials</p>	<p>Disconnect electrostatic cable from power supply. Refer to power supply manual.</p> <p>Check for burn-through. Replace resistor insulating tube if signs of arcing or burning are found.</p> <p>Make sure coating materials are as specified by the coating manufacturer or by initial test.</p> <p>Clean or replace washer.</p>

6. Repair



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



CAUTION: Follow disassembly and assembly steps in order. Performing these steps out of sequence can cause damage to the internal parts of the gun.



CAUTION: Do not overtighten the hose fittings on the gun. Overtightening can damage or strip the threads in the head of the gun.

Applying Dielectric Grease

Follow these instructions to apply dielectric grease to the cable bore of the gun.



CAUTION: After disassembling the gun or removing the cable from the gun, always apply dielectric grease into the cable bore of the gun. If you do not apply dielectric grease, the resistor cable or gun extension can prematurely fail due to arcing or high-voltage, corona burn-through.

1. Shut off the fluid supply unit.
2. Relieve the internal hydraulic pressure in the spraying system by doing one of the following:
 - Slowly open the valve on the filter or drain-off hose on the fluid supply system; or
 - Hold the gun trigger until the fluid stops flowing from the nozzle.
3. Point the gun in a safe direction and actuate the gun to make sure that the hydraulic pressure is relieved.
4. Close the valve on the filter or drain-off hose.
5. Removing the electrostatic cable and work through the end of the gun.

Applying Dielectric Grease*(contd)*

6. See Figure 4. Clean as much dielectric grease from the insulating tube (4) as possible. Use a round brush to clean the grease from the tube.

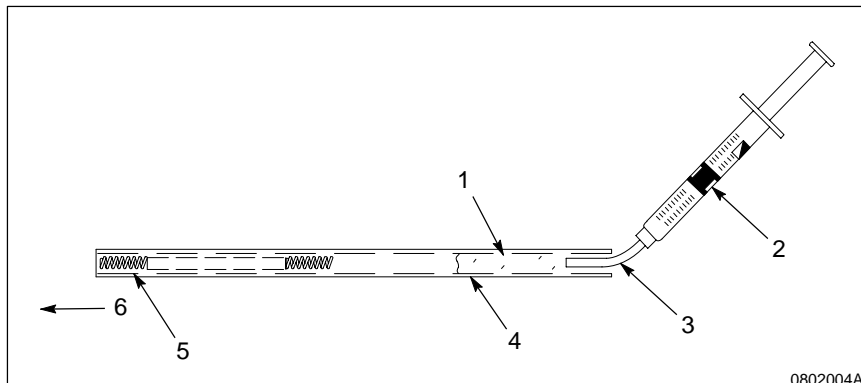


Fig. 4 Applying the dielectric grease to the Model C-1 gun

- | | |
|----------------------|--|
| 1. Dielectric grease | 4. Insulating tube |
| 2. Syringe | 5. Resistor and spring |
| 3. Flexible tube | 6. End inserted into extension (high-voltage bore) |
7. Warm a syringe (2) of dielectric grease (1) to about 37–43 °C (98–110 °F) by holding it in your hands or running the syringe under warm water.
 8. Insert the flexible tube (3) on the end of the syringe (2) into the insulating tube (4) inside the cable adapter.
- NOTE:** The end of the cable acts as a piston in the insulating tube (4), pushing the dielectric grease (1) around the resistor and spring (5), and around the exterior of the tube. This totally covers the high-voltage contact points inside the gun with dielectric grease.
9. Apply about 8.0 cc of warmed grease from the syringe (2) into the insulating tube (4).
 10. Install the electrostatic cable on the gun. If you apply too much grease in the cable bore, you will not be able to install the cable completely into the gun. If this happens, remove the cable and remove some of the grease with a clean, dry cloth, and then try to install the cable again.
 11. Tighten the cable connecting nut.

Replacing the Extension Resistor Service Kit and Cable

See Figure 5. Use this procedure to install a new electrostatic cable and service resistor kit, or to replace the resistor kit and continue to use the existing electrostatic cable.



WARNING: Remove all air pockets from the insulating tube during this procedure. Air pockets can cause components to breakdown electrically, which can cause personal injury or equipment damage.

NOTE: The resistor service kit contains a new resistor (2) and insulating tube (4). Nordson Corporation ships a resistor kit with each new cable. When replacing a cable, also replace the resistor kit, since a damaged resistor often causes cable failure.

1. Disassemble the gun. Refer to *Disassembling the Gun* in this section.
2. Clean the old dielectric grease from the high-voltage bore with a clean cloth and a round brush.

NOTE: The resistor service kit ships with the resistor (2) and dielectric grease (3) installed in the insulating tube (4). The resistor is factory-installed, spring-end (5) first, into the insulating tube.

3. See Figure 5. Install the resistor service kit into the high-voltage bore of the gun:
 - a. Remove the plastic caps (1) from each end of the insulating tube (4).
 - b. Install the resistor end (6) of the insulating tube (4) into the high-voltage bore of the extension. (The end of the insulating tube containing the dielectric grease (3) should go into the bore last.) The insulating tube will protrude from the end of the gun about 10.16 cm (4.0 in).
4. Assemble the gun. Refer to *Assembling the Gun* in this section.
5. Install the electrostatic cable on the gun.

NOTE: The end of the cable acts as a piston in the insulating tube, pushing the dielectric grease around the resistor and spring, and around the exterior of the tube. This totally covers the high-voltage contact points inside the gun with dielectric grease.

6. Tighten the cable connecting nut.

Replacing the Extension Resistor Service Kit and Cable (contd)

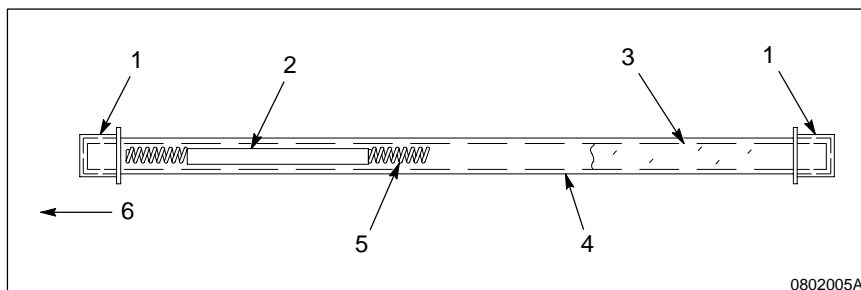


Fig. 5 Resistor service kit

- | | |
|----------------------|--|
| 1. Caps | 4. Insulating tube |
| 2. Resistor | 5. Spring |
| 3. Dielectric grease | 6. End inserted into extension (high-voltage bore) |

Replacing the Resistor Only

Use this procedure to install a new resistor only, and continue to use the existing electrostatic cable.



WARNING: Remove all air pockets from the insulating tube during this procedure. Air pockets can cause components to breakdown electrically, which can cause personal injury or equipment damage.

1. Disassemble the gun. Refer to *Disassembling the Gun* in this section.
2. Clean the old dielectric grease from the high-voltage bore with a clean cloth and a round brush. Clean as much grease out of the bore as possible.

NOTE: Do not handle the resistor with your bare hands. Salts and oils from your skin can conduct electricity and can cause arcing along the resistor. Arcing can destroy the extension and the resistor. Handle the resistor using a piece of plastic or a clean, dry cloth.

3. See Figure 5. Install the resistor (2), spring-end (5) first, into the insulating tube (4).
4. Install the greased insulating tube (4), resistor-end (6) first, into the high-voltage bore. (The end of the insulating tube containing the dielectric grease (3) should go into the bore last.)

Replacing the Resistor Only

(contd)

5. Assemble the gun. Refer to *Assembling the Gun* in this section.
6. Install the electrostatic cable on the gun. Refer to the *Installation* section for cable installation instructions.

NOTE: The end of the cable acts as a piston in the insulating tube, pushing the dielectric grease around the resistor and spring, and around the exterior of the tube. This totally covers the high-voltage contact points inside the gun with dielectric grease.

7. Tighten the cable connecting nut.

Adjusting the Microswitch

Perform the following steps to adjust the microswitch. You do not need to disassemble the gun for this adjustment.



WARNING: Do not perform the microswitch adjustment step with the cable installed in the power supply. If you perform this step with the cable connected to the power supply, a serious shock can result.

1. See [Figure 3](#). Remove the four retaining screws that secure the cover plate, and then remove the cover plate from the microswitch (3).
2. Place the trigger stop (6) in the up position, and then loosen the two screws that secure the microswitch (3) to the gun.
3. Engage the gun trigger (7) and adjust the switch actuating lever (8) against the packing cartridge puller (9).
4. The microswitch (3) can be adjusted up to a point just before the switch clicks to indicate that it is energized.
5. To verify that the switch is correctly adjusted, do the following:
 - a. Place the trigger stop (6) in the up position, and place the gun handle (4) close to your ear.
 - b. Engage the gun trigger (7). If you correctly adjusted the microswitch, you will not hear the click of the snap-action switch.
6. When the switch is correctly adjusted, replace the cover plate and securely install the four retaining screws.

Disassembling the Gun

See Figure 7 in the *Parts* section to locate the parts referenced in this procedure. After disassembling the gun to replace the resistor service kit and electrostatic cable, continue with the disassembly steps provided here to further disassemble and clean the gun.

1. Make sure that you have done the following before proceeding with disassembly:
 - a. Shut off the fluid supply unit.
 - b. Relieve the internal hydraulic pressure in the spraying system by doing one of the following:
 - Slowly open the valve on the filter or drain-off hose on the fluid supply system; or
 - Hold the gun trigger until the fluid stops flowing from the nozzle.
 - c. Point the gun in a safe direction and actuate the gun to make sure that the hydraulic pressure is relieved.
 - d. Close the valve on the filter or drain-off hose.
2. See Figure 7. Remove the screw (54), and then remove the nylon hose (56) from the hose clamp (51).
3. Disconnect the tube unions (57) from the hose fitting (11), and then remove the nylon hose (56) from the gun head (10).
4. Use the nozzle tool to remove the nozzle retaining nut (1), the nozzle, and the restrictor.
5. Place the nozzle and restrictor in solvent. To clean these parts, refer to *Cleaning the Nozzles and Restrictor* in this section.
6. Remove the screws with washers (18, 22), and then remove the gun extension (2) from the gun head (10).
7. Remove the O-rings (7).
8. Remove the seat retainer (5) from the extension (2).
9. Remove the O-rings (6).
10. Clean the seat retainer (5) with solvent.

Disassembling the Gun (contd)

11. Remove the insulating tube (8) with resistor (9) from the gun extension (2).
12. Push the resistor (9) with springs (12) and screws (13) from the insulating tube (8).
13. Clean the insulating tube (8), resistor (9), and springs (12) with the Cable Cleaning Service Kit and the nylon bristle brush.
14. See Figure 6. Clean the bores of the extension (2) with the Cable Cleaning Service Kit and the nylon bristle brush. Refer to the *Parts* section for kit ordering information.
15. See Figure 7. Remove the gun head (10), insulation plate (17), conductive seal washer (15), insulation sleeve (16) and stop bushing (44) from the gun handle (32).
16. Clean the gun head (10) with solvent.



CAUTION: Do not pull the needle (3) with pliers or similar tool; only use your hands. Failure to observe this precaution could result in equipment damage.

17. Grasp the needle (3) with your hands, and then pull it and the packing cartridge (26) from the gun handle (32).
18. Place a 1/4-inch wrench on the flats where the needle (3) joins the packing cartridge (26). Place a 3/8-inch wrench on the flats of the packing cartridge where it joins the needle. Using these two wrenches, unscrew the needle from the packing cartridge.
19. Clean the needle (3) with solvent.
20. Remove the pivot (30) and the screw (31) from the top sides of the gun handle, and then remove the trigger (29).
21. Remove the screw (42), and then remove the trigger lock (39).
22. Remove the screw (37), and then remove the trigger stop (33).
23. Remove the screws (48) and seal washers (46), and then remove the cover plate (47) and cover plate gasket (45).

Disassembling the Gun (contd)

24. Remove the screw (53), and then remove the hose adapter (52).
25. Disconnect the control wires from the switch assembly.
26. Remove the screws (49), and then remove the switch assembly.
27. Carefully remove the electrostatic cable from the gun handle (32).

NOTE: Always apply dielectric grease into the high-voltage bore of the gun after disassembling or repairing the gun, or after removing the cable from the gun. Refer to *Applying Dielectric Grease* in this section.

28. Carefully inspect all gun parts for wear or damage. Replace any worn or damaged parts during gun assembly. Discard any worn or damaged parts; do not re-use these parts.

Cleaning the Nozzle and Resistor

Use the following steps to clean the gun nozzle and restrictor:

1. Perform steps 1 through 4 of *Disassembling the Gun* in this section, to remove the nozzle and restrictor, and then soak the nozzle and restrictor in solvent.



CAUTION: Use only a Nordson cleaning brush or a nylon bristle brush to clean the nozzle tip; other brushes can damage the nozzle.

2. Use a cleaning brush to clean the nozzle tip. If the nozzle tip is clogged, clean the tip with the nylon bristle brush.
3. After cleaning the nozzle, use the nozzle tool to install the nozzle on the gun.



CAUTION: Ream the cable guide bore and needle guide bore only by hand. The seat at the bottom of the needle guide bore is very brittle; metal or hard tools can crack or chip the guide bore.

Cleaning the Nozzle and Resistor (contd)

4. See Figure 6. In the gun extension (1), clean the cable guide bore (2) and needle guide bore (3) with the nylon bristle brush and solvent. If coating material is hardened in the needle guide bore, use a $1\frac{3}{64}$ -inch hand reamer to clean it.
5. Wash and blow out the needle guide bore (3) after reaming.
6. Use the Cable Cleaning Service Kit to clean the cable guide bore (2) before installing the cable on the gun. Refer to the *Parts* section for kit ordering information.

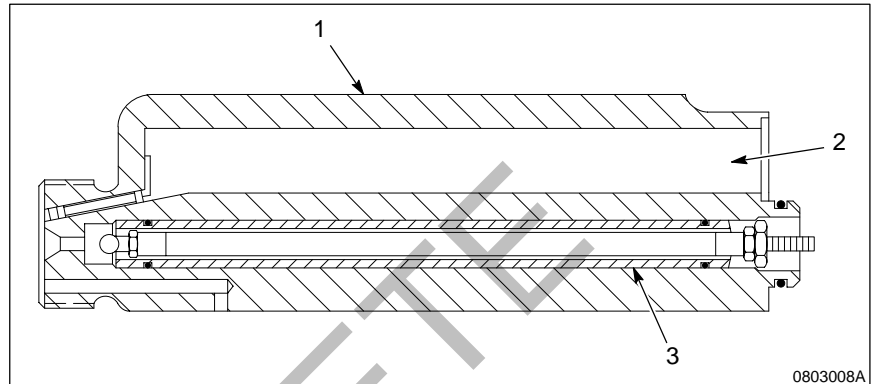


Fig. 6 Cleaning the guide bore

1. Gun extension
2. Cable guide bore
3. Needle guide bore

Assembling the Gun

Perform the following steps to assemble the Model C-1 gun.

1. Replace any worn or damaged gun parts.
2. Perform cleaning procedures for the gun.
3. Assemble the gun using the reverse order of *Disassembling the Gun* in this section.

NOTE: Do not kink the insulating tube by pressing too hard when you replace the gun extension. Evenly applying pressure to the extension while you screw it onto the gun body will ease the insulating tube into the high-voltage bore without kinking it.

NOTE: If you have trouble installing the electrostatic cable or the switch assembly, refer to the *Installation* section for assembly instructions.

4. After you assemble the gun, perform the following steps to place the gun into operation:
 - a. With the electrostatic power supply turned off, test the spray to check for correct operation and for leaks
 - b. If necessary, correct any leaks.
 - c. Turn all power on and return the system to operation.

OBSOLETE

7. 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 six-digit 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.

Item	Part	Description	Quantity	Note
—	000 000	Assembly	1	
1	000 000	• Subassembly	2	A
2	000 000	• • Part	1	

- 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.

Model C-1 Gun Parts

See Figure 7.

Item	Part	Description	Quantity	Note
—	246 816	Gun, Model C-1, non-circulating, electrostatic	1	
—	246 819	Gun, Model C-1, circulating, electrostatic	1	
1	156 247	• Nut, retaining, nozzle	1	
2	246 750	• Extension assembly	1	
3	156 155	• • Needle	1	
4	247 212	• • Resistor, tip with O-ring	1	B
5	156 241	• • Retainer, seat	1	
6	940 080	• • O-ring, 0.188 x 0.313 x 0.063	2	A
7	940 150	• • O-ring, hotpaint, 0.563 x 0.688 x 0.063	2	A, B, C
8	-----	• • Tube, insulating	1	B, C
NS	246 874	• • Extension, electrostatic gun	1	
9	935 000	• Resistor, 75 megohm	1	B, C
10	156 254	• Head, gun, Model C-1	1	
11	152 298	• Fitting, hose, rigid	1, 2	D
12	247 214	• Spring, compression, 0.500 x 0.300 OD x 0.150	2	B, C
13	981 022	• Screw, fillister head, 6-32 x 0.375, steel, zinc	2	B, C
14	940 140	• O-ring, hotpaint, 0.500 x 0.625 x 0.630	1, 2	A, D
15	156 235	• Washer, seal	1	A
16	156 122	• Sleeve, insulation	1	A
17	156 234	• Plate, insulation	1	A
18	247 033	• Screw, socket head with washer, left-handed	1	
19	246 848	• • Screw, socket head, 10-32 x 2.500	1	
20	246 876	• • Washer, extension, electrostatic gun, left-handed	1	

NOTE A: Sold as part of Seal Service Kit, part 106 214.
 B: Sold as part of Tip Resistor with O-Ring Service Kit, part 106 353.
 C: Sold as part of Resistor Service Kit, part 106 213.
 D: Circulating gun, part 246 819, uses one fitting and O-ring; non-circulating gun, part 246 816, uses two fittings and O-rings.

NS: Not Shown

Model C-1 Gun Parts (contd)

Item	Part	Description	Quantity	Note
21	986 018	• • Ring, retaining, extension, 18, basic	1	
22	247 034	• Screw, socket head, with washer, right-handed	1	
23	246 848	• • Screw, socket head, 10-32 x 2.500	1	
24	986 018	• • Ring, retaining, extension, 18, basic	1	
25	246 879	• • Washer, extension, electrostatic gun, right-handed	1	
26	156 129	• Cartridge, packing	1	
27	940 128	• • O-ring, Viton, blk., 0.375 x 0.500	1	A
28	940 085	• • O-ring, Viton, blk., 0.188 x 0.313	1	A
29	247 860	• Trigger, gun	1	G
30	156 121	• Pivot	1	G
31	981 064	• Screw, pan head, 8-32 x 0.375, steel, zinc	1	G
32	-----	• Handle, electrostatic gun	1	G
33	156 258	• • Stop, trigger	1	I
34	156 259	• • Adapter	1	I
35	156 260	• • Spring, wave	1	I
36	156 261	• • Spacer	1	I
37	981 005	• • Screw, round head, 5-40 x 0.437, steel, zinc	2	I
38	985 207	• • Pin, roll, 0.078 x 0.500, stainless steel	1	I
39	156 187	• • Lock, trigger	1	G, H
40	152 293	• Bushing	1	G
41	983 600	• Washer, bowed	1	G, H
42	981 209	• Screw, socket head, 1/4-28 x 0.500, zinc	1	G, H
43	156 114	• Bushing	2	G
44	156 115	• Bushing, stop	1	G
45	156 118	• Gasket, cover plate	1	A, G, H

NOTE A: Sold as part of Seal Service Kit, part 106 214.

G: Sold as part of Handle Service Kit, part 156 233.

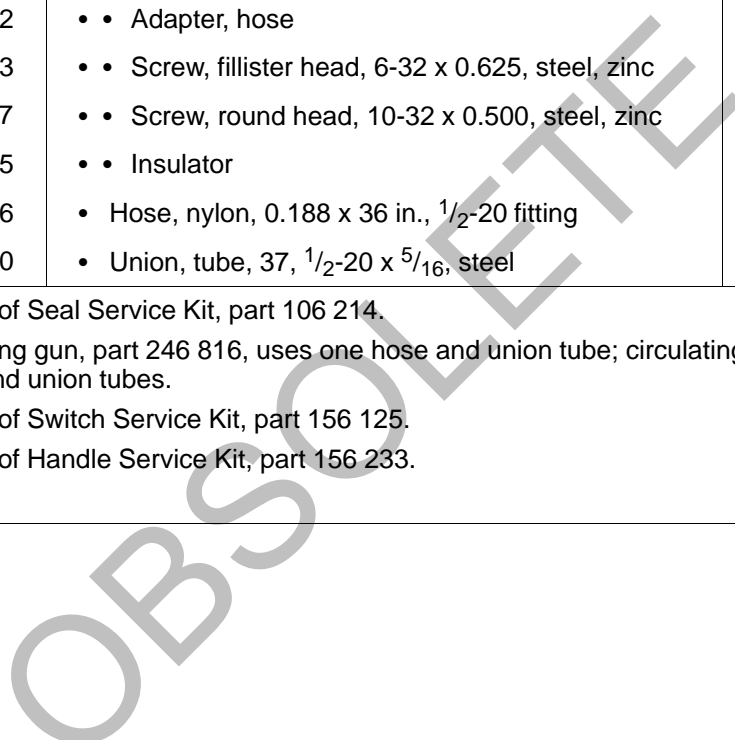
H: Sold as part of Trigger Lock Service Kit, part 156 186.

I: Sold as part of Trigger Stop Service Kit, part 156 257.

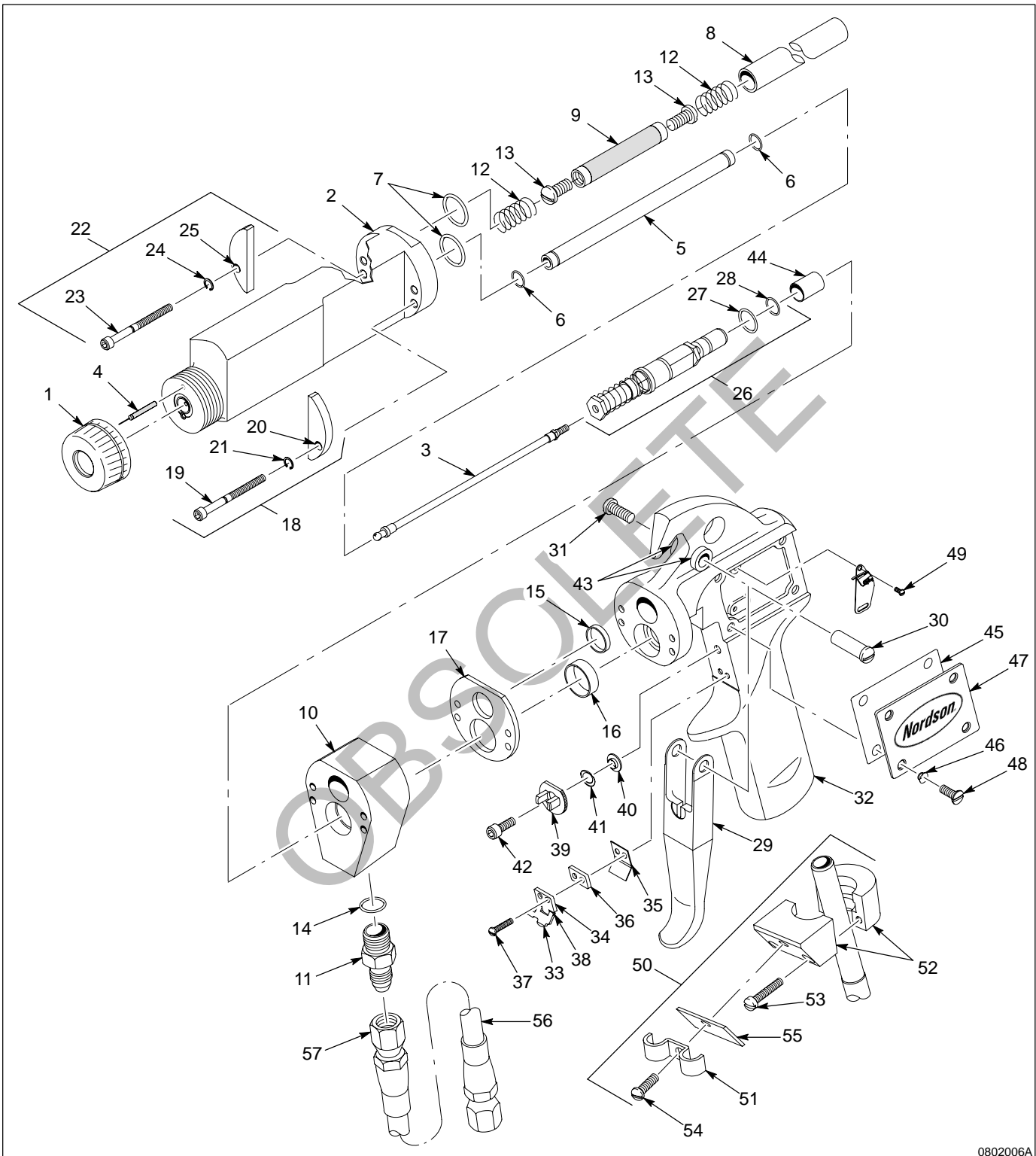
Model C-1 Gun Parts (contd)

Item	Part	Description	Quantity	Note
46	955 020	• Washer, seal	4	A, G
47	156 117	• Plate, cover	1	G
48	981 070	• Screw, oval head, 8-32 x 0.312, steel, zinc	4	G
49	981 001	• Screw, pan head, 4-40 x 0.187, steel, zinc	2	F
NS	-----	• Microswitch	1	
50	159 101	• Clamp, hose assembly	1	
51	159 103	• • Clamp, hose	1	
52	159 102	• • Adapter, hose	1	
53	981 023	• • Screw, fillister head, 6-32 x 0.625, steel, zinc	2	
54	981 117	• • Screw, round head, 10-32 x 0.500, steel, zinc	1	
55	159 105	• • Insulator	1	
56	828 036	• Hose, nylon, 0.188 x 36 in., 1/2-20 fitting	1, 2	E
57	972 350	• Union, tube, 3/7, 1/2-20 x 5/16, steel	1, 2	E

NOTE A: Sold as part of Seal Service Kit, part 106 214.
 E: Non-circulating gun, part 246 816, uses one hose and union tube; circulating gun, part 246 819, uses two hoses and union tubes.
 F: Sold as part of Switch Service Kit, part 156 125.
 G: Sold as part of Handle Service Kit, part 156 233.
 NS: Not Shown



Model C-1 Gun Parts (contd)



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Fig. 7 Model C-1 gun (exploded view)

Recommended Spare Parts See Figure 7.

Item	Part	Description	Quantity	Note
1	156 247	Nut, retaining nozzle	1	A
4	247 212	Resistor, tip with O-ring	1	
11	152 298	Fitting, hose, rigid	1	
26	158 129	Cartridge, packing	1	
NS	106 353	Service kit, tip resistor with O-ring	1	
NS	106 214	Service kit, seal	1	
NS	246 750	Extension, assembly	1	
NS	245 733	Applicator, dielectric grease, carton of 12	1	

NOTE A: Sold as part of Tip Resistor with O-ring Service Kit, part 106 353.

NS: Not Shown

Switch Service Kit See Figure 7.

Item	Part	Description	Quantity	Note
—	156 125	Service kit, switch	1	
NS	-----	• Switch	1	
49	981 001	• Screw, pan-head, 4-40 x 0.187, steel, zinc	1	

NS: Not Shown

Resistor Service Kit

See Figure 7.

Item	Part	Description	Quantity	Note
—	106 213	Service kit, resistor	1	
7	940 150	• O-ring, hotpaint, 0.563 x 0.688 x 0.063	2	
8	248 304	• Tube, insulating	1	
9	935 000	• Resistor, 75 megohm	1	
12	247 214	• Spring, compression, 0.500 x 0.300 OD x 0.015	2	
13	981 022	• Screw, fillister, 6-32 x 0.375, steel, zinc	2	
NS	940 180	• O-ring, 0.75 x 0.875 x 0.063	2	A

NOTE A: Used at electrostatic cable opening at base of gun handle.

NS: Not Shown

Service Kit

Item	Part	Description	Quantity	Note
—	106 402	Kit, service	1	
NS	901 939	• Tool, ball driver, hex	1	
NS	247 953	• Tool, removal, nut/nozzle	1	
NS	901 905	• Brush, cleaning	1	
NS	901 907	• Brush, bristle, nylon	1	

NS: Not Shown

Tip Resistor with O-Ring Service Kit

See Figure 7.

Item	Part	Description	Quantity	Note
—	106 353	Service kit, tip resistor with O-ring	1	
4	247 212	• Resistor, tip with O-ring	1	
7	940 150	• O-ring, hotpaint, 0.563 x 0.688 x 0.063	2	
8	-----	• Tube, insulating	1	
9	935 000	• Resistor, 75 megohm	1	
12	247 214	• Spring, compression, 0.500 x 0.300 OD x 0.150	2	
13	981 022	• Screw, fillister head, 6-32 x 0.375, steel, zinc	2	
NS	247 639	• Applicator, dielectric grease	1	
NS	940 180	• O-ring, 0.75 x 0.875 x 0.063	2	A

NOTE A: Used at electrostatic cable opening at base of gun handle.
 NS: Not Shown

Handle Service Kit

See Figure 7.

Item	Part	Description	Quantity	Note
—	156 233	Service kit, handle	1	
29	247 860	• Trigger, gun	1	
30	156 121	• Pivot	1	
31	981 064	• Screw, pan head, 8-32 x 0.375, steel, zinc	1	
32	-----	• Handle, electrostatic gun	1	
39	156 187	• Lock, trigger	1	
40	152 293	• Bushing	1	
41	983 600	• Washer, bowed	1	
42	981 209	• Screw, socket head, 1/4-28 x 0.500, zinc	1	
43	156 114	• Bushing	2	
44	156 115	• Bushing, stop	1	
45	156 118	• Gasket, cover plate	1	
46	955 020	• Washer, seal	4	
47	156 117	• Plate, cover	1	
48	981 070	• Screw, oval head, 8-32 x 0.312, steel, zinc	4	

Trigger Lock Service Kit

See Figure 7.

Item	Part	Description	Quantity	Note
—	156 186	Service kit, trigger lock assembly	1	
39	156 187	• Lock, trigger	1	
41	983 600	• Washer, bowed	1	
42	981 209	• Screw, socket head, 1/4-28 x 0.500, zinc	1	
45	152 293	• Bushing	1	

Seal Service Kit

See Figure 7.

Item	Part	Description	Quantity	Note
—	106 214	Service kit, seal	1	
6	940 080	• O-ring, 0.188 x 0.313 x 0.063	4	
7	940 150	• O-ring, hotpaint, 0.563 x 0.688 x 0.063	2	
14	940 140	• O-ring, hotpaint, 0.500 x 0.625 x 0.630	2	
15	156 235	• Washer, seal	1	
16	156 122	• Sleeve, insulation	1	
17	156 234	• Plate, insulation	1	
27	940 128	• O-ring, Viton, blk, 0.375 x 0.500	1	
28	940 085	• O-ring, Viton, blk, 0.188 x 0.313	1	
45	156 118	• Gasket, cover plate	1	
46	955 020	• Washer, seal	4	

Trigger Stop Service Kit

See Figure 7.

Item	Part	Description	Quantity	Note
—	156 257	Service kit, trigger stop assembly	1	
33	156 258	• Stop, trigger	1	
34	156 259	• Adapter	1	
35	156 260	• Spring, wave	1	
36	156 261	• Spacer	1	
37	981 005	• Screw, round head, 5-40 x 0.437, steel, zinc	2	
38	985 207	• Pin, roll, 0.078 x 0.500, stainless steel	1	

Cable Cleaning Service Kit

Item	Part	Description	Quantity	Note
—	106 455	Service kit, cable cleaning	1	
NS	-----	• Solvent, contact/circuit board	1	
NS	-----	• Brush	1	
NS: Not Shown				

Other Model C-1 Parts

Only use Nordson Corporation parts. The Model C-1 gun can use the electrostatic cables and power supplies listed below:

Part	Description	Quantity
245 387	Cable, electrostatic, single outlet, 8-meter (25-ft), with resistor	1
245 388	Cable, electrostatic, single outlet, 12-meter (37-ft), with resistor	1
245 389	Cable, electrostatic, single outlet, 16-meter (50-ft), with resistor	1
247 849	Power unit, EPU-8/C-1, 120–240 Vac, 50/60 Hz	1
184 250	Power supply, EPS-8/C-1, 120–240 Vac, 50/60 Hz	1

OBSOLETE