Prodigy® HDLV® Generation II Pump Panel

Customer Product Manual
Part 1081740A03

Issued 01/10

Previous Generation

For parts and technical support, call the Finishing Customer Support Center at (800) 433-9319.

This document is subject to change without notice.
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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

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Change Record

Revision	Date	Change
A02	12/09	Removed the part number for the manifold assembly and added a reference to the manual for the pump, manifold, and circuit board 1081195.
A03	01/10	Replaced solenoid valve 1027412 with part number 1099534.

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Prodigy® HDLV® Pump Panel

Safety

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

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

Qualified Personnel

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

Intended Use

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

Some examples of unintended use of equipment include

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

Regulations and Approvals

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

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

Personal Safety

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.

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- 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.

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

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

Action in the Event of a Malfunction

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

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

Disposal

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

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Description

Introduction

The pump panel is the central electrical and pneumatic enclosure for the Prodigy HDLV Manual System. The pump panel houses the Prodigy HDLV pumps, pump manifolds and pump control board, air filter and pneumatic controls, and DC power supply. The panel is shipped with brackets and fasteners for mounting on a rail, wall, or stand.

This manual provides panel wiring and pneumatic diagrams and replacement parts only. Refer to the system manuals for installation and operation instructions.

Prodigy HDLV Manual System Manuals

- Installation Instructions: 1081707
- Operation Instructions: 1081746
- Prodigy Manual Gun: 1077434
- Prodigy Manual Gun Controller: 1054580
- Prodigy HDLV Pump: 1081195
- Prodigy HDLV Pump Manifold/PCA: 1062382
- Prodigy HDLV Pump Panel: 1081740

WARNING: Allow only qualified personnel to service this panel. Shut off power at an external disconnect before performing any electrical repairs. Shut off the air supply at the ball valve and relieve system air pressure before disconnecting pneumatic tubing or components.

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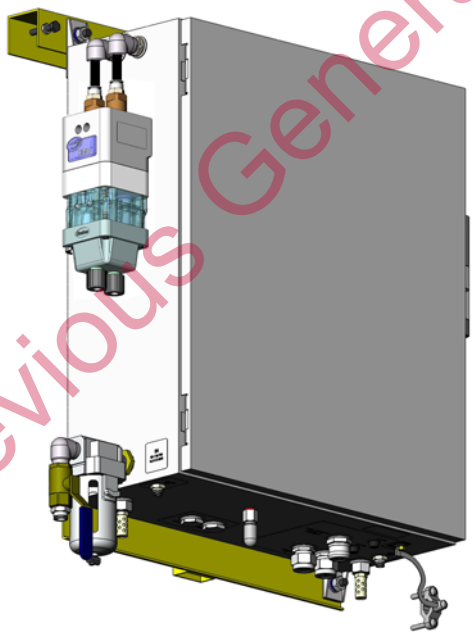
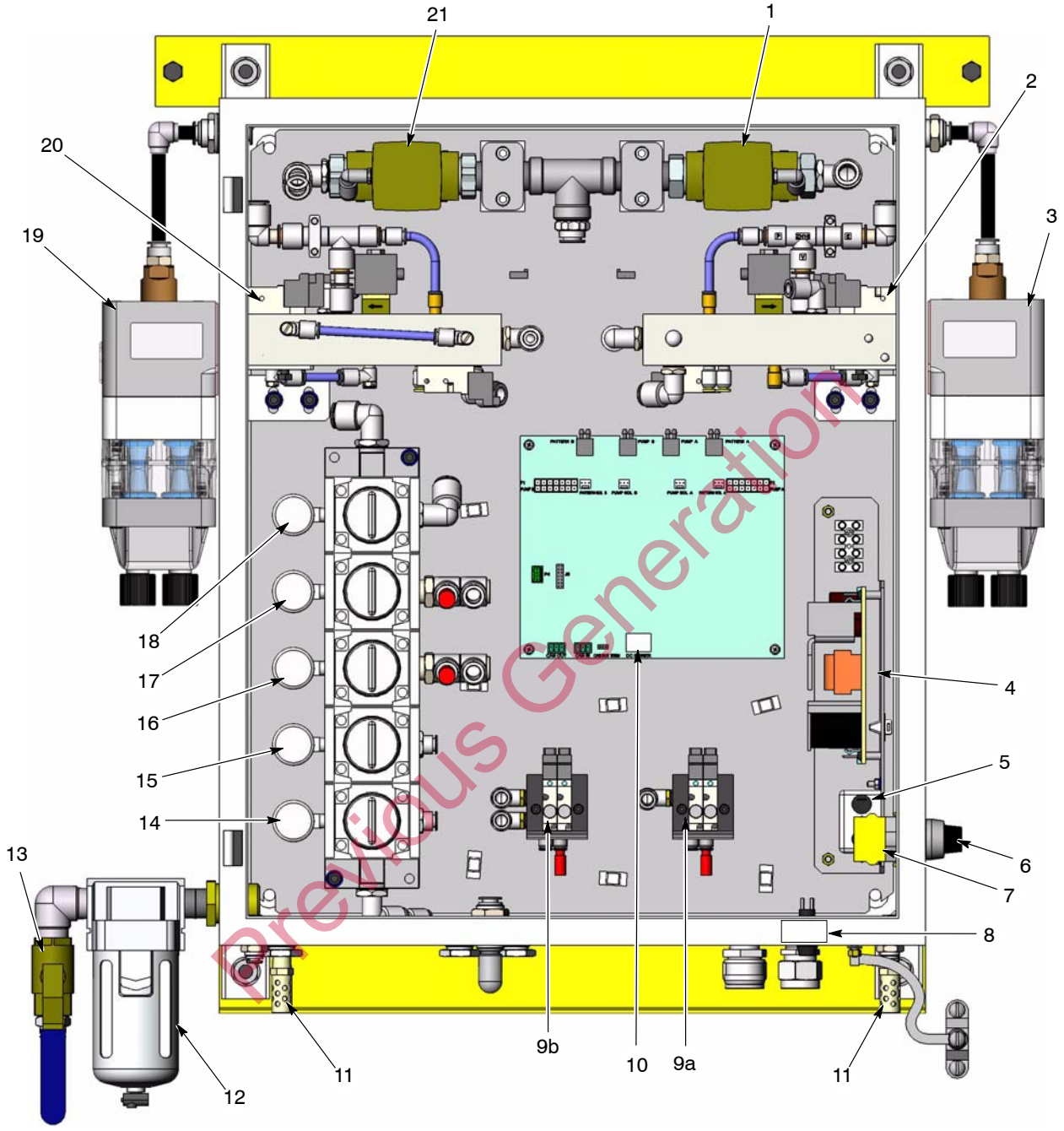


Figure 1 Pump Panel (Two-Gun System Version Shown)

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Panel Components



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Figure 2 Pump Panel Components (Two-Gun Panel Shown)

1. Pump 2 purge valve
2. Pump 1 control manifold
3. Pump 1
4. 24 VDC power supply
5. Line filter
6. Power switch and contact block
7. Contact block
8. Fuse, time delay, 3.15 A

9a.. Purge pilot manifold/solenoids
9b. Pinch select manifold/solenoids
10. Pump control board
11. Vacuum generator mufflers
12. Air filter
13. Air supply ball valve
14. Pinch low regulator/gauge

15. Pinch high regulator/gauge
16. Flow control regulator/gauge
17. Vaccuum regulator/gauge
18. Purge regulator/gauge
19. Pump 2
20. Pump 2 control manifold
21. Pump 1 purge valve

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Pneumatic Diagram

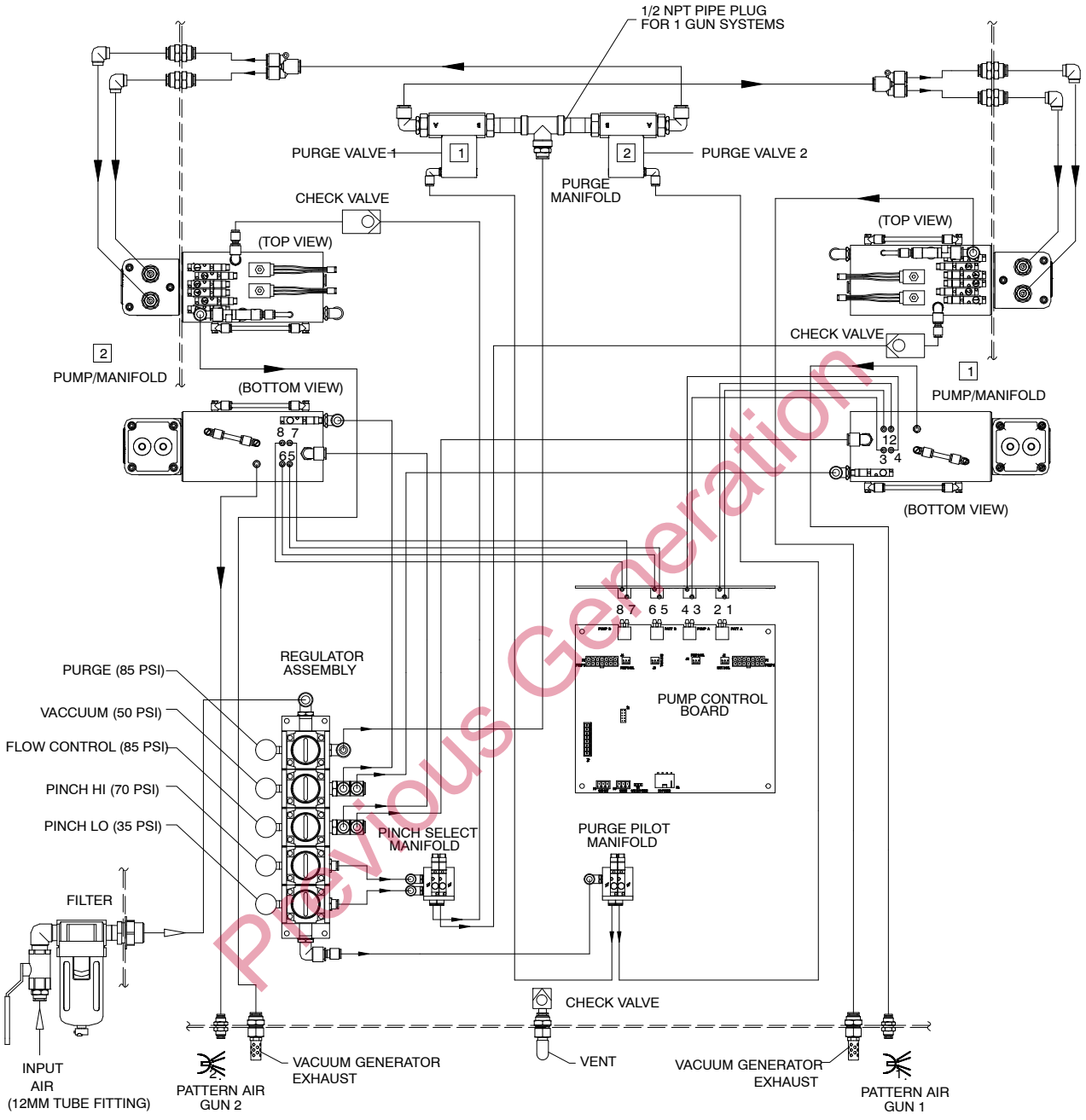
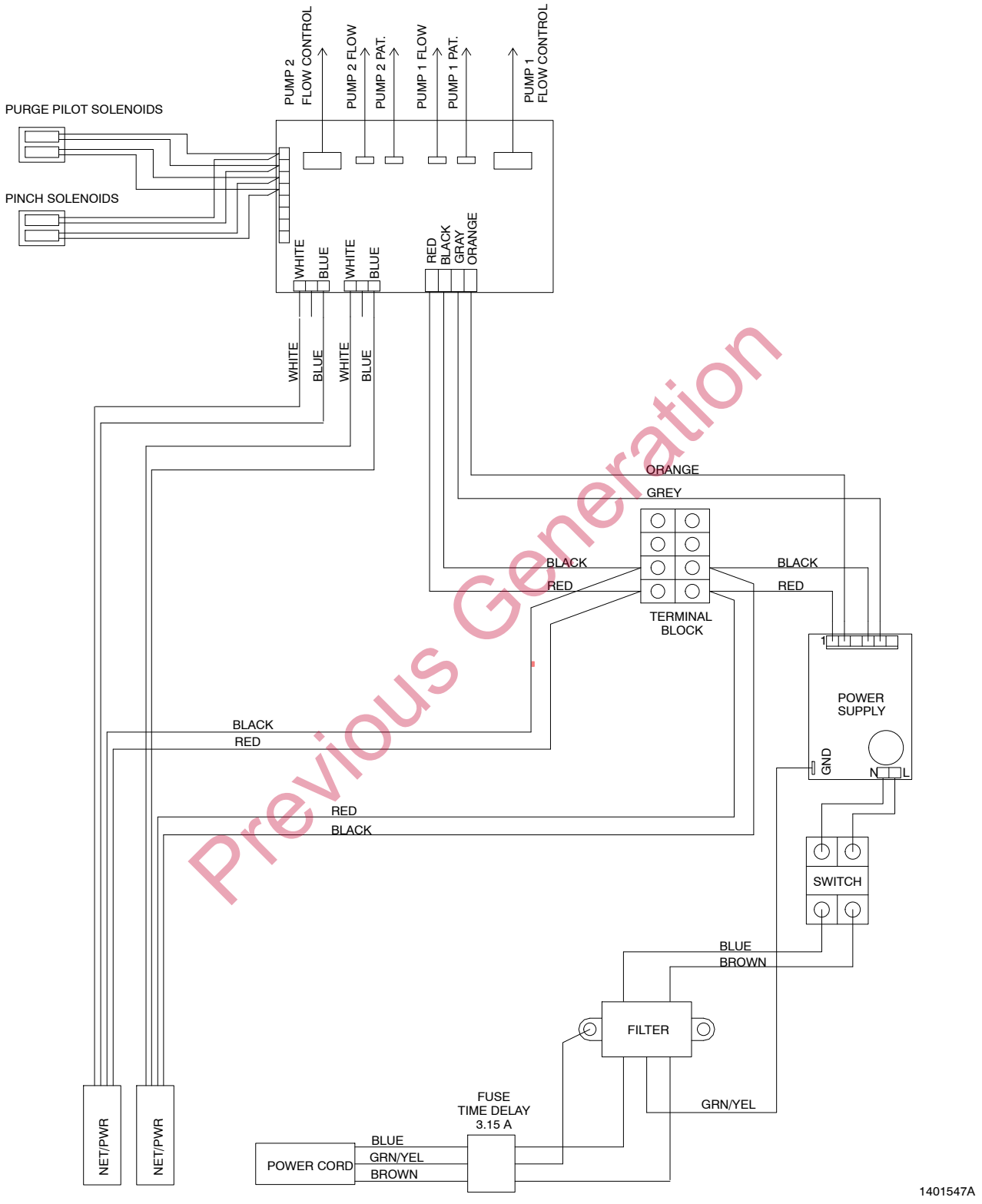


Figure 3 Pump Panel Pneumatic Diagram (Two-Gun System Version Shown)

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Wiring Diagram



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Figure 4 Pump Panel Wiring Diagram (Two-Gun System Version Shown)

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Parts

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

Using the Illustrated Parts List

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

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

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

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

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

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

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Pump Panel Replacement Parts

See Figure 5.

Item	Part	Description	Quantity	Note
1	303132	VALVE, $^{3}/_{4}$ in. I/O, air operated	AR	A
2	- - - - - -	MANIFOLD ASSEMBLY, HDLV pump control	AR	A, B, D
3	1081194	PUMP ASSEMBLY, HDLV	AR	A
4	1043906	POWER SUPPLY, 24, 5, 12 VDC, 60 W	1	
5	334805	FILTER, line, RFI, power, 10A	1	
6	334806	SWITCH, round, 2 position, 90 degree	1	
7	288806	CONTACT BLOCK, 2 N.O. contacts	1	
8	1009090	FUSE, time delay, 215 series, 3.15 A, 5 x 20 mm	2	
9	1099534	VALVE, solenoid, 3 port, 24 V, with adapter	AR	A, E
10	1092274	KIT, PCA replacement, Prodigy pump control	1	B
11	1034396	MUFFLER, exhaust, $^{1}/_{4}$ in. NPT male	AR	C
12	1062366	FILTER, air, $^{1}/_{2}$ in. NPT	1	
NS	1064136	• FILTER ELEMENT, air, 5 micron, AF40	1	
13	901151	VALVE, ball, $^{1}/_{2}$ in. NPT	1	

NOTE A: Quantities for AR items vary depending on number of guns in system.

B: When replacing manifold, perform calibration procedure as described in Manual Gun Controller manual.

C: When replacing board, refer to instruction sheet shipped with kit for switch settings. Also perform calibration procedure as described in Manual Gun Controller manual.

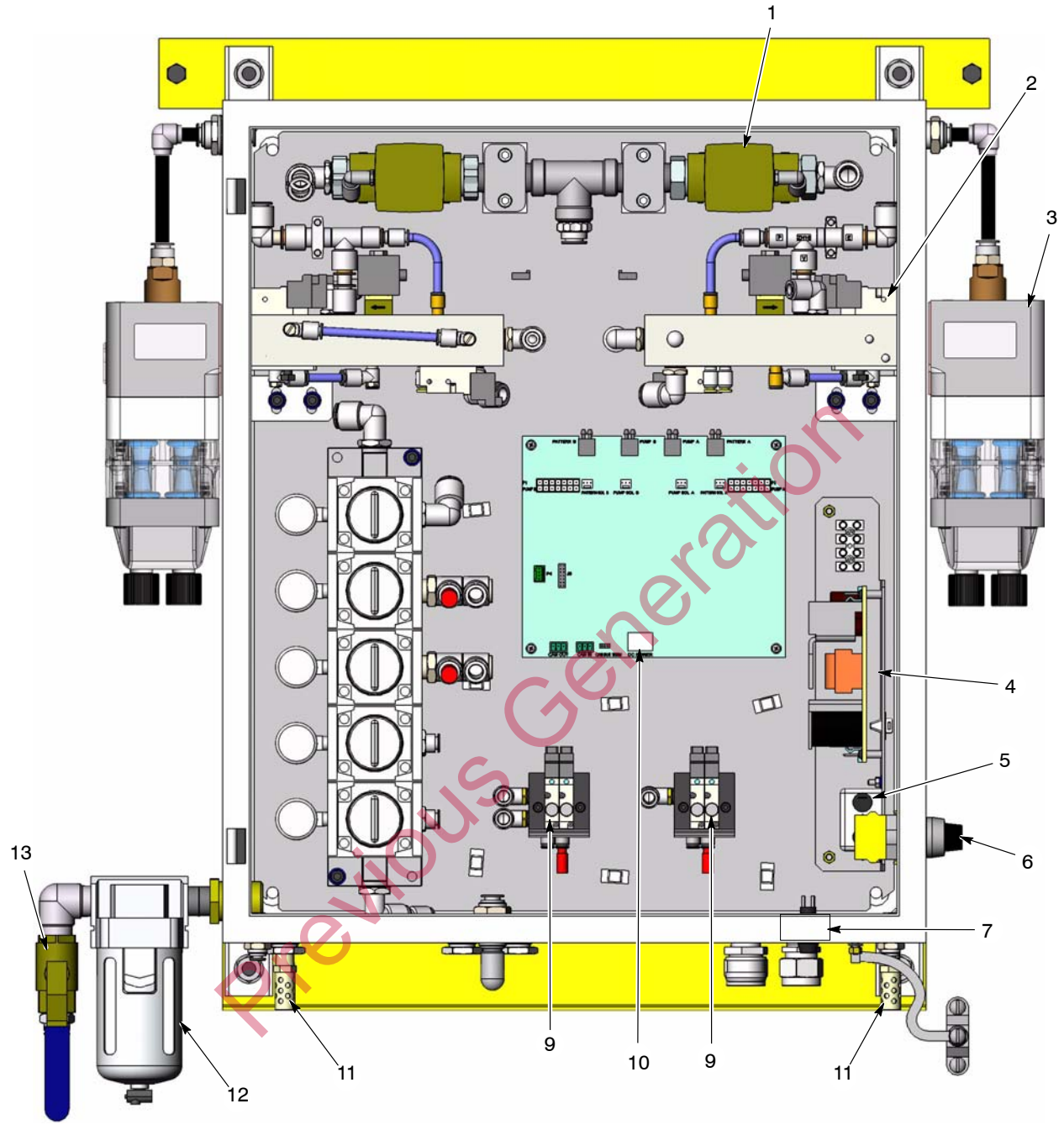
D: For manifold assembly part numbers refer to manual 1081195.

E: If using an old harness with 3 positions, use the supplied adapter. If using a new a harness with 2 positions, then the supplied adapter can be discarded.

AR: As Required

NS: Not Shown

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Figure 5 Pump Panel Replacement Parts (Two-Gun System Version Shown)

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DECLARATION of CONFORMITY

PRODUCT:

Prodigy HDLV Manual Pump Cabinet
One or Two Gun, Manual Pump System

APPLICABLE DIRECTIVES:

98/37/EEC	(Machinery)
2006/95/EC	(Low–Voltage Directive)
2004/108/EEC	(Elecromagnetic Compatibility Directive)

STANDARDS USED TO VERIFY COMPLIANCE:

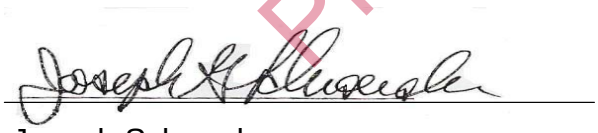
IEC60417	EN61000–6–2
EN12100	EN55011
EN60204	EN61000–6–3
NFPA79	

PRINCIPLES:

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

Quality Certificate:

DNV ISO9001:2000



Date: 15 October 2007

Joseph Schroeder
Engineering Manager,
Finishing Product Development Group

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