

# Prodigy® to Encore® HD Manual Powder Spray System Upgrade Kit

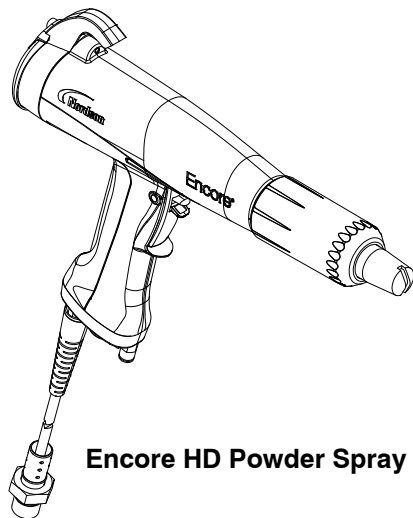


**WARNING:** Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

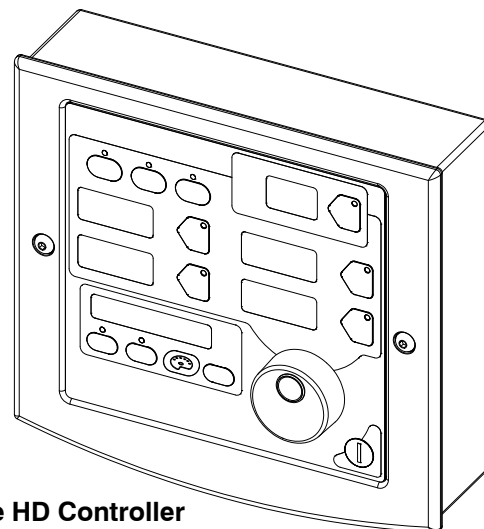
## Description

The Prodigy® to Encore® HD manual spray system upgrade kit is used to upgrade your Prodigy manual spray system to the improved design of the Encore HD manual spray system using an existing Prodigy pump cabinet. The upgrade kit is available in single or dual spray system options.

Each kit contains an Encore HD controller, Encore HD manual spray gun(s) and related elements for a successful upgrade.



**Encore HD Powder Spray Gun**



**Encore HD Controller**

Figure 1 Encore HD Upgrade Kit

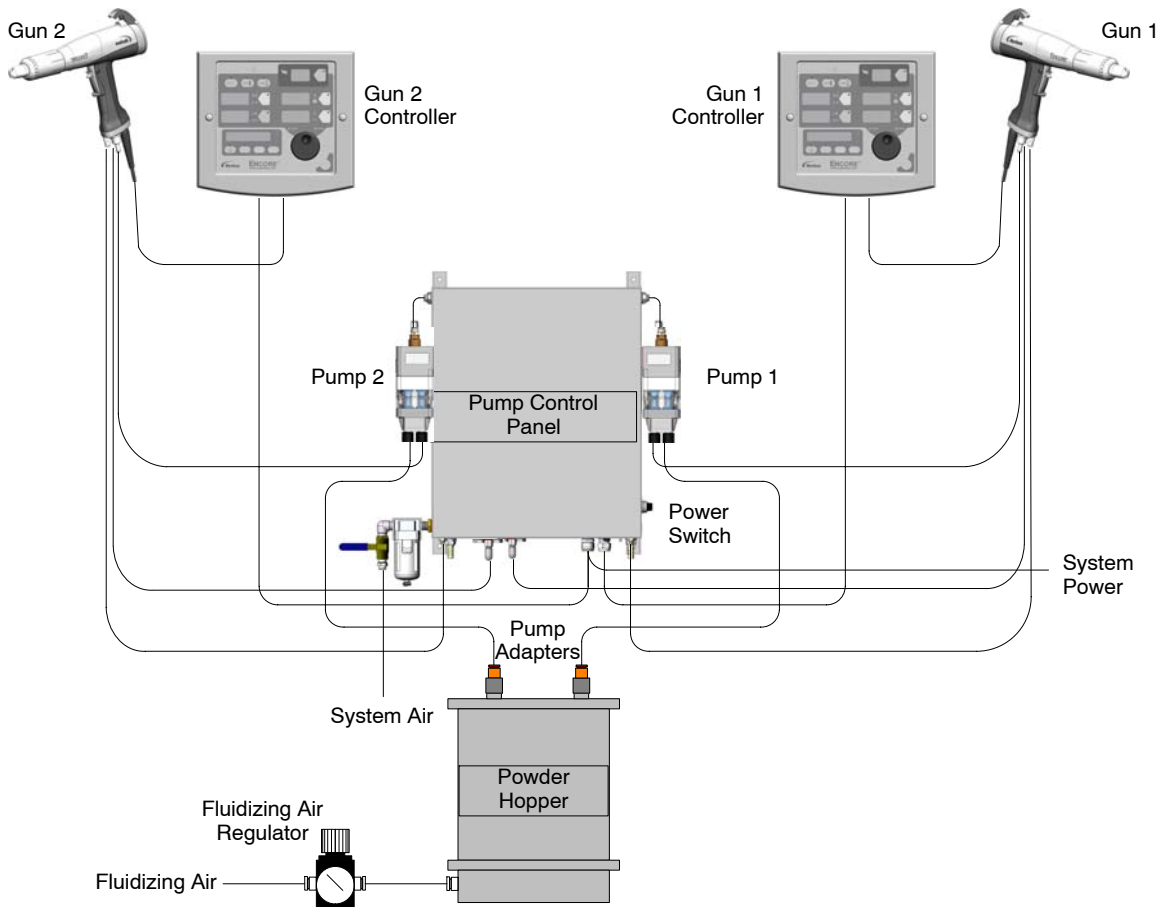


Figure 2 Typical System Diagram (Dual Pump HDLV Manual System Shown)

## Installation

The following packaged items are included in the upgrade kit:

- Controller cable
- Pump control panel kit
  - Pressure switch with wiring harness
  - Electrode air wash manifold assembly
  - Bulkhead assembly
- Encore HD powder spray gun
- Hose adaptor kit
- Encore HD controller
- Cable ties

## Controller Cable Installation



**WARNING:** Shut down all power to the system before performing any of these procedures.

See Figure 3 for wiring illustration.

1. Remove existing spray gun(s) and controller(s).
2. Remove existing network and power cable(s).
3. Install new cable(s) as described in Figure 3, item 10.

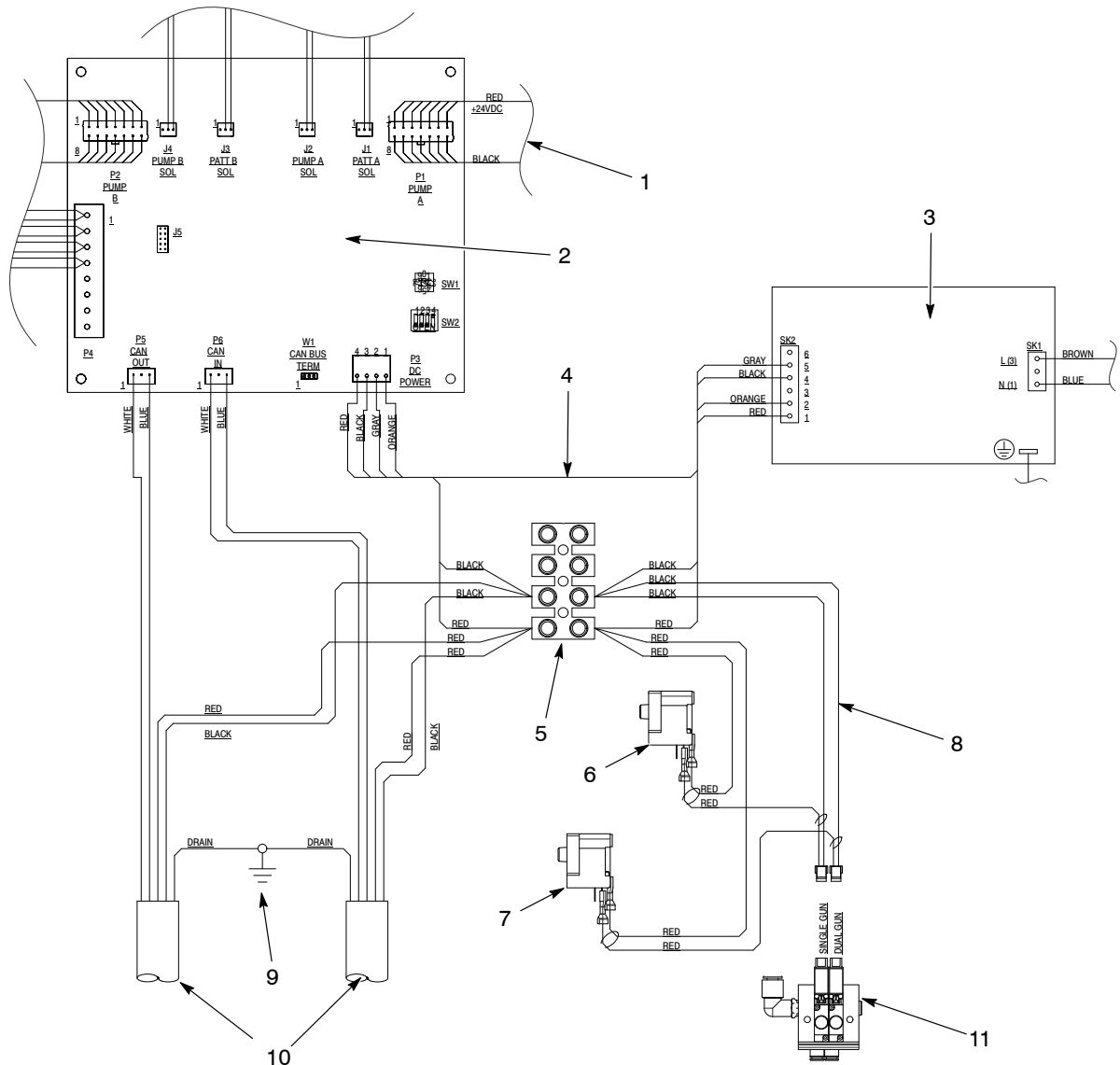


Figure 3 Wiring Diagram (Two-Gun System Shown)

- |  |                                       |  |
|--|---------------------------------------|--|
| 1. Pump manifold control harness (356mm) | 5. Terminal block                     | 9. Ground (inside enclosure bottom)      |
| 2. Dual pump controller                  | 6. Pressure switch (single gun units) | 10. Network and power cables             |
| 3. 60W power supply                      | 7. Pressure switch (dual gun units)   | 11. Electrode air wash manifold assembly |
| 4. Power supply harness                  | 8. Wiring harness                     |  |

## Pressure Switch Installation

See Figure 4 for pneumatic illustration.

1. See Detail A. Remove existing tubing (3) from the atomizing air fitting (4) on the bottom of the pump manifold (1).
2. Plug the nipple (7) of the pressure switch (2) into the atomizing air fitting (4).
3. Plug the existing tubing (3) into the tee (8) of the pressure switch (2).
4. For dual pump units, install second pressure switch at the gun 2 air fitting as shown in Detail B, plugging the nipple into the gun 2 air fitting and then plugging the existing 6mm tubing into the tee on the pressure switch.

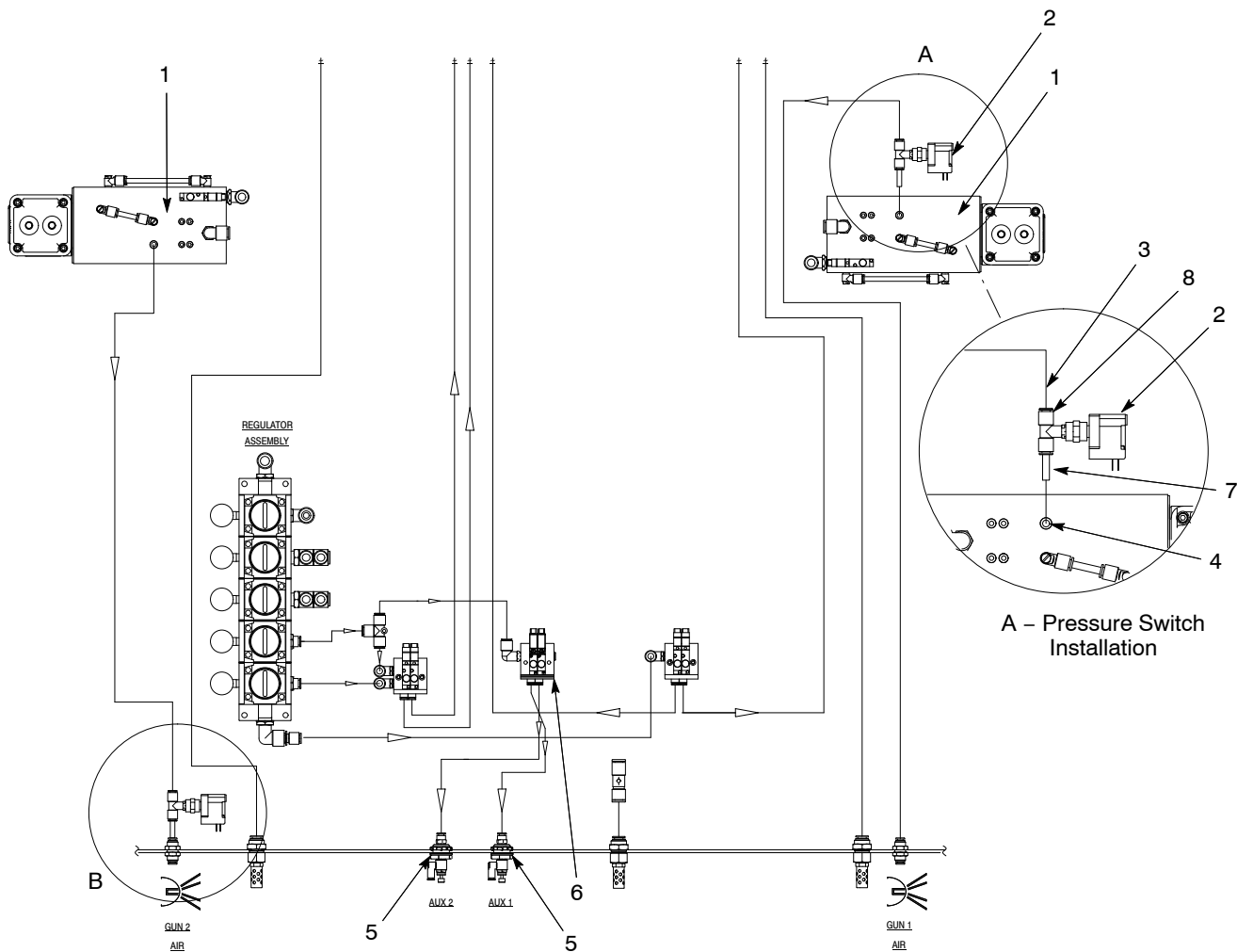


Figure 4 Pneumatic Schematic (Two-Gun System Shown)

- |                                |   |                            |
|--------------------------------|---|----------------------------|
| 1. Pump manifold (bottom view) | 4. Atomizing air fitting                | 7. Nipple                  |
| 2. Pressure switch             | 5. Bulkhead assembly                    | 8. Male branch tee fitting |
| 3. 6mm tubing (existing)       | 6. Electrode air wash manifold assembly |                            |

## ***Electrode Air Wash Manifold Assembly Installation***

See Figure 5 for component illustration.

1. Remove the existing tubing (4) from the regulator (1) positioned second from the bottom in the Prodigy pump cabinet.
2. Install the short piece of tubing from the manifold assembly tee (3) into the regulator (1).
3. Install the existing tubing from step 1 into the open port of the manifold assembly tee (3).
4. Make sure the bottom of the cabinet is clean and free from dust or oil.
5. Peel the release tape from the bottom of the manifold assembly (2).
6. Position the valve assembly on the bottom of the cabinet in the position shown. Press down to adhere.

**NOTE:** See Figure 4 for pneumatic illustration.

## ***Bulkhead Assembly Installation***

See Figure 5 for component illustration.

1. Remove the plug from the auxiliary 1 port (5) in the bottom of the cabinet.
2. Install the bulkhead assembly (6) in the auxiliary 1 port location as shown. The connector (7) and the lock nut (8) will be positioned inside the cabinet. The conduit seal (9), adaptor (10) and flow control valve (11) will be positioned outside of the cabinet.
3. Plug the 6mm tubing from the manifold assembly (2) into the male connector (7) of the bulkhead assembly (6).
4. For a dual pump system, repeat steps 1 – 3 in auxiliary 2 port location (12).

**NOTE:** See Figure 4 for pneumatic illustration.

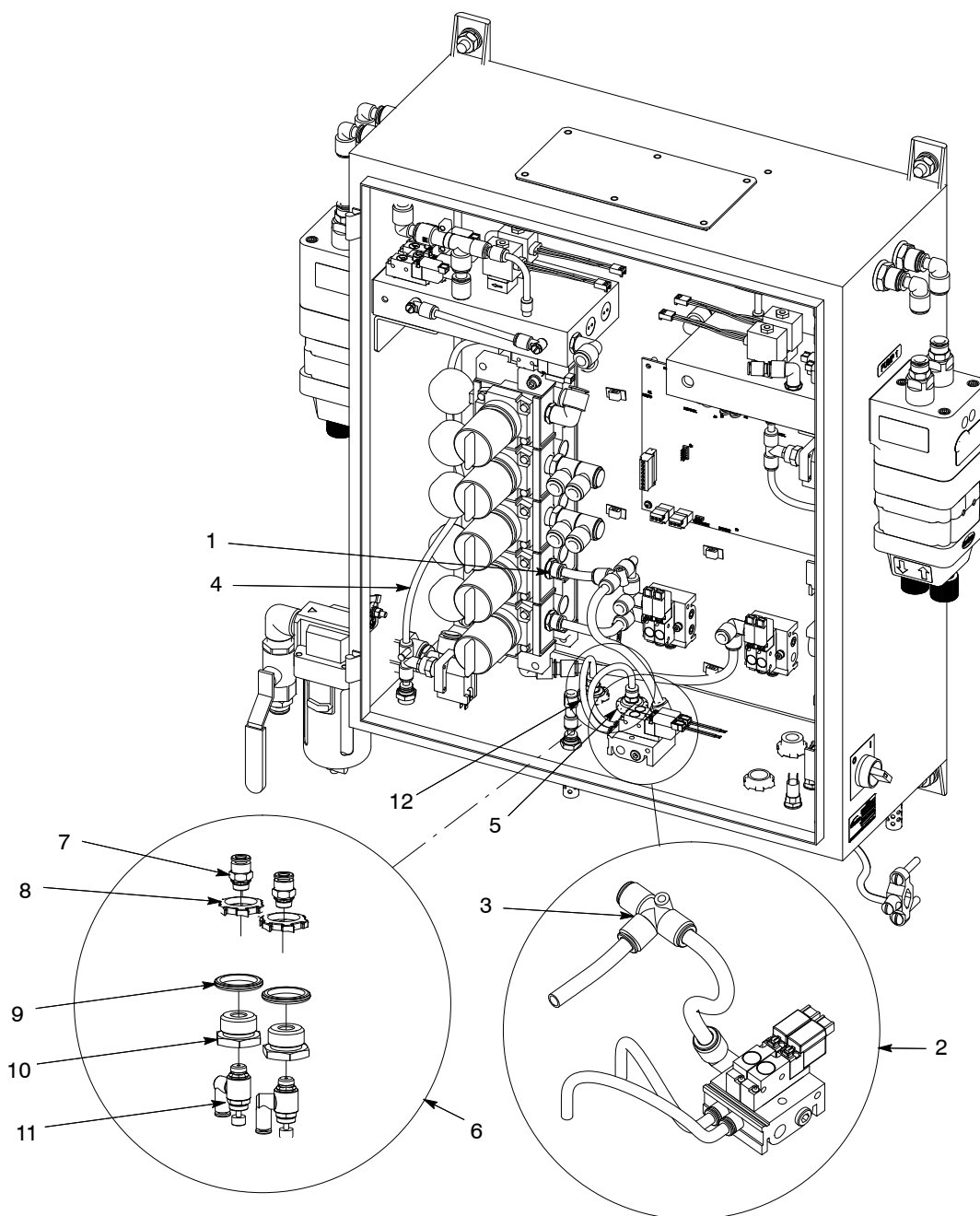


Figure 5 Pump Cabinet Components (Two-Gun System Shown)

- |   |                      |                         |
|---|----------------------|-------------------------|
| 1. Regulator                                | 5. Auxiliary 1 port  | 9. Conduit seal fitting |
| 2. Electrode air wash manifold assembly     | 6. Bulkhead assembly | 10. Adapter             |
| 3. Electrode air wash manifold assembly tee | 7. Male connector    | 11. Flow control valve  |
| 4. 6mm tubing (re-use existing)             | 8. Lock nut          | 12. Auxiliary 2 port    |

## Wiring Harness Installation

See Figure 3, item 8 for wiring illustration.

1. Connect the wiring harness (8) to the terminal block (5) and the pressure switch (6).
2. For dual pump system, connect the harness to the second pressure switch (7).

## Encore HD Controller Installation

### Controller Rail Mount

See Figure 6.

1. Install the controller rail mount bracket to the arm on the product stand.
2. Install the controller to the universal mounting bracket.
3. Install the universal mounting bracket to the controller rail mount bracket.

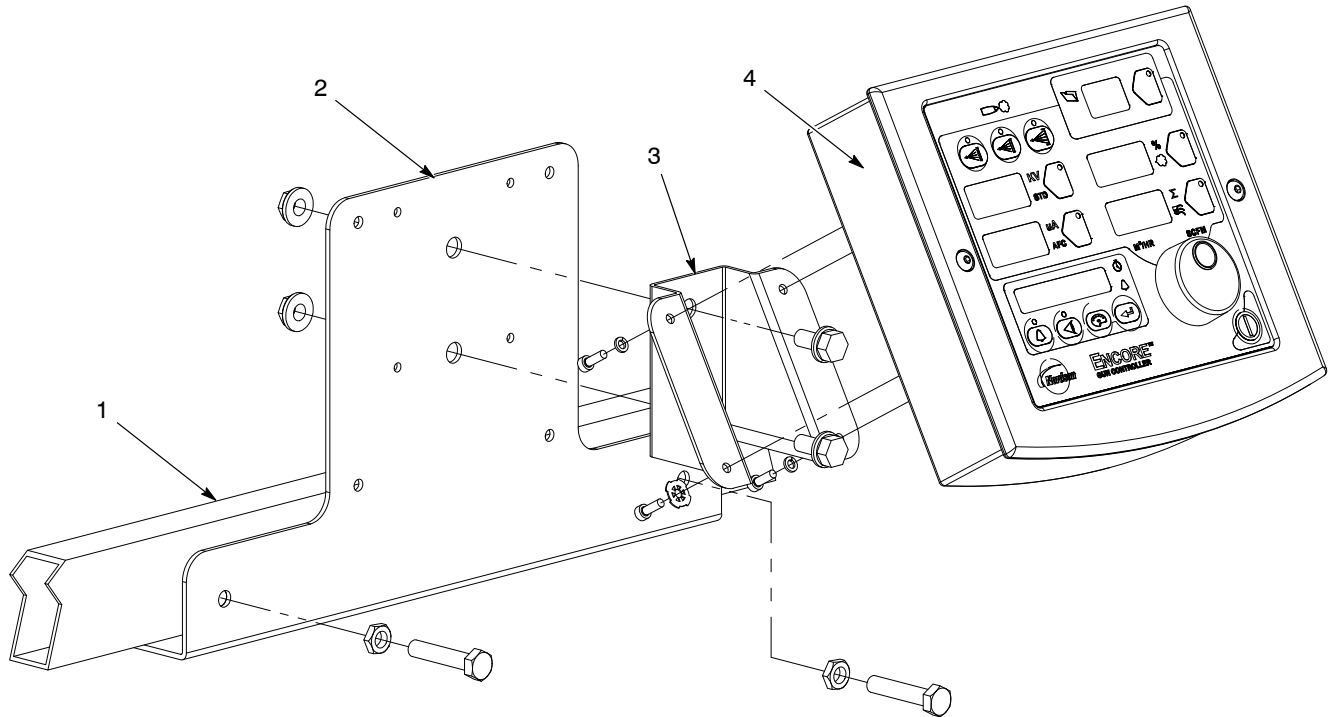


Figure 6 Controller Rail Mount Installation

- |                                  |                               |                         |
|----------------------------------|-------------------------------|-------------------------|
| 1. Product stand arm             | 3. Universal mounting bracket | 4. Encore HD controller |
| 2. Controller rail mount bracket |                               |                         |

## Encore HD Powder Spray Gun Installation

See Figure 7.

1. Connect the 6-mm atomizing air tubing to the quick-disconnect fitting (1) in the gun handle. Connect the other end to the Atomizing Air fitting on the power unit.
2. Connect the 4-mm clear electrode air wash tubing to the barbed fitting (2) in the gun handle. Connect the other end to the Gun Air fitting on the power unit.
3. Push the barbed hose adapter (3) into the end of the powder hose, then plug the adapter into the powder inlet tube (5) in the bottom of the spray gun handle.
4. Use the sections of black spiral wrap supplied with the system to bundle together the spray gun cable, air tubing, and powder hose.

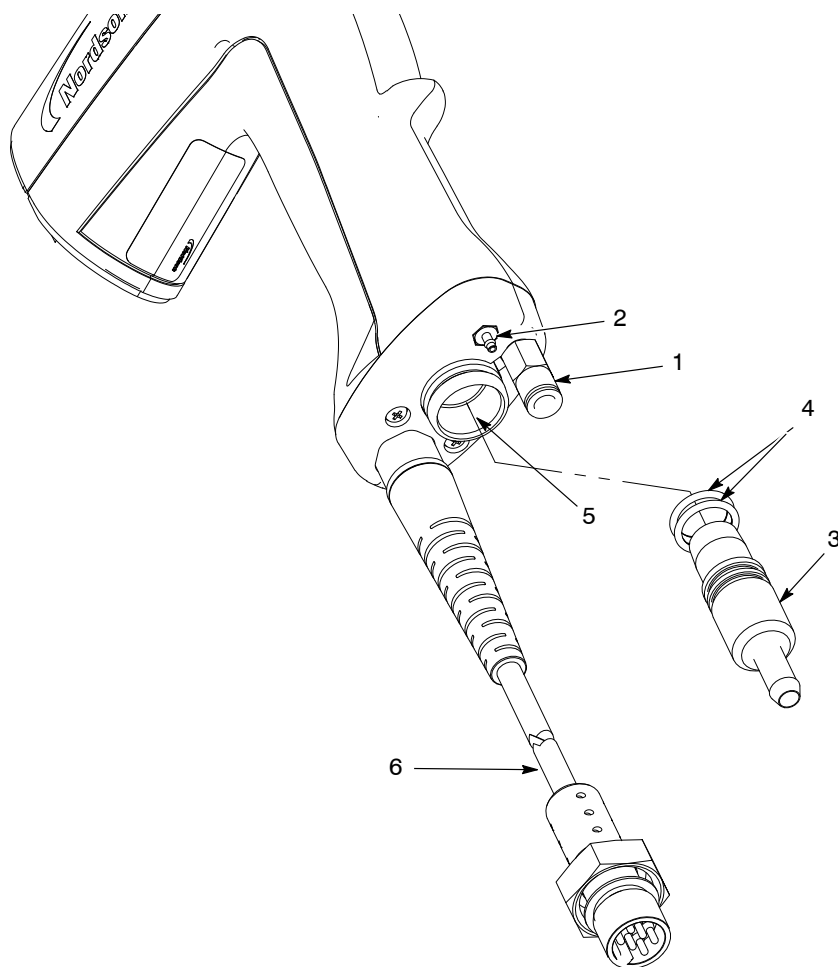


Figure 7 Spray Gun Connections

- |                     |                 |                      |
|---------------------|-----------------|----------------------|
| 1. Quick disconnect | 3. Hose adapter | 5. Powder inlet tube |
| 2. Barbed fitting   | 4. O-rings      | 6. Gun cable         |

## ***Encore HD Software Installation***

The USB-JTAG programmer and software package is required to upgrade the software for the Encore HD main control board and the flow module board. See Table 1 for ordering information.

1. Download the latest USB-JTAG Programmer software from the Nordson Extranet.
  - a. From your Internet browser, navigate to <https://extranet.nordson.com/literature/default.aspx>.
  - b. Log in to the Nordson Extranet and click on Finishing, Coating & Curing Systems Marketing Collateral Resources & Support in the main panel.
  - c. Click on Powder Software in the left panel.
  - d. Click on the icon for Software Utilities, Tools and Instructions for Powder Products in the main panel.
  - e. Choose the CAN Pro+ Software link to download the latest version of the software.
  - f. Choose Run in the pop-up window and follow instructions for downloading.

**NOTE:** An application icon will be placed on the Windows desktop labeled USB2JTAG. **DO NOT START THIS APPLICATION UNTIL INSTRUCTED TO DO SO!**

2. Plug the Nordson USB to JTAG Programmer module into a USB port on the PC. For programmer software versions 3.2.1 and higher, the driver installation will now begin. You will see a number of pop-up messages in the system tray indicating that a new device has been detected and that drivers are being installed for this device. The final message will inform you that the device is ready for use.
3. To run the USB to JTAG application, double-click on the application icon on your desktop or on the file called USB-Jtag.exe. See Figure 8.

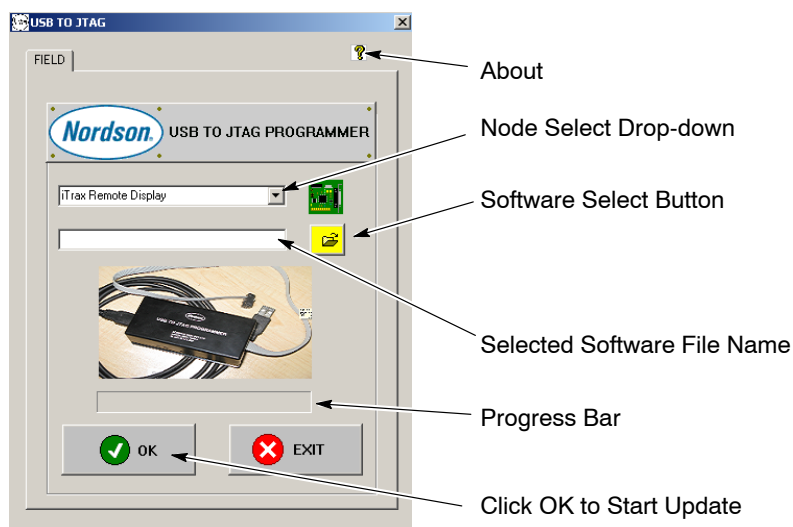


Figure 8 USB to-JTAG Control Box

4. Select the Node Select (top) drop-down menu and choose the desired node.
5. Click on the Software Select button (yellow folder) next to the selection box, then browse to the desired software file. The software files are located on your hard drive in the following path C:\USB-Jtag\SoftwareFiles.
6. Connect the USB JTAG programmer to the target node by lining up the red strip on the ribbon cable to pin 1 of the connector on the PCB labeled JTAG. Plug the USB cord into the USB port on the host computer.
7. Apply power to the target node.
8. Click on the OK button to start the update process.
9. The progress bar fills to give an indication of the status of the download. A pop-up signals completion.
10. Select About and then Help for more detailed instructions.

Table 1 Network Adapter Ordering Information

Item	Part	Description	Quantity	Note
	1600629	KIT, network adapter, CAN Pro+		

**NOTE:** The package also contains bootloader software, which may be required for older systems. Bootloaders are special files that allow multiple nodes to be updated at the same time via the Nordson Over-the-Bus CAN programmer.