

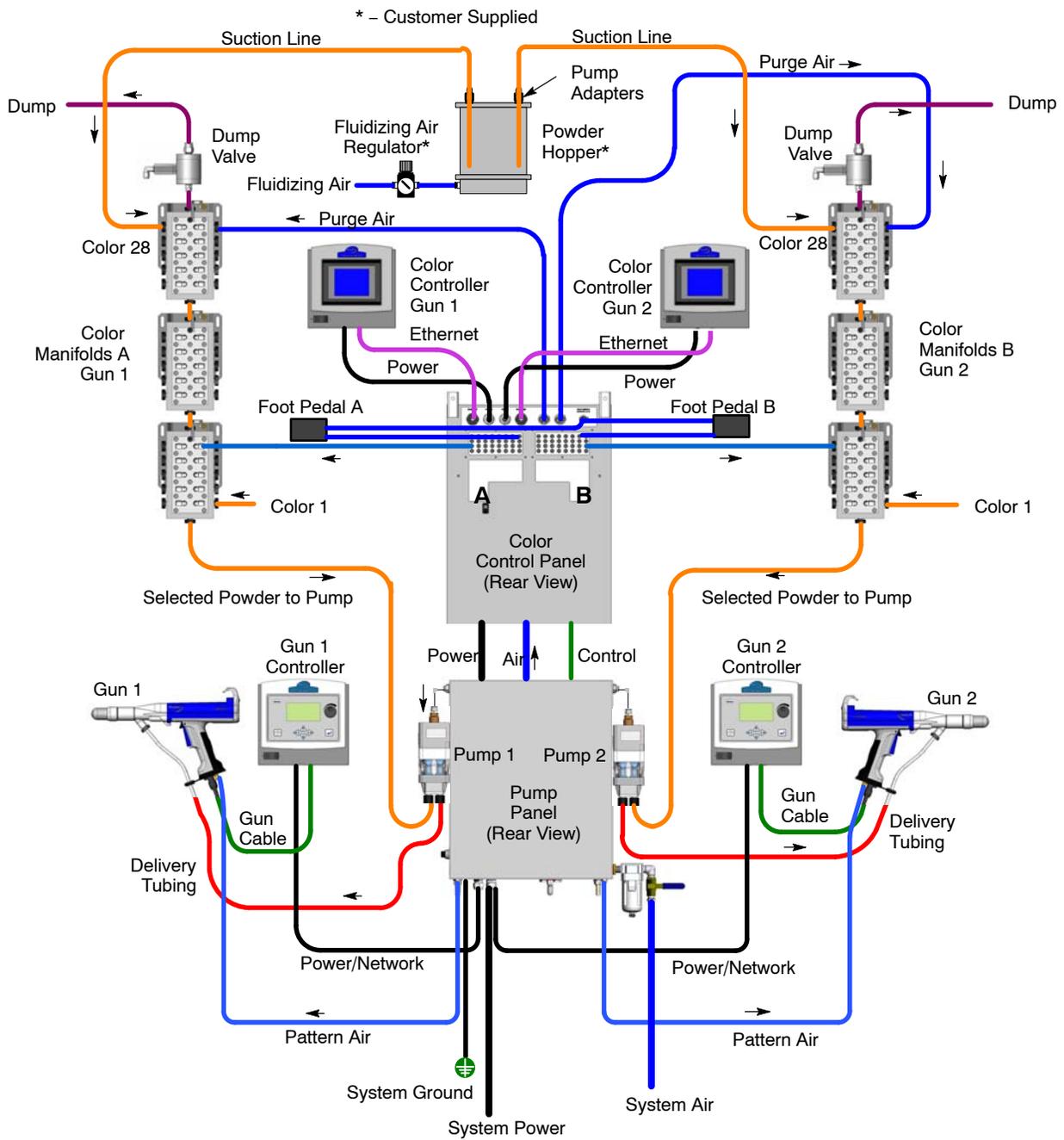


Nordson Corporation

OPERATOR'S CARD

P/N 1081751-06

Prodigy® Generation III Color-on-Demand® System



Quick Start

1. Turn on the system air supply.
2. Turn on fluidizing air to the feed hoppers and allow the powder to fluidize.
3. Turn on system power and the controllers.

Select a Color

1. On the Color Controller Main screen, select **Small Buttons** or **Big Buttons** as desired.

Small buttons display all 28 color buttons on one screen. Big buttons display 14 color buttons per screen.



2. If starting with an empty system or if the system is filled with the wrong color, select a color and **START** a color change.

Changing Colors

Color Change with Screen Only

Point the gun into the booth, or hang it so it is pointing into the booth.

Select a new color and touch the **START** button, or touch the Start button first then select the new color.

Color Change with the Foot Pedal

Point the gun into the booth, or hang it so it is pointing into the booth.

Press the foot pedal to start the color change, then move to the screen and select a new color.

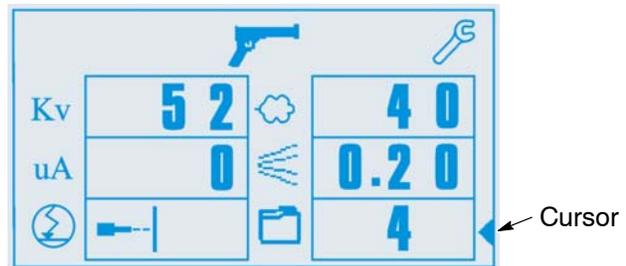
You have approximately 11 seconds after pressing the foot pedal to select the new color, or the system loads the current color instead. Note that the timing depends on the purge settings. 11 seconds is the time provided by the factory default settings.



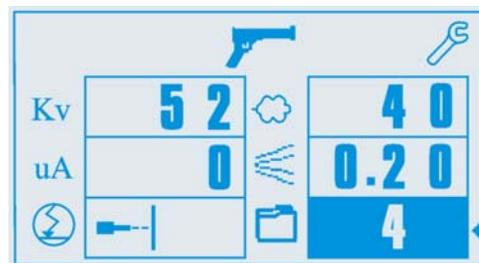
For color button label instructions, refer to the following pages.

Select a Preset

On the Gun Controller, use the arrow keys or rotary knob to move the cursor to Presets.



Press the Enter key (↵). The preset value will be reverse-highlighted. Use the arrow keys or rotary knob to display the desired preset number, then press ↵ again.



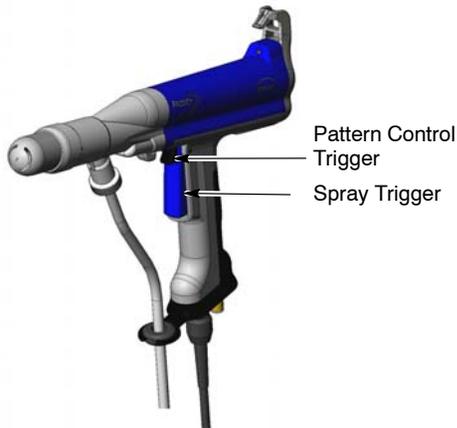
The preset values are displayed until you trigger the gun. While you are spraying the actual output values are displayed. If you move the cursor while the trigger is pressed, the display switches to the preset values.

Powder Coating

Point the spray gun into the booth and press the trigger to start coating parts.

Pattern Control Trigger

Press the small black Pattern Control trigger to switch to the LOW mode powder flow and pattern air settings. Press it again to return to the preset settings.



Use the Pattern Control trigger and settings when coating areas of parts where lower powder flow and pattern air provide better coverage than the preset settings (such as recesses).

System Warnings

Pressure Warning: If the system pressure falls below 70 psi, the message SYSTEM PRESSURE ALARM appears in red on the screen. You will not be able to start a color change.

Maintenance Warning: When the valve counter exceeds the setpoint, the message WARNING BLADDER MAINTENANCE appears in yellow on the screen. Change the manifold bladders and reset the alarm from the Valve Counter screen.

System Cleaning

Point the gun into the booth, or hang it so it is pointing into the booth. Go to the Main screen, then press **PURGE**, then **CLEAN**, then **START**.

NOTE: If for some reason your system loses air pressure during production, cross-contamination may occur. When air pressure is again available, perform a purge before beginning production.



Color Button Labeling

From the **Main** Screen, touch **Setup**. Use the **Button Label** screens to enter labels for each color button and for the system.



The first screen has label buttons for colors C1 to C14, plus the label button for the system name. The system name appears in yellow at the bottom left of the color buttons screens. Touch the **More** button to go to the button label screen for colors C15–28.

To create a label for a color or the system name, touch the label button. A keyboard screen appears. Enter a 6-character label for the color, or a 12-character label for the system. The labels are retained in memory when the controller is turned off.



Touch **Main** to return to the Main screen.

Color Change with Suction Line Purge

NOTE: To perform this procedure the Hopper Purge function must be enabled. Refer to your COD system manual for instructions.

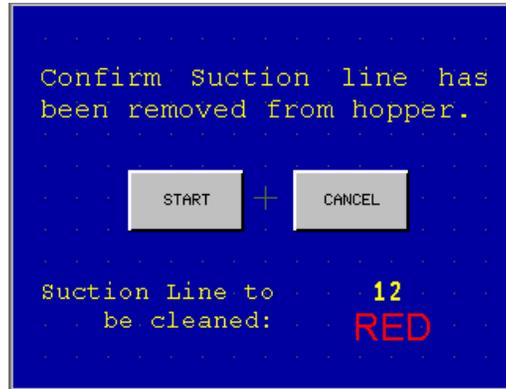
Remove the suction line to be purged from the feed hopper and place the suction line in a waste hopper.

From the color selection controller screen, select the desired color button, then touch **Start w/Suction LN**. The default number of suction line pulses is 12. The pulse range is 1 to 50.

The next screen will ask you to confirm that the correct suction line has been removed from the feed hopper.

Touch the **Start** button to begin the suction line purge. The words **In Process** will flash on the screen while the system is purging the suction line.

When the purge is complete, the **Main** screen appears with the word **Complete** displayed at the bottom.



Gun Controller Functions and Settings

All spray gun and pump functions are configured and controlled by the **Prodigy Manual Gun Controller**.

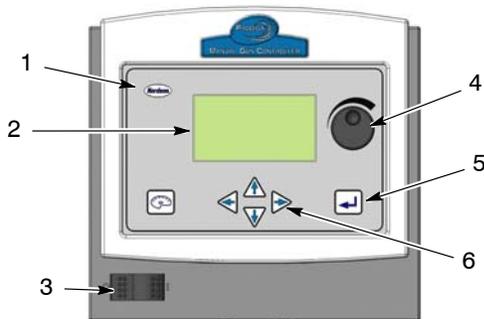


Figure 1 System Controllers

- | | |
|-----------------|------------------|
| 1. Nordson key | 4. Rotary knob |
| 2. LCD screen | 5. Enter key (↵) |
| 3. Power switch | 6. Arrow keys |

Use the **Nordson key** (3) to open the Fault screen.

Use the **Arrow keys** (6) and **Rotary knob** (4) to move the cursor around the screen and to change settings.

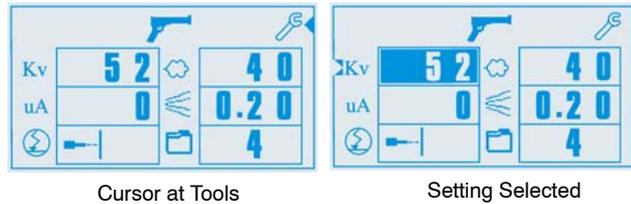


Figure 2 Manual Gun Controller Cursor Use

To go to other screens from the Main screen, point to the **Tools** icon, and press the Enter key (5) (↵).

To return to the Main screen from any other screen, point to **RETURN TO MAIN SCREEN** and press ↵.

To change a setting, field value, point the cursor at it and press ↵. The setting and cursor are highlighted to show that they are selected.

Use the ▲ and ▼ arrow keys or the rotary knob to change the setting. Press ↵ again to save your changes and deselect the setting.

Spray Settings

NOTE: If the controller is locked from the Password screen, the only functions that can be changed are the Preset number and the Maintenance Hours reset. Refer to the Color-on-Demand System manual for configuration settings.

NOTE: While spraying powder, the Main screen displays the actual spray gun outputs. If you move the cursor the preset settings are displayed.

Presets

A preset is a set of electrostatic, powder flow, and pattern air settings. Use presets to save optimized settings for different parts or part shapes.

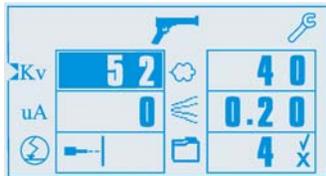


Ten presets can be saved.

NOTE: You do not have to set any presets; you can just make spray settings and start production.

Setting Preset Spray Settings

1. Select a preset number.
2. Set electrostatic, powder flow, and pattern air settings. When you change a setting Yes (✓) and No (X) symbols appear next to the preset number.
3. To **save** a preset change, point to ✓ and press ↵. To **cancel** a change, point to X and press ↵. Changes are not automatically saved.



If you power off the controller, the current preset settings are retained in memory and restored on power up, even if you have not saved them.

Electrostatic Settings

Set kV or μA , or choose a Select Charge mode.

Standard Electrostatic Modes



Kv Mode: Sets high voltage output (25–95 kV). The higher the output, the greater the powder charge. μA cannot be set.



μA (AFC) Mode: Sets current (μA) output limit. The controller limits current output to the setting while controlling voltage output to keep charging and transfer efficiency high. kV cannot be set.



Select Charge Modes



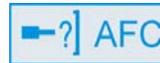
Recoat (Mode 1): Use for recoating parts that have already been coated and cured. Gun current is reduced to eliminate back ionization.



Special (Mode 2): Use for special powders such as dry blend metallics or micas.



Deep Cavity (Mode 3): Use for coating inside boxes or deep recesses in workpieces.



User Programmable

(Mode 4): Allows you to set both kV and μA for a particular part or powder and save the setting.

Powder Flow Setting



This setting is a percentage of available output, from 0–100 %. When the spray gun is triggered, the value displayed should match the setting.



If **Fast Flow** is enabled for the selected preset, an “F” appears above the flow icon. When Fast Flow is enabled, the pump runs at a continuous fast cycle rate. Use the Fast Flow mode with powders that are difficult to fluidize and tend to clump. Fast Flow mode causes more wear to the pump pinch valves.

NOTE: Must have V. 3.0 and 2.0 for this feature.

Pattern Air Setting



Pattern air atomizes the powder and controls the shape of the powder pattern. Pattern air flow is 0.20–4.0 SCFM (0.34–6.8 SCM/H). When the spray gun is triggered, actual air flow is displayed instead of the setting.

NOTE: Must have V. 3.0 and 2.0 for this feature.

Manual Gun Controller Tools



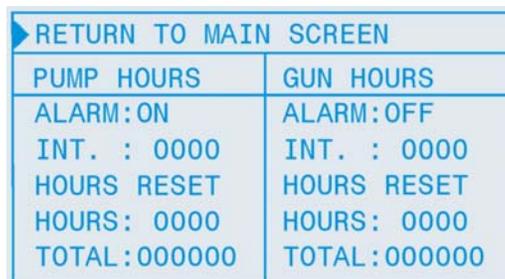
Point the cursor to the **Tools** icon and press ↵. The Tools screen opens.



Maintenance

Use this screen to schedule maintenance for the gun and pump.

ALARM: When ON and **HOURS** is greater than the **INT** setting, an alarm icon and fault code is displayed on the Main screen: **E19:** Gun, **E20:** Pump
INT: Scheduled maintenance interval (in hours).
HOURS RESET: Resets to HOURS to zero and cancels the maintenance alarm.
HOURS: Time since last reset.
TOTAL: Total operating hours.



Options (Units and LCD Settings)

Use this screen to set the units of measurement and the screen display mode and contrast.

UNITS: Set to English or Metric.

Display Mode:

- **NORMAL:** Dark characters on a light background.
- **REVERSE:** Light characters on a dark background.

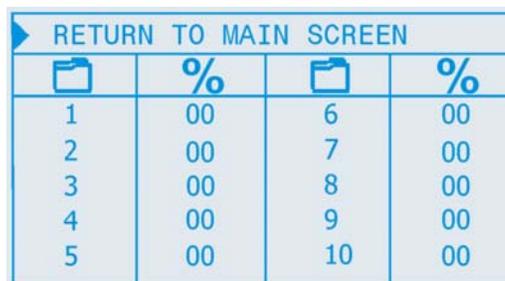
CONTRAST: Put the cursor on Contrast and use the arrow keys or rotary knob to adjust screen contrast.

Assist Air

Use this screen to increase the delivery air pressure by a percentage for each preset. Assist air can aid in pumping powders that are denser or heavier than ordinary powders.

Refer to the Prodigy System Troubleshooting guide for information on using assist air to increase performance.

To use assist air, point the cursor at the desired preset number and press ↵. Use the rotary knob or arrow keys to set the desired percentage.



About

Use the information on this screen to view the gun number and purge mode settings, and to check the software version numbers. You may be asked to open this screen if you call for technical support.

Pattern Flow

The spray gun pattern control trigger toggles between the preset settings and Low mode settings. Use this screen to set the Low Mode powder flow and pattern air flow.

When in Low mode, a down-pointing arrow (⇩) appears to the right of the gun icon.

NOTE: If you change presets while in Low mode, the powder flow and pattern air immediately switch to the new preset settings.

PATTERN TRIGGER: OFF (trigger disabled) or HI/LO (trigger enabled).

LOW PATTERN AIR: The default setting is 0.20 SCFM (0.35 SCM/H).

LOW POWDER FLOW: Set the powder flow percentage. The default setting is 20% (0.20).

RETURN TO MAIN SCREEN	
PATTERN TRIGGER:	HI/LO
LOW POWDER FLOW:	010
LOW PATTERN AIR:	0.20

Purge

These settings control the color change cycle. Increasing these values increases the color change time but provide better cleaning. Decreasing these values decreases the color change time but may result in color contamination.

Refer to the Prodigy HDLV Manual System manual for a complete description of the color change cycle.

NOTE: The factory default settings are in parenthesis. Powder type, humidity, tubing length and other variables can change the effectiveness of these settings.

A. MANIFOLD PURGE: 0 – 10.00 seconds, in 0.25 steps (2 seconds). Purges the manifold.

B. SOFT SIPHON: 2.00 – 10.00 seconds, in 0.25 steps (3.5 seconds). Purges the siphon line with pump air.

C. SOFT GUN: 1 – 10.00 seconds, in 0.25 steps (2 seconds). Purges the delivery line with pump air.

D. PULSE ON: 0.1 – 1.00 seconds, in 0.05 steps (0.2 seconds). Pulse on time.

E. PULSE OFF: 0.1 – 1.00 seconds, in 0.05 steps (0.2 seconds). Time between pulses.

F. SIPHON PULSES: 1 – 99 pulses (20 pulses). Number of siphon line pulses.

G. GUN PULSES: 1–99 pulses (18 pulses). Number of delivery line pulses.

H. POWDER PRE-LOAD: 0–99 seconds (4 seconds). Loads the new powder.

SAVE VALUES: Saves changes to settings.

LOAD VALUES: Loads saved settings.

Color change time can be calculated by the following formula (insert values for each setting number):

$$A + B + C + (D + E) \times (F + G) + H = \text{color change time}$$

If you start a color change by pressing the foot pedal or touching the Start button first, the time until the pre-load starts is:

$$A + B + C + (F/2) \times (D + E) = \text{seconds till pre-load starts}$$

RETURN TO MAIN SCREEN	
MANIFOLD PURGE :	2.000
SOFT SIPHON :	3.500
SOFT GUN :	2
PULSE ON :	0.200
PULSE OFF :	0.200

PREVIOUS	
SIPHON PULSES :	20
GUN PULSES :	18
POWDER PRE-LOAD:	04
SAVE VALUES	
LOAD VALUES	

Quick Reference Parts

Refer to the individual component manuals for repair parts and optional nozzles.

Gun Nozzles and Kits

	1062223 70 Degree Conical Nozzle Kit (Quantity of 1) (One supplied with gun)
	1062166 100 Degree Conical Nozzle Kit (Quantity of 1) (Note identifying groove)
	1073706 1-mm Dual-Slot Flat-Spray Nozzle Kit (Quantity of 1) (One supplied with gun)
	1053912 Resistor Kit (Includes 1 resistor and 1 dielectric grease applicator)
	1080539 6-Meter Cable Kit (Quantity of 1)
	1093440 Adapter, tubing

Color Change Manifold/Dump Valve Kits

	1065982 Color Change Manifold Bladder Kit includes bladders and filter disks (Quantity of 10 each)
	1065983 O-ring Kit (Quantity of 12) (for powder tubing)
	1066626 Dump Valve Pinch Valve Kit (includes 4 pinch valves and insertion tool)

Pump Kits and Service Parts

	1081221 Pump Pinch Valves Kit (Includes 8 pinch valves, 1 insertion tool, and 8 filter discs)
	1057258 Fluidizing Tubes Kit (Includes 4 tubes and 4 O-rings)
	1078161 Check Valve Kit (includes 2 check valves)
	1057260 Lower Manifold Wear Blocks Kit (Includes 2 wear blocks and 2 O-rings)
	1057262 Upper Y-Manifold (Includes manifold and gasket)
	Refer to manual 1081195 Solenoid Valve (Quantity of 1)
	Refer to manual 1081195 Flow Control Valve (Quantity of 1)
	Refer to manual 1081195 PCA Replacement Kit (Quantity of 1)
	1078006 Adapter, tube, barb
	1078007 Adapter, tube, barb, Color-Demand

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