

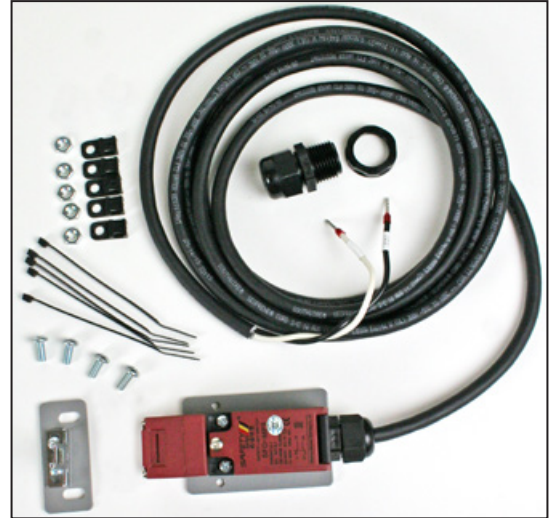
TECHNICAL DOCUMENT

PCNC Mill Enclosure Door Switch Kit

Product Identification: Enclosure Door Switch Kit (PN 35550)

Purpose: This document details installation and use of the Enclosure Door Switch Kit on either a PCNC 770® or PCNC 1100® mill.

Qty.	Enclosure Door Switch Kit	PN
1	Door Switch w/ Plate (attached to 10' of 2-conductor Wire)	-
1	Key w/ Plate	-
5	Mounting Tab	31460
6	Cable Tie	31719
5	10-32 Hex Nuts	34101
4	10-32 x 7/16" Screw	32071
1	Cord Grip	31376
1	Cord Grip Nut	31867
2	Wire Label (not shown)	-
1	Wire Cap	38543



NOTE: If any of these items are missing, contact Tormach Customer Service at (608) 849-8381 for a replacement.

Installation

1. Power off the mill according to the *Power Off/On Procedure* detailed below.

⚠️ WARNING! Electrical Shock Hazard: Be sure to power off machine before making any electrical modifications. Failure to do so may result in serious injury or death.

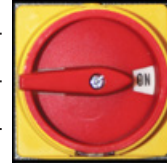
Power Off/On Procedure

Power Off	1. Push red E-stop button in
	2. Click <i>Exit</i> on screen; when prompted click <i>OK</i> to power off
	3. Turn Main Disconnect <i>Off</i> (see image at right)



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Power On	1. Turn Main Disconnect <i>On</i> (see image at right)
	2. After software loads, turn red E-stop clockwise to release
	3. Press green <i>Start</i> button
	4. Click <i>Reset</i> on screen



2. Use two 10-32 x 7/16" Screws to mount the Key w/ Plate to the left enclosure door at the location shown in **Figure 1**.

Holes are pre-drilled and tapped.

3. Use two 10-32 x 7/16" Screws to mount the Door Switch w/ Plate to the right enclosure door at the location shown in **Figure 2**.

Holes are pre-drilled and tapped.

4. Route the 2-Conductor Wire from the Door Switch loosely over the back of the electrical cabinet.
5. Select a suitable entry location for the 2-Conductor Wire into the electrical cabinet.
6. Use a hole saw or Unibit to drill a 7/8" entry hole in the electrical cabinet.



Figure 1

IMPORTANT! Use caution when selecting entry hole location to avoid damaging electrical components/wiring inside cabinet. Make sure to keep debris and metal chips away from all electrical components.

7. Insert the Cord Grip from outside of the electrical cabinet and into the newly-drilled hole.
8. From inside the electrical cabinet, loosely attach with the Cord Grip Nut.
9. Route the 2-Conductor Wire through the Cord Grip assembly and pull enough wire through to reach electrical cabinet's terminal block.

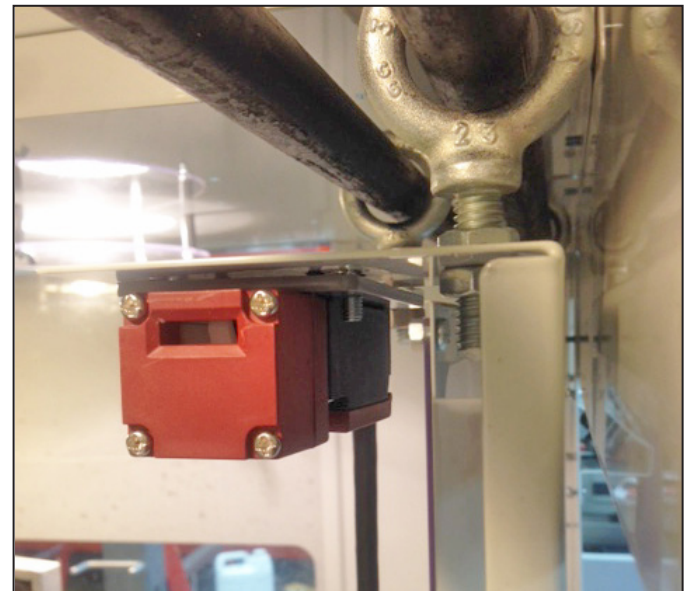


Figure 2

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NOTE: The terminal block has multiple wire connections, some of which are not shown in the illustrations. To make accurate connections, you must note the slot number that is detailed in each step.

10. From the terminal block, in slot 4, remove wire **J2-4**.

NOTE: To make a terminal block connection, slowly insert the end of small, flat-head screwdriver straight into the slot above the wire and pry the terminal clip open carefully. Insert the wire into the terminal block, and then slowly remove the screwdriver.

11. Put the provided Wire Cap on wire **J2-4** (see **Figure 3**).
12. Wire **J2-4** is no longer used. Use a cable tie (provided) to secure the wire to the limit switch cable (see **Figure 3**).
13. From slot 1, remove wire **J2-1**.
14. Move wire **J2-1** to slot 4 (to the right) as shown in **Figure 4**.
15. Put the provided **J2-4.1** decal on wire **J2-1**.

Terminal Block

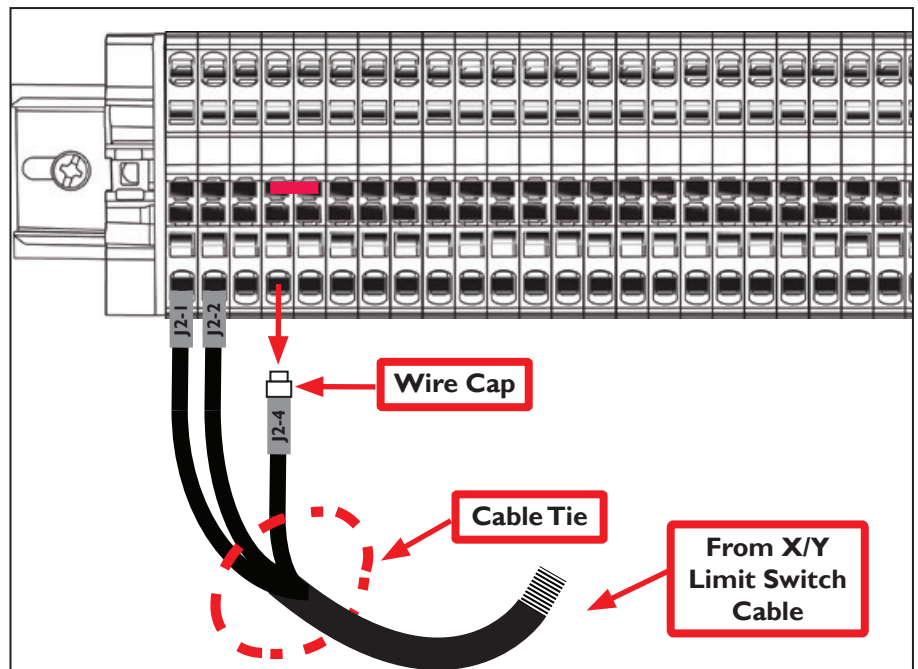


Figure 3

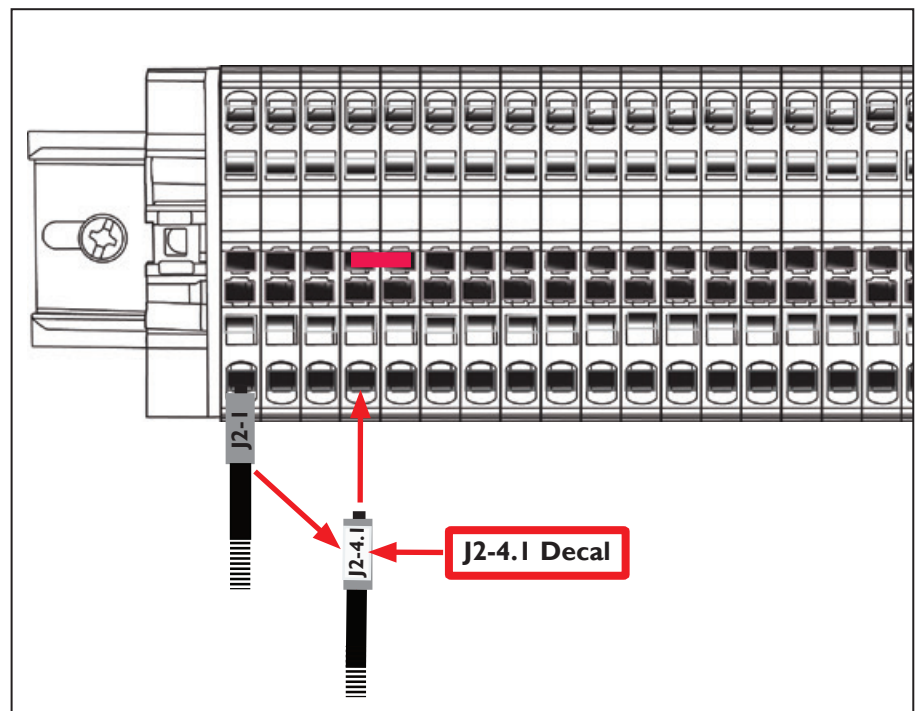


Figure 4

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16. In slot 5, on wire **J2-4**, put the provided **JL-1** decal (see **Figure 5**).

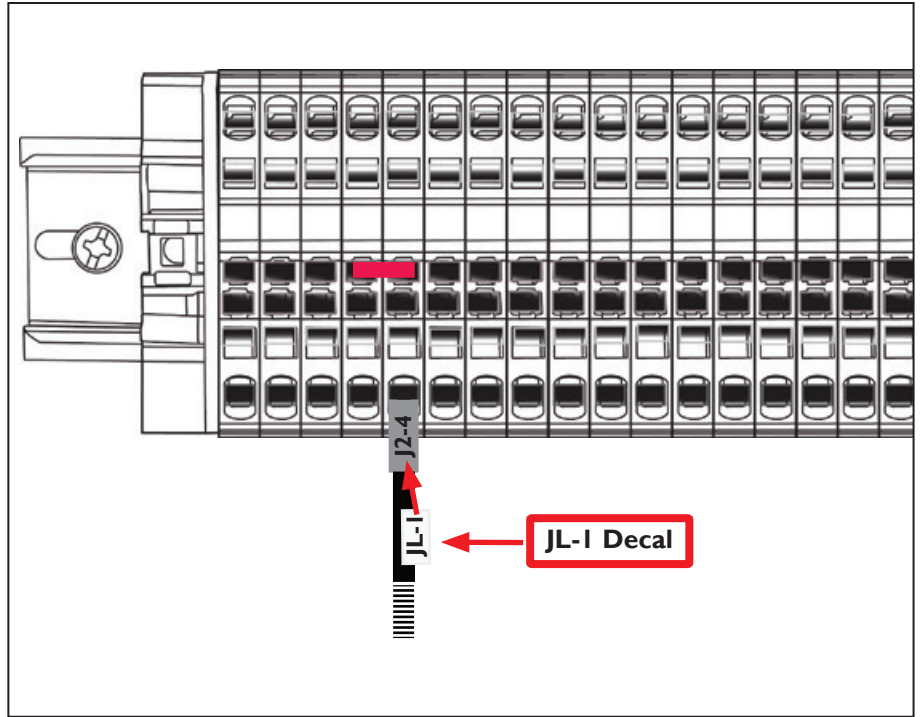


Figure 5

17. From the door switch, connect the black and white wires to the terminal block as shown in **Figure 6**.

When properly connected, wire **J2-4** and wire **J2-4.2** are linked by an existing red jumper, as shown in **Figure 6**.

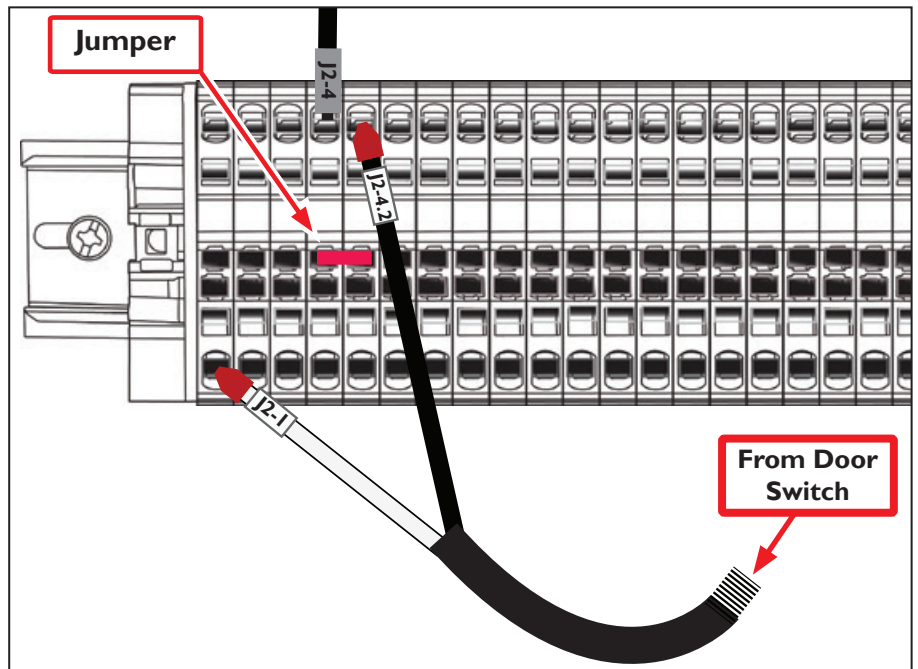


Figure 6

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18. Use five 10-32 Hex Nuts to attach the Mounting Tabs to five preinstalled screws in the enclosure ceiling (see **Figure 7** and **inset**).
19. Insert the Cable Ties into the the Mounting Tabs.
20. Attach the loose 2-Conductor Wire to the enclosure ceiling with the Cable Ties, removing any slack from the Door Switch to the back wall of enclosure, and then tighten Cable Ties snugly.

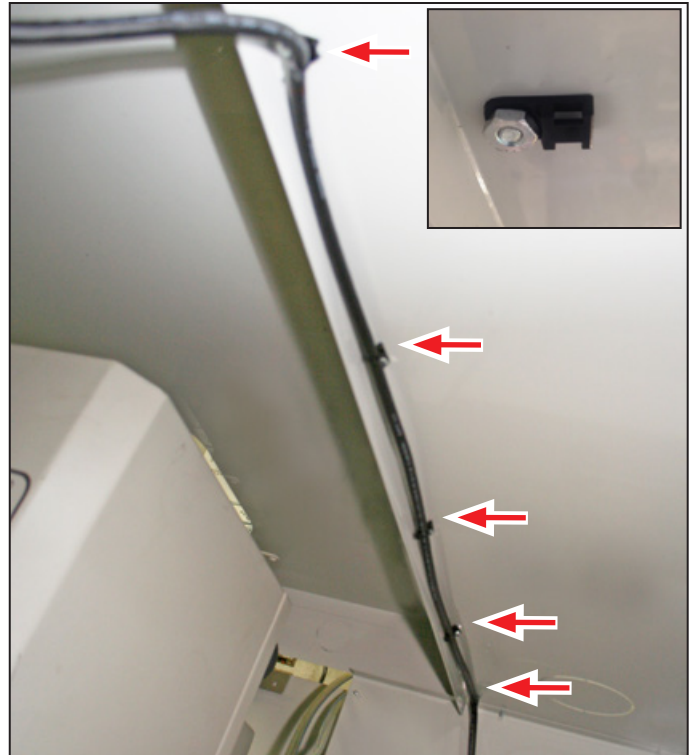


Figure 7

Operation

1. From the PathPilot interface, on the *Settings* tab, select the *Enable Enclosure Door SW* checkbox to activate Door Switch (see **Figure 8**).

When the doors are open, all axis motion is stopped and the spindle speed is reduced to 1000 RPM. If the spindle speed is set below 1000 RPM when the door is opened, the spindle speed does not change.

NOTE: If, during a program, the doors are opened and then closed, the spindle RPM resumes. To resume axis motion, you must click *Cycle Start* (see **Figure 8**).

After selecting this setting, you must reference the X- and Y-axis independently — reference one axis before referencing the other.

1000 RPM is the pre-set spindle speed with the door open, but this may be changed.

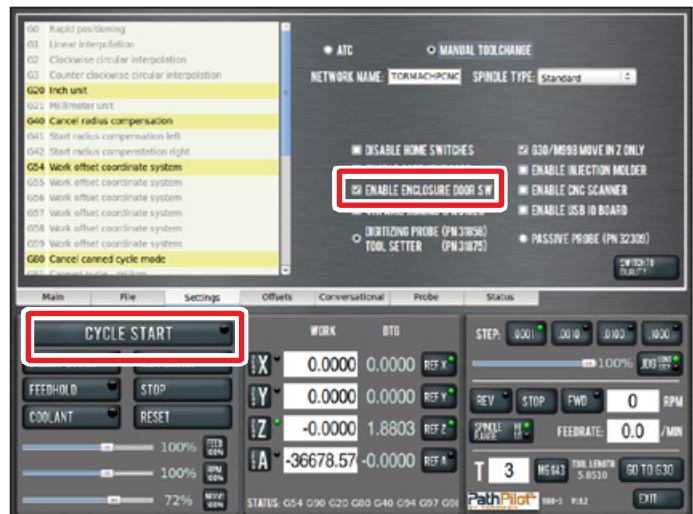


Figure 8

- To cap the spindle speed at 500 RPM with the door open, type *ADMIN OPENDOORMAXRPM 500* in the MDI line on the *Main* tab.
- To stop the spindle when the door opens, type *ADMIN OPENDOORMAXRPM 0* in the MDI line.

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NOTE: The Door Switch LED light on the Status tab is on when the doors are open, as shown in Figure 9.



Figure 9

Electrical Schematic

