

OWNER'S GUIDE: DOOR LOCK SWITCH KIT

TECHNICAL DOCUMENT

1.1 PURPOSE

This document gives instructions on installing and configuring the Door Lock Switch Kit on a mill.

1.2 PRODUCT INFORMATION

Product: Door Lock Switch Kit (PN 38283)

Quantity	Description
7	M5 × 0.8 - 10 Flanged Button Head Cap Screw (PN 38205)
4	M5 × 0.8 - 50 Button Head Cap Screw (PN 39134)
3	Cable Tie Anchor (PN 31460)
3	Cable Tie (PN 31719)
1	Door Switch (PN 37352)
1	Lock Key (PN 37529)



Note: If any of these items are missing, we can help. Email support@tormach.com to contact Tormach Technical Support for guidance on how to proceed.

1.3 REQUIRED TOOLS

This procedure requires the following tools. Make sure that you have them available before you begin.

- Flat-blade screwdriver
- Metric hex wrench set
- Phillips screwdriver

TECHNICAL DOCUMENT

2.1 SETUP

Complete the following steps in the order listed:

- × **Step 1:** "Install a Door Lock Switch Kit" (below)
- × **Step 2:** "Update PathPilot" (on the next page)
- × **Step 3:** "Enable a Door Lock Switch Kit" (page 6)

2.1.1 Install a Door Lock Switch Kit

1. Power off the machine and the PathPilot controller.
 - a. Push in the Emergency Stop button on the operator box, which disables movement of the axes and the spindle.
 - b. From the PathPilot interface, select **Exit**.
 - c. Turn the Main Disconnect switch to **OFF** on the side of the electrical cabinet.
2. Attach the door switch to the door switch installation plate on the right enclosure door with a 3 mm hex wrench and four M5 × 0.8-50 button head screws.

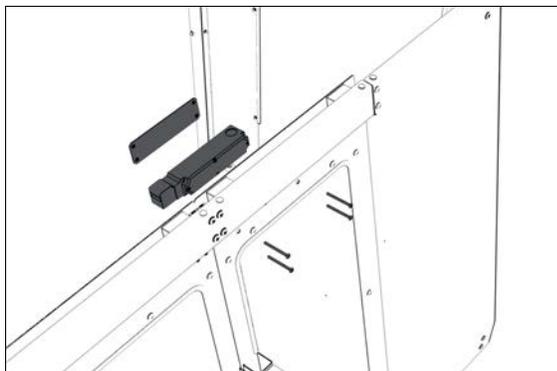


Figure 2-1: Attaching the door switch assembly to the right side of the enclosure.

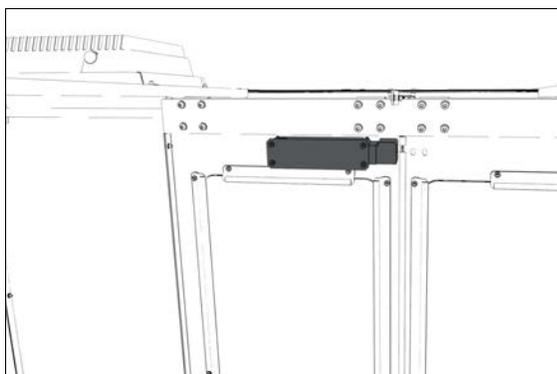


Figure 2-2: Door switch assembly attached. (Viewed from inside the enclosure.)

3. Loosely attach the lock key and the lock key nut to the lock key bracket with a 3 mm hex wrench and two M5 × 0.8-10 flanged button head screws. You'll make further adjustments later in this procedure.

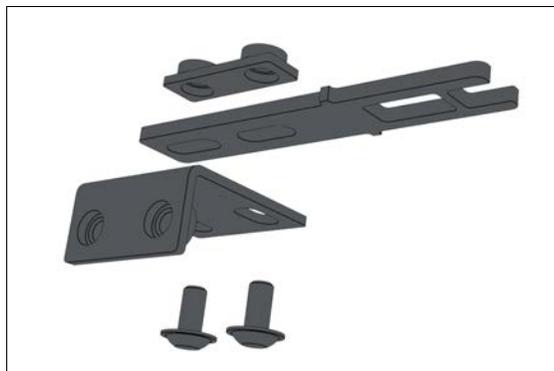


Figure 2-3: Attaching the components of the lock key bracket assembly.

4. Loosely attach the lock key bracket assembly to the left enclosure door with a 3 mm hex wrench and two M5 × 0.8-10 flanged button head screws. You'll make further adjustments later in this procedure.

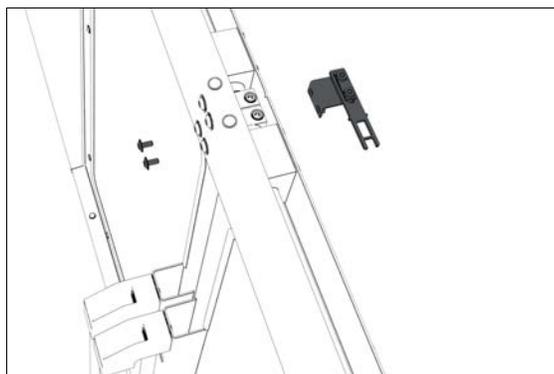


Figure 2-4: Attaching the lock key bracket assembly to the left side of the enclosure.

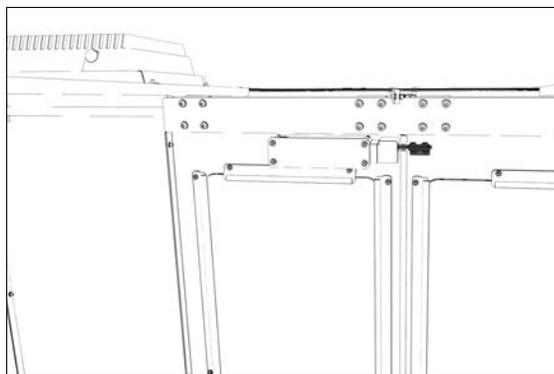


Figure 2-5: Lock key bracket attached. (Viewed from inside the enclosure.)

TECHNICAL DOCUMENT

5. Identify the door lock override switch, as shown in the following image.

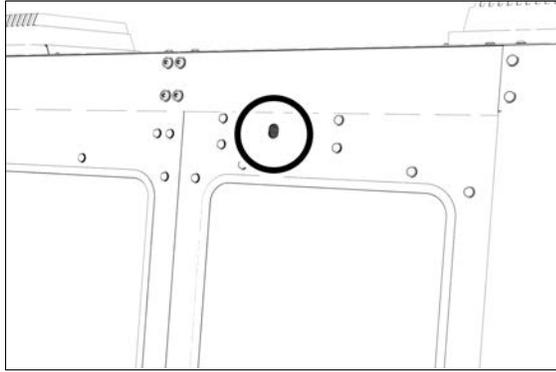


Figure 2-6: Door lock override switch.

6. Remove the screw that secures the door lock override switch with a Phillips screwdriver, and then set it aside.
7. Turn the door lock override switch to the unlocked position with a flat-blade screwdriver.
8. Open and close the enclosure doors to align the door switch and the lock key. Make sure that the lock key freely engages and disengages the door switch.
9. Tighten all four M5 × 0.8-10 flanged button head screws on the lock key assembly.
10. Attach three cable tie anchors to the right top panel on the enclosure with a 3 mm hex wrench and three M5 × 0.8-10 flanged button head screws.

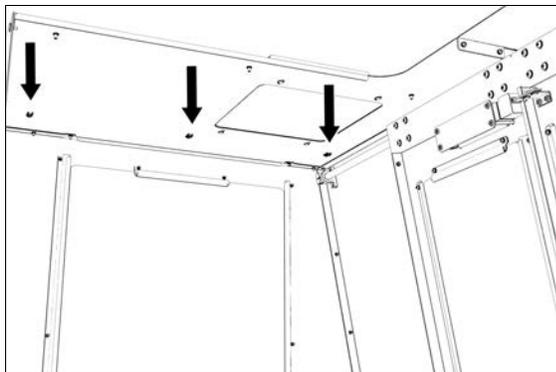


Figure 2-7: Three cable tie anchors installed inside the right side of the enclosure.

11. Route the loose end of the door switch cable to the electrical cabinet, and connect it to the Enclosure Door Switch outlet.

12. Secure the door switch cable to the cable tie anchors that you installed in Step 10 with three cable ties. Make sure that the cable doesn't restrict the motion of the enclosure door. Wind any remaining cable in to a coil, and secure it to the cable tie anchor closest to the Enclosure Door Switch outlet.
13. Turn the door lock override switch to the locked position with a flat-blade screwdriver.
14. Find the screw for the door lock override switch that you set aside in Step 6. Then, put it back to secure the door lock override switch in the locked position.
15. Power on the machine and the PathPilot controller.
 - a. Turn the Main Disconnect switch to **ON** on the side of the electrical cabinet.
 - b. Twist out the Emergency Stop button on the operator box, which enables movement to the machine axes and the spindle.
 - c. Press the Reset button on the operator box.
 - d. Bring the machine out of reset and reference it.

2.1.2 Update PathPilot

Before using the Door Lock Switch Kit, you must make sure that the PathPilot controller is updated to PathPilot v2.1.6. This version of PathPilot has settings required to use the Door Lock Switch Kit.

To update PathPilot, do either of the following:

- "Download and Install an Update File" (below)
- "Install an Update File from a USB Drive" (on the next page)

Download and Install an Update File



Note: Downloading and installing an update file requires an Internet connection. From the PathPilot interface, make sure that the Internet button LED light is on.

1. Make sure that the PathPilot controller is powered on and out of **Reset** mode.

- From the PathPilot interface, on the **Status** tab, select **Update**.

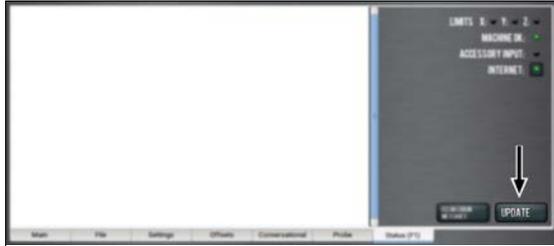


Figure 2-8: Update button on the Status tab.

- From the **Software Update** dialog box, select **Check Online**.

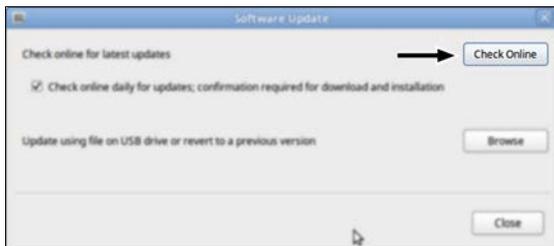


Figure 2-9: Software Update dialog box.

- Select **Install**.

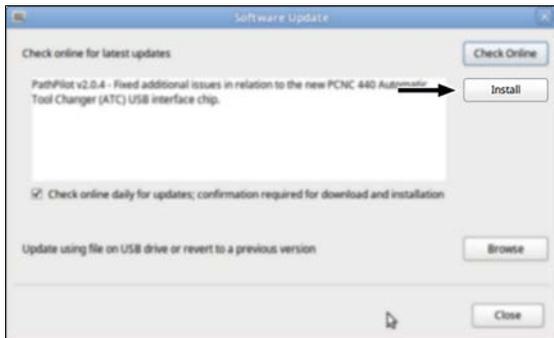


Figure 2-10: Install button on the Software Update dialog box.

The update file is downloaded, and a notification dialog box displays.

- From the dialog box, select **OK**.

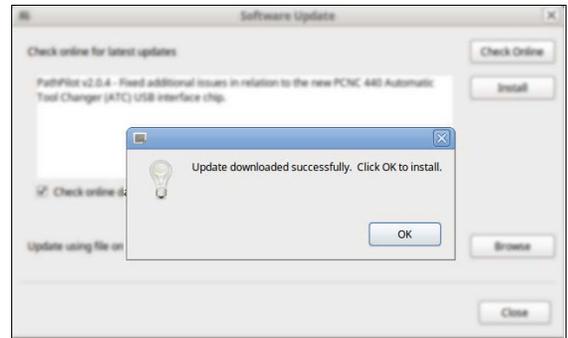


Figure 2-11: OK button on the dialog box.

The update file is installed on the PathPilot controller.

- Follow the on-screen instructions to restart the PathPilot controller.

Install an Update File from a USB Drive

- From tormach.com/pp-updates, download the most recent PathPilot update file.
- Transfer the PathPilot update file to a USB drive.
- Put the USB drive into the PathPilot controller.
- Make sure that the PathPilot controller is powered on and out of **Reset** mode.
- From the PathPilot interface, on the **Status** tab, select **Update**.



Figure 2-12: Update button on the Status tab.

- From the **Software Update** dialog box, select **Browse**.

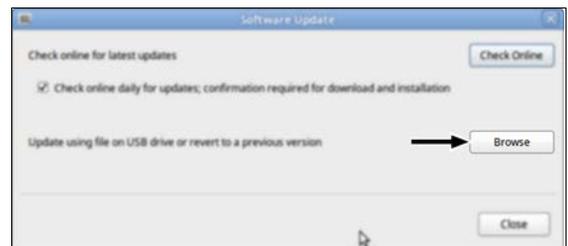


Figure 2-13: Software Update dialog box.

TECHNICAL DOCUMENT

7. From the **Browse** dialog box, select **USB**.



Figure 2-14: Browse dialog box.

8. Select the desired update file, and then select **Update**.



Figure 2-15: Update button.

The update file is installed on the PathPilot controller.

9. Follow the on-screen instructions to restart the PathPilot controller.

2.1.3 Enable a Door Lock Switch Kit

If you have a Door Lock Switch Kit, you must first enable it in PathPilot.

To enable a Door Lock Switch Kit:

1. On the **Settings** tab, select **Enclosure Door Switch**.

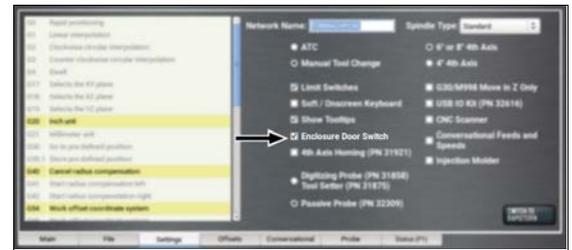


Figure 2-16: Settings tab.

On the **Status** tab, the **Door Locked / Open** LEDs display.



Figure 2-17: Status tab.

2. Reference the machine: select **Ref Z**, **Ref X**, and **Ref Y**.
3. Open the enclosure doors.
4. From the PathPilot interface, on the **Status** tab, make sure that the **Door Open** LED is on, and the **Door Locked** LED is off.



Figure 2-18: Door Open LED on the Status tab.

5. Close the enclosure doors and verify that the **Door Open** LED is off. Then, push in the Emergency Stop button on the operator box. The doors lock, and the **Door Locked** LED comes on.
6. From the PathPilot interface, on the **Status** tab, make sure that the **Door Open** LED is off.
7. Unlock the enclosure doors: twist out the Emergency Stop button and press the Reset button on the operator box. The doors unlock.

TECHNICAL DOCUMENT

3.1 OPERATION

While using a Door Lock Switch Kit, you must close the enclosure doors before selecting Cycle Start. After you select Cycle Start, the doors lock and stay locked until any of the following occur:

- A manual tool change is required.
- From the PathPilot interface, you select Feedhold.
- From the PathPilot interface, you select Stop or Reset.
- The program reaches an M00 or M01 break.
- The program completes and stops.

When you push in the Emergency Stop button on the operator box, the doors lock and stay locked until you twist out the Emergency Stop button and press the Reset button. Read the following sections to understand how to operate the Door Lock Switch Kit:

- "Change the Maximum Spindle Speed" (below)
- "Use the Door Lock Override Switch" (below)

3.1.1 Change the Maximum Spindle Speed

By default, the spindle speed reduces to 1000 RPM (or the speed at which the spindle is programmed, if it's less than 1000 RPM), and all axis motion stops when the enclosure doors are opened. Once you close the doors, the spindle resumes to its programmed speed, but axis motion isn't resumed until you select Cycle Start.

To change the maximum spindle speed:

- From the PathPilot interface, in the **MDI Line** DRO field, type `ADMIN OPENDOORMAXRPM [MAXIMUM SPINDLE SPEED]`.



EXAMPLE

To set the maximum spindle speed to 500 RPM, type `ADMIN OPENDOORMAXRPM 500`. To stop the spindle, type `ADMIN OPENDOORMAXRPM 0`.

3.1.2 Use the Door Lock Override Switch

If the enclosure doors are locked and you need to manually open them, you can use the door lock override switch.

To use the door lock override switch:

1. Identify the door lock override switch, as shown in the following image.

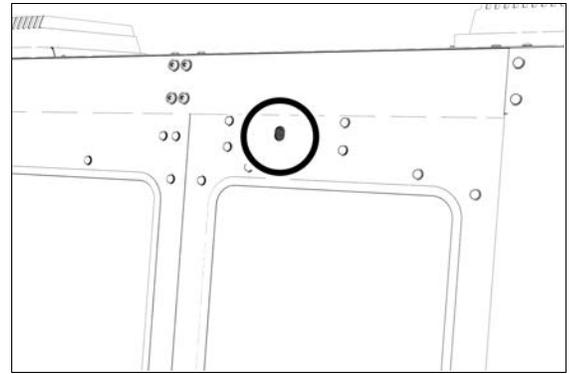


Figure 3-1: Door lock override switch.

2. Remove the screw that secures the door lock override switch with a Phillips screwdriver, and then set it aside.
3. Turn the door lock override switch to the unlocked position with a flat-blade screwdriver.