

SERVICE BULLETIN #283

Inspecting and adjusting the reversing edge switch and the door ajar (breakaway) kill switch – coil cord doors

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Status: Active

IMPORTANT: Read this entire bulletin before proceeding.

Questions? Call Rytec Customer Support at 1-800-628-1909.

Summary

Rytec rolling doors (see list on next page) have a safety feature (called a reversing edge) that activates when the bottom of the door panel hits an obstruction. The impact compresses a rubber tube in the bottom loop seal, which forces air into a pneumatic switch in the bottom bar. This pushes a membrane in the switch ① down, which closes a normally open contact and signals the door controller.

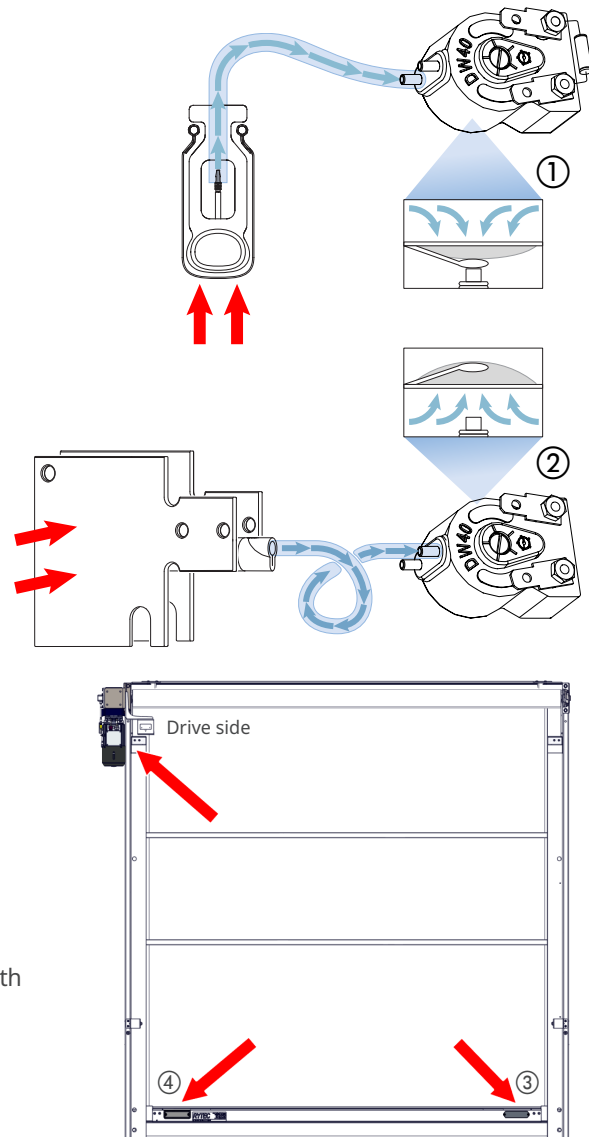
Some door models also have a breakaway safety feature that activates when the door panel is knocked out of its track (door ajar). End tabs compress a bladder, forcing air into a second pneumatic switch in the bottom bar. In this case, the air pushes the membrane ② up, which opens a normally closed contact and signals the door controller.

Both features use the same type of switch. The reversing edge feature connects to the rear port, and the door ajar feature connects to the front port. The port determines which way the membrane moves.

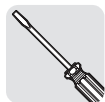
The reversing edge switch is located on the non-drive side of the door ③. The door ajar (breakaway) kill switch, as well as the wiring for both switches, are located on the drive side ④.

NOTE: there are exceptions to these configurations. Refer to list on next page.

This bulletin shows how to inspect and adjust both switches. For this bulletin, a PredaDoor with a right (RH) side drive is used as an example.



Tools that you need



Flat
screwdriver



4mm
hex

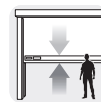


Multimeter

Icon Key



Set door to
jog



Set door to
working
height



Release door
from jog

Rolling doors with pneumatic switches

Door	Reversing Edge Switch	Switch Location	Door Ajar (Breakaway) Kill Switch	Switch Location	Notes
Bantam (Liftmaster)	Yes	Non-drive side	Yes	Drive side	
Bantam (Manual)	No		No		
Clean-Roll	Yes	Drive side	<i>See notes</i>		Door ajar kill switch is a wobble switch.
Fast-Seal	Yes	Drive side	<i>See notes</i>		On >20' doors, reversing edge switch is normally closed instead of normally open. Follow procedure for door ajar kill switch to adjust. These doors have an electric reversing edge in addition to the pneumatic switch. Door ajar kill switch is a proximity switch.
Pharma-Roll	Yes	Non-drive side	Yes	Drive side	
Plexline	Yes	Non-drive side	Yes	Drive side	Not available with coil cord - See Service Bulletin #282
PredaDoor	Yes	Non-drive side	Yes	Drive side	
TSI	Yes	Drive side	<i>See notes</i>		Door ajar kill switch is an accelerometer or a wobble switch.

Rolling doors with non-pneumatic switches

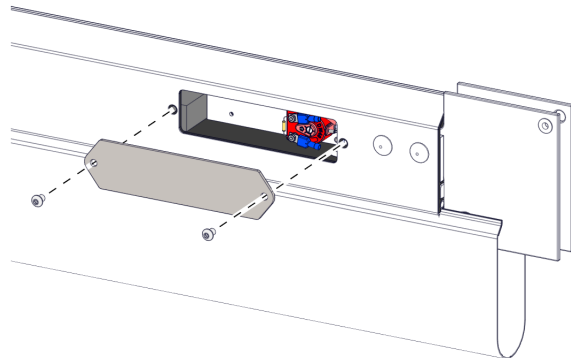
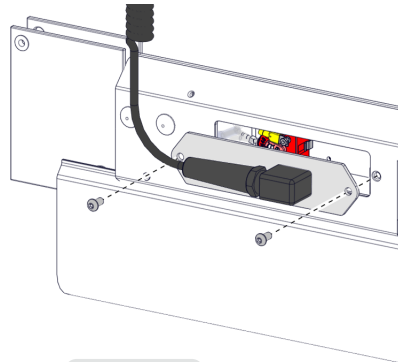
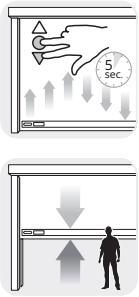
Door	Reversing Edge	Door Ajar (Breakaway)
Powerhouse	Electric sensor	Vibration sensor
Spiral	Electric sensor	None

Rolling doors with no bottom bar safety features

FlexTec
Pharma-Seal
Spiral VP
Wynd Star

How to access the reversing edge switch wiring

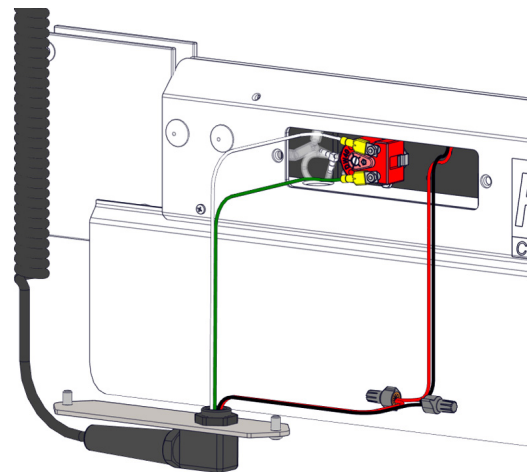
1



2

Separate the wires.

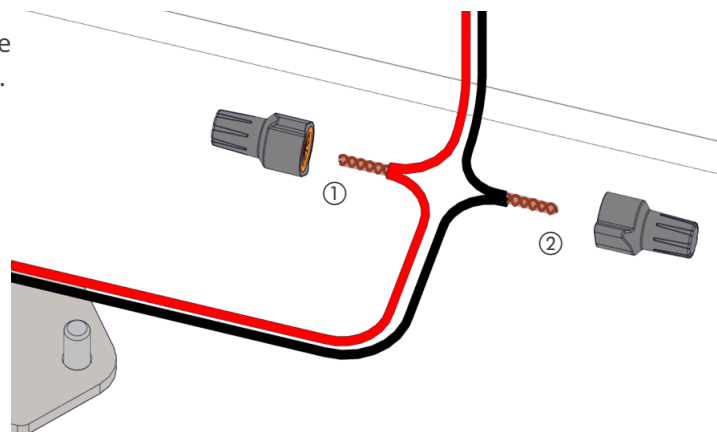
Separate carefully! Wires are densely packed in bottom bar.



3

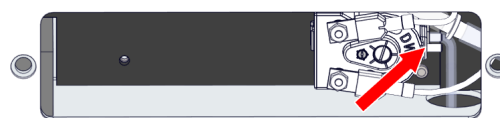
Check the wire connections to the reversing edge switch ①,② to make sure they are making good contact.

NOTE: wires are coated with a waterproof dielectric grease.



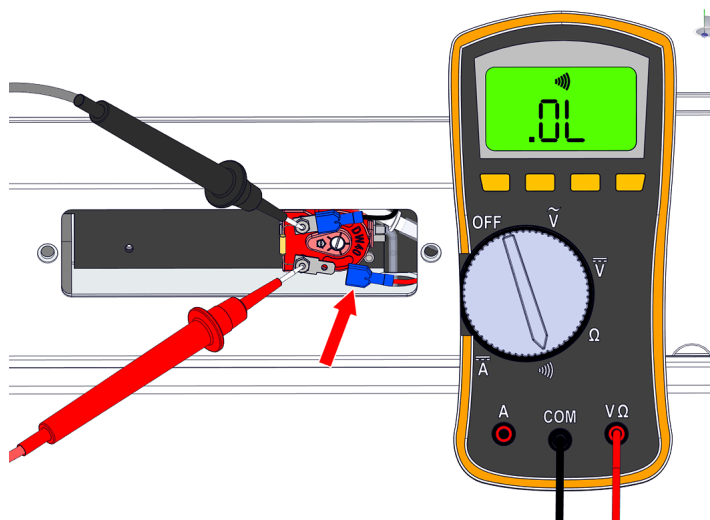
How to test the reversing edge switch

- 1 **Make sure** that the air hose to the switch is connected to the rear port, and that the seal is tight.



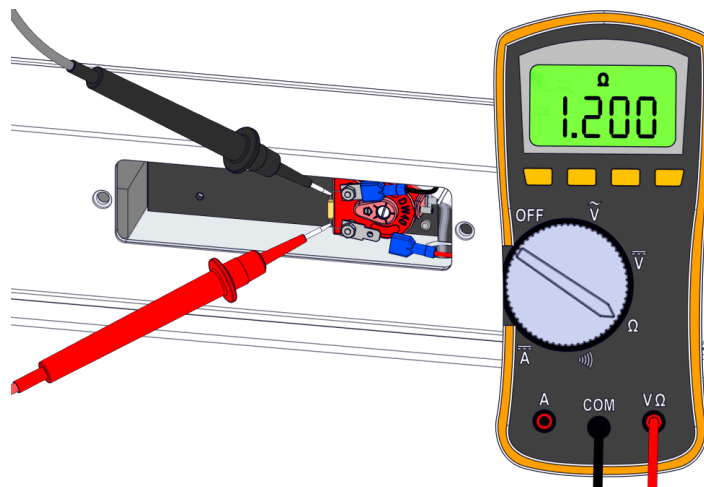
- 2 **Test** for continuity.
NOTE: the reversing edge switch is normally open, so there should **not** be continuity between the contacts.

- **Remove** one of the contacts to the switch (red arrow) to break the connection to the door circuit.
- **Set the multimeter** to continuity.
- **Test the multimeter:** touch the probes together and **listen** for beep to indicate multimeter is working.
- **Touch** the probes to the two contact points on the switch. The multimeter should read "OL" and there should be **no** beep.

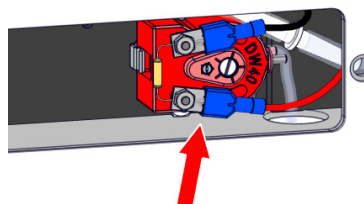


- 3 **Test** the resistor.

- **Set the multimeter** to ohms.
- **Touch** the probes to the wires on either side of the resistor.
- **Look** for a reading of 1.2k Ω . Acceptable readings are within $\pm 10\%$.

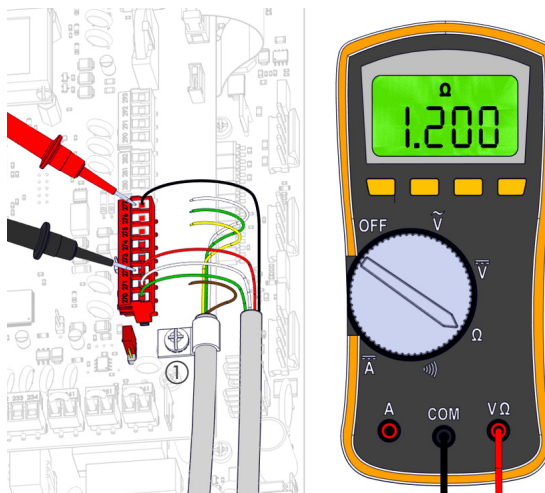


- 4 **Reattach** the contact.



5 Test the coil cord by checking resistance at the terminal block in the controller.

- **Open** the System 4 controller.
- **Locate** terminal block 270-277 (red).
- **Remove** the four wires from the encoder cable ①:
 - 270 (brown)
 - 275 (yellow)
 - 276 (green)
 - 277 (white)
- **Set the multimeter** to resistance.
- **Touch** the probes to terminal 272 (red wire) and 277 (black wire).
- **Look** for a reading of 1.2k Ω .
Acceptable readings are within $\pm 10\%$.



How to adjust the reversing edge switch

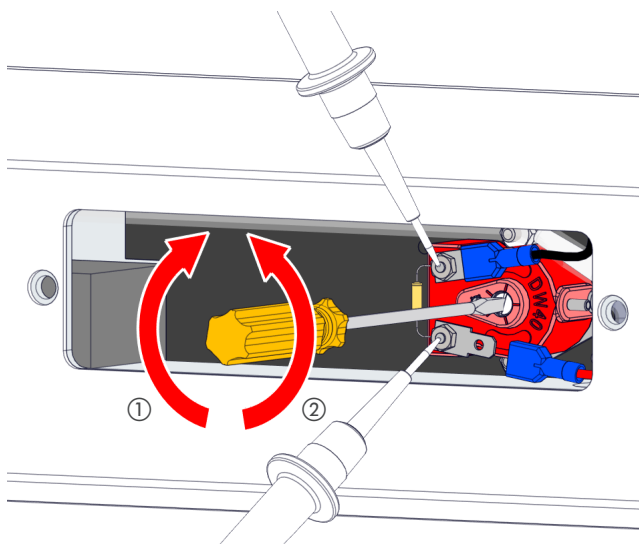
1 Reset the base continuity point.

- **Make sure** a contact is removed.
- **If there is not continuity** (the multimeter does not beep), as is expected, turn the large white adjustment screw in the center of the switch **clockwise** ① until the beep starts.
- **If there is continuity** (the multimeter beeps), turn the adjustment screw **counterclockwise** ② until the beep starts.

Result: you have closed the contact in the switch when there is no air pressure in either direction.



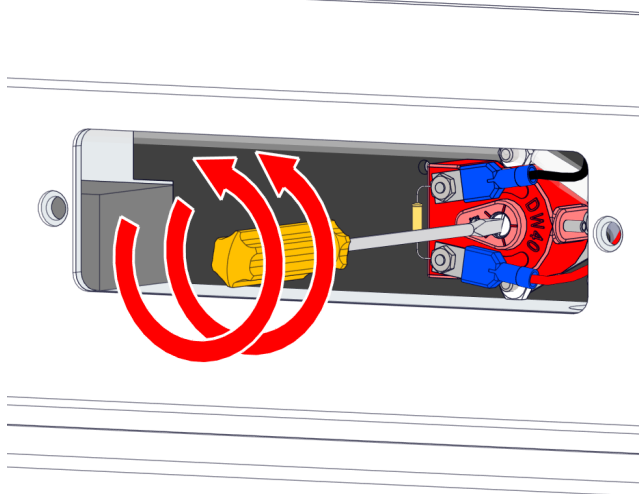
Flat
screwdriver



2 Reset the sensitivity of the switch.

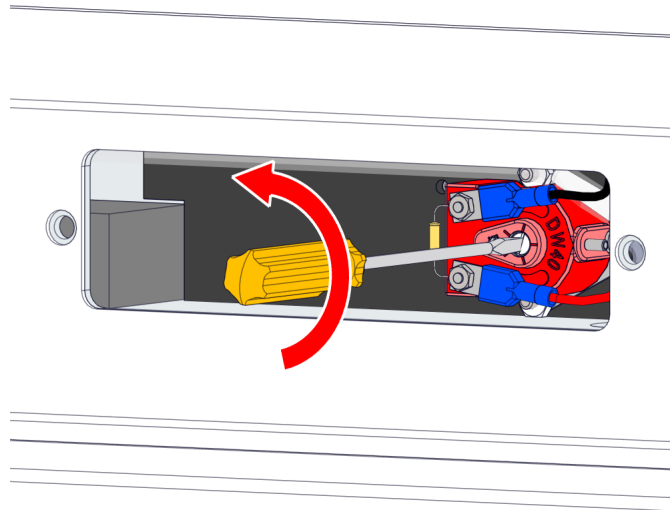
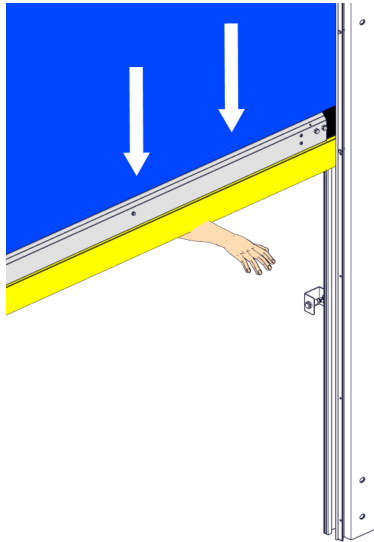
- **Replace** the contact that you removed.
- **Turn** the adjustment screw two complete revolutions **COUNTERCLOCKWISE** (720°).

Result: you have set the switch to normally open and set the default sensitivity to close the contact when the bottom bar hits an obstruction.



3 Test the door; readjust if necessary.

- **Run the door.** Tap the loop seal lightly as it closes. Door should stop and reverse to the fully open position.
- **To adjust the sensitivity:** turn the adjustment screw one-half revolution (180°), then retest.
 - Turn the screw **CLOCKWISE** to make the door **MORE** sensitive (appropriate for mostly pedestrian traffic).
 - Turn the screw **COUNTERCLOCKWISE** to make the door **LESS** sensitive (appropriate for mostly forklift traffic).

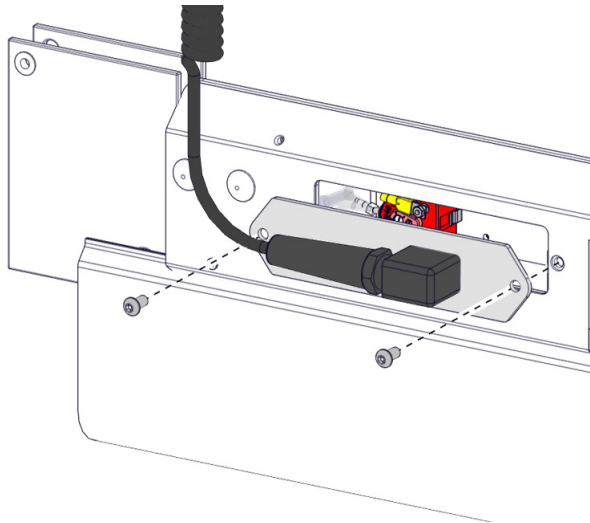
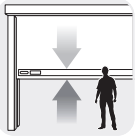


4



How to access the door ajar (breakaway) kill switch wiring

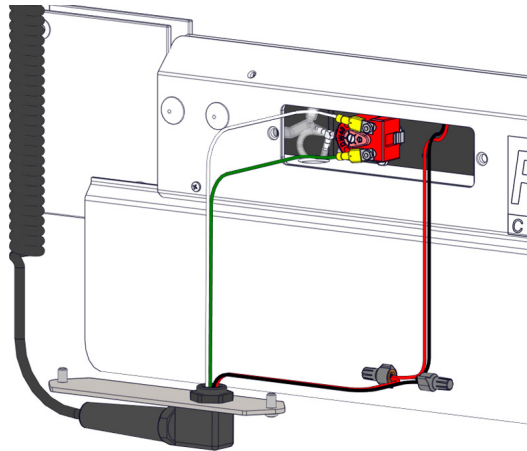
1



2

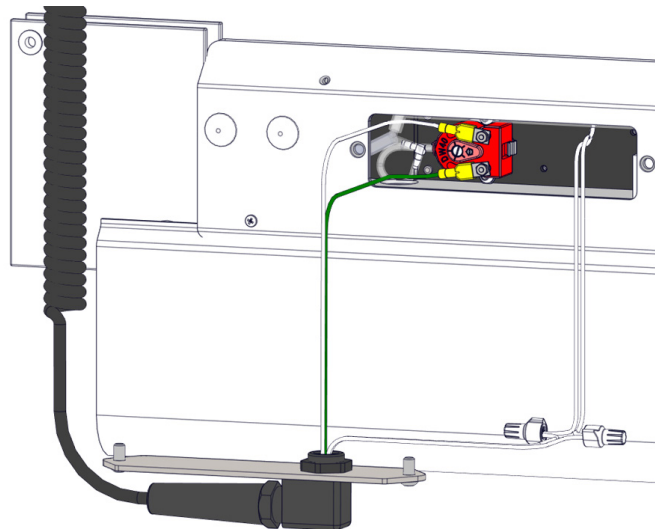
Separate the wires.

Separate carefully! Wires are densely packed in bottom bar.



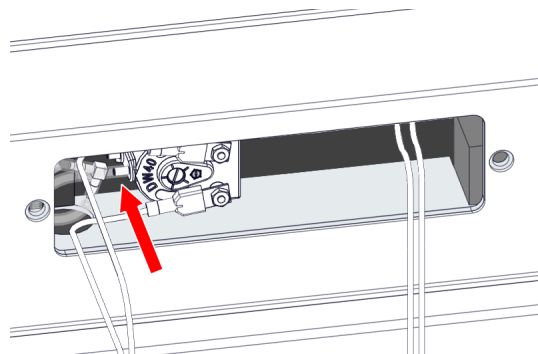
3

Check the green and white wires to the switch to make sure they are making good contact.



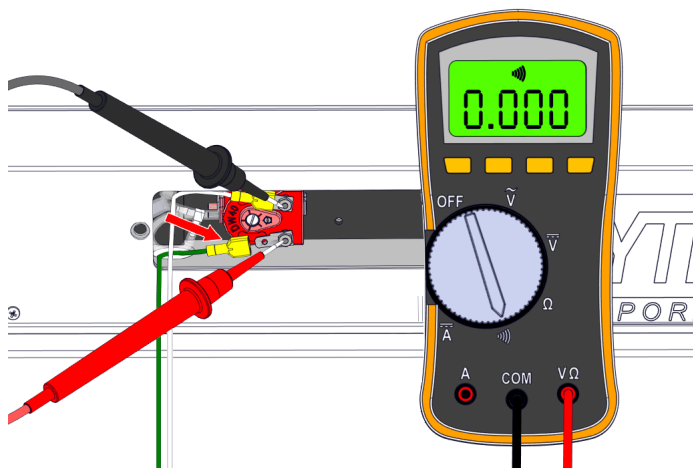
How to test the door ajar (breakaway) kill switch

- 1** **Make sure** that the air hose to the switch is connected to the front port, and that the seal is tight.

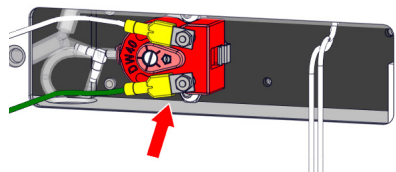


- 2** **Test** for continuity.

- **Remove** one of the contacts to the switch (red arrow) to break the connection to the door circuit.
- **Set the multimeter** to continuity.
- **Test the multimeter:** touch the probes together and **listen** for beep to indicate multimeter is working.
- **Touch** the probes to the two contact points on the switch.
- **Listen** for a **beep**. **Look** for the multimeter to read "0.000" instead of "OL".

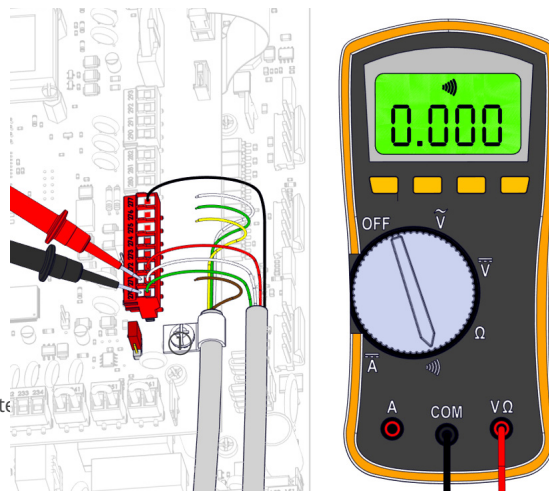


- 3** **Reattach** the contact.



- 4** **Test** the coil cord by checking for continuity at the terminal block in the controller.

- **Open** the System 4 controller.
- **Locate** terminal block 270-277 (red).
- **Remove** the four wires from the encoder cable ①:
 - 270 (brown)
 - 275 (yellow)
 - 276 (green)
 - 277 (white)
- **Set the multimeter** to continuity.
- **Touch** the probes to terminal 270 (green wire) and 271 (white wire).
- **Listen** for a **beep**. **Look** for the multimeter to read "0.000" instead of "OL".



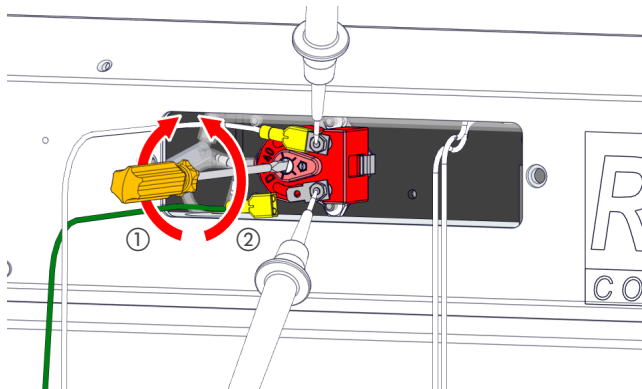
How to adjust the door ajar (breakaway) kill switch

1

Reset the base continuity point.

- **Make sure** a contact is removed.
- **If there is continuity** (the multimeter beeps), turn the large white adjustment screw in the center of the switch **counterclockwise** ① until the beep stops.
- **If there is not continuity** (the multimeter does not beep), turn the adjustment screw **clockwise** ② until the beep starts.

Result: you have closed the contact in the switch when there is no air pressure in either direction.

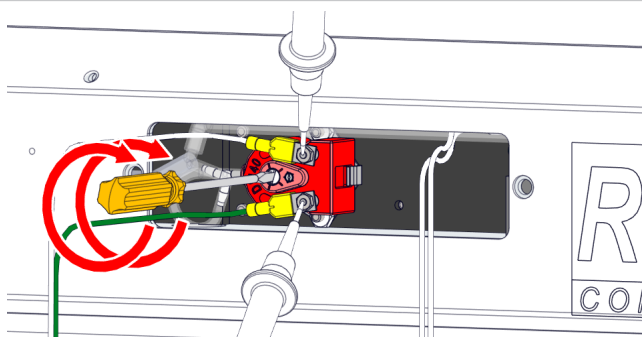


2

Reset the sensitivity of the switch.

- **Replace** the contact that you removed.
- **Turn** the adjustment screw two complete revolutions **CLOCKWISE** (720°).

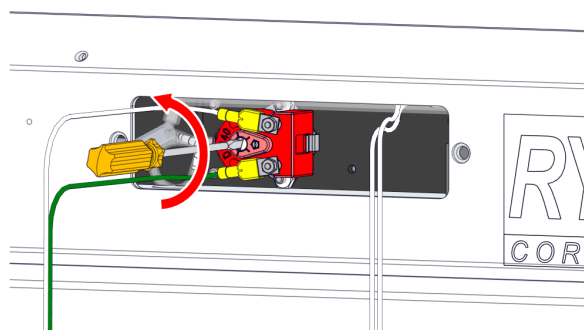
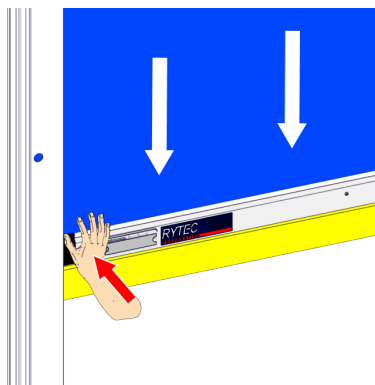
Result: you have set the default sensitivity to open the contact when the bottom bar hits an obstruction.



3

Test the door; readjust if necessary.

- **Run the door.** Strike the bottom bar near the side column.
NOTE: you do not need to strike it hard enough to break it out of the track.
- Door should stop. Follow reset procedure for the door to return it to the track.
- **To adjust the sensitivity:** turn the adjustment screw one-half revolution (180°), then retest.
 - Turn the screw **CLOCKWISE** to make the door **LESS** sensitive.
 - Turn the screw **COUNTERCLOCKWISE** to make the door **MORE** sensitive.



4

