

How to Adjust the Paragon Lid/Door Safety Switch

- Wear firing safety glasses when looking into the peephole of a hot kiln.
- Do not open lid or door until kiln or furnace has cooled and all switches are off.
- **DANGEROUS VOLTAGE!** Do not touch heating elements with anything. Disconnect kiln or furnace before servicing.

The safety switch on your kiln turns off the heating elements when the lid or door of the kiln is opened. (The digital controller will continue to operate.) When the lid or door is closed again, the elements will turn back on.

Indications that the safety switch is out of adjustment:

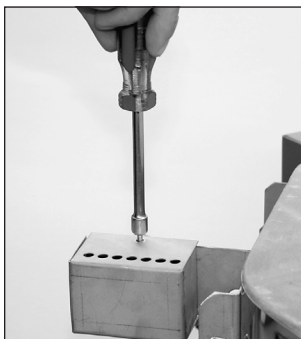
- The run light on the controller is lit but the elements do not heat.
- The safety switch turns off the elements part-way through a firing due to expansion of the door or lid at high temperatures.

We have included instructions for adjusting three types of lid/door safety switches:

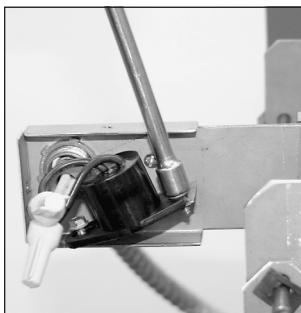


The Tilt Lid Safety Switch

Top-loading kilns use the tilt switch to turn off power to the elements when the lid is raised. The switch is mounted at the back of the lid.



1 Program the kiln to fire at full rate so the elements will turn on and stay on without cycling. (Please consult your manual to program a full rate.) After the kiln has fired for about a minute, have someone raise and lower the lid. Do you hear a clicking noise when you raise the lid? (The relays click when they turn the elements on or off.)

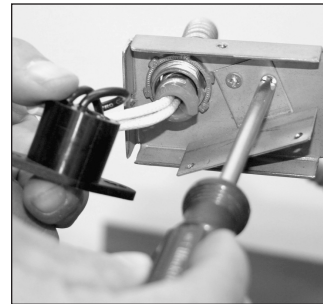


2 If you do not hear the relays click, close the lid and lift the tilt switch housing by hand. You can usually adjust the tilt switch by bending the housing up or down slightly.

3 If you still do not hear the relays click, remove the screws from the switch cover with a 1/4" nut driver. Lift off the cover.

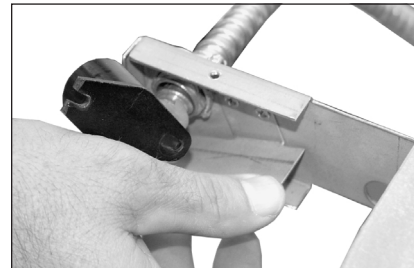
Remove the tilt switch screws. **4** Remove the 2 screws that secure the tilt switch. Remove the switch. (Note how it is aligned so you can reinstall it correctly later.)

5 By tilting the switch, you should hear the relays turn on and off. If you do not hear the clicking, then disconnect the power to the kiln and look for a disconnected wire. If the wiring is okay, replace the switch. (You can also test the switch with an ohmmeter. See instructions on the next page.)



Loosen switch mounting plate.

6 Adjusting the tilt switch changes the distance the lid opens when the elements turn off. You removed the tilt switch in step 4. With the switch out of the way, you now have access to the bolts that hold the switch mounting plate. Loosen the 2 bolts.



Adjust switch mounting plate.

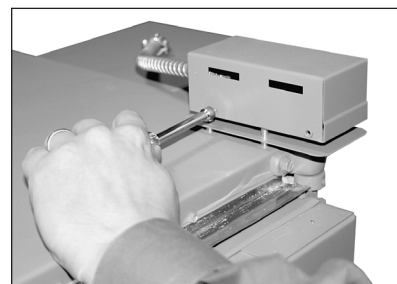
7 The 2 mounting holes are enlarged so that you can adjust the angle of the switch mounting plate. Raise the back of the mounting plate to increase the distance the lid travels before the elements shut off. Raise the front of the mounting plate to decrease the distance. Make only very small adjustments.

8 Tighten the bolts in the switch mounting plate.

9 Reinstall the tilt switch. Repeat step 1 to test the lid.

10 Reinstall the tilt switch cover.

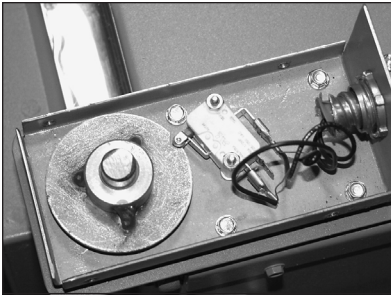
The Door Rotary Safety Switch



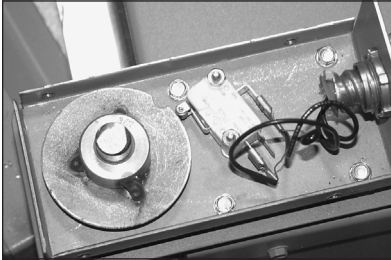
The door rotary safety switch is mounted on top of the door hinge shaft.

1 Use a 1/4" nut driver to remove the screws from the door switch cover. Lift off the cover.

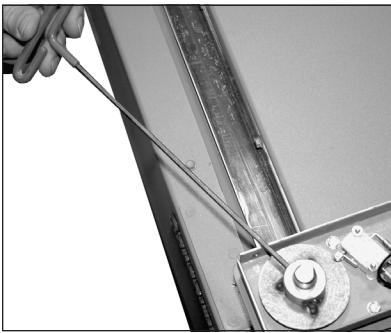
2 Program the kiln to fire at full rate so the elements will turn on and stay on without cycling. (Please consult your manual to program a full rate.) After the kiln has fired for about a minute, open and close the door until you hear a clicking noise. (The relays click when they turn the elements on or off.) The elements should turn off when the door is opened 1" - 2".



The rotary safety switch with door closed.



The rotary safety switch with door open.



Tightening the allen screws.

7 Reinstall the switch cover.

The Door Push-Button Safety Switch

The door safety switch is mounted inside the front of the switch box.

1 Program the kiln to fire at full rate so the elements will turn on and stay on without cycling. (Please consult your manual to program a full rate.) After the kiln has fired for about a minute, open and close the door until you hear a clicking noise. (The relays click when they turn the elements on or off.) The elements should turn off when the door is opened 1" - 2".

If you do not hear the clicking, press the safety switch button. If you still do not hear the clicking, then disconnect the power to the kiln and look for a disconnected wire. If the wiring is okay, replace the switch. (You can also test the



3 Look at the door switch from above. You will see a disk with an indentation. When the switch arm moves into the indentation, the elements should turn on. As you open and close the door, watch the disk so that you will understand which direction to adjust the disk.

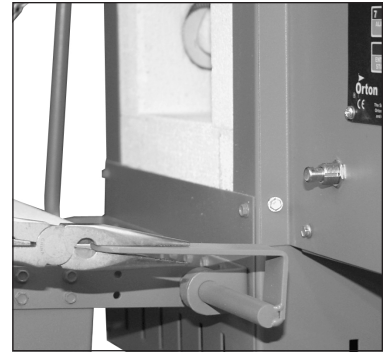
4 Loosen 2 allen screws that hold the disk to the door hinge shaft.

5 Rotate the disk to change the position of the indentation. Then tighten the allen screws.

6 Repeat step 2 to test the switch. If the elements do not turn on when the switch arm is in the indentation, then disconnect the power to the kiln and look for a disconnected wire. If the wiring is okay, replace the switch. (You can also test the switch with an ohmmeter. See instructions in the next column.)

switch with an ohmmeter. See instructions in the next column.)

2 The switch is activated by the safety switch lever. Gently bend the lever with pliers to change how far the door opens when the elements turn off. Bending the lever toward the switch box increases the distance the door opens when the elements turn off.



Testing the Safety Switch with an Ohmmeter

First, become familiar with the ohmmeter. Touch the ohmmeter probes together. That is the reading you should get when the door/lid is closed. An analog (needle indicator) ohmmeter will show the needle moving all the way over. A digital meter will show 0 - 14 ohms.

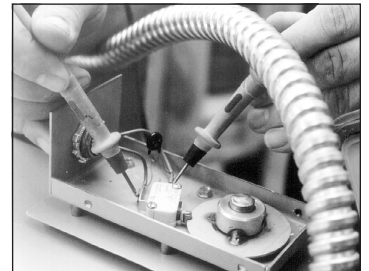
Separate the ohmmeter probes. That is the reading you should get when the door/lid is open.

1 UNPLUG kiln/disconnect power.

2 Remove the door/lid switch cover.

3 Place ohmmeter leads on the two switch terminals. (Tilt switch: Touch an ohmmeter probe to the wire inside each wire nut.)

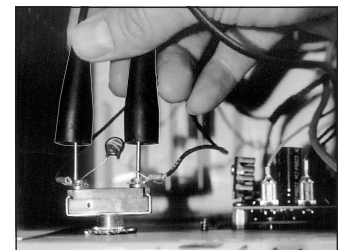
4 Have someone open and close the door or lid. You should get continuity on the ohmmeter when the lid/door is closed. If not, replace or adjust the switch.



Testing the rotary safety switch.



Testing the door push-button safety switch.



A close-up view of the door push-button safety switch.


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