



Scan for Video Help

Penner Timer Update

Pre-2008 Electrical Kit Timer Install

350545-09INST

1/5/2023

Instructions for Penner Spas to install current style timers into pre-08' electrical kits. Will work for Cascade, Pacific, and Superior models. Older timer production has been discontinued. This instructional will install currently used (350545-09) timer controllers.

Original Timer
-Obsolete now



350545-09 Timer
-Replacement



Original Electrical Kit



Updated Electrical Kit



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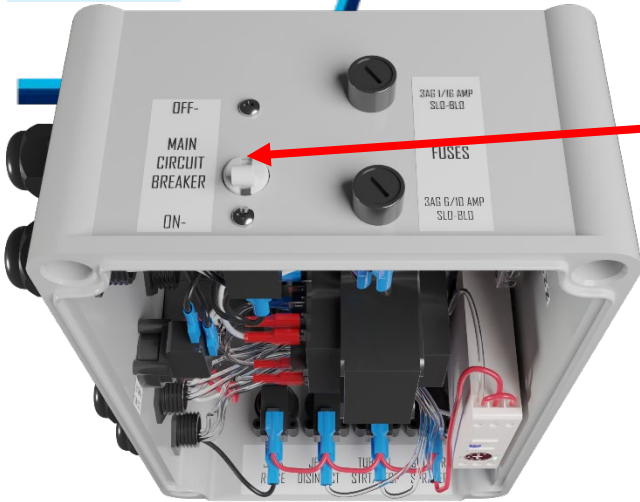
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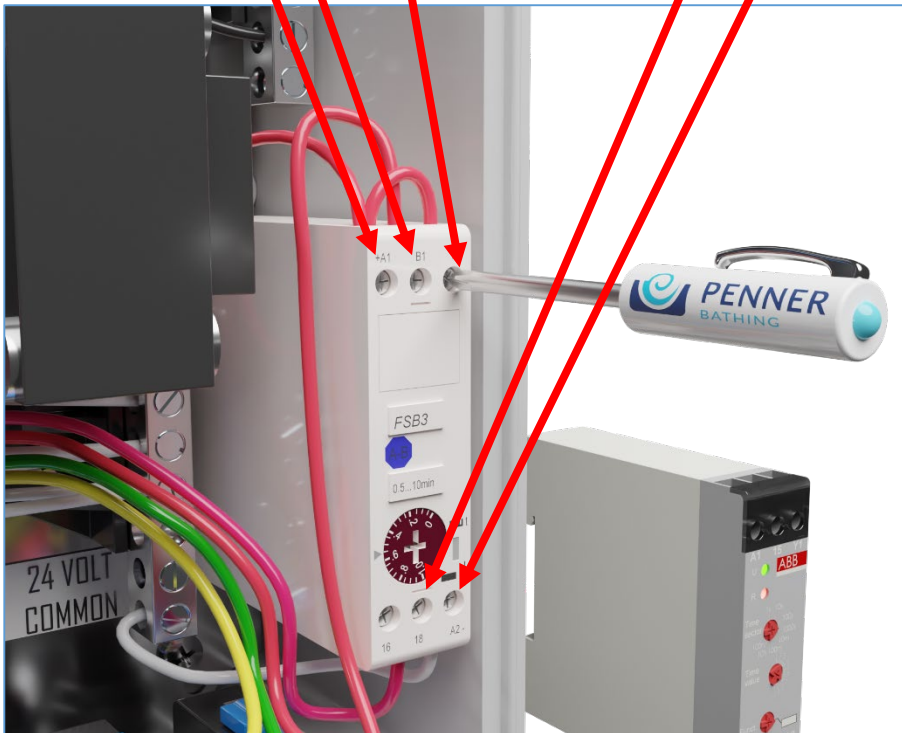
Step 1



Make sure to turn power off to electrical kit. Turn off the main circuit breaker and/or disconnect power to the spa from the building supply.

Step 2

Loosen wire fastening screws and disconnect timer wires paying attention to wire location. +A1, B1, and 15 on top row and then 18 and A2 on bottom row.



Original Timer wire locations and screws to loosen.



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Step 3



Disconnect the **five** wires from the timer keeping track of their numbered locations on the old timer. (Their locations will be shown later in case you've lost their paths.)

Step 4

Remove Timer box by using a flat head screw driver and pulling the release tab **down** to unlock box from the mounting rail. Pull tab down and then pull timer box out.





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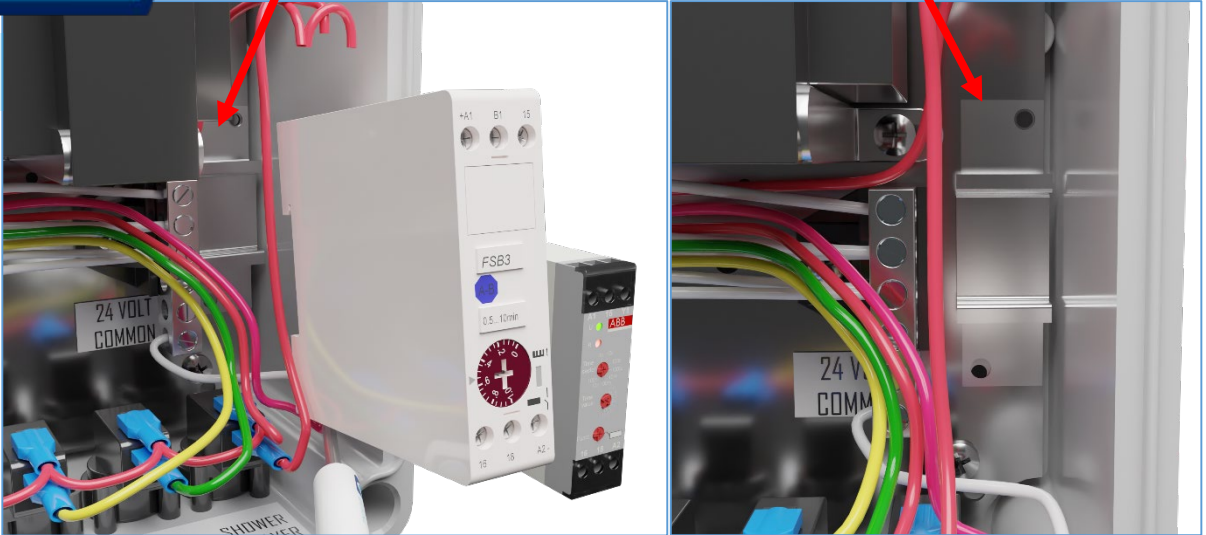
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After pulling old timer unit out, you may have to replace the mounting rail with the one provided in the kit. Simply remove the screws, swap out rails, and screw back into place. Snap new timer onto rail.

Step 5



Step 6

Picture shown below has the wire locations for the new timer unit in place. A1 and 15 share the jumper wire. A1 also gets supply power from the 12/24v transformer. Y1 should have a wire coming from the shower switch. 18 at the bottom should have a wire coming from the shower solenoid. Finally, A2 should have a wire going to the 24v common bar. Snug wire clamp screws back up.



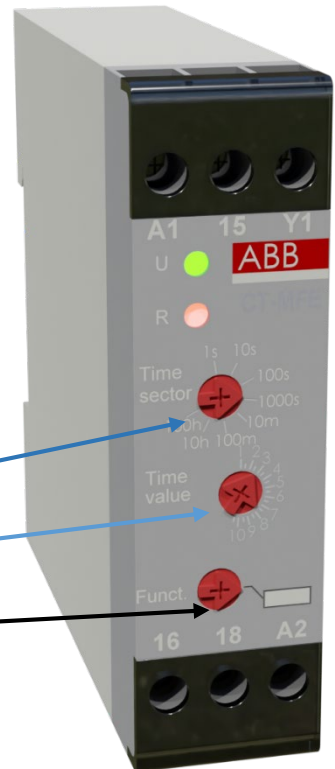
Step 7

Make sure there are not any loose wires. Turn power supply back on. Green light should be on as long as the power is on. Red light indicates timer function has started and is running. Verify operation. Reinstall access cover. Put spa door back on. Installation complete.



Timer Adjustment

- Light indicator function: These timers have a green light ON when there is power to the timer. When the timer is started, a red light comes ON until the timer times out.
- Upper right connection (Y1) is where the switch was connected to start the timer.
- Other Connections:
 - A1 = (24VAC) power to run the timer
 - 15 = (24VAC) power to the relay switch
 - Y1 = 24VAC momentary power to start the timer
 - 16 = not used- (voltage there when 18 is not on)
 - 18 = power out of the relay when timer is on
 - A2 = (24VAC) neutral to run the timer



- Time sector setting
- Time value setting
- Function setting: Always set to 3 o'clock position. In most cases there will be a label covering this dial, describing the timer function i.e. "Shower", "Reservoir fill", or something else.

It is adjusted by setting the timer sector and value. An example is the timer sector setting of 100S= 100 seconds and with the time value set at 5, the timer is now set at 50 seconds. Another example is the timer sector setting at 1000S= 1000 seconds, and with the time value set at 5, the timer is now set for 500 seconds. The time value is a percentage of the timer sector, going from 10%-100%.

