

# Installation Guide for Espresso Shot Timer

J72ABX Timer Controller

Version 1.0

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This is a timer installation guide solely distributed to our clients, who have purchased the J72ABX. Once you are done with this guide, please send us your feedback, comments, and/or suggestions (via e-mail to [info@auberins.com](mailto:info@auberins.com)) so that we may continue making improvements to this guide. Your help is greatly appreciated!

***Note: Please read through the entire guide before attempting any kind of installation.***

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This modifications involve tampering with high-wattage electrical circuits in a wet environment, which could result in electric shock, burns, other serious personal injury or death, as well as fire, explosion and other property damage. This kit is for users with proper electrical safety knowledge only. Attempting to access your espresso machine will void its warranty. You, the user, will assume full responsibility for any modifications undertaken. Auber Instruments Inc is not liable for any damage caused to your property as a result of improper use.

## 1. Operating Instructions

The Espresso Shot Timer function of this units starts to count the time when you activate the brew pump. It will stop the counting when pump stops. The time is displayed on the top LED display of the J72ABX box. This display will reset when the brew pump starts again, or the timer is started for coffee grinder. The coffee grinder timer has higher priority than the espresso shot timer. So, when coffee grinder timer is running, the espresso shot timer will not count even when the brew pump is on.

Please download [here](#) for coffee grinder timer's operating manual.

### **How does converter work?**

The black box (converter) is an electromechanical relay with AC powered coil. Its coil needs to be connected in parallel to the brew pump. When the pump is on, it will energize the coil and close the contacts of the relay. The contacts of the relay are connected to the input terminals of the timer. So, when the pump is on, the timer input terminal is pulled to a low voltage for timer to start counting. The function of the relay is to isolate the AC voltage of the pump from the DC control voltage of the timer.

### **How to connect the converter?**

The relay box needs to be installed on a panel inside the espresso machine. It should be installed in where it is not too hot and has enough flat space for the bottom of the relay. The bottom of this relay has a double sided tape. User need to remove the release paper on the tape and press it onto the mounting site. Figure 6 gives an example on how to install it on Rancilio Silvia.

The input cable connects the relay coil with brew circuit. They are the blue and red cables. The end of the pink female connector should be connected to the relay coil. The end with piggyback connector needs to be connected to the brew circuit. One of them should be tapped to the neutral wire. The other should be tapped to the brew pump power line.

The output cable connects between the relay contact and the timer phone jack. For the relay connection, one of connector should be wired to the COM terminal and other should be wired to the NO terminal. The phone plug end needs to be connected to the phone jack at the back panel of the timer. To keep the appearance of the espresso machine clean, the best way to route the cable out of the espresso machine is to feed it through a hole at the bottom of the machine. Figure 7 is an example on how to route out the cable for the Rancilio Silvia.

## 2. Parts Identification



Figure 0. Timer unit. Operation manual [here](#).

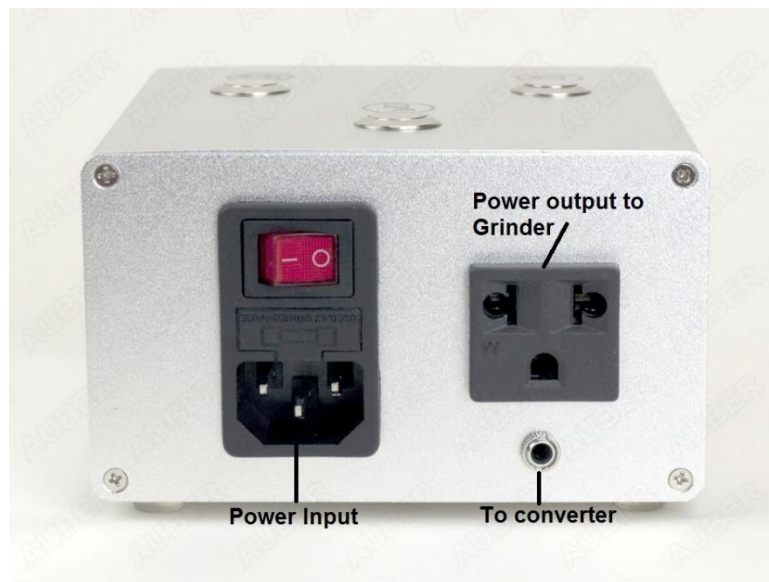


Figure 1. Back panel of timer unit.

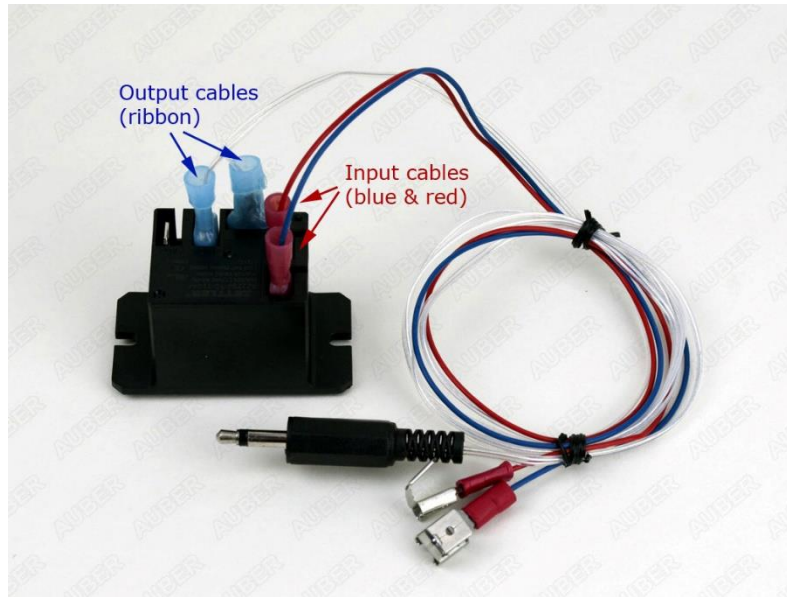


Figure 2. Converter kit. This kit is used to measure the brewing time of espresso machine. Please check section 4 for installing piggyback connectors

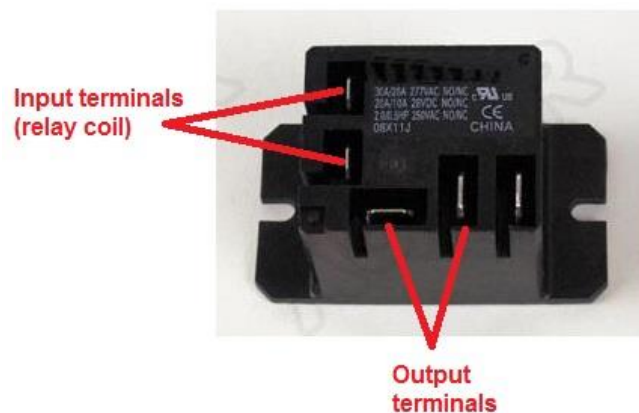


Figure 3. Converter (relay). This converter unit has five terminals, and we only need to use four of them. Two terminals on the left are for input cables. Two terminals on the bottom are for output cables.

### 3. Installation Procedure

#### Connecting timer to coffee machine:

Plug in four wires to the converter (relay) based on Figure 2. Output cables are connected to the back panel of timer. Input cables are connected to the espresso machine. One input wire needs to be installed after the brew switch (hot wire), another input wire needs to be installed at neutral wire. Please check examples below for details:

## Rancilio Silvia:

Please check Rancilio Silvia schematic below:

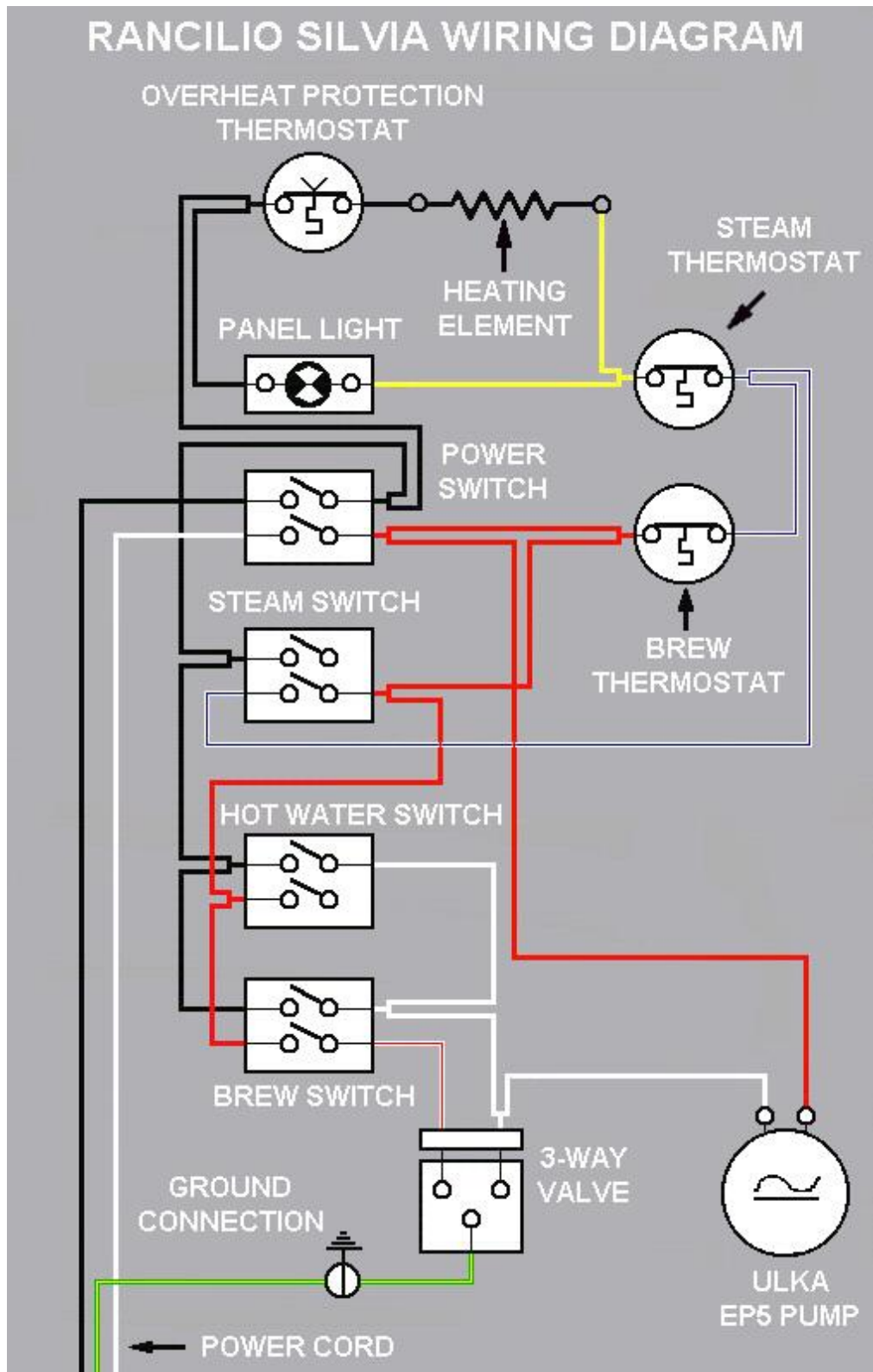


Figure 4. Original schematic

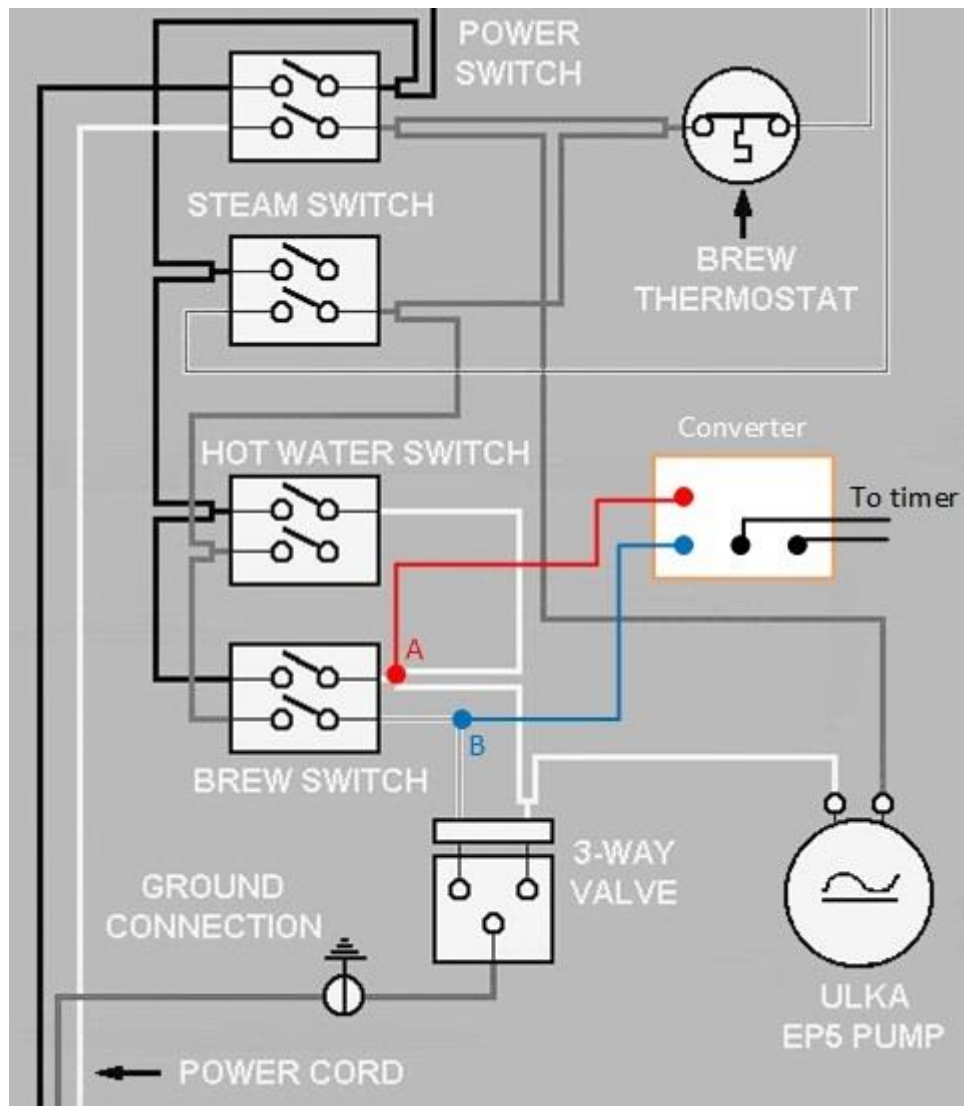


Figure 5. Modified schematic

Black wire is hot and white wire is neutral. Red wire should be connected to red A spot (hot terminal after brew switch), and blue wire should be connected to blue B spot (the neutral terminal after brew switch). Please check Figure 6 & 7 for more details.



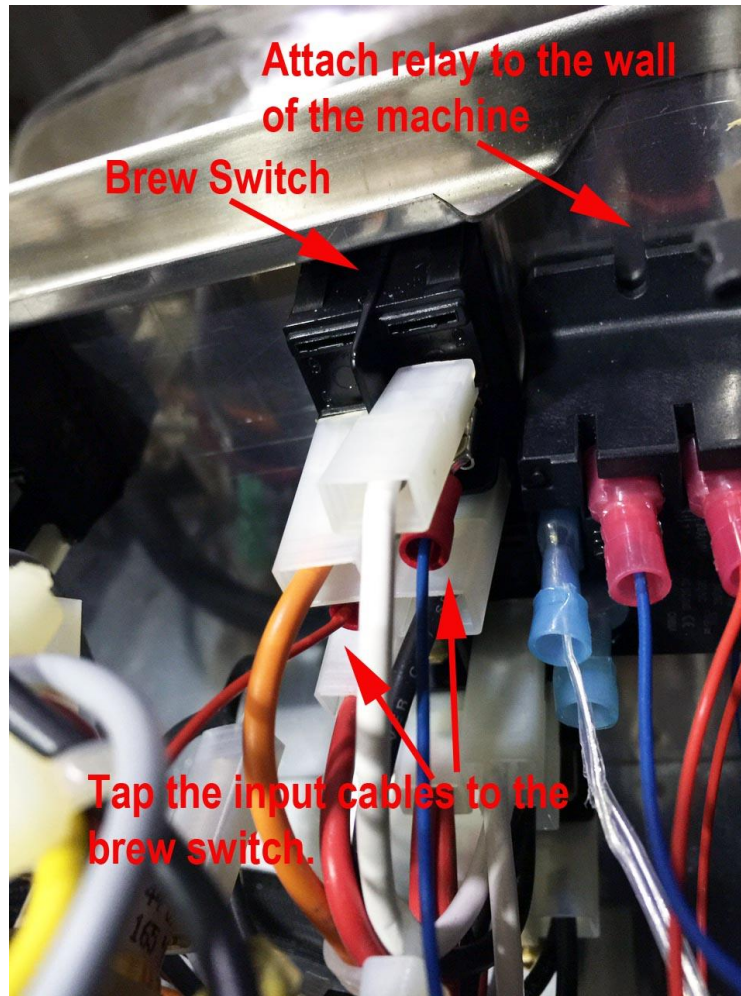


Figure 6. Example for tapping input cables.



Figure 7. Example for output cables.

Please check schematic below:





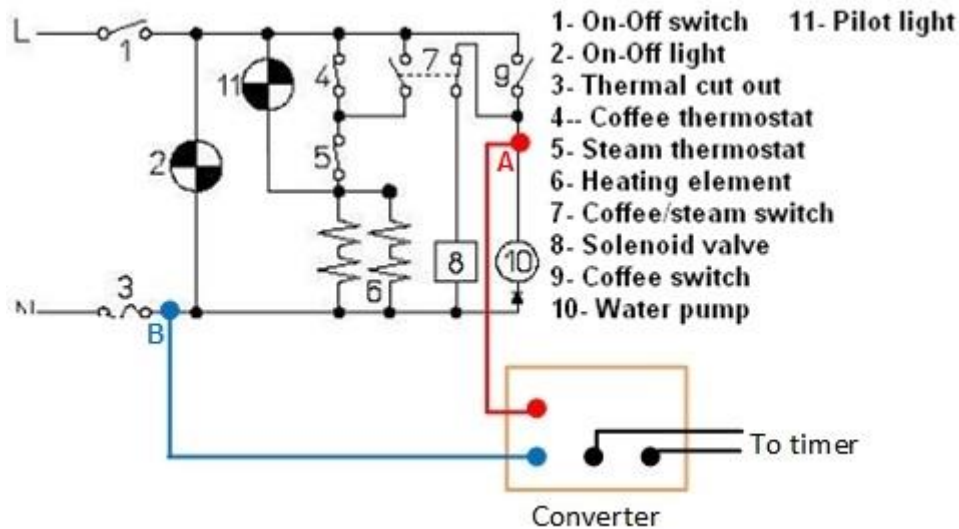


Figure 9. Modified schematic

Red wire should be connected to red A spot (hot terminal after coffee switch), and blue wire should be connected to blue B spot (the neutral terminal after thermal cutout).

**Note:** Some customer may not be familiar on how to tap wire to the existing circuit with a piggyback connector. This example shows how it is done. The example used here was extracted from a different product that we offer. It is NOT the brew pump circuit. We use these pictures because we feel this gives a good example.

#### 4. Example to install piggyback connectors

Remove the connectors with black and red cables on the main power switch (red arrows in Figure 10). Remember the original position: the connector with black cable was on the left and connector with red cable in the center. Slide the two controller power cable piggyback connectors on to the switch as shown in Figure 11. The tab on the piggyback connector should be on the top. You need to bend it downward a little bit if the angle is too high. It is very important that black cable is put on the left side of the switch and brown cable on right. After installing the connectors, connect the cables that were just removed to the tab on the piggyback connector. It is very important to keep the original position, black on the left and red in the center (see Figure 12).



Figure 10. Red arrow indicates the connectors that controller power cable will be tapped.

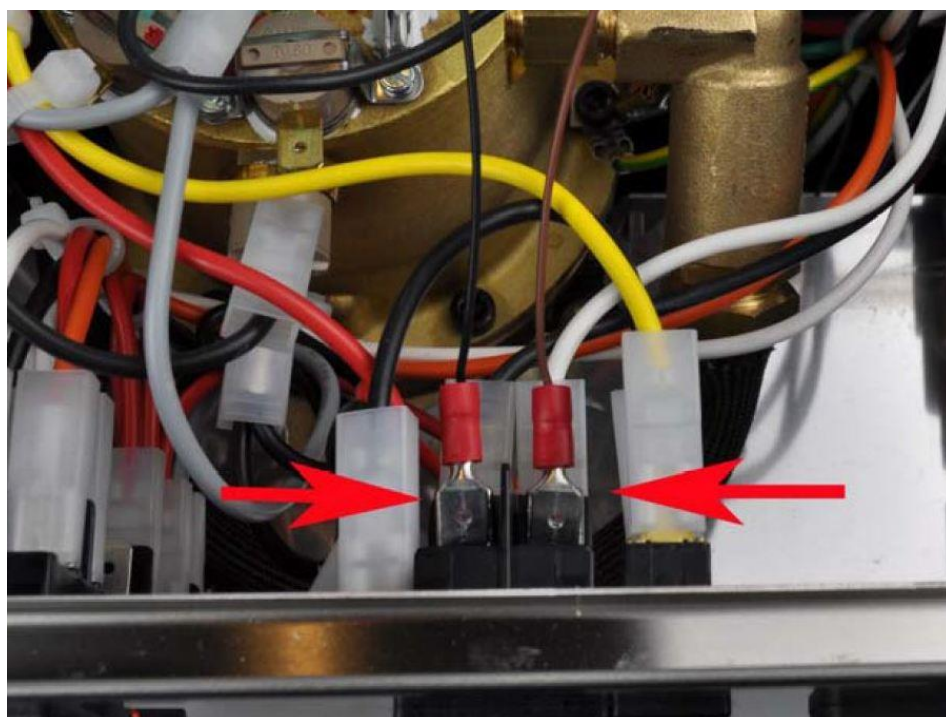


Figure 11. The controller power cable piggyback connector location. (red arrows). Brown cable on the right and black cable on the left.

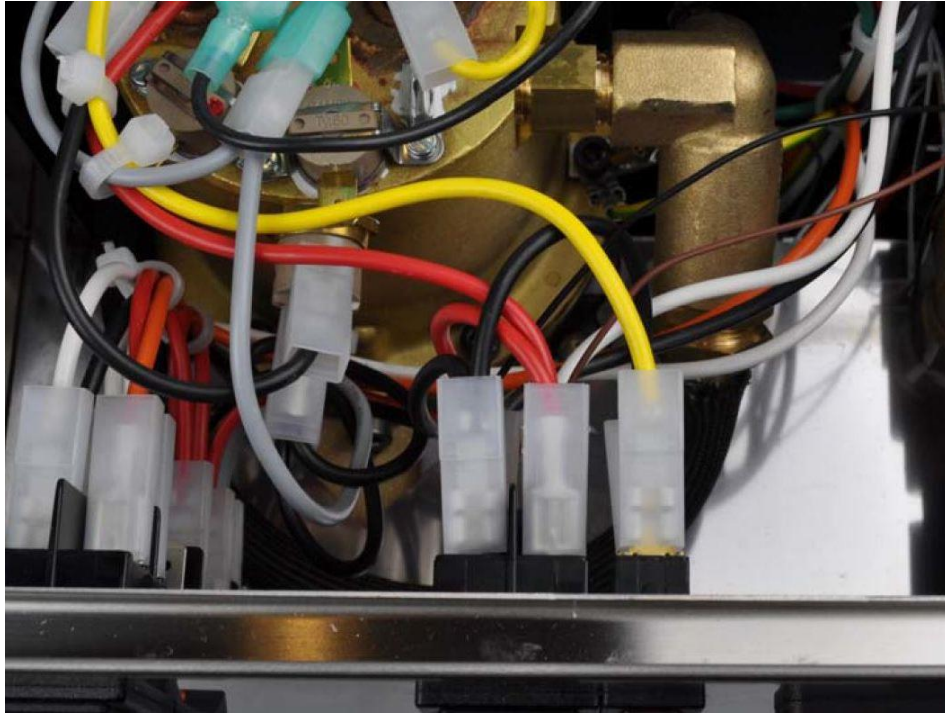


Figure 12. Put the original power cables back.

## 5. Installation guide for Coffee Grinder Time

Please download it [here](#).