



Replacement Slide Wire Resistor and Wiper Arm

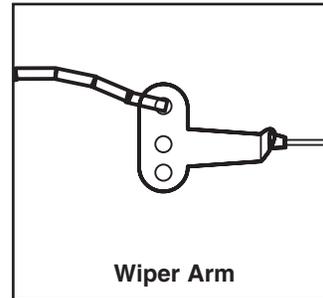
7B-1R

For Installation on 7B or 7B-M Switch
Assemblies

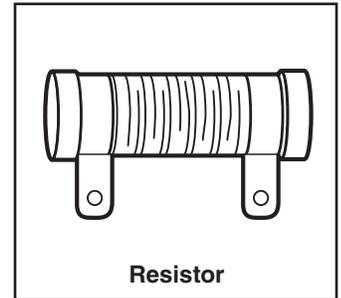
Electrical Rating

Potentiometer Slide Wire Rating:

0 - 135 ohms @ 24 VAC

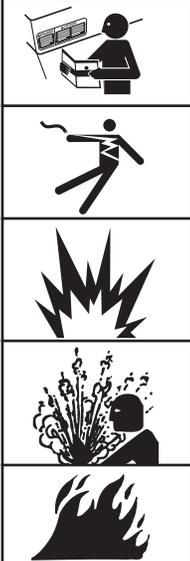


Wiper Arm



Resistor

WARNING



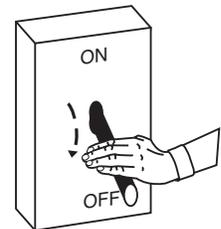
- Before using this product read and understand instructions.
 - Save these instructions for future reference.
 - All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of plumbing, steam, and electrical equipment and/or systems in accordance with all applicable codes and ordinances.
 - To prevent a fire, do not exceed the switch contact rating.
- Failure to follow this warning could cause property damage, personal injury or death.

STEP 1 - Removal and Replacement of Contacts and Terminal Panels

- a. Turn power off to boiler and all controls.
Allow boiler to cool to 80°F (27°C) and
reduce the pressure to 0 psi (0 bar).

CAUTION

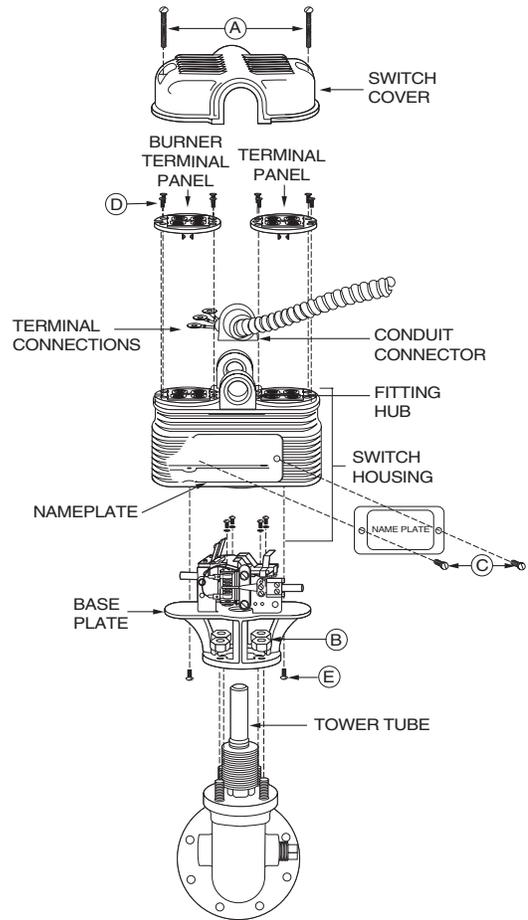
There may be more than one source of power to
the boiler.



Engineered for life

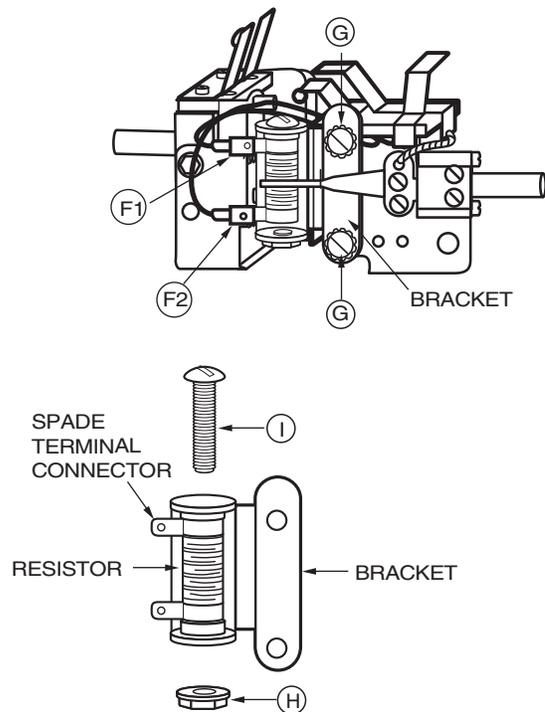
b. Remove Switch Assembly, Terminal Panels and Switch Housing

- Remove two screws (A) and lift off **switch cover**.
- Identify **terminal connections** for rewiring and then disconnect all wires from **terminal panel**.
- Remove **conduit connector** and wires from the integral **fitting hub**.
- Remove four hex nuts (B) and carefully lift **switch assembly** up and off **tower tube**.
- Remove two screws (C) and remove **nameplate**.
- Loosen and remove four screws (D) that hold **burner terminal panel** in place. Carefully lift **burner terminal panel** from **switch housing**.
- Loosen four screws (E) and carefully lift **switch housing** up off **base plate**.



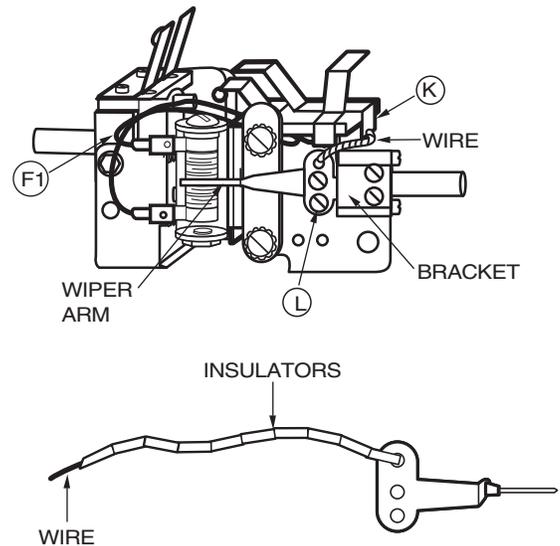
c. Remove and Replace Resistor

- Mark the two lead wires (**F1**, **F2**) for correct connection later and disconnect wires from **spade terminal connectors**.
- Using a flathead screwdriver, remove the two screws (**G**) that secure the **bracket**.
- Using an adjustable wrench and flathead screwdriver, remove nut (**H**) and long screw (**I**) that hold **resistor** in **bracket** and remove old **resistor**.
- Insert new **resistor** in **bracket**, orientating it so gray colored segment faces outward and **spade terminal connections** are positioned away from bracket.
- Insert long screw (**I**) through **bracket** and **resistor** and secure with nut (**H**) by tightening with a flathead screwdriver and adjustable wrench.
- Install **bracket**, securing in place with two screws (**G**).
- Reconnect wires (**F1**, **F2**) being careful to install on same **spade terminal connectors** as when they were removed.



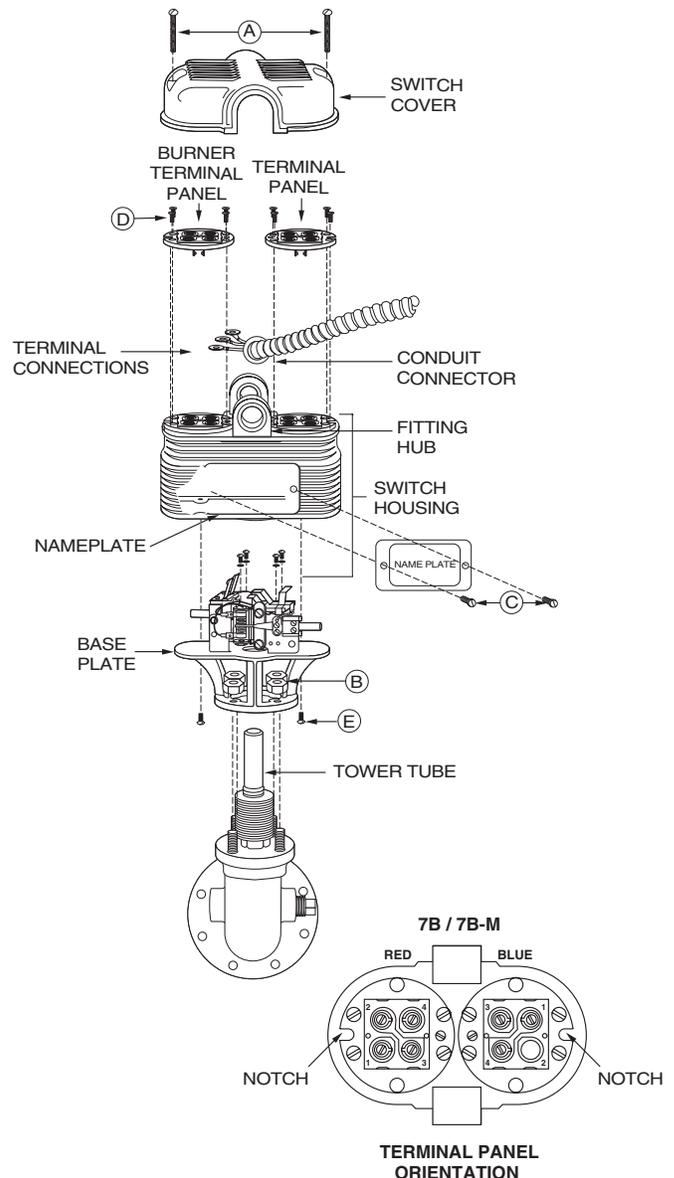
d. Remove and Replace Wiper Arm

- Using a soldering iron, remove **wire** from terminal **(K)**.
- Using a flathead screwdriver, remove screws **(L)** holding **wiper arm** on bracket and lift off old **wiper arm**.
- Thread **wire** of new **wiper arm** through new **insulators**.
- Using a soldering iron, solder new **wire** onto terminal **(K)** being careful not to damage **insulators**.
- Install **wiper arm** onto **bracket** using two screws **(L)** and tightening securely with a flathead screwdriver.



e. Replace Switch Housing, Switch Assembly and Reconnect Wiring

- Replace **switch housing** and fasten to **base plate** with four screws **(E)**.
- Carefully set **burner terminal panel** in position and fasten with screws **(D)**. See diagram at lower right for proper orientation of **terminal panel**.
- Check visually to see that **contact arms** are in proper position between terminal panel contacts.
- Carefully slide **switch assembly** over **tower tube** and secure with four hex nuts **(C)**.
- Install **conduit connector** and wires to the **integral fitting hub**.
- Reconnect wiring to **terminal panel** in same positions as removed.
- Replace **switch cover** and fasten with two screws **(A)**.
- Replace **nameplate** and fasten with two screws **(C)**.



Proceed to Step 2 to Test Control

STEP 2 - Testing

- Dimensions shown are typical.
- The following testing procedure is only meant to serve as a verification of proper operating sequence.

a. Turn on power to boiler and pump circuits.

With the boiler empty, the pump should turn on (5 or 5-M switch models) or the valve open (7B or 7B-M switch models). The burner should remain off and boiler should begin to fill with water.

CAUTION

Immediately turn off all power if the burner turns on with no water in the gauge glass. Investigate further before continuing procedure.

b. For Automatic Reset Models

When water level in the gauge glass is approximately 1 3/8" (35mm) above the horizontal cast line, the burner should turn on.

For Manual Reset Models

When water level in the gauge glass is approximately 1 3/8" (35mm) above the horizontal cast line, press the manual reset button and the burner should turn on.

c. For 5 or 5-M Switch Models

When water level in the gauge glass is approximately 2 1/8" (54mm) above the horizontal cast line, the pump should turn off.

For 7B or 7B-M Switch Models

When water level in the gauge glass is approximately 2 11/16" (68mm) above the horizontal cast line, the valve should be closed.

CAUTION

If pump does not turn off or valve close, turn off water supply to boiler. Investigate further before continuing procedure.

- ### d. With the water in the boiler at its normal level and burner on, SLOWLY open the blow-down valve until it is fully open. As the water level in the gauge glass begins to drop, verify that the following occurs.

For 5 or 5-M Switch Models

When water level drops to approximately 1 1/8" (29mm) above the horizontal cast line, the pump should turn on.

When water level drops to the horizontal cast line, the burner should turn off.

For 7B or 7B-M Switch Models

As the water level drops, the valve should begin to open.

When the water level drops to approximately 7/8" (22mm) above the horizontal cast line, the valve should be full open.

When the water level drops to the horizontal cast line, the burner should turn off.

- ### e. Close the blow-down valve after burner turns off and restore water level to normal operating level.
- ### f. Repeat testing procedure several times to ensure proper operation of control.
- ### g. After testing and verification of control operation, the boiler can be returned to service.