



McDonnell & Miller
 Installation & Maintenance
 Instructions
 MM-209(C)

Series 6667 Replacement Mechanism



Model 6667 on 120 VAC or 24 VAC Systems

Model 6667MV on Millivolt or 24 VAC Systems

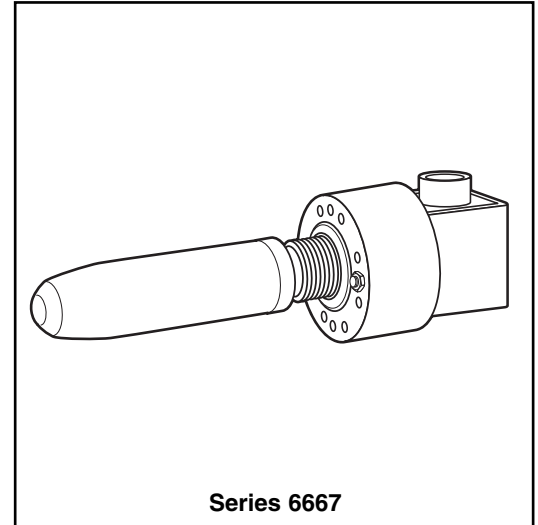
Used on Series 61, 67, 69, 767, 70, and 70-B Low Water Cut-offs

OPERATION

Maximum Steam Pressure: 20 psi

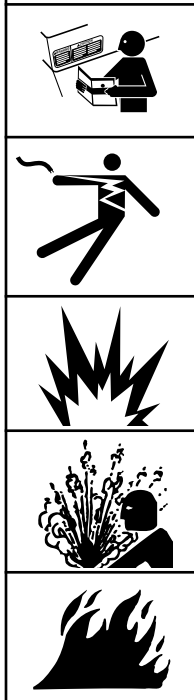
Electrical Ratings

Voltage	Full Load	Locked Rotor	Pilot Duty
120 VAC	7.4	44.4	125 VA at
240 VAC	3.7	22.2	120 or 240 VAC 57.5 VA at 120 or 240 VDC



On D.C. Service be sure to connect (+) positive wire to terminal marked (2).

⚠ WARNING



- Before using 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 and electrical equipment and/or systems in accordance with all applicable codes and ordinances.
 - To prevent electrical shock, turn off the electrical power before making electrical connections.
 - To prevent serious burns bleed off all pressure and let boiler cool down to 80°F (27°C).
 - Drain water level down below the control before taking the control out of the boiler.
- Failure to follow this warning could cause property damage, personal injury or death.

Engineered for life

STEP 1 - Preparation

- a. **See figure 1.** Turn off all electrical power to the boiler. (There may be more than one power source to the boiler). Bleed off all pressure and let the boiler cool down to 80°F (27°C). Drain water level in boiler down below the control. Remove screw (A) and cover (B). Tag all wires for reconnection later. Disconnect wires from the terminals and remove conduit connection from housing (C). Remove two (2) screws (D) and switch housing (C). Remove four (4) screws (E) and remove switch (F). Remove four (4) screws (G) and bracket (H). Remove four (4) screws (J) and ring (K). The float and bellows assembly (L) can now be removed. Clean the gasket surface and mount the new float and bellows assembly. Remove four (4) screws (J) and ring (K). The float and bellows assembly (L) can now be removed. Clean the gasket surface and mount the new float and bellows assembly.
- b. Disassemble the new 6667 by removing screw (A) and cover (B). Remove the two (2) nuts on the back side of screws (D) and pull the assembly apart.

STEP 2 - Installation on 61, 67, 767, 70, and 70-B For installing in a 69 Series see Step 3

- a. **See figure 1.** Slip gasket (M) over float (L) and slide into body. Make sure that word **TOP** on the bellow base is at the top. Align the holes in gasket (M) with holes in the body, float and bellows assembly (L) and ring (K). Using four (4) screws (J) attach (L) and (K) to the body. Attach bracket (H) using four (4) screws (G) to ring (K) and body. Install switch (F) into bracket (H), making sure that the yoke on the switch fits around the roller in float and bellows assembly (L) and that the word TOP on the switch is at the top. Attach with four (4) screws (E). Attach housing (C) using two (2) screws (D). Install conduit connector and reconnect wires to their proper terminals. Install cover (B) using screw (A).

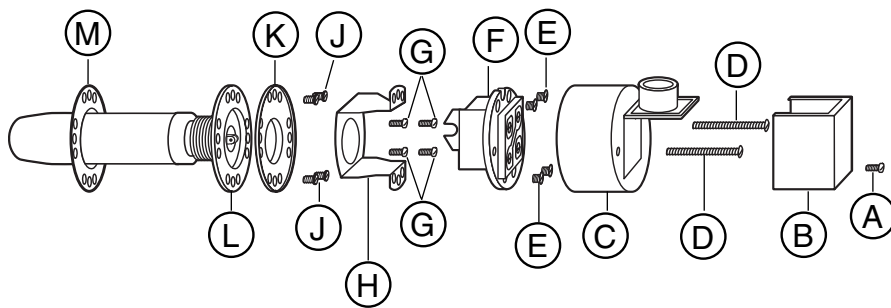


Figure 1

STEP 3 - Installation on 69 Series

a. Follow STEP 1-a.

b. See figure 2. Remove eight (8) screws (N) and clamping ring (O). Mark position of float shield (P) with respect to barrel casting (R). Inspect and clean float shield (P). Clean the gasket surfaces, being careful not to scratch them. **NOTE:** On newer models the gasket has been replaced with square cut rings (items (T) in figure 2). Place gasket (S) over float shield (P) and insert the float shield (P) into barrel casting (R). Line up the marks that you applied above. Using clamping ring (O) and eight (8) screws (N) secure the float shield (P) to the barrel casting (R).

c. Follow STEP 2-a.

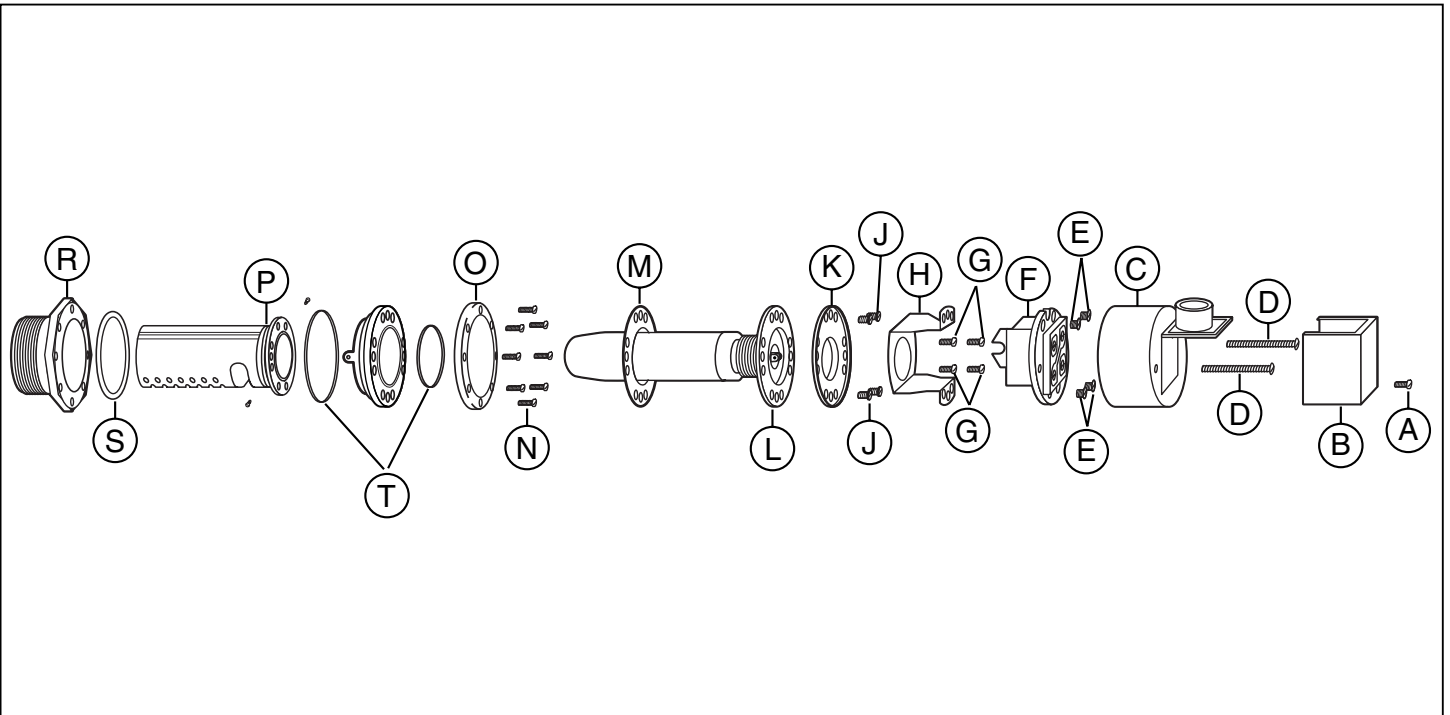


Figure 2

STEP 4 - Testing

a. Run the control through several cycles of operation before leaving the job site.



MAINTENANCE

SCHEDULE:

- **Blow down weekly during heating season. (On 61, 67, 767, 70 and 70B).** Blow down weekly if operating pressure is 15 psi or lower. Blow down daily if operating pressure is 15 psi or higher.
- **Follow ASME Boiler and Pressure Vessel Code - Section VI Paragraph 7.07G.** It states that the controls should be dismantled annually by qualified personnel, to the extent necessary to insure freedom from obstructions and proper functioning of the working parts.
- **Check for leaks at the gasket surfaces and solder joints.** Repair or replace components as needed.
- **Check all wiring for brittle or worn insulation.**
- **Replace control every 10 years.**

TROUBLESHOOTING

Problem:

1. Control does not turn burner off on low water.

- a. **Cause:** Build up of scale and sediment.

Test: Dismantle control and check for any build up or any other obstructions that would prevent the control from turning off the burner. Don't forget to check the corrugations of the bellows.

Solution: Clean or replace as necessary.

- b. **Cause:** Terminals 1 and 2 on the No. 11 switch are not opening up on low water.

Test: With a continuity meter or ohm meter check if terminals 1 and 2 open on low water. If they do not open, take the switch off the control and work it manually.

Solution: If terminals 1 and 2 do not open when operated manually, replace the switch. If they do open see item a. above.

Problem:

2. Control does not turn electric feeder off.

- a. **Cause:** Build up of scale between the corrugations of the bellows. On 69 units the float shield could be tipped down.

Test: Dismantle the control and check for scale build up between the bellow corrugations. On the 69 series control check the float shield to make sure it is in the proper position.

Solution: Clean or replace as necessary. On 69 series reposition the float shield.