



Replacement Float

SA63-30

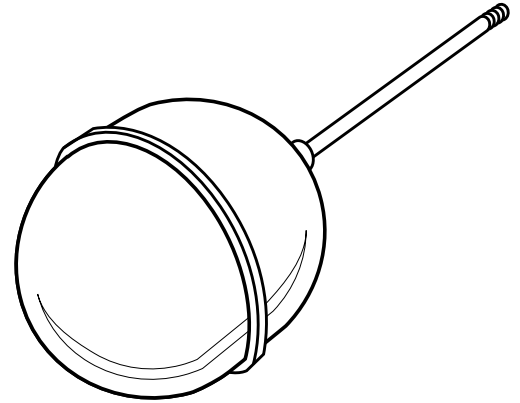
For Installation on Series 63
Low Water Cut-Off

SA60-30

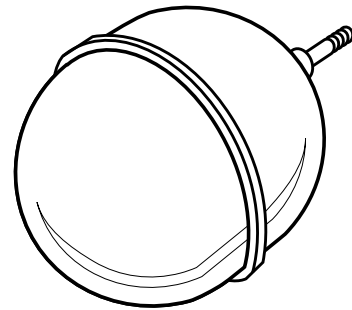
For Installation on Series 65/165
Liquid Level Switch

SA64-30

For Installation on Series 64/764
Low Water Cut-Off



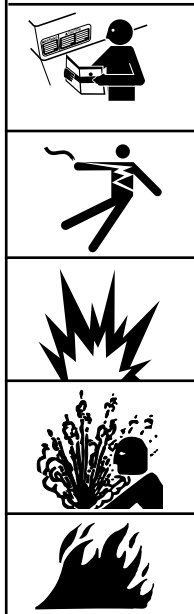
SA63-30 Replacement Float (Weighted)
SA60-30 Replacement Float (Not Weighted)



SA64-30 Replacement Float



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.

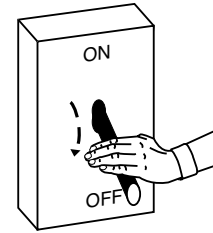
Failure to follow this warning could cause property damage, personal injury or death.

STEP 1 - Float Removal and Replacement

- 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

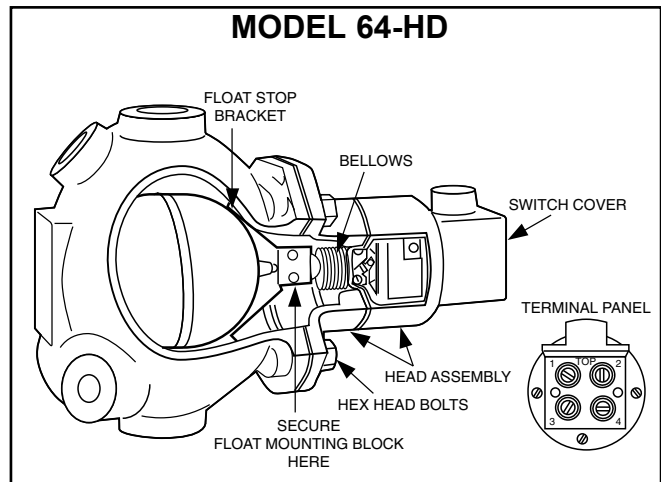
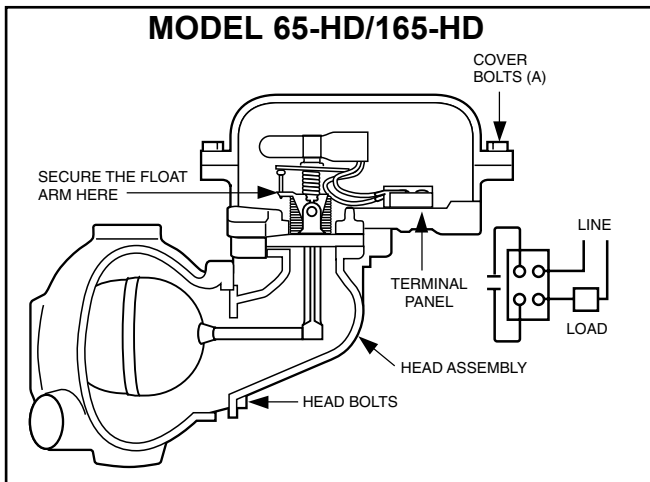
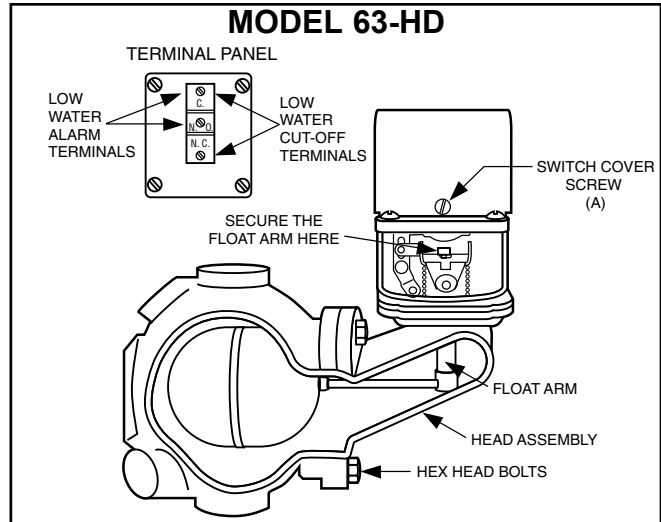
There may be more than one source of power to the boiler.



Drain water in the boiler to a level that is below the float chamber.

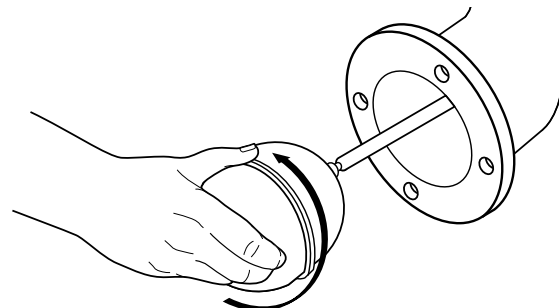
b. Remove Head Assembly

- Remove screws (A) and lift off **switch cover**.
- Identify **terminal connections** for rewiring and then disconnect all wires from **terminal panels**.
- Remove head bolts. Carefully remove **head assembly** from **control body**.
- Carefully place **head assembly** in vice where replacement work can be performed more conveniently.



c. Remove and Replace Float

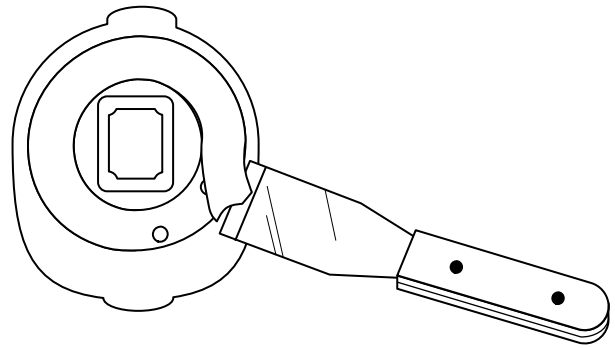
- While securely holding the **arm or mounting block**, where indicated in the diagram above, unscrew **float ball** from the assembly. Holding the arm or mounting block reduces the risk of damaging the bellows from unnatural stresses.
 - Screw new float onto assembly.
- On model 64 units, be sure the float stop bracket is in proper position.



d. Prepare Flange Surfaces

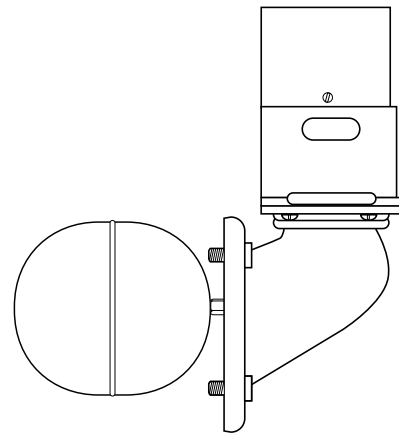
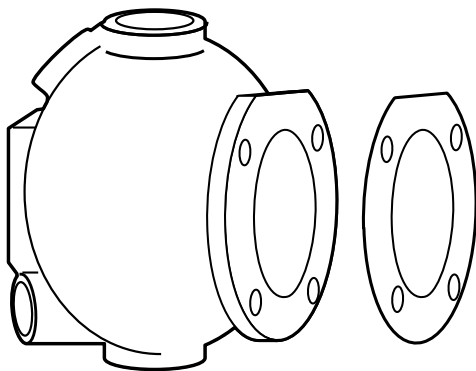
Scrape and clean flange surface on **control body** and **control head**.

IMPORTANT: Care must be taken not to damage flange surfaces. Nicks, scrapes or gouges may cause the flange to leak when in service.

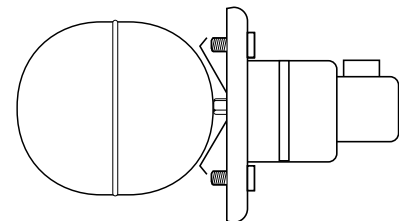


e. Replace Head Assembly

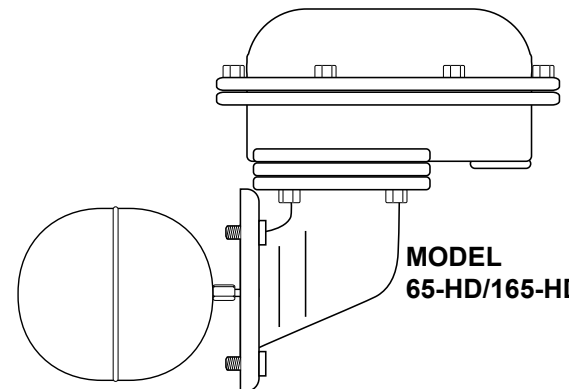
- Slide **flange gasket** over **float ball**.
- Insert **head assembly** by carefully guiding **float ball** into **control body**.
- Align Gasket and install head bolts.
- Using a torque wrench, tighten **head bolts** in an alternating star pattern. Tighten to 14-20 ft•lbs.
- **Reconnect wiring to terminal panels** in exactly the same position as removed.
- Replace **switch cover** and fasten with screws. On Model #65, cover and housing surfaces must be free of grit and debris for proper seal. On Model #165, replace the cover gasket.



**MODEL
63-HD**



**MODEL
64-HD**



**MODEL
65-HD/165-HD**

STEP 2 - Testing the Control

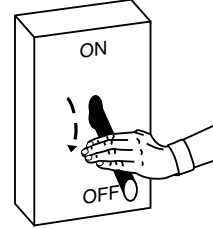
- a. Turn the boiler on.
- b. Fill the control and check for gasket leakage.
- c. Slowly open the blow-down valve which will lower the water level in the float chamber.

When the water level drops to the horizontal cast line, the burner should turn off. Close the blow-down valve after the burner turns off and restore the water level to normal operating level. Repeat testing procedure several times to ensure proper operation of control.

After testing and verification of control operation, the boiler can be returned to service.

CAUTION

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



MAINTENANCE

SCHEDULE:

- Blow down control as follows when boiler is in operation.
- Steam:
 - Daily if operating pressure is above 15 psi.
 - Weekly if operating pressure is below 15 psi.
- Hot Water:
 - Quarterly

NOTE

More frequent blow-down may be necessary due to dirty water and/or local codes.

- **Disassemble and inspect annually. Replace the low water cut-off if it is worn, corroded, or if components no longer operate properly.**
- **Inspect the float chamber and equalizing piping annually. Remove all sediment and debris.**
- **Replace head mechanism every 5 years.**

More frequent replacement may be required when severe conditions exist such as rapid switch cycling, surging water levels, and use of water treatment chemicals.
- **We recommend head mechanism replacement when the switch(es) no longer operate properly.**

If you choose to replace the switch(es), order the proper McDonnell & Miller replacement switch or switch assembly and follow the repair procedure provided.

PROCEDURE:

CAUTION



To prevent serious personal injury from steam pipe blow down, connect a drain pipe to the control opening to avoid exposure to steam discharge.

Failure to follow this caution could cause personal injury.

Blow down the low water cut-off when the water level is at the normal level and the burner is on. **Slowly** open the blow down valve until it is fully open and observe the water level fall in the gauge glass. Close the valve after verifying that the pump contacts have closed and the burner shuts off. If this does not happen, immediately shut off the boiler and correct the problem.

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