

INSTRUCTION MANUAL

MM-715E



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



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). ON 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 MODEL 63-HD • Remove screws (A) and lift off TERMINAL PANEL switch cover. 0 LOW LOW WATER CUT-OFF TERMINALS WATER • Identify terminal connections for ALARM rewiring and then disconnect all wires SWITCH COVER SCREW from terminal panels. (A) SECURE THE FLOAT ARM HERE · Remove head bolts. Carefully remove head assembly from control body. Carefully place head assembly in vice where replacement work can be LOAT ARM performed more conveniently. HEAD ASSEMBLY HEX HEAD BOLTS Ħ **MODEL 65-HD/165-HD** MODEL 64-HD COVER BOLTS (A) FLOAT STOP BRACKET BELLOWS SECURE THE FLOAT ARM HERE SWITCH COVER LINE TERMINAL PANEL TERMINAL PANEL LOAD HEAD ASSEMBLY 6 HEAD ASSEMBLY \bigcirc HEAD BOLTS HEX HEAD BOLTS SECURE FLOAT MOUNTING BLOCK HEBE 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.



MODEL

MODEL

64-HD

MODEL 65-HD/165-HD

63-HD

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.



- 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.

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.

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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.