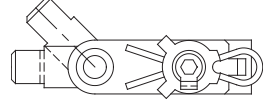




SERVER

Thermostat Replacement Kit Stock No. 55034

This kit includes thermostat 81034



This sheet gives instruction for:

- FS, FSP, FS-4 Units
Series 81 to Present
- FS-2 Units
Series 89 to Present

Kit Includes:

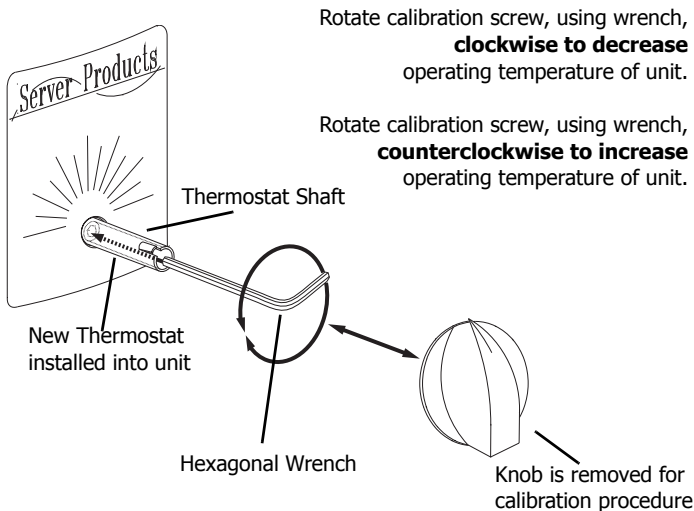
Part No.	Qty.	Description
10001	1	Wrench, Hexagonal, 1.5mm
81034	1	Thermostat

OLD THERMOSTAT REMOVAL

- TURN UNIT OFF AND UNPLUG CORD.
 - Allow unit to fully cool if unit has been in operation.
- EMPTY ANY CONTENTS AND/OR WATER FROM VESSEL(S).
 - Remove all accessories from unit.
- REMOVE THERMOSTAT KNOB GUARD, IF INCLUDED WITH UNIT.
 - Remove the two screws securing knob guard to underside of unit.
- REMOVE THERMOSTAT KNOB.
 - Pointer type knobs have a setscrew that will need to be unscrewed.
- DISASSEMBLE SHROUD FROM WATER VESSEL ENOUGH TO ACCESS WIRING.
 - Place unit on its side and unscrew shroud from vessel.
 - Slowly pull vessel away from shroud by tilting shroud until thermostat shaft clears hole in shroud.
- CUT WIRE TIES OR DISCONNECT GREEN GROUND LEAD, IF NECESSARY TO FURTHER ACCESS INTERNAL WIRING.
- DISCONNECT LEADS TO THERMOSTAT.
 - Thermostat can be best accessed when vessel is set upside down on a work surface.
- REMOVE SCREW(S), NUT(S), AND WASHER(S) SECURING THERMOSTAT TO THERMOSTAT BRACKET.
 - You may need to save the screw(s), nut(s), and washer(s) for new thermostat installation.
- REMOVE OLD THERMOSTAT AND DISCARD.

NEW THERMOSTAT INSTALLATION

- SET WATER VESSEL UPSIDE DOWN ON WORK SURFACE.
- POSITION NEW THERMOSTAT, WITH ANGLED TERMINAL POINTING UPWARD, ONTO THERMOSTAT BRACKET.
- SECURE THERMOSTAT TO THERMOSTAT BRACKET.
 - Use screws, nuts, and lockwasher which were saved during old thermostat removal.
 - Make sure lockwasher is under nut. Tighten nut to 18 in. lbs. (2.03 Nm) torque.
- CONNECT LEADS TO THERMOSTAT. See **WIRING DIAGRAM** on opposite page.
- CONNECT GREEN GROUND LEAD, IF DISCONNECTED PREVIOUSLY.
- BEGIN TO INSTALL VESSEL BACK INTO SHROUD.
 - Align thermostat shaft into hole provided in shroud.
- GATHER ALL WIRES WITH WIRE TIES TO PREVENT WIRES FROM TOUCHING VESSEL OR HEATING ELEMENT AFTER COMPLETE ASSEMBLY.
- SECURE VESSEL TO SHROUD BY RE-INSTALLING SCREWS.
- INSTALL THERMOSTAT KNOB ONTO THERMOSTAT SHAFT.
 - Align knob onto spline on shaft and push knob onto shaft.
- SET UNIT UPRIGHT ONTO ITS FEET AND PLUG UNIT INTO POWER SOURCE.
- CALIBRATE THERMOSTAT PER CALIBRATION INSTRUCTIONS. See **CALIBRATION PROCEDURE** below.



FACTORY-INSTALLED THERMOSTATS ARE SEALED AFTER CALIBRATION WITH LOCTITE OR SIMILAR BONDING MATERIAL.

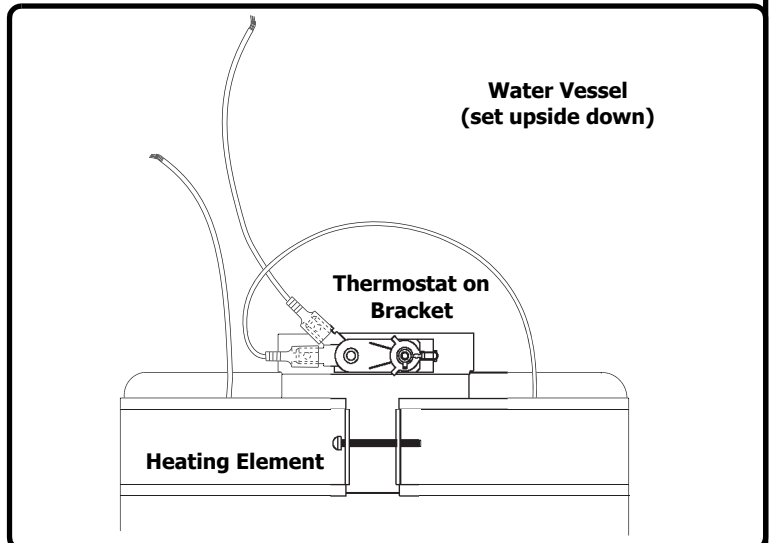
DO NOT ATTEMPT TO CALIBRATE A FACTORY-INSTALLED THERMOSTAT.

TOOLS NEEDED FOR CALIBRATION PROCEDURE

- **Hexagonal Wrench or Allen Wrench (1.5 mm)**
-included in thermostat replacement kit.
- **Stem type Dial Thermometer**
-to measure water temperature of 90°-170°F (32.2°-76.7°C)
-not included in thermostat replacement kit.
- **Cover to contain heat within unit**
-needs to have small hole in it to hold dial thermometer
-not included in thermostat replacement kit.

CALIBRATION PROCEDURE

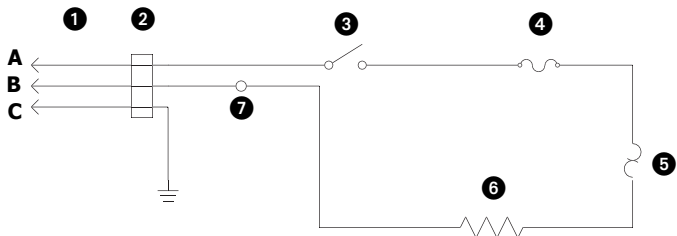
- FILL VESSEL AT LEAST 1/2 FULL OF WATER.
- PLACE A COVER OVER VESSEL AND INSERT DIAL THERMOMETER THROUGH HOLE IN COVER SO THAT IT CAN READ THE WATER TEMPERATURE.
- TURN KNOB TO SETTING OF:
 - 100°F (37.8°C)** for units which have a knob range of 50°F to 150°F
 - 150°F (65.6°C)** for FS-4 units and units which have a knob range of 100°F to 200°F.
- CAREFULLY REMOVE KNOB WITH A STRAIGHT PULL TO AVOID TURNING THERMOSTAT SHAFT.
- TURN UNIT ON AND ALLOW TO HEAT UP TO A MINIMUM OF:
 - 110°F (43.3°C)** for units which have a knob range of 50°F to 150°F
 - 160°F (71.1°C)** for units which have a knob range of 100°F to 200°F
 - 170°F (76.7°C)** for FS-4 units.
 - These are minimum temperatures because exceeding these temperatures will not affect the final calibration. These are the lowest temperatures that the thermostat needs to "open" at, which is equal to turning heating element "off".
 - It might take as long as 45 minutes to reach the minimum temperature needed.
 - If temperature does not reach the minimum needed- hold thermostat shaft with one hand and rotate calibration screw, inside shaft, 1/4 turn counterclockwise, using hexagonal wrench. This will "close" thermostat and increase temperature of heating element.



- If temperature still does not reach the minimum needed- repeat 1/4 turn of calibration screw, until temperature reaches the minimum needed.
- WHEN UNIT REACHES THE MINIMUM TEMPERATURE NEEDED, ROTATE CALIBRATION SCREW TWO FULL TURNS CLOCKWISE TO COOL UNIT TO:
 - 100°F (37.8°C)** for units which have a knob range of 50°F to 150°F
 - 150°F (65.6°C)** for units which have a knob range of 100°F to 200°F
 - 160°F (71.1°C)** for FS-4 units.
 - This will "open" thermostat completely, which is equal to turning heating element "off" to decrease temperature of heating element.
 - If unit does not cool to the needed temperature- rotate calibration screw two additional full turns clockwise.
 - WHEN TEMPERATURE COOLS TO THE NEED TEMPERATURE, ROTATE CALIBRATION SCREW COUNTERCLOCKWISE UNTIL A SOFT AUDIBLE CLICK IS HEARD.
 - Or rotate calibration screw two full turns counterclockwise to "close" thermostat completely, which is equal to turning heating element "on".
 - Unit will now start and continue to heat up until another audible click is heard. This second click indicates that heating has stopped and unit is now working properly.
 - CHECK CALIBRATION SETTING.
 - Turn unit off and then turn unit back on again.
 - After unit has been on for about 45 minutes, and unit can hold a stable temperature around:
 - 97°F (36.1°C) to 107°F (41.6°C)** for units which have a knob range of 50°F to 150°F
 - 147°F (63.8°C) to 157°F (69.4°C)** for units which have a knob range of 100°F to 200°F
 - 157°F (69.4°C) to 167°F (75°C)** for FS-4 units.
 then return unit to service
 - Otherwise, repeat entire calibration procedure.
 - SECURE CALIBRATION SCREW BY PLACING SUITABLE THREAD-LOCKING MATERIAL, SUCH AS LOCTITE, IN SHAFT CENTER.
 - INSTALL THERMOSTAT KNOB ONTO THERMOSTAT SHAFT BY ALIGNING KNOB ONTO SPLINE ON SHAFT AND PUSHING KNOB ONTO SHAFT.
 - If unit includes knob guard, install knob guard also.

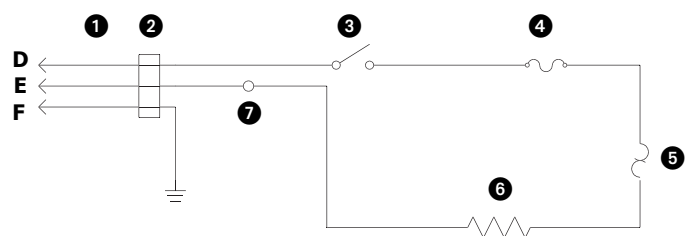
**FS, FSP (SERIES 89A, 89J, 93D, 96G)
FS-4 (SERIES 89A, 89J)**

120V/60Hz



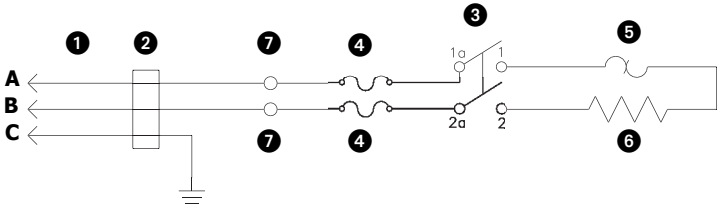
**FS, FSP (SERIES 89A, 89J, 93D)
FS-4 (SERIES 89A, 89J)**

230V/50Hz

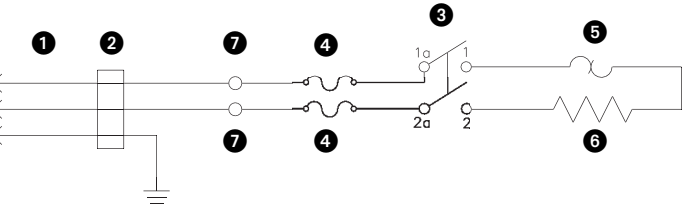


**FS, FSP, FS-4 (SERIES 97L)
FS-2 (SERIES 97L, 99J)**

120V/60Hz

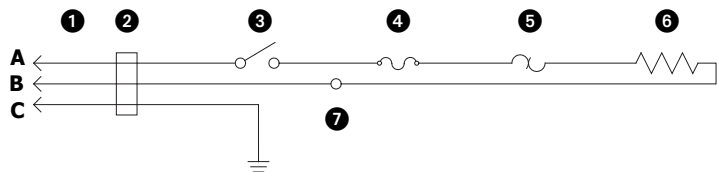


230V/50Hz

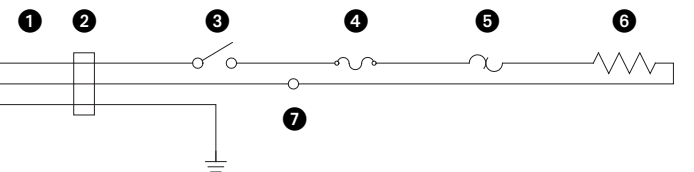


FS-2 (SERIES 89A, 89K)

120V/60Hz

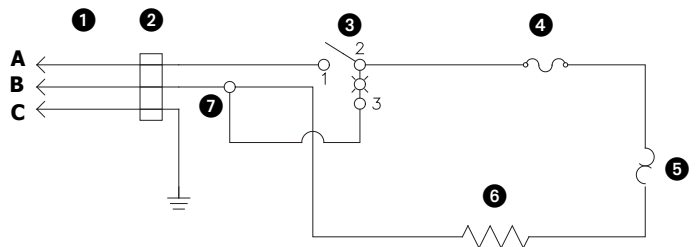


230V/50Hz



FS/BASKIN ROBBINS (SERIES 98D)

120V/60Hz



WIRING DIAGRAMS

1 Cord Assembly

120V/60Hz **OR** **230V/50Hz**
A Black **D** Brown
B White **E** Blue
C Green (Ground Wire) **F** Yellow/Green

- 2 Bushing and/or Strain Relief
- 3 Snap-In Rocker Switch
- 4 Thermal Cut-Out
- 5 Thermostat
- 6 Heating Element
- 7 Wire Nut



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