

APPLICATION

The T834C Heating-Cooling Thermostat controls 24 to 30 Vac heating-cooling systems. An spdt mercury switch makes R to W on a temperature fall for heating, and R to Y on a temperature rise for cooling. Integral switches control HEAT-OFF-COOL system operation and AUTO-ON fan operation.

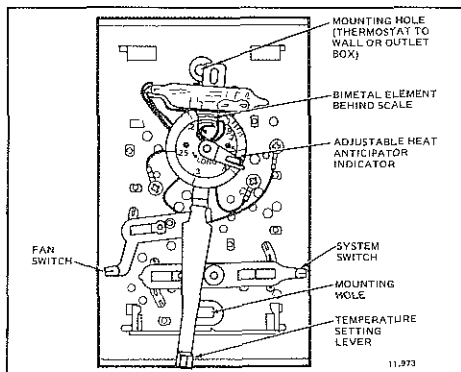


Fig. 1—Internal view of the T834C.

INSTALLATION

WHEN INSTALLING THIS PRODUCT . . .

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

CAUTION

Disconnect power supply before beginning installation to prevent electrical shock or equipment damage.

LOCATION

Locate the thermostat about 5 ft [1.5 m] above the floor on an inside wall in an area with good air circulation at average temperature.

Do not mount the thermostat where it may be affected by—

- drafts or dead spots behind doors or in corners.
- hot or cold air from ducts.
- radiant heat from the sun, fireplaces, or appliances.

—unheated (uncooled) areas behind the thermostat, such as outside walls.

This thermostat is a precision instrument and was carefully adjusted at the factory. HANDLE IT CAREFULLY.

MOUNTING

The T834C may be mounted directly to a wall or vertical outlet box. Choose the method that best fits your installation.

In replacement applications, check the existing thermostat wires for cracked or frayed insulation. Replace any wires in poor condition. See Wiring section.

Grasp the thermostat cover at the bottom with one hand. Pull outward on bottom edge of the cover until it snaps free of the thermostat base. Carefully remove and discard the foam plastic shipping insert. This insert protects the switch and bimetal assembly during shipping.

1. Run wiring (if necessary) to the location. Connect the wires to the terminals on the back of the thermostat. Be careful to dress wires to prevent shorting to grid paths. Set the adjustable heat anticipator indicator to match the current draw of the primary heating control (see Heat Anticipator Setting).
2. Push the excess wire back through the hole and plug any opening with insulation to prevent drafts that may affect thermostat performance.
3. Fasten the thermostat to the wall or outlet box with a screw through the top mounting hole. Adjust the thermostat so that it is approximately level and fasten a second screw through the bottom mounting hole. Do not tighten.
4. Level the thermostat exactly using a spirit level or plumb line. Tighten the mounting screws.

IMPORTANT

This thermostat was calibrated at the factory mounted at true level. Any inaccuracy in leveling during mounting will cause control point deviation.

5. Replace the thermostat cover.

WIRING

Disconnect power supply before beginning installation to prevent electrical shock or equipment damage.

All wiring must comply with local codes and ordinances.

Run cable to the thermostat location. If the wire is plastered into the wall, make a hole next to the cable and loosen the wires so that they can be pushed back into the wall later.

See Figs. 2-4 for the internal schematic and typical hookup diagrams.

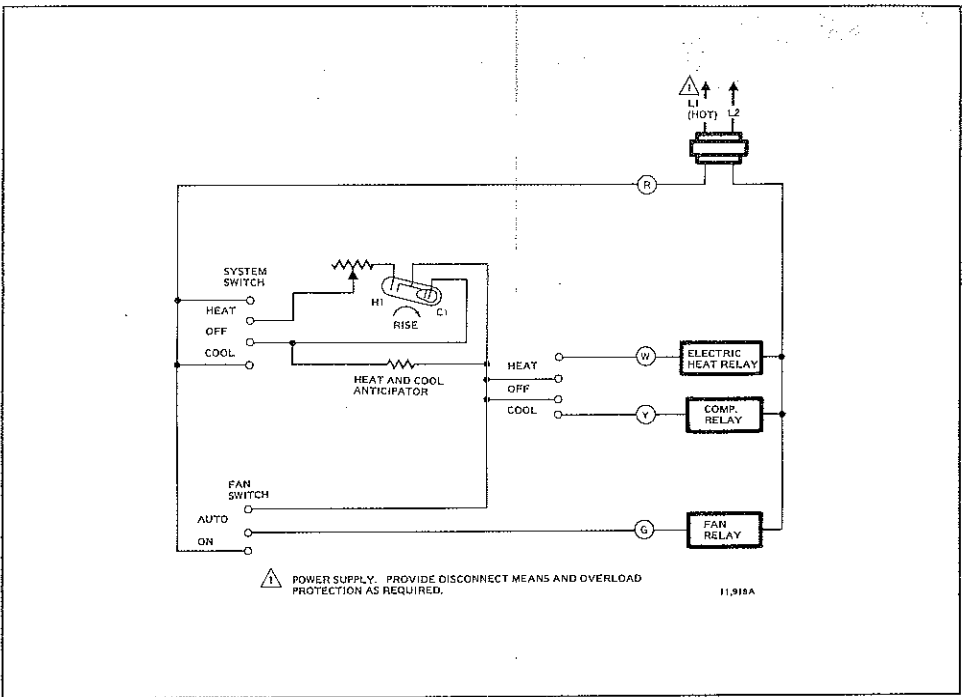


Fig. 2—Internal schematic and typical hookup of the T834C electric heating model.

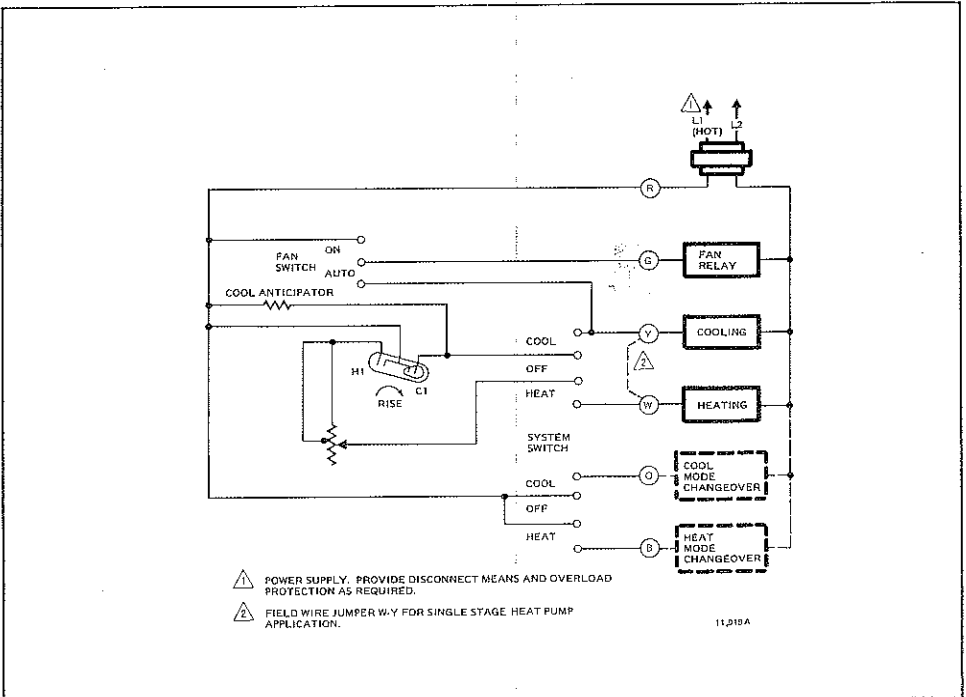


Fig. 3—Internal schematic and typical hookup of the T834C in a single stage heat pump application.

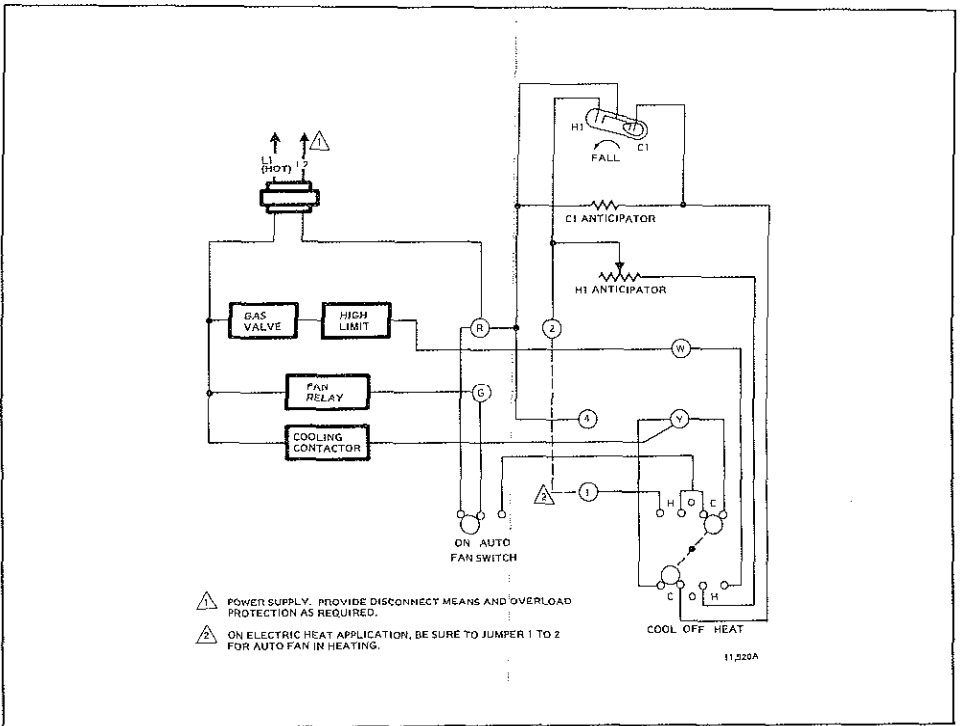


Fig. 4—Internal schematic and typical hookup of the dual fuel T834C in a gas or electric heating-cooling system.

SETTING AND ADJUSTMENT

TEMPERATURE SETTING

Push the temperature setting level to the desired control point on the temperature scale. The same lever controls both heating and cooling.

SYSTEM AND FAN SWITCHING

The T834C features SYSTEM and FAN switches for control of the heating-cooling and fan systems.

The SYSTEM switch functions as follows:

HEAT—Heating system only functions.

OFF—Both heating and cooling control systems are disconnected.

COOL—Cooling system only operates.

The FAN switch controls the fan operation as follows:

AUTO—The fan runs in response to cooling system.

ON—The fan runs continuously.

HEAT ANTICIPATOR SETTING

IMPORTANT

The T834C Thermostat has an adjustable heat anticipator and will operate properly ONLY IF THIS HEATER IS ADJUSTED TO MATCH THE CURRENT DRAW OF THE PRIMARY VALVE OR CONTROL.

Use this thermostat only on systems with current draws that fall on or within the range of the heat anticipator.

Do not use this device on Powerpile (millivolt) systems.

A current rating is usually stamped on the nameplate of the primary control. Move the adjustable heat anticipator indicator to match the value given on the nameplate.

If current rating is not available, proceed as follows to determine the rating.

1. Turn off power.
2. Wire thermostat, but do not mount it on the wall.
3. Connect ammeter between W wire and W terminal on the thermostat.
4. Prepare the system for operation.
5. Turn power on.
6. Turn system switch to heat.
7. Increase thermostat set point as necessary to get system operating.
8. With the system operating through the ammeter, wait one minute, then read the ammeter. Use this reading to adjust the heat anticipator.
9. Turn the system switch to OFF, and turn off power.
10. Disconnect the ammeter, reconnect the W wire, and mount the thermostat. Continue with system checkout.

The heat anticipator may require further adjustment for best performance. To lengthen burner-on time, move the indicator in the direction of the "longer" arrows—not more than a half scale marking at a time. To shorten burner-on time, move indicator in opposite direction.

CHECKOUT

CAUTION

Do not check operation by shorting across terminals of system controls. This will damage the heat anticipator.

IMPORTANT

To ensure accurate temperature control, do not touch or breathe on bimetal or thermometer.

Observe system operation for at least one automatic cycle on both heating and cooling. Make certain that the system operates as intended.


RECALIBRATION

These thermostats are calibrated at the factory and should not need recalibration. If the thermostat seems out of adjustment, first check for accurate leveling. To check calibration, proceed as follows.

1. Move the temperature setting lever to the left end of the temperature scale. (This is the low end.) System switch must be placed at OFF. Wait at least 5 minutes.
2. Remove the thermostat cover. Move the setting lever until the switch just makes contact. The mercury in the switch will drop to the left end of the tube.
3. Replace cover and wait 5 minutes for the cover and the thermostat to lose the heat it has gained from your hands. If the thermometer pointer and the setting lever indicator read approximately the same, no recalibration is needed.

If recalibration appears necessary, proceed as follows.


1. Place the temperature setting lever at the same setting as the thermometer. Remove cover.

2. Insert 198751 calibration wrench onto the hex nut under the coil (Fig. 5). Holding the setting lever so it does not move, turn the wrench clockwise  until the mercury drops to the right end of the tube. Remove wrench and replace cover.

To ensure accurate temperature control, do not touch or breathe on bimetal or thermometer.

3. Move the setting lever to a low setting. Wait at least 5 minutes for temperature to stabilize.

4. Slowly move the setting lever until it reads the same as the thermometer.

5. Remove cover. Holding the setting lever so it does not move, reinsert wrench and carefully turn counter-clockwise  until the mercury drops to the left end of the tube. NO FARTHER.

6. Recheck calibration. Set thermostat system switch for desired operation and replace cover.

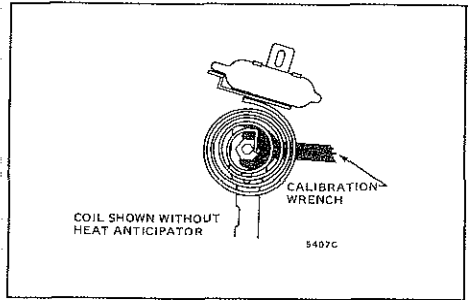


Fig. 5—Recalibration procedure.