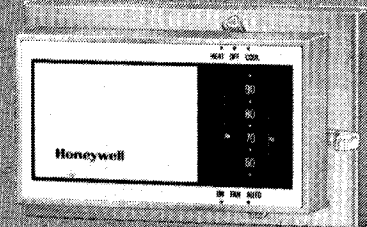


# Honeywell

## THERMOSTATS

T834C AND T8034C THERMOSTATS PROVIDE LOW VOLTAGE CONTROL OF SINGLE-STAGE HEATING, COOLING OR HEATING-COOLING SYSTEMS.

- ☐ Integral switches control HEAT-OFF-COOL system switching and AUTO-ON or ON-AUTO fan switching.
- ☐ Standard heating-cooling, single-stage heat pump, and electric heat models available.
- ☐ Coiled bimetal operates silent, dust-free spdt mercury switch.
- ☐ T834C models have vented cover to provide better air flow for temperature sensing.
- ☐ Adjustable heat anticipator and fixed cool anticipator on all models.
- ☐ T834C models mount directly on wall or on *vertical* outlet box.
- ☐ T8034C models mount directly on wall or on a *horizontal* outlet box.
- ☐ SUPER TRADELINE T8034C includes horizontal wallplate for covering marks left by old thermostat.
- ☐ Accessory mounting plate assembly allows mounting T834C on horizontal, or T8034C on vertical, outlet box.



## T834C; T8034C

# SPECIFICATIONS

## IMPORTANT

THE SPECIFICATIONS GIVEN IN THIS PUBLICATION DO NOT INCLUDE NORMAL MANUFACTURING TOLERANCES. THEREFORE, THIS UNIT MAY NOT MATCH THE LISTED SPECIFICATIONS EXACTLY. ALSO, THIS PRODUCT IS TESTED AND CALIBRATED UNDER CLOSELY CONTROLLED CONDITIONS, AND SOME MINOR DIFFERENCES IN PERFORMANCE CAN BE EXPECTED IF THOSE CONDITIONS ARE CHANGED. FOR APPLICATIONS REQUIRING EXACT ENGINEERING DIMENSIONS, CONTACT YOUR HONEYWELL SALES REPRESENTATIVE.

## SUPER TRADELINE/TRADELINE MODELS

SUPERTRADELINE/TRADELINE models are selected and packaged for ease of handling, ease of stocking, and maximum replacement value.

SUPER TRADELINE/TRADELINE model specifications are the same as those of standard models, except as noted.

### SUPER TRADELINE MODELS:

T834C Heating-Cooling Thermostat for use in gas- or oil-fired, or central electric heat and standard cooling systems; mounts vertically; adjustable heat anticipator—0.18 to 1.0 A.

T8034C Heating-Cooling Thermostat for use in gas- or oil-fired, or central electric heat and standard cooling systems; mounts horizontally; adjustable heat anticipator—0.18 to 1.0 A.

### ADDITIONAL SUPER TRADELINE FEATURES:

- Fan can be controlled from thermostat or plenum switch.
- Wallplate for covering marks left by old thermostat (T8034C only).
- Cross reference label and special instruction sheet.

### TRADELINE MODELS:

T834C Heating-Cooling Thermostat for use in single-stage heat pump, electric furnace and standard heating-cooling systems; mounts vertically; adjustable heat anticipator—0.18 to 1.0 A. Model available with °C scaleplate.

T8034C Heating-Cooling Thermostat for use in standard heating-cooling systems; mounts horizontally; adjustable heat anticipator—0.18 to 1.0 A. Model available with °C scaleplate, and isolated heat-cool circuits for systems with separate heating and cooling transformers.

### ADDITIONAL TRADELINE FEATURES:

- Cross reference label and special instruction sheet.

## STANDARD MODELS

T834C Heating-Cooling Thermostat for use in standard heating-cooling systems. Single-stage heat pump, electric heat and dual fuel models also available. Mounts vertically. Provides HEAT-OFF-COOL system switching and AUTO-ON or ON-AUTO fan switching (specify when ordering).

T8034C Heating-Cooling Thermostat for use in standard heating-cooling systems; mounts horizontally. Provides HEAT-OFF-COOL system switching and ON-AUTO fan switching. Canadian model available with °C scaleplate, and isolated heat-cool circuits for systems with separate heating and cooling transformers.

### ELECTRICAL RATINGS:

Heating—0.18 to 1.0 A at 30 Vac maximum (0.3 to 1.2 A optional).

Cooling 1.5 A running, 7.5 A inrush at 25 Vac.

Heat Anticipator—adjustable 0.18 to 1.0 A, 0.3 to 1.2 A (specify when ordering).

Cooling Anticipator—fixed, 24 to 30 Vac.

SWITCHING: Spdt mercury switch makes R to W on temperature fall for heating, R to Y on temperature rise for cooling.

(continued on page 3)

# ORDERING SPECIFICATIONS

WHEN PURCHASING REPLACEMENT AND MODERNIZATION PRODUCTS FROM YOUR TRADELINE WHOLESALE OR YOUR DISTRIBUTOR, REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING NUMBER, OR SPECIFY—

1. Thermostat order number.
2. Optional specifications, if desired.
3. Accessories, if desired.

IF YOU HAVE ADDITIONAL QUESTIONS, NEED FURTHER INFORMATION, OR WOULD LIKE TO COMMENT ON OUR PRODUCTS OR SERVICES, PLEASE WRITE OR PHONE:

1. YOUR LOCAL HONEYWELL RESIDENTIAL DIVISION SALES OFFICE (CHECK WHITE PAGES OF PHONE DIRECTORY).
2. RESIDENTIAL DIVISION CUSTOMER SERVICE  
HONEYWELL INC., 1885 DOUGLAS DRIVE NORTH  
MINNEAPOLIS, MINNESOTA 55422 (612) 542-7500

IN CANADA—HONEYWELL LIMITED/HONEYWELL LIMITEE, 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO M1P 2V9. INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.

TEMPERATURE SETTING RANGE (specify when ordering):  
 55° F to 95° F [13° C to 35° C].  
 10° C to 30° C [50° F to 86° F].  
 DIMENSIONS: See Figs. 1 and 2.

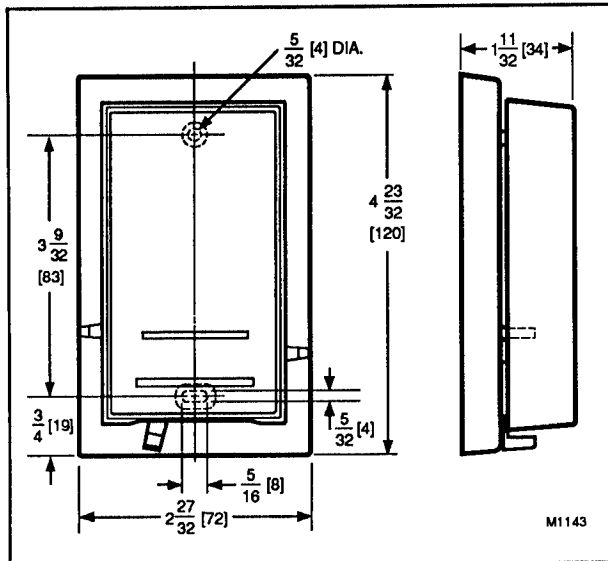


FIG. 1—APPROXIMATE DIMENSIONS IN in. [mm] OF T834C. T8034C DIMENSIONS ARE THE SAME, EXCEPT IT MOUNTS HORIZONTALLY.

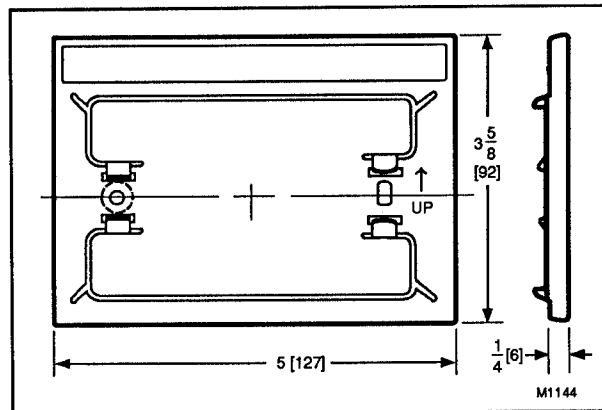


FIG. 2—APPROXIMATE DIMENSIONS IN in. [mm] OF 200581 HORIZONTAL WALLPLATE FOR USE WITH T8034C.

MOUNTING MEANS: Two screws through base to wall or 2 x 4 in. outlet box. T834 fits on vertical outlet box; T8034 on horizontal box.

#### ACCESSORIES:

200581 Horizontal Wallplate for T8034C; covers mounting marks left by old thermostat. Included with SUPER TRADELINE model.

193121A Mounting Plate Assembly for T834 or T8034C; includes mounting plate, adapter ring, mounting screws and instructions. Adapter ring allows use of T834 on horizontal outlet box or of T8034C on vertical box. Mounting plate is 6-7/8 x 4-3/4 in. [154 x 106 mm] to cover wall marks where larger plate is needed.

104994A Calibration Wrench.

## 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 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.
- concealed pipes and chimneys.
- unheated (uncooled) areas behind the thermostat, such as an outside wall.

### MOUNTING AND WIRING

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

All wiring must comply with local codes and ordinances.

#### T834C

The T834C may be mounted directly on a wall or vertical outlet box. Use the 193121A Mounting Plate Assembly (order separately) to mount on horizontal outlet box or cover marks left by old thermostat. If mounting plate assembly is used, review instructions provided with assembly before wiring and mounting thermostat.

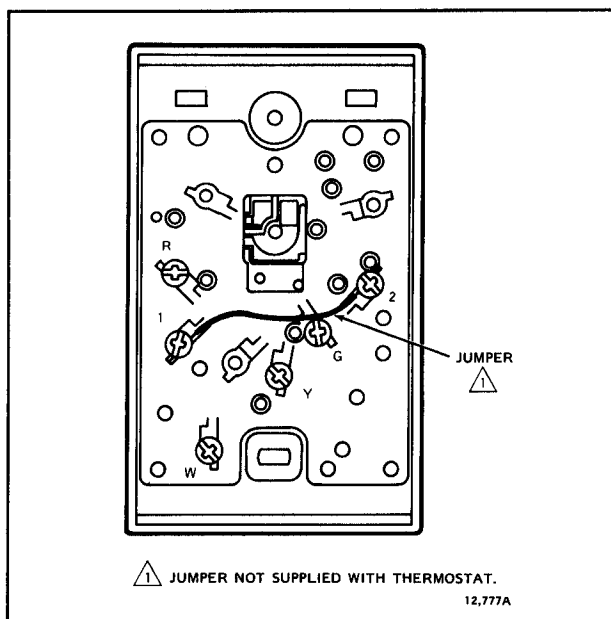
To wire and mount thermostat:

1. In replacement applications, check the existing thermostat wires for cracked or frayed insulation. Replace any wires in poor condition. If the wire is plastered into the wall, make a hole next to the wires and loosen the wires so that they can be pushed back into the wall later.

2. In new installations, run wiring (if necessary) to the thermostat location.

3. Connect the wires to the terminals on the back of the thermostat. See Figs. 5-9 for internal schematic and typical hookup diagrams. For systems requiring thermostat control of fan operation in heat (some electric heat applications), jumper terminals 1 and 2. See Fig. 3.

4. Remove thermostat cover by pulling outward on bottom edge of 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.



**FIG. 3—JUMPER TERMINALS 1 AND 2 TO CONTROL FAN OPERATION FROM THERMOSTAT DURING HEATING (ELECTRIC HEAT APPLICATIONS).**

5. Set the adjustable heat anticipator indicator to match the current draw of the primary heating control (see Heat Anticipator Setting).

6. Push excess wire back through the hole and plug any opening with insulation to prevent drafts that may affect thermostat performance.

7. Loosely fasten the thermostat and mounting plate, if used, to the wall or outlet box with a screw through the top mounting hole. Adjust the thermostat so that it is approximately level and start the second screw through the bottom mounting hole. Do not tighten.

8. For optimum performance, level the thermostat 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.

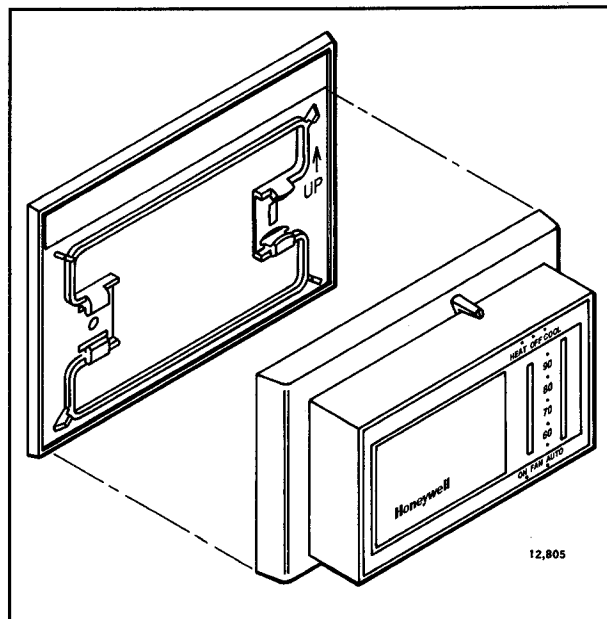
9. Replace the thermostat cover.

#### **T8034C**

The T8034C may be mounted directly on a wall or horizontal outlet box. Use the 200581 Horizontal Wallplate to cover mounting marks left by old thermostat, or 193121A Mounting Plate Assembly to mount on vertical outlet box or to cover wall marks where larger plate is needed. The SUPER TRADELINE T8034C includes the 200581 Horizontal Wallplate. For other T8034C models, horizontal wallplate or mounting plate assembly must be ordered separately.

If the 200581 Horizontal Wallplate is used, align thermostat and wallplate (see Fig. 4) and press firmly together until wallplate snaps in place, then wire and mount the thermostat.

If the 193121A Mounting Plate Assembly is used, review instructions provided with assembly before wiring and mounting thermostat.



**FIG. 4—MOUNT SUPER TRADELINE T8034C THERMOSTAT ON THE WALLPLATE.**

To wire and mount thermostat:

1. In replacement applications, check the existing thermostat wires for cracked or frayed insulation. Replace any wires in poor condition. If the wire is plastered into the wall, make a hole next to the wires and loosen the wires so that they can be pushed back into the wall later.

2. In new installations, run wiring (if necessary) to the thermostat location.

3. Connect the wires to the terminals on the back of the thermostat. See Figs. 5-9 for internal schematic and typical hookup diagrams. For electric heat applications jumper terminals 1 and 2 to control fan operation from the thermostat during heating. See Fig. 3.

4. Remove thermostat cover by pulling outward on right 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.

5. Set the adjustable heat anticipator indicator to match the current draw of the primary heating control (see Heat Anticipator Setting).

6. Push excess wire back through the hole and plug any opening with insulation to prevent drafts that may affect thermostat performance.

7. Loosely fasten the thermostat (and wallplate, if applicable) to the wall or outlet box with a screw through the left mounting hole. Adjust the thermostat so that it is approximately level and start the second screw through the right mounting hole. Do not tighten.

8. For optimum performance, level the thermostat 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.

9. Replace the thermostat cover.

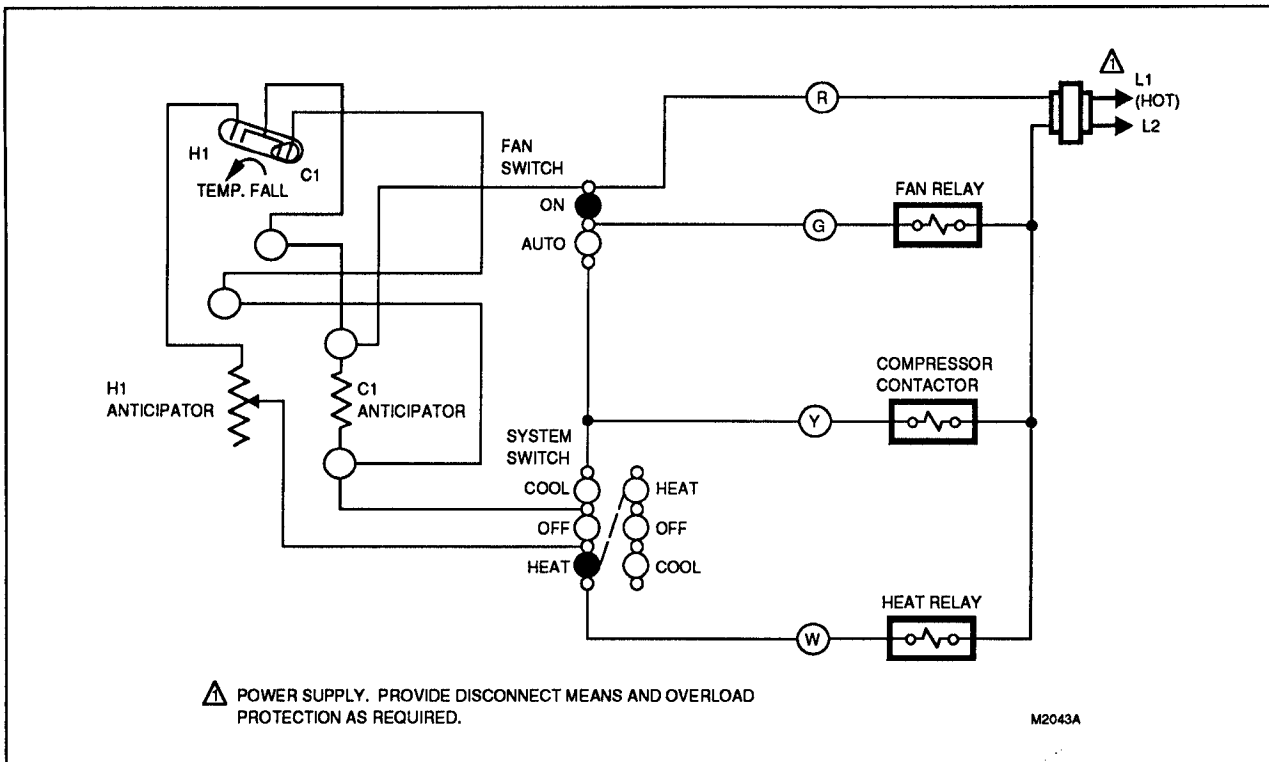


FIG. 5—INTERNAL SCHEMATIC AND TYPICAL HOOKUP DIAGRAM FOR STANDARD HEATING-COOLING SYSTEMS.

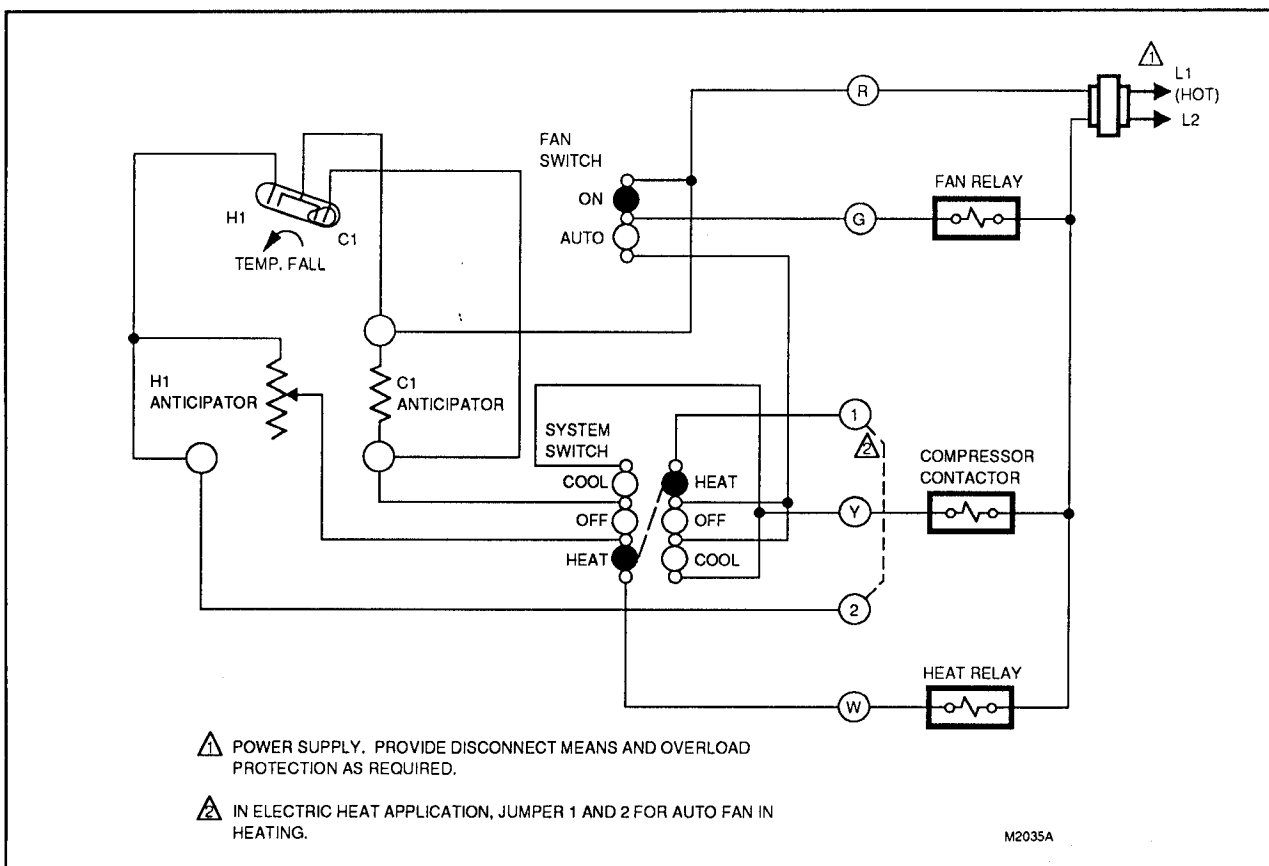
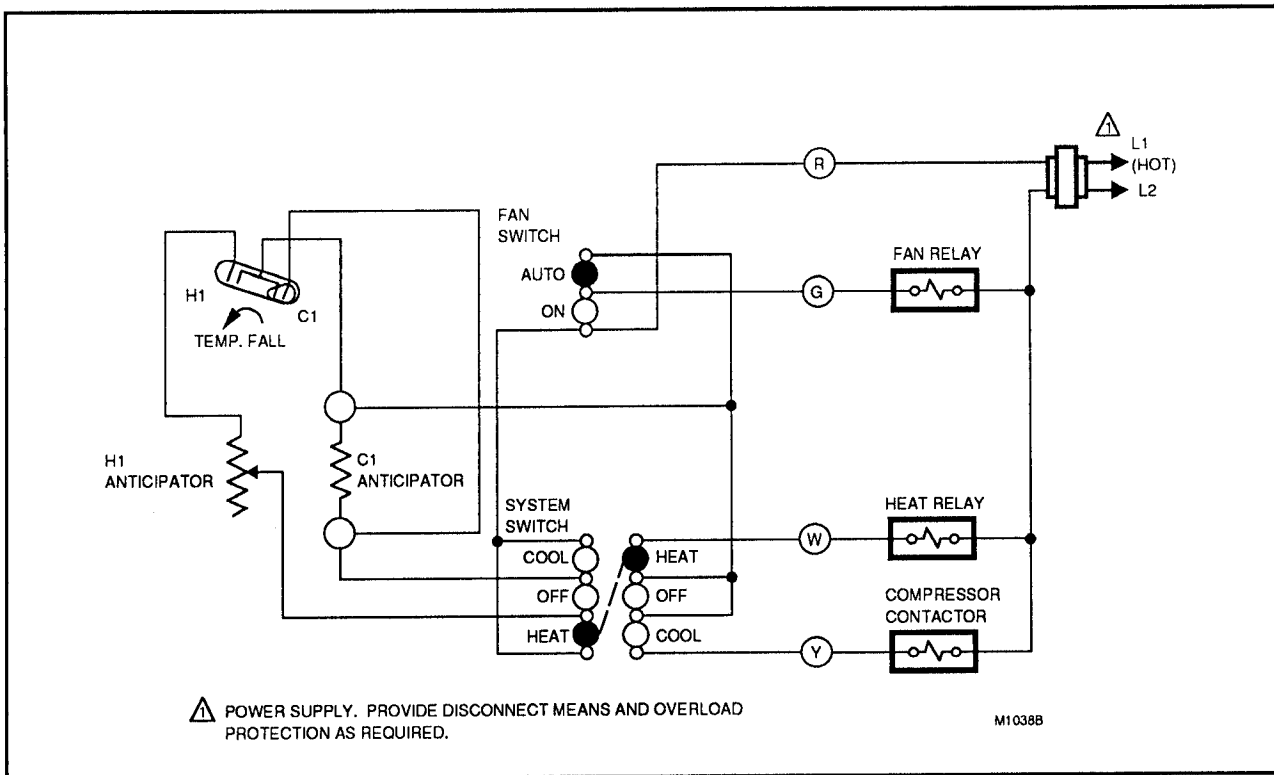
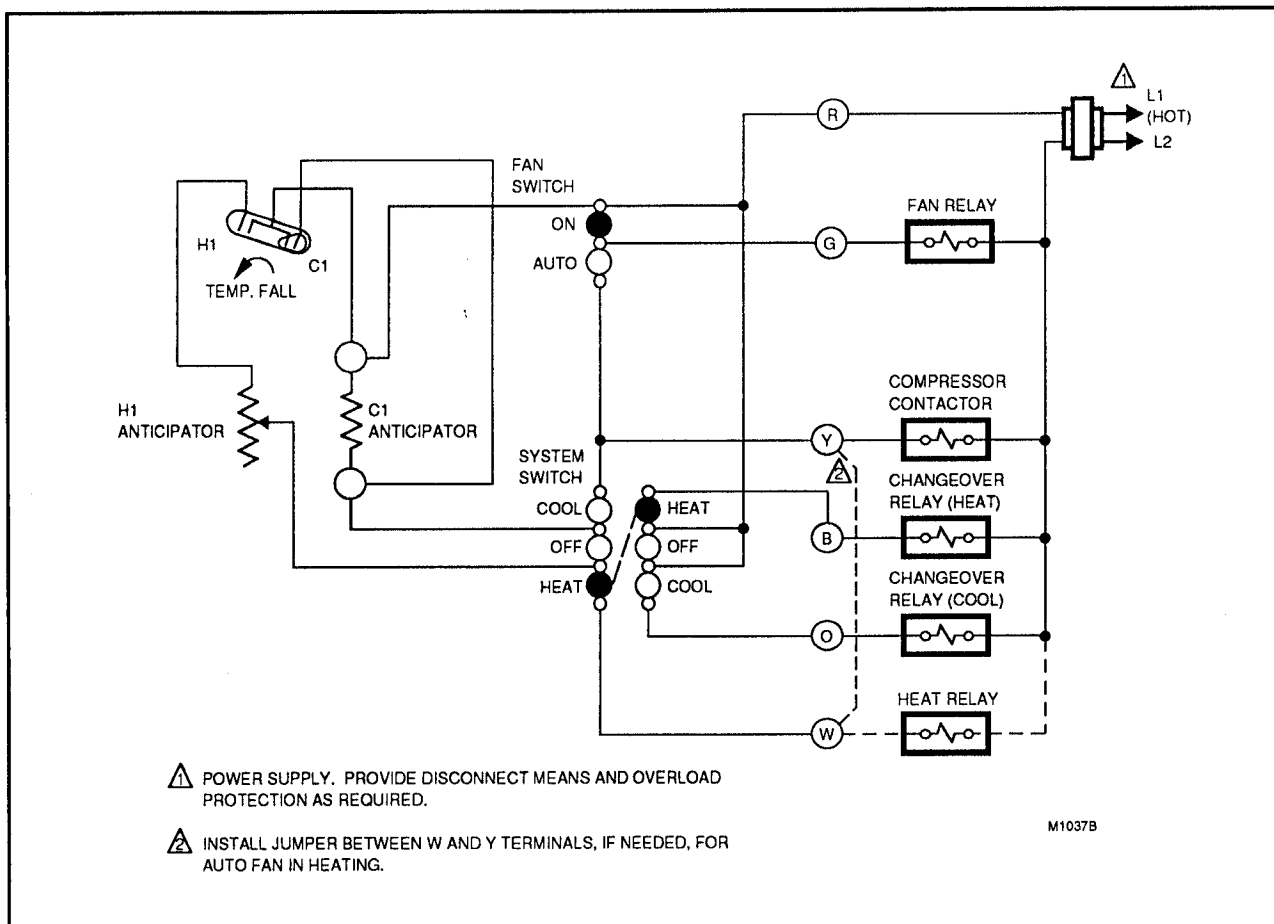


FIG. 6—INTERNAL SCHEMATIC AND TYPICAL HOOKUP DIAGRAM FOR GAS- OR OIL-FIRED, OR CENTRAL ELECTRIC HEAT APPLICATIONS. JUMPER TERMINALS 1 AND 2 TO CONTROL FAN OPERATION FROM THE THERMOSTAT DURING HEATING WHEN USING THERMOSTAT IN ELECTRIC HEAT APPLICATIONS.



**FIG. 7—INTERNAL SCHEMATIC AND TYPICAL HOOKUP DIAGRAM FOR ELECTRIC HEAT SYSTEMS.**



**FIG. 8—INTERNAL SCHEMATIC AND TYPICAL HOOKUP DIAGRAM FOR SINGLE-STAGE HEAT PUMP SYSTEMS.**



8. With the system operating through the ammeter, wait one minute, then read the ammeter.

9. Turn the system switch to OFF, and turn off power.

10. Adjust the heat anticipator to match the reading on the ammeter.

11. Disconnect the ammeter, reconnect the W wire, and mount the thermostat. Continue with system checkout.

**NOTE:** 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 of thermometer.

### HEATING

With system switch set at HEAT and fan switch at AUTO, move the temperature setting lever about 10° F [6° C] above room temperature.

*Gas or oil-fired systems*—heating should start, fan should start after a short delay.

*Heat pump and some central electric heat systems*—both heating and fan should start.

Move temperature setting lever 10° F [6° C] below room temperature.

*Gas or oil-fired systems*—heating should shut off and fan should shut off after a short delay.

*Heat pump and some electric heat systems*—heating and fan should shut off.

### COOLING

### CAUTION

Do not operate cooling if outdoor temperature is below 50° F [10° C]. Refer to air conditioner manufacturer's recommendations.

**NOTE:** To prevent compressor short cycling, a minimum off-timer may be included to provide a 5-minute time delay before activating the compressor after the thermostat last turned off the compressor, or after the system first received power. This delay protects the compressor.

With the system switch set at COOL and fan switch at AUTO, move the temperature setting lever about 10° F [6° C] below room temperature. Cooling and fan should start (see NOTE above). Move the temperature setting lever about 10° F [6° C] above room temperature. Cooling and fan should shut off.

### FAN

With the system switch set at OFF, and the fan switch at ON, the fan should run continuously. Move the fan switch to AUTO. In gas- or oil-fired systems, fan operation

is controlled by the thermostat in cooling and by the plenum fan control in heating. In heat pump and some central electric heat systems, fan operation is controlled by the thermostat in both heating and cooling.

### 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 low end of the temperature scale. 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 roll 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 104994A calibration wrench (order separately) onto the hex nut under the coil (Fig. 10). Holding the setting lever so it does not move, turn the wrench clockwise  until the mercury rolls to the right end of the tube. Remove wrench and replace cover.

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 rolls to the left end of the tube. **NO FARTHER.**

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

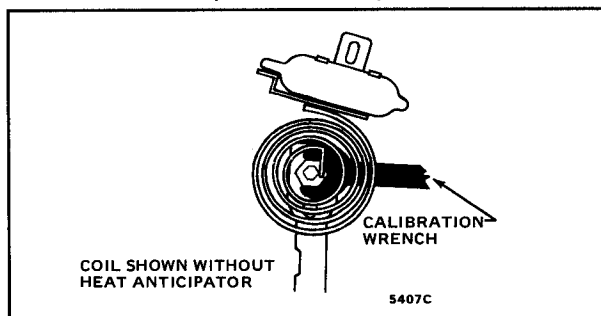


FIG. 10—RECALIBRATION PROCEDURE.

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