

Honeywell

**Heating/Cooling
Thermostat and Subbase or
Heating or Cooling Thermostat
and Wallplate**

T8195A,B/Q682

OWNER'S MANUAL



69-0563-2

Welcome to the world of energy savings with your new Honeywell thermostat. The Honeywell name is your assurance of accurate control and reliable operation for years to come.

This thermostat meets California Title 24 requirements—mandatory installation of automatic setback thermostats in new heating and cooling systems. During heating and cooling, this thermostat will automatically lower and raise the temperature in your home one or more times every 24 hours. This allows you to significantly lower your fuel costs, while awakening (or returning home) to a comfortable temperature.

Read this manual to learn how to use your new thermostat.

Recycling Notice



This control contains mercury in a sealed tube. Do *not* place control in the trash at the end of its useful life.

If this control is replacing a control that contains mercury in a sealed tube, do *not* place your old control in the trash.

Contact your local waste management authority for instructions regarding recycling and the proper disposal of this control, or an old control containing mercury in a sealed tube.

If you have questions, call Honeywell Inc. at 1-800-468-1502.

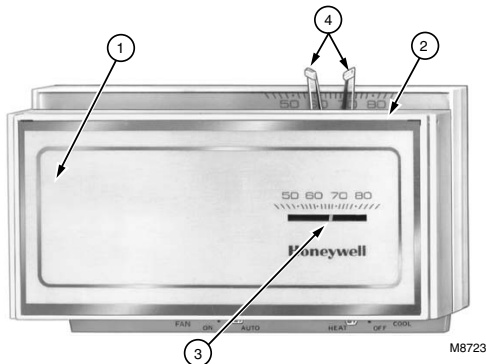
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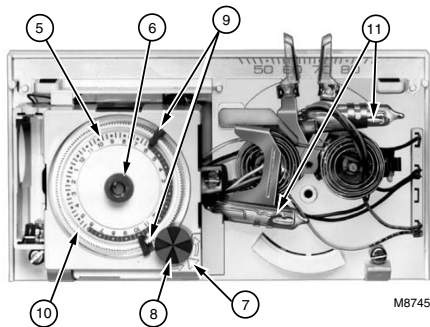
Features Of Your Thermostat

- ① **FLIP-UP COVER.** Lift it up to set timer for energy savings and comfort temperature periods.
- ② **THERMOSTAT COVER.** Lift up to adjust timer.
- ③ **THERMOMETER.** Provides accurate room temperature reading.
- ④ **TEMPERATURE SETTING LEVERS.** Left (blue mark) controls the low temperature, right (red mark) controls the high temperature.
- ⑤ **TIMER.** This timer provides a 24-hour slotted dial to hold the programming pins.
- ⑥ **TIMER SETTING KNOB.** Turn clockwise to match the correct a.m. or p.m. time to the time indicator.
- ⑦ **TIME INDICATOR.** Arrow head indicates time for 24-hour dial.

- ⑧ **PROGRAM INDEX WHEEL.** Controls high and low temperature at specific time of day as set by program pins.
- ⑨ **PROGRAM PINS.** Must be inserted into 24-hour timer dial slots to control program index wheel.

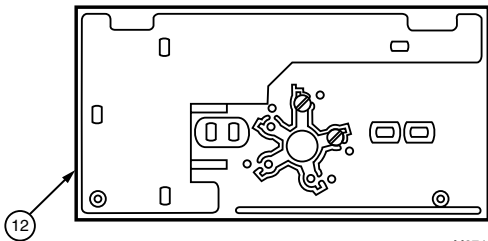


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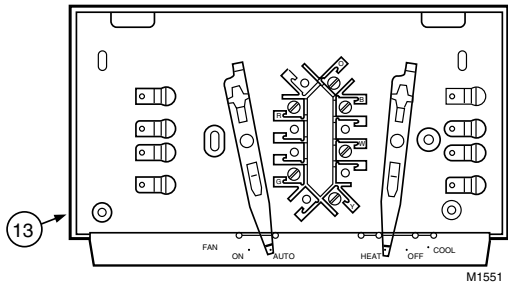
- ⑩ **PIN SLOTS.** Located on 24-hour dial at 10-minute intervals for program pin insertion.
- ⑪ **MERCURY BULB AND BIMETAL ELEMENT (2).** Provide automatic temperature control by switching the heating or cooling system on and off.



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- ⑫ **WALLPLATE.** Provides mounting base and wiring connections for heating or cooling thermostat without system or fan switching.

- ⑬ Q682 SUBBASE. Provides mounting base, wiring connections and manual switching control for heating/cooling thermostat.



Setting The Temperature

For Heating

Set the left lever (blue mark) to the energy savings temperature you want when you are sleeping or your home is unoccupied.

Set the right lever (red mark) to the temperature you want for normal comfort periods.

NOTE: You may override the time program by setting both the red and blue levers to the same temperature setpoint.

For Cooling

Set the left lever (blue mark) to the temperature you want for normal comfort periods.

Set the right lever (red mark) to the energy savings temperature you want when you are sleeping or your home is unoccupied.

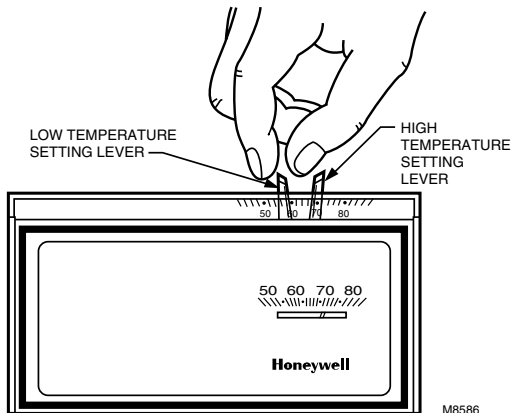


Fig. 1—Setting high and low temperature levers.

Setting Subbase Switches (if applicable)

The subbase system switch controls system operation as follows:

- HEAT—Heating system is controlled by the thermostat. Cooling system is Off.
- COOL—Cooling system is controlled by the thermostat. Heating system is Off.
- OFF— Both the heating and cooling systems are Off. If the fan switch is at the AUTO position, the fan is also off.
- ON—In a cooling only application, only cooling operates. In a heating only application, only heating operates.

The subbase fan switch controls fan operation as follows:

- ON—Fan operates continuously.
- AUTO—Fan operates with cooling equipment as controlled by the thermostat or with the heating equipment as controlled by the thermostat in heating and cooling.

To switch positions, use thumb or index finger to slide lever to desired position. Switch lever must stop in the detent over desired function indicator mark for proper circuit operation.

Inserting Timer Batteries (Optional)

Power is supplied to the timer by the 24 Vac transformer. Two AAA alkaline backup batteries (not included) may be installed to supply power to the timer if power is interrupted due to power failure. Install the batteries in the thermostat as shown in Fig. 2. Once a year or when batteries are dead, replace with two new AAA alkaline batteries. We recommend Energizer® batteries.

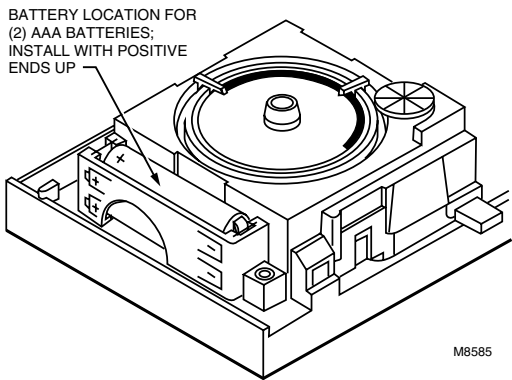



Fig. 2—Inserting timer backup batteries.



Setting The Timer

Lift thermostat flip-up cover and you will find the 24-hour program dial, slotted in 10-minute increments. Adjust the timer to the current time by carefully turning the knob clockwise  Do *not* reverse the knob.

When time is correctly set, the Time Indicator Arrow (See Fig. 3) will point to the correct time and corresponding daytime (light) or nighttime (dark) band of the program dial.

EXAMPLE: For 11 p.m., time indicator arrow will point directly to dark band on dial. For 11 a.m., the arrow will point to light band on dial.

Daylight Savings Time

When Daylight Savings Time starts, carefully move the knob clockwise  one hour. When Daylight Savings Time ends, carefully move the knob clockwise  23 hours. Do *not* reverse the knob or damage to the timer mechanism may occur.

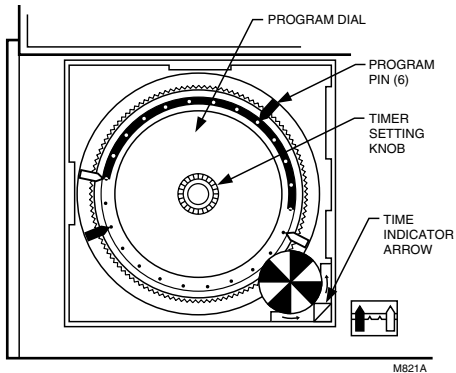


Fig. 3—Setting the timer.

Programming

You can program your thermostat to automatically lower and raise the temperature one or more times every 24 hours.

Before Setting Your Program

Lift thermostat flip-up cover and you'll find the 24-hour program dial. The slots on the program dial (Fig. 4) are for the program pins which can be inserted at ten-minute intervals.

Three red and three blue program pins are included with your thermostat. The red pins start the high-temperature period; the blue pins start the low-temperature period. A heating program has been preprogrammed. A red pin is inserted at 6:00 a.m. for high temperature (comfort period); a blue pin is inserted at 10:00 p.m. for low temperature (energy saving period). Two additional sets of pins are located in the program

pin storage area. You can set up to six temperature changes with the pins supplied. We recommend at least five hours for each energy savings period.

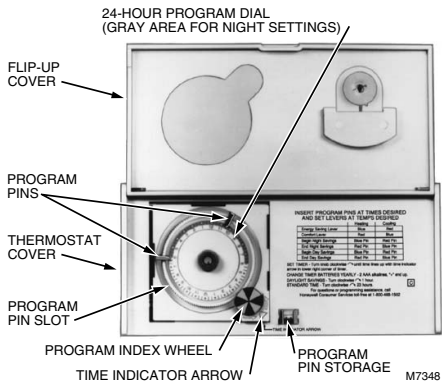


Fig. 4—Program components.


To change the pins or add a new energy savings period—

- To insert a pin, push it straight into the selected notch on the program dial until it's completely seated.
- To remove a pin, press against program dial and pull the pin straight out. Do *not* attempt to change a pin if it is engaged with the program index wheel.
- On heating-cooling systems, you must remove the program pins from the heating program to set new times for your cooling program. Write down your colors and time for reprogramming at the next heating season. Also, you may want to change the temperature setting lever positions.

Setting the Heating Program

Decide when you want the temperature to reach the comfort level. Find the notch on the

program dial that's one-half hour before this time and insert a *red* pin. The half-hour head start gives the furnace time to heat the house before you wake up or arrive home.

		WINTER			SUMMER 		
		TEMPERATURE		PROGRAM PIN IN CONTROL	TEMPERATURE		PROGRAM PIN IN CONTROL
		°F	°C		°F	°C	
NIGHT ENERGY SAVING PERIOD	BEGINS 10:00 PM	58	14	BLUE	80	27	RED
	ENDS 6:00 AM	68	20	RED	75	24	BLUE
DAY ENERGY SAVING PERIOD	BEGINS 7:30 AM	58	14	BLUE	80	27	RED
	ENDS 4:00 PM	68	20	RED	75	24	BLUE



NOT APPLICABLE ON HEATING-ONLY MODEL.

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Fig. 5—Program examples.

Decide when you want the energy savings period to start and insert a *blue* pin at the notch that corresponds to this time. After the blue pin engages, the furnace will be off until room temperature drops to the energy savings setpoint.

You can set both a day and night program. See Fig. 5. for program examples.


Setting the Cooling Program

Decide when you want the temperature to reach the comfort level. Find the notch on the program dial that's one-half hour before this time and insert a *blue* pin. The half-hour head start gives the air conditioner time to cool the house before you wake up or arrive home.

Decide when you want the energy savings period to start and insert a *red* pin at the notch that corresponds to this time. After the red pin engages, the air conditioner will be off until room temperature rises to the energy savings setpoint.



Troubleshooting

Your Honeywell thermostat requires little or no attention. Most problems can generally be traced to the following:

Problem	Check	Action
No heat.	— system switch. May be in OFF or COOL position. 	Move system switch to HEAT position.
	— fuse or circuit breaker.	If blown or tripped, replace fuse or reset breaker.
	— furnace power switch. May be Off.	Move switch to ON.
	— pilot flame. May be out.	Relight pilot flame per furnace manufacturers instructions.
	— R and W thermostat connections.	Turn Off power to furnace. Check for correct terminal hookups. Repair any frayed or broken wires. Firmly tighten all terminal screws. Turn On power.

(continued)

Troubleshooting (continued)

Problem	Check	Action
No heat <i>(continued)</i> .	— other problem.	Contact a qualified service technician for assistance.
Energy savings temperature program 12 hours off.	— program dial for proper day or night phase.	Turn timer ahead 12 hours. Move setting knob clockwise  only.
Rooms do not warm up at programmed time. 	— timer program for heating system. May need more time to warm up rooms.	Move red pin one-half hour earlier on the program dial.
Temperature change occurs at the wrong time.	— programs pins for correct time locations.	Relocate pins to desired settings.
Room temperatures are not correct.	— positions of thermostat setpoint levers.	Reset to desired temperatures.
	— position of subbase system switch (heating-cooling model).	Move to desired operating position.

(continued)

Troubleshooting (continued)

Problem	Check	Action
Room temperatures are not correct <i>(continued)</i> .	— thermostat circuits.	<p>HEATING-ONLY SYSTEM—Move temperature setting levers 5°F (3°C) above room temperature. Heating system should start. <i>If the system does not operate, call a qualified service technician.</i></p> <p>COOLING-ONLY SYSTEM—Move temperature setting levers 5°F (3°C) below room temperature. Cooling system should start. <i>If the system does not operate, call a qualified service technician.</i></p> <p>HEATING/COOLING SYSTEM—With system switch at HEAT, move temperature setting levers 5°F (3°C) above room temperature. Heating system should start. With system switch at COOL, move temperature setting levers 5°F (3°C) below room temperature. Cooling system should start. <i>If the systems do not operate, call a qualified technician.</i></p>

(continued)

Troubleshooting (continued)

Problem	Check	Action
No cooling. ⚠	— system switch. May be in OFF or HEAT position.	Move switch to COOL position.
	— fuse or circuit breaker.	If fuse is blown or breaker tripped, replace or reset.
	— condenser switch position. Located outdoors and may be turned OFF.	Move to ON position.
	— Y and R thermostat connections.	Turn Off power to cooling system. Check for correct terminal hookups. Repair any frayed or broken wires. Firmly tighten all terminal screws.
	— other	Contact a qualified service technician for assistance.
Timer is losing time.	— Power. May be interrupted. Make sure power is On.	Make sure power is Off. Reset clock.

(continued)

Troubleshooting (continued)

Problem	Check	Action
Timer is losing time (<i>continued</i>).	— high limit control. If clock powered through system transformer, power to clock and equipment may be Off on safety.	Wire separate transformer to power clock.
	— filter. May be clogged. Safety limit on equipment may cut off power to system.	Replace filter and reset clock.
Timer does not run.	— voltage across the C and R terminals.	Remove the thermostat from the wallplate or subbase, and measure the voltage. Refer to page 19 for cause and action.

(continued)

Troubleshooting (continued)

Problem	Check	Action
Thermostat setting and thermometer reading disagree.	— level position of thermostat.	Reinstall thermostat subbase. Use a spirit level.
	— area around thermostat for drafts or radiant heat.	Thermostat should be about 5 ft (1.5m) above floor on an inside wall. Contact qualified service technician for change of location.

① Not applicable on model used in heating-only system.

② Not applicable on model used in cooling-only system.

If this Troubleshooting section has not solved the problem, call a qualified service technician or Honeywell Customer Assistance Center, Honeywell Inc., P.O., Box 524, Minneapolis, MN 55440-0524 or call 1-800-468-1502, Monday-Friday, 7:00 a.m. to 5:30 p.m., Central time.

Voltage at Timer Terminals

Ac Voltage at C-R Terminals	Possible Cause Check	Action
0 Vac	<ol style="list-style-type: none">1. System power is Off.2. Short in timer power supply wiring.3. Limit switch contacts stuck open.4. Transformer supplying power is burned out.	<ol style="list-style-type: none">1. Restore power.2. Replace wiring.3. Free or replace limit switch.4. Replace transformer.
Up to 15 Vac.	<ol style="list-style-type: none">1. System transformer used to power the timer is inadequate.2. Additional (separate) transformer used to power the timer has inadequate voltage.	<ol style="list-style-type: none">1. Use additional (separate) transformer.2. Install transformer with proper secondary voltage.
15 to 30 Vac.	<ol style="list-style-type: none">1. Spring fingers on thermostat not making proper contact with subbase terminals.2. Timer has failed.	<ol style="list-style-type: none">1. Rebend spring fingers to a 45 degree angle to ensure proper contact.2. Replace thermostat.

Servicing The Thermostat Thermometer Adjustment

The thermometer has been accurately calibrated at the factory and should only need adjustment if it has been dropped or mishandled.

If the setpoint lever and the thermostat reading do not agree, follow the procedure below.

Remove thermostat cover and open the flip-up cover.

Set the thermostat cover on a table near thermometer of known accuracy.

Allow at least five minutes for cover thermometer to sense area temperature, then compare the readings. Be careful not to touch thermometer or breathe on it.

If the readings are the same, replace cover and put the system into operation.

If the readings are different, insert a small screwdriver in the thermometer slot, shown in Fig. 6, and turn it until both thermometers read the same.

Replace thermostat cover and put the system into operation.

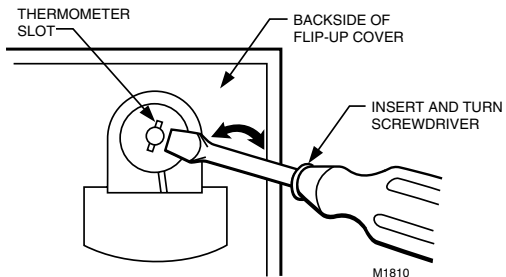


Fig. 6—Thermometer adjustment.

For all questions concerning this thermostat, please read and follow the instructions. If additional assistance is needed, call our toll-free Customer assistance Center group number at 1-800-468-1502, Monday-Friday, 7:00 a.m. - 5:30 p.m. Central time. Before you call, please have the following information available: make and model of furnace, thermostat and air conditioner.

Limited One-Year Warranty

Honeywell warrants this product to be free from defects in the workmanship or materials, under normal use and service, for a period of one (1) year from the date of purchase by the consumer. If, at any time during the warranty period, the product is defective or malfunctions, Honeywell shall repair or replace it (at Honeywell's option) within a reasonable period of time.

If the product is defective,

- (i) return it, with a bill of sale or other dated proof of purchase, to the dealer or contractor from which you purchased it, or
- (ii) package it carefully, along with proof of purchase (including date of purchase) and a short description of the malfunction, and mail it, postage prepaid, to the following address:

Honeywell Inc.

Return Goods Department

1050 Berkshire Lane

Plymouth, MN 55441-4437

This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Honeywell that the defect or malfunction was caused by damage which occurred while the product was in the possession of a consumer.

Honeywell's sole responsibility shall be to repair or replace the product within the terms stated above. HONEYWELL SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation may not apply to you.

THIS WARRANTY IS THE ONLY EXPRESS WARRANTY HONEYWELL MAKES ON THIS PRODUCT. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IS HEREBY LIMITED TO THE ONE YEAR DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

If you have any questions concerning this warranty, please write our Customer Assistance Center, Honeywell Inc., P.O. box 524, Minneapolis, MN 55440-0524 or call 1-800-468-1502, Monday-Friday, 7:00 a.m. to 5:30 p.m., Central time.

Honeywell

Automation and Control Solutions

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