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Honeywell RTHL2510 Programmable Thermostat with Digital Display Installation Guide

Honeywell

This is a legacy product document supported by Resideo. It is no longer manufactured

Quick Installation Guide

RTHL2510/RTHL2410 Series

Programmable Thermostat

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Identify System Type

This thermostat is compatible with the following systems:

- Gas, oil or electric furnace
- Central air conditioner
- Hot water system with or without pump
- Millivolt system
- Central heating and cooling system
- Heat pump without auxiliary/backup heat
- Heat pump with auxiliary/backup heat

Do you need assistance? We are here to help.

Call 1-800-468-1502 for wiring assistance before returning the thermostat to the store.

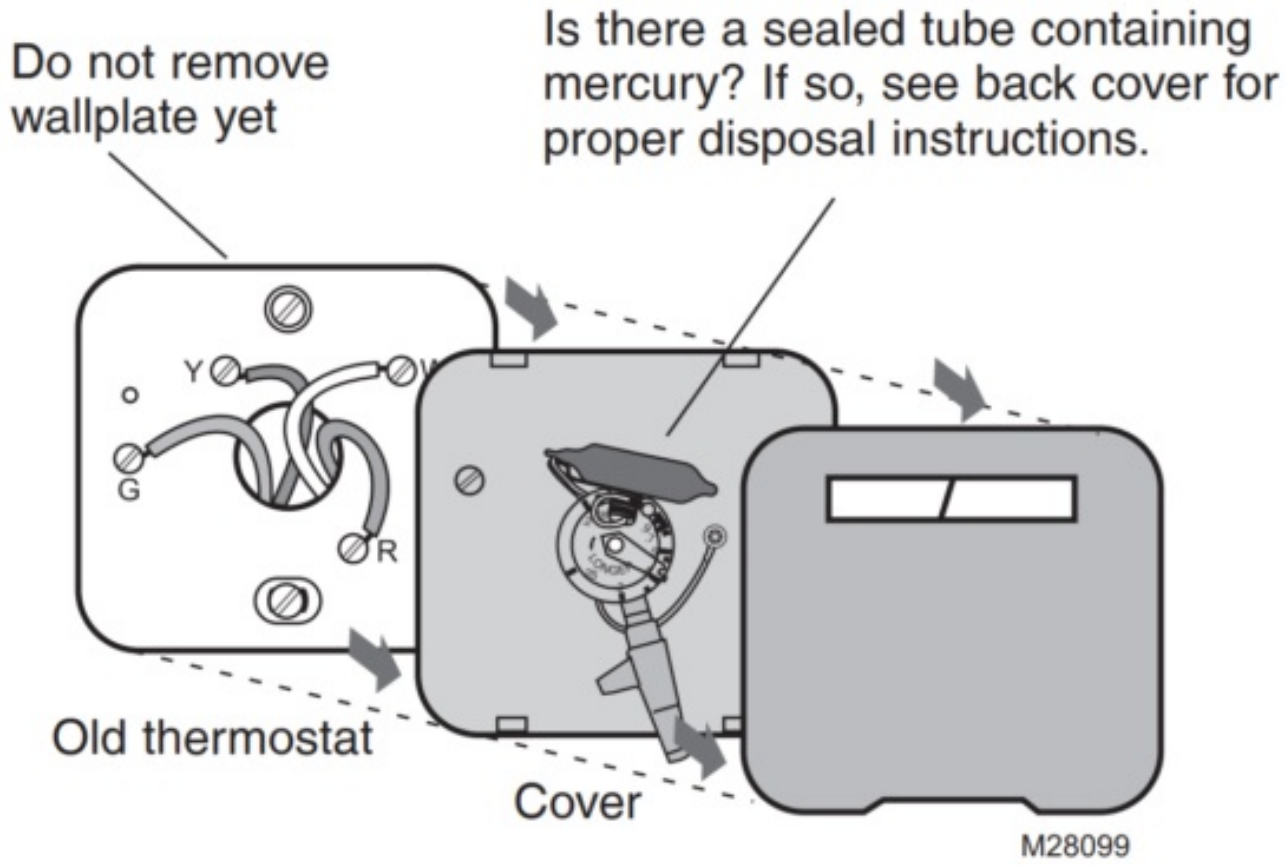
This thermostat cannot be used on multistage systems.

1. **Turn Off Power to Heating/Cooling System**

M28097

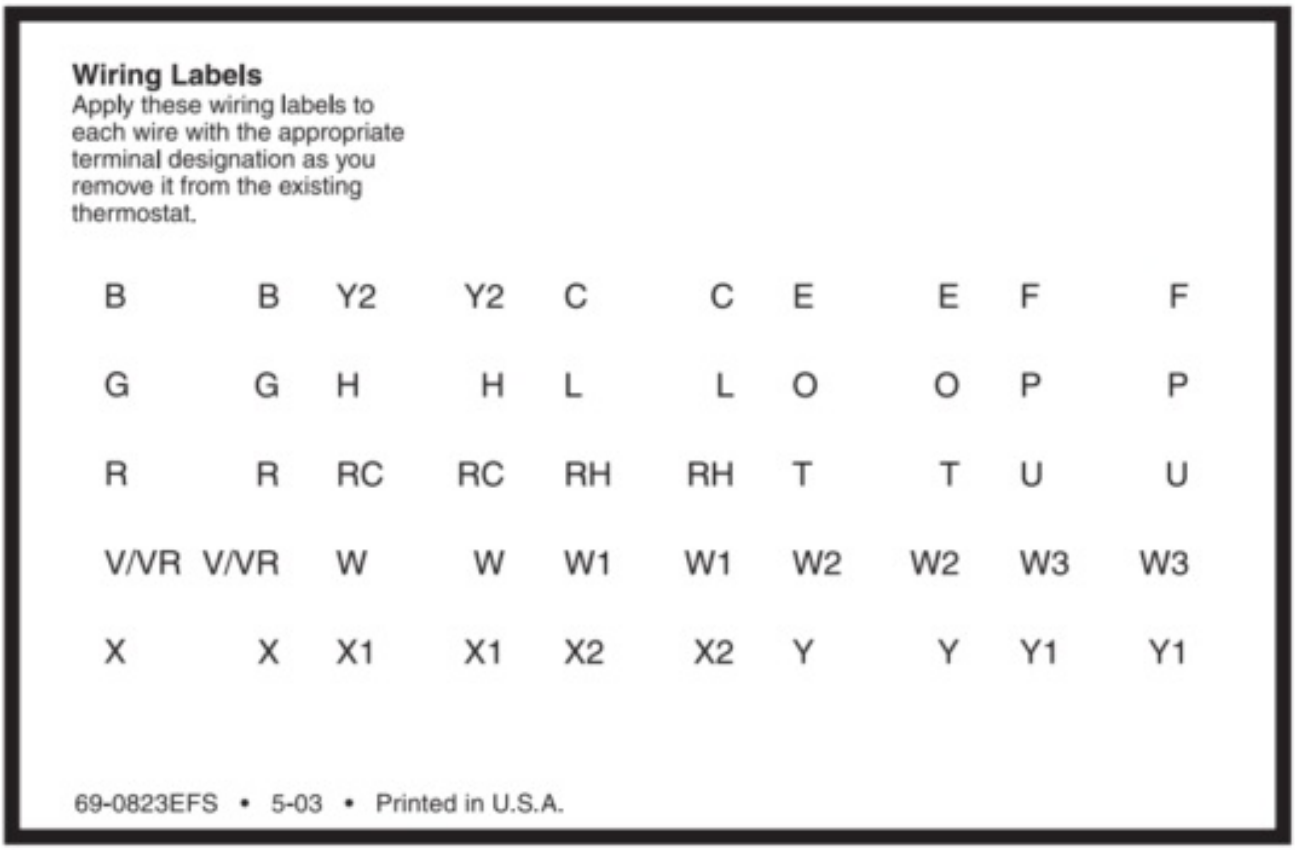
2. **Remove Old Thermostat**

   Remove old thermostat but leave wallplate with wires attached.

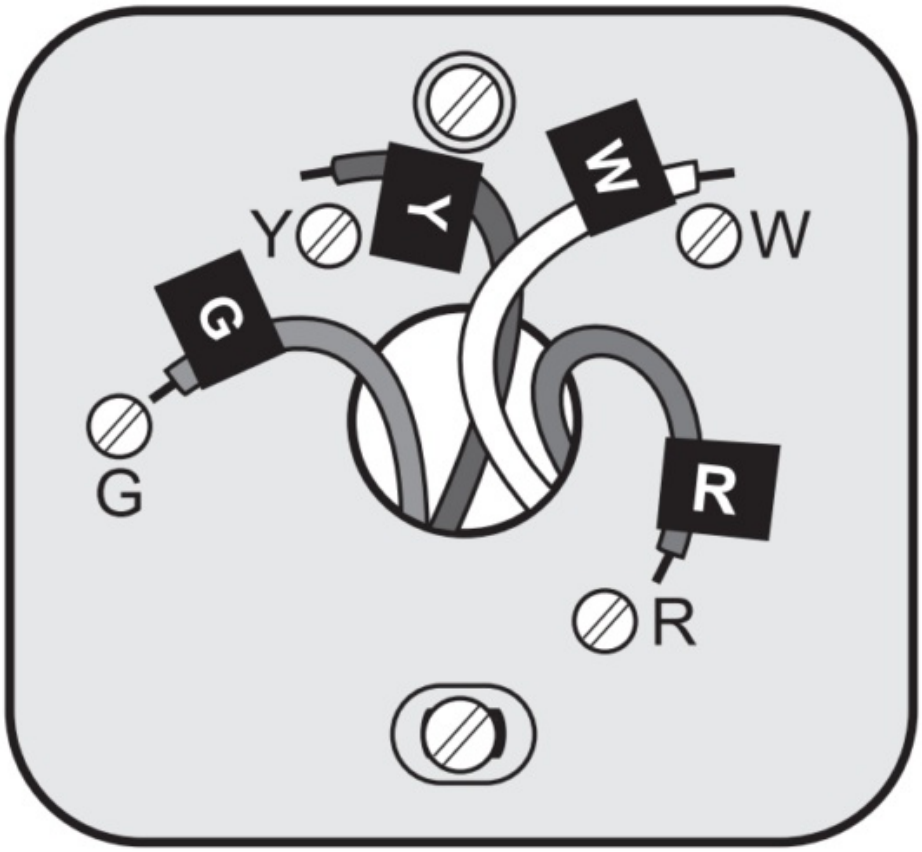


3. **Label Wires with Tags**

   Label the wires using the supplied wire labels as you disconnect them.



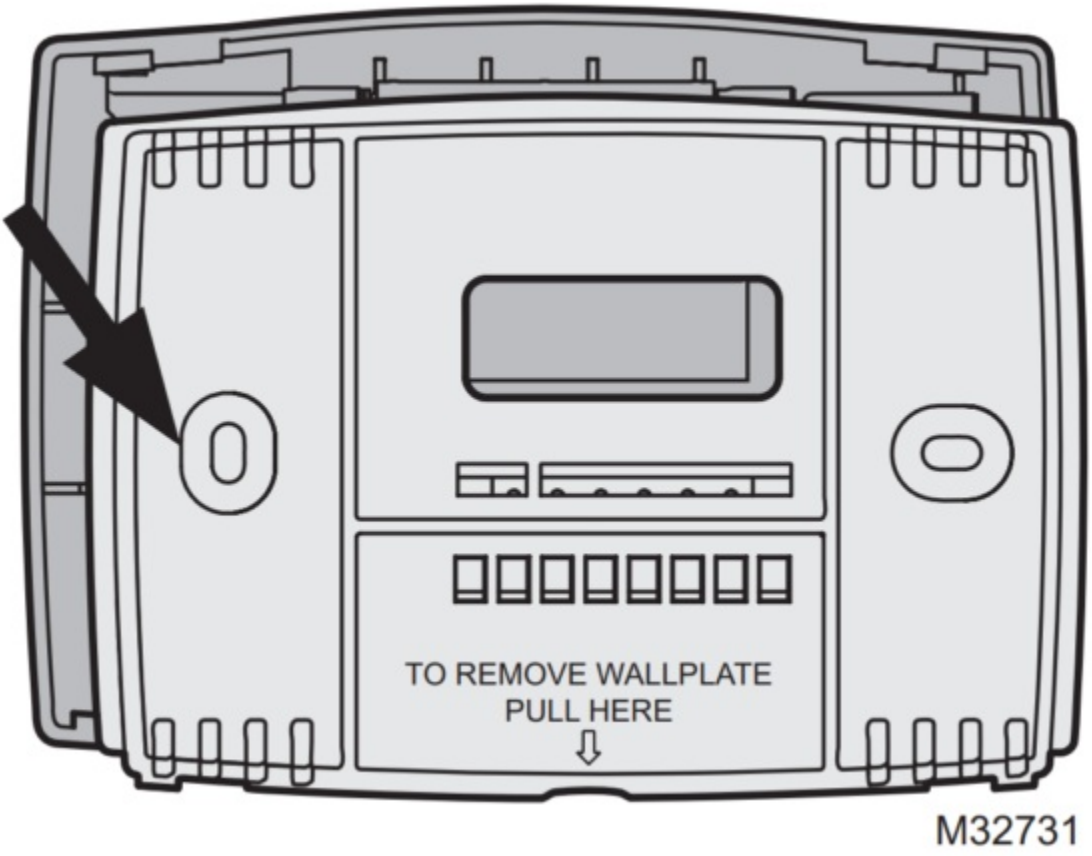
Wire Labels



M28093

4. **Separate Wallplate from New Thermostat**

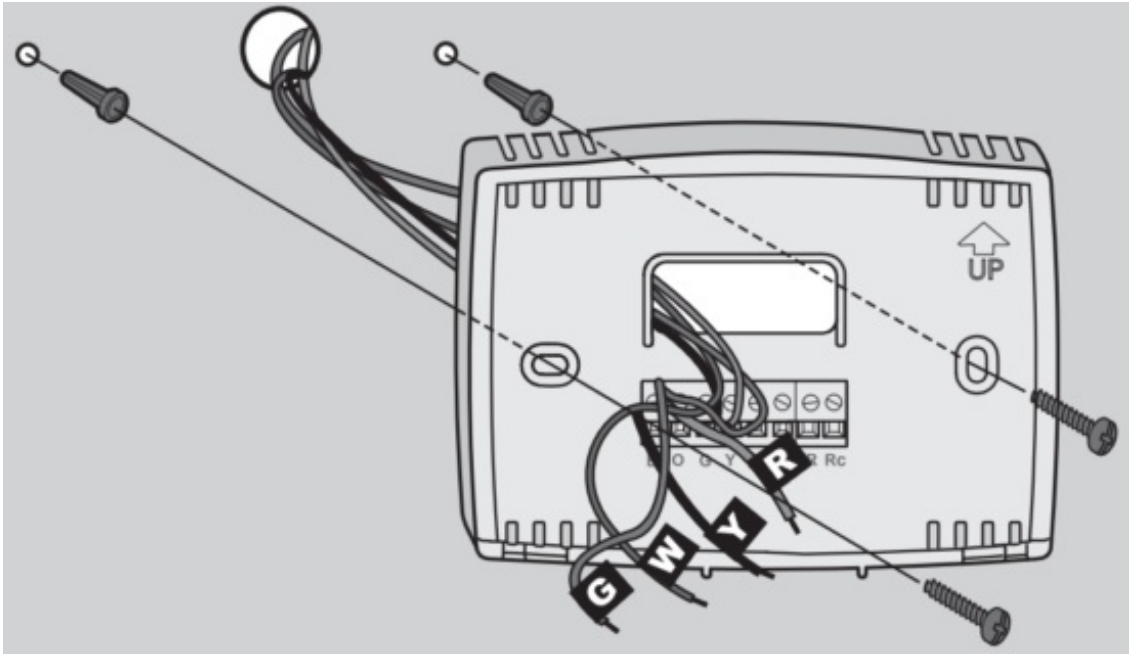
   Remove the wallplate from the new thermostat and mount onto the wall.



Wallplate

5. **Mount Wallplate**

   Mount the new wallplate using the included screws and anchors.

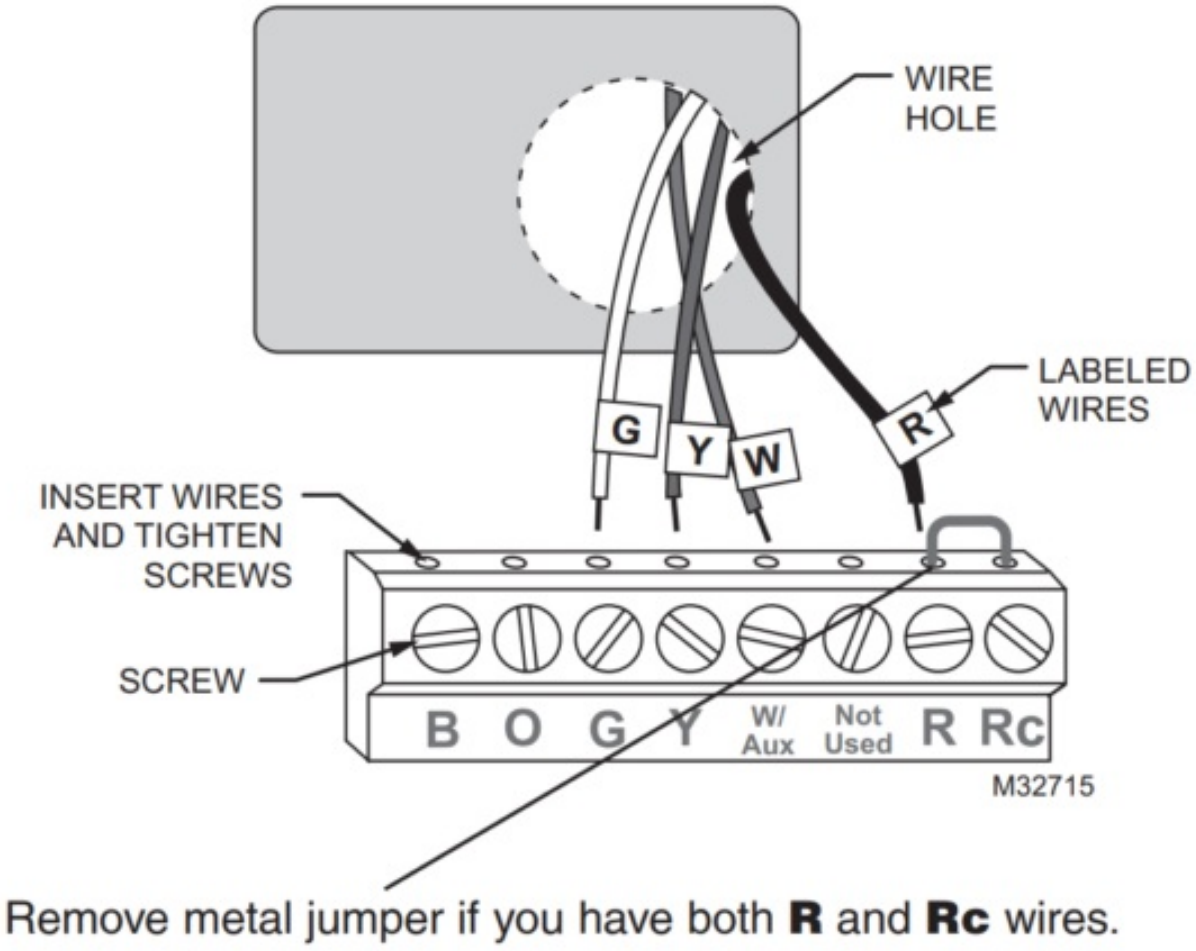


Drill 3/16-in. holes for drywall

Drill 3/32-in. holes for plaster

6. **Connect Wires**

   Simply match wire labels.



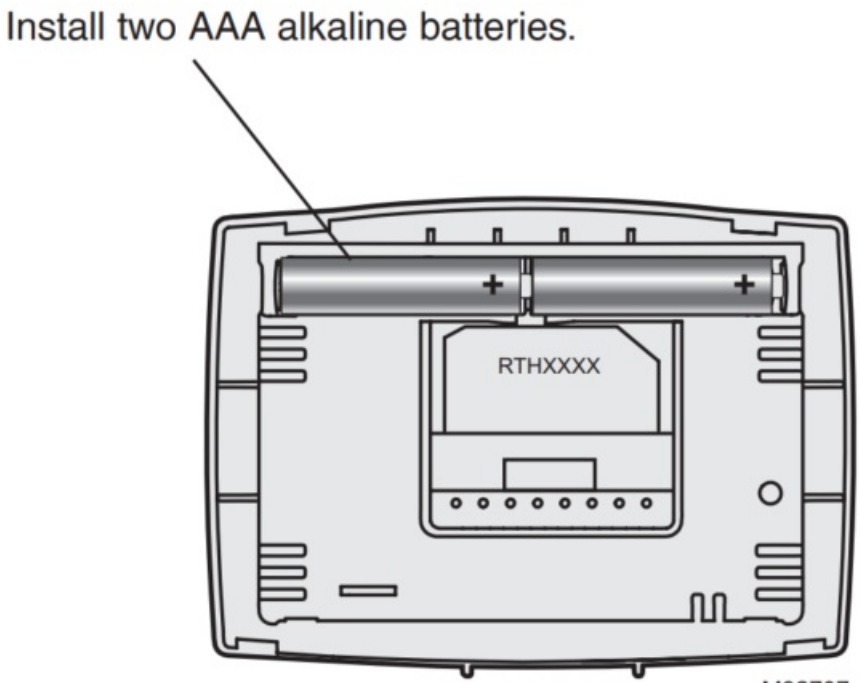
Labels don’t match? See page 22.

Have a Heat Pump system? See page 23-24.

We are here to help.

Call 1-800-468-1502 for wiring assistance.

7. **Install Batteries**



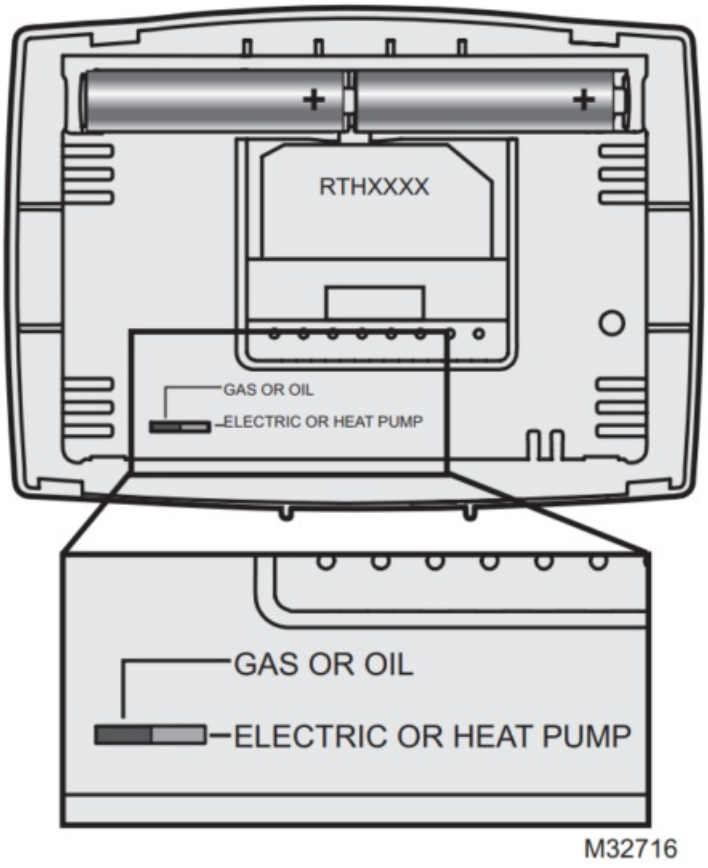
Back of thermostat

8. **Set fan operation switch**

   Move the switch to the proper setting:

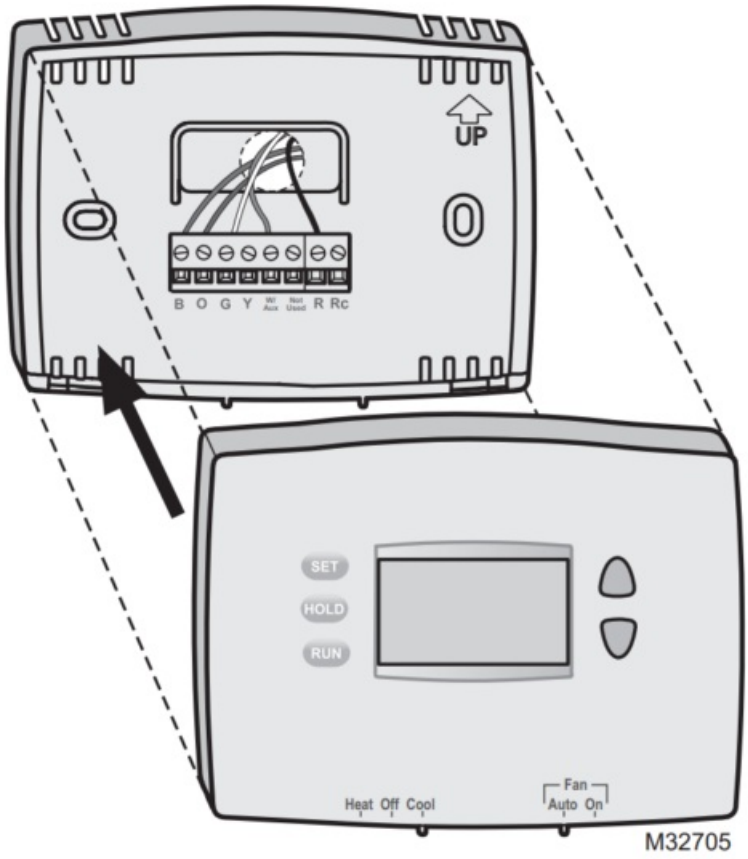
   Gas or Oil: For gas or oil heating systems, leave the fan operation switch in this factory-set position (for systems that control the fan in a call for heat).

   Electric or Heat Pump: Change the switch to this setting for heat pump or electric heat systems. (This setting is for systems that allow the thermostat to control the fan in a call for heat, if a fan wire is connected to the **G** terminal.)



9. **Install Thermostat onto Wallplate**

   Install the thermostat onto the wall plate on the wall.



10. **Turn Power Back On**

    Turn the power back on to the heating/cooling system.

11. **If your system type is…**

- Single Stage Heat and Cool
- Heat Only or Cool Only

Congratulations, you're done!
If your system type is:

- **Heat Pump* with Backup Heat**

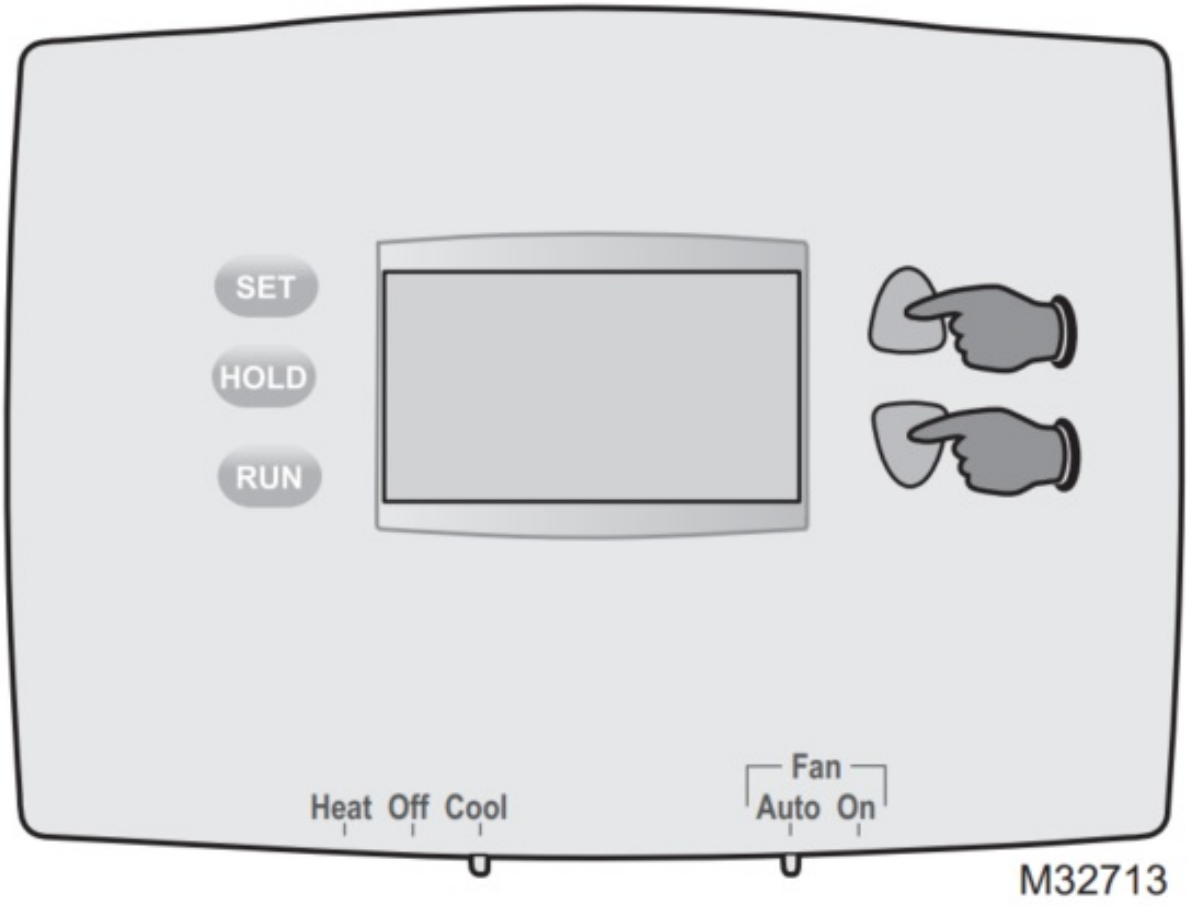
  Continue with advanced installation on next page to match your thermostat to your system type.

***Heat Pump—an air conditioner that provides cooling in the summer, and also runs in reverse in the winter to provide heating.**
If you are not sure of your system type or if you have other questions, call us toll-free at 1-800468-1502.

This thermostat works on 24 volt or 750 mV systems. It will NOT work on multi-stage conventional systems or 120/240 Volt systems.

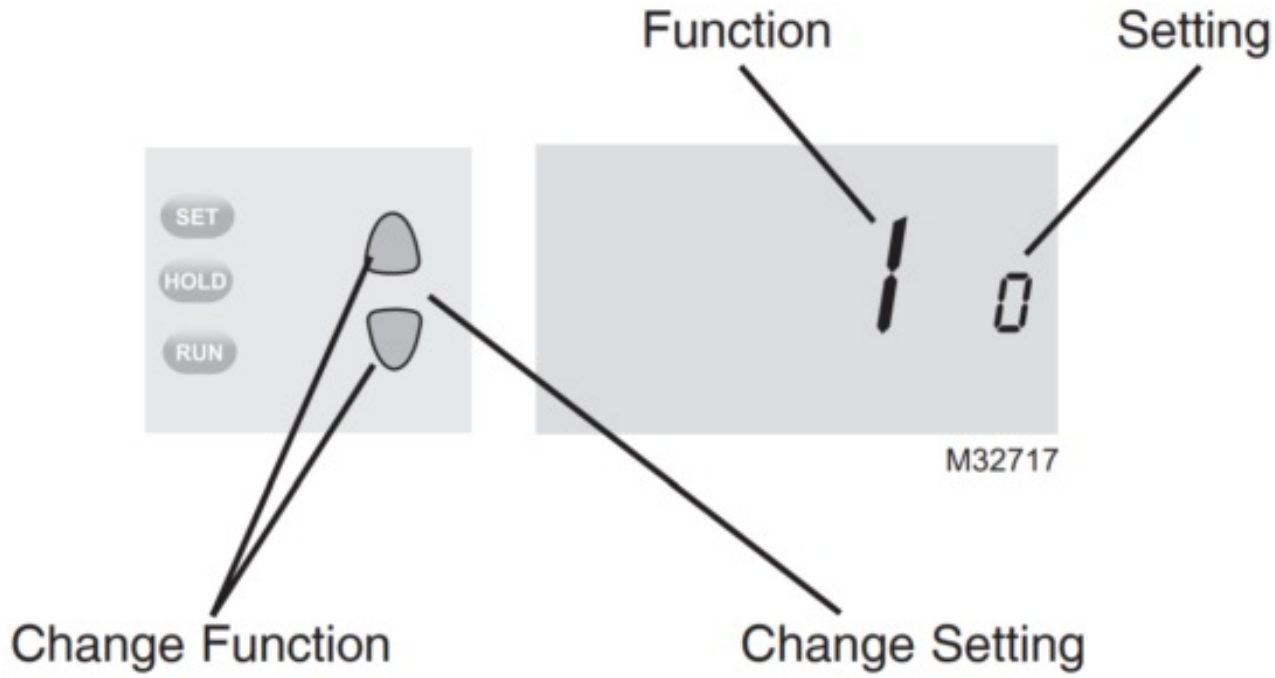
Enter System Setup

System setup
To enter system setup, press and hold both the ▲ and ▼ buttons until the display changes (approximately 5 seconds).



Changing Settings

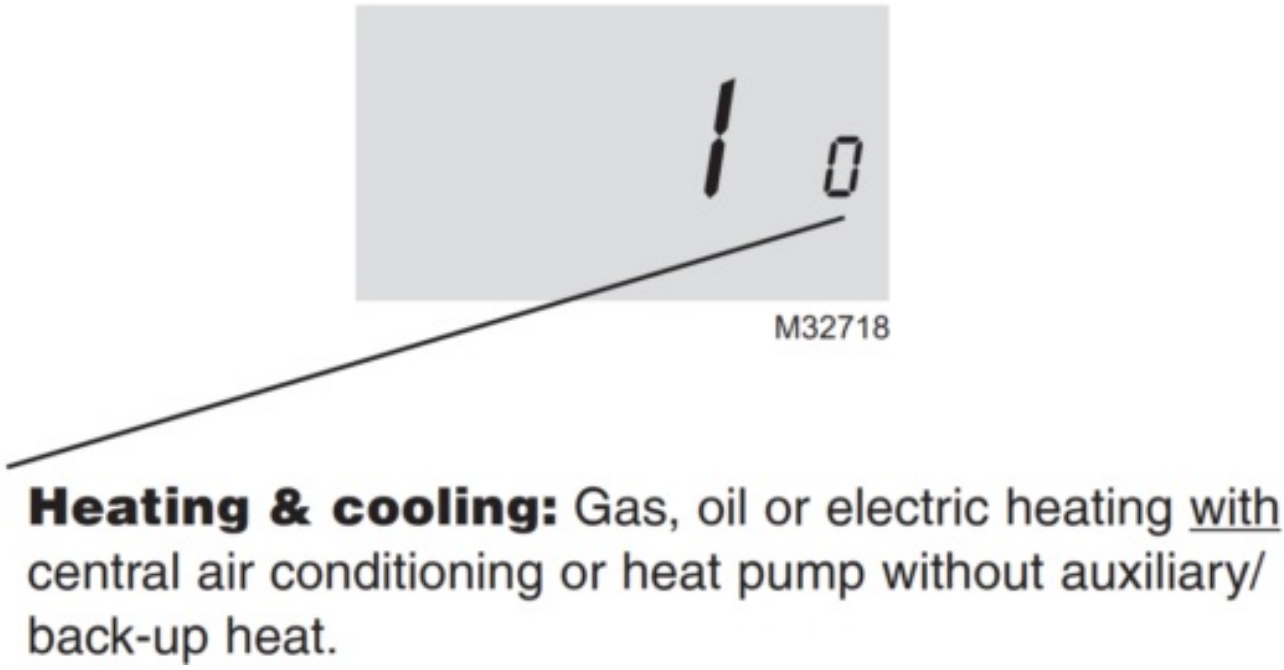
See pages 16–21 to change Function Settings.



1. Press the ▲ or ▼ button to change the setting.
2. Press the ▲ and ▼ buttons simultaneously for one second to advance to the next function.
3. Press the Run button to exit and save settings.

NOTE: If you do not press any button for 60 seconds while you are in the setup menu, the thermostat automatically saves any changes made and exits the menu.

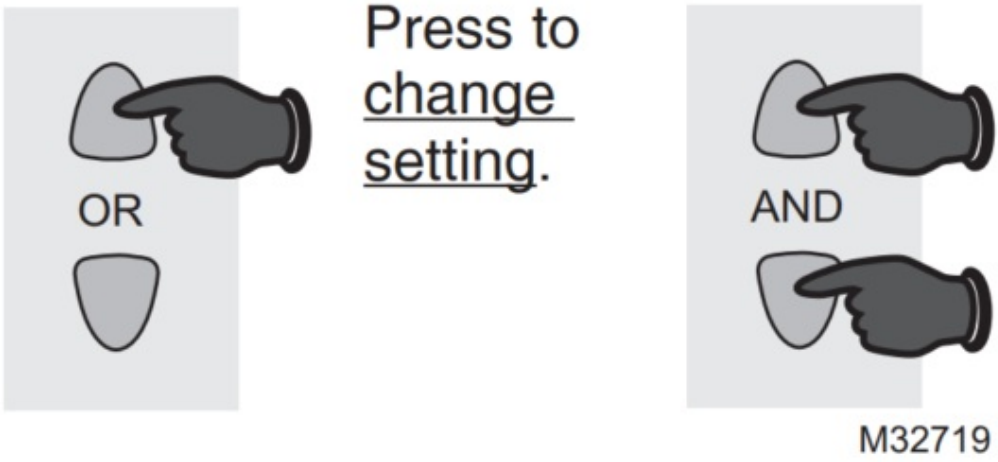
Function 1: System Type



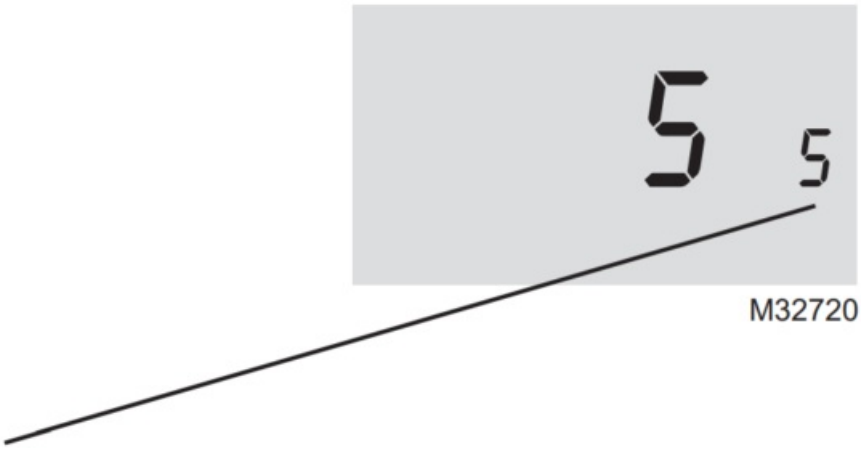
1. **Heat pump with auxiliary/backup heat:**

   Outside compressor provides both heating and cooling.

   Press the ▲ or ▼ button to select the type of Heat/Cool system you have in your home.

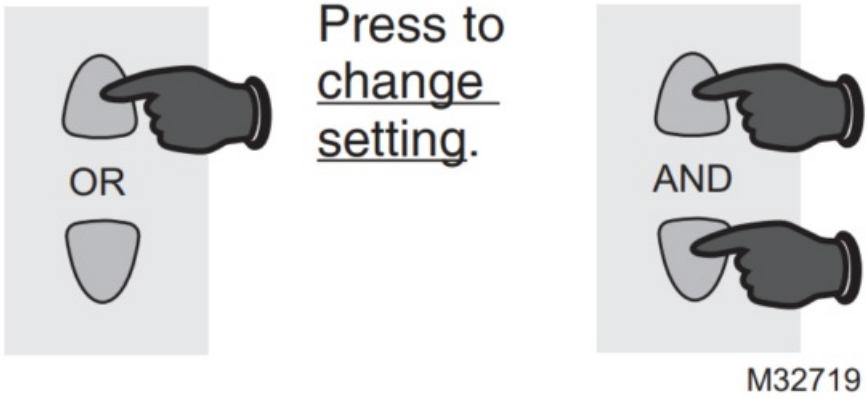


Function 5: Heating cycle rate

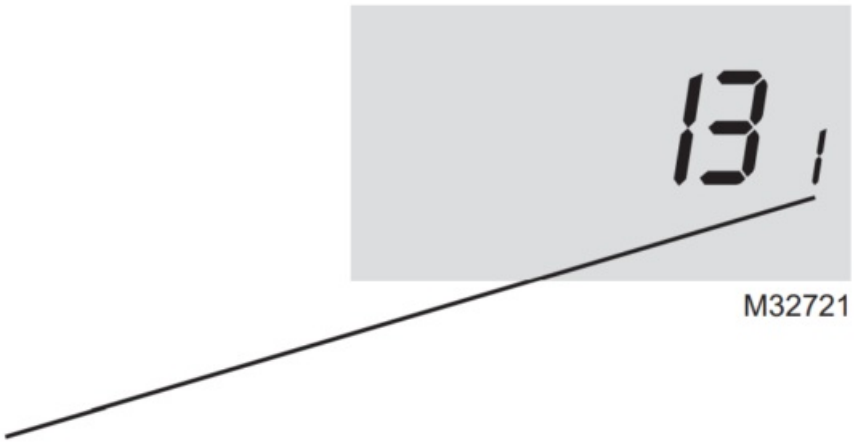


5 Gas or oil furnace: Use this setting if you have a standard gas or oil furnace that is less than 90% efficient.
6 Electric furnace: Use this setting if you have any type of electric heating system.
3 Hot water or high-efficiency furnace: Use this setting if you have a hot water system or a gas furnace of greater than 90% efficiency.
2 Gas/oil steam or gravity system: Use this setting if you have a steam or gravity heat system.

Press the ▲ or ▼ button to select your heating system and optimize its operation.



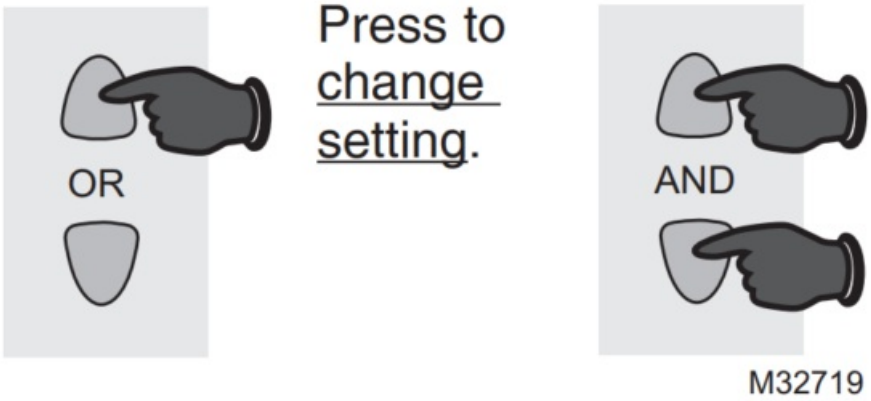
Function 13: Early Start



1 On
0 Off

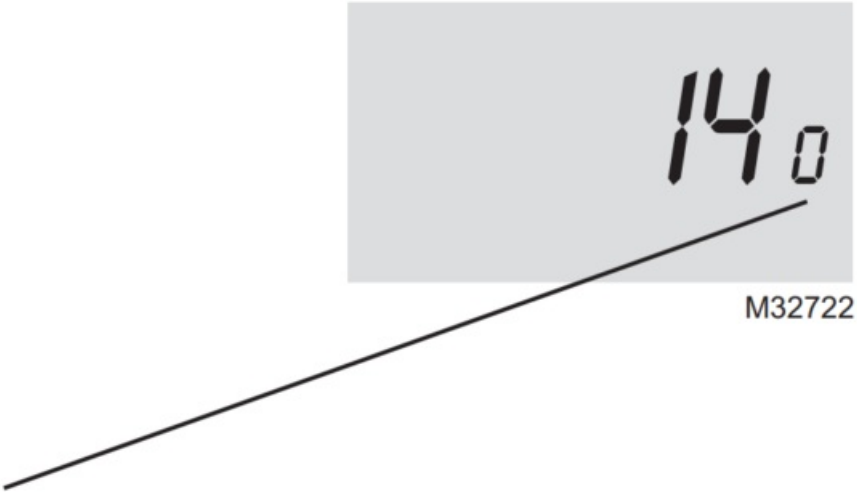
Early start allows the heating or cooling to turn on before the program starts time, so the temperature is reached at the time you set. Simply program the desired times and temperature into the schedule. The thermostat will turn the heating or cooling on early so that the desired temperature is reached at the desired time.

Press the ▲ or ▼ button to select Early Start.



When finished, press ▲ and ▼ to advance to the next function.

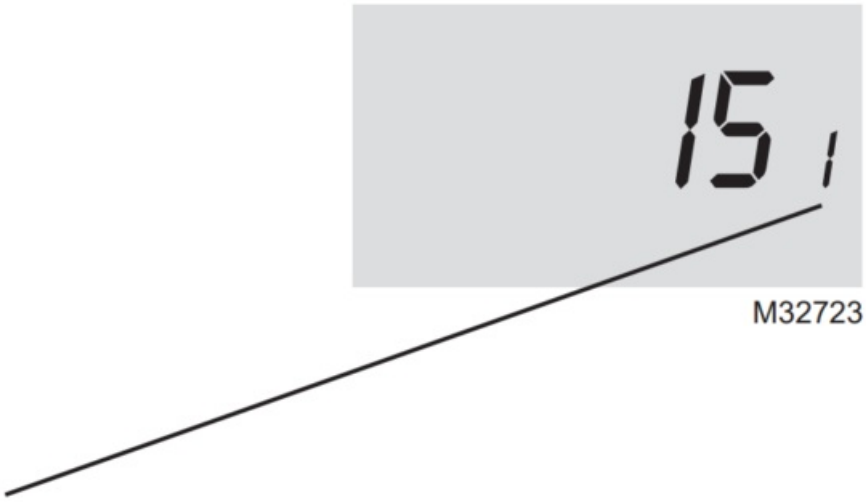
Function 14: Temperature display



0 Fahrenheit temperature display (°F)
1 Celsius temperature display (°C)
Press the ▲ or ▼button to select Fahrenheit or Celsius temperature display.

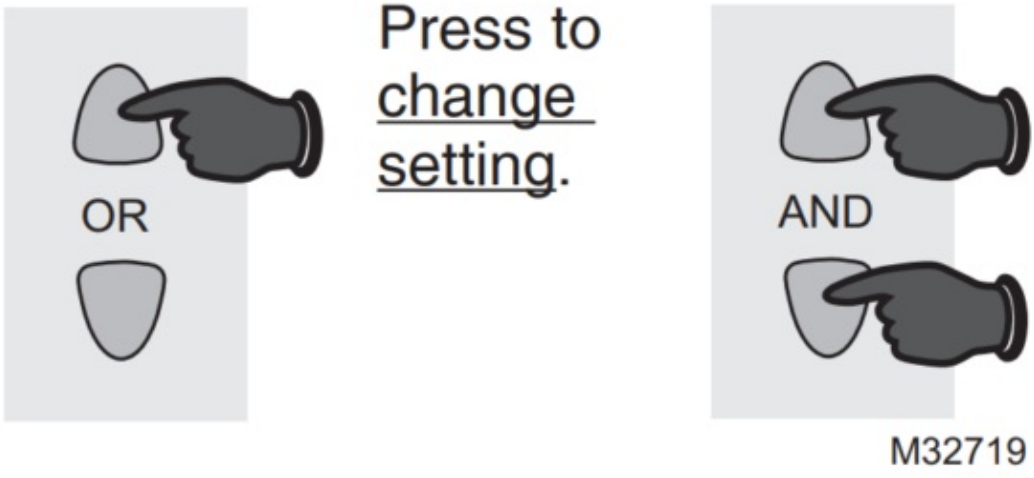
When finished, press ▲ and ▼ to advance to the next function.

Function 15: Compressor Protection



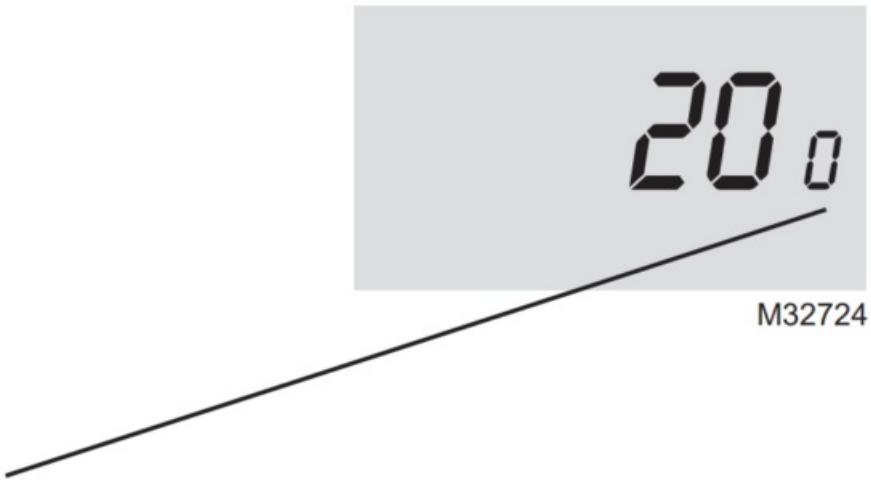
1 On
0 Off

Compressor Protection: This feature forces the compressor to wait approximately 5 minutes before restarting, to prevent equipment damage. During the wait time, the message “Cool On” or “Heat On” is displayed on the screen.
Press the ▲ or ▼ button to select Compressor Protection settings.



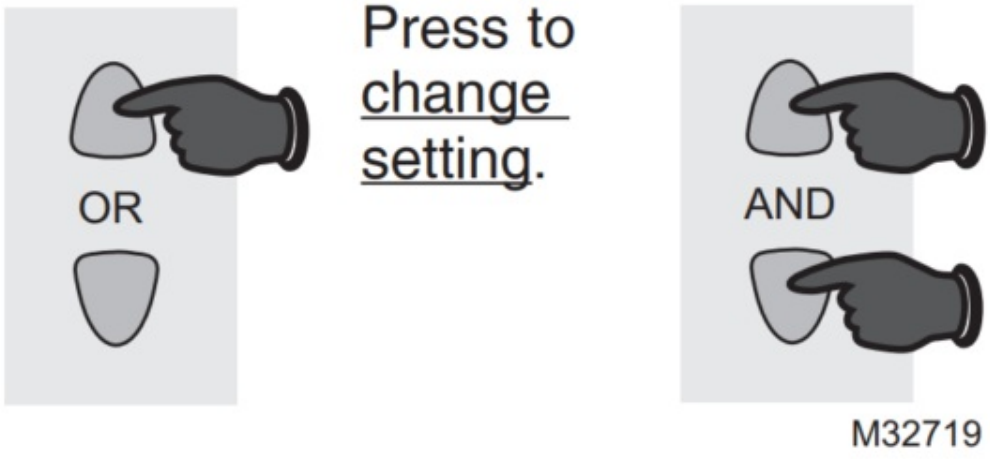
When finished, press ▲ and ▼ to advance to the next function.

Function 20: Clock Display



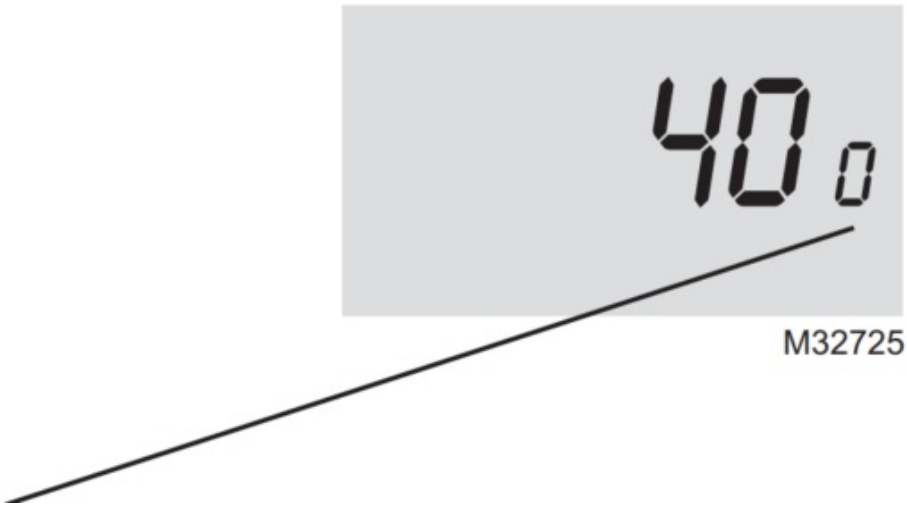
0 12-hour display
1 24-hour display

Press the ▲ or ▼ button to select the clock display.



When finished, press ▲ and ▼ to advance to the next function.

Function 40: Restore Program Schedule to Default

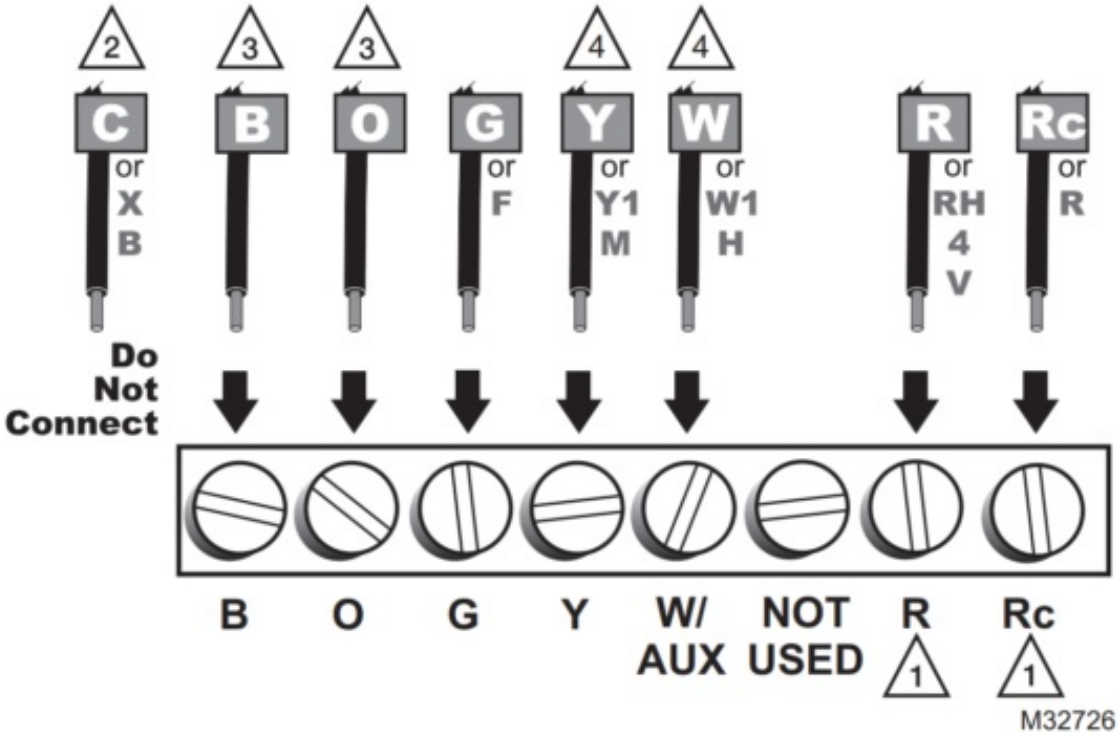


0 Off
1 On – Program schedule default settings are listed in the operating manual.
Press the ▲ or ▼ button to select restore program schedule to default settings.

When finished, press Run to exit and save changes.

Wiring—Conventional System

If labels do not match letters on the thermostat, check the chart below and connect to the terminal as shown here (see notes, below).

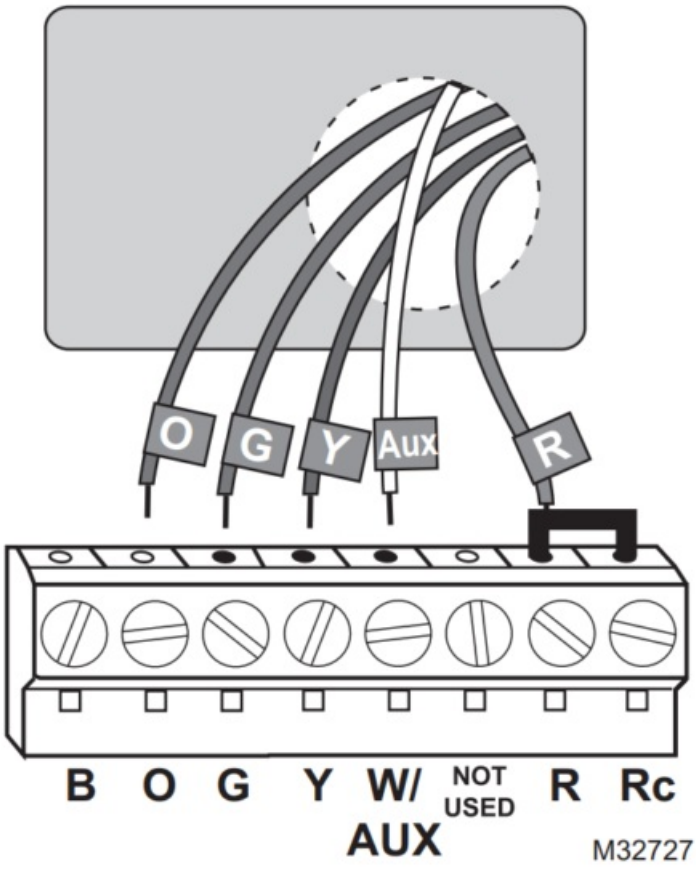


1 If wires will be connected to both R and **Rc** terminals, remove the metal jumper (see page 6).
2 Do not use **C** or **X**. Wrap bare end of wire with electrical tape.
3 If you have a **heat pump** without auxiliary/backup heat connect **O** or **B**, not both. If you do not have a **heat pump**, do not connect **B**. Wrap bare end of wire with electrical tape.
4 Place a jumper (piece of wire) between **Y** and **W**/**Aux** if you are using a heat pump without auxiliary/backup heat.

Wiring—Heat Pump

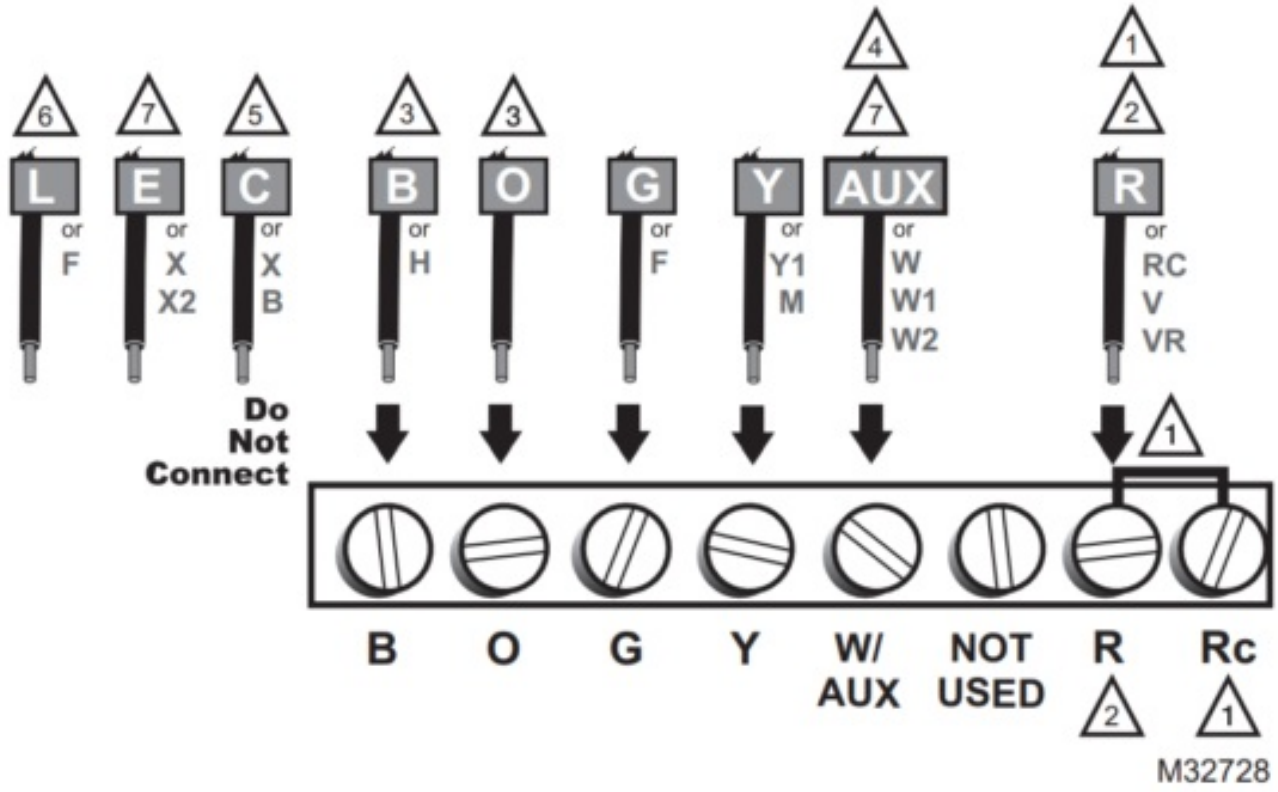
Connect wires: Heat Pump

1. Match each labeled wire with the same letter on the new thermostat.
2. Use a screwdriver to loosen screws, insert wires into a hole under the screw, then tighten screws until the wire is secure.
3. Push any excess wire back into the wall opening.



Labels don't match? See page 24.
Wiring complete, return to Step 7.
Alternate wiring (for heat pumps with auxiliary or backup heat only)

If labels do not match letters on the thermostat, check the chart below and connect to terminal as shown here (see notes, below).



1. Leave metal jumper in place, connecting **R** & **Rc** terminals.
2. If your old thermostat had both **V** and **VR** wires, stop now and contact a qualified contractor for help.
3. If your old thermostat had separate **O** and **B** wires, wrap the **B** wire in electrical tape and do not connect.
4. If your old thermostat had **Y1, W1**, and **W2** wires, stop now and contact a qualified contractor for help.
5. Do not use **C** or **X** wire. Do not use B wire if you already have O wire. Wrap bare end of wire with electrical tape.
6. Do not use **L** wire. Wrap bare end of wire with electrical tape.
7. If your old thermostat had **E** and **Aux** wires (or alternate wires), connect both wires to **Aux** terminal.

Troubleshooting

If you have difficulty with your thermostat, please try the following suggestions. Most problems can be corrected quickly and easily.

Display is blank	• Make sure furnace door is closed securely. • Make sure fresh AAA alkaline batteries are correctly installed (see page 7).
Heating or cooling system doesn't respond	• Set System switch to Heat. Make sure the temperature is set higher than t he Inside temperature. • Set System switch to Cool. Make sure the temperature is set lower than t he Inside temperature. • Check circuit breaker and reset if necessary. • Make sure heating & cooling power switches are on. • Make sure furnace door is securely closed. • Wait 5 minutes for the system to respond.
Temperature settings do not ch ange	Make sure heating and cooling temperatures are set to acceptable ranges: • Heat: 40° to 90°F (4.5° to 32°C). • Cool: 50° to 99°F (10° to 37°C).
"Cool On" or "Heat On" is flash ing	• Compressor protection feature is engaged. Wait 5 minutes for the system to restart safely, without damage to the compressor.
"Heat On" is not displayed	• Set the System switch to Heat, and set the temperature level above the c urrent room temperature.
"Cool On" is not displayed	• Set the System switch to Cool, and set the temperature level below the cu rrent room temperature.

Customer assistance

For assistance with this product, please visit **http://yourhome.honeywell.com** or call Honeywell Customer Care toll-free at 1-800-468-1502.

One-year limited warranty

Honeywell warrants this product, excluding battery, 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 determined to be defective or malfunctions, Honeywell shall repair or replace it (at Honeywell's option).
If the product is defective,
(i) return it, with a bill of sale or other dated proof of purchase, to the place from which you purchased it; or

(ii) call Honeywell Customer Care at 1-800-468-1502. Customer Care will make the determination whether the product should be returned to the following address: Honeywell Return Goods, Dock 4 MN10-3860, 1885 Douglas Dr. N., Golden Valley, MN 55422, or whether a replacement product can be sent to you.

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 that 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 above terms. 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 Honeywell Customer Relations, 1985 Douglas Dr, Golden Valley, MN 55422 or call 1-800-468-1502.

MERCURY NOTICE: Do not place your old thermostat in the trash if it contains mercury in a sealed tube. Contact the Thermostat Recycling Corporation at www.thermostat-recycle.org or 800238-8192 for information on how and where to properly and safely dispose of your old thermostat.

CAUTION: To avoid possible compressor damage, do not run air conditioner if the outside temperature drops below 50°F (10°C).

Automation and Control Solutions
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Documents / Resources

	Honeywell RTHL2510 Programmable Thermostat with Digital Display [pdf] Installation Guide RTHL2510, RTHL2410, Programmable Thermostat with Digital Display

Manuals+.