Single-Stage Thermostat

with **5-2 DAY** scheduling

Install Guide

WHITE-RODGERS
by COPELAND

PART NO. 37-7579001
Replaces 37-7579B
Model # P150
Made in China

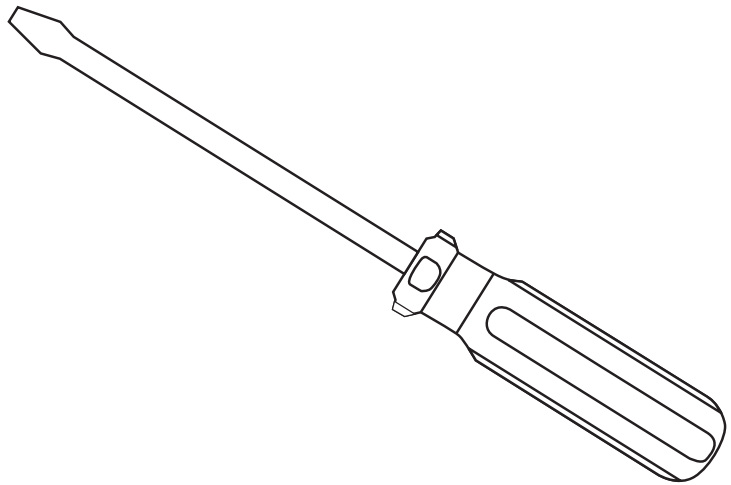
GUIDE CONTENTS

⚠ WARNING

Failure to follow and read all instructions carefully before installing or operating this control could cause personal injury and/or property damage.

1. PREPARATIONS

1.1 Check package contents



This package should contain the following items:

- Thermostat
- Mounting screws and wall anchors (x2)
- 2 AAA batteries
- Terminal wire label stickers
- Installation instructions

1.2 Gather tools

Required tools:

□ Flat-head Screwdriver □ Small pliers (needle-nose) □ Drill with 3/16” (4 mm) bit

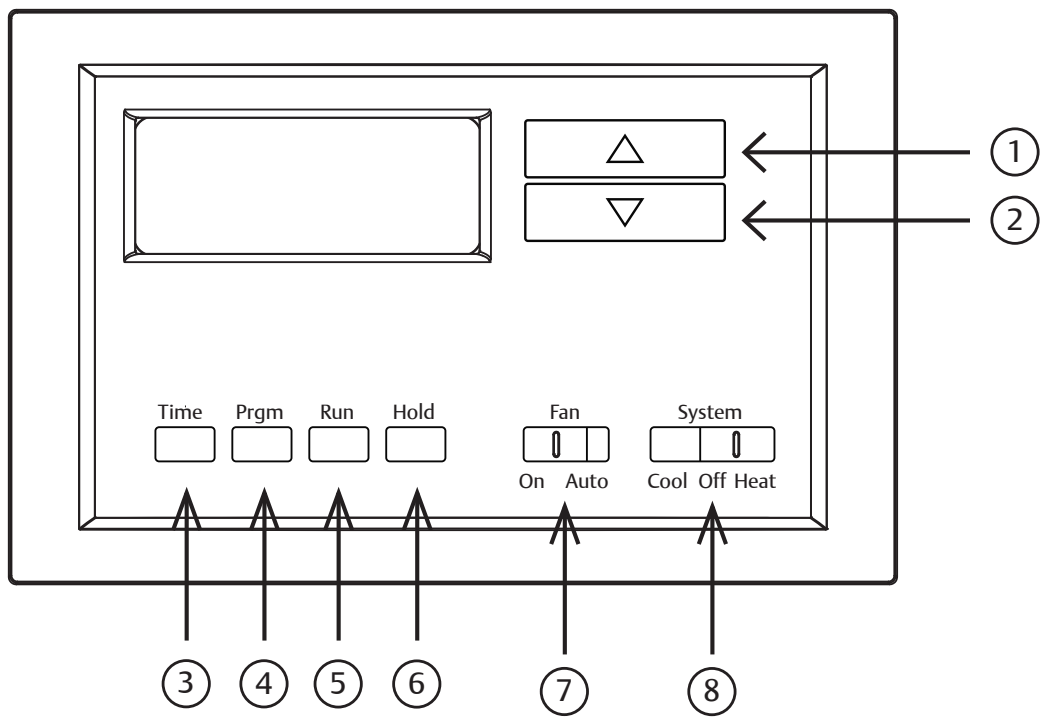
Optional tools:

□ Wire cutters/stripper □ Hammer

2. THERMOSTAT DETAILS

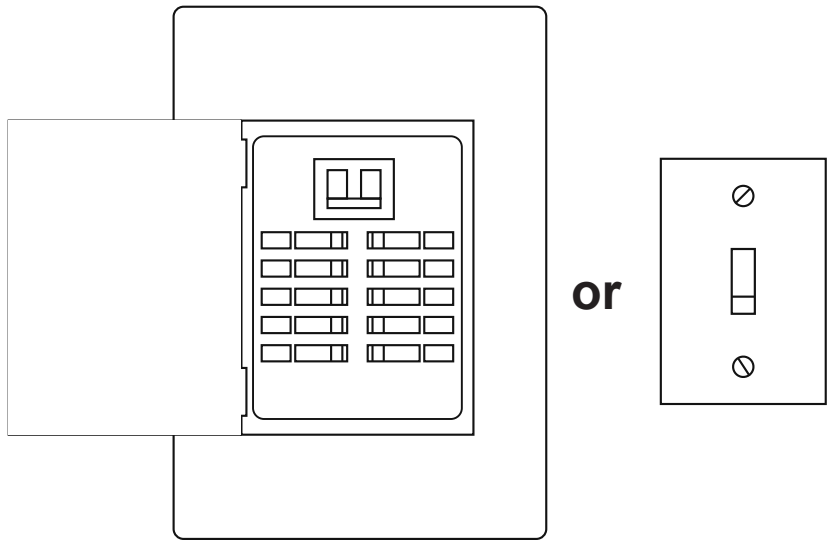
2.1 The thermostat buttons and switches

1. Raises temperature setting.
2. Lowers temperature setting.
3. TIME button.
4. PRGM (program) button.
5. RUN (program) button. Press RUN to resume program.
6. HOLD button. Press HOLD to bypass the program. Press RUN to resume program.
7. FAN switch **(ON, AUTO)**.
8. SYSTEM switch **(COOL, OFF, HEAT)**.



3. REMOVING OLD THERMOSTAT

3.1 Turn off power



⚠ WARNING

To prevent electrical shock and/or equipment damage, disconnect electrical power to the system at the main fuse or circuit breaker box, or by flipping a switch at the air handler. Do not restore power until installation is complete.

To ensure the power to your heating and cooling system has been turned off, try to turn on heating or cooling by changing the temperature on your old thermostat.

3.2 Remove the old thermostat cover

Remove the old thermostat's front cover from the wall base. Some covers pull of easily, while others may need to be released by using a screwdriver.

⚠ CAUTION

Your old thermostat may have a sealed glass tube containing mercury. Be careful not to damage the tube or dispose of the tube in your trash. For safe disposal information, please see Mercury Notice on page 36.

3.3 Label wires

Tip: Taking a picture with a camera or smartphone can help you not only remember how wires are connected to the terminals, but can also ensure that you label your wires correctly. Mislabeling the wires may result in a high energy bill or damage to your heating and cooling system.

Using your screwdriver, carefully unscrew one wire at a time from the terminal block and attach the corresponding wire label sticker.

Please note that not all terminals may be used, and that there's no standard color code for thermostat wires, so your wire colors may vary. For your reference, we've included a terminal label reference chart below to help you connect the wires in your old thermostat to your new thermostat in case you get stuck.

Terminal labeling reference chart

If your current terminal has the following letter	Label the wires with the following letters	Terminal function
RH, R, R5, 5	RH	24V Power (Heating)
RC	RC	24V Power (Cooling)
W, W1, 4	W	Heating Relay
Y, Y1	Y	Cooling Relay
G	G	Fan Relay
O	O	Reversing Valve (for heat pump applications energized in Cool mode)
B	B	Reversing Valve (for heat pump applications energized in Heat mode)

3.4 Identify jumper wire

For terminal RC and RH:

On your old thermostat, if…	Then, on your new thermostat…
Terminal RC and RH are connected with a jumper wire	Leave the jumper wire in its place
There's only one R wire (RC, RH, R or R5) coming out of the wall	Leave the jumper wire in its place
Terminal RC and RH (or 5 or R5) are NOT connected by a jumper wire	Remove the jumper wire between RC and RH

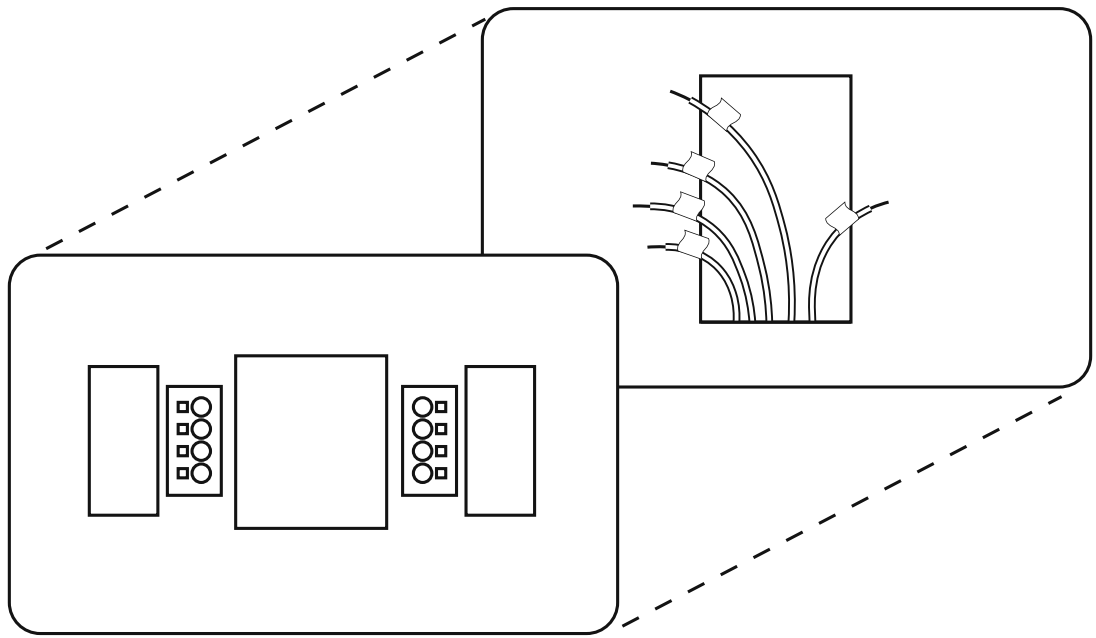
For terminal Y and W:

If you have a heat pump with reversing valve, connect Y and W with a jumper wire on your new thermostat.

If you need help with labeling and wiring, please contact Customer Support at 877.654.9394 or email wr.techsupport@copeland.com — we're here to help!

3.5 Remove old thermostat base

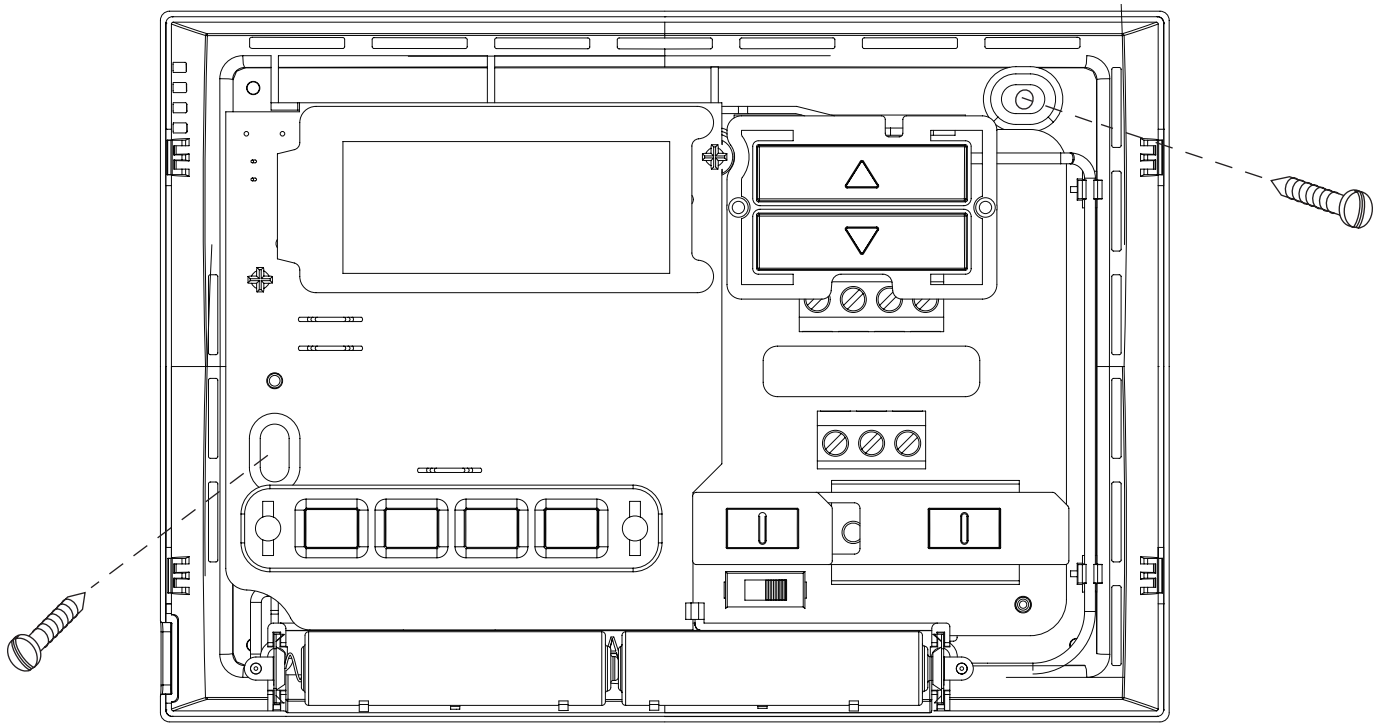
With all of your wires disconnected and properly labeled, you may now safely remove the thermostat base from your wall.



Tip: Worried about having your wires falling into your wall? Keep the wires secure by wrapping the them around a pencil.

4. MOUNTING AND WIRING YOUR NEW THERMOSTAT

4.1 Install new thermostat base



Mount your new thermostat base using the supplied screws. Drill holes and insert wall anchors to secure the thermostat base to the wall, if necessary.

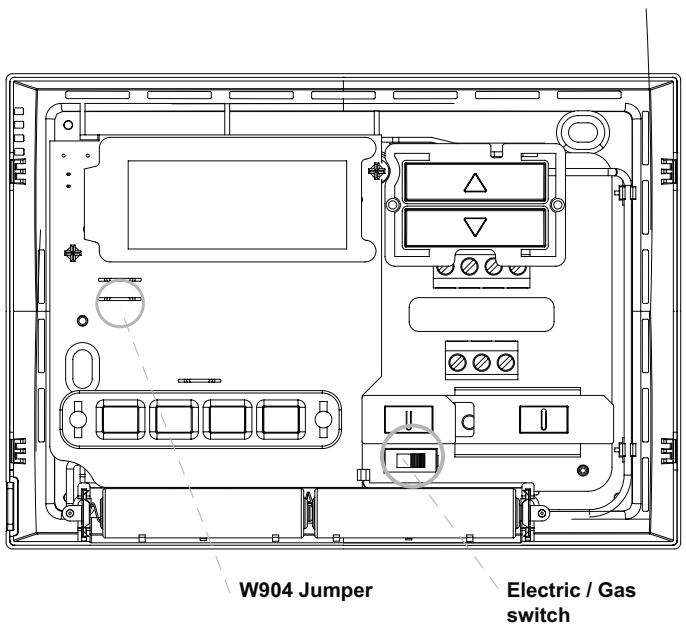
4.2 Connect wires to corresponding terminal blocks

Match each labeled wire to it's corresponding terminal on the mounted thermostat base. Insert each labeled wire into the hole of it's matching terminal, and using the screwdriver, tighten the screw on the terminal block securely.

⚠ CAUTION

Take care when securing and routing wires so they do not short to adjacent terminals or rear of thermostat. Personal injury and/or property damage may occur.

4.3 Set switch and advanced wiring



If you have either a gas or oil furnace, set the switch to GAS.

If you have an electric furnace, set the switch to ELEC.

4.4 Install the batteries and attach front cover

Install the included AAA alkaline batteries and push the front cover on to the thermostat base until it's secure.

4.5 Turn on power

Turn on your power at the source.

Congratulations! You've completed the thermostat installation process

5. CHECK THERMOSTAT OPERATION

Tip: If at any time during testing your system does not operate properly, please contact Customer Support at 877.654.9394 or email wr.techsupport@copeland.com

Note: To prevent static discharge problems, touch side of thermostat to release static build-up before touching any keys.

If at any time during testing your system does not operate properly, contact a qualified service person.

5.1 Fan operation

If your system **does not** have a **G** terminal connection, skip to **Heating System.**

1. Turn on the power system
2. Move FAN switch to ON position. The blower should begin to operate.
3. Move FAN switch to AUTO position. The blower should stop immediately.

5.2 Cooling system

⚠ CAUTION

To prevent compressor and/or property damage, if the outdoor temperature is below 50°, DO NOT operate the cooling system

This thermostat has a time delay between cooling cycles to allow the head pressure in the compressor to stabilize. If the temperature is adjusted to call for cool within 5 minutes of the last cycle the snowflake icon will blink indicating the thermostat is locked out. After 3 to 5 minutes, the compressor will start and the snowflake icon will stop flashing. This helps prevent the compressor from cycling too quickly and is normal operation for the thermostat.

1. Move SYSTEM switch to **COOL** position.
2. Press ⌄ to adjust thermostat setting below room temperature. The blower should come on immediately on high speed, followed by cold air circulation
3. Press ⌃ to adjust temperature setting above room temperature. The cooling system should stop operating.

5.3 Heating system

1 Move SYSTEM switch to **HEAT** position. If the heating system has a standing pilot, be sure to light it.

2. Press ⌃ to adjust thermostat setting above room temperature. The heating system should begin to operate.

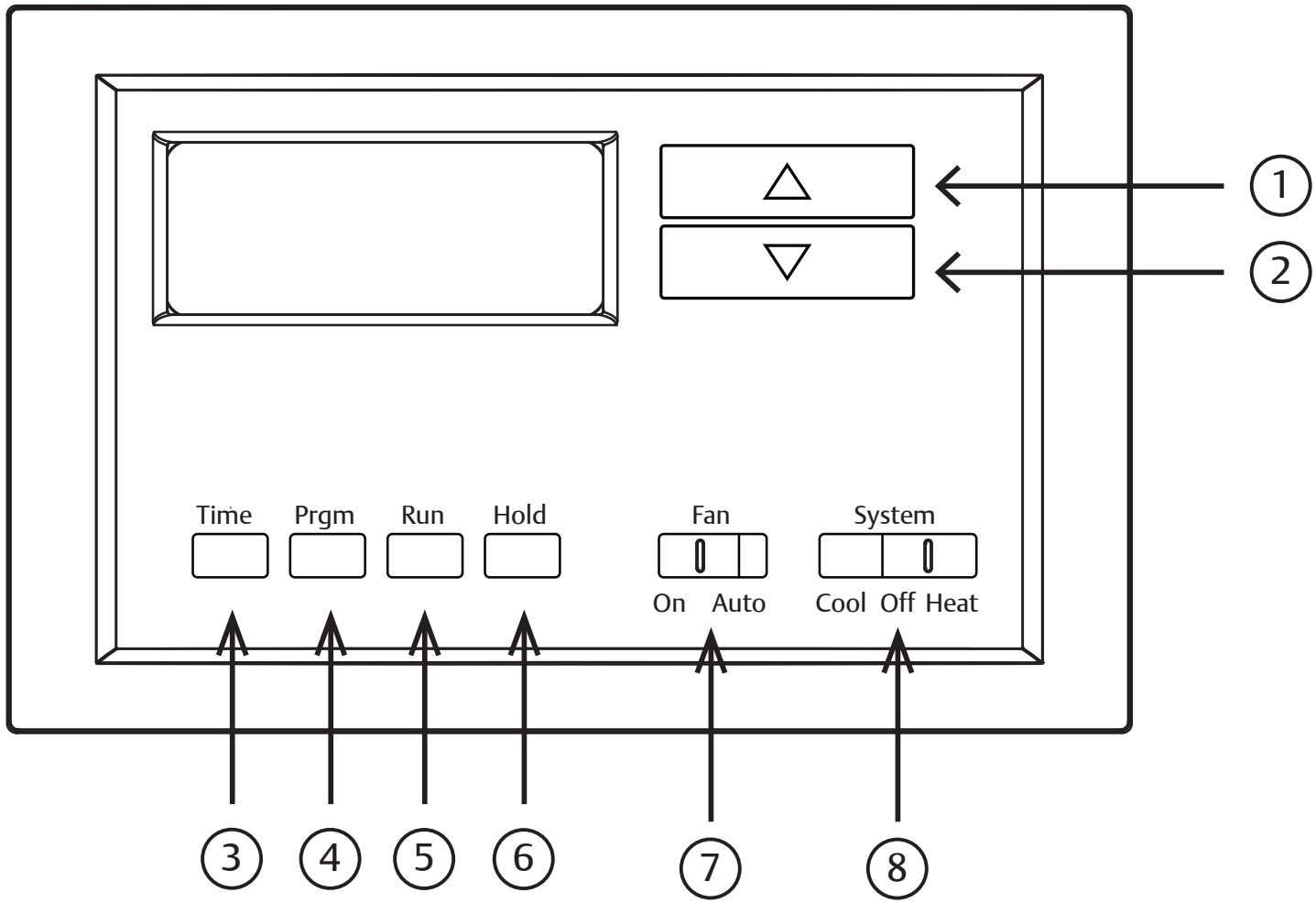
3. Press ⌄ to adjust temperature setting below room temperature. The heating system should stop operating.

6. PROGRAMMING YOUR THERMOSTAT

Before you begin programming your thermostat, you should be familiar with its features and with the display and the location and operation of the thermostat buttons. Your thermostat consists of two parts: the thermostat cover and the base. To remove the cover, pull it straight out from the base. To replace the cover, line up the cover with the base and press until the cover snaps onto the base.

6.1 The thermostat buttons and switches

1. Raises temperature setting.
2. Lowers temperature setting.
3. TIME button.
4. PRGM (program) button.
5. RUN (program) button. Press RUN to resume program.
6. HOLD button. Press HOLD to bypass the program. Press RUN to resume program.
7. FAN switch **(ON, AUTO)**.
8. SYSTEM switch **(COOL, OFF, HEAT)**.


Time
Prgm
Run
Hold
Fan
On
Auto
System
Cool
Off
Heat
1
2
3
4
5
6
7
8

6.2 The display

(9) Indicates day of the week.

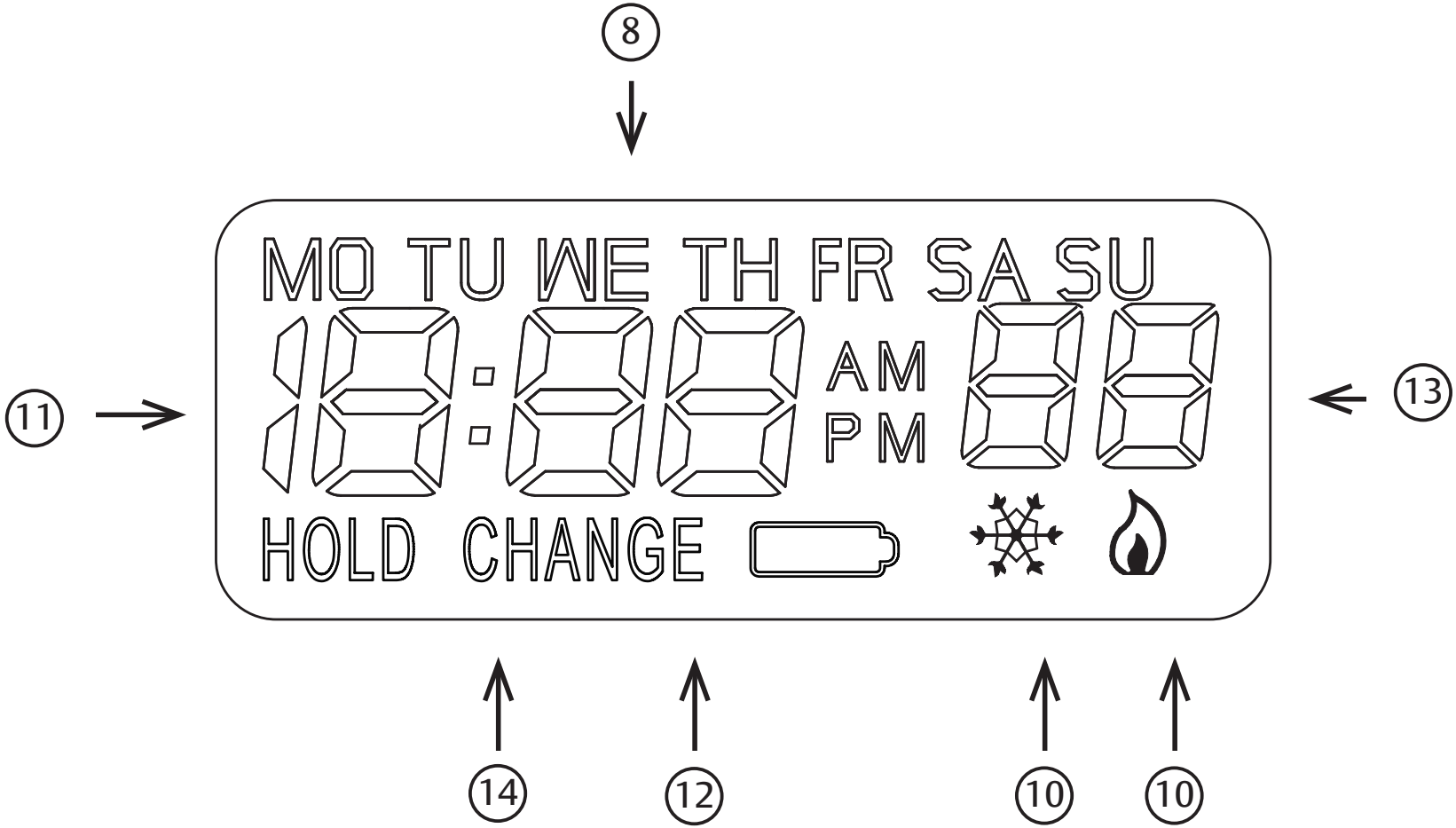
(10) **Flame icon** () is displayed when the SYSTEM switch is in the HEAT position. **Snowflake icon** () is displayed (non-flashing) when the SYSTEM switch is in the COOL position. **Snowflake** is displayed (flashing) if the thermostat is in lockout mode to prevent the compressor from cycling too quickly.

(11) Alternately displays current time and temperature.

(12) CHANGE  is displayed when the 2 “AAA” batteries are low and should be replaced. Nothing else will be displayed. Earlier models display “LO BATTERY”.

(13) Displays currently programmed set temperature (this is blank when SYSTEM switch is in the OFF position).

(14) “**HOLD**” is displayed when the thermostat is in the **HOLD** mode.

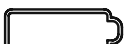

8
MO TU WE TH FR SA SU
AM
PM
HOLD CHANGE
11
13
14
12
10
10

6.3 Operating features

Now that you are familiar with the thermostat buttons and display, read the following information to learn about the many features of the thermostat.

- **SIMULTANEOUS HEATING/COOLING PROGRAM STORAGE** — When programming, you can enter both your heating and cooling programs at the same time. There is no need to reprogram the thermostat at the beginning of each season.
- **TEMPERATURE OVERRIDE—** Press ⌃ or ⌄ until the display shows the temperature you want. The thermostat will override current programming and keep the room temperature at the selected temperature until the next program period begins. Then the thermostat will automatically revert to the program.
- **HOLD TEMPERATURE** — The thermostat can hold any temperature within its range for an indefinite period, without reverting to the programmed temperature. Press **HOLD** button. **"HOLD"** will be displayed. Then choose the desired temperature by pressing ⌃ or ⌄ The thermostat will hold the room temperature at the selected setting until you press the RUN button to start program operation again.
- **ENERGY MANAGEMENT RECOVERY** — Energy Management Recovery (EMR) causes the thermostat to start heating or cooling early to make the building temperature reach the program setpoint at the time you specify. Heating will start 5 minutes early for every 1° of temperature required to reach setpoint. Cooling will start approximately 15 minutes early for every 1° because it takes longer to reach temperature. Clipping W903 jumper will disable EMR.

Example: You select EMR and have your heating programmed to 65° at night and 70° at 7 AM. If the building temperature is 65° the difference between 65° and 70° is 5°. Allowing 5 minutes per degree the thermostat setpoint will change to 70° at 6:35 AM.

- **°F/°C CONVERTIBILITY** — The factory default setting is Fahrenheit. Clipping W904 jumper on the circuit board will alter this feature to Celsius temperature setting.
- **LOW BATTERY INDICATOR** — If the 2 "AAA" alkaline batteries are low and should be replaced, the display will be blank except for CHANGE  . When the batteries are low, pressing any button will cause the display to operate for ten seconds. After ten seconds, the display will be blank except for CHANGE  . After CHANGE  has been displayed for 4 weeks, the thermostat will raise the temperature 10° above your setpoint in COOL mode and drop the temperature 10° below your setpoint in HEAT mode. You cannot program with low batteries, but you can override setpoint temperature.
- **TEMPERATURE DISPLAY ADJUSTMENT** — Your new thermostat has been accurately set in our factory. However, if you wish, you may adjust your new thermostat temperature display to match your old thermostat. This can be accomplished (within a ±3° range) as follows:

  1. Press PRGM and RUN buttons at the same time.
  2. Press ⌃ or ⌄ to adjust the displayed temperature to your desired setting.
  3. Press RUN to resume normal program operation.

- **DISPLAY BACKLIGHT —** (Not available on earlier models.) The display backlight improves display contrast in low lighting conditions. Selecting backlight ON will turn the light on for a short period of time after any button is pressed.

  Selecting backlight OFF (default) will keep the light off. Turn the display backlight feature ON as follows:

  1. Press TIME and RUN buttons at the same time. The display will show “d-L” and “OFF” alternately.
  2. Press ⌃ or ⌄ to change “OFF” to “ON”

6.4 Programming your thermostat

This section will help you plan your thermostat’s program to meet your needs. For maximum comfort and efficiency, keep the following guidelines in mind when planning your program.

- When heating (cooling) your building, program the temperatures to be cooler (warmer) when the building is vacant or during periods of low activity.
- During early morning hours, the need for cooling is usually minimal.

Look at the factory preprogrammed times and temperatures shown below. If this program will suit your needs, simply press the RUN button to begin running the factory preset program.

If you want to change the preprogrammed times and temperatures, follow these steps.

Determine the time periods and temperatures for your weekday and weekend programs. You must program four periods for both the weekday and weekend program. However, you may use the same heating and cooling temperatures for consecutive time periods. You can choose start times, heating temperatures, and cooling temperatures independently for both weekday and weekend programs (for example, you may select 5:00 AM and 70° as the weekday **1st period heating** start time and temperature, and also choose 7:00 AM and 76° as the weekday **1st period cooling** start time and temperature). Use the table at the bottom of the page to plan your program time periods and the temperatures you want during each period. You may also want to look at the sample program table to get an idea of how the thermostat can be programmed.

SAMPLE
Heating/Cooling Schedule Plan (Factory Program)

Period		WEEKDAY (5 DAY)		SATURDAY (1 DAY)		SUNDAY (1 DAY)	
		Start Time	Temperature	Start Time	Temperature	Start Time	Temperature
HEAT	1ST	6:00 AM	70°F	6:00 AM	70°F	6:00 AM	70°F
	2ND	8:00 AM	62°F	8:00 AM	62°F	8:00 AM	62°F
	3RD	5:00 PM	70°F	5:00 PM	70°F	5:00 PM	70°F
	4TH	10:00 PM	62°F	10:00 PM	62°F	10:00 PM	62°F
COOL	1ST	6:00 AM	78°F	6:00 AM	78°F	6:00 AM	78°F
	2ND	8:00 AM	85°F	8:00 AM	85°F	8:00 AM	85°F
	3RD	5:00 PM	78°F	5:00 PM	78°F	5:00 PM	78°F
	4TH	10:00 PM	82°F	10:00 PM	82°F	10:00 PM	82°F

Heating/Cooling Schedule Plan

Period		WEEKDAY (5 DAY)		SATURDAY (1 DAY)		SUNDAY (1 DAY)	
		Start Time	Temperature	Start Time	Temperature	Start Time	Temperature
HEAT	1ST						
	2ND						
	3RD						
	4TH						
COOL	1ST						
	2ND						
	3RD						
	4TH						

Entering your program

Follow these steps to enter the heating and cooling programs you have selected.

Set current time and day

1. Press TIME button once. The display will show the hour only.

EXAMPLE: 

2. Press and hold either ⌃ or ⌄ until you reach the correct hour and AM/PM designation (AM begins at midnight; PM begins at noon).
3. Press TIME once. The display window will show the minutes only

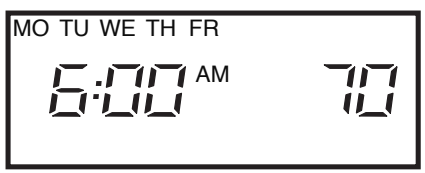
EXAMPLE: 

4. Press and hold either ⌃ or ⌄ until you reach the correct minutes.

5. Press TIME once. The display will show the day of the week.
6. Press ⌃ or ⌄ until you reach the current day of the week.
7. Press RUN once. The display will show the correct time and room temperature alternately.

Enter heating program

1. Move the SYSTEM switch to HEAT.
2. Press PRGM once. “A” (indicating weekday program) will appear in the display. Also displayed are the currently programmed start time for the 1st heating period and the currently programmed temperature (flashing).

EXAMPLE: 

This display window shows that for the 1st weekday period, the start time is 6:00 AM, and 70° is the programmed temperature (this example reflects factory pre-programming).

3. Press ⌃ or ⌄ to change the displayed temperature to your selected temperature for the 1st heating program period.

4. Press TIME once (the programmed time will flash). Press ⌃ or ⌄ until your selected time appears. The time will change in 15 minute increments. When your selected time is displayed, press TIME again to return to the change temperature mode.
5. Press PRGM once. The currently programmed start time and setpoint temperature for the 2nd heating program period will appear.
6. Repeat steps 4 and 5 to select the start time and heating temperature for the 2nd heating program period.
7. Repeat steps 4 through 6 for the 3rd and 4th heating program periods. Weekday heating programs are now complete.
8. Press PRGM once. “SA SU” (indicating weekend program) will appear in the display, along with the start time for the 1st heating period and the currently programmed temperature.
9. Repeat steps 4 through 8 to complete weekend heating programming.
10. When you have completed entering your heating program, press RUN.

Enter cooling program

⚠ CAUTION

If the outside temperature is below 50° F, disconnect power to the cooling system before programming. Energizing the air conditioner compressor during cold weather may cause personal injury or property damage.

1. Move SYSTEM switch to **COOL** position.
2. Follow the procedure for entering your heating program, using your selected cooling times and temperatures.

6.5 Check Your Programming

Follow these steps to check your thermostat programming one final time before beginning thermostat operation.

1. Move SYSTEM switch to HEAT position.
2. Press PRGM to view the 1st weekday heating period time and temperature. Each time you press PRGM, the next heating period time and temperature will be displayed in sequence for weekday, then weekend program periods (you may change any time or temperature during this procedure).
3. Press RUN.
4. Move SYSTEM switch to COOL position.

5. Repeat step 2 to check cooling temperatures.
6. Press RUN to begin program operation.

YOUR THERMOSTAT IS NOW COMPLETELY PROGRAMMED AND READY TO AUTOMATICALLY PROVIDE MAXIMUM COMFORT AND EFFICIENCY!

7. SPECIFICATIONS

ELECTRICAL DATA

Electrical Rating:
8 to 30 VAC 50/60 Hz. or D.C.
0.05 to 1.0 Amps (Load per terminal)

1.5 Amps Maximum Total Load
(All terminals combined)

THERMAL DATA

Setpoint Temperature Range:
45°F to 90°F (7°C to 32°C)

Operating Ambient Temperature Range:
32°F to 105°F

Operating Humidity Range:
0 to 90% RH (non-condensing)

Shipping Temperature Range:
-4°F to 149°F

8. TROUBLESHOOTING

Reset Operation

If a voltage spike or static discharge blanks out the display or causes erratic thermostat operation you can reset the thermostat by pressing, ⌃, ⌄ and TIME at the same time. This also resets the factory defaults to the configuration menu and program. If the thermostat has power, has been reset and still does not function correctly contact your heating/cooling service person or place of purchase.

Batteries

For optimum performance, we recommend replacing batteries once a year with fresh "AAA" alkaline batteries.

Symptom	Possible Cause	Corrective Action
Heat, Cool or Fan Runs Constantly.	1.Blown fuse or tripped circuit breaker. 2.Furnace power switch to OFF. 3.Furnace blower compartment door or panel loose or not properly installed.	Check each wire connection to verify they are not shorted or touching together. No bare wire should stick out from under terminal screws. Try resetting the thermostat. If the condition persists the manufacturer of your system or service person can instruct you on how to test the Heat/Cool system for correct operation. If the system operates correctly, replace the thermostat.
No Heat	1. Pilot light not lit. 2. SYSTEM Switch not set to HEAT. 3. Loose connection to thermostat or system. 4. Furnace Lock-Out Condition. Heat may also be intermittent.	Re-light pilot. Set SYSTEM Switch to HEAT and raise setpoint temperature above room temperature. Verify thermostat and system wires are securely attached. Many furnaces have safety devices that shutdown when a lock-out condition occurs. If the heat works intermittently contact the furnace manufacturer or local service person for assistance.

Symptom	Possible Cause	Corrective Action
No Heat (continued)	1. Heating system requires service or raise thermostat requires replacement.	Diagnostic: Set SYSTEM Switch to HEAT and the setpoint above room temperature. Within a few seconds the thermostat should make a soft click sound. This sound usually indicates the thermostat is operating properly. If the thermostat does not click, try the reset operation listed above. If the thermostat does not click after being reset contact your heating and cooling service person or place of purchase for a replacement. If the thermostat clicks, contact the furnace manufacturer or a service person to verify the heating is operating correctly.
No Cool	1. SYSTEM Switch not set to COOL. 2. Loose connection to thermostat or system. 3. Cooling system requires service or thermostat requires replacement.	Set SYSTEM Switch to **COOL** and lower setpoint temperature below room temperature. Verify thermostat and system wires are securely attached. Same procedure as diagnostic for No Heat condition except set the thermostat to **COOL and** lower the setpoint below the room temperature. There may be up to a five minute delay before the thermostat clicks in Cooling.

Symptom	Possible Cause	Corrective Action
Heat, Cool or Fan Runs Constantly.	1. Possible short in wiring. 2. Possible short in thermostat. 3. Possible short in heat/cool/fan system. 4. FAN Switch set to Fan **ON**.	Check each wire connection to verify they are not shorted or touching together. No bare wire should stick out from under terminal screws. Try resetting the thermostat as described above. If the condition persists the manufacturer of your system or service person can instruct you on how to test the Heat/Cool system for correct operation. If the system operates correctly, replace the thermostat.
Furnace Cycles Too Fast or Too Slow (narrow or wide temperature swing)	1. The location of the thermostat and/ or the size of the Heating System may be influencing the cycle rate..	Digital thermostats normally provide precise temperature control and may cycle faster than some older mechanical models. A faster cycle rate means the unit turns on and off more frequently but runs for a shorter time so there is no increase in energy use. If you would like to increase the cycle time, clip Jumper W-905 as mentioned in the instructions for Hydronic Heating Systems. It is not possible to shorten the cycle time. If an acceptable cycle rate is not achieved as received or by clipping W-905 contact a local service person for additional suggestions.

Symptom	Possible Cause	Corrective Action
Cooling cycles Too Fast or Too Slow (narrow or wide temperature swing)	1. The location of the thermostat and the size of the Cooling System can influence the cycle rate.	The cycle rate for cooling is fixed and can not be adjusted. Contact a local service person for suggestions.
Thermostat Setting and Thermostat Thermometer Disagree	1. Thermostat thermometer setting requires adjustment.	The thermometer can be adjusted +/- 3 degrees. See Temperature Display Adjustment in the Operation section.
Thermostat Does Not Follow Program	1. AM or PM set incorrectly in program. 2. AM or PM set incorrectly on the clock. 3. Voltage spike or static discharge	Check current clock and program settings including the AM or PM designations for each time period. If a voltage spike or a static discharge occurs use the Reset Operation listed above.
Blank Display and/or Keypad Not Responding	1. Voltage spike or static discharge 2. Battery change required	Replace batteries and check heat/cool system for proper operation. If a voltage spike occurs use the Reset Operation listed above.

CONTACT US

Customer support: 877.654.9394 or wr.techsupport@copeland.com

ATTENTION: MERCURY NOTICE

This product does not contain mercury. However, this product may replace a product that contains mercury. **Mercury and products containing mercury must not be discarded in household trash. Do not touch any spilled mercury.** Wearing non-absorbent gloves, clean up any spilled mercury and place in a sealed container. For proper disposal of a product containing mercury or a sealed container of spilled mercury, place it in a suitable shipping container. Refer to **www.thermostat-recycle.org** for location to send product containing mercury.

FOR CALIFORNIA RESIDENTS

Warning: This product contains a chemical known to the state of California to cause cancer and birth defects and other reproductive harm.

www.copeland.com/white-rodgers

WHITE-RODGERS by COPELAND