



Programmable Heat-Pump Thermostat

TAYSTAT 540

OWNER'S GUIDE



Pub. No. 22-5185-01

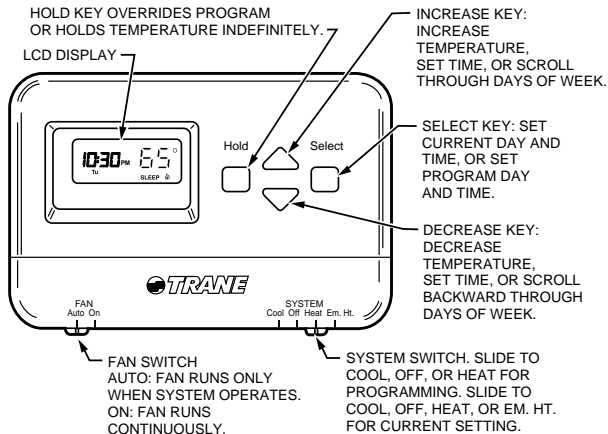


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FEATURES

The Trane Co. sells comfort systems. Comfort is achieved through matching the correct equipment and controls. This thermostat is designed to provide the maximum comfort for your needs. Some of the basic offerings are:

- Program up to four time periods and temperature settings to complement your lifestyle.
- Set different schedules for weekdays and weekends.
- Programs are permanently held in memory in the event of a power failure.
- Indefinite temperature hold.
- Preprogrammed for your convenience.



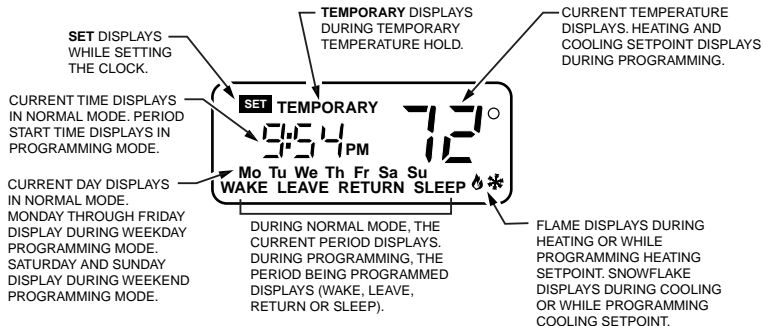
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Your thermostat displays the current day, time, period, temperature and system (🔥 for heating or ❄️ for cooling) in normal mode. In programming mode, only the setting or settings being programmed display. For example “Sa Su” (Saturday Sunday) displays while programming the weekend schedule. All settings are explained below:



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PROGRAMMING YOUR THERMOSTAT

CLOCK

Setting the Current Day and Time

To set or reset the current day and time, follow these instructions.

IMPORTANT

Always press the keys with your fingertip or similar blunt tool. Sharp objects like pen and pencil points will damage the keyboard.

Note: To exit the programming mode at any time, press **Hold**.

1. To set Current Time, press **Select** twice. Press ▲ or ▼ to set current time.



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Note: While setting the current time, SET displays.

2. To set Day of Week, press **Select** again. Press ▲ or ▼ to set current day.



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3. Press **Hold** to exit programming mode.

Organizing Your Schedule

Your thermostat can be set for four time periods (Wake, Leave, Return, and Sleep) for the weekday schedule (Monday through Friday), and four time periods for the weekend schedule (Saturday and Sunday). Without additional programming, your thermostat follows the same preprogrammed schedule for both weekdays and weekends (see Table 1).

- WAKE** Choose the time you want your heating or cooling system to start to reach your comfort temperature after the SLEEP period.
- How? Consider the time required to reach your comfort level. Adjust the Wake time to earlier when you know it will take the system longer to reach your comfort temperature.
- LEAVE** Choose the time you want your heating or cooling system to start an energy-saving mode while you are away at work or school.
- How? Set the Leave temperature lower during heating season, and higher during cooling season.

RETURN Choose the time you want your heating or cooling system to start to reach your comfort temperature after the energy-savings LEAVE period.

How? Consider the time required to reach your comfort level. Adjust the Return time to earlier when you know it will take the system longer to reach your comfort temperature.

SLEEP Set the time you want your heating or cooling system to start to reach your sleep temperature.

To use this period as an energy-savings mode, set the temperature lower during heating season, and higher during cooling season.

The preprogrammed schedule is shown in Table 1. You may keep this schedule or organize your own. Schedules are adjustable as often as you wish. If you decide to keep this schedule, no further programming is necessary.

Table 1. Preprogrammed Weekday and Weekend Schedule.

Period	Time	Heat Setpoint	Cool Setpoint
Wake	6:00 AM	70°F (21°C)	78°F (26°C)
Leave	8:00 AM	62°F (17°C)	85°F (29°C)
Return	5:00 PM	70°F (21°C)	78°F (26°C)
Sleep	10:00 PM	62°F (17°C)	75°F (24°C)

To begin programming your weekday and weekend schedules, fill in Tables 2 and 3.

Customizing Your Weekday Schedule

Use Table 2 to organize your weekday schedule. Fill in the times and temperatures you want to program. The names of the four periods are filled in for you.

Table 2. Your Weekday Schedule.

Period	Start Time	Heating Temperature	Cooling Temperature
Wake			
Leave			
Return			
Sleep			

Customizing Your Weekend Schedule

Use Table 3 to organize your weekend schedule. Fill in the times and temperatures you want to program. The names of the four periods are filled in for you.

Table 3. Your Weekend Schedule.

Period	Start Time	Heating Temperature	Cooling Temperature
Wake			
Leave			
Return			
Sleep			

Note: Start Time is the time your thermostat begins to reach the desired temperature.

Note: The thermostat cannot be set higher than 99°F (37°C) or lower than 50°F (10°C).

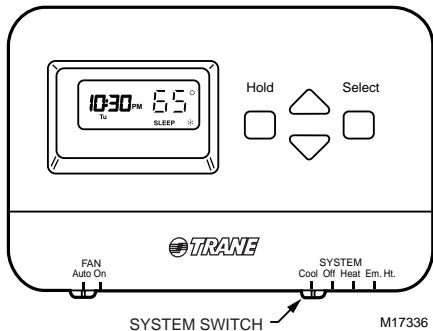
Setting the Weekday Program

IMPORTANT

Always press the keys with your fingertip or similar blunt tool. Sharp objects like pen and pencil points will damage the keyboard.

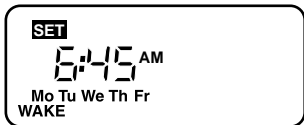
1. Slide the SYSTEM switch to the setting you want to program (Heat or Cool).

Throughout programming, the thermostat displays a flame 🔥 (heating) or snowflake ❄️ (cooling) to help you identify which mode you are programming. At the end of Setting the Week-end Program, you are prompted to return to this step to program the opposite mode. Example shows Cool setting.



NOTE: To exit the programming mode at any time, press **Hold** (the thermostat saves your changes).

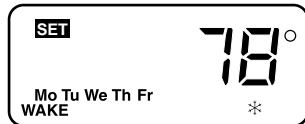
2. Set weekday Wake time and temperature.
- Press **Select** four times. Press ▲ or ▼ to set Wake time.



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Note: Schedule times are programmable in increments of 15 minutes. For each press, the time increases or decreases by 15 minutes.

- Press **Select**. Press ▲ or ▼ to set Wake temperature.



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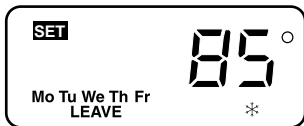
Note: When setting the Weekday Program, the days *Mo Tu We Th Fr* display.

3. Set weekday Leave time and temperature.
- Press **Select**. Press ▲ or ▼ to set Leave time.



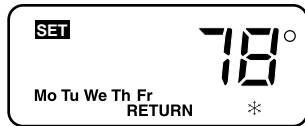
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- b. Press **Select**. Press ▲ or ▼ to set Leave temperature.



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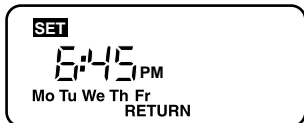
- b. Press **Select**. Press ▲ or ▼ to set Return temperature.



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4. Set weekday Return time and temperature.

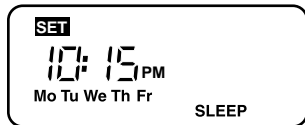
- a. Press **Select**. Press ▲ or ▼ to set Return time.



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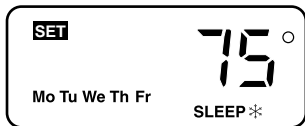
5. Set weekday Sleep time and temperature.

- a. Press **Select**. Press ▲ or ▼ to set Sleep time.



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- b. Press **Select**. Press ▲ or ▼ to set Sleep temperature.



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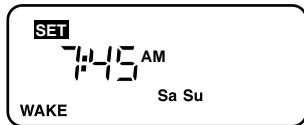
IMPORTANT:

Before pressing another key, continue with Setting the Weekend Program.

Setting the Weekend Program

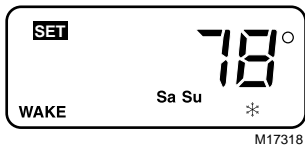
Note: For initial programming, you must set the weekday schedule as shown in Setting the Weekday Program before you can access weekend programming. If your weekday is already programmed, you can access weekend programming by pressing **Select** 12 times.

1. Set weekend Wake time and temperature.
 - a. Press **Select**. Press ▲ or ▼ to set Wake time.



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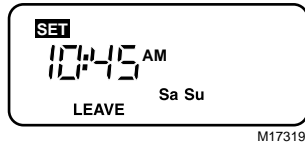
- b. Press **Select**. Press ▲ or ▼ to set Wake temperature. Example shows Cool setting.



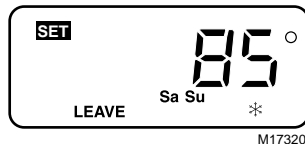
Note: When setting the Weekend Program, the days *Sa Su* display.

2. Set weekend Leave time and temperature.

- a. Press **Select**. Press ▲ or ▼ to set Leave time.

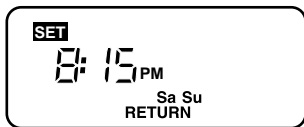


- b. Press **Select**. Press ▲ or ▼ to set Leave temperature.



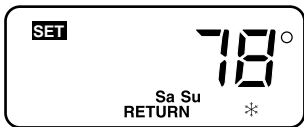
3. Set weekend Return time and temperature.

- a. Press **Select**. Press ▲ or ▼ to set Return time.



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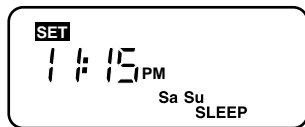
- b. Press **Select**. Press ▲ or ▼ to set Return temperature.



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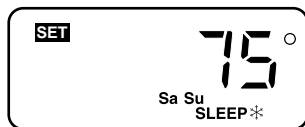
4. Set weekend Sleep time and temperature.

- a. Press **Select**. Press ▲ or ▼ to set Sleep time.



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- b. Press **Select**. Press ▲ or ▼ to set Sleep temperature.

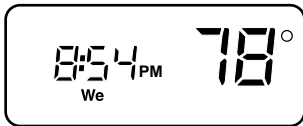


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5. Press **Select**. End displays.



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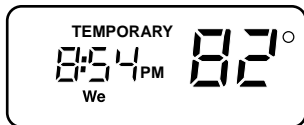
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6. Return to **Step 1., Setting the Week-day Program** to program the opposite mode,  (heating) or  (cooling).

Your weekday and weekend schedules are now programmed.

Temporary Temperature Hold

1. Press **▲** or **▼** key twice to set a temporary temperature.



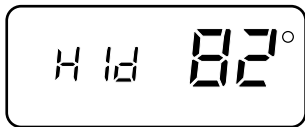
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Note: The temporary temperature setting remains in effect until the next program period. To cancel, press **Hold** twice and wait five seconds.

Indefinite Temperature Hold

The Hold key allows you to hold a temperature indefinitely. When Hold is active, *Hld* displays continuously.

1. Press **Hold**.
2. Press ▲ or ▼ key to set indefinite temperature setting.



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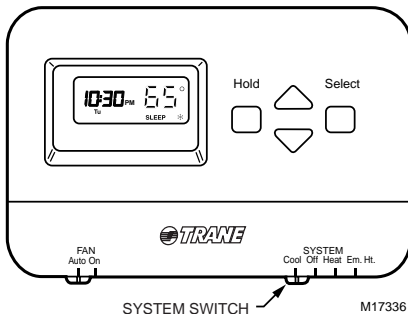
3. To cancel, press **Hold** and wait five seconds.

System and Fan

Use the SYSTEM and FAN switches to change the settings.

System Setting

To select the desired system setting, slide the SYSTEM switch in the lower right corner of the thermostat.



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SYSTEM settings control the thermostat operation as follows:

- Cool:** Normal setting for months when your home needs cooling (air conditioning). Digital display shows a snowflake ❄️ when cooling is on.
- Off:** Both heating and cooling are off.
- Heat:** Normal setting for months when your home needs heating. Digital display shows a flame 🔥 when heating is on.
- Em. Ht.:** Switch to this setting when your home needs heat, but your equipment needs servicing or is not working properly. In this mode, the thermostat controls only the backup heat. The heat pump is off.

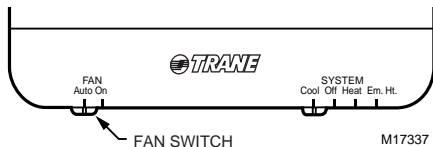


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NOTE: In the programming mode, the ❄️ and 🔥 indicate the system setting.

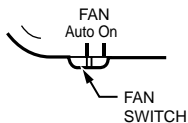
Fan Setting

To select the desired fan setting, slide the FAN switch in the lower left corner of the thermostat.



Auto: Normal setting for most homes. Some systems may delay the fan turning on and off with the equipment.

On: The fan runs continuously. Use for improved air circulation and air quality.

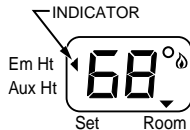


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Emergency Heat

The Emergency Heat feature allows you to “turn on” the electric heat section of the system by moving the system switch to the Em. Ht. position. The ◀ indicator flashes and

points to **Em Ht** when the system is in emergency heat mode. The ◀ indicator may also point to **Aux Ht** if the system calls for additional back-up heating.





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Auxiliary Heat

The auxiliary heaters assist the heat pump under normal conditions when low outdoor temperature occurs. The ◀ indicator points to **Aux Ht** when the auxiliary heating equipment operates.

Minimum Off-Timing

Your thermostat comes equipped with a minimum off-timer. At certain times during heating or cooling, the system will not start up again for at least five minutes after it turns off (compressor is off and can't be heard). This occurs when you change the SYSTEM switch position while the compressor is off or when you change the temperature setting, causing the compressor to turn off. The minimum off-timer is also triggered during power interruption and power restoration. You will know the minimum off time is in effect by a flashing  or  on the display.



CAUTION

Equipment Damage Hazard.
Can cause permanent damage to the compressor or other equipment.

To avoid possible equipment damage, do not operate cooling when outside temperature is below 50°F (10°C). See equipment manufacturer instructions. To avoid possible compressor damage, allow the compressor to remain off for five minutes before restarting.

TROUBLESHOOTING GUIDE





Symptom	Possible Cause	Action
Display will not come on.	Thermostat is not being powered.	Check if the thermostat is mounted and latched on the wallplate—mount and latch the thermostat on the wallplate. Check if the circuit breaker is tripped—reset the circuit breaker. Check if the fuse is blown—replace the fuse. Check if the system switch is in the Off position—set to Heat or Cool.
Temperature settings will not change (Example: cannot set the heating higher or the cooling lower).	The upper or lower temperature limits were reached.	Check that the temperature setpoints are within range: Heating: 50° to 99° F (10° to 37° C) Cooling: 50° to 99° F (10° to 37° C).

(Continued)

Troubleshooting (Continued)

Symptom	Possible Cause	Action
Heating will not come on.	No power to the thermostat. System selection is not set to Heat. Heating setpoint is below room temperature.	Check that the setpoint is above room temperature—reset temperature or wait for room temperature to fall. Check if the circuit breaker is tripped—reset the circuit breaker. Check if the fuse is blown—replace the fuse. Check if the system switch at the equipment is in the Off position—set to Heat position. Wait five minutes for the system to respond.
Cooling will not come on.	No power to the thermostat. System selection is not set to Cool. Cooling setpoint is above room temperature.	Check that the setpoint is below room temperature—reset temperature or wait for room temperature to rise. Check if the circuit breaker is tripped—reset the circuit breaker. Check if the fuse is blown—replace the fuse. Check if the system switch at the equipment is in the Off position—set to Cool position. Wait five minutes for the system to respond.

Troubleshooting (Continued)

Symptom	Possible Cause	Action
System on indicator  and  is lit, but no warm or cool air is coming from the registers.	Heating/cooling equipment turns on the fan when the equipment has reached the setpoint.	Wait a minute after seeing the flame or snowflake and then check the registers.
System on indicator  or  is flashing.	Minimum off timer is in effect.	Wait five minutes until the minimum off timer is complete.

LIMITED WARRANTY

Low Voltage Room Thermostats

This warranty is extended by American Standard Inc., to the original purchaser and to any succeeding owner of the real property to which the **Thermostat** is originally affixed, and applies to products purchased and retained for use within the U.S.A. and Canada.

If any part of your **Thermostat** fails because of a manufacturing defect within one year from the date of the original purchase, Warrantor will furnish without charge a new thermostat. **Any local transportation, related service labor and diagnosis calls are not included.**

This warranty does not cover failure of your **Thermostat** if it is damaged while in your possession or if the failure is caused by unreasonable use. In no event shall Warrantor be liable for incidental or consequential damages. **In no event shall any implied warranty of merchandise or fitness for use exceed the term of the limited warranty stated above.**

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Parts will be provided by our factory organization or an authorized service organization in your area. All you need to do is look us up in the Yellow Pages or write to the address given below. If you wish further help or information concerning this warranty, contact:

American Standard Inc.
Troup Highway
Tyler, TX 75711-9010
Attention: Manager, After Sales Support

CUSTOMER ASSISTANCE

If, after reading this guide, you have any questions concerning the operation of your thermostat, please call the Thermostat Customer Assistance Helpline at 1-877-880-3381, Monday-Friday, 7:00 am-5:30 pm, Central time.

For service, contact your local heating and cooling contractor.

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