THE COMFORT MANUAL

SCHOONMAKER
HEATING & AIR CONDITIONING
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LIC#633929

"LEARN YOUR HOME, FOR BETTER COMFORT"

CONGRADULATIONS ON YOUR NEW HVAC SYSTEM.

Here you will find tips on getting the most efficient temperature levels in your home. In-order to do that it is important to understand a couple key factors. Thermostats & Programmed home schedules, Thermal equilibrium, interior décor & technology heat release and preventive maintenance.

Thermal comfort is a subjective consideration: there is no magic condition which can be measured as "comfortable". Under identical conditions one individual may feel comfortable, the second may not. Nevertheless, there is a range of conditions over which most people report that they are comfortable. It is an area plotted on the psychrometric chart that pertains to those conditions of dry-bulb temperature, wet-bulb temperature, wind speeds etc. in which most people wearing specified cloths and involved in specific activity will feel comfortable, in either too cold or too warm. The comfort range of temperature varies between 70 to 76°F dry bulb temperatures and 45 - 65% relative humidity. This applies mainly to summer air-conditioning. During cold winters the comfort condition would be in the range of 65 to 68°F dry bulb temperature and relative humidity of a minimum of 30%.

THERMAL EQUILIBRIUM

Thermal equilibrium implies three features: stationary state, ergodicity, and thermal distribution. Stationary state simply means that thermal equilibrium is a dynamically stable state, and thus the system will remain unchanged unless something extra happens.

Example: When a cup of hot tea is put on the table and after a short period of time, the temperature of the tea is the same as the surrounding temperature. This is the point of thermal equilibrium.

PROGRAMMABLE SCHEDULE

First step: check to see what cadence your thermostat can accommodate daily, weekly, or weekday/weekend scheduling. Now it's time to jot down the time your family generally wakes up, leaves home, returns home, and goes to bed each day of the week so that you'll have that handy when you're ready to program your thermostat.

Step 2: You'll need to write down your desired temperature for different times of the day. On your thermostat, these set points are typically designated as "home," "away," "return," and "sleep."

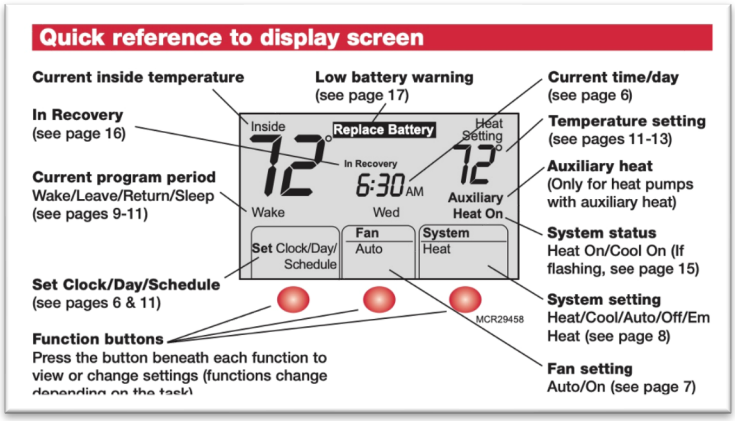
To determine your temperatures and maximize your savings here are the guidelines. Make your "away" and "sleep" set points 7 to 10 degrees lower or higher than your "home" set point, depending on the time of year. Go higher in warmer months and lower in colder months. In warmer months, the Department Of Energy recommends setting your air conditioning as high as is comfortable when you're home and higher when you're away. In colder months, recommendation in a "home" set point of 68° F. Be sure to update these settings at the start of each cooling and or heating season.

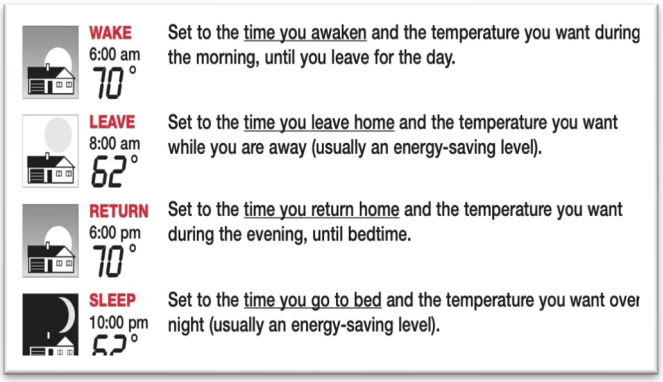
Step 3: With the key information you gathered on your family you are ready to program your thermostat. Check your owner's manual to see how to access the schedule-building features or if you have a smart thermostat, it's app schedule builder will walk you through the steps, if you are unable to find your manual search online using the manufacturer's name and the model number.

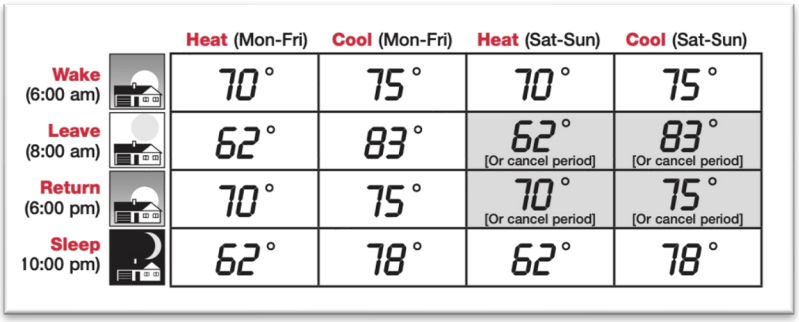
Step 4: Now the easy part: activating the schedule. Whether you have a programmable or a smart thermostat, look for a button to turn on the schedule you've entered. If there's no button to enable the schedule, see whether the thermostat's display is showing "hold." If so, press the hold button to deactivate the hold on the current settings so that your new schedule can take over. With your thermostat properly programmed, you're on your way to better comfort, all while saving energy and money!

PROGRESSIVE/ ADAPTIVE "RECOVERY" MODE- Why is my system running before the "set time?" This feature allows the thermostat to "LEARN" and activate the heating and cooling equipment PRIOR to a scheduled event to reach the desired temperature at the start of that schedule. Example: If the WAKE time is 6am, and the heat setpoint is 70 degrees, the heat will come on before 6am so, the temperature is 70 degrees by the time you wake at 6am.

VACATION/ HOLD/HOLIDAY MODE- This feature helps you save energy while you are away for longer periods of time and will restore your comfort settings just before you return home. To activate go onto the app or to the "Main menu" and choose "Vacation or Holiday" and fallow the prompts.







THINGS TO CONSIDER BEFORE CALLING…

Make sure you are FULLY moved IN and **all** your registers are **open**. Then we meet back on thermal equilibrium. It TAKES TIME to heat or cool everything, and I mean EVERYTHING in the home to the *same temperature*. Note: Every home is different, and it takes time to learn your custom HVAC system & home. The set temperatures above are a guideline. They may and most likely will need adjusting based on your family's needs for comfort and most of all, what the house contains. For starters the higher the ceiling, the greater the amount of air volume contained in a room. Air volume directly affects heating and cooling dynamics inside the room and influences temperature control. A room that faces the sun most of the day will naturally be warmer than one facing away from it. The number and size of the windows in each room with & without window treatments. Here are some natural Insulators/heat producers: **technology**, oven, lighting, carpet, rugs, window treatments, cozy accessories, tapestries, wood and multi-level homes this is a big one… it can be 8-10 degree temperature difference. Now some things that can be naturally cooler & take longer to heat: stone, tile, granite, marble, uninsulated subflooring, empty house, large furniture, kitchen cabinets, metal, draft from open fire place, shaded rooms by trees, and home water features all play an effect on comfort.
Two more factors to consider knowing the whole system is new with properly sized ductwork, units and proper insulation. Is the length of the duct runs can be an issue in a lot of homes due to the Architect, designer or homeowners preferred style & design of the home. With the issue to not wanting the units in a certain location of the home or placement of registers not wanting to be seen due to design. This typically takes over the functionality of the home. This results in taking you longer to learn your homes special temperature settings. Goes without saying the rooms nearest to your furnace or cooling unit will naturally get the majority of the conditioned air. Those rooms that are located further away or at the ends of the ductwork receive far less airflow and as a result may not be evenly heated or cooled in comparison to the rest of the home. Now for the location of the thermostat they're best at regulating the temperature where they are. Say yours is installed in your living room: when that room reaches the pre-set temperature, the whole system will shut off to prevent the house from overheating. This happens whether or not the rest of the home has been

brought to the same temperature with all thermostats being programmed the same degree. Zoning systems and dampers are away to help with this issue but won't be your perfect fix and this can be discussed with your HVAC specialist.

PREVENTIVE MAINTENANCE

Important & highly recommended to include our yearly, two visit Preventive Maintenance agreement that offers major benefits for you and your HVAC system. It prolongs the life of your HVAC system, helps prevent costly repairs, frozen coils that can lead to water damages and improves your indoor air quality. Clean indoor air reduces health issues for family members limiting viruses, skin issues, raspatory issues and more. Filter changes are a highly important part of PMs that are recommend every 3-6 months, and there included with our agreement at both visits. Preventive maintenance will also improve system performance and energy efficiency by making the system do less work for the same result, giving you monthly energy savings all year long, and with our agreement you get even more savings of two visits per year, filters included, 10% off all repairs and $45 off any additional service call fees throughout the year, all with a reminder service to keep you on track. Call (619) 258-4259 for any additional questions or to schedule your visit.

WINTER SCHEDULE

Time	Heat (Mon-Fri)	Cool (Mon-Fri)	Heat (Sun-Sat)	Cool (Sun-Sat)
Wake : am/pm				
Leave : am/pm				
Return : am/pm				
Sleep : am/pm				

Notes:

SUMMER SCHEDULE

Time	Heat (Mon-Fri)	Cool (Mon-Fri)	Heat (Sun-Sat)	Cool (Sun-Sat)
Wake : am/pm				
Leave : am/pm				
Return : am/pm				
Sleep : am/pm				

Notes: