Homeowners Use & Care Manual & Warranty Information

Your guide to Comfortable Living

Heating & Cooling System

Plumbing

Solar

Home Technologies

Zoned Thermal Equalizer

SmartVent

Alarm Monitoring
Dear Homeowner:

Congratulations on the purchase of your new home! We’re especially proud to be your heating and air conditioning provider, as we’ve put much care and thought into the design and installation of your new, forced-air system.

When my father, Del Beutler, started the company out of his garage in 1947, he was driven to set the highest standards for heating and air conditioning. That legacy has helped to make this company the most innovative and customer focused heating and air conditioning company in Northern California. This devotion to our craft has been rewarded by customer loyalty and significant growth, making Beutler Corporation the largest of its type in Northern California.

This Operation Manual & Warranty Information guide was written especially for you. To get the most in comfort and economy, I strongly recommend you read this brief, informative guide. Please keep it handy with your other homeowner documents for future reference.

If you have any questions about your system please call our service department at (916) 646-2701.

We look forward to serving you in the future.

Sincerely,

Gary Beutler
Chairman of the Board
Beutler Corporation
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HOMEOWNER MAINTENANCE REQUIREMENTS

As a homeowner you are responsible to keep certain mechanical systems of your home in good operating condition. The following are some important maintenance requirements.

THE COOLING SYSTEM

Typically, the cooling system is installed as part of the air conditioning system of the house. Most cooling systems share the same air handler, duct work, and return air filter as the heating system. All standard air conditioners are electrical powered and require regular maintenance.

The cooling system is installed as part of a package that must qualify under Title 24 of the California Energy Code. Factors such as the solar orientation of the house, the number of windows in the home, and the reflective and insulated value of the windows within each room influence the effectiveness of the air conditioning. Rooms with windows that face east, south, or west should have window coverings on them capable of reducing heat gain by 50%.

Central air conditioning is designed to maintain the indoor temperature at 75° F. During the summer season the system should be set to operate as needed with the thermostat setting on cool and set between 76° F and 78° F for comfort and efficiency. The air conditioning capacity required for a home is determined by performing a heat load calculation which indicates the amount of air conditioning capacity required in your local area to maintain a 75° F indoor temperature while assuming the outdoor conditions at the design high temperature of 100° F. The heat load calculation assumes that the air conditioning system is allowed to operate as much as is needed to maintain the indoor temperature. The heat load calculation does not size the air conditioner by its ability to cool down the home quickly. This would promote an oversized and inefficient system.

The thermostat controls the air conditioner and has the ability to set back the room temperature for periods of time, but it is not recommended to set the room temperature back more than 4° F. The thermal mass in your home will require the system to run much longer if you use too much setback.

The outdoor section of the air conditioner is called the condensing unit. It uses a fan to circulate and discharge hot air from the refrigerant. The unit needs air flow to maintain proper operation. Do not block, stack, or allow vegetation to impede the airflow in or out of the unit. Inspect and clear vegetation away from the condensing coil maintaining at least 12 inches of clearance on all sides. The coil must be kept clean for system efficiency and performance. Maintenance and system diagnostic tests on the components and electrical controls should be done once a year by a certified technician.

THE HEATING SYSTEM

The furnace shares the same duct and filter as the air conditioning unit. While most furnaces use natural gas, they are all controlled by electricity. The furnace should maintain the room temperature at 70° F under design temperature conditions. There are many contributing factors that help determine the furnace capacity, such as the type and amount of windows in the home, insulation, and ceiling height to name a few. During the winter season the thermostat should be set on heat at 70° F and allowed to operate as outdoor ambient conditions require.

The furnace operation and components should be cleaned and checked once a year. Visually inspect all connection points, wiring, hoses, and flue. During the inspection diagnostic testing of the electrical and safety components should be completed by a certified technician.

Homeowners should use the room supply registers to adjust the airflow into the room, which will in turn change the room’s temperature. Some temperature variations between rooms is normal. The room by room register adjustment provides a method for homeowners to adjust room temperature to suit their needs. In a 2-story home the downstairs rooms will be cooler in the summer and winter; this is because warm air rises to the ceiling and cool air falls to the floor.
The thermostat controls the furnace and has the ability to use a room temperature setback for economy, but this feature may reduce comfort if your room temperature is setback more than 4°F. When you turn off or substantially setback your room temperature, everything in your home gets cold, including walls, floor, and furniture. This cold thermal mass will take time and energy to warm back up.

**Annual Maintenance Check Points**

*Inspect your heating and air conditioning equipment at least once a year* to ensure it is operating at peak performance levels. This inspection helps to maintain maximum efficiency and to detect failing parts. All system dampers and controls should be included in the inspection. Call a certified technician to perform diagnostic tests and services.

**RELATED COMPONENT MAINTENANCE**

**Air Filters**

The air filter should be replaced or cleaned every 30 to 60 days. The filter is located in the return air grill or in the furnace. Typically, the return air grill is located in a hallway ceiling. A dirty air filter will reduce the heating system performance and efficiency. If the air filter is exceptionally dirty or clogged the equipment could be damaged.

*Warning: High efficiency filters have more resistance to airflow and therefore should be checked by a certified technician to confirm the appropriateness of use.*

**Condensate Drain Lines**

The condensate drain lines remove condensate water from the air conditioning coil, typically located in the attic. The primary drain is typically a white plastic line stubbed out of the outside wall within a foot of the ground. The back up drain, called the “secondary” is plumbed from the back up pan to an outside location high on the wall. This back up drain should operate only when the primary drain line is plugged. The primary drain line, trap, secondary drain, and over flow pan should be checked at lease once a year to ensure proper drainage.

*Note: If the secondary condensate line is draining water, check the primary drain or call for service.*

**Room Registers**

The duct work in your home is designed for “average exposure” situations. This means that you may wish to adjust some registers in your home to suit your needs and seasonal weather conditions. If one room is too hot during the cooling season, partially close registers in other rooms to force more air to the desired room.

In 2-story homes, seasonal adjustment of registers may be necessary to compensate for heat’s natural tendency to rise. To offset this factor, adjust or close registers upstairs in the winter to force more heat to the first floor; for the cooling season, adjust or close off the first-floor registers. Additionally, you may wish to partially close registers in the rooms you don’t spend much time in, forcing more air to the rooms with more frequent use. To ensure adequate airflow and capacity of your equipment, we recommend that you close as few registers as possible.

*Tip: To maximize the equipment’s performance and your comfort during peak winter conditions, leave the thermostat set between 68°F to 70°F and set the “FAN” switch to the ON position. With the fan on, warm air will circulate from upstairs to downstairs; or in a single story, it will help blend the air temperature and reduce the room to room temperature differences.*

**Thermostat**

Your thermostat may use batteries. *Thermostat batteries should be replaced each year.* The thermostat is designed to be set for each season, generally 70°F in winter and 78°F in summer. On a day to day basis, the system should be allowed to operate continually in the heat or cool mode.
depending on the season. To maintain the best comfort and performance from your system do not turn off or substantially setback your thermostat. Attempting to save energy by turning off or substantially setting back the furnace or air conditioner will reduce comfort and save little energy when factoring in the extended period of time required to recover.

**Circuit Breakers and Fuses**

Fuses and circuit breakers are the HVAC equipment’s electrical safety disconnects. When a fuse blows, it should be replaced with the same size and type as specified on the air conditioner’s data plate. The fuse can be tested with an ohm meter to determine if it is good (some hardware stores provide this service). You cannot determine if the fuse is good by visual inspection. The fuses, if your system uses them, will be located in the electrical disconnect box next to your air conditioner. These fuses should be “time delay” fuses. The **disconnect fuses and electrical wire connections should be inspected once a year to ensure that they are clean and tight.**

Disconnect boxes that do not contain fuses are equipped with a pull out plug electrical disconnect to disable the 230 volt connection to the air conditioner.

Circuit breakers are located and labeled in the home’s main electrical panel. To check or reset the air conditioning breaker make sure to turn the breaker all the way to the OFF position before resetting it back to the ON position. **The breaker’s wiring connections should be checked once a year for clean tight contact.**

**Bath and Ventilation Fans**

**Inspect fan operation annually.** Bath and ventilation fans are responsible for removing stale or moist air from the home. Clean and check intake grills for airflow. If the airflow is low then the fan blades may need to be cleaned. Do not permanently disconnect the ventilation fans. Moist air must be exhausted to the outside, otherwise mold and mildew can form on walls and ceilings. Fans should be operated when these rooms are used and while the rooms exhibit any sign of noticeable humidity. Running the furnace fan continuously (using the “FAN ON” position on the thermostat) will greatly aid this condition.

**Dryer Vent**

Inspect the dryer vent **annually** and clear any lint build-up. Lint build up may be reduced by frequently cleaning the lint trap in the dryer.

**Gable Vents**

Inspect gable vents for blockage **every summer**. Prevent birds from nesting near vent locations to ensure proper air flow.

**Gutters, Valleys, Crickets & Chase Caps**

Gutters may be installed on your home to guide rainwater from the roof. The gutter is installed to match the level of the roof and direct water to the downspouts. Some standing water in gutters is normal. The gutters and downspouts should be **cleaned once a year**, usually in fall, to allow the maximum amount of water to naturally drain or evaporate from the gutter. Clear any blockage by hand then rinse gutter downspouts with a hose to ensure they are clear and drain properly. Re-caulk and seal any joints that show evidence of leaks.

**Annually clean** debris from gutters and flashing. Conduct a **yearly inspection** to ensure that sheet metal caulking or sealant is not damaged by cracks, voids, or splits. Beutler recommends that the inspection and any required maintenance should be performed by a qualified, licensed, and properly insured sheet metal or roofing professional.

Installations of awnings or decorative trim should be done by a licensed professional who should take into consideration gutter, valley, flashing, water shed, and maintenance access.

For more information on roofing maintenance refer to your homeowners maintenance information.
Did you know you're home may have been prepared for additional products? Contact Beutler Corp. to find out if your home was prepped for any of the products listed below.

**Zoned Thermal Equalizer**
Imagine feeling comfortable as you walk through all areas of your home. That's what happens when you have Beutler’s Zoned Thermal Equalizer, featuring:

- **Comfort** – With 2-4 thermostats and automatic operation, you can set the temperature for each zone to maximize your comfort.
- **Energy efficiency** – This patented system reduces hot and cold spots and, at the same time, makes your heating and air conditioning system more efficient, reducing your utility bills.
- **Easy to Operate** – You can have peace of mind knowing that once you’ve set the thermostats for each zone, the Zoned Thermal Equalizer will do the rest, so you can relax and enjoy.

**SmartVent**
Fresh air inside your home and improved air quality, that's what you'll get all year long with Beutler’s SmartVent. Smarter than a “whole-house fan,” the SmartVent features:

- **Automatic monitoring of indoor/outdoor temperature** that turns on/off the vent when appropriate – you can set the vent thermostat and let the system simultaneously switch between indoor and outdoor airflows, while eliminating stale, warm indoor air into the attic to cool it as well.
- **A secure system that functions even when your doors and windows are locked** – you can have peace of mind knowing your home can remain safe.
- **Energy efficiency** – say goodbye to unnecessary heating and cooling of fresh ventilated air.
Connected Home - Low-Voltage Wiring and Security

Home intelligence is a new way to connect to your home from wherever life takes you. Beutler Corp. brings together the best home automation technologies for interactive control of your security alarm, thermostats, lights, locks, garage door, cameras and more.

- **Security/alarm system installation** - You'll have peace of mind knowing your home has added safety and security with 24/7 alarm monitoring.
- **Structured wiring, phone/data, Wi-Fi, and video networking systems** – Enhance your home automation and communication systems to allow complete connectivity to enjoy the connected, automated world of today and tomorrow.
- **Home theater** - Experience the ultimate in audio and video entertainment in your home.
- **Distributed Audio systems** – Allows complete enjoyment of music in multiple rooms and throughout your home.

Central Vacuum (CVAC) Systems

Paralleling Beutler’s heating and air conditioning systems, CVAC can play an important role in keeping your home clean and improving your home’s air quality, so you can breathe easier and feel more comfortable.

Call 916.646.2700 today to let the professionals at Beutler’s Digital Home division help make your new house a home!
CUSTOMER SERVICE

If you need service on your gas furnace, air conditioner, or heat pump system, please follow the guidelines below before calling Beutler’s Customer Service. You may be able to save time, discomfort, or money.

Check circuit breakers and fuses
Check fuses, circuit breakers, and thermostat(s) as described in this guide. Our most common non-warranty repairs are related to circuit breakers that are tripped off, bad fuses, or improperly set thermostats. These types of services are not covered by warranty, and you may be charged for the service call.

Information
When requesting service, please have the following information ready:
• Subdivision name
• Builder name
• Lot number
• Address
• Move-in date
• Brief description of the service problem

Scheduling Service Warranty or Maintenance
24-Hour Phone Hotline: To schedule service, call our office at (916) 646-2701 at any time of the day. We appreciate your patience during peak heating and cooling seasons, as our call volume increases during those times.

Entry
Although we require entry into your home in most cases, we don’t always need someone to be present (unless we’re providing paid COD service). If you can’t be home on the service day, please arrange another method of entry; i.e., leave a key with a neighbor, subdivision staff, or sales office staff, or under the front mat. We can also arrange to call you at work ½ to 1 hour before we arrive at your home, so you can come home in time to let us in. Because it’s impossible to know how long each repair will take, appointments for specific times aren’t available.
WARRANTY INFORMATION

Initial parts and labor warranty
A Beutler installation is guaranteed through warranty to be free from defects in materials and workmanship for a period of one year from the date of original occupancy or close of escrow, whichever occurs first. The replacement of any parts assumes the unused portion of this warranty.

System checks you can do
Save yourself money by going through the following “punch list.” Many service calls result in the service technician doing something the homeowner could have done:

1) Check fuses and circuit breakers, replace if needed.
2) Make sure all equipment doors and panels are in place.
3) Clean or replace filters regularly, every 30-60 days. Dirty filters restrict air flow and degrade system performance.
4) Make sure the thermostat is set for the proper function and temperature.
5) Make sure the system’s gas valve and/or power supply is on.
6) Check room registers, adjust to meet your needs.
7) Make sure the outdoor unit’s air circulation isn’t restricted. When the system is off, it should be cleaned regularly with a garden hose and kept free of dirt, leaves, grass, etc. Don’t cover the outdoor unit.
8) Read this Homeowner Use & Care Manual for proper equipment use and maintenance tips.

The Beutler warranty does not cover nor is it responsible for the following:
1) Normal maintenance, as outlined in this Homeowner Use & Care Manual. This includes cleaning or replacing filters and cleaning or lubrication of system components.
2) Failure to start due to voltage conditions, blown fuses, open circuit breakers, or other damages due to the inadequacy or interruption of electrical or gas service. Homes with gas heating require all gas lines be free of air.
3) Damage or repairs needed as a consequence of misapplication, abuse, unauthorized servicing by an unauthorized dealer, unauthorized alterations, or improper operation, as outlined in this Homeowner Operation Manual. The aforementioned may result in termination of the Beutler warranty.
4) Damage resulting from flood, wind, fire, lightning, accident, corrosive atmosphere, other conditions, acts of nature, or events beyond Beutler’s control.
5) Electricity or fuel costs, or increases in electricity or fuel costs for any reason, including additional or unusual use of supplemental electric heat.

GAS FURNACE START UP PROCEDURE
We recommend you try your furnace as soon as you move into your new home.

Testing the furnace
To test the furnace, first set the thermostat to HEAT and set the temperature considerably higher than the current room temperature. It may take several minutes for the furnace to start. If this is the first time the unit has been used, there may be some smoke and a burning smell from the room registers. This is normal and should subside within 10-15 minutes.
Check for warm air coming from all registers. If your furnace doesn’t start or blows only room-temperature or cold air, turn OFF the thermostat, and wait a few minutes before repeating the above process. Remember to wait a few minutes between on/off cycles.

Your furnace is equipped with an automatic ignition system and may take several attempts (four to six) to start (on the first start only). The on/off process described above purges air from the gas lines, allowing a pure flow of gas to the auto ignition system.

Your furnace blower (fan) won't start immediately and could be delayed by up to three minutes. It will continue to run for three or four minutes after the thermostat has turned off the furnace.

**To avoid service delays, you should also check your furnace operation each September.**

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**Pre-Season Air Conditioner System Check**

To ensure that your air conditioner will work properly in the summer months, it is a good idea to test its operation in the spring before the warm weather starts. As the installer of the air conditioning system in your new home and in conjunction with your home builder, we want to keep you comfortable year round. **So each spring we encourage you to turn on your cooling system to be sure everything is functioning as expected.** To test your system, follow these seven simple steps:

1) Set your thermostat to the MANUAL position.
2) Set the fan switch to the AUTO position.
3) Switch the thermostat to COOL.
4) Lower the temperature setting to a point that is at least 10° below the actual room temperature.
5) This should turn on the outdoor condensing unit, check to be sure it is running.
6) Let the air conditioner run for a 1/2 hour while checking for cool air coming from each register in the home.
7) After testing, reset your thermostat setting to your preference (typically 72° in winter and 78° in summer).

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**FUSES AND CIRCUIT BREAKERS – ELECTRICAL INFORMATION**

A standard electrical cord generally powers furnaces. The circuit breaker for the furnace is located in the main circuit breaker panel. Due to a door lockout switch, the furnace doors must be properly positioned on the unit for the furnace to operate.

Air conditioning fuses are located in the electrical disconnect box outside the house, near the air conditioning equipment. Typically, fuses are located in a handle type “pull-out” disconnect; they may also be found as an on/off switch or circuit breaker. The fuses in the pull-out disconnect must be secured tightly in position to ensure operation of the air conditioning equipment.

Circuit breakers for the air conditioning equipment are also located in the main circuit breaker panel and should be labeled as such. Both the furnace and air conditioning circuit breakers must be in the ON position to operate the equipment. If one of the breakers has tripped OFF, both twin levers for that breaker must be completely turned to the OFF position, then back to ON to reset them.

An electrical contractor has installed the fuses and circuit breakers for your equipment. **Beutler Corporation doesn’t replace and isn’t responsible for trouble-shooting or resetting fuses or circuit breakers.**
— PLEASE READ —

A large percentage of service calls are attributed to fuse failure or tripped circuit breakers. This is mainly due to voltage interruptions or temporary low voltage in the area. Always check fuses and circuit breakers before calling for service on your equipment, as not doing so may result in you being charged for non-warranty service work.

SYSTEM OPERATING TIPS

Your heating and air conditioning system was designed and sized to provide maximum comfort and energy efficiency according to the State of California Title-24 requirements. Here are some things you can do to best use and maintain your system.

1) Don’t turn off the system during high-heat days. The system is designed to maintain a temperature rather than attain it.

On a 100° F day, the system is designed to maintain an indoor temperature of 78°, a 22° differential. If the house were allowed to reach 95° indoors, the unit would be unable to reduce the temperature to 78° because of the tremendous heat load the house and its furnishings would have stored. This means you shouldn’t turn off the system during high-heat conditions, unless you’ll be leaving your home for extended periods of time and are willing to wait a considerable time for the house to cool. When outdoor temperatures rise above design conditions, the indoor temperature rises accordingly. An indoor temperature of 83° with an outdoor temperature of 105° is possible.

Heating your home will be slightly better due to a larger oversize allowance, but is still affected by this principle.

2) Don’t be alarmed if the unit runs continuously during peak conditions, it’s designed to do so. It operates more efficiently in terms of energy consumption and life expectancy if running for prolonged periods rather than frequently cycling on and off.

3) The duct system is designed for “average exposure,” so you may need to adjust some registers to suit your needs.

If one room is too hot during the cooling season, partially close other registers to force more air into that room. In two-story homes, you may need to seasonally adjust registers; open the upstairs units in summer and close them in winter, to offset heat’s natural tendency to rise. You may leave your fan on continuously during peak temperatures to maintain a more uniform temperature throughout your home.

4) Clean or change filters regularly, every 30-60 days. This increases performance and efficiency.

5) If the outdoor unit doesn’t run, check the circuit breakers and replace the fuses, if needed. Call for service if these measures aren’t successful.

6) We recommend a professional perform preventive maintenance annually. This service performed by trained technicians will actually save you money over time. See the section on Comfort Club for more information.

7) Beat the rush! Check your system for heating and cooling operations prior to each season. This will allow for faster service should there be a problem prior to seasonal busy periods.

8) Refer to your manufacturers’ and owner’s manuals or other sections of this guide for more information on the use and maintenance of your system.

9) Window shading devices are a great benefit! Rooms with a large amount of glass on the east, west, or south exposures are very sensitive to the lack of window coverings. Your system was designed assuming all windows have coverings, room temperatures will drift if drapes are open when the sun’s rays directly strike the glass. Light-colored drapes or blinds can cut solar heat gain in half, dramatically reducing your cooling bills. Exterior shade screens and reflective coatings can reduce solar heat gain by up to 65%.
SYSTEM SIZING – A QUICK GUIDE TO SYSTEM DESIGN

As mentioned in the System Operating Tips section, your heating and air conditioning system has been designed and sized to provide maximum comfort and energy efficiency, as outlined by the State of California Title-24 Energy Requirements.

Below are the design assumptions used for calculating your home’s heating and cooling loads:

1) OUTDOOR DESIGN TEMPERATURE
   a) Winter: 0.2% design temperature or 31° F for Sacramento. This temperature will be met or exceeded 99.8% of the time, all year. Approximately 22 hours per year will fall below this temperature.
   b) Summer: 1.0% design temperature, or 98° F for Sacramento is to be used for air conditioner sizing. This temperature will be exceeded about 78 hours per year.

2) INDOOR DESIGN TEMPERATURE
   a) Winter: 70° F indoor, as dictated by the California Energy Commission (CEC).
   b) Summer: 75° F indoor, with a 4.5° swing factor, as directed by the CEC and Federal Housing Administration (FHA).

3) BUILDING CHARACTERISTICS
   a) Insulation and physical envelope as per plans: i.e., R-13 walls, R-30 ceiling, dual-glaze windows, etc.
   b) Windows are assumed to have drapes or blinds. The house is assumed with the worst-case orientation, usually east facing, resulting in the highest possible solar gain on the structure.

Once a heating and cooling load calculation is done, the resulting loads are analyzed to determine the “tonnage” of the equipment to be installed. According to the Air Conditioning Contractors Association (ACCA) Manual J, a state-approved calculation and sizing manual, the cooling equipment capacity shouldn’t be less than the calculated load, nor should it exceed the load by more than 15%. The concern for over sizing arises because it reduces efficiency, increases operating cost, and lessens control over space conditions.

Optimum efficiency and control occur when the equipment operates under full load. Since full load conditions occur only a few hours per year, properly sized equipment operates at oversize capacity and reduced efficiency most of the time.

Over sizing the equipment aggravates the situation even more. Slightly under sizing the equipment would be preferable to over sizing, in regards to efficiency and longevity, but space conditions would drift when extremes in weather occurred. In practice, a cooling unit may exceed the 15% factor if it’s the next largest size available above the cooling load.

A gas furnace shouldn’t exceed the home’s heating load by more than 40%.

Example: Assume that a 1,400 square foot home has a heating load of 23,350 BtuH (British thermal units per hour), and a cooling load of 20,900 BtuH. The equipment selection could have a maximum heat capacity of 32,690 BtuH and a maximum cooling capacity of 24,035 BtuH. Our selected equipment might be a gas furnace with a heat output of 32,000 BtuH and an air conditioning unit with a cooling capacity of 24,000 BtuH. This selection would provide the best comfort and energy combination while complying with the code requirements.

Once equipment has been selected, the duct system can be designed. We use a HeatCalc program that calculates the load room-by-room, then allocates the unit’s airflow, measured in cubic feet per minute (cfm), proportionally to the room loads. This yields all rooms equal percentage of the system’s excess capacity over the calculated load. The duct work is then sized per ACCA Manual D standards to the cooling load for each room, because it requires higher airflow than the heating load.
FILTER MAINTENANCE

There are many types of air filters used in heating and air conditioning equipment. Your system will most likely have one of the following:

**Disposable** - A disposable filter is a fiberglass filter framed in cardboard. This filter is generally located in the return air grill, either in a wall or ceiling. This type of filter should be replaced, not cleaned, every 30-60 days. Disposable filters are relatively inexpensive and can be purchased at many grocery, hardware, and variety stores.

Air filters are rated by a Minimum Efficiency Reporting Value (MERV) to help you understand the filters normal filtration capabilities. The MERV rating range is from 1 to 16. The higher the rating, the tighter the filter material is, which the airflow must pass through. The code requires a filter rating of MERV 6 as a minimum and it is not recommended to install a filter that is rated above MERV 8 as the filter resistance will significantly reduce the furnace airflow.

**Electrostatic** - Purchased as an option, the electrostatic filter is much more efficient, capturing smaller airborne particles. The electrostatic filter captures a much higher percentage of molds, pollen, and animal dander, which can aid in reducing allergy symptoms. This filter must be flushed clean with water every 30-45 days.

**Electronic Air Cleaner** - Removing 90% or more of the smallest sub-micron particles, including not only pollen, mold, and dust, but also smoke and some bacteria, these filters incorporate a disposable insert, which is easily replaced every 90-120 days.

Remember to regularly clean your non-disposable filters. Allowing filters to become dirty or clogged can impair the equipment’s performance and may severely damage system components. This type of damage isn’t covered by warranty and can be very costly, so it’s important to make filter changing or cleaning a regular routine. Return air grills and registers should remain unobstructed at all times to assure proper airflow and prevent possible damage to the system.

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**Atmospheric Dust-Spot Efficiency**

Atmospheric-dust-spot efficiency rating measures a filter’s ability to capture particles between 0.3 and 6 microns in size. A micron is 1/25,000 of an inch. —Home Energy Magazine, July/August 1996
AIRFLOW AND REGISTER ADJUSTMENT

The duct work in your home is designed for “average exposure” situations. This means that you may wish to adjust some registers in your home to suit your needs and seasonal weather conditions. If one room is too hot during the cooling season, partially close registers in other rooms to force more air to the desired room.

In two-story homes, seasonal adjustment of registers may be necessary to compensate for heat’s natural tendency to rise. To offset this factor, adjust or close registers upstairs in the winter to force more heat to the first floor; for the cooling season, adjust first-floor registers. Additionally, you may wish to partially close registers in the rooms you don’t spend much time in, directing more air to the rooms with more frequent use.

In a two-story home if the upstairs rooms are staying too warm and your system does not have a ZTE, you may want to close some of the registers during peak conditions when the furnace is operating more. Each room may have different heat needs depending on the exposure to outdoor conditions. Do not close a register just because it serves an upstairs area; instead, evaluate each room and only adjust the rooms that are the most important to you. To insure adequate airflow and capacity of your equipment, we recommend that you close as few registers as possible.

Helpful tips: During peak winter conditions, the home will be more comfortable if you leave the thermostat set between 68° F to 70° F and set the “FAN” switch on the thermostat to the ON position. This will maximize the equipment’s performance and your comfort. With the fan on, it will circulate warm air from upstairs to the downstairs, or in a single story, it will help to blend the air temperature and reduce the room to room temperature differences.

HEAT PUMPS

During cooling season, your heat pump will work like any other summer air conditioner. The pump uses indoor and outdoor coils and a compressor: fans move air across the indoor coils to circulate the air in the conditioned space. A thermostat turns on the fans and compressor as cooling is needed. Of course, hotter weather means that more cooling is needed, so your unit will run longer. When the temperature is highest, the unit may run continuously for several hours.

In heating season, the use of the two coils is reversed. The outdoor coil picks up heat from outside, and the indoor coil releases this heat to warm your home. Colder weather increases the heat needed, and the unit runs longer. In most areas, the temperature will sometimes drop low enough for the heat pump to run continuously. This outdoor temperature, at which the heat needed is equal to the heat pump’s capacity, is known as the system “balance point.” This temperature will vary with each home and location, depending on the heat loss of the home and the size of the heat pump installed.

Below the balance point, the heat pump will continuously run and the auxiliary (electric) heat will be cycled on and off by the thermostat as needed to help the heat pump maintain the desired temperature. The heat pump will continue to operate efficiently at outdoor temperatures below 0° F.

Because heat pumps operate with much lower air temperature than gas furnaces, the air coming from the room registers may feel cool if it’s blowing directly on you. While the air is only 15° to 30° warmer than the air in your home, it will provide the heat needed to keep your home warm and comfortable.

When the outdoor temperature drops below 45° F, frost may start to form on the outdoor coil. You will notice that the heaviest frost buildup will occur on damp days when the outdoor temperature is between 35° F and 40° F. Heat pumps have an automatic control that will reverse the system and stop the outdoor fan to defrost the coil when needed. Some units operate with a timer at 45-90 minute intervals, while others have an electronic control that senses coil and air temperatures to determine when a defrost cycle is needed. These units may go as long as six hours without defrosting. Under certain conditions, the outdoor coil may be almost completely covered with frost. This is normal and means that the unit is operating properly. However, thicker layers of hard, clear ice shouldn’t occur. If this happens, call for service.
While the outdoor coil defrosts, clouds of steam and draining water from the unit can be expected. Both are normal and harmless, though the water draining off the unit should be draining away from the equipment. It’s also normal for the outdoor coil to make hissing and gurgling noises during the defrost cycle.

FRESH AIR FILTER

General Information
A washable filter located inside the main return air grill provides a filter specifically for the fresh air intake. Your system may use this added fresh air source feature, Continuous Ventilation System (CVS), or Fresh Vent system.

The Continuous Ventilation System (CVS) provides a small amount of constant ventilation while the FreshVent works on a timer, periodically ventilating the home.

General Maintenance
The filter for both the CVS and FreshVent are located in the return grill and will easily slide out for cleaning, as shown at right.

- This filter should be checked and cleaned every 30-90 days depending on local conditions and is permanent so it can be cleaned with warm soapy water or a vacuum cleaner.
- If the supply filter is fraying, shedding, or too dirty to clean, it should be replaced.

THERMOSTAT OPERATION
The thermostats most frequently used are listed below. For more info on these and other thermostats, please visit our Customer Service page at www.BeutlerCorp.com.

Honeywell FocusPRO 6000
Set Time and Day: Press button under SET CLOCK/DAY/SCHEDULE (if this option is not displayed, press DONE or RUN SCHEDULE). First set the time using the keys. Then Press SET DAY and use the to select the day. Pres DONE to save and exit.

Set Program Schedule: Press SYSTEM to select HEAT or COOL. Press SET CLOCK/DAY/SCHEDULE (if this option is not displayed, press DONE or RUN SCHEDULE). Then press SET SCHEDULE. Use the keys to set Mon-Fri WAKE time then press NEXT. Now use the same keys to set WAKE TEMPERATURE. Repeat these steps for LEAVE, RETURN and SLEEP. Repeat all the previous steps to set Sat-Sun WAKE, LEAVE, RETURN, and SLEEP periods. Press DONE to save and exit.

Override Program Schedule: Use keys to change temperature for this time period only. Press HOLD to change temp for all time periods. Press RUN SCHEDULE to cancel changes and resume schedule.

Battery Installation: Slide out battery pack. Replace with two AA batteries and make sure polarity is correct. Slide battery pack back into slot.
Honeywell VisionPRO 8000 Touch Screen Thermostat

**Programming:** Your thermostat can control up to four different schedule periods per day (WAKE, LEAVE, RETURN, and SLEEP) which set a certain temperature for a specific time. You can set separate periods for every day of the week.

**Programming your schedule:** Press schedule key. Press Edit key. It is OK to pick multiple days. Select any combination of days to edit. These days are scheduled with the same times and temperatures. Check marks appear next to days selected.

Press Wake key. Once pressed, “Wake” flashes to show it is selected. Press Up and Down keys to modify time and heat and cool temperatures. Press Leave key – then up and down keys to modify time and heat and cool temperatures. Press Return key – then up and down keys to modify time and heat and cool temperatures. Press Sleep key – then up and down keys to modify time and heat and cool temperatures. When complete, press Done key. “Saving Changes” appears on the screen to indicate changes are being saved to the day(s) modified. (To set a Program Schedule for the remaining days of the week, repeat steps). To exit schedule without saving changes, press Cancel key any time.

Setting Time: Press Clock. Use arrows to set current time. Press Done key.

Temporarily Change Temperature for Current Period: Press Up or Down arrow next to the temperature you want to adjust. “Hold Temperature Until” time appears on the screen. The Hold Temperature Until time defaults to the start time of the next scheduled period. Press Up or Down arrow next to the Time key to set desired time for the thermostat to resume schedule. Press the Cancel or Sched key to cancel “Hold Temperature Until” and resume schedule.

Replacing the Batteries: If the batteries are not replaced when the Low Battery warning is flashing, the LO batt screen will display continuously and the thermostat will not operate until the batteries are replaced. Although the thermostat has a low battery indicator, replace the batteries once each year to prevent leakage and to prevent the thermostat and heating/cooling system from shutting down due to lack of battery power in the thermostat. Remove thermostat from the base by pulling straight out. Install three new AAA alkaline batteries so all positive ends alternate up, down, up. Place the thermostat back on its base by aligning the terminal screw blocks with the pins on the back of the thermostat. Push the thermostat straight onto the base. Note: All Program Schedule, Date and Time information is retained while the batteries are being replaced.

**TS65 WALL DISPLAY**

For more detailed information on operating any Beutler installed thermostat refer to the owners’ manual supplied with the thermostat.

**Set Mode:** Locate the four round buttons below the display screen. The second button from the left is the MODE button. Momentarily press the MODE button until the desired mode is displayed (Off, Heat, Cool, Auto).

Note: Auto mode is used after you set your Heat setting (70°) in the Heat mode and your Cool setting (78°) in the Cool mode. The Auto mode will automatically change between the Heat mode and the Cool mode as needed.
Set Temperature: Use the UP (▲) and DOWN (▼) buttons on the right side of the display window to raise or lower the set temperature. This temperature setting is the room temperature you want to maintain.

Standard suggested Heat mode setting is 70°
Standard suggested Cool mode setting is 78°

Hold Settings: Momentarily press the HOLD, RUN button until Hold is displayed (4th from the left).
By selecting Hold your system setting will maintain your temp.
By selecting Run your system will follow the preset program.
See your operating guide for more information on programs.

Fan Button: Set the FAN selection button (3rd from the left) to Auto Fan. If you want the fan to run continuously then select On Fan.

Set Date and Time: Press the MENU button (1st button on the left). Select User Settings with the DOWN button and by pushing SELECT. Select Set Clock by pressing SELECT button. Change the Time and Date using the +/- buttons and UP/DOWN buttons to change values. Select DONE when finished.

Option Items: TS65 can operate the SmartVent system or can function as an additional security alarm interface.

SmartVent Operation:
Press the MENU button (1st button on the left).
Press the DOWN button ( ) on the right of the display screen – This will move down the menu items from Security to SmartVent.
Press the SELECT button (4th button from the left).
Press the MODE button until Auto mode is selected (3rd button from the left).
Press the UP/DOWN buttons on the right of the display screen to set the Set Point temperature.
The Set Point temperature is generally set between 68° – 72°. The Set Point temperature is the room temp. that when reached will automatically turn off the SmartVent function.
Press the DONE button twice (1st button on the left) to return to the front screen.

General Information on How the SmartVent Feature Operates: The SmartVent feature will automatically bring cool fresh filtered air into the home when the outdoor air temperature is approximately six degrees lower than the indoor temperature and the SmartVent mode is set to Auto.
ZONED THERMAL EQUALIZER (ZTE) SYSTEM OPERATION

The Beutler patented Zoned Thermal Equalizer System works with your heating and air conditioning system and allows you to have two to four thermostats to independently control the temperature in multiple zones/areas of your home. The operation of the ZTE is automatic and, in most cases, its operation will be transparent to you and doesn’t require any adjustment on your part.

**Set each zone thermostat to the ‘Heat’ or ‘Cool’ mode and the temperature you want, and the ZTE controller will automatically control your HVAC system to the desired temperatures.**

The ZTE responds to the zone’s thermostats and how you’ve set them. Many thermostats are programmable. Be sure to consult your thermostat manual first if you have any questions about system operations.

When you set your thermostats to the same mode, heating or cooling, the ZTE is primarily controlling the electrically operated dampers to direct the airflow where the thermostats are asking for it. If you set your thermostats to different modes, i.e., one heating and one cooling, then the ZTE switches the central HVAC system between modes as required.

If the thermostats simultaneously call for both heating and cooling (which a single HVAC system can’t do), then the ZTE will give priority to the heating call. When that thermostat is satisfied, the ZTE will automatically switch the HVAC system to the cooling mode to satisfy the other thermostat.

The Zone system uses an advanced Residential Variable Airflow Volume plenum. When two zones are calling for air, then airflow is distributed to both evenly. When one zone is satisfied, that zone damper will begin to reduce airflow down between 5%-20% of the original full airflow, allowing the majority of the airflow to move from zone one to zone two to satisfy the load faster. The ducts and registers have been sized to accommodate this increase in zone airflow.

This Residential variable airflow volume system is not design as an “on or off” airflow in each zone, this assures that the required airflow is provided to equipment, promoting better efficiency and capacity for both the furnace and air conditioner.

The system helps to maintain a satisfied zone so that it will not turn back on quickly and short cycle. This allows more time for faster recovery in the zone that is still calling for heating or cooling.

The Residential variable airflow volume system reduces zone cycling, saving energy and improving equipment performance.

ZTE has a built-in five minute delay for short cycle protection of your system’s compressor. This prevents one thermostat from turning on the compressor just after it has completed a call from the other thermostat. You may notice a delay in system operation if this safety time delay is in progress.

**Two-zone, single-story application**

In single story homes, the two zones may be “living” or “sleeping” areas, or simply divide the home into two smaller mixed-use zones, depending on plan layout.

**Two-zone, two-story application**

In two-story homes, the two “zones” are typically divided as upstairs and downstairs.

**Three and four zone applications**

Larger homes may incorporate three or four independent temperature zones. The zones are divided to provide the greatest comfort and user livability.

**Thermal Equalizer Feature Operation**

Systems equipped with the Zoned Thermal Equalizer will reduce the condition known as “heat stratification” by use of the Thermal Equalizer feature. As heat rises in two-story homes, the upstairs area
tends to overheat, while the downstairs areas are usually cold. This condition also wastes considerable energy as the system continuously tries to heat the downstairs while most of the heat rises and goes upstairs. Some systems will even cool the overheated upstairs area, wasting double the energy.

The Beutler ZTE feature will automatically reduce heat stratification during the furnace operation by cycling the furnace gas valve off periodically and circulating the warm air near the upstairs return grill to the downstairs area. This Equalizer mode is fully automatic and allows you to operate the thermostats as you normally would.

The Thermal Equalizer control is a solid-state circuit board. During the heating operation, the ZTE control will monitor the time the furnace operates. Usually after 15-20 minutes of operation, the ZTE will automatically switch over to the Equalizer mode for approximately 6-8 minutes. This will circulate the warm air from the upstairs to the downstairs area. The ZTE control will continue the sequencing of the gas valve and the circulation mode until the thermostat is satisfied.

**Manual Zone System**

A Manual Zone System divides the duct work and registers into separate zones, each served by a manual damper. The dampers of a Manual Zone System are pre-adjusted for the home at the time of installation.

The Manual Zone System offers the ability to convert to a fully Automatic Zone System at any time. With a fully Automatic Zone System, each zone area will be controlled by a separate thermostat to provide more temperature control within different zones of your home.

For more information about Automatic Zone Systems please refer to the ZTE section of this manual or contact Beutler Corporation.

**SMARTVENT OPERATION**

SmartVent monitors the indoor and outdoor temperatures and determines when the outdoor temperature is lower than the indoor temperature by a differential of approximately 6° (adjustable from 2° to 10°). The system also monitors the indoor SmartVent thermostat to see if it’s calling for venting.

When both the outdoor temperature differential and indoor vent thermostat are calling for venting, the controller turns on the system’s fan and opens an outdoor air supply damper so fresh air can circulate throughout your home.

The system also has a manual mode. Turning the SmartVent system switch to ON is independent of the heat or cool calls from the zone thermostats. If the SmartVent system switch is in the AUTO VENT position, the SmartVent control will switch the HVAC system to the outside air source anytime the vent conditions are proper, even during heat or cooling operation.

In some cases you want this, but if you don’t want venting to occur during heating operation, you must ensure the SmartVent system is properly set. Either the vent system switch should be set to the OFF position or the vent thermostat properly set above the heat settings or below the cool settings of the HVAC system thermostat.

**SmartVent modes of operation**

The system switch, located on the vent thermostat or within the TS40 thermostat, controls the operation of the SmartVent system. The modes of operation are:

- **OFF**: The SmartVent system won’t function under any condition.
- **AUTO**: The SmartVent system will come on when the outside temperature is lower than the inside temperature by the differential set point (factory set at 6°) and the inside temperature is above the vent thermostat set point.
- **ON**: A manual override which turns the SmartVent on for continuous fresh air ventilation until the system switch is returned to OFF or AUTO.
**SmartVent recommended thermostat settings**

The following settings are recommended for optimum efficiency, comfort, and fresh air when setting your thermostat for heating, cooling, or SmartVent operation.

<table>
<thead>
<tr>
<th>Summer Cooling Season</th>
<th>Occupied</th>
<th>Unoccupied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>78°F</td>
<td>80°– 82°F</td>
</tr>
<tr>
<td>SmartVent</td>
<td>68°– 70°F</td>
<td>68°– 70°F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Winter Heating Season</th>
<th>Occupied</th>
<th>Unoccupied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating</td>
<td>70°F</td>
<td>60°– 65°F</td>
</tr>
<tr>
<td>SmartVent</td>
<td>75°– 78°F or OFF</td>
<td>75°– 78°F or OFF</td>
</tr>
</tbody>
</table>

**SmartVent Filter**

The SmartVent filter is located inside the return air grill and behind the SmartVent filter door. It slides vertically in and out of place. There are two thumb screws that must be turned 90° for the filter door to open. Turn the screws and open the panel to slide the filter out. Replace this filter (or wash if you have a permanent filter) every 30 to 60 days.
<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SEE THIS SECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No cool air/air conditioning</td>
<td>Thermostat Operation</td>
</tr>
<tr>
<td></td>
<td>Filter Maintenance</td>
</tr>
<tr>
<td></td>
<td>Airflow and Register Adjustment</td>
</tr>
<tr>
<td></td>
<td>Fuses, Circuit Breakers</td>
</tr>
<tr>
<td>No heat/room-temperature air</td>
<td>Gas Furnace Start-up</td>
</tr>
<tr>
<td></td>
<td>Thermostat Operations</td>
</tr>
<tr>
<td></td>
<td>Fuses, Circuit Breakers</td>
</tr>
<tr>
<td></td>
<td>Heat Pump Information</td>
</tr>
<tr>
<td>No airflow to all/some rooms</td>
<td>Airflow and Register Adjustment</td>
</tr>
<tr>
<td></td>
<td>System Sizing/Operation</td>
</tr>
<tr>
<td></td>
<td>Filter Maintenance</td>
</tr>
<tr>
<td>Smoke/burning smell from regulators</td>
<td>Gas Furnace Start-Up</td>
</tr>
<tr>
<td>Fan won't turn off</td>
<td>Thermostat Operation</td>
</tr>
<tr>
<td></td>
<td>Gas Furnace Start-Up</td>
</tr>
<tr>
<td>No filter in grill/furnace</td>
<td>Filter Maintenance</td>
</tr>
<tr>
<td>Not cooling/warming fast enough</td>
<td>System Sizing/Operation</td>
</tr>
</tbody>
</table>
IMPORTANT PHONE NUMBERS
Please read the Customer Service section before calling Beutler’s Warranty Service Call Center. Your service will be expedited by having certain information ready for our customer service representatives when you call.

Warranty Service

*Emergency Warranty Service Requests, please call*
24/7 ............................................................... (916) 646-2701

*Non-Emergency Warranty Service Requests, please call*
Mon-Fri, 8am-5pm ........................................ (916) 646-2701
E-mail us at....................... CustomerService@BeutlerCorp.com

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