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Dallas, Texas, USA



**RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE**

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent), service agency or the gas supplier.

USER'S INFORMATION MANUAL

13GCSX SERIES UNITS

GAS PACKAGED UNITS (2-5 TONS)
Armstrong # 38152A068
505,058M
05/09
Supersedes 08/05

TP Technical
Publications
Litho U.S.A.

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⚠ WARNING

FIRE OR EXPLOSION HAZARD.

Failure to follow safety warnings exactly could result in serious injury, death, or property damage.



GAS-FIRED



Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

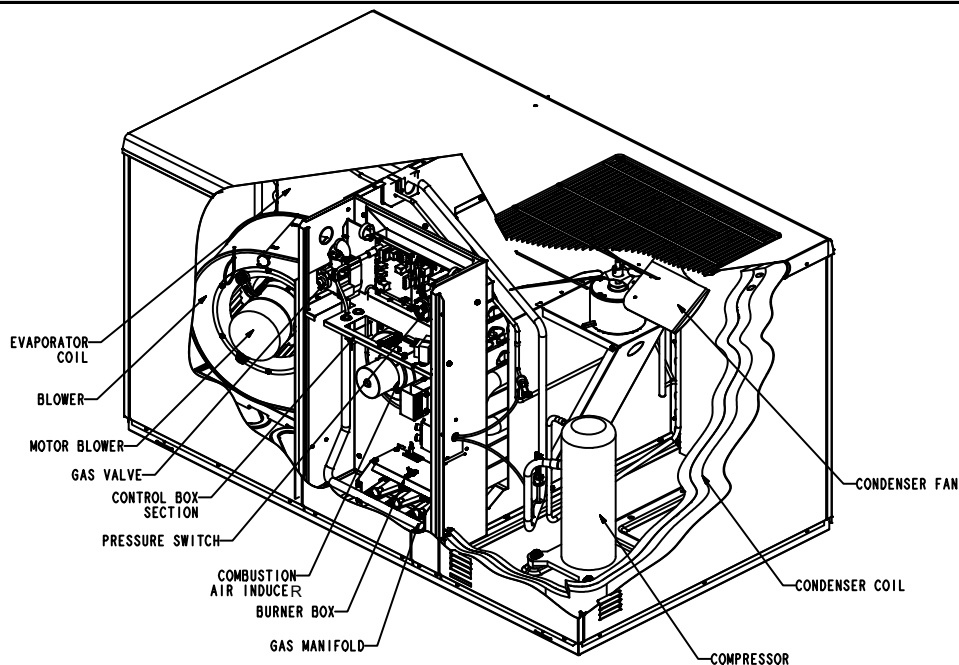
Installation and service must be performed by a qualified installer, service agency or the gas supplier.

WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Leave the building immediately.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.



13GCSX Parts Arrangement



Notice to Homeowners

This furnace is equipped with safety devices that protect you and your property. If one or more of these devices is activated, furnace operation will stop. If your home is left unattended for an extended period of time, equipment operation must be checked periodically. If this is not possible, the water supply to the house should be shut off and the pipes should be drained. This will prevent problems associated with a NO HEAT condition (frozen pipes, etc.)

Safety Information

- 1 - Keep unit area clear and free of combustible materials, gasoline and other flammable vapors and liquids.
- 2 - Inspect return air duct to ensure duct is sealed to the unit and terminates outside the space containing appliance.
- 3 - This unit requires air for combustion and ventilation to ensure both proper and safe operation. Combustion air is brought in through the condenser section. Do not block or obstruct the condenser coil or condenser fan opening.
- 4 - Examine the unit periodically to ensure that the physical support of the unit is sound without sagging, cracks, gaps, etc. There must be no obvious signs of deterioration of the unit.

⚠ WARNING



Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

⚠ WARNING



Danger of explosion. Can cause injury or product or property damage. Should the gas supply fail to shut off or if overheating occurs, shut off the gas valve to the unit before shutting off the electrical supply.

⚠ WARNING



Danger of electrical shock, explosion and fire. Improper servicing could result in dangerous operation, serious injury, death or property damage.

WARNING



Danger of explosion and fire. Failure to follow safety warnings exactly could result in dangerous operation, serious injury, death or property damage.

Your unit is a gas appliance. It is critical that the gas supplied to the unit be completely burned to avoid the production of carbon monoxide gas. Complete combustion of the gas requires, but is not limited to, correct gas pressure and gas flow rate, adequate combustion, air, and proper venting.

WARNING

Carbon monoxide gas is invisible, odorless and toxic. Exposure to carbon monoxide gas can cause personal injury and even death to all occupants, including pets. Any item that is powered by or gives off heat from a combustion process (including lawn mowers, automobiles, and fireplaces) has the potential to produce carbon monoxide gas. Because of this, we recommend the use of a carbon monoxide detector in your home, even if you do not own gas appliances. Reliable detectors are available at reasonable retail prices. Contact your dealer for more details about this investment in your safety. Your furnace is designed to meet standards set by national agencies, and to operate safely when properly installed and maintained. However, the unit's performance can be greatly impacted by the individual installation and the operating environment. It is your responsibility to ensure that this appliance is maintained.

Proper maintenance is critical for your safety and the satisfactory operation of the product. We strongly recommend annual inspection and maintenance of this appliance.

WARNING

Do not use this unit if any part has been under water. A flood-damaged unit is extremely dangerous. Attempts to use the unit can result in fire or explosion. A qualified service agency should be contacted to inspect the unit and to replace all gas controls, control system parts, electrical parts that have been wet or to replace the unit if deemed necessary.

WARNING

Product contains fiberglass wool.

Disturbing the insulation in this product during installation, maintenance, or repair will expose you to fiberglass wool. Breathing this may cause lung cancer. (Fiberglass wool is known to the State of California to cause cancer.)

Fiberglass wool may also cause respiratory, skin, and eye irritation.

To reduce exposure to this substance or for further information, consult material safety data sheets available from address shown below, or contact your supervisor.

**P.O. Box 799900
Dallas, TX 75379-9900**

Unit Operation

WARNING



Danger of explosion and fire. Can cause injury or product or property damage. You must follow these instructions exactly.

FOR YOUR SAFETY READ BEFORE LIGHTING


BEFORE LIGHTING the unit, smell all around the furnace area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

The gas valve on may be equipped with either a gas control switch or gas control knob. Use only your hand to push the lever or turn the gas control knob. Never use tools. If the the switch will not move or the knob will not push in or turn by hand, do not try to repair it. Call a qualified service technician. Force or attempted repair may result in a fire or explosion.

This unit is equipped with an automatic spark ignition system. There is no pilot. In case of a safety shutdown, move thermostat switch to **OFF** and return the thermostat switch to **HEAT**. An electro-mechanical thermostat is shown in figure 1. On units with electronic temperature controls, shut main disconnect off and back on to reset ignition control.

To Place Unit into Operation:

- 1 - Turn off electrical power to unit.
- 2 - Set thermostat to lowest setting.
- 3 - Remove heat section access panel.

- 4 - *Honeywell VR8205 Gas Valve with ON/OFF Switch* - Set gas valve switch to **ON**. See figure 2.
Honeywell VR8205 Gas Valve with Knob - Turn knob on gas valve counterclockwise  to **ON**. Do not force. See figure 3.
- 5 - Replace heat section access panel.
- 6 - Turn on electrical power to unit.
- 7 - Set room thermostat to desired temperature. (If thermostat setpoint temperature is above room temperature after the pre-purge time expires, main burners will light).

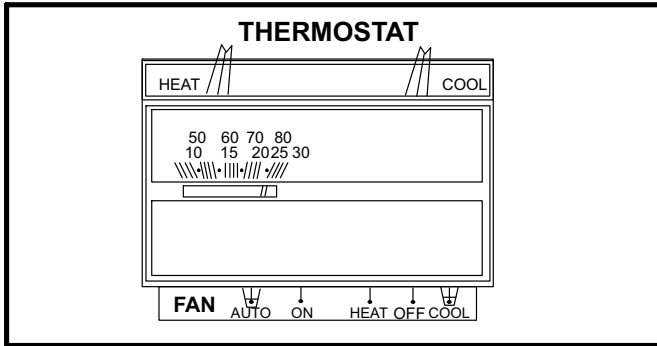


Figure 1

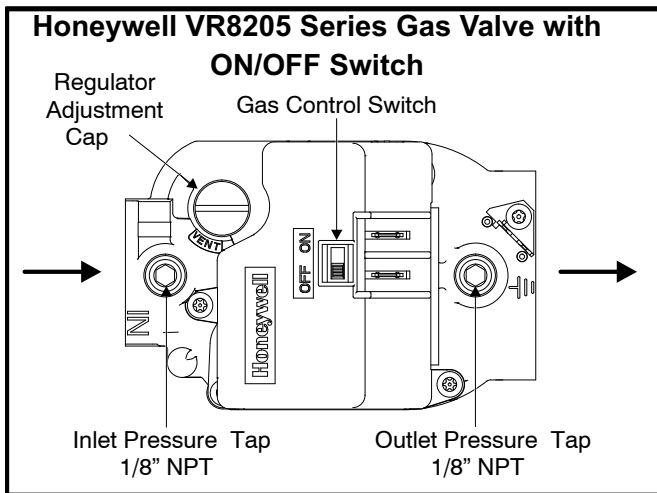


Figure 2

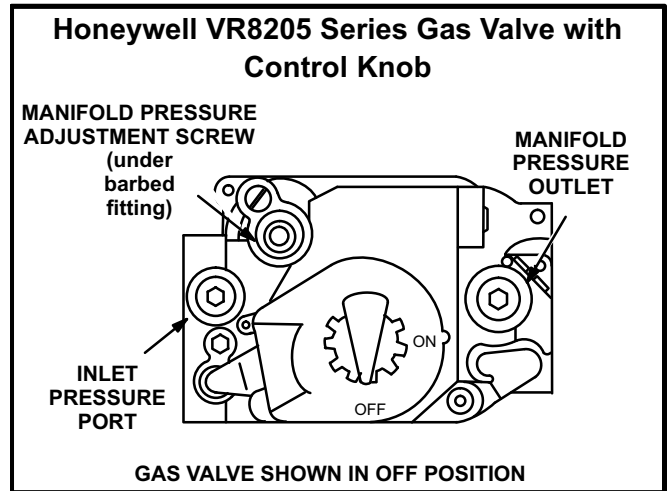




Figure 3

To Shut Down:

- 1 - Set the thermostat to the lowest setting.
- 2 - Turn off electric power to unit.
- 3 - Remove heat section access panel.
- 4 - *Honeywell VR8205 Gas Valve with ON/OFF Switch* - Set gas valve lever to **OFF**.
Honeywell VR8205 Gas Valve with Knob - Turn gas valve knob clockwise  to **OFF**. Do not force.
- 5 - Replace heat section access panel.

⚠ WARNING



Danger of explosion. Can cause injury or death. Do not attempt to light manually. Unit has a direct spark ignition system.

Thermostat Operation

There are many styles of thermostats. Though their appearances may be different, there are many similarities.

System Switch

The thermostat system switch allows you to choose whether you wish the unit to operate in either the HEAT or COOL mode. When the HEAT mode is selected, the unit will operate to satisfy a heating demand. When the COOL mode is selected, the unit will operate to satisfy a cooling demand. Some thermostats feature an AUTO system mode, which automatically switches between the HEAT and COOL modes to ensure comfort.

Fan Operation

The thermostat fan switch allows you to choose whether you wish the circulating air blower to operate in either the AUTO or ON mode. When the AUTO mode is selected, the circulating air blower will cycle on and off with the cooling or heating demand. When the ON mode is selected, the circulating air blower will operate continuously.

Maintenance

To maintain efficiency and longevity, your equipment must be serviced yearly by a qualified service technician. Failure to provide proof of proper service can void the warranty.

⚠ WARNING



Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

Filters

Filter(s) must be installed in the return air system. Filters should be checked monthly and replaced when necessary. Take note of air flow direction marking on filter frame when reinstalling filters. Replace disposable or clean permanent type as necessary. DO NOT replace permanent type with disposable.

NOTE - Filters must be U.L.C. approved or equivalent for use in Canada.

Motors

All motors are permanently lubricated and require no further lubrication. Motors should be cleaned yearly to

prevent the accumulation of dust and dirt on the windings or motor exterior.

Coil

Dirt and debris should not be allowed to accumulate on the coil surfaces or other parts in the air conditioning circuit. Cleaning should be performed as often as necessary. Use a brush, vacuum cleaner attachment, or other suitable means. If water is used to clean the coil, be sure the power to unit is shut off prior to cleaning.

NOTE - Care should be used when cleaning the coil so that the coil fins are not damaged.

Do not permit the hot condenser air discharge to be obstructed by overhanging structures or shrubs.

Burners

⚠ WARNING



Danger of explosion and fire. Can cause injury or product or property damage. Periodically inspect burner flame to ensure proper unit operation.

Inspect the burner flame periodically during heating season to ensure proper burner operation.

Light the burners and allow unit to operate for a few minutes to establish normal burning conditions. Observe the burner flames. Flames should be predominantly blue in color and strong in appearance. Verify that all burners are lit and that the flame does not impinge on the sides of the heat exchanger. See figure 4.

Distorted flame or yellow tipping of the natural gas flame (or long yellow tips on LP/propane flame) may be caused by one or more of the following: lint or dirt inside the burner or burner ports; lint or dirt at the air inlet between the burner and manifold pipe; or an obstruction over the burner orifice.

Use a soft brush or vacuum to clean the affected areas.

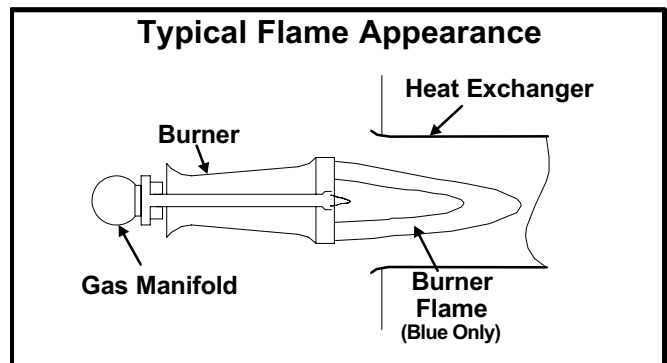


Figure 4

Vent Outlet

Visually inspect vent outlet periodically to make sure that there is no buildup of soot and dirt. If necessary, clean to maintain adequate opening to discharge flue products.

Service Reminder

Call a qualified service technician if the unit is inoperative. Before calling, always check the following to be sure service is required:

- 1 - Be sure electrical disconnect switches are ON.
- 2 - Check room thermostat for proper setting.
- 3 - Replace any blown fuses or reset circuit breakers.
- 4 - Gas valve should be ON.
- 5 - Air filters should not be plugged, limiting air flow.
- 6 - Make sure all access panels are in place.

Planned Services

You should expect a service technician to check the following items during an annual inspection. Power to the unit must be shut off for the service technician's safety.

- Fresh air grilles and louvers Must be open and unobstructed to provide combustion air.
- Burners must be inspected for rust, dirt, or signs of water.
- Exhaust pipe must be inspected for signs of water, damaged Rust or disconnected joints.
- Unit appearance must be inspected for rust, dirt, signs of water, burnt or damaged wires, or components. A good coat of auto wax can extend the appearance.
- Blower access door must be properly in place.
- Return air duct must be properly attached and provide an air seal to the unit.

- Operating performance — Unit must be observed during operation to monitor proper performance of the unit and the vent system.
- Combustion gases — Flue products must be analyzed and compared to the unit specifications.

Problems detected during the inspection may make it necessary to temporarily shut down the furnace until the items can be repaired or replaced.

Pay attention to your unit. Situations can arise between annual furnace inspections that may result in unsafe operation. For instance, items innocently stored next to the unit may obstruct the combustion air supply. This could cause incomplete combustion and the production of carbon monoxide gas.

Repair Parts List

The following repair parts are available through Lennox dealers. When ordering parts, include the complete unit model number listed on the unit rating plate. All service must be performed by a licensed professional installer (or equivalent), service agency, or gas supplier.

CONTROL PANEL PARTS

Ignition control board
Contactor
Transformer
Capacitor

BLOWER PARTS

Blower wheel
Blower Motor
Motor mounting arm
Blower housing

COOLING PARTS

Compressor
Condenser fan motor/blades
Coils
Drain pan

HEATING PARTS

Heat exchanger assembly
Combustion air inducer
Orifices
Burners
Gas valve
Manifold
Ignitor
Limit control
Rollout switch
Pressure switch