KGACK0101HCK **HORIZONTAL INSTALLATION KIT**

Installation Instructions

NOTE: Read the entire instruction manual before starting the installation.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury, or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions include in literature and attached to the unit. Consult local building codes, the current editions of the National Fuel Gas Code (NFGC) NFPA 54/ANSI Z223.1 and the National Electrical Code (NEC) NFPA 70.

In Canada, refer to the current editions of the National Standards of Canada CAN/CSA-B149.1 and .2 Natural Gas and Propane Installation Codes, and Canadian Electrical Code CSA C22.1.

Recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety-alert symbol. **DANGER** identifies the most serious hazards which **will** result in severe personal injury or death. **WARNING** signifies hazards which **could** result in personal injury or death. **CAUTION** is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. **NOTE** is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

⚠ WARNING

FIRE, EXPLOSION, ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury, death and/or property damage.

The ability to properly perform maintenance on this equipment requires certain knowledge, mechanical skills, tools, and equipment. If you do not possess these, do not attempt to perform any maintenance on this equipment other than those procedures recommended in the User's Manual.

⚠ WARNING

FIRE, EXPLOSION, ELECTRICAL SHOCK AND CARBON MONOXIDE POISONING HAZARD

Failure to follow instructions could result in personal injury, death or property damage.

Improper installation, adjustment, alteration, service, maintenance, or use can cause carbon monoxide poisoning, explosion, fire, electrical shock, or other conditions, which could result in personal injury or death. Consult your distributor or branch for information or assistance. The qualified installer or agency must use only factory-authorized kits or accessories when servicing this product.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position and install a lockout tag. There may be more than one electrical supply to the furnace. Check accessories and cooling unit for additional electrical supplies that must be shut off during furnace servicing. Lockout and tag switch with a suitable warning label. Verify proper operation after servicing.

INTRODUCTION

In the Horizontal orientation, a field supplied accessory drain trap grommet is required to seal the gap between the casing and the condensate trap for Direct Vent applications. The condensate trap outlet extends 2 inches (51 mm) below the furnace casing. To allow for servicing the trap, the condensate drain tube in the loose parts bag can be modified to make a coupler to allow for future service of the condensate trap and drain line.

DESCRIPTION AND USAGE

The drain trap grommet seals the burner compartment of the furnace to prevent ambient air from being drawn into the furnace vestibule. It is only required for Horizontal installations when a Direct Vent (2-pipe) or Ventilated Combustion Air venting application is used. It is not required for other orientations or when a Non-Direct Vent (1-pipe) application is used. A Non-Direct Vent application is when the combustion air for the furnace comes from the same location as the furnace.

Table 1 – Kit Contents

DESCRIPTION	QUANTITY
Horizontal Trap Grommet	1
Installation Instructions	0

INSTALLATION

Unit Shut Down

1. Set room thermostat to lowest setting or "OFF"
2. Disconnect power at external disconnect, fuse or circuit breaker.
3. Turn off gas at external shut-off or gas meter.
4. Remove outer doors and set aside.
5. Turn electric switch on gas valve to OFF.

Horizontal Orientation

1. Remove the knock-out for the condensate trap in the side of the casing.
2. Install the drain trap grommet in the casing. If necessary, remove the trap, install the grommet and re-install the trap.
3. Remove the pre-formed drain tube and the two spring clamps from the loose parts bag.
4. Remove the formed grommet on the tube to create an elbow or straight connector. See Fig. 2.
5. To connect the modify drain tube and remaining condensate drain, follow the steps below. Refer to Fig. 3.
6. Connect the cut tube to the outlet of the condensate trap with 1 spring clamp.
7. Slide the other spring clamp down the plain end of the drain tube.
8. Connect additional 1/2-in. CPVC piping to the open end of the tube.
9. Slide the spring clamp down over the 1/2-in. CPVC pipe.
10. Connect additional 1/2-in. CPVC piping to a condensate pump approved for use with acidic furnace condensate or to a code-approved drain.

NOTE: When a condensate pump is not used, slope the pipe away from the furnace to allow for proper drainage.

Freeze Protection

Special precautions **MUST** be made if installing furnace in an area which may drop below freezing. This can cause improper operation or damage to the equipment. If the the furnace environment has the potential of freezing, the drain trap and drain line must be protected.

Use 3 to 6 watt per foot at 115 volt, 40°F (4°C) self-regulating shielded and waterproof heat tape. Wrap the drain trap and drain line with the heat tape and secure with the ties. Follow the heat tape manufacturers recommendations. Prime the trap before furnace operation.

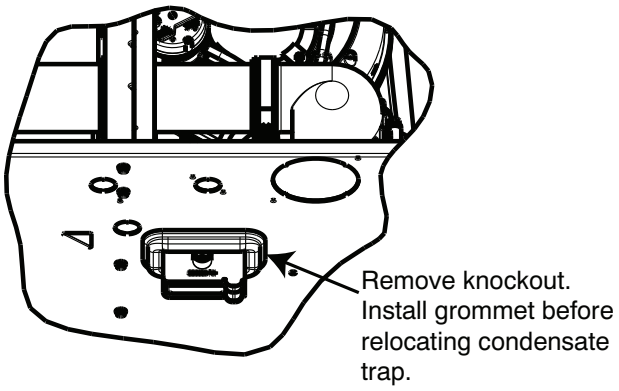
Unit Checkout

1. Set thermostat to "OFF".
2. Turn on power at external disconnect, fuse or circuit breaker.
3. Turn on gas at external shut-off or gas meter.
4. Check for gas leaks with a soap and water solution.
5. Manually close blower door switch.
6. Initiate component test through circuit board by referring to"Component Test" on status code label on blower access door for complete test sequence information.
7. If any status codes are flashed, refer to status code label on unit blower door.
8. 8.Turn thermostat fan switch to "ON", "Continuous" or jumper R to G terminals at furnace control board.
9. Check for air leakage around cell panel. It may be necessary to remove heat exchanger assembly and top gasket between cell panel and furnace casing top plate. Re-install and re-check for blower air leaks.
10. Remove jumper(s) or set thermostat fan to "Auto" or "OFF"
11. Release blower door switch
12. Install blower access door
13. Set thermostat to call for heat.
14. Allow unit to initiate a complete call for heat cycle.
15. Check for air leakage around collector box. A whistling noise may indicate air leak in collector box seal.

NOTE: As part of the system check-out, verify that the following conditions are not affecting the operation of the furnace:

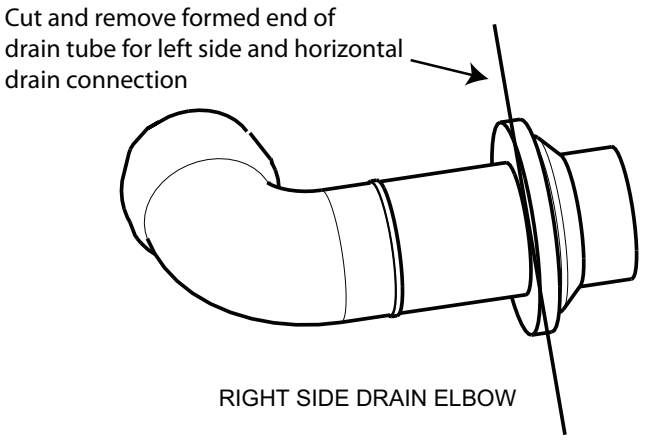
- Short Cycling-Defective thermostat: Incorrect thermostat anticipator setting, dirty filter or over-sized furnace.
- Under firing/low BTU input: Set manifold pressure and verify firing rate as shown on rating plate by clocking the gas meter.
- Overfiring/high BTU input: Set manifold pressure and verify
- firing rate as shown on rating plate by clocking the gas meter.
- Low temperature rise: Set unit for correct temperature rise range
- as shown on unit rating plate.
- Contaminated combustion air: Remove contaminates or provide
- ample fresh air for combustion.
- Excessive amounts of outside ventilation air: Return air temperature cannot be below 60 degrees F for extended periods of time.
- Incorrect venting or termination: Recirculation of products of combustion into the combustion air pipe can damage the furnace.
- Verify proper venting and vent termination per installation instructions. For additional information, and a complete sequence of furnace operation, refer to furnace Installation, Start- Up and Operating Instructions.

16. After System Check-out is complete, set thermostat below room temperature.
17. Verify that burner shuts down and blower completes selected off delay time.
18. Verify furnace operates properly and set thermostat to desired room temperature.
19. Re-install outer door.



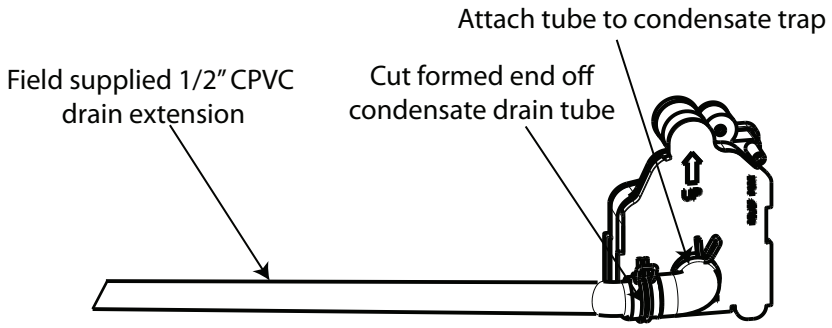
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Fig. 1 - Remove Knockout / Install Grommet



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Fig. 2 - Modify Drain Tube



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Fig. 3 - Condensate Drain

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