

Thermo Pride



LOWBOY CONDENSING GAS FURNACE

INSTALLATION AND MAINTENANCE INSTRUCTIONS

GLC-50
GLC-75
GLC-100
GLC-125

WARNING: If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

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

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.
- 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.

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

PLEASE READ THESE INSTRUCTIONS PRIOR TO INSTALLATION. INITIAL FIRING, AND BEFORE PERFORMING ANY SERVICE OR MAINTENANCE. THESE INSTRUCTIONS MUST BE LEFT WITH THE HOMEOWNER AND SHOULD BE RETAINED FOR FUTURE REFERENCE BY QUALIFIED SERVICE PERSONNEL.

MG-307A

4940

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OPERATING INSTRUCTIONS ARE LOCATED INSIDE
APPLIANCE NEAR BURNER ASSEMBLY.

SPECIAL HOMEOWNERS INSTRUCTIONS

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. REFER TO THE OWNER'S INFORMATION MANUAL PROVIDED WITH THIS FURNACE. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS/OIL SUPPLIER.

⚠ WARNING

The following items should be inspected every year by a qualified heating contractor. Correct any deficiencies at once.

Heat Exchanger: Inspect for corrosion, pitting, warpage, deterioration, carbon build up and loose gaskets.

Burner: Check for correct operation, proper combustion, no fuel leakage, and if provided, clean burner filter.

Chimney/Vent Pipe: Inspect for restriction, loose joints, abnormal carbon build up and condensation.

Controls: Check for correct operation and proper settings, (if manually adjustable).

Periodic visual inspections should also be made by the owner during the heating season. Call a qualified heating contractor to report suspected deficiencies. (Do not attempt to make repairs yourself!)

Further owner and heating contractor responsibilities are detailed in the installation and maintenance instruction manual. (Shut off power before inspecting.)

390399

THIS FURNACE MUST BE INSTALLED IN ACCORDANCE WITH THERMO PRODUCTS INSTRUCTION AND LOCAL CODES. IN ABSENCE OF LOCAL CODES, FOLLOW THE NATIONAL FUEL GAS CODE-ANSI Z223.1

THIS APPLIANCE REQUIRES A SPECIAL VENTING SYSTEM. REFER TO INSTALLATION INSTRUCTIONS NO. MG-307 FOR PARTS LIST AND METHOD OF INSTALLATION.

MAX. VENT LENGTH = 50 FT.

MIN. VENT LENGTH = 6 FT.

THE MINIMUM WALL THICKNESS THROUGH WHICH THE VENT/AIR INTAKE PIPES MAY PASS IS 2 INCHES. AND THE MAXIMUM IS 18 INCHES

390402

FOR YOUR SAFETY

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

FOR YOUR SAFETY

If you smell gas:

1. Open window.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

FOR INSTALLATION ON NONCOMBUSTIBLE FLOOR ONLY

NOTICE

PURE COPPER IS DEPOSITED ON THE SURFACE OF THE HEAT EXCHANGER. IT WILL REMAIN PERMANENTLY ON THE HEAT EXCHANGER, ACTING AS A CORROSION INHIBITOR. THE VEHICLE THAT DEPOSITS THE COPPER ON THE HEAT EXCHANGER WILL BURN OFF ON INITIAL FIRING AND MAY CREATE AN UNPLEASANT ODOR. IT IS SUGGESTED THAT A WINDOW BE OPENED AND THE FURNACE REMAIN OPERATING UNTIL SMELL IS DISSIPATED.

-REMOVE THIS TAG BEFORE FIRING-

DESIGNED MAXIMUM OUTLET AIR TEMPERATURE
THIS FURNACE IS CERTIFIED FOR INSTALLATION WITH MINIMUM CLEARANCES TO COMBUSTIBLE CONSTRUCTION FROM THE TOP FROM THE FRONT FROM THE BACK FROM THE LEFT SIDE FROM THE RIGHT SIDE AND FROM THE FLUE PIPE
MINIMUM GAS SUPPLY PRESSURES ARE FOR PURPOSE OF INPUT ADJUSTMENT.
NORMAL MANIFOLD PRESSURE WC
MAXIMUM GAS SUPPLY LP 14" WC
MINIMUM GAS SUPPLY LP 11" WC
MAXIMUM GAS SUPPLY NAT 14" WC
MINIMUM GAS SUPPLY NAT WC

"FOR INDOOR INSTALLATION" IN BUILDING CONSTRUCTED ON-SITE

390022

SHOULD THIS UNIT BE DISASSEMBLED ALL COMPONENTS, PANELS, BLOCK OFFS, COLLARS, GASKETS, AND FASTENERS MUST BE REASSEMBLED AS ORIGINALLY FACTORY PRODUCED.

OUTSIDE POWER SOURCE
115 V. 60 CYCLE TO BE CONNECTED TO WIRES INSIDE THIS BOX.
CONNECT WIRE L1 TO THE "HOT" LINE.
CONNECT WIRE L2 TO THE "COMMON" LINE.

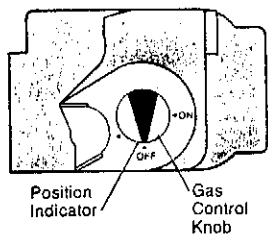
FOR YOUR SAFETY READ BEFORE OPERATING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
WHAT TO DO IF YOU SMELL GAS
 - Do not try to light any appliance.
 - Do not touch any electric switch; do not use any phone in your building.
 - 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.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. Turn gas control knob clockwise to "OFF" position.
6. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
7. Turn gas control knob counterclockwise to "ON" position.
8. Turn on all electric power to unit.
9. Set thermostat to desired setting.
10. If appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.



TO TURN OFF GAS TO APPLIANCE

1. Set thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Turn gas control knob clockwise to "OFF" position.

390415

— CONVERSION —

1. Shut off gas valve at meter or storage tank.
2. Remove front panel of burner box.
3. Remove main burner orifices from orifice holders and replace with new orifices as shown below.
4. Reset primary air settings and replace burner box cover.
5. Remove regulator adjustment screw and replace spring.

Furnace	Orifice NAT.	Drill Size L.P.	Qty.
GLC-50	39	53	2
GLC-75	39	53	3
GLC-100	33	50	3
GLC-125	30	48	3

390403

"DANGER: TO AVOID INJURY FROM MOVING PARTS SHUT OFF THE FURNACE BEFORE REMOVING THIS DOOR".

WHEN IT BECOMES NECESSARY TO REPLACE OR WASH FILTER, REMOVE THE DIRTY FILTER FROM THE RACKS PROVIDED AND WASH OR REPLACE WITH IDENTICAL NEW FILTERS

THE BLOWER MOTOR LOCATED BEHIND THIS DOOR MAY OR MAY NOT REQUIRE LUBRICATION. IF LUBRICATION INSTRUCTIONS ARE NOT SHOWN ON THE MOTOR NAME PLATE THE MOTOR SHOULD NOT BE LUBRICATED. IF THE NAME PLATE INDICATES THAT THE MOTOR REQUIRES LUBRICATION, LUBRICATE THE MOTOR AS DIRECTED OR USE 30 DROPS OF SAE 20 WEIGHT OIL OR EQUIVALENT TWICE A YEAR. DO NOT USE A LIGHT HOUSEHOLD GRADE OIL.

THIS FURNACE MUST BE INSTALLED SO THERE ARE PROVISIONS FOR VENTILATING AIR.

390410

WARNING: THIS UNIT MUST BE INSTALLED AND SERVICED BY A QUALIFIED CONTRACTOR ONLY.

THIS FURNACE MUST BE INSTALLED IN ACCORDANCE WITH THERMO PRODUCTS INSTRUCTION AND LOCAL CODES. IN ABSENCE OF LOCAL CODES, FOLLOW THE NATIONAL FUEL GAS CODE-ANSI Z223.1

This page contains various warnings found throughout the Gas Lowboy Condensing Furnace Manual. Please read and comply with the statements below.

WARNINGS:

WARNING: This furnace is not to be used as a construction heater.

WARNING: This GLC furnace has been designed to be installed as a direct vent system and must have its combustion air brought in from outside the conditioned space. A failure to install the vent/air intake system as specified in these instructions will void the heat exchanger warranty and may result in causing property damage, personal injury or loss of life.

WARNING: Because of the potential of odorant fade, a gas leak may not be detected by smell. If this furnace is installed below grade, contact your gas supplier for a gas detector.

WARNING: Turn off power to furnace. Before gas piping system is placed into service, it must have been leak tested by a qualified service technician. (See Section J of these instructions on the installation of gas piping).

WARNING: After purging gas, ventilate area for at least 15 minutes before attempting to start the furnace. LP gases are heavier than air and may accumulate in dangerous concentrations at floor level.

GAS LOWBOY CONDENSING FURNACE SPECIFICATION SHEET

MODEL NO.	GLC-50		GLC-75		GLC-100		GLC-125	
BTU/HR INPUT	50,000		75,000		100,000		125,000	
BTU/HR OUTPUT ¹	46,500		69,750		93,000		116,250	
HT. OF CASING	38"		43-1/4"		43-1/4"		46-1/2"	
WIDTH OF CASING	23"		25"		25"		25"	
DEPTH OF CASING	48"		50-1/4"		50-1/4"		54-1/2"	
WARM AIR OUTLET ²	17X17		20X20		20X20		20X20	
RETURN AIR INLET ²	17X17		14X20		14X20		16X20	
DIAM. OF FLUE	2"		2"		3"		3"	
DIAM. OF COMBUSTION AIR INTAKE	2"		2"		3"		3"	
CFM @ .5 & .2 WC EXTERNAL STATIC PRESSURE	.2	.5	.2	.5	.2	.5	.2	.5
@ HIGH SPEED	1306	1172	1469	1275	1916	1619	2178	1970
@ MH-SPEED	1068	976	1081	917	1680	1420	1663	1552
@ ML-SPEED	886	792	852	701	1435	1264	1299	1228
@ LO-SPEED	583	425	687	530	1191	1028	991	944
TEMPERATURE RISE	70°		70°		70°		70°	
STANDARD BLOWER MTR	1/3 HP		1/2 HP		3/4 HP		3/4 HP	
NO. OF SPEEDS	4 SPEED		4 SPEED		4 SPEED		4 SPEED	
LARGEST RECOMMENDED A.C. ³	3T		4T		4T		5T	
NO. & SIZE OF PERMANENT FILTERS	(2) 18X12		(2) 16X14		(2) 16X14		(2) 18X14	
APPROX. EFFECTIVE HTG. SURFACE	3038 IN ²		4850 IN ²		4850 IN ²		5500 IN ²	
APPROX. SHIPPING WT.	325 LB.		410 LB.		410 LB.		510 LB.	
SEASONAL Efficiency ⁴	96%		95%		93%		90%	

1. BTU output based on combustion efficiency rated by manufacturer.
2. On all outlet and inlet dimensions, the first dimensions is width.

3. To permit largest recommended air conditioning (at .5 static pressure), selection of the highest motor speed and/or larger motor is required.

4. Seasonal efficiency (also called AFUE-Annual Fuel utilization Efficiency) ratings are based on U.S. Department of Energy test results.

All specifications are subject to change without notice.

All installations and services must be performed by qualified service personnel.

I. GENERAL INSTRUCTIONS TO THE INSTALLER AND OWNER/USER.

These instructions must be read in their entirety before installation of the furnace.

It is the installers responsibility to do the following:

- 1) Inform the owner and or user that:

ALL INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, OR PROFESSIONAL SERVICE PERSONNEL.

- 2) Inform and demonstrate to the user the correct operation and maintenance of the appliance as explained in Section IV of this manual, Installers Instructions To User.

- 3) Inform the user of the hazards of using or storing flammable liquids and vapors in the vicinity of the appliance. Have the owner or user remove any such products from the area in your presence.

- 4) Inform the customer or user that failure to install, maintain and operate this furnace in accordance with these instructions could result in hazardous conditions, bodily injury, property damage, and could void the limited warranty on the furnace.

- 5) Inform the owner or user that these instructions, the users information manual and the instructions for any accessories, such as a thermostat or condensate pump, must be kept in the plastic pouch attached to the furnace.

II. GENERAL INSTALLATION

This furnace is shipped completely assembled, wired, factory tested and adjusted for the gas shown on the furnace label. For parts, shortage or damage, follow the instructions in the Freight Policy Section of the Thermo Pride Catalog.

WARNING: This furnace is not to be used as a construction heater.

A. CODES AND CLEARANCES

The following items must be considered when sizing and locating the furnace.

- 1) All local codes and or regulations take precedence over the instructions in this manual and should be followed accordingly. Authorities having jurisdiction should be consulted before installation. In the absence of local codes, installation must conform with these instructions, regulations of the National Electrical Code ANSI/NFPA70-LATEST EDITION and the National Fuel Gas Code ANSI Z223.1-LATEST EDITION.

- 2) The BTU output capacity of the furnace selected should be based on heat loss calculations made in accordance with manuals published by the Air Conditioning Contractors of America (ACCA) or ASHRAE.

All installations and services must be performed by qualified service personnel.

- MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS -					
Model #	From sides of furnace	Front	Rear	Top & Sides of Plenum	From the Vent/Flue
GLC50-75- 100-125	2"	24"	18"	1"	0"

3) The above minimum clearances are for fire protection. Clearance for servicing the front of the furnace and to all points on the furnace requiring service must be 24". The primary heat exchanger can be cleaned from the front.

Unless placed on sheet metal covering the width and depth of the furnace, it shall not be placed directly on carpeting, tile or other combustible material.

4) Definitions of "Combustible Material" and "Non Combustible Material", taken from ANSI Z21.64-1988 Standard for gas-fired central furnaces, are as follows:

a. COMBUSTIBLE MATERIAL

As pertaining to materials adjacent to or in contact with heat producing appliances, gas vents, chimneys and warm air ducts, shall mean materials made of or surfaced with wood, compressed paper, plant fibers or other materials capable of being ignited or burned, such material shall be considered combustible even if flame-proofed, fire retarded treated or plastered.

b. NON COMBUSTIBLE MATERIAL

Material which is not capable of being ignited and burned such as materials consisting of or a combination of steel, iron, brick, tile, concrete, slate, glass and plaster.

B. FURNACE LOCATION

NOTE: AUTHORITIES HAVING JURISDICTION OVER LOCAL CODES AND ORDINANCES SHOULD BE CONSULTED BEFORE INSTALLATION.

NOTICE: These high efficiency condensing furnaces are not certified for and shall not be vented into a standard or any type of chimney.

The following shall be considered for locating the furnace:

1) For best performance, locate the furnace so that it is centralized with respect to the duct system and as near as possible to a floor drain since condensate drainage must be provided.

2) Place the unit so that proper venting can be achieved with a minimum number of elbows in accord with the instructions in this manual.

3) The furnace must be located on a level, dry surface. If the area becomes wet or damp at times the furnace should be raised above the floor using a concrete base, bricks, patio blocks, etc. Check furnace level after installation to ensure proper drainage and trouble free performance.

4) This furnace must be connected to a drain in accordance with these instructions. If it is not practical to connect the unit to a drain a condensate pump must be used and can be ordered as an accessory, part number 350225. If an acidic neutralizer kit is required by local code or the customer, it is available under part number 320095.

5) A gas fired furnace installed in a residential garage must be protected from physical damage by vehicles.

All installations and services must be performed by qualified service personnel.

C. REPLACING AN EXISTING FURNACE FROM A COMMON VENT.

NOTE: IF THIS FURNACE REPLACES AN APPLIANCE WITH A VENT THAT WAS ORIGINALLY INSTALLED IN A COMMON VENT SYSTEM SERVING OTHER APPLIANCES, THE VENT SYSTEM IS LIKELY NOW TOO LARGE TO PROPERLY VENT THE REMAINING APPLIANCES ONLY AND MUST BE MODIFIED ACCORDINGLY.

The following steps shall be followed with each appliance remaining connected to the common venting system placed in operation, while the other appliances remaining connected to the common venting system are not in operation.

a. Seal any unused openings in the common venting system.

b. Visually inspect the venting system for proper size and horizontal pitch and determine there is no blockage or restriction, leakage, corrosion or other deficiencies which could cause an unsafe condition.

c. Insofar as is practical, close all building doors and windows and all doors between the space in which the appliances remaining connected to the common venting system are located and other spaces of the building. Turn on clothes dryers and any appliance not connected to the common venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they will operate at maximum speed. Do not operate a summer exhaust fan. Close fireplace dampers.

d. Follow the lighting instructions. Place the appliance being inspected in operation. Adjust thermostat so appliance will operate continuously.

e. Test for spillage at the draft hood relief opening after 5 minutes of main burner operation. Use the flame of a match or candle, or smoke from a cigarette, cigar or pipe.

f. If improper venting is observed on any of the appliances during the above testing, the common vent system must be corrected. Follow the steps outlined in the National Fuel Gas Code, NFPA 54/ANSI Z223.1-1988 to resize the vent system to approach the minimum size using the appropriate tables in Appendix G of that code. The National Fuel Gas Code may be obtained by writing the American Gas Association Laboratories, 8501 East Pleasant Valley Rd., Cleveland, OH 44131 or the National Fire Protection Association, Batterymarch Park, Quincy, PA 02269.

g. After determining that each appliance remaining connected to the common venting system is vented properly, when tested as outlined above and that the vent system is properly sized, return doors, windows, exhaust fans, fireplace dampers and the remaining appliances to their previous conditions of use.

D) REQUIREMENTS FOR VENTING THE GLC

The GLC furnace venting system must be installed by a qualified service person in accord with local codes, the National Fuel Gas Code NFPA 54/ANSI Z223.1-LATEST EDITION and these instructions.

The following items and local code requirements must be followed:

1) The vent/air intake terminations supplied by Thermo Products must be used.

2) The "entire" vent system must be made of pvc schedule 40 pipe.

3) Flue vent pipe used must be at least as large as the outlet of the tee assembly supplied by Thermo Products. No reduction in size is permissible. The GLC50 & 75 require 2" schedule 40 pvc pipe, the GLC100 & 125 require 3" schedule 40 pvc pipe.

All installations and services must be performed by qualified service personnel.

4) This GLC furnace shall not be common vented with any other appliance including those burning solid fuels.

5) Horizontal runs of vent pipe shall slope upward at least 1/4" per foot from the tee outlet at the furnace to the vent termination in the outside wall. This will permit proper drainage of the condensate.

6) The vent pipe must be supported every 4 feet and at every joint to prevent pipe blockage caused by condensate trapped in a sag in the vent pipe.

7) An elbow is equivalent to a five foot length of pipe. The maximum length of vent pipe is 45 feet with one elbow or a total of 50 feet. The maximum number of elbows allowed is 6. If six elbows were used, only 20 feet of straight pipe would be allowed, (total length 50-30 feet for the six elbows = 20 feet of pipe). The minimum vent length is six feet or one elbow and 1 foot of straight pipe. Any combination of straight pipe and elbows x 5 feet that equals 6 feet or more, but not over 50, is acceptable as long as not more than 6 elbows are used.

Number of elbows	Max. Length vent pipe	Total length	Number of elbow(s)	Max. Length of vent pipe	Total length
6	20	50	3	35	50
5	25	50	2	40	50
4	30	50	1	45	50

8) A hack saw may be used to cut the pvc pipe. It must be cut smoothly at 90° angles with all burrs removed. All joints must be sealed air tight using pvc or all-purpose pipe cement. All joints must use standard pvc schedule 40 elbows & couplings. Joints are not to be made by gluing and butting together the cut or raw edges of the vent pipe.

9) All vent connections shall be checked for leakage with the furnace's induced draft blower running and with the vent termination blocked. A mild soap and water solution may be used to check for leaks.

10) Vent pipe passing through an unheated space must be insulated with 1.0" thick foil faced fiber glass insulation or its equivalent, to prevent freezing of any condensate within the pipe.

11) Minimum clearance from the pvc pipe to combustible material is zero inches.

NOTE: THE GLC FURNACE CAN BE VENTED EITHER THROUGH THE SIDEWALL OR ROOF. FOR SIDEWALL INSTRUCTIONS CONTINUE ON. FOR ROOF VENTING GO TO SECTION G "VERTICAL THROUGH THE ROOF VENTING."

12) The maximum wall thickness through which the pipe or vent termination may pass is 18" and the minimum is 2". The maximum distance from the outer wall to the center of the vent tee is 12" and the minimum is 4". The screens in the tee must point up and down. (see Fig. A)

NOTE: IF EXTERIOR SIDEWALL BUILDING MATERIALS ARE SUBJECT TO DEGRADATION FROM FLUE GASES OR MOISTURE, A MINIMUM 12" DIAMETER SHIELD MADE FROM STAINLESS STEEL OR HIGH DENSITY PLASTIC SHALL BE USED FOR PROTECTION.

All installations and services must be performed by qualified service personnel.

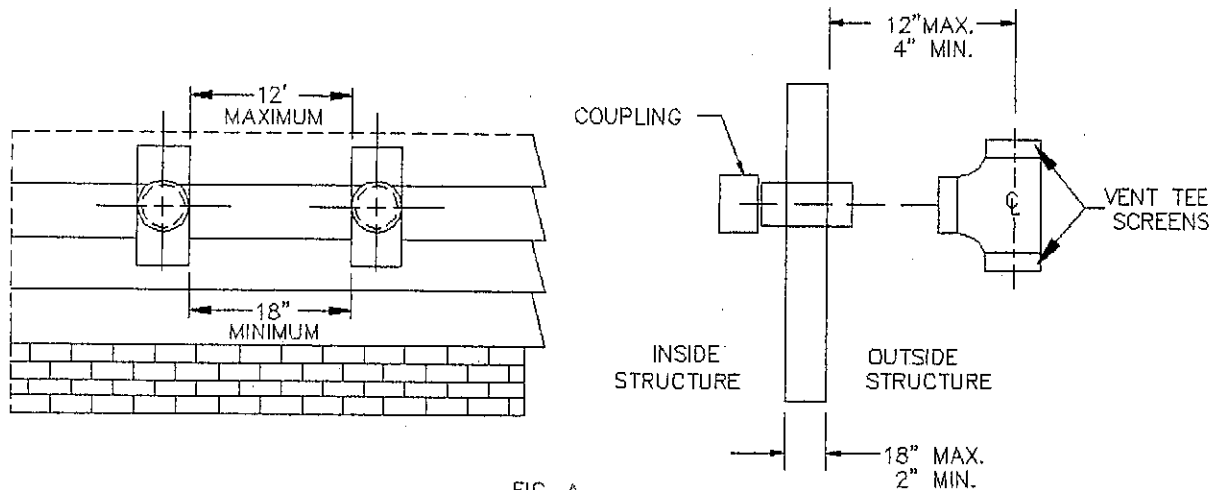


FIG. A

13) A minimum spacing of 18" between the inside edges of the vent and combustion air intake tees is required. We recommend that the vents should not be installed more than twelve feet apart and in the same pressure zone. (ie. on the same wall)

The vent discharge and air intake termination must be installed a minimum of 18" above grade, 14" from any obstruction and 3 feet from an inside corner of an L-shaped structure.

NOTE: IN AREAS OF SNOW BUILD UP, THE VENT DISCHARGE/AIR INTAKE SHALL BE INSTALLED HIGH ENOUGH TO CLEAR AND OR BE PROTECTED FROM DRIFTING SNOW.

14) The vent terminals of mechanical draft systems shall not be less than 7 feet above grade when located adjacent to public walkways. The vent system shall terminate at least 3 feet above any forced air inlet, within 10 feet of the vent hood. If the location near a door, window or gravity feed inlet can not be avoided, the vent shall terminate at least 4 feet horizontally from or 18 inches above any door, window or gravity air inlet into any building. (see Figure B).

15) The vent shall terminate a minimum of four feet horizontally from all electric meters, gas meters, regulators, and relief equipment. (see Figure B).

16) The combustion air intake must be located a minimum of four feet from dryer vents, bathroom exhaust vents, etc.

NOTE: HEAT EXCHANGER FAILURE CAUSED FROM CONTAMINATED AIR WILL VOID ITS LIMITED LIFETIME WARRANTY.

Diagram illustrating the placement of a forced air inlet, electric meter, gas meter, and various vents (V) within a building layout. The diagram shows the following components and dimensions:

- Forced Air Inlet:** Located on the left wall, with a height of 3FT. above the floor.
- Electric Meter:** Located in the center, with a height of 7FT. above the floor.
- Gas Meter:** Located at the bottom center, with a height of 4FT. above the floor.
- Vents (V):**
 - One vent is located 14 INCHES from the ceiling.
 - Another vent is located 18 INCHES from the ceiling.
 - A vent is located 14 INCHES from the ceiling and 18 INCHES from the right wall.
 - A vent is located 4FT. from the electric meter.
 - A vent is located 4FT. from the gas meter.
 - A vent is located 18 INCHES from the floor.
- Window or Door:** Located on the right wall, with a height of 4FT. from the floor.
- Clearance:** A minimum clearance of 10FT. is required between the forced air inlet and the ceiling.
- Walkway:** Indicated on the left side of the building.

Legend: [V] = VENT HOOD

Diagram showing the top view of an L-shaped house. The house is composed of two rectangular sections. The vertical section on the left is labeled 'V'. The horizontal section on the right is labeled 'V'. The distance between the two sections is labeled '3FT.' with arrows indicating the measurement.

NOTE: THE EXHAUST VENT SHALL BE CHECKED PERIODICALLY, AT LEAST AT THE START OF EACH HEATING SEASON, FOR RESTRICTION OR BLOCKAGE FROM FOREIGN MATERIAL IN THE VENT PIPE OR THE SCREEN AND CLEANED WHEN NECESSARY.

NOTE: INSTALLATION OF THE OUTSIDE COMBUSTION AIR AND OUTSIDE EXHAUST VENTS MUST BE PERFORMED BY A QUALIFIED INSTALLER OR SERVICE PERSON IN ACCORD WITH LOCAL CODES, THE NATIONAL FUEL GAS CODE NFPA 54 ANSI Z223.1-1988 AND SECTIONS C, D AND E OF THESE INSTRUCTIONS.

- 6.

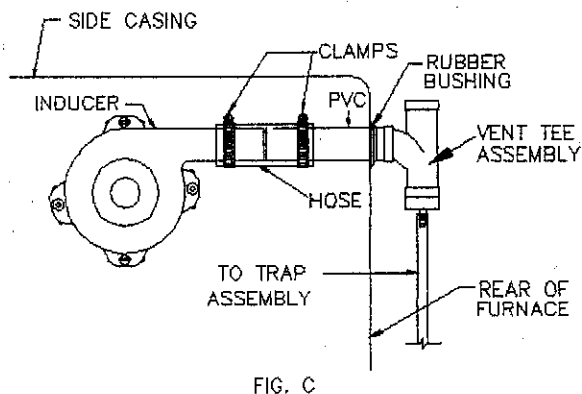
All installations and services must be performed by qualified service personnel.

F. CONNECTING FURNACE TO OUTSIDE VENT/AIR INTAKE TERMINALS SIDEWALL VENTING

EXHAUST VENT

1. Insert 2" diameter leg of the vent tee assembly provided into the rubber hose and place the rubber hose through the flexible rubber bushing at top rear of furnace. Using the rubber hose and two clamps provided, fasten the tee assembly to the inducer outlet.

NOTE: The hose must overlap the inducer outlet and the pipe. Tighten the clamps snugly, do not overtighten to avoid deforming pvc pipe. The tee should be pointing straight up and down in relation to the furnace. (see Fig. C).



2. Using as few elbows as possible, run a 2" diameter pvc pipe for GLC50 & 75 and a 3" pvc pipe for GLC100 & 125 from the female connection at the top of the vent tee to assembly to the female coupling connection at the flue vent termination.

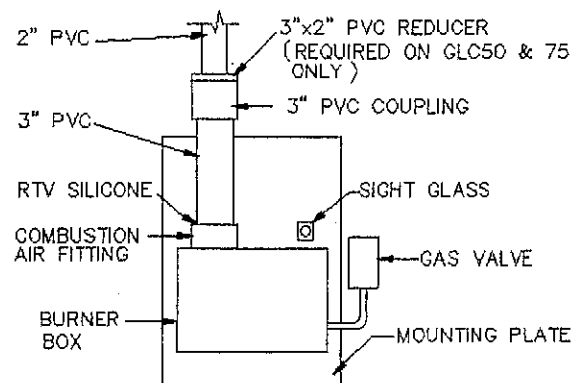
NOTE: The vent piping must slope upward at least 1/4" per foot from the furnace vent terminal. The pvc pipe must be supported directly over the vent tee assembly, every four feet thereafter and at every joint. After making sure the slope and length of the piping are correct, glue the furnace tee and vent terminal connections in place.

COMBUSTION AIR INTAKE VENT

WARNING: THIS GLC FURNACE HAS BEEN DESIGNED TO BE INSTALLED AS A DIRECT VENT SYSTEM AND MUST HAVE ITS COMBUSTION AIR BROUGHT IN FROM OUTSIDE THE CONDITIONED SPACE. A FAILURE TO INSTALL THE VENT/AIR INTAKE SYSTEM AS SPECIFIED IN THESE INSTRUCTIONS WILL VOID THE HEAT EXCHANGER WARRANTY AND MAY RESULT IN CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

1. When installing the combustion air intake on the GLC-100 and 125 a 3" diameter schedule 40 pvc pipe must be run from the female connection at the top of the burner box to the air intake terminal using as few elbows as possible. On the GLC-50 and 75 a length of 3" diameter pvc must extend from the burner box before a 3" pvc coupling and a 3-2" pvc reducer can be used to run the remainder of the 2" pipe to the 2" diameter air intake termination. This length of 3" pvc must be a minimum of 22" for the GLC-50 and 28" for the GLC-75.

NOTE: The air intake pipe must slope downward to the outside intake terminal 1/4" per foot. The air intake pipe must be supported every 4 feet. After making sure the length of the piping is correct, glue all connections in place except the length of pipe between combustion air fitting on the burner box and the first elbow. To make this seal, run a bead of high temperature RTV silicon sealant around the pvc pipe 3/8" from either end, insert into the burner box coupling and first elbow, and rotate 1/4" turn. This will allow for easy disconnection in case the burner assembly must be removed at a later date. (see Fig. D).



All installations and services must be performed by qualified service personnel.

If the combustion air piping is installed in a warm humid place, such as a laundry room or above a suspended ceiling, it must be insulated with a 1.0" foil faced insulation, or its equivalent.

If the vent piping is run through an unconditioned space, it must be insulated with a 1.0" foil faced insulation or its equivalent.

NOTICE: Outside combustion air must not come from an area that is directly adjacent to a pool, hot tub or spa.

G. VERTICAL THROUGH THE ROOF VENTING

If it is not possible to vent the furnace through the sidewall, it may be vented vertically through the roof. The center line of the vent and combustion air intake tees shall be a minimum of 2 feet above any roof surface within 10 feet horizontally. If the vent and air intake tees must be installed at different heights, the vent tee must always be higher than the air intake tee. The combustion air intake shall be installed up wind of the vent tee when exposed to prevailing winds. The vent and air intakes should be mounted no closer than 18" apart and no further than 4 feet apart. The vent and combustion air intake tees shall be positioned so that the vent does not blow directly into the air intake. (See Figure E).

If the vent/air intake piping is run up through an unused chimney, the following guidelines must be followed:

1. No other appliances can be vented into the chimney.
2. All openings in the chimney must be sealed.
3. The space around the vent/air intake pipes where they enter the chimney must be sealed.
4. The top of the chimney must also be sealed off around the pvc pipes where they exit the chimney.
5. The vent pipe must be insulated with a 1.0" foil faced insulation or its equivalent.
6. The vent pipe must be kept in a vertical position with no jogs in its routing.
7. The air intake pipe may be offset using 2-90° elbows in order to maintain the required 18 inch minimum distance between vent/air intake terminations.

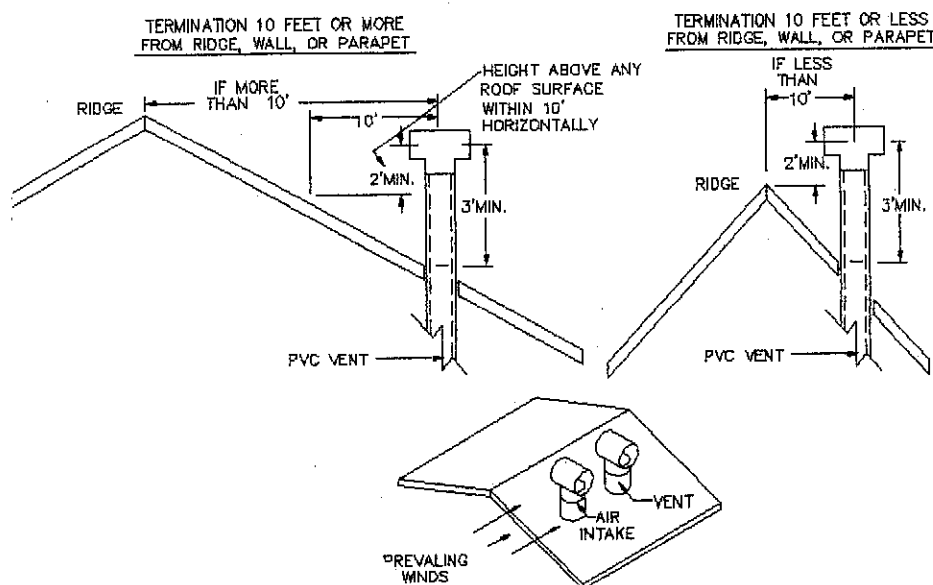


FIG. E

All installations and services must be performed by qualified service personnel.

When the pvc vent and air intake pipes must pass through a floor or ceiling, the following instructions must be followed:

CEILING: Frame out area around where pvc pipe is to penetrate ceiling. Cut a 2 3/8" hole for 2" pvc and a 3 1/2" hole for 3" pvc in the ceiling and a corresponding hole in a firestop to be made of a minimum of 18 gauge galvanized metal large enough to cover the entire framed area. Cut pvc pipe so that it extends up past the fire stop far enough to engage a pvc coupling that will rest on the fire stop and act as a support. Seal between the pipe coupling and fire stop with high temperature RTV sealant. (See Fig. F). Continue running pvc pipe to vent and air intake tees as described previously.

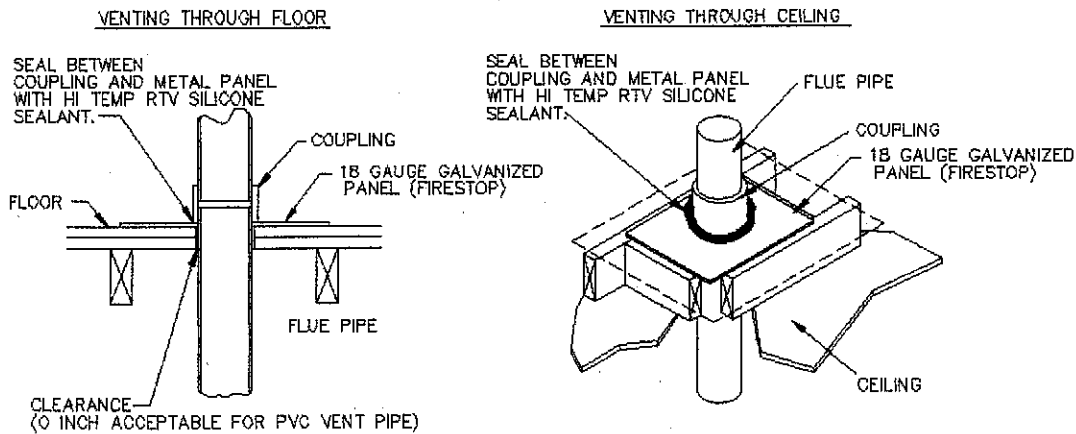


FIG. F

FLOOR: Follow same instructions as ceiling penetration, except the area around where the pipe passes through the floor does not have to be framed in. (See Fig. F).

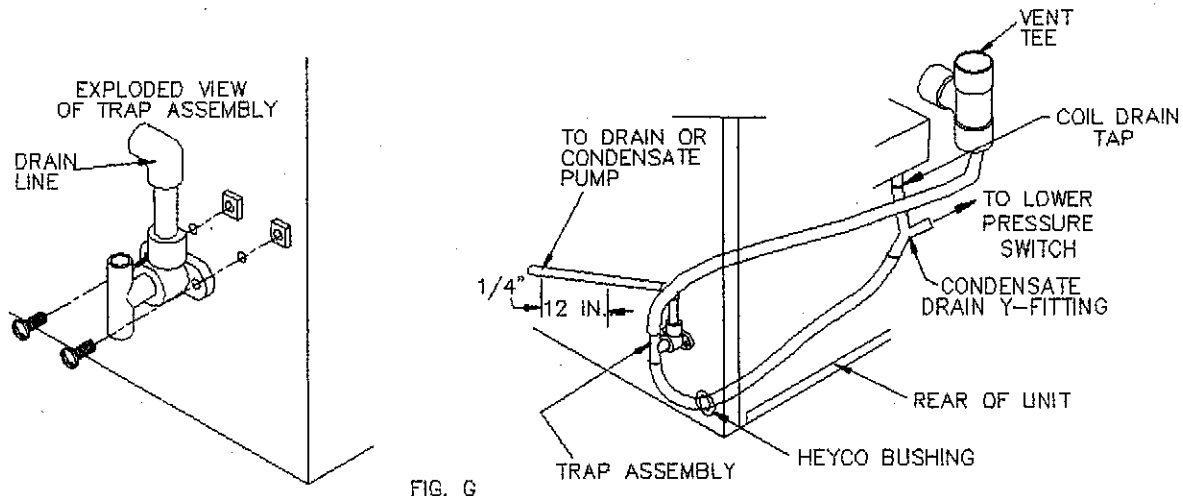
H. CONDENSATE DRAIN LINE AND TRAP ASSEMBLY

IMPORTANT: UNDER NO CIRCUMSTANCES CAN THE FURNACE CONDENSATE DRAIN BE COMBINED WITH THE AIR CONDITIONING CONDENSATE DRAIN.

1. Determine on which side of furnace the condensate disposal line is to be run. Attach the condensate trap to the side casing with the nuts and screws provided. Note the trap drain line must be in the up position. (See Fig. G).
2. The 7/8" o.d. clear pvc tube running from the drain tap on the coil is sized for left side drainage facing back of furnace (for right side draining cut tubing length to 20" for GLC50 and 22" for GLC75, 100, 125.) Remove the knockout from the side casing and put in heyco bushing from the outside. Run the condensate line from the condensate drain "Y" fitting through heyco bushing to bottom of condensate trap and tighten hose clamp. **NOTICE:** Remove plastic plug from bottom of "Y" fitting before attaching hose. Run 5/8" pvc hose from top of trap assembly to barbed hose fitting at bottom of pvc vent tee.
3. Position 90° 1/2" pvc elbow toward drain and install 1/2" pvc drain pipe maintaining a minimum 1/4" per foot downward slope toward the drain. The drain line must be water tight, supported and secured so that it can't be moved. (See Fig. G).
4. If a drain is not readily available or is above the trap outlet level on the furnace or the drain line cannot be sloped downward its full length to the drain, a condensate pump must be installed. The pump (part #350225) can be ordered from the factory. Follow the pump manufacturers installation instructions.

All installations and services must be performed by qualified service personnel.

5. The furnace condensate is slightly acidic, with a pH of 3.5. Cola drinks with a pH of 3.1 are actually more acidic. If local codes require or the customer requests it, a limestone neutralizing kit (accessory part #320095) can be ordered. Instructions included with the kit must be followed for its proper installation.



6. The condensate piping in the furnace and the drain system must be flushed out at the start of every heating season. Inspect it monthly for the rest of the season and flush, if the water appears dirty inside the clear plastic tube where it leaves the furnace or when it pours into the drainage system of the building or residence. This will assure troublefree operation and will keep the acidity level well above 3.4 pH.

To flush out the condensate drain system, turn off power to the furnace at the electrical disconnect switch, and turn the thermostat to its lowest setting.

Remove the 5/8" clear plastic hose from the coil drain tap. (See Figure G). Run tap water through the open end of the tube. this should keep your drain system clean. If the water does not flow freely, call a qualified service technician. Replace the tube by firmly pushing it back onto the tap. If any of the electrical controls are exposed to water, dry with a soft cloth and wait 24 hours before operating the furnace. Set the room thermostat to the desired temperature and restore electrical power to the furnace.

I. GAS PIPING

All gas piping and testing must be performed by a qualified installer or service person. The installation must comply with local codes, these instructions and The National Fuel Gas Code NFPA54/ANSI Z223.1-1988.

Piping from a natural gas meter to the furnace shall be in accord with requirements of the local utility. Piping from an LP tank to the furnace must follow the recommendations of the gas supplier.

1. A readily accessible, certified manual shut off valve with a non-displaceable rotor member shall be installed within 6 feet of the gas equipment it serves. A union or flanged connection shall be provided downstream from the manual valve to permit removal of controls. A 1/8" N.P.T. plugged trapping, that is accessible for connecting a test gauge, must be installed immediately upstream of the gas connection to the furnace. Unions must be of a ground joint type or flanged-jointed using a gasket material resistant to LPG. Pipe dope or sealant certified to be resistant to the action of liquified petroleum gases shall be used on all threaded joints. (see Fig. H).

All installations and services must be performed by qualified service personnel.

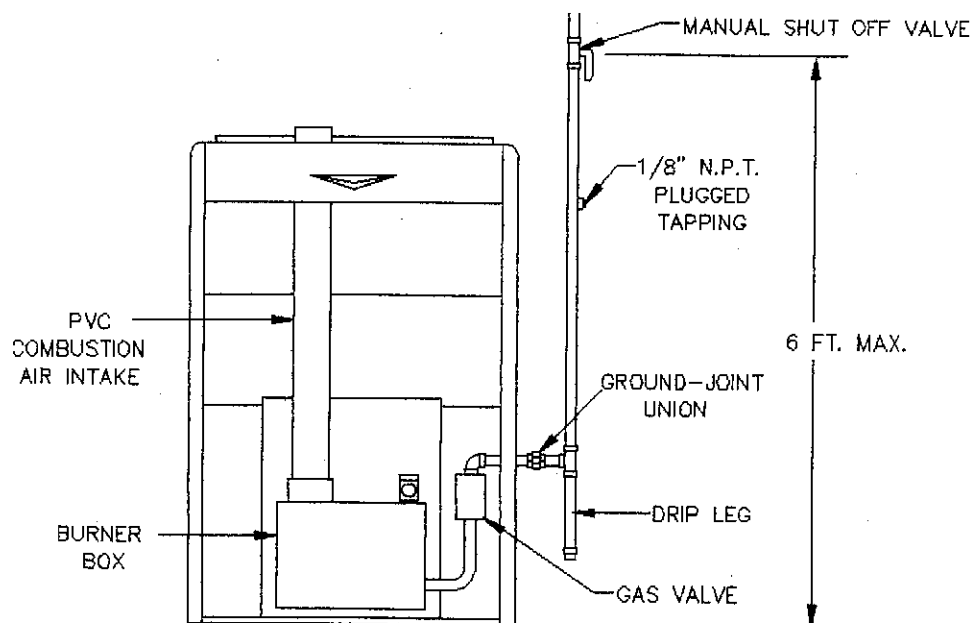


FIG. H

2. A drip leg installed up stream from the gas valve must be used on both LP and natural gas installations prior to the furnace to trap oil, condensate and other impurities which might otherwise lodge in the gas valve or plug the burner orifice. When there is excessive condensation between the gas meter and the furnace, a drip leg shall be provided at the outlet of the gas meter. Failure to install a drip leg may void the limited warranty on the furnace.

3. Knockouts have been located on the side casings for right or left side gas pipe entry. A 1/2" black pipe 90° street elbow screwed into the top of the gas valve will line up the gas pipe entry with the pre-punched knockouts.

J. INSTALLATION OF GAS PIPING

WARNING: BECAUSE OF THE POTENTIAL OF ODORANT FADE, A GAS LEAK MAY NOT BE DETECTED BY SMELL. IF THIS FURNACE IS INSTALLED BELOW GRADE, CONTACT YOUR GAS SUPPLIER FOR A GAS DETECTOR.

NOTE: All gas piping must be leak tested using a soap and water solution. Once the gas is turned on, the soap and water solution should be applied to all joints. If a bubbling is observed, the joint must be resealed. This test must be conducted with the unit operating and should include the furnace piping and gas valve. Never use an open flame to check for a gas leak.

IMPORTANT: Care must be taken not to wet electronic components during leak test. Wetting the primary ignition module may damage its circuitry and cause a hazardous situation. If wetting occurs, dry moisture from all leaks and terminals. Wait at least 24 hours for the circuit to fully dry before energizing the burner circuit.

All installations and services must be performed by qualified service personnel.

NATURAL GAS PIPING:

EXAMPLE: A line must supply a furnace of 100,000 BTU/HR input, a hot water heater of 40,000 BTU/HR input and gas range with a 30,000 BTU/HR input capacity. The total BTU/HR input loading on the line is 170,000 BTU/HR. The 200,000 BTU/HR column on the chart must be used in sizing the pipe.

1. The following chart is to be used as a guide in sizing natural gas supply piping. The input loading of all gas appliances installed on any main or trunk line must be totaled to determine its needed carrying capacity.

BURNER FIRING RATE, BTU/HR.	FEET OF PIPE FROM METER TO BURNER				
	10'	20'	30'	40'	50'
50,000	1/2 *	1/2	3/4	3/4	3/4
100,000	3/4	3/4	3/4	3/4	1
150,000	3/4	1	1	1	1-1/4
200,000	1	1	1-1/4	1-1/4	1-1/4
250,000	1	1	1-1/4	1-1/4	1-1/4
300,000	1	1	1-1/4	1-1/4	1-1/4

* PIPE SIZE IS LISTED IN BLACK IRON INSIDE DIAMETER (INCHES)

Use black iron steel pipe and malleable iron fittings for natural gas service lines. Provide rigid supports for the pipe. If the pipe size must be reduced, use reducing couplings only. Avoid the use of reducing bushings. Remove all burrs and inspect the pipe for dirt or other foreign material prior to connecting.

The furnace and its individual gas valve must be disconnected from the gas supply during pressure testing of the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 PSIG (3.5 KPA) or 14.0" wc.

The furnace must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG (3.5 KPA) or 14" wc.

Maximum supply pressure for natural gas is 14" water column (wc) and minimum supply pressure, for purpose of input adjustment is 5-1/2" wc.

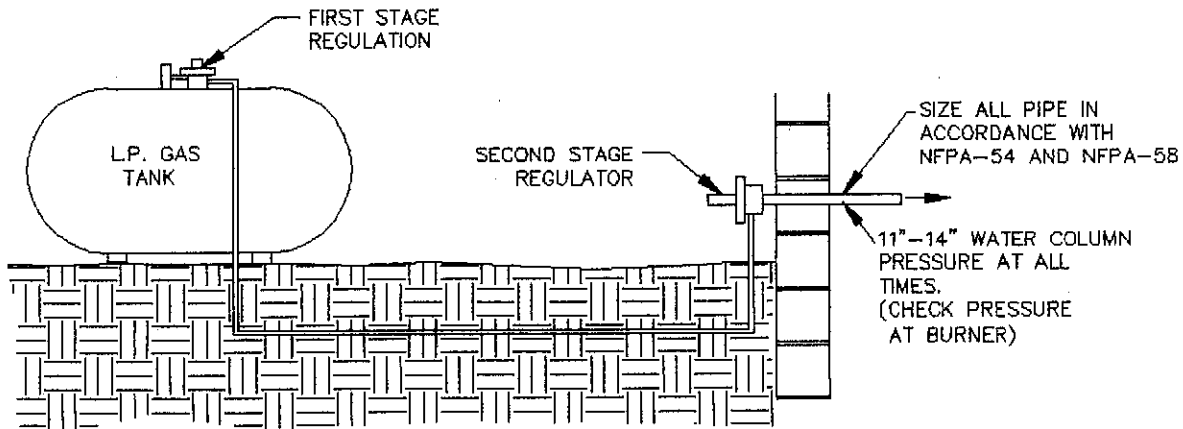
LP GAS PIPING

Experience has proven that the pressure drop in a gas line running directly from the outside propane gas tank to the gas appliances in a home, is the most frequent cause of equipment malfunctions. A single pressure regulator, located at the tank, will not reliably regulate the high tank pressures (up to 200 lbs.) down to 11" wc. Varying pressures will occur at the appliances as outside temperatures and usage demands vary. Two stage regulation is the only effective method of controlling these variables.

All installations and services must be performed by qualified service personnel.

NOTE: Two stage regulation must be installed for liquified petroleum gas when used with any Thermo Pride LP furnace. For an illustration of a typical two stage piping system, see Fig. I below.

TYPICAL PIPING FOR TWO STAGE REGULATION



TYPICAL 2-STAGE L.P. GAS PIPING

FIG. I

COPPER TUBING SIZE FOR LIQUIFIED PETROLEUM GASES

TABLE I						TABLE II						
IF THE LENGTH OF LINE BETWEEN REGULATORS (TANK TO BUILDING) IS THIS LONG ---						IF LENGTH OF LINE BETWEEN SECOND STAGE REGULATOR AND FURNACE IS THIS LONG ---						
USE THIS SIZE TUBING TO KEEP PRESSURE DROP BELOW 2 LBS. FOR MAXIMUM FLOW SHOWN.	TOTAL INPUT LOAD(BTU) ON LINE	25'	50'	75'	100'	USE THIS TUBING OR PIPE TO KEEP PRESSURE DROP BELOW 1 1/2" WATER COLUMN FOR MAXIMUM FLOW SHOWN.	TOTAL INPUT LOAD(BTU) ON LINE	10' 20'	30'	40'	50'	
	125,000	3/8" O.D. COPPER					75,000	5/8" O.D. COPPER				
	250,000	3/8" O.D. COPPER			1 1/2" O.D. COPPER		125,000	5/8" O.D. COPPER	3/4" BLACK PIPE			
	375,000	1/2" O.D. COPPER					187,500	3/4" BLACK PIPE				
	500,000	1/2" O.D. COPPER					250,000	3/4" BLACK PIPE				
							375,000	3/4" BLACK PIPE	1" BLACK PIPE			
						500,000	1" BLACK PIPE					

Seamless copper tubing may only be used with gases that are not corrosive to it. See note below and check with your LP gas supplier before using. Seamless copper tubing must comply with standard type K or L for seamless copper water tube, ASTM B 88; or seamless copper tube for air conditioning field service, ASTM B 280.

NOTE: Copper and brass tubing and fittings (except tin lined) shall not be used if the gas contains more than a trace (0.3 grains per 100 cubic ft.) of hydrogen sulfide gas.

Maximum supply pressure for liquified petroleum gases is 14" wc and minimum supply pressure. For purpose of input adjustment is 11" wc.

All installations and services must be performed by qualified service personnel.

K. REQUIREMENTS AND SIZING OF DUCT WORK

The duct system must be sized and installed by a qualified installer or service person, following the design standards of the Air Conditioning Contractors of America (ACCA) or ASHRAE.

1. If supply ducts carry circulated air to areas outside the space containing the furnace, the return air duct shall be sealed to the furnace and also terminate outside of the furnace space.
2. If the furnace is used in connection with an air conditioning evaporator coil, the furnace must be installed parallel with or on the upstream side of the coil to prevent condensation on the furnace heat exchanger. If the evaporator coil is installed with a parallel flow arrangement, dampers or other means to control flow of air should prevent chilled air from entering the furnace. If such a device is manually operated, it must be equipped with a means to prevent operation of either the furnace or air conditioner unless it is in the full heat or cool position.
3. The return air duct system must equal the supply air duct system in size and capacity. Use a suppliers catalog for proper sizing of outlet and return air registers and grills to ensure that they meet the CFM requirements of the run to which they are connected. For CFM capacities of various duct sizes, see Duct Sizing Chart.

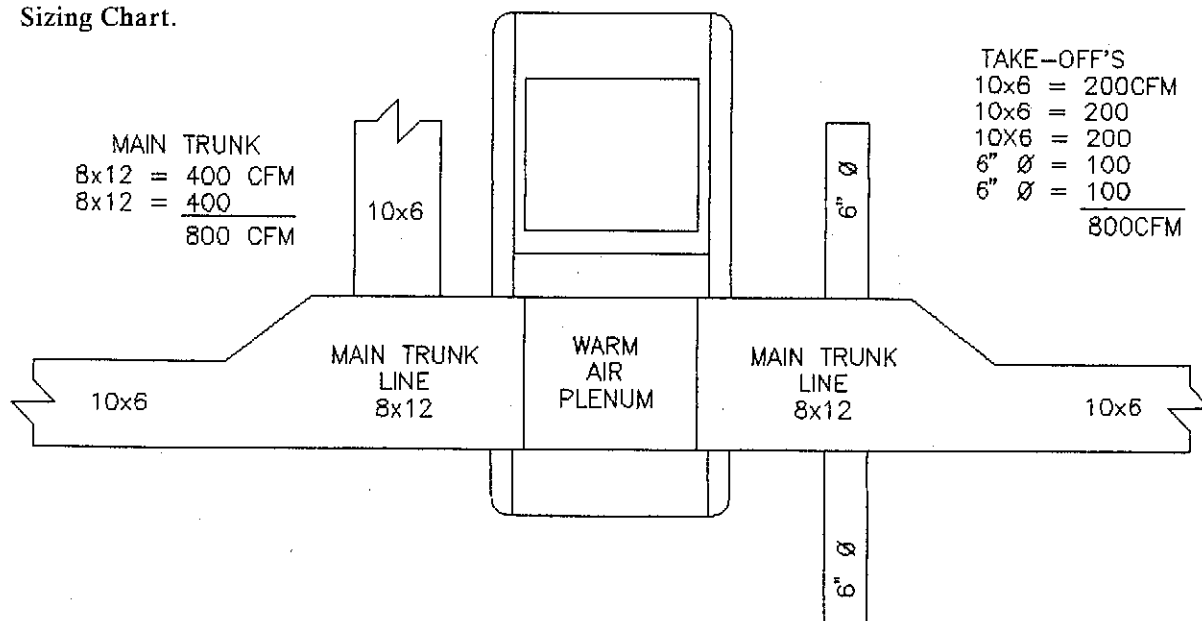


FIG. J

4. The duct system shall be sized for the maximum CFM requirement of the installation, whether it is for heating or cooling. Two common rules for heating and cooling air flow are as follows:

A. A minimum of 400 CFM (1200 BTU's) per ton of cooling is required.

B. A minimum of 1.4 CFM of heating per 100 BTU's of furnace output based on its steady state efficiency and a 40°F to 70°F temperature rise.

EXAMPLE: Heating output of furnace is $90,000 \times 1.4 / 100 = 1260$ CFM. Air conditioning installed is 4 tons $\times 400$ CFM = 1600 CFM. **NOTE:** The duct system must be sized for the larger CFM requirement for cooling. If only 2 tons of cooling $\times 400$ CFM = 800 CFM were installed, the duct would have to be sized for the 1260 CFM heating requirement.

All installations and services must be performed by qualified service personnel.

To achieve proper air movement, the main trunk lines, take offs, registers and grills of the supply and return air duct system must have an adequate square inch area to move the desired CFM. The following chart shows the CFM air handling capability based on a 0.1" SP loss, in the supply duct system.

DUCT SIZES FOR HOMES, QUIET OFFICES OR SIMILAR INSTALLATIONS

CHART SIZED FOR VELOCITY OF APPROXIMATELY 800 FEET PER MINUTE

CFM	DIA.	SQ."	RECTANGULAR DUCT DIMENSIONS ... INCHES							
45	4	12.5								
65	5	19.6								
100	6	28						6x6	9x4	
150	7	38						8x6	12x4	
200	8	50						10x6	14x4	
250	9	63						8x8	12x6	18x4
300	9	63						9x8	14x6	20x4
400	10	78						12x8	16x6	25x4
500	12	113					10x10	14x8	19x6	30x4
600	12	113					12x10	16x8	22x6	38x4
700	12	113					14x10	18x8	26x6	
800	14	154				12x12	15x10	20x8	28x6	
900	14	154				14x12	17x10	22x8	32x6	
1000	16	201				15x12	18x10	24x8	34x6	
1100	16	201			14x14	16x12	20x10	26x8	40x6	
1200	16	201			15x14	17x12	22x10	28x8	42x6	
1300	16	201			16x14	18x12	22x10	30x8	46x6	
1400	18	255			16x14	19x12	24x10	32x8	48x6	
1500	18	255			17x14	20x12	26x10	34x8	50x6	
1600	18	255		16x16	18x14	22x12	26x10	36x8	54x6	
1700	18	255		17x16	20x14	22x12	28x10	38x8	58x6	
1800	18	255		18x16	20x14	24x12	30x10	40x8	62x6	
1900	20	314		18x16	22x14	26x12	32x10	44x8	64x6	
2000	20	314		20x16	22x14	26x12	34x10	46x8		
2200	20	314	18x18	20x16	24x16	28x12	36x10	48x8		

To ensure obtaining the necessary air handling capacity of a duct system, each of the system components (trunk lines, take offs, runs and register and grill-free areas) must be properly sized and matched together. A 12"x8" duct with a 400 CFM capacity for example will not flow 400 CFM if the register(s) to which it connects only can flow a total of 200 CFM.

To obtain the proper 40°F to 70°F temperature rise for heating when an air conditioning coil is installed, the speed of the blower motor may have to be changed. This depends on the static resistance of an individual duct system and the capacity of the air conditioner.

All installations and services must be performed by qualified service personnel.

L. FILTERS

These furnaces are equipped with permanent type filters which should be inspected monthly during the heating season and cleaned when dirty. It is not necessary to shut off the power to inspect or clean the filter. If the furnace blower is operated during the off season, the filter should again be inspected monthly.

The filters rest on a rack assembly located in the blower compartment. One filter is positioned horizontally above the inducer and the other is angled down from the center support bracket to the side casing (see Fig. K). The angled filter is visible when the blower door is open and can be removed by lifting it off of the side casing support bracket and pulling it through the blower door opening. Next, reach up and pull the horizontal filter down onto the angled portion of the rack and remove it the same way.

These filters can be cleaned by vacuuming or by dipping in an ordinary detergent solution and rinsing with clean water. Shake of any excess water from filter before replacing. On each filter there is a support rod located two inches from the outside edge. Make sure that the filters are placed back in the furnace with the support rod end closest to the door and with the fine mesh side of the filter facing down.

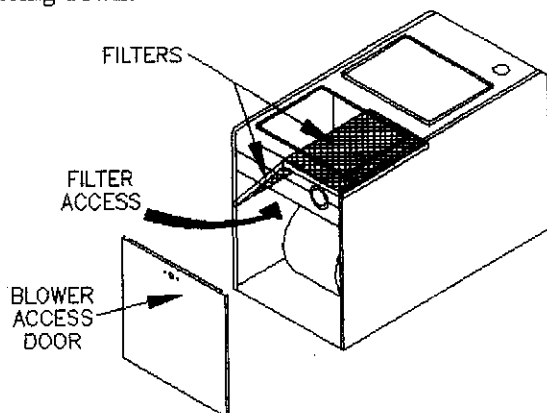


FIG. K

M. WIRING

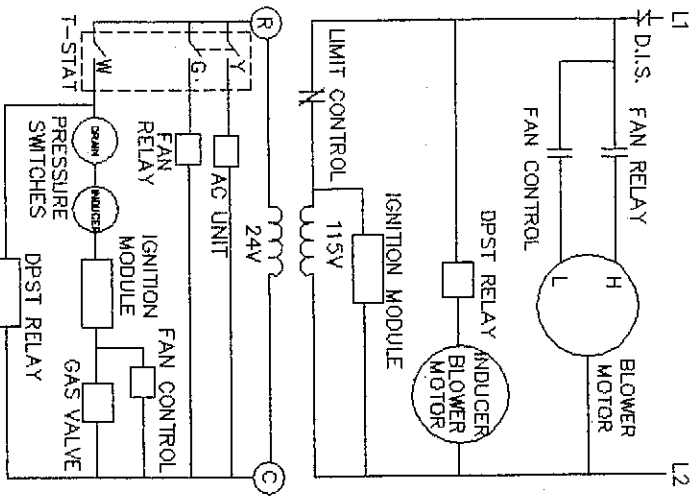
All wiring shall be performed by a qualified electrician or service person. The wiring must comply with local codes, the instructions in this manual and in the absence of codes with the latest edition of the National Electrical Code ANSI/NFPA-70-LATEST EDITION. This standard may be purchased from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269-9904.

NOTE: An electrical device not covered in this manual shall not be added to this unit without consulting Thermo Product's Engineering.

The following items are required to complete the wiring of the installation:

1. A separate power supply circuit with over current protection and a disconnect switch must be provided for the GLC furnace. The minimum fuse or circuit breaker size for the GLC50 is 15 amps, for the GLC75, 100, and 125 it is 20 amp. The disconnect switch can be field mounted on the 2x4 box provided. If not, the disconnect switch must be located reasonably close to and within sight of the furnace.
2. The hot surface igniter and operation of this furnace depends on correct polarity. The hot leg of the supply circuit must be connected to the red wire and the common leg to the white wire in the field mounted junction box located on the right side casing (directly behind the control panel). Reference the wiring diagram located in the furnace vestibule or wiring section of this manual.
3. When the furnace is installed, it must be carefully grounded in accordance with local codes, the instructions in this manual and in the absence of codes with the provisions of the latest edition of the National Electrical Code ANSI/NFPA-LATEST EDITION. This standard may be purchased from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269-9904.

LADDER DIAGRAM

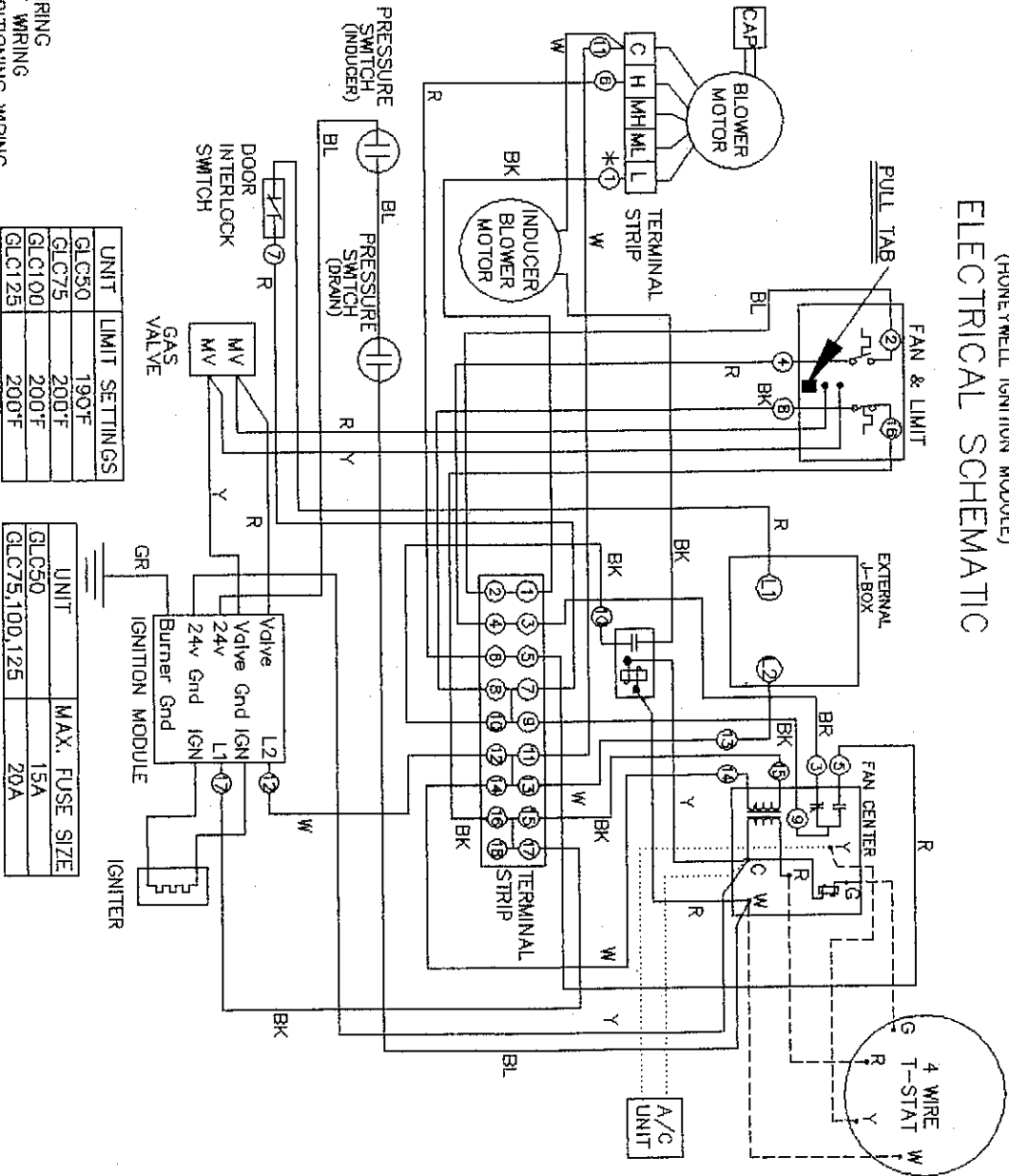


- NOTES:
1. CONNECT HOT TO L1 AND COMMON TO L2.
 2. REPLACE IGNITER WIRE WITH TYPE 150° C UL STYLE.
 3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.
 4. SET HEAT ANTICIPATOR AT .8 AMPS

* GLC125 WIRED TO MH
FOR HEATING.

LEGEND
- - - - - FIELD WIRING
- - - - - FACTORY WIRING
..... AIR CONDITIONING WIRING

WIRING DIAGRAM GLC-50,75,100,125 (HONEYWELL IGNITION MODULE) ELECTRICAL SCHEMATIC



UNIT	LIMIT SETTINGS
GLC50	190°F
GLC75	200°F
GLC100	200°F
GLC125	200°F

UNIT	MAX. FUSE SIZE
GLC50	15A
GLC75,100,125	20A

All installations and services must be performed by qualified service personnel.

4. It is important that the unit be properly grounded or the signal from the hot surface igniter will not be sensed by the ignition module and the gas valve contacts will not stay closed after ignition. Connect the green ground wire from the hinged control panel to the field ground under the green ground screw provided in the field mounted junction box. With the house blower running and a voltmeter (set on the 10 volt scale) check the furnace casing to ground for zero volts. Any sign of voltage indicates a poor ground connection. Make sure your connections are tight and you have a good source for ground. A good source for ground would be a water pipe or the ground terminal on the main service entrance panel for the building.

5. Field wiring between the furnace and devices not attached to the furnace shall conform with the temperature limitation for Type T35°C wire. If any of the original furnace wire is replaced or a separate device other than the thermostat is wired internal to the unit, 105°C thermoplastic or equivalent wire must be used.

III. OPERATION

WARNING: Turn off power to furnace. Before gas piping system is placed into service, it must have been leak tested by a qualified service technician. (See Section J of these instructions on the installation of gas piping).

Before initial startup, it is recommended that air be purged from the gas piping by loosening the ground-joint union (Figure H) until the odor of gas is detected. When odor is detected, immediately tighten the union and check it for leakage with a soap and water solution.

WARNING: After purging gas, ventilate area for at least 15 minutes before attempting to start the furnace. LP gases are heavier than air and may accumulate in dangerous concentrations at floor level.

NOTE: Pure copper on the heat exchanger helps protect it from external corrosion. The vehicle that deposits the copper on the heat exchanger will vaporize on initial firing and may create an unpleasant odor. To minimize the effect and prevent its occurring again open window(s) communicating with heated area. We recommend that initial firing should last for at least 1/2 hour or until the odor is dissipated.

A. INITIAL START UP

When starting the condensing furnace for the first time, put water into the drain system. This will prevent flue gases from escaping into the residence. Pull the 5/8" clear pvc tube from the barbed hose fitting on the vent tee (see Fig. G) and pour water into the hose until the trap is full. Replace tube by pushing it firmly onto the fitting and tightening the hose clamp.

With the power still off, put a toggle switch (in the off position) across the R & W terminals of the fan center (see unit wiring diagram). If a jumper wire is used, hook one end to the "W" terminal, let the other end hang loose (in open air) until you are ready to start up the unit by closing the circuit at terminal R. The switch or jumper wire will act in place of the thermostat.

The items listed below should be checked before attempting to put the furnace into operation.

1. With the electrical power off, check wiring for loose connections and correct hook up referencing the furnace wiring diagrams.
2. Make sure tubing is securely pushed onto pressure switch taps, pressure tap on coil inlet, inducer pressure tap and condensate drain Y-fitting. (see Fig. G).
3. Make sure pvc vent pipe connections are tight and pipes are free from obstruction.
4. Return air filter must be clean and placed in the filter rack with mesh side facing unit. (see Fig. J).

All installations and services must be performed by qualified service personnel.

5. Make sure outside vent and air intake tees are installed vertically, that screens are clean and there are no obstructions.

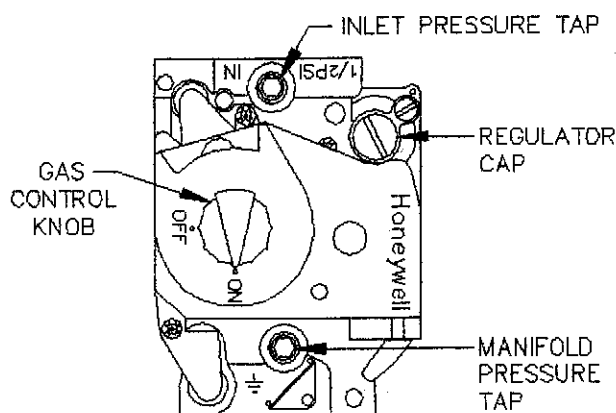
6. The drain trap must be connected to the pvc tee assembly, the coil drain tap and the buildings drain system (see Fig. G).

7. Make sure that the blower compartment door is firmly in place to engage the door interlock switch.

We are now ready to follow the sequence of operation by actually firing the unit. We suggest that you familiarize yourself with the sequence before you start up the unit.

DO NOT ATTEMPT TO MANUALLY LIGHT THE BURNER.

Turn on the gas supply to the furnace at the manual shut off valve (see Fig. H). Turn the furnace gas valve knob counter clockwise from "OFF" position to "ON".



B. SEQUENCE OF OPERATIONS

Thermostat set above room temperature, is calling for heat, contacts close.

24 volts are sent to inducer relay which closes contacts and starts inducer.

Pressure switches prove combustion air and condensate flow, contacts close.

STAGE I Trial for Ignition

Ignition module energized.
115 volts sent to igniter for 34 seconds, igniter glows red, reaches ignition temperature.

24 volts sent to gas valve and fan timer.

Gas valve opens, igniter maintains ignition temperature for first 2 seconds.

Burners light, igniter senses flame for next 2 seconds.

If stable flame is sensed, gas valve remains open.

STAGE 2 Burner Operation

Igniter stops glowing, monitors burner operation.

Contacts in fan timer close and allow 115 volts to house air fan.

High limit control stays closed.

STAGE 3

Thermostat is satisfied or set below room temperature, contacts open.

Burner Shuts down

Fan control opens on temperature drop.

House blower motor stops.

A normal sequence of operation will prove a clean unobstructed flow of combustion air, an open vent system and an unrestricted flow of condensate. The ignition module assures trouble free ignition and burner operation. Burner operation is sensed by a small current generated in the module through the igniter wire, the burner flame, the burner mount and back through burner to ground.

All installations and services must be performed by qualified service personnel.

C. FURNACE CHECK OUT PROCEDURE

1. CHECKING FURNACE INPUT

The orifices for this furnace were sized:

1. For natural gas having a heating value of 1025 BTU per cubic foot and a specific gravity of .60
- or 2. For liquified propane gas with a heating value of 2500 BTU per cubic foot and a specific gravity of 1.53. The information plate inside the furnace vestibule will specify which gas your furnace is orificed for. If the furnace is installed at an altitude that is more than 2,000 feet above sea level, it is mandatory that the input to the burner be reduced 4.0% for every 1,000 feet that it is above sea level. Example: if the furnace is installed at an elevation of 5,000 feet, its input must be reduced 20.0%. Example: a furnace rated at 100,000 BTU at sea level must be reduced to a firing rate of 80,000 ($100,000 \times .80 = 80,000$) at an elevation of 5,000 feet. If the furnace is installed at an elevation of 2,000 feet or less, no reduction in input is required. Your gas supplier will supply you with the correct orifice sizing information.

ORIFICE DRILL SIZE			
FURNACE	NAT.	L.P.	QTY.
GLC50	39	53	2
GLC75	39	53	3
GLC100	33	50	3
GLC125	30	48	3

To check the input of your natural gas furnace, allow the unit to operate for 10 to 15 minutes and proceed as follows:

A. Call your gas supplier and ask for the BTU content (heating value) of one cubic foot of the gas supplied to the installation area. An alternate approach is to assume a value of 1025 BTU/cu. ft. which is the national average.

B. With all other gas appliances turned off and using a stopwatch, clock the time required for the (small) dial on the gas meter to make one full revolution. The meter will state how many cubic feet has flowed for one revolution, usually one, two or five. The unit must have been in operation at least 10 minutes before clocking.

FORMULA:

$$\frac{\text{BTU/Cu. Ft.} \times \text{Number of Cu. Ft.} \times 3600 \text{ Seconds}}{\text{Seconds for one revolution}} = \text{Input BTU/Hr.}$$

EXAMPLE:

$$\frac{1025 \text{ BTU/Cu. Ft.} \times 2 \text{ Cu. Ft.} \times 3600}{74.96 \text{ Seconds}} = 98,450 \text{ BTU Input}$$

Check for the model number of this furnace, its input, the type of gas and the manifold pressure on the information plate located in the vestibule of the furnace. If using the above example, the furnace was a GLC100 model the 98,450 BTU input would be acceptable because it was within 2% of the listed input of 100,000.

C. Make sure that the gas supply pressure to the furnace falls within the maximum range of 5 1/2" to 14" wc pressure on natural gas and 11.0" to 14.0" wc on LP gases. The pressure to the furnace must be checked while the furnace burner and any other gas appliances on the same supply system are operating using the test procedure outlined in Section J of this manual.

D. This gas furnace is equipped with fixed orifices sized for the manifold pressure shown on the information plate. The input can only be increased or decreased by adjusting the manifold pressure. Remove the 1/8" threaded pipe plug located on the left side of the gas valve. Use a U-tube manometer or pressure gauge to measure the pressure. To adjust the pressure, remove the cap from the regulator on the side of the gas valve and using the adjustment screw, decrease the pressure by turning the screw counter clockwise or increase it by turning the screw clockwise. (see Fig. K) ADJUSTMENTS TO THE LISTED PRESSURE MUST NOT EXCEED 0.3" WC. A 0.3" wc adjustment will increase or decrease the input approximately 4.0%.

If a gas meter is not available for natural gas or the unit is installed on liquified petroleum gases which are not metered, the correct input can be assumed if the furnace manifold pressure is the same as that shown on the information label.

All installations and services must be performed by qualified service personnel.

Shut off the gas supply to the furnace. Remove the pressure gauge and re-install the pipe plug using a thread compound resistant to the action of LP gases.

If the rated input cannot be obtained with the present orifice at the correct pressure, your local gas supplier will assist in sizing the proper orifices. Our Engineering Department will gladly assist in sizing the orifices if you provide them with the heating value in BTU per cubic foot and the specific gravity of the gas.

2. BURNER ADJUSTMENT

A. The primary air shutters on the burners in this unit have been factory preset to maintain a soft flame so no adjustment should be necessary, however if for some reason the shutters have gotten out of adjustment, the following procedure should be followed: close the air shutters down to the minimum setting that the screw will allow. If no yellow is present, this setting should be maintained. As the air shutter is opened, any yellow in the flame will disappear. A soft blue flame will cover the entire burner and will not raise from the burner face. Too much primary air will cause the unit to operate with an unsteady flame and burn inefficiently. Note that any orange present in the flame is an indication of dust in the combustion air being burned and should not be confused with a yellow flame.

NOMINAL PRIMARY AIR SHUTTER SETTINGS (INCHES OPEN)				
UNIT	GLC50	GLC75	GLC100	GLC125
NAT.	1/4"	1/4"	1/4"	1/2"
L.P.	1/4"	1/4"	1/4"	1/2"

B. It is strongly recommended that a qualified technician should inspect the furnace at the start of each heating season. He should observe the burner flame characteristics and compare it to Figure M shown below. If a proper flame is not observed, only a qualified gas service person should attempt to adjust the burner, and following the procedure outlined in this section of the Instruction Manual.

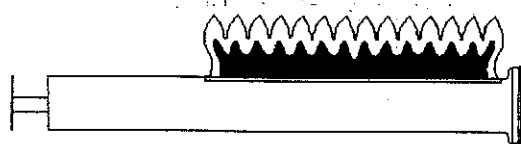


FIG. M

3. SETTING DUCT RISE

These furnaces are wired at the factory for a heating blower speed that should result in an approximate temperature rise of 70° F through the furnace. The GLC50 & GLC100 are wired for low speed for heating, the GLC75 for medium low and the GLC125 for medium high speed. All three furnaces are wired for high speed on cooling. The temperature rise through the furnace may vary depending on the duct system, elevation, heating value, etc. of each installation. A lower duct rise will result in a higher efficiency.

After 25 to 30 minutes of continuous operation, the temperature rise through the furnace must fall within a range of 40° F to 70° F. If the outlet or supply duct temperature is too high, you should check to make sure that your return air filter is clean, your return air registers are free from obstruction, your outlet registers are properly adjusted and clear and your supply and return air ducts are open and sized correctly.

If the supply temperature is still too high, it means the house blower is not moving enough air and the speed of the blower must be increased by changing the speed tap on the motor. Turn off the power supply to the furnace and remove the blower door. Move the black wire located on the bottom of the terminals trip on the blower housing to the next position to the left. If the black wire is at the (MH) medium high speed terminal, it will have to be spliced onto the (H) high speed (red) air conditioning wire at the bottom of the strip. (See fig. below).



Replace the blower door and turn on the power supply. **NOTE:** Any time the unit is turned off or a safety control functions, the unit will have to go through the entire ignition sequence before it resumes operation.

C. Remove blockage from filter and when the limit bi-metal cools, the contacts will close and the burner operation cycle will repeat.

All installations and services must be performed by qualified service personnel.

5. DOOR INTERRUPT SWITCH (NORMALLY CLOSED END SWITCH)

Remove blower door with burner running. This switch is in the 120 volt circuit and will shut down the entire system. Replace blower door and cycle will repeat.

6. PRESSURE SWITCHES (NORMALLY OPEN)

A. The inducer pressure switch monitors the pressure at the inducer pressure tap and the inlet of the secondary heat exchanger. It protects against a blocked flue or air intake. Blocking off the outside vent or air intake tee will break the 24 volt circuit to the ignition module. Remove the blockage and the sequence will repeat.

B. The drain pressure switch is attached to the condensate drain line and the inlet of the secondary heat exchanger. If the drain is blocked during burner operation, the condensate will back up to a level higher than the "Y" assembly (see Figure G), cutting off the vacuum sensed by pressure switch. The switch will open and break the 24 volt circuit to the ignition module. On a call for heat, the inducer will continue to operate, but the burner will not light until the blockage is removed.

7. CHECK LOCKOUT ON IGNITION MODULE

Remove front furnace door and turn off power to unit. Turn knob on gas valve clockwise to off position. Restore power to unit and it will attempt to light burner. When igniter stops glowing (on some models it will try 3 times) the module should lockout. Turn gas valve knob counter clockwise to on position, unit should not try to light. Turn off power to the unit and wait at least 45 seconds. Turn power supply back on and unit should resume operation.

8. CHECK FAN OFF FUNCTION

Turn off the toggle switch or remove one leg of the jumper wire from R or W. Wait approximately 2 minutes, fan control contacts should open as element cools and house blower should turn off. Fan switch is normally open.

9. CHECK THERMOSTAT FUNCTION

Remove the toggle switch or the remaining leg of the jumper wire from R and W terminals on the fan center. Connect the thermostat to R and W and set it above room temperature. Make sure that the thermostat functions to start the furnace when it calls for heat and wait to make sure that it shuts off the furnace when it is satisfied.

10. SETTING THERMOSTAT'S ANTICIPATOR

We recommend that you set the heat anticipator at 0.8 amps. The higher the setting, the longer the burner cycle. This furnace requires a higher than normal setting to compensate for the approximate one minute burner ignition sequence.

You have now gone through the entire sequence of operation and have checked the function of each component in the control system. The above procedure can also be followed to trouble shoot the furnace and its control system.

All installations and services must be performed by qualified service personnel.

IV. DEALER MAINTENANCE INSTRUCTIONS

General and preventive maintenance procedures, outlined in this section, must be performed by a qualified service technician. Each of these procedures must be followed by repeating the start up and test procedures outlined in operation section III of this manual.

V. INSTALLER'S INSTRUCTIONS TO USERS

It is the installer's responsibility to inform the user of the following before leaving the installation site:

A. These instructions and the users information manual must be kept along with instructions for any accessories in the plastic pouch attached to the side of the furnace.

B. Inform user of the location of the manual gas shut off valve and furnace electrical disconnect switch.

C. Inform the user that failure to maintain and operate this furnace in accordance with these instructions could result in hazardous conditions, bodily injury, property damage and may void the limited warranty on the furnace.

D. Inform and demonstrate to the user the correct operation and maintenance of the appliance as explained in this manual.

E. Review with and encourage the user to read all warnings and instructions on the front cover and in sections I, II and III of the users manual.

F. Recommend that the user have a qualified service person inspect the furnace at the start of each heating season. Inform the user of the frequency of inspection required for each item in section II of the users manual.

NOTE: The original blower motor is permanently lubricated and must not be oiled. If the unit has a replacement motor, the oiling instructions on the motor should be followed. This check should be made at the start of each heating season.

CLEANING PRIMARY HEAT EXCHANGER

1. Turn off electrical and gas supplies to furnace.

2. Remove lower front separator panel. Remove cleanout covers.

NOTE: Should the gaskets separate, crack, break or otherwise not provide the necessary seal the gasket must be replaced before reattaching the cleanout covers. Remove combustion air pipe and wiring from burner. Remove burner for access to the inside of the heat exchanger through the burner opening and cleanout openings. It is possible to use a long flexible wire brush and an industrial type vacuum cleaner to remove any buildup.

NOTE: A one inch diameter vacuum cleaner hose will fit into the radiator and reach all areas.

All installations and services must be performed by qualified service personnel.

To vacuum and brush the outer radiator of the heat exchanger, go through the cleanout openings in both directions, as shown below.

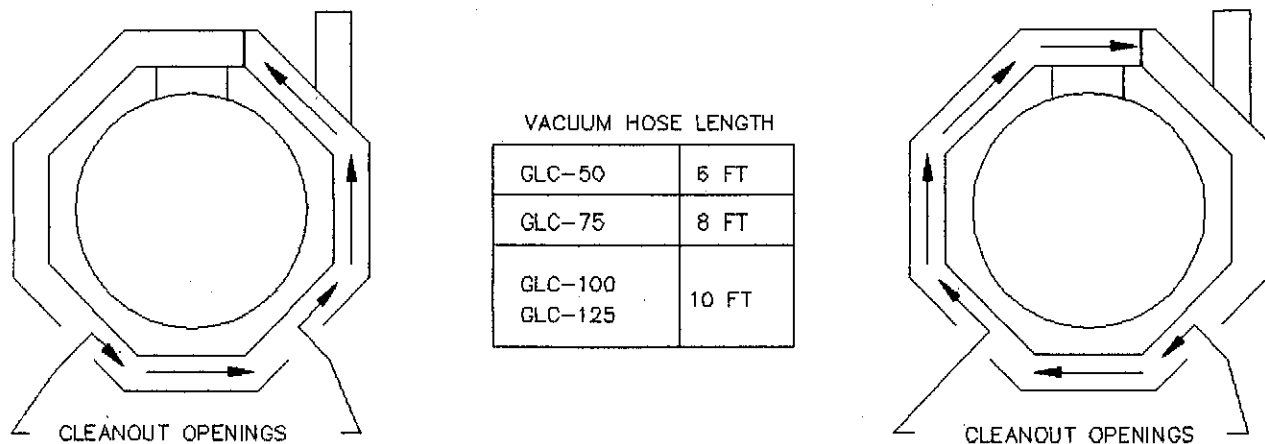


FIG. 0

Reassemble the furnace to its original construction. If heavy soot deposits were found in the heat exchanger, this indicates that the burner may be out of adjustment. Readjust the burner as indicated under the "Initial Burner Operation" in Section III C. 2.

CLEANING THE BURNERS:

1. Turn off the electrical and gas supplies to furnace.
2. Remove vestibule door.
3. Remove the burner access panel.
4. Remove the two screws which secure the hot surface igniter bracket and carefully place the igniter in a secure position so as to avoid damaging the fragile igniter.
5. Remove the burners.
6. If signs of carbon or dirt are evident on the burners, carefully brush them with a bristle brush and reinstall in unit.

NOTE: Depending on the amount of dirt or debris in the bottom of the heat exchanger, it may be wise to vacuum the drum out before reinstalling the burners.

7. Reassemble by reversing the above procedure.

All installations and services must be installed by qualified service personnel.

CLEANING CONDENSING COIL

1. Turn off electrical and gas supplies to furnace.
2. Remove blower door. Follow steps 9-14 from GLC furnace disassembly and assembly instructions (Section VI) for removal of condensing coil. To clean coil, simply flush it out with an ordinary garden hose. Reassemble the furnace to it's original construction.

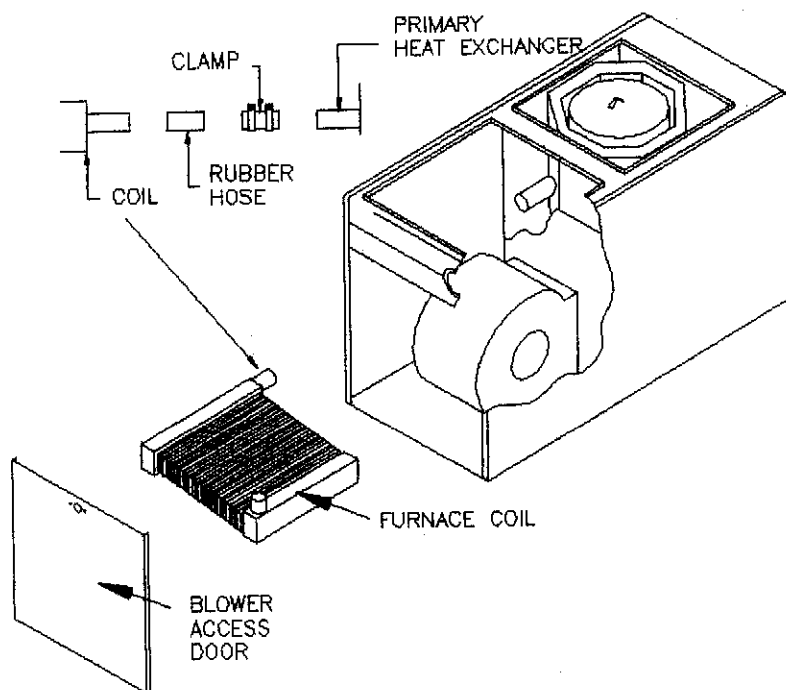


FIG. P

VI. GLC FURNACE DISASSEMBLY AND ASSEMBLY INSTRUCTIONS

If there is no way that the furnace can be brought into the home in one piece (ie. narrow stairways and doorways, etc.) the furnace can easily be disassembled, taken in piece by piece and reassembled. This can be accomplished quickly and efficiently if the following instructions are followed.

1. Remove furnace from packaging.
2. Remove front door and disconnect wires running from fan/limit control to hinged panel and gas valve.
3. Remove all wires going to blower compartment from control panel.
4. Remove all wires going from burner assembly to control panel.
5. Unscrew upper and lower front separator panels and remove. **NOTE:** Be careful not to damage the fan/limit element.
6. Remove blower compartment door and disconnect wires from door interlock switch, blower, inducer and pressure switches.

All installations and services must be performed by qualified service personnel.

7. Unscrew blower leg hold-downs and remove blower.
8. Loosen stainless steel drawband on flexible pvc elbow where it connects to the outlet of the coil.
9. Remove clear 5/8" pvc hose from coil drain tap and 3/8" red silicone hose from coil pressure tap.
10. Remove filters from filter rack in blower compartment.
11. Unscrew the center filter support bracket from the top rear casing panel and remove it, as well as the filter support angle from the left side casing.
12. Unscrew upper rear separator panel and remove.
13. Loosen nuts on stainless steel clamp which seals the connection between the primary heat exchanger and the condensing coil.
14. Remove coil by pulling it straight out of the back of the furnace. **NOTE:** that the red silicone tube should remain on the coil manifold tube and the stainless steel clamp will stay on the primary heat exchanger transition tube. Be careful when handling coil not to damage the fin surface. If fins are bent in the removal process, a fin comb with an 8 fins/inch spacing can be used to straighten the fins.
15. Unscrew bottom blower separator panel and remove.
16. Unscrew top front and top rear casing panels and remove.
17. Unscrew side casings from heat exchanger pouch front and base and remove. **NOTE:** control panel should remain on the side casing as should the inducer and pressure switches. Caution should be used so that these components are not damaged.
18. Remove bolt from rear leg of heat exchanger, brass nuts underneath burner box and remove heat exchanger from base, leaving wire harness clipped to the base.
19. When all components have been moved to the desired location, place heat exchanger on base. Put bolt through rear leg and put 3 brass nuts and washers on the 3 studs below the burner box. Be sure to slip wiring harness into notch in heat exchanger pouch front.
20. Next, put on the side casings being careful not to damage the control panel or the inducer and pressure switches, screw side casings to the pouch front and base.
21. Put on the top front and top rear panels and screw them in place.
22. Put on the top front separator panel being sure not to damage the fan/limit control. Screw in top separator.
23. Put on the bottom front separator and screw it in.
24. Place 2" stainless steel clamp on primary heat exchanger transition tube.
25. Put on bottom blower separator panel. Screw it in.

All installations and services must be performed by qualified service personnel.

26. Mount condensing coil by placing the manifold tube through the round hole in the bottom blower separator panel and over the heat exchanger transition tube and with the red silicone tube inside the stainless steel draw band clamp. Make sure that the red silicone tube is centered on the outlet of the manifold tube.

27. Rest the outlet side of the coil on the coil support bracket and tighten the 2" stainless steel clamp.

28. Place end of flexible pvc elbow over the tube on the top of the outlet manifold and tighten the stainless steel drawband.

29. Put in upper blower separator and screw it in.

30. Push outlet of blower through the opening in blower separator panel until the front of the blower legs stop against the front holddowns. Screw in rear leg holddowns.

31. Revise blower, inducer, pressure switches and door interlock switch. (See wiring diagram).

32. Put clear 5/8" pvc hose on coil drain tap and 3/8" red silicone hose on coil pressure tap.

33. Replace the filter support brackets and filters.

34. For attaching vent pipe and drainage trap assembly, see sections "connecting furnace to outside vent terminal" and pvc drain lines.

35. Move around to front of furnace and run wire harness through heyco bushing in control panel and attach wires to terminal strip. (see wiring diagram).

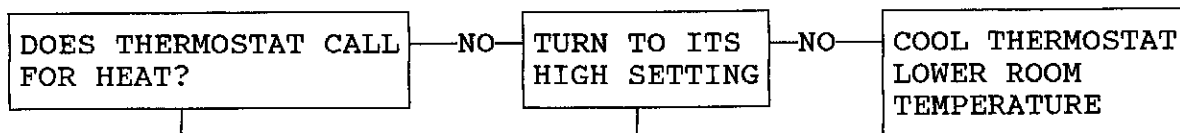
36. Attach wires from fan/limit control to the control panel and to gas valve. (see wiring diagram).

37. Run wires from burner box to control panel. (see wiring diagram).

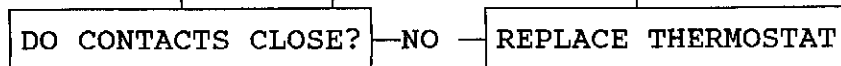
All installations and services must be performed by qualified service personnel.

TROUBLE SHOOTING GUIDE

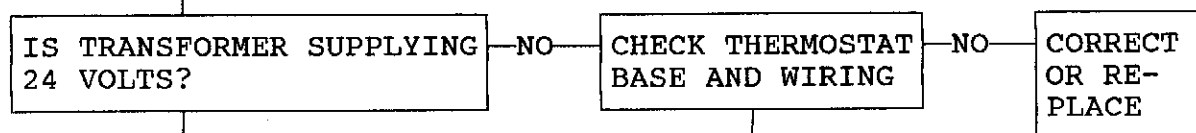
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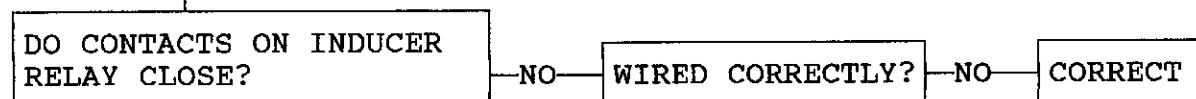


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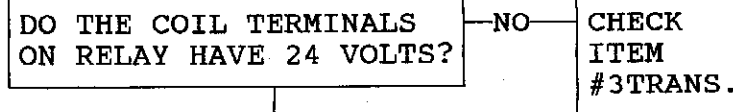


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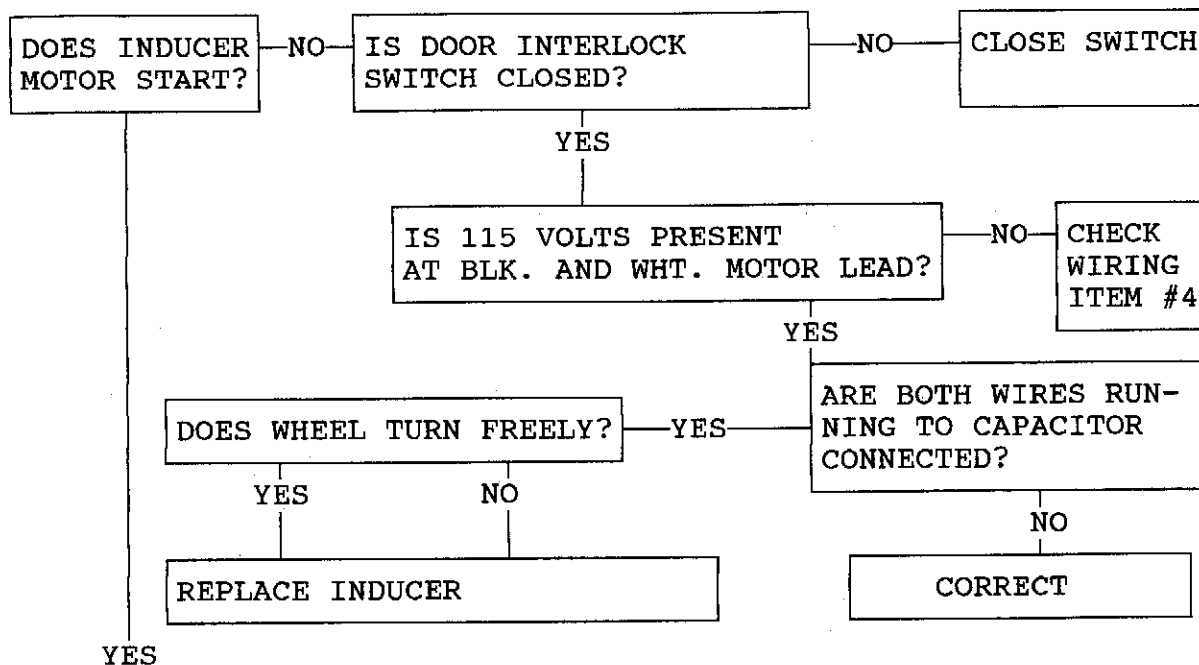
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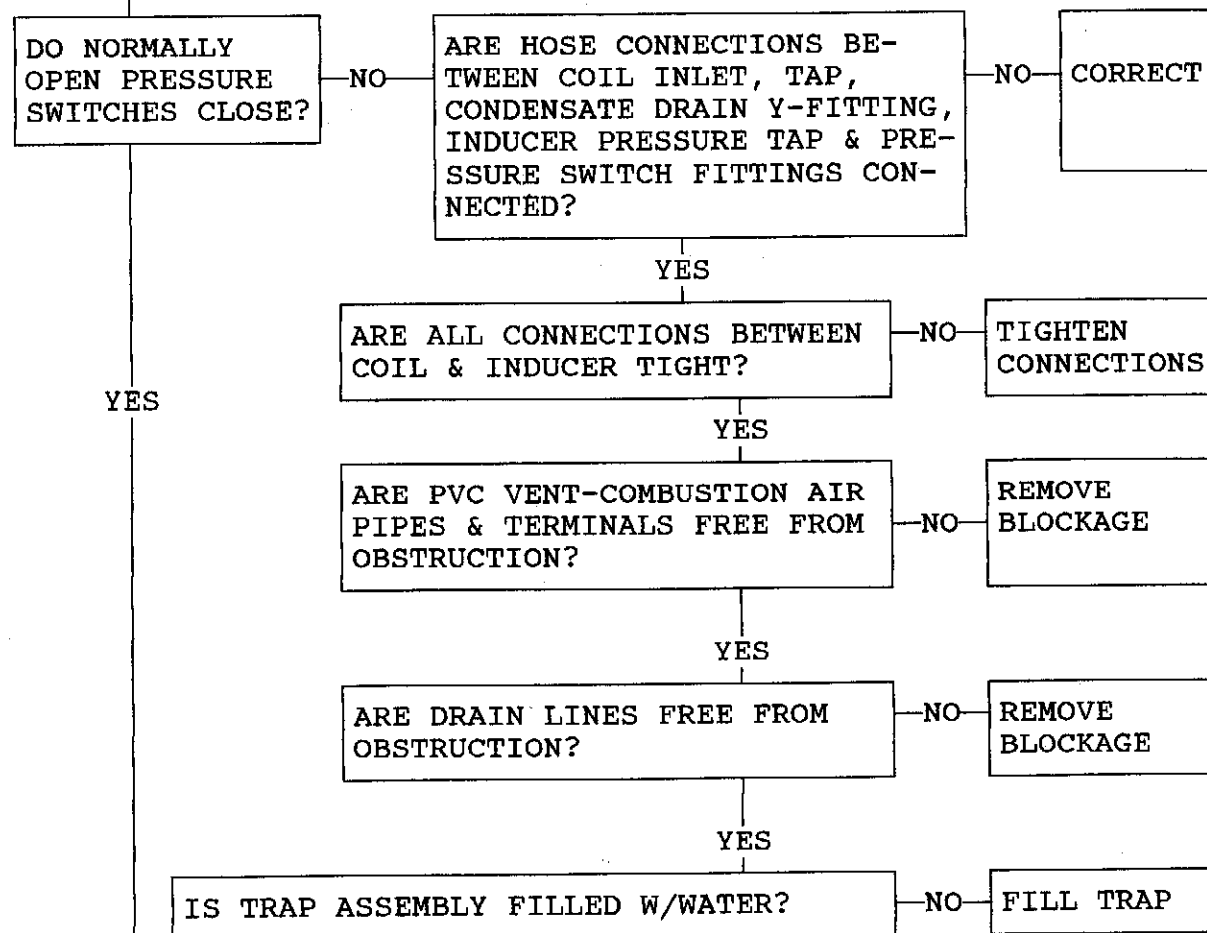
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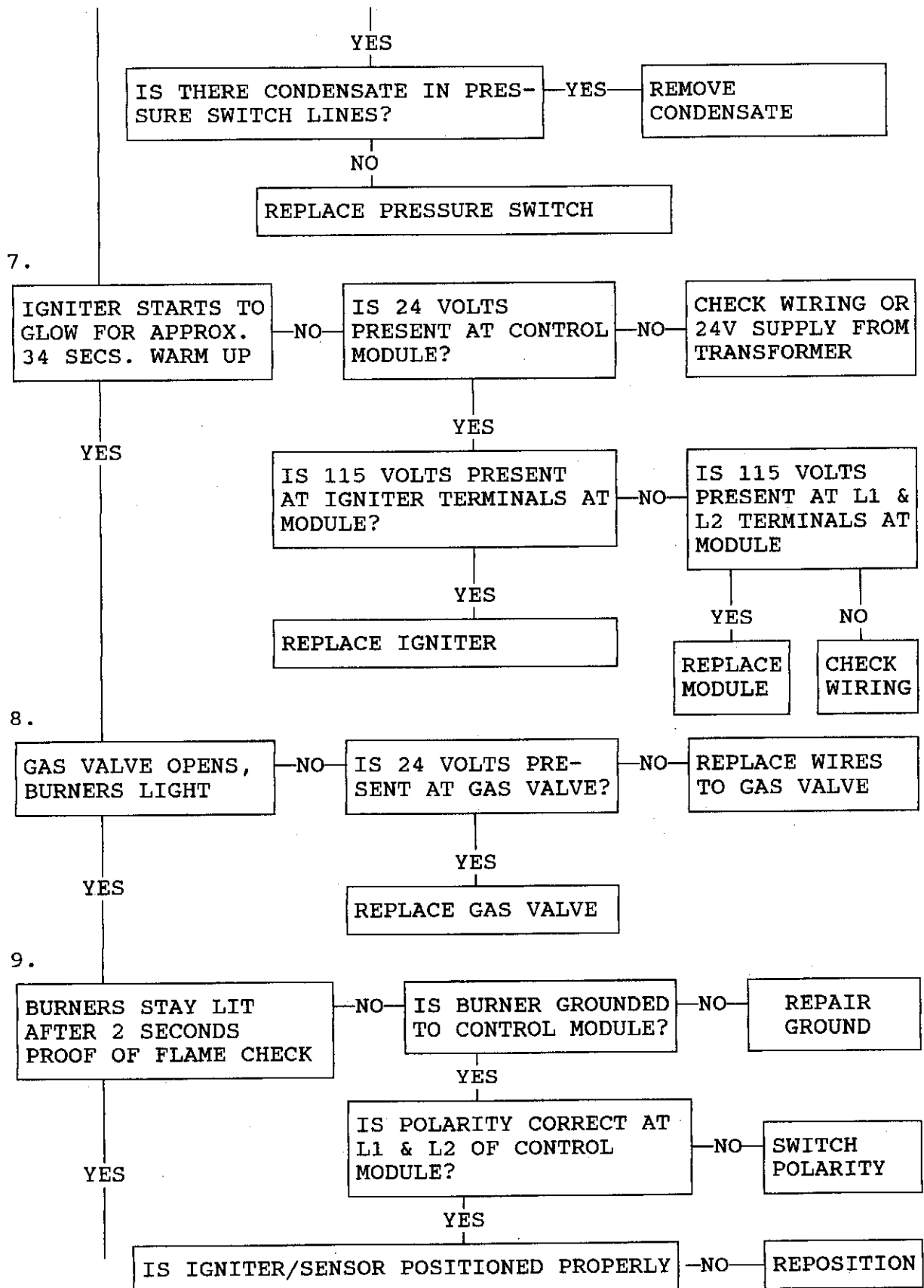
REPLACE RELAY

5.

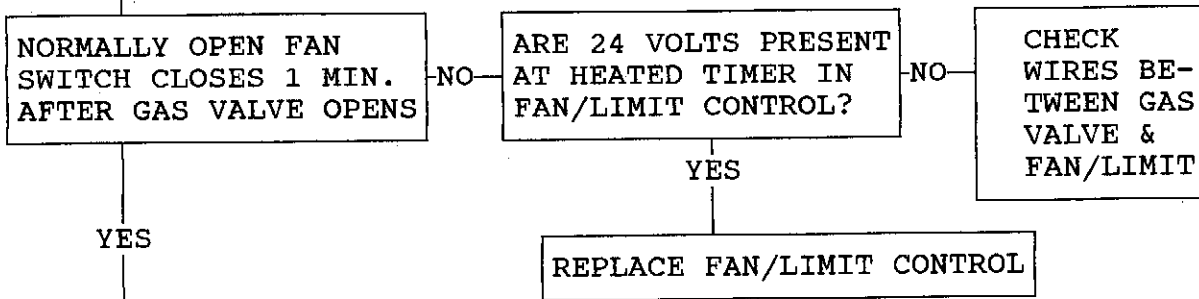


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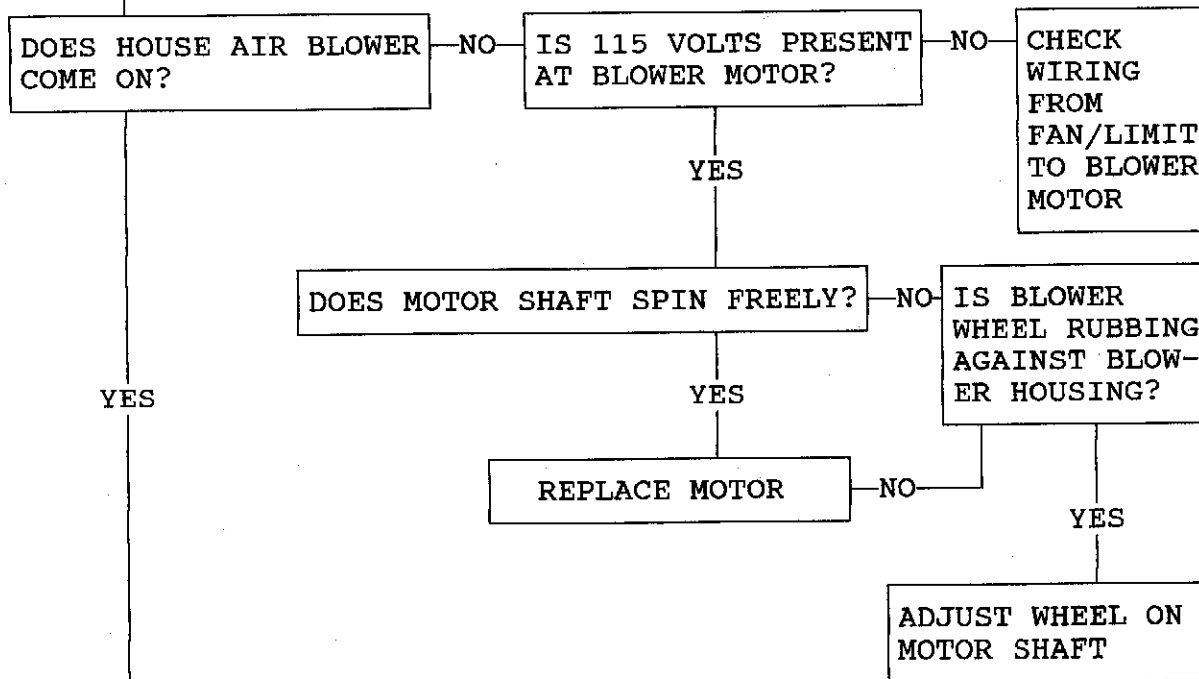




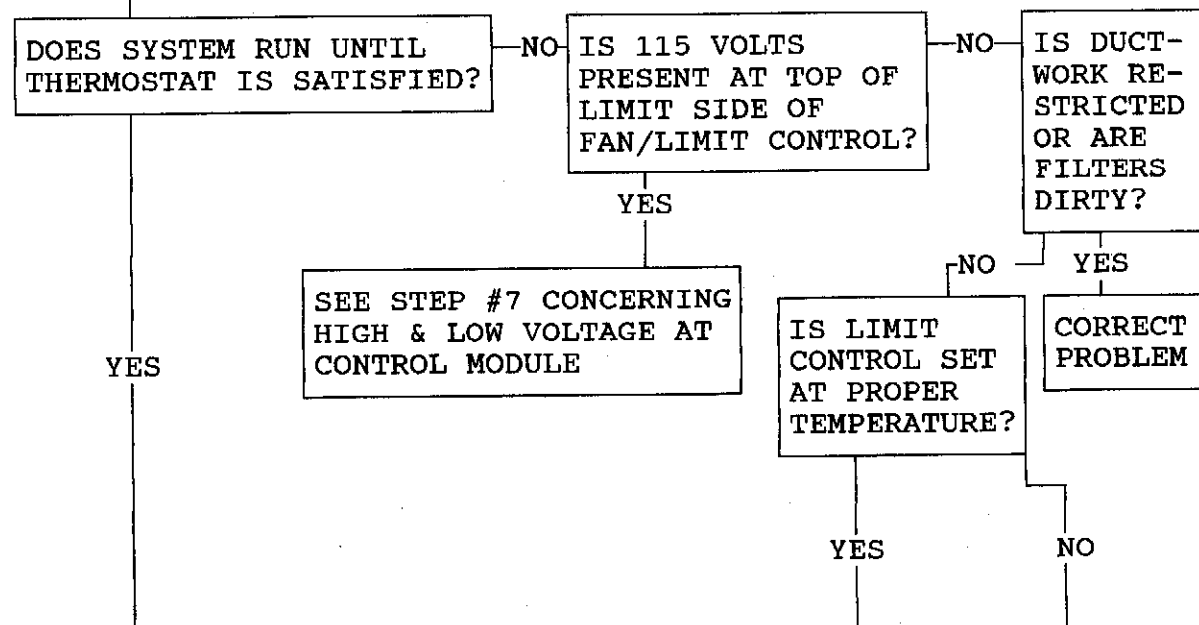
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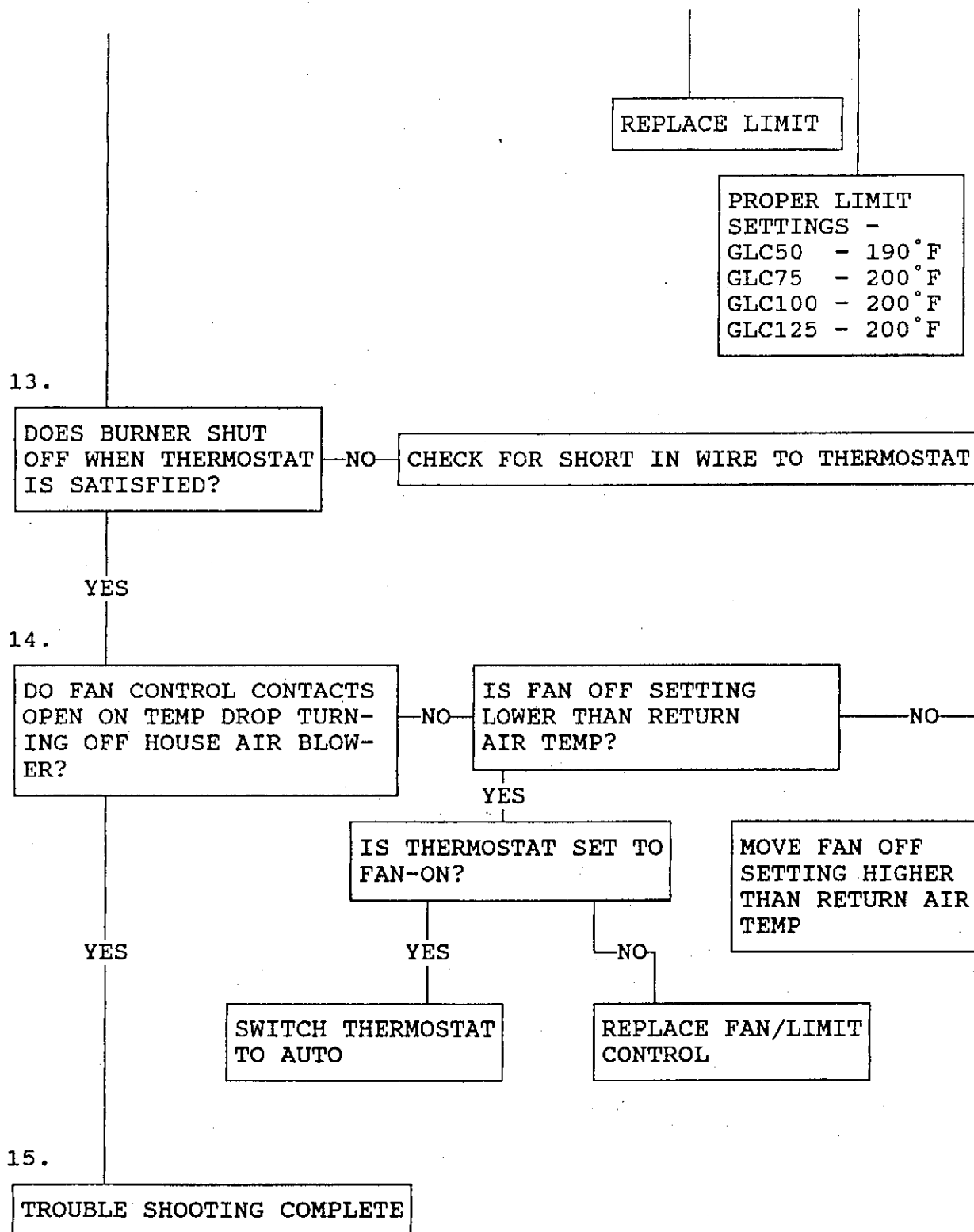


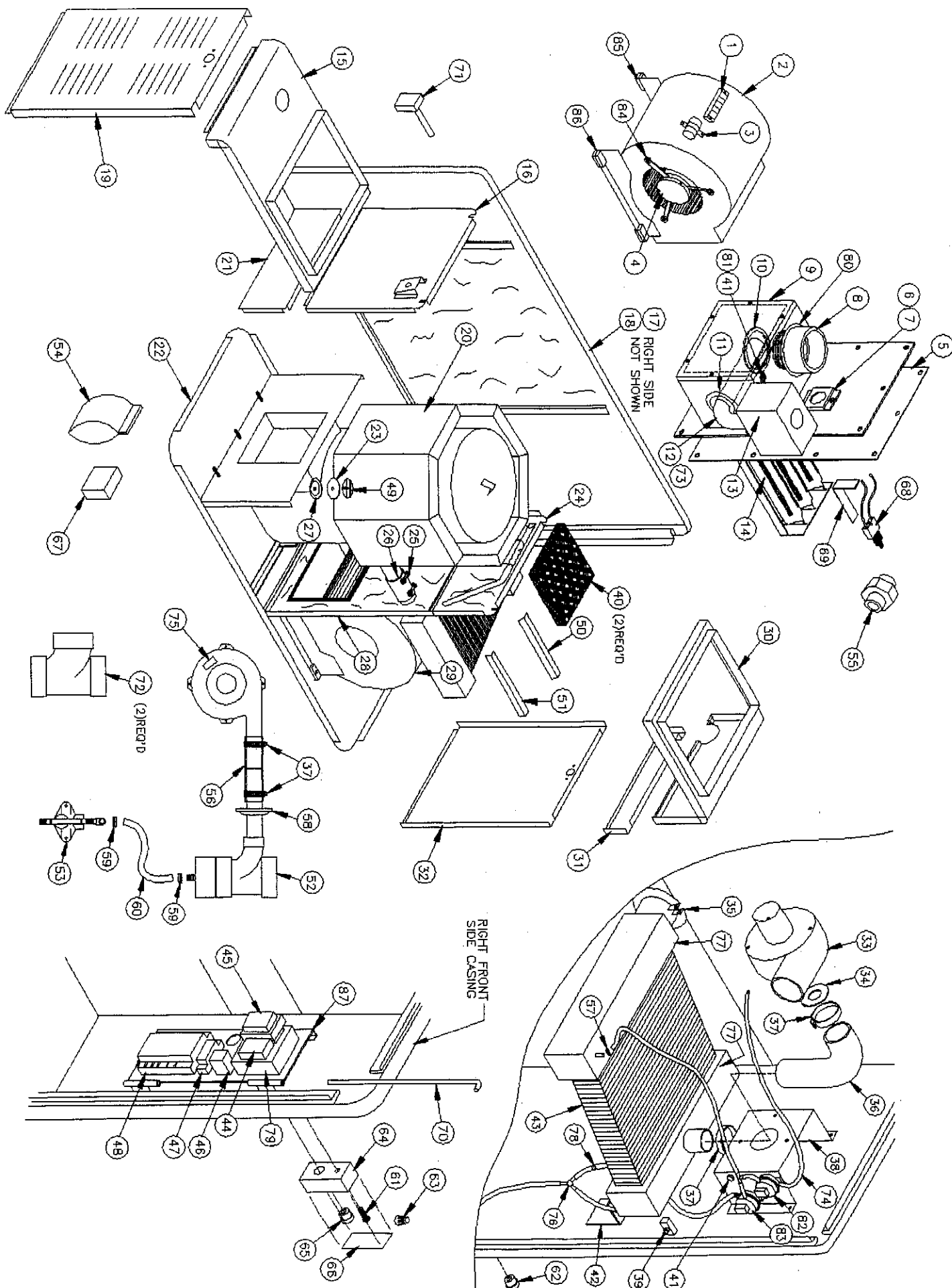
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12.







GAS LOWBOY CONDENSING FURNACE PARTS LIST

ITEM	PART DESCRIPTION	GLC50	GLC75	GLC100	GLC125
1	MOTOR SPEED TERMINAL STRIP	350707	350707	350707	350707
2	HOUSE BLOWER	340082	340082	340082	340082
3	BLOWER MOTOR CAPACITOR	350073	350073	350076	350076
4	HOUSE BLOWER MOTOR	350347	350346	350343	350343
5	MOUNTING PLATE GASKET	330061	330062	330062	330062
6	BURNER SIGHT GLASS	330081	330081	330081	330081
7	BURNER SIGHT GLASS GASKET	330105	330105	330105	330105
8	COMBUSTION AIR COLLAR	380067	380067	380067	380067
9	SNS GASKET	330074	380074	380074	380074
10	COMBUSTION AIR COLLAR LOCK RING	380068	380068	380068	380068
11	MANIFOLD GROMMET	350009	350009	350009	350009
12	MANIFOLD	35813	35803	35803	35803
13	GAS VALVE	380063	380063	380063	380063
14	BURNER TUBES	380058	380059	380059	380059
15	TOP FRONT SECTION	20613	20619	20619	20622
16	FRONT TOP SEPARATOR	21124	21032	21032	21039
17	SIDE CASING (RIGHT)	20072	20074	20074	20076
18	SIDE CASING (LEFT)	20071	20073	20073	20075
19	FRONT DOOR	20611	20617	20617	20413
20	PRIMARY HEAT EXCHANGER	31653	31653	31656	31658
21	FRONT CENTER SEPARATOR	21125	21030	21030	21037
22	BASE	20616	20454	20454	20455

ITEM	DESCRIPTION	GLC50	GLC75	GLC100	GLC125
23	CLEAN-OUT COVER GASKET	330009	330009	330009	330009
24	REAR TOP SEPARATOR	21126	21128	21128	21131
25	2" BAND CLAMP	300275	300275	300275	300275
26	SILICONE HOSE	410026	410026	410026	410026
27	CLEAN-OUT COVER	11403	11403	11403	11403
28	REAR BOTTOM SEPARATOR	21127	21129	21129	21130
29	HOUSE BLOWER ASSEMBLY	SOOS4055	SOOS4056	SOOS4057	SOOS4058
30	TOP REAR SECTION	20614	20620	20620	20623
31	REAR TOP PANEL	10615	10621	10621	10621
32	BLOWER ACCESS DOOR	20612	20618	20618	20618
33	INDUCER	340049	340049	340049	340049
34	INDUCER ORIFICE	340077	340078	340079	-
35	2" DRAW COLLAR	300276	300276	300276	300276
36	90° CONNECTOR HOSE	410045	410044	410044	410044
37	3" HOSE CLAMP	300276	300276	300276	300276
38	INDUCER MTG. BRACKET	24209	24209	24209	24209
39	DOOR INTERLOCK SWITCH	350139	350139	350139	350139
40	FILTER (2 PER UNIT)	370043	370044	370044	370045
41	HEYCO CONNECTOR BUSHING	350010	350010	350010	350010
42	COIL SUPPORT	24214	24214	24214	24214
43	COIL	360368	360368	360368	360367
44	FAN CENTER RELAY	350386	350386	350386	350386
45	FAN CENTER RELAY	350387	350387	350387	350387
46	K10 RELAY	350400	350400	350400	350400
47	TERMINAL BLOCK	350708	350708	350708	350708

ITEM	DESCRIPTION	GLC50	GLC75	GLC100	GLC125
48	HSI CONTROL MODULE	380071	380071	380071	380071
49	CLEAN-OUT COVER BAR ASS'Y	21400	21400	21400	21400
50	FILTER CENTER SUPPORT	14776	14778	14778	14776
51	FITLER CASING SUPPORT	14775	14779	14779	14775
52	PVC TEE ASSEMBLY	320088	320088	320089	320089
53	PVC TRAP ASSEMBLY	320093	320093	320093	320093
54	DOOR HANDLE PACKAGE	320152	320152	320152	320152
55	GAS UNION	320418	320418	320418	420418
56	RADIATOR HOSE	410017	410017	410017	410017
57	9/16" O.D SPRING CLAMPS	300278	300278	300278	300278
58	RUBBER GROMMET	350007	350007	350007	350007
59	7/8" O.D. SPRING CLAMPS	300257	300257	300257	300257
60	7/8" O.D. CLEAR TUBING	410012	410012	410012	410012
61	GREEN GROUND SCREW	300109	300109	300109	300109
62	HEYCO GROMMET (CASING)	350008	350008	350008	350008
63	WIRE NUT 74B	300132	300132	300132	300132
64	2X4 JUNCTION BOX	350024	350024	350024	350024
65	HEYCO GROMMET (J-BOX)	350017	350017	350017	350017
66	2X4 JUNCTION BOX COVER	350020	350020	350020	350020
67	THERMOSTAT	350510	350510	350510	350510
68	HOT SURFACE IGNITER	380089	380089	380089	380089
69	IGNITER MTG. BRACKET	15815	15816	15816	15816

ITEM	DESCRIPTION	GLC50	GLC75	GLC100	GLC125
70	CONTROL PANEL HINGE PIN	14215	14215	14215	14215
71	FAN & LIMIT CONTROL	350123	350123	350123	350123
72	PVC VENT/AIR INTAKE TERMINAL	AOPS7625	AOPS7625	AOPS7626	AOPS7626
73	BURNER ORIFICES NAT LP	380096 380131	380096 380131	380100 380101	380102 380103
74	3/8" I.D. SILICONE TUBING	410005	410005	410005	410005
75	INDUCER CAPACITOR	350038	350038	350038	350038
76	CONDENSATE DRAIN Y FITTING	320090	320090	320090	320090
77	COIL HEADER PLATE GASKET	330017	330017	330017	330017
78	5/8" TO 7/8" REDUCER	320083	320083	320083	320083
79	4X4 J-BOX	350012	350012	350012	350012
80	3" PVC COUPLING GASKET	330103	330103	330103	330103
81	ELECTRICAL BUSHING GASKET	330104	330104	330104	330104
82	PRESSURE SWITCH (INDUCER)	350361	350361	350363	350361
83	PRESSURE SWITCH (DRAIN)	350364	350364	350364	350364
84	BLOWER MOTOR MTG. BRACKET	350627	350627	350627	350627
85	LEFT BLOWER LEG	340066A	340066A	340066A	340066A
86	RIGHT BLOWER LEG	340066B	340066B	340066B	340066B
87	CONTROL PANEL PLATE	24210	24210	24210	24210