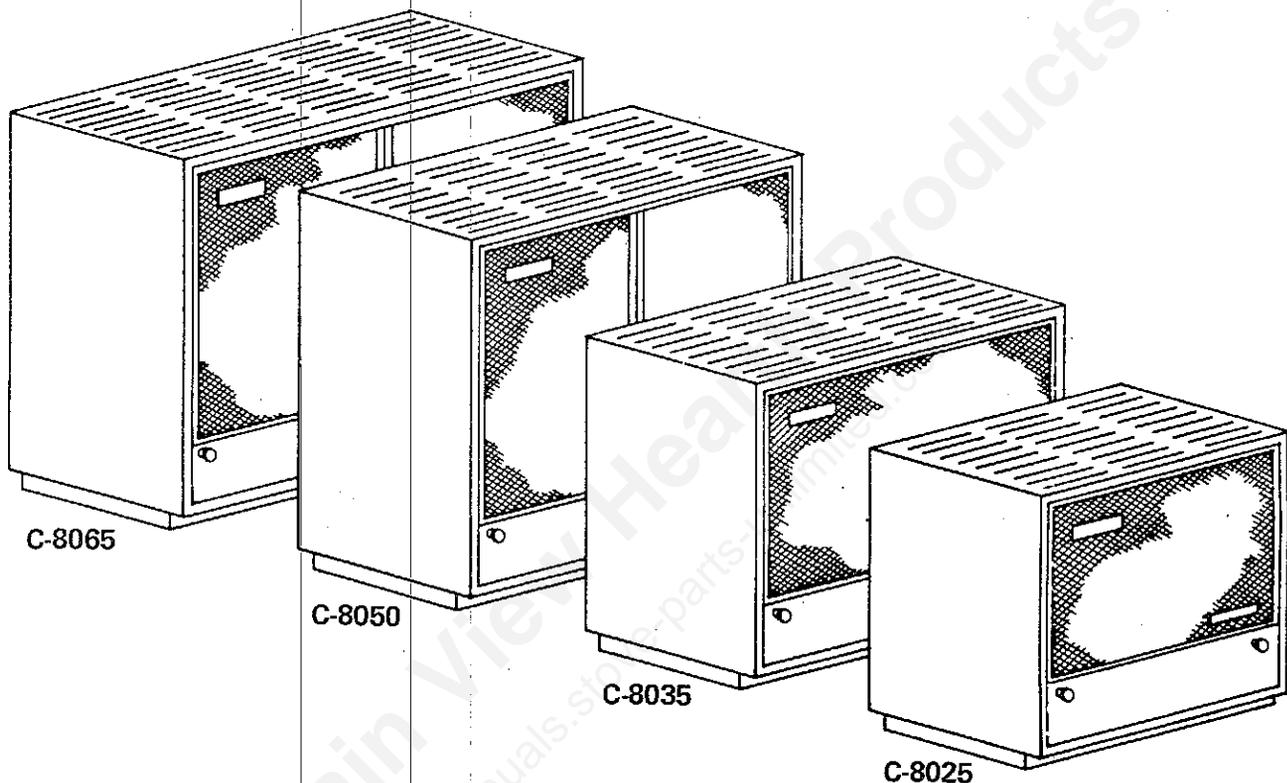


Lawson VENTED GAS HEATERS

owner's manual

INSTRUCTIONS FOR INSTALLING AND OPERATING — WITH REPAIR PARTS LIST



FOR USE WITH NATURAL AND PROPANE GASES

THIS MANUAL WILL HELP YOU TO OBTAIN EFFICIENT, DEPENDABLE SERVICE FROM THE HEATER, AND ENABLE YOU TO ORDER REPAIR PARTS CORRECTLY. KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

CAUTION:

READ RULES CAREFULLY FOR SAFE OPERATION AND INSTRUCTION

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

Lawson Division

UNITED STATES STOVE COMPANY, CHATTANOOGA, TENNESSEE

FORM 85291 9/80

IMPORTANT
THE FOLLOWING INFORMATION IS FOR YOUR
PROTECTION AND SAFE OPERATION OF THIS HEATER:

1. Due to high temperatures, the heater should be located out of traffic and away from furniture and draperies.
2. Children and adults should be alerted to the hazard of high surface temperatures and should be kept away to avoid burns or clothing ignition.
3. Young children should be carefully supervised when they are in the same room with the heater.
4. Do not place clothing or other flammable material on or near heater.
5. Installation and repair should be done by a qualified service person. The heater should be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from some carpeting, bedding material, etc. It is imperative that control compartments, burners, and circulating air passageways of the heater be kept clean.
6. Any safety screen or guard removed for servicing the heater must be replaced prior to operating the heater.

This heater should be electrically grounded when equipped with the optional fan assembly, in accordance with the National Electrical Code, ANSI C-1, 1978 edition.

The installation must conform to local codes, or in the absence of local codes, the installation must conform with the National Fuel Gas Code, ANSI Z223.1, 1974 edition.

IMPORTANT

GAS PRESSURES: ALL VALUES ARE INCHES W.C.

	Min. Inlet	Max. Inlet	Burner Pressure
NATURAL	4½	7	3½
PROPANE	12	13	11

NOTE: Pressure Regulators and Gas Inlet Pressure must be adjusted by the installer to give the pressure at the burner orifice shown above.

Your New Gas Home Heater

GENERAL INFORMATION

Your attractive new home heater incorporates many important new features to give you an economical and highly efficient heating unit.

The design of this heater has been certified by the American Gas Association as a vented heater and must be connected to an approved chimney flue outlet. The American Gas Association certification is your assurance that the design of your heater has complied with basic standards for safe operation, durable construction, and acceptable performance of gas-fired room heater.

Safe and satisfactory operation of a gas-fired room heater depends to a great extent upon its proper installation. When using natural gas, have your local gas company make the installation and when using LP (propane) gas, have your LP dealer make the installation to assure compliance with local municipal building codes.

UNPACKING HEATER

Your heater was packed in a scientifically designed carton to protect it from damage in transit. If any damage is noticed after opening the carton, report it immediately to the dealer or the transportation company.

NOTE: After removing the heater from the carton, remove the shipping tape that secures the manifold to the manifold bracket at the back near the gas control valve.

VENTILATION

CAUTION: IT IS NECESSARY TO HAVE SUFFICIENT OUTSIDE AIR IN THE ROOM IN WHICH THE HEATER IS LOCATED.

All heating appliances which operate with an open flame consume part of the oxygen in the air. If the room is not adequately ventilated while heater is in use, there will not be enough oxygen in the air for the heater to operate efficiently. An odor of gas and insufficient heat will result.

In homes which are loosely constructed, sufficient air will come through the leaky door and window frames.

In homes which are tightly constructed with storm window and doors, or exhaust fans pull air from the house, outside air must be supplied directly into the room.

Fresh air opening for combustion must be provided into the room. That opening must have one square inch of free opening per 1,000 BTU input per hour.

MODEL NO.	SQ. IN.
C-8025	25
C-8035	35
C-8050	50
C-8065	65

If this heater is operated for long periods of time, the room must be ventilated by partially opening windows or outside doors to admit fresh air. The doors to connecting rooms should also be opened. That opening can be from a ventilated attic, in the floor and foundation wall, or through an outside wall. If in the floor, the same size opening is required in the foundation wall.

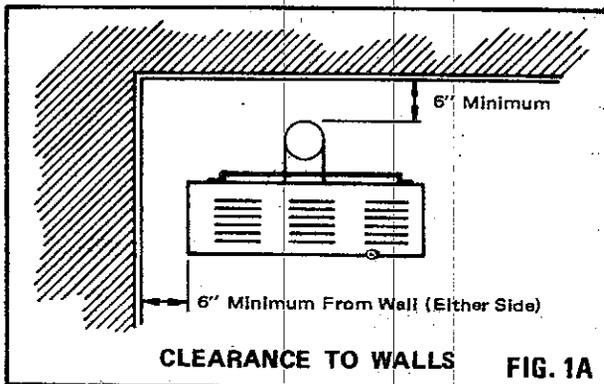
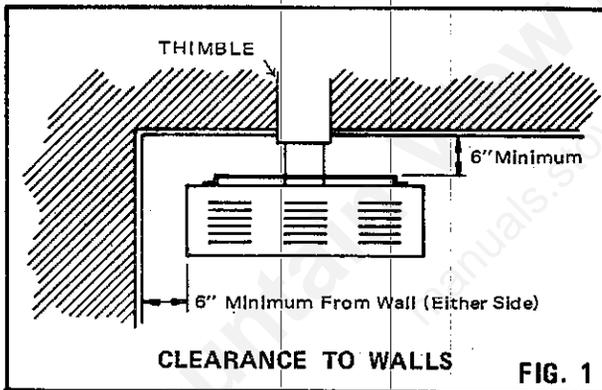
installation

PLACING THE HEATER

Place the heater as nearly as possible in the center of the space to be heated. Provide adequate clearance around the heater to allow cool room air to flow through the heater to be heated and for servicing. If the heater is to serve two or more rooms, the doors between the rooms should remain open. The installation of grilles or wall registers above doorways between rooms is highly recommended to provide even distribution of heat. This is especially important if the ceiling is high and the doorways low. Place the heater fairly close to the chimney flue opening to avoid long horizontal runs of vent pipe and the use of more than two pipe elbows.

Do not install it in an alcove or locations where curtains or drapes can come in contact with it. Do not locate behind doors or where it can be knocked over.

CAUTION: Place the heater so that sides and back are at least 6" from the wall or combustible materials such as draperies if the unit has a horizontal exiting flue pipe (Fig. 1). If the heater has a vertical exiting flue pipe, a minimum of 6" from the rear of flue pipe to combustible materials is required (Fig. 1A). If the heater is installed directly on carpeting, tile, or other combustible material other than a wood flooring the appliance shall be installed on a metal or wood panel extending the full width and depth of the appliance.



THE GAS PIPING

Use new black iron or steel pipe only. Galvanized pipe should not be used.

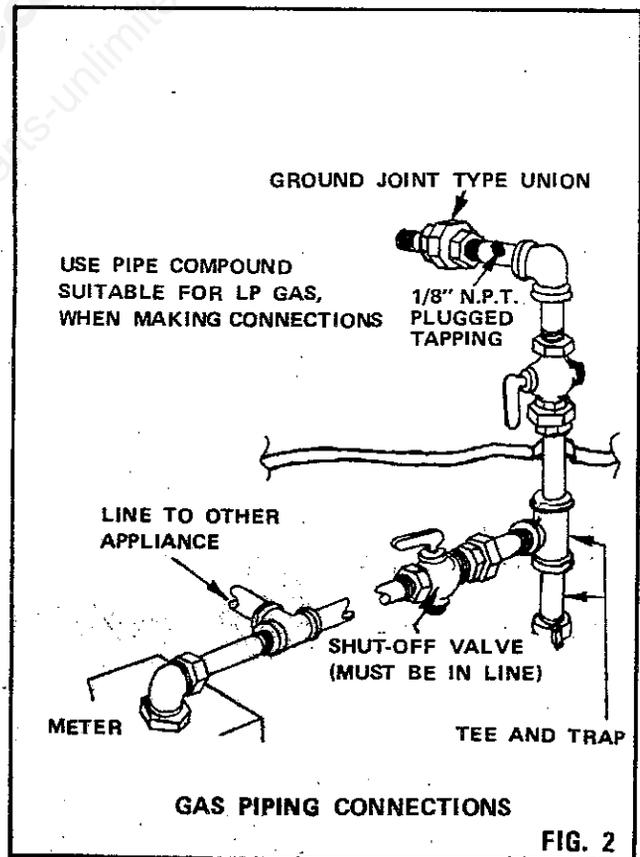
It is important that the heater is connected to the correct size pipe. Use 1/2" pipe size from meter to heater. Immediately upstream from the gas supply connection to the heater, there must be an 1/8" N.P.T. plugged tapping accessible for test gauge connection. If heater is more than 20 feet from meter, use 3/4" pipe with a reducer. Piping that is too small will reduce the gas pressure and limit the B.T.U. input per hour of the heater.

Attach the gas line to the control valve. It is recommended that a pipe union be placed in line at this point for convenience of servicing or removing heater.

The installation of the piping must be done by a qualified and experienced gas mechanic. We recommend that the gas company install the piping and test the entire system after the installation.

Gas piping should be supported by hangers or suitable clamps.

When using a compound in making connections, apply it lightly to the male threads only. Any excess could be forced into the pipe and result in clogged valves. The compound must be of the type that will not deteriorate with LP gas.



All connections to the LP bulk storage tank must be made only by your licensed LP dealer. Your licensed LP dealer should check the complete unit and all connections from the bulk storage tank to the heater at the time he makes the gas hookup.

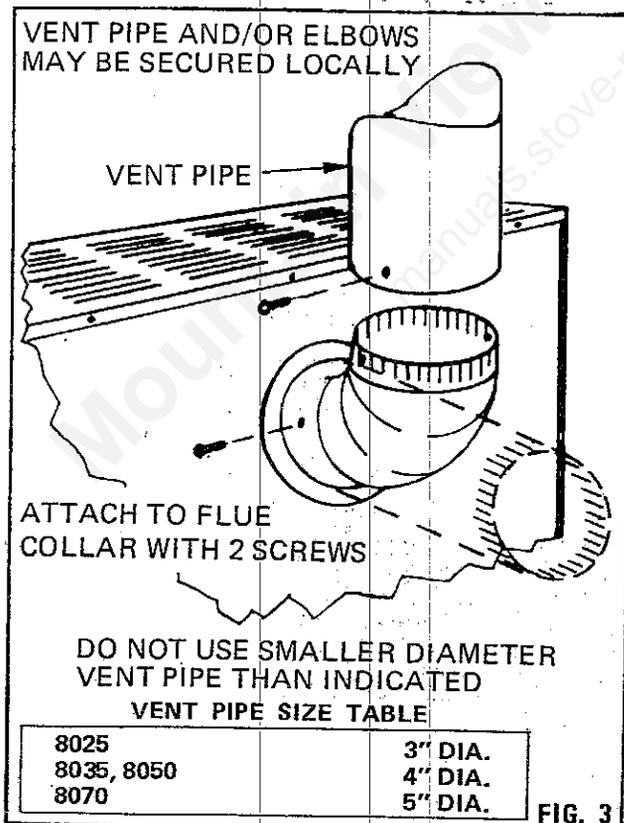
GAS SUPPLY - IMPORTANT: Check the identification plate on the back of the heater to make sure your heater is equipped properly for the type of gas you will be using.

GAS CONNECTION - Connect the heater to gas line in accordance with local codes. Your heater is equipped with either an automatic control or manual shut-off valve having a 1/2 inch inlet. Gas supply piping to this point should be 3/4 inch black iron pipe or equivalent which should be reduced down to 1/2 inch at the control. If your heater is equipped with a control it contains a main shut-off valve as an integral part of the control. However, some local codes require an additional main shut-off valve which shuts off the gas before it reaches the heater control. We recommend the use of this additional valve for convenience in disconnecting the heater for cleaning or other reasons (Fig. 2).

Connect Flue Pipe

The flue collar for your heater is built in at the factory. No extra assembly or installation is required. The flue pipe must be connected to the flue collar. **NEVER LIGHT OR USE THE HEATER UNLESS IT IS CONNECTED TO FLUE OUTLET.**

Connect pipe to flue collar, drill holes and attach securely with sheet metal screw and extend to chimney or flue. Horizontal runs of flue pipe must be pitched upwards from heater at least 1/2 inch per foot of flue pipe (Fig. 3).

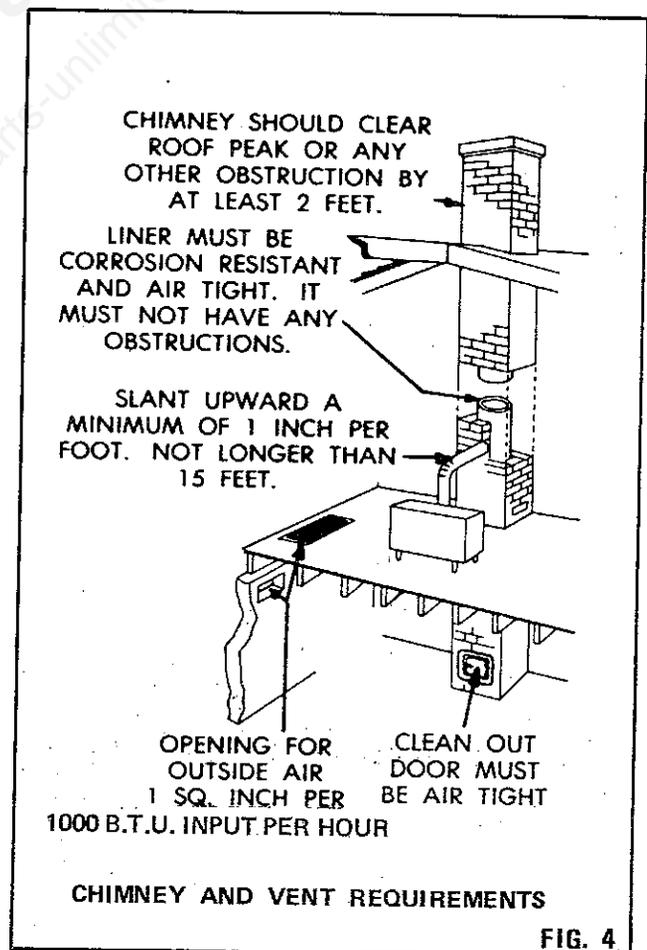


chimney

It is very important that the flue or the chimney to which the heater is vented should be in good condition and free from obstructions and have an adequate up-draft to carry off by-products of combustion. Loose brick, broken mortar or accumulation of soot should be removed from chimney before heater is installed. Consult a chimney cleaner or mason before connecting the heater to the chimney (Fig. 4).

If the home does not have a chimney, an approved Type B gas vent chimney package can be used.

If a metal vent pipe passes through a combustible partition, it must pass through a double metal thimble 2" larger than the vent pipe.



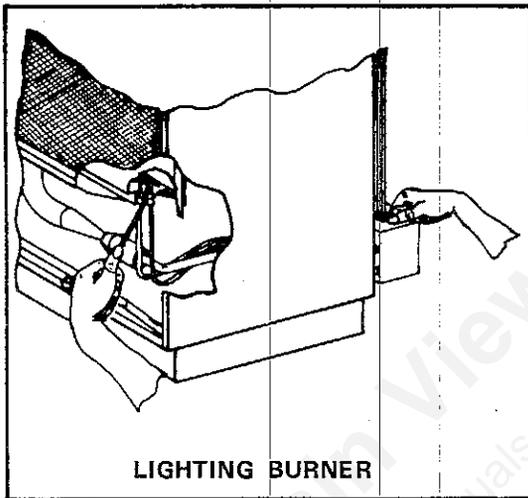
adjustments and operation

Odor When First Lighted

The special enamels used on your heater may give off some smoke and odor when you first light your heater. This will disappear in a very short time.

Whenever working on heater, gas must be turned off at shut-off valve.

Note: Check pilot and main burner flames once a year.



Test for Leaks

All gas piping and connections must be tested for leaks after the installation is completed.

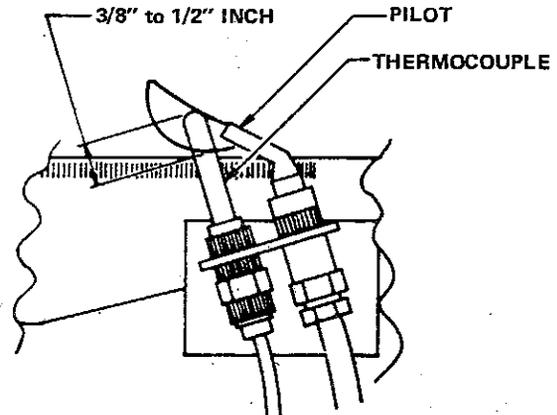
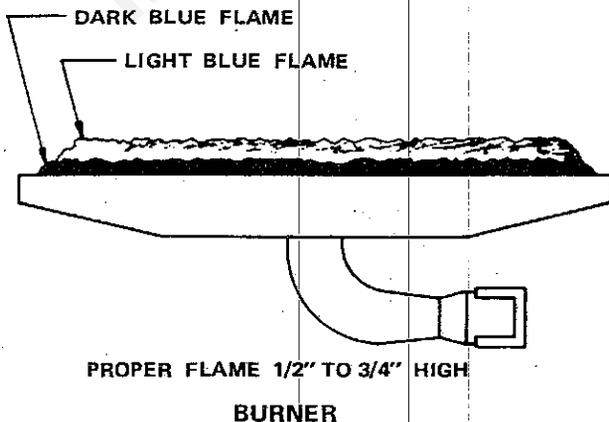
Be sure the heater is turned off.

Apply soap sud solution to all connections and joints and if bubbles appear, leaks can be detected and corrected.

Do not use a match or open flame of any kind to test for leaks.

Never operate the heater with leaky connections.

CAUTION: Always wait 5 minutes before relighting.

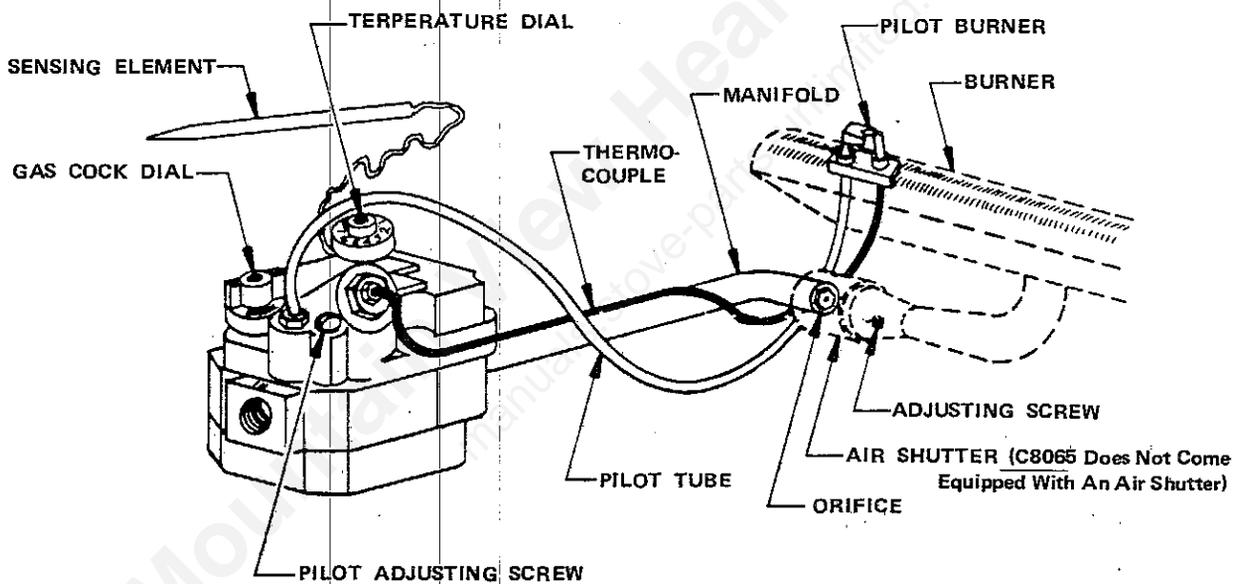


PROPER FLAME ADJUSTMENT

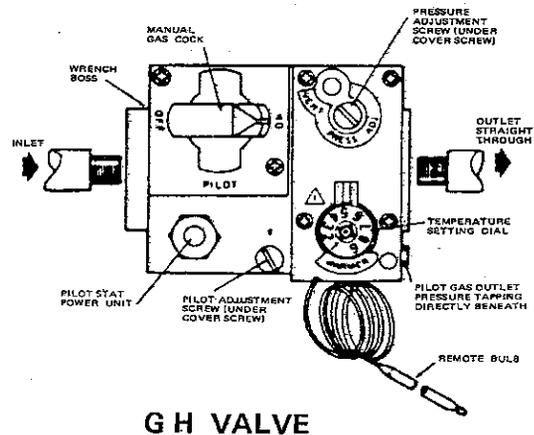
adjustments and operation.

- MODEL WITH COMBINATION THERMOSTAT-SAFETY VALVE - MODEL NO. SUFFIX "G"

COMPONENT		"GR"	"GH"
		PART NO.	PART NO.
Gas Valve	NAT	81046	81125
Gas Valve	LP	81049	81126
Manifold		86202	86202
Pilot	NAT	81127	81127
Pilot	LP	81128	81128
Pilot Tube		21561	21562
Thermocouple		81078	81078
Control Knob		89129	89129
Control Rod Brkt.		15330	15330
Control Rod C-8025		21386	21386
Control Rod C-8035		21387	21387
Control Rod C-8050 & C-8065		21388	21388
Actuator Assy.		81002	81902



G R VALVE



G H VALVE

After connecting gas supply, **CHECK FOR LEAKS.** (See page 6)

LIGHTING INSTRUCTIONS-Gas control knob cannot be turned to "off" position without first depressing at "pilot" position, then turned to "off".

TO LIGHT PILOT-Depress slightly and turn gas control knob to "pilot" position, fully depress knob and hold. Light pilot after 30 seconds, release knob, pilot should remain lighted. If pilot fails to remain lighted, repeat operation. Pilot flame should be about 1 inch long, and should be blue in the center. A weaker flame means too little gas, and a noisy long flame indicates too much. Proper pilot flame may be secured by turning pilot adjustment screw, which is located under cap as indicated above. Always replace cap after adjustment. If pilot light goes out during normal operation, wait 5 minutes before relighting.

TO LIGHT MAIN BURNER-If control is equipped with temperature control knob, turn to desired setting. Turn gas control knob to "on" position - main burner will ignite immediately. Loosen air shutter adjustment screw so that air shutter may be moved back and forth to adjust flame height. Allow heater to burn a few minutes to clear air from gas line. Burner should be warm when adjusted. Gas flame should be adjusted by moving air shutter so that a **BLUE CONE 1/2" to 3/4"** high appears over each hole in top of burner. A high, yellow flame will cause carbon deposits, or a flame which "lifts" or blows away from top of burner will cause noisy operation. Heater is now ready for use, and thermostat may be used to vary amount of gas used to obtain desired comfort level. If main gas supply fails or for some reason is interrupted, your heater will not operate until you repeat lighting instructions above. This is the protection you have with a 100% Safety Valve. To realize maximum comfort, set thermostat at medium, which is approximately 74 degrees. Allow heater to operate for an hour or so, then turn to either a lower or higher setting as you prefer. Heater will automatically maintain temperature desired. Do not attempt to repair or alter control. Call a qualified service man.

TO TURN GAS OFF AT MAIN BURNER-Turn gas control knob to "pilot" position. Pilot will remain lighted.

TO SHUT DOWN, TURN ALL GAS OFF-Turn gas control knob to "off" position. Gas control knob cannot be turned to off position without first depressing at pilot position, then turned to "off". Both main burner and pilot will go out.

service hints and maintenance

NORMAL HOURLY BTU INPUT RATING

MODEL	ORIFICE DRILL SIZE	NATURAL GAS	ORIFICE DRILL SIZE	PROPANE GAS
C-8025	42	25,000	54	25,000
C-8035	35	35,000	52	35,000
C-8050	29	50,000	47	50,000
C-8065	25	65,000	44	60,000

CLEANING INSTRUCTIONS

The heater should be cleaned twice a year. Clean the heater before the start of the heating season, then about the middle of the heating season.

The venting system should be checked once a year, preferably before the start of the heating season.

Below are shown various materials used in your heater and methods of cleaning each. Follow these suggestions, because it is possible to do serious damage by cleaning certain parts too vigorously.

CAST IRON- May be soaked in any household detergent or solvent, or cleaned with wire brush. Holes in burner should be cleaned with wooden match or wire. Desirable to rub with oil rag after cleaning and drying.

SHEET STEEL - PLATED, PAINTED, OR ENAMELED - DO NOT SOAK, SCRATCH, SOAP, OR SAND. The substance may be cleaned by wiping with slightly moistened cloth. Dry cloth will do in most cases.

VALVES, FITTINGS, THERMOSTATS: Do not attempt to repair or alter. Call a qualified service man. Brush gently or wipe lightly only to remove surface deposits.

PROCEDURE TO CLEAN: (Refer to exploded view of parts in Parts List)

1. Disconnect heater from gas supply, **MAKE SURE GAS IS TURNED OFF AT SOURCE.**
2. Open front access door.
3. Remove burner and controls.
4. Remove burner from other parts and clean as outlined in general instructions above.
5. Check pilot burner, if any, for lint, which may be removed easily with pin, wire, or other thin object. Then blow clear.
6. Gently scrape or sandpaper thermocouple at point where pilot flame touches it. **DO THIS ONLY IF THERMOCOUPLE SEEMS TO BE COVERED WITH A BLACK DEPOSIT.**
7. Clean Combustion Unit and interior of heater with vacuum cleaner, or if not accessible, use brush or rag to remove any deposit.
8. Clean all other parts as outlined in general instructions above.
9. Reassemble heater, connect, light, and readjust. Heater should continue satisfactory operation.

trouble chart

SYMPTOMS

CAUSES

CORRECTIONS

Burner Flame Lifts

Air Shutter incorrectly Adjusted

Re-Adjust Air Shutter

Gas Pressure Too High

Call Gas Co. to Re-adjust

Burner Flame Goes Out

Too Much Air

Re-adjust Air Shutter for Proper Flame

Valves Clogged

Clean Valves

Gas Supply Low or Off

Check Valves in Line

Burner Does

Gas Valves Closed

Open Them

Not Light

Air In Line

Continue to Relight Until All Air is Exp.

Pilot flame not heating the thermocouple

See Pilot Flame Troubles

Dirty thermocouple electrical connections

Clean all connections

Defective Thermocouple or Valve

Replace Defective Part

Temperature sensing bulb not in position

Re-position

Burner Makes Noise or

Air Shutter Incorrectly Adjusted

Re-adjust Air Shutter

Flame Flashes Back

Damaged Burner or Orifice

Replace

Into Burner

Wrong Size Orifice

Replace With Correct Size

Reddish Color Flame

Gas Pressure Wrong

Call Gas Co. to re-adjust

Dust in Air

This Will Clean itself Up

Wrong Size Orifice

Replace with Correct Size

Flame Too High

Air Shutter incorrectly Adjusted

Re-adjust Air Shutter

Gas Pressure Too High

Call Gas Co. to Re-adjust

Wrong Size Orifice

Replace With Correct Size

Flame Too Low or

Air Shutter Incorectly Adjusted

Re-adjust Air Shutter

Yellow and Smokey

Valves Clogged

Clean Valves

Wrong Size Orifice

Replace with Correct Size

Gas Pressure Too Low

Call Gas Co. to Re-adjust

PILOT FLAME TROUBLE

Lazy, Yellow Flame

Dirty Pilot Burner

Clean Pilot

Small Flame

Low Gas Pressure

Clean Orifice-Replace Pilot Gas Filter

Pilot Gas Adjustment closed too far

Turn Pilot Flow Adj. Counter Clockwise

Pilot Flame Not

Wrong Pilot Orifice

Replace with Correct Size

Heating

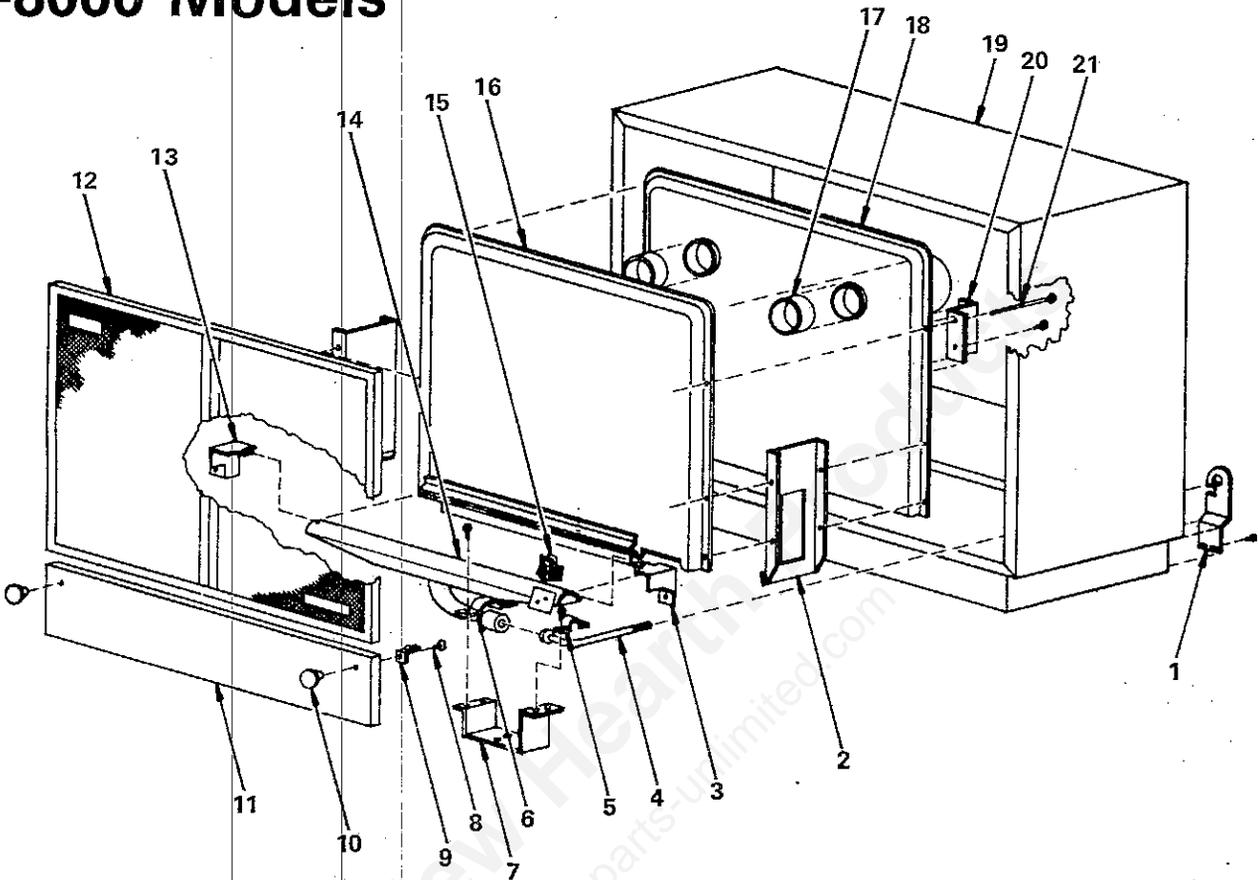
Thermocouple

Lighting Door Open

Close Door

If the functioning of the heater is not satisfactory after performing the described operations and adjustments, call your Dealer.

Parts List C-8000 Models



Key No.	Description	PART NUMBERS				
		Qty.	C-8025	C-8035	C-8050	C-8065
1	Bracket, Manifold	1	21560	21560	21560	21560
2	Leg, Heat Exchanger	2	21376	21377	21377	21377
3	Brace, Burner (L.H.)	1	21849	21852	21855	21857
4	Manifold	1	86202	86202	86202	86202
5	Strap, Manifold	1	21847	21847	21847	21847
6	Strap, Burner	1	21846	21846	21846	21848
7	Support, Manifold/Burner	1	21851	21854	21854	21859
8	Screw, Machine No. 8-32 x 1/4	2	83033	83033	83033	83033
9	Clip, Spring-Cabinet Door	2	89072	89072	89072	89072
10	Knob	2	89062	89062	89062	89062
11	Door	1	21382	21383	21384	21385
12	Front, Mesh	1	67300	67301	67302	67304
13	Brace, Burner (R.H.)	1	21850	21853	21856	21858
14	Burner	1	86218	86219	86220	86221 *
15	Pilot - Natural	1	81127	81127	81127	81127
	Pilot - L. P.	1	81128	81128	81128	81128
16	Combustion Chamber	1	67310	67311	67312	67314
17	Collar, Heat Exchanger	2	21371	67316	21372	67317
18	Radiator	1	67306	67307	67308	67309
19	Body, Cabinet	1	67378	67341	67322	67343
20	Bracket, Rear	2	21380	21380	21380	21380
21	Bolt, Tie - 1/2" - 30 x 6-1/2	2	83138	83138	83138	83138

* C8065 does not come equipped with an air shutter

owners manual

HOW TO ORDER REPAIR PARTS

THIS MANUAL WILL HELP YOU TO OBTAIN EFFICIENT, DEPENDABLE SERVICE FROM THE HEATER, AND ENABLE YOU TO ORDER REPAIR PARTS CORRECTLY.

KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

WHEN WRITING, ALWAYS GIVE THE FULL MODEL NUMBER WHICH IS ON THE NAMEPLATE ATTACHED TO THE INSIDE OF THE CABINET DOOR.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST:

1. The PART NUMBER
2. The PART DESCRIPTION
3. The MODEL NUMBER
4. The NAME of ITEM

Lawson Division

UNITED STATES STOVE COMPANY — CHATTANOOGA, TENNESSEE

LAWSON VENTED GAS HEATERS