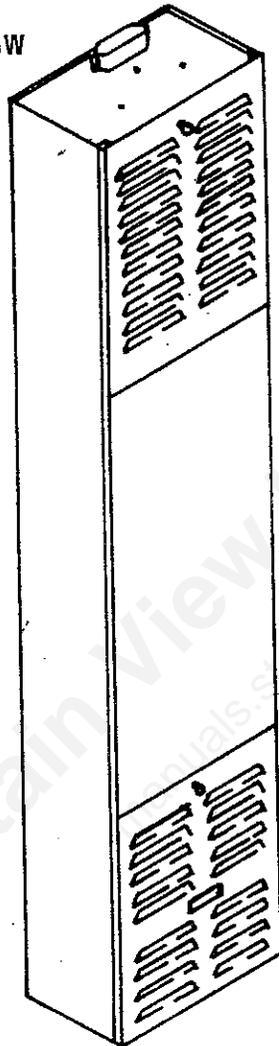


owner's manual

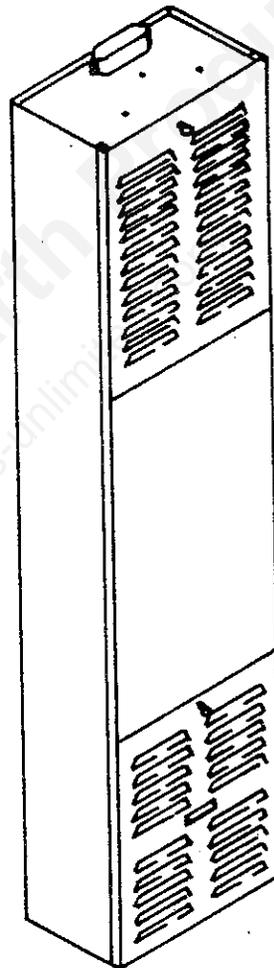
INSTRUCTIONS FOR INSTALLING AND
OPERATING — WITH REPAIR PARTS LIST

COUNTERFLOW WALL FURNACE

MODEL OTC — 65W
(65,000 BTU)



MODEL OTC — 50W
(50,000 BTU)



FOR USE WITH NATURAL AND L.P. 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.

Lawson Division

UNITED STATES STOVE COMPANY, SOUTH PITTSBURG, TENNESSEE

FORM 9017-4

Specifications and Dimensions
Natural & L.P. Gases

	MODEL NUMBER			
	OTC-65W		OTC-50W	
	NAT.	L.P.	NAT.	L.P.
Input B.T.U./Hr.	65,000	65,000	50,000	45,000
Output B.T.U./Hr.	48,750	48,750	37,500	33,750
Bypass B.T.U./Hr.	45,000	45,000	35,000	31,500
Width	14 1/8"		14 1/8"	
Depth	10"		10"	
Height	87"		81"	
Gas Conn.	1/2"		1/2"	
Vent - Oval	4"		4"	
C.F.M. @ 115V	430		350	
H.P. (approx.)	1/30		1/50	
Blower Speeds	Two		Two	

Electrical 115V-60 HERTZ - Less Than 3 Amp.

equipped with two speed motor & Gas Control.

Side & Rear outlets are optional equipment.

Packaging

1 carton containing complete Furnace Assembly.

Optional Equipment:

- 1 Carton containing **Rear** Outlet Grille, Inner Boot & Outer Boot for 10" maximum extension.
- 1 Carton containing **Side** Outlet Grille, Inner Boot & Outer Boot for 10" Maximum extension.
- 1 Carton containing **Rear** Outlet Grille, Inner Boot & Outer Boot for extension 7/8" through plaster or wall board only.
- 1 Carton containing vent enclosure for "free-standing" installation - 15" to 24" length as ordered.

The installation must conform to local codes and the American National Standards, Installation of gas appliance and gas piping, Z21-30-1964.

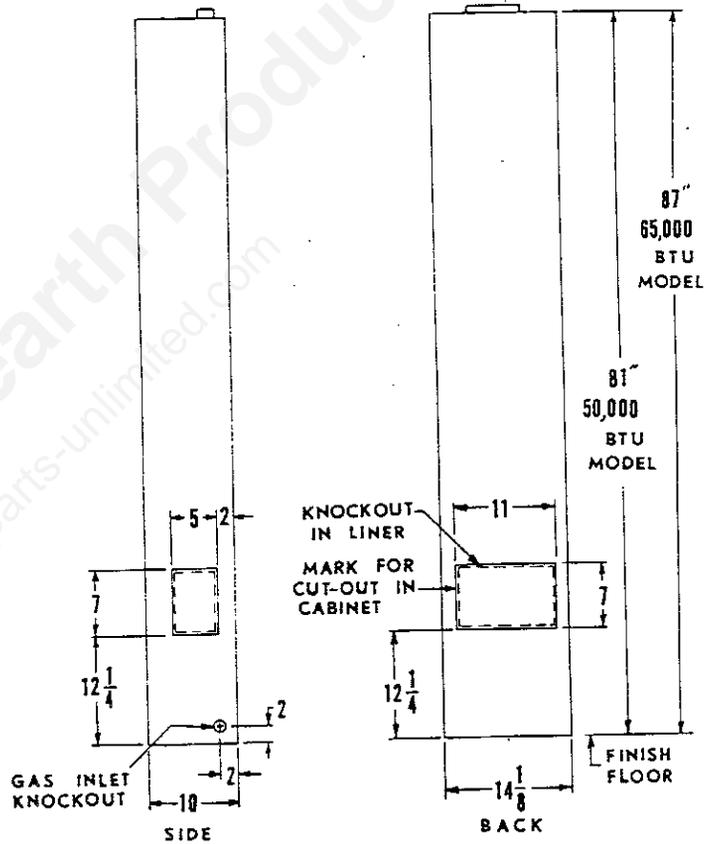
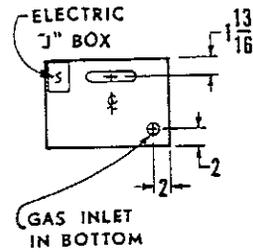
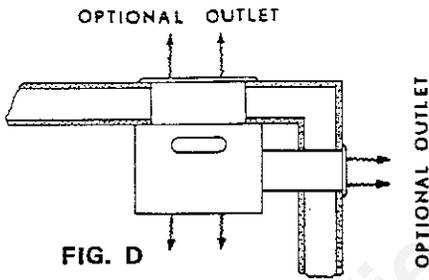
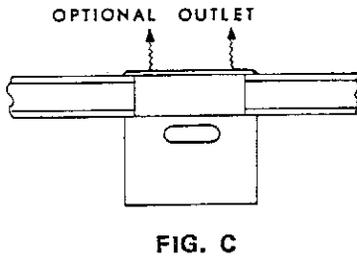
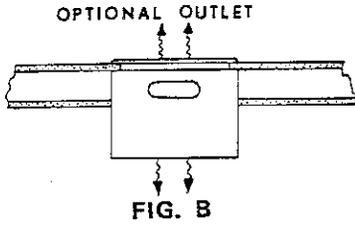


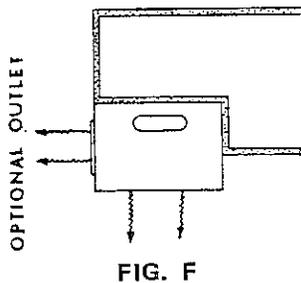
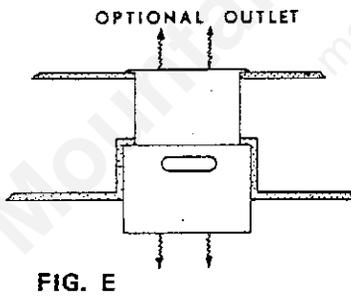
FIG. A

LOCATION

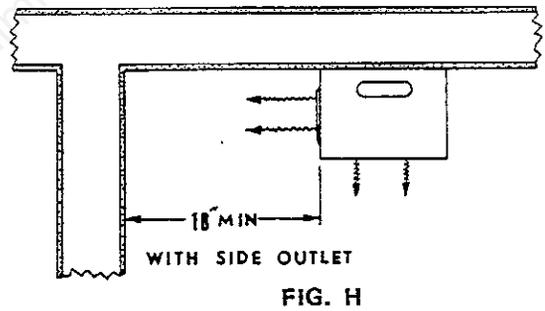
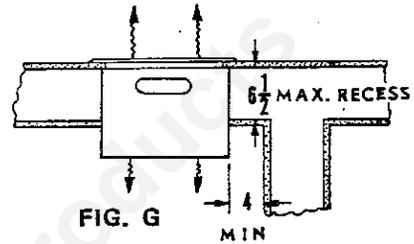
Locate furnace as near the center of space to be heated as possible. Furnace may be installed in a 2X4 or 2X6 wall, or flush against the wall, using one or two optional back or side outlets as shown -- Figures "B" - "C" - "D".



Partially recessed installations in a cabinet or storage wall are shown -- Figures "E" - "F".



CAUTION - Furnace is to recess in a combustible wall not to exceed the depth of a 2X6 partition, or 6½". Do not install closer than 4" to an intersecting wall. Do not install in a closet. Use only optional outlet boots and grilles supplied by the manufacturer. Minimum clearance dimensions from combustibles are shown in Figures "G" and "H".



Comply with local codes.

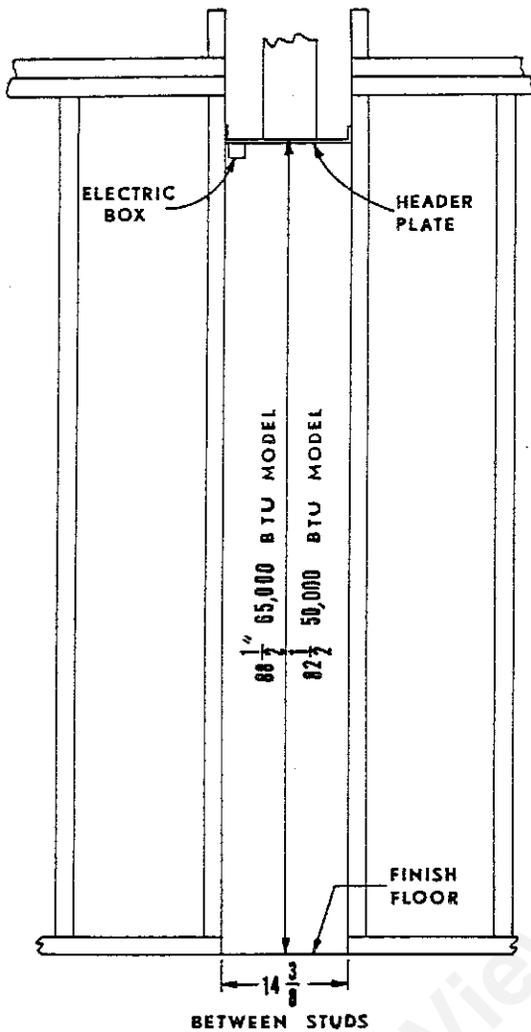


FIG. I

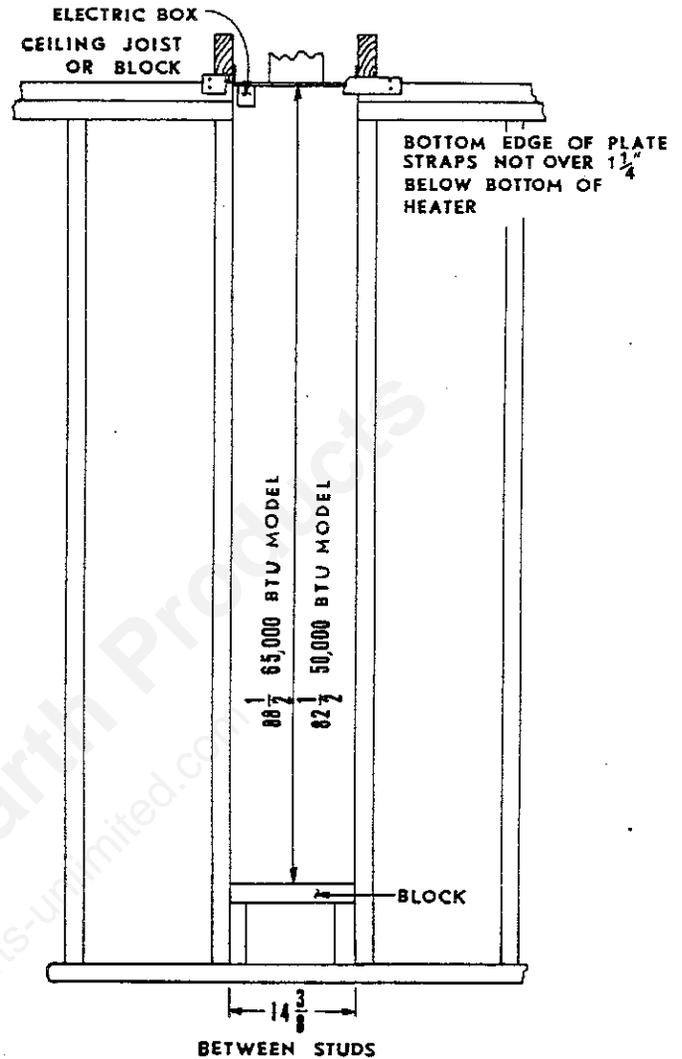


FIG. J

2- ROUGH-IN

Recessed in Wall -Furnace installed on **finished floor** -Figure "I" (See instructions covering optional outlets).

Install Header Plate (with electric junction box front left corner as shown), nailing securely to studs at the dimension shown - Figure "I" - measured from the **finished floor** to bottom flat surface of Header Plate. Tighten nails carefully on each side so Header will be exactly centered between the studs.

Install type "B-W" vent pipe from Header Plate through the roof in accordance with local code.

Run 24V wiring from thermostat location to recess under Header Plate.

Electrician connects 115V wiring to electric junction box and convenience outlet.

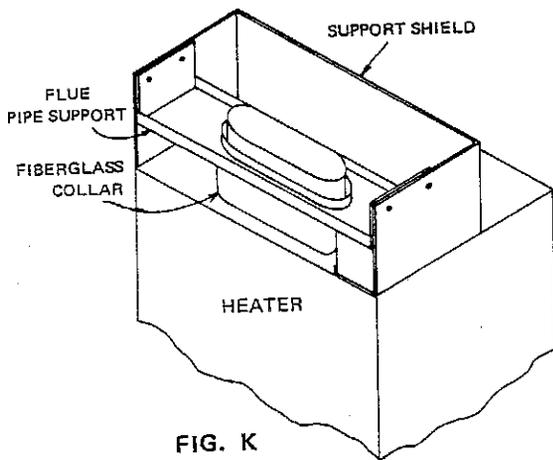
Plumber installs 1/2" gas connection in location shown - Figure "A".

Recessed in Wall -Furnace installed above finished floor - Figure "J".

Install Header Plate with bottom flat surface flush with top of ceiling plate. Nail securely to ceiling joists, carefully centering the header plate on the stud space. Measure down the dimension shown in Figure "J" from the bottom flat surface of Header Plate and install a horizontal 2" block between the studs, securely fastened.

Install type "B" vent pipe from Header Plate through the roof in accordance with local code. Note: Type "B" vent pipe must be spaced 1" from combustibles.

Follow electric and gas connections instructions above.



Furnace "Free Standing" Flush to wall -on finished floor - Figure "K" (See also figures "C" - "D"). See instructions covering Optional outlets.

Attach flue pipe support to support shield with bolts at end flanges. Next position flue pipe support over flue outlet on heater. Be sure fiberglass collar is on flue outlet. Attach support shield to top of cabinet with screws at flange. See Fig. K

Install vent pipe in accordance with previous instructions, cutting out as required by Code to maintain 1" clearance from combustibles.

Follow electric and gas connection previously given.

3 - PLASTERING INSTRUCTIONS

Instruct contractor to use only plain lath (unperforated) behind the furnace to avoid plaster keys extending into recess.

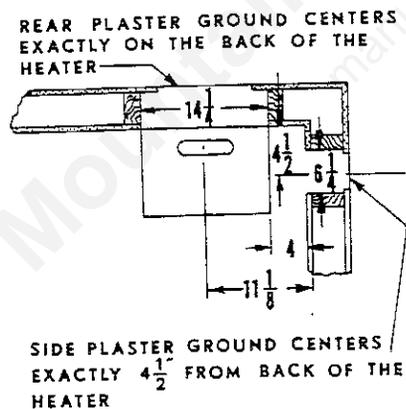


FIG. L

4 - ROUGH-IN-OPTIONAL OUTLETS-FIGURES "L"-"M"

Install plastergrounds as shown in figures "L"-"M". In "dry-wall" construction, the flange faces inside the stud line and the gypsum board is trimmed flush with the opening.

Follow measurements given carefully, and note that when a side outlet is used, the furnace casing must be exactly 4" from surface of finished wall.

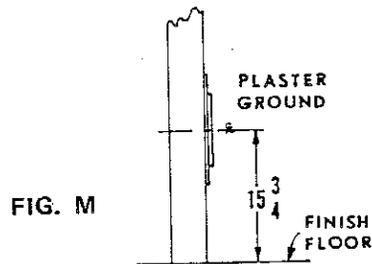


FIG. M

5 - FINISH INSTRUCTIONS-GENERAL

Caution: Make sure Header Plate is correct distance above finish floor or block on which furnace rests.

Remove gas stub, if necessary. Remove grille over blower compartment by removing thumb screw and raising 1/2" to disengage bottom edge. Remove burner compartment door by pulling out at top. Remove burner and control assembly by (1) remove 1/4" nut on bolt protruding through front of each (two) burner hanger bracket, (2) push burner assembly toward back to disengage front end of bolts, (3) move assembly forward to disengage back end of bolts.

Install heavy fiber glass gasket (Packed in envelope with thermostat) placing it over the electrical junction box on bottom of header plate. Make sure the flue pipe gasket is in position on top of the furnace.

Tip top of furnace into position under Header Plate. Raise bottom of furnace and swing back into position through holes provided in bottom.

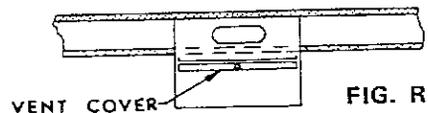
Important:

After furnace has been placed in position make sure the gaskets are pressing against the furnace top to eliminate air leaks at these points.

Replace burner assembly, tightening nuts on front end of bolts securely. Replace gas stub and install a gas cock. Connect to gas valve with approved fittings in accordance with local code.

Remove plate over blower by taking out 4 screws in side flanges of frame. Plug cord into convenience outlet in the Header Plate junction box. Replace, making sure inside collar is spaced from blower blades. Orifice plate may be adjusted vertically in frame if necessary. Tighten all screws securely.

Connect thermostat to two wires extending from top of furnace immediately in front of the Header Plate junction box, using 2 wire nuts provided. See wiring diagram.



VENT COVER FIG. R

Place vent Cover Plate on top of furnace (Figure R) Press snug against wall and secure through bottom flange to top of furnace with screw provided. This cover is used on recessed installation only.



FIG. O

Trim around crack between furnace and wall recess with 3/4" quarter-round. - (see Figure "O").

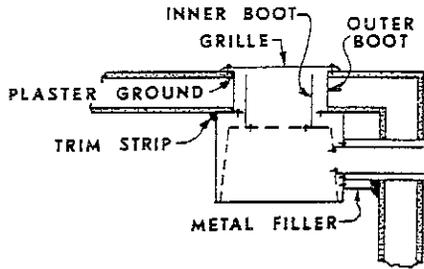


FIG. N

6 - FINISH INSTRUCTION-OPTIONAL OUTLETS-

Side or rear extended boot -Figure "N". See also Figures "B" - "C" - "E".

Before setting furnace into position, cut rectangular opening in outer casing where marked. Place Outer Boot against casing with inner flanges exactly on edges of cut hole, mark screw location, remove boot and drill No. 33 holes for sheet metal screws. Remove knockout plate and knockouts for screws from inner liner. Secure 1X1 wood strip to wall surface next to side outlet as a back-up for metal filler strips (included in Side Outlet Kit). Fasten Metal Filler Strips to side of furnace casing with front surface exactly opposite front of wood backup strip.

After furnace is placed in position, pass Outer Boot through plasterground tight against furnace casing, mark and cut off outer end flush with wall surface. Press Inner Boot against liner, mark and cut off flush with wall surface. Install Outer Boot first, then Inner Boot, fastening through all screw holes securely with screws provided.

Side or Rear Grilles on Casing—Figure "F"

When Grille is fastened on outer casing, cut rectangular opening in outer casing in location marked **except** cut 1" wider (1/2" on each side) than marking on casing. Remove knockout plate and knockout for screws from inner liner.

Fasten boot to inner liner with screws provided. Fasten grille to outer casing with screws provided.

Caution: Use only Boots and Grilles provided by the manufacturer.

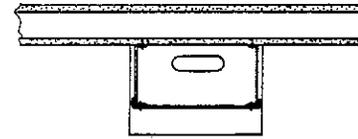


FIG. P

7 - OPTIONAL VENT ENCLOSURE

Install Optional Vent Enclosure (Figure "P"). Cut side panels to fit between top of casing and ceiling. Fasten side members to wall flush with sides of casing. Cut front panel to fit and fasten to side panels. Note that bottom edge of front panel is notched to fit into recess of casing top to hold front of assembly in position.

Trim around furnace and metal filler strip as instructed in Section 5.

Air Supply

Any gas appliance requires an air supply to complete the combustion process, which is ordinarily supplied through cracks around windows and doors. When installed in a tight or weather-stripped space; provision must be made to allow entrance of outside air to the heated space through openings large enough to compensate for lack of normal crackage.

8 - LIGHTING INSTRUCTIONS

If Pilot is out: Shut off pilot and burner. Wait five minutes before relighting.

Lighting Pilot: Open valve on pilot line if so equipped, or turn knob on control valve to "Pilot" position. Depress red button if so equipped or depress control knob, and hold firmly depressed while lighting pilot and for 30 seconds after pilot is burning.

To operate burner: Turn knob to "On" position. Set wall thermostat to desired room temperature. Note when equipped with a two-rate control system the valve knob or dial will show a "High" or "Normal" or "Low" position. Operate at the "Normal" or "Low" position, turning to "High" only as necessary for rapid response in coldest weather. To shut down: Turn valve knob to "Off" position and turn off pilot valve if so equipped. Important: The control compartment shall be kept clean and free from lint or dust.

9 - HOME OWNERS OPERATING INSTRUCTIONS

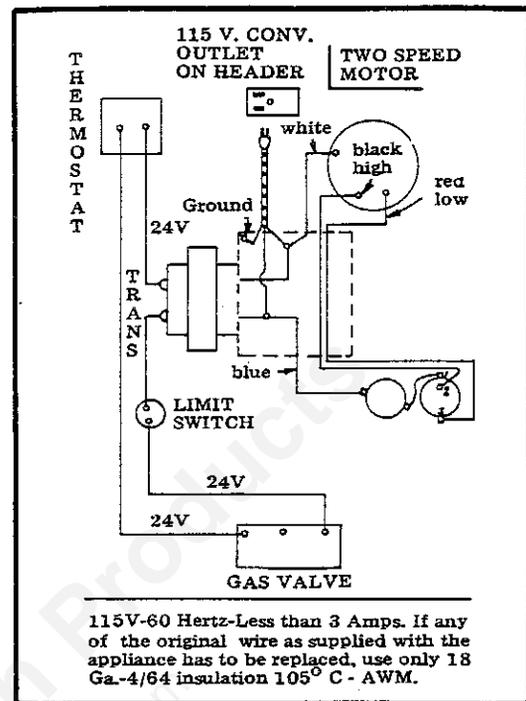
OPERATION: The operation of this furnace is automatic after the pilot is lit, main gas valve turn "on", and the thermostat is set to the desired room temperature. When the room temperature falls below the thermostat setting, the main burner ignites. After a short period to warm up the heating element, a fan switch turns on the blower motor and warm air is discharged from the outlet grilles near the floor.

When the room temperature has been raised nearly to the thermostat setting, the main burner shuts off automatically but the blower continues to run for a few minutes to cool the inside of the furnace.

If your furnace is equipped with a two speed control system, you will notice that the dial on the gas valve is marked "Normal" (or low) and "High". Turn the dial to the "Normal" or low position and the room thermostat will operate the main burner at about 3/4 of maximum capacity and the blower will run at "low" speed during most of the heating cycle. Turn the dial to "High" only when a fast heat-up is desired during extremely cold weather. "High" operation develops maximum capacity of the furnace and top speed of the blower.

SAFETY CONTROL: Your furnace is protected against unsafe operation by triple automatic safety controls - (1) A safety pilot acts to shut off the gas supply in case of pilot failure - (2) A Thermal Overload protects the motor against burn-out caused by current surges or impaired air circulation. (3) A limit switch shuts down the main burner to prevent overheating the furnace cabinet.

LIGHTING INSTRUCTIONS-Are located on a plate inside the burner compartment.



MAINTENANCE

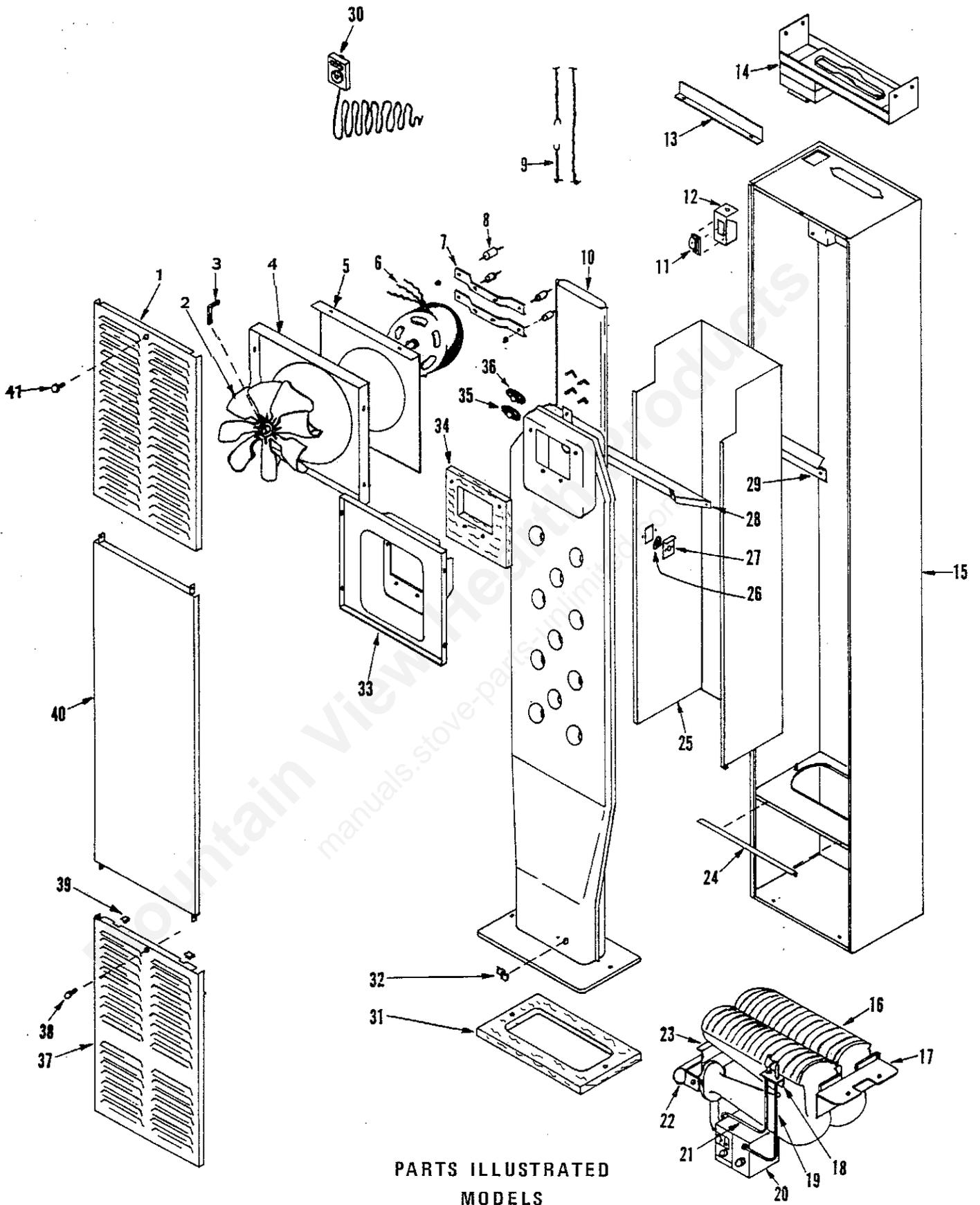
Weekly - Important - Using a vacuum nozzle, carefully clean the burner compartment and remove any dust accumulation. Make sure the thermostat or main gas valve is "Off" before cleaning and after cleaning check to see that the pilot is burning.

EACH SEASON - It is recommended that a competent service man completely checks the furnace, motor, and all controls at the start of each heating season. Phone your authorized installing dealer.

MOTOR - For access to motor: (1st) Disconnect 115V circuit at fuse or breaker. (2nd) Take off top door and remove 4 screws holding blower inlet plate. (3rd) Slide blower plate forward to remove. (4th) Remove blower wheel by loosening an "Allen Head" set screw which locks wheel to shaft. Replace wheel with face of hub flush with shaft and replace inlet plate exactly centered vertically on the blower wheel. Tighten screws securely.

SUGGESTIONS - Clean cabinet with a damp rag - never use abrasive cleaners. Warm air outlet grilles are finished in heat resistant baked enamel - do not refinish with wall paint.

For better circulation and more effective heating do not place obstructing furniture closer than 4 ft. to the front of the outlet grille or 2 ft. to the side of the cabinet.



PARTS ILLUSTRATED
MODELS
OTC-50W and OTC-65W

**REPAIR PARTS LIST
FOR**

MODELS OTC - 50W & OTC - 65W

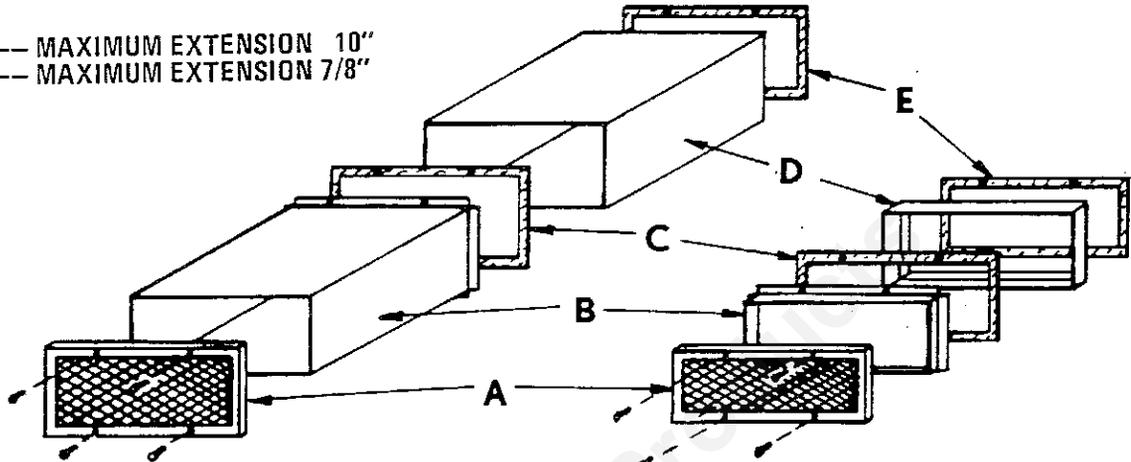
Key No.	Model OTC-50W	Model OTC-65W	Description
1	1772	1772	Upper Panel
2	9189	9189	Blower Wheel
3	9116	9116	Allen Key 1/8"
4	6622	6622	Fan Cover
5	1888	1888	Fan Shield
6	9043	9148	Motor
7	1781	1781	Motor Hangers
8	9146	9146	Rubber Motor Mounts
9	9042	9042	Wire Harness
10	6631	6632	Heat Exchanger
11	9149	9149	Transformer
12	1782	1782	Junction Box
13	1796	1796	Vent Cover
14	6637	6637	Flue Mounting Plate W/Gaskets
15	6612	6613	Cabinet
16	4325	4325	Cast Iron Burner
17	1783	1783	Burner Brkt. Front
18	9134	9134	Pilot Burner - Nat.
18	9130	9130	Pilot Burner - LPG
19	9426	9426	Thermocouple
20	9037	9037	Gas Valve - Nat.
20	9012	9012	Gas Valve - LPG
21	9517	9517	Pilot Tube
22	9021	9021	Manifold
23	1794	1794	Burner Brkt. Rear
24	1770	1770	Heat Shield Angle
25	6618	6619	Cabinet Liner
26	9190	9191	Limit Switch
27	1766	1766	Limit Control Brkt.
28	1768	1768	Air Deflector
29	1767	1767	Back Brace
30	9039	9039	Wall Thermostat & Wire
31	9035	9035	Gasket - Combustion Chamber
32	1792	1792	Pilot Lighter Door
33	6639	6620	Draft Diverter
34	9034	9034	Gasket - Draft Diverter
35	9141	9141	Fan Switch - High
36	9047	9047	Fan Switch - Low
37	1774	1774	Lower Panel
38	9594	9594	Panel Knob
39	9019	9019	Tinnerman Clips
40	1779	1771	Center Panel
41	9014	9014	Knurled Head Screw

OPTIONAL REAR OUTLET KITS

FOR

LAWSON COUNTERFLOW WALL FURNACES

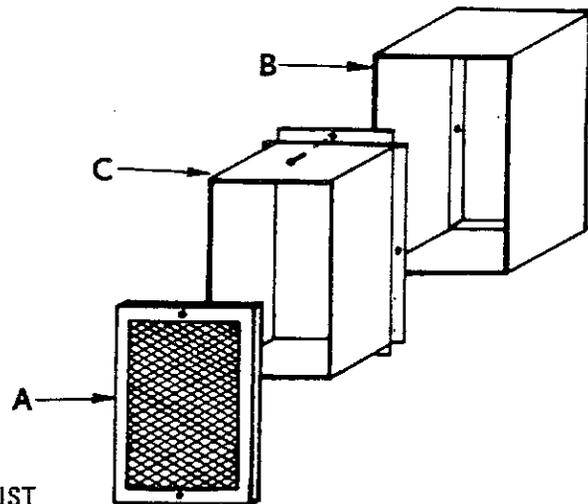
NO. REG-1R --- MAXIMUM EXTENSION 10"
 NO. REG-3R --- MAXIMUM EXTENSION 7/8"



KIT REG-1R Part No.	Key	Part Name	KIT REG-3R Part No.
6633	A	Grille	6633
1825	B	Inner Boot	1831
9046	C	Inner Boot Gasket	9046
1824	D	Outer Boot	1830
9069	E	Outer Boot Gasket	9069
		Screws	

OPTIONAL SIDE OUTLET KIT FOR LAWSON COUNTERFLOW WALL FURNACES

NO. REG-2S --- MAXIMUM EXTENSION 10"



PARTS LIST

Key No.	Part No.	Part Name
A	6634	Grille
B	1828	Outer Boot
C	1829	Inner Boot
		Screws

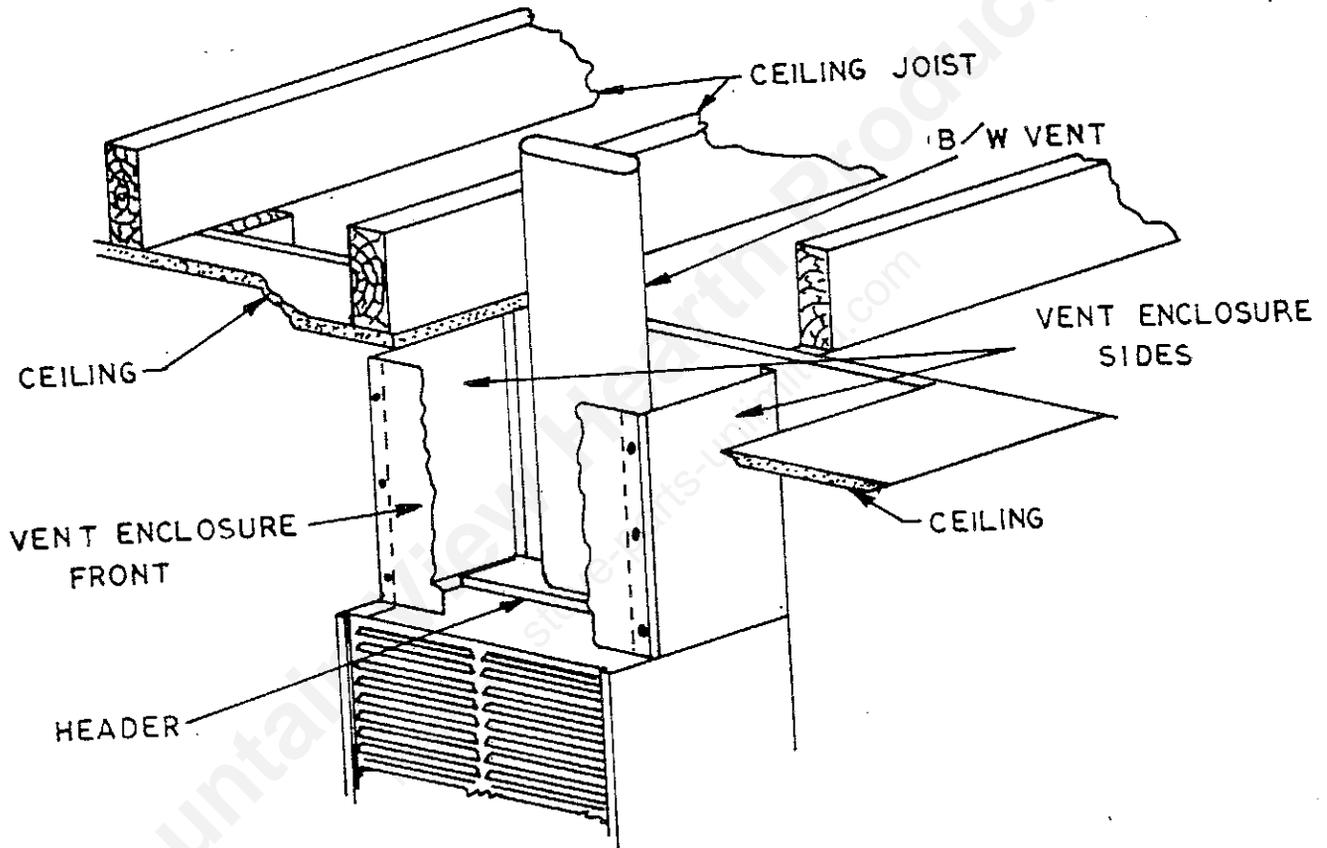
OPTIONAL VENT ENCLOSURE KIT FOR LAWSON COUNTERFLOW WALL FURNACES

This wall furnace can be installed recessed or free standing as indicated in the installation instructions.

On free standing installation, it is usually desirable to conceal the vent pipe between the top of the furnace and ceiling. Factory made vent enclosures are available in 15" and 24" heights for this purpose.

Please designate size by specifying No. VEK-15 or VEK-24.

ILLUSTRATION



TO INSTALL VENT ENCLOSURE:

Cut side panels to fit between top of casing and ceiling. Fasten side members to wall flush with sides of casing. Cut front panel to fit and fasten to side panels. Note that bottom edge of front panel is notched to fit into recess of casing top to hold front of assembly in position.

KIT VEK-15 Part No.	Part Name	KIT VEK-24 Part No.
1818	Vent Enclosure Front	1820
1819	Vent Enclosure Sides	1821
	Screws	

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 HEATER.

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 • SOUTH PITTSBURG, TENNESSEE

LAWSON VENTED GAS HEATERS