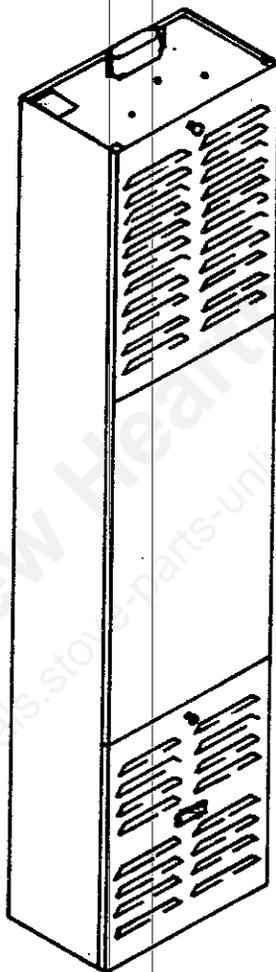


owner's manual
INSTRUCTIONS FOR INSTALLING AND
OPERATING — WITH REPAIR PARTS LIST
COUNTERFLOW WALL FURNACE

MODEL OTC - 35W (35,000 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 85031

MODEL OTC - 35W (35,000 BTU)

Specifications and Dimensions

Natural & L. P. Gases

Input B.T.U./Hr.	35,000
Output B.T.U./Hr.	26,250
Width	14 1/8"
Depth	10"
Height	72 1/2"
Gas Conn.	1/2"
Vent - Oval	4"
C.F.M. @ 115V	240
H.P. (approx.)	1/10
Blower Speeds	One
Electrical 115V. - 60 HERTZ - Less than 3 Amp.	

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 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.

1 - LOCATION

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

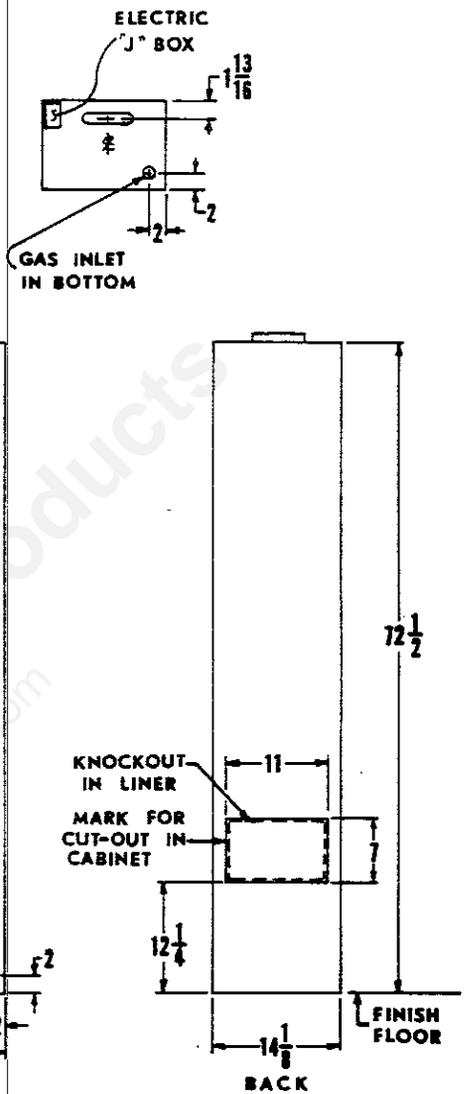
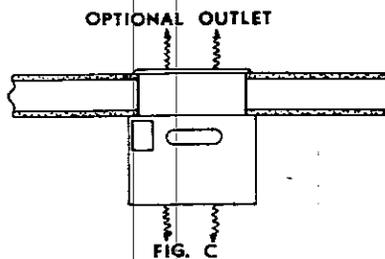
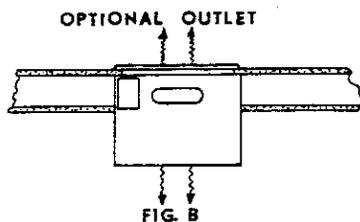
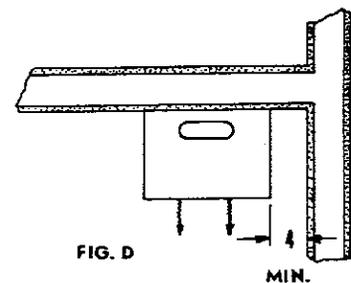


FIG. A

Comply with local codes.

CAUTION - Furnace is to recess in a combustible wall not to exceed the depth of a 2 X 4 partition. Do not install closer than 4" to an intersecting wall, as shown -- Figure "D". Do not install in a closet. Use only optional outlet boots and grilles supplied by the manufacturer. Minimum clearance from top of furnace to ceiling 4".



2 - ROUGH-IN-RECESSED

Install Header Plate (with electric junction box front left corner as shown) nailing securely to studs at the dimension shown - Figure "1" - 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.

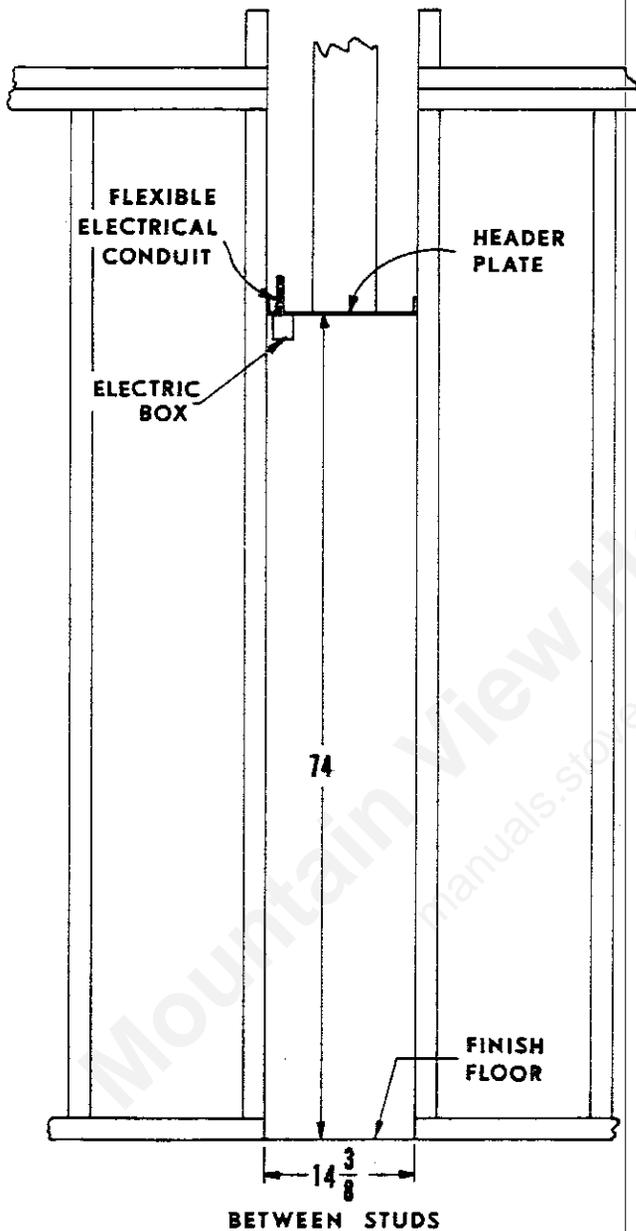


FIG. E

Install "B-W" type vent pipe from Header Plate through the roof-in accordance with local code-vent should terminate not less than 12" above the floor on which furnace stands.

Run 24V - wiring from thermostat location to point directly under header plate.

Rough-in 115V-wiring with end of flexible cable extending down through hole in LEFT SIDE of Header Plate. Allow some slack in wiring above Header to facilitate wiring connection after furnace is installed.

Rough-in $\frac{1}{2}$ " gas connection in location shown - Fig. A.

Use only unperforated lath behind furnace to avoid plaster keys extending into opening.

3 - ROUGH-IN-REAR OUTLET

Install plasterground as shown Fig. F. & G. In "dry-wall" construction the flange faces inside the stud line and gypsum board is trimmed flush with the opening. Follow measurements carefully.

REAR PLASTER GROUND CENTER'S EXACTLY ON THE BACK OF THE HEATER

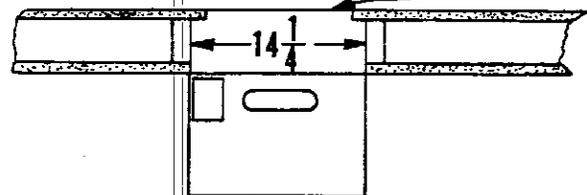


FIG. F.

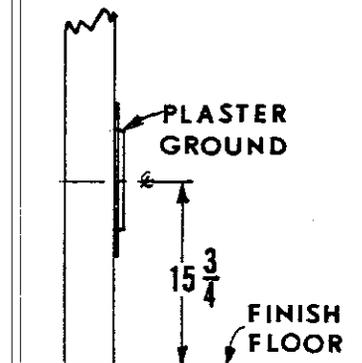


FIG-G

4 - FLUSH-TO-WALL INSTALLATION

Remove flanged plate from top of Header Plate. Remove fiber glass collar from flue tube of furnace. Place plate over flue tube and fasten to top of furnace with screws removed from Header. Discard Header and fiber glass collar. Install vent in accordance with previous instructions, maintaining a 1" clearance from combustibles as required by code.

5 - FINISH INSTRUCTIONS

Remove gas stub from wall if necessary. Remove thumb screw and disengage grille over blower compartment. Remove burner compartment door by pulling out at top. Remove burner & control assembly by disengaging screws through lugs at each end of burner.

If recessed installation, make sure fiber glass collar is in position around flue collar. Tip top of furnace under header plate, sliding flue collar through flanged opening in header, raise furnace and swing bottom into position. Fasten furnace through holes provided in bottom.

If flush-to-wall installation, fasten bottom of furnace through holes provided and secure top of furnace by placing two metal clamps over the flange of furnace top and fastening to studs in wall.

Replace burner-control assembly, tightening screws securely. Replace gas stub and install a shut-off cock. Connect gas to valve with approved fittings in accordance with local code.

Remove blower wheel. Connect electric service to junction box in upper left corner of blower compartment after removing transformer for access to box. Connect wiring per diagram accompanying furnace and in accordance with local code. Replace transformer and blower wheel.

Connect thermostat wiring to 2 wires extending from top of furnace, marked "Thermo".

Place vent cover plate against wall on top of furnace. - Fig. H. - Fasten to furnace top with screw provided. Note: For flush-to-wall installation, an optional vent enclosure is used. See Paragraph No. 7.

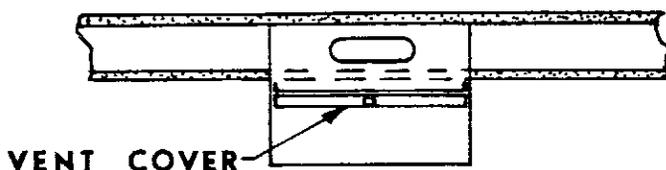


FIG.-H

When furnace is recessed, the crack between plaster and cabinet may be concealed by the use of 3/4" quarter round.

6 - FINISH INSTRUCTION REAR OUTLET FIG. 1

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.

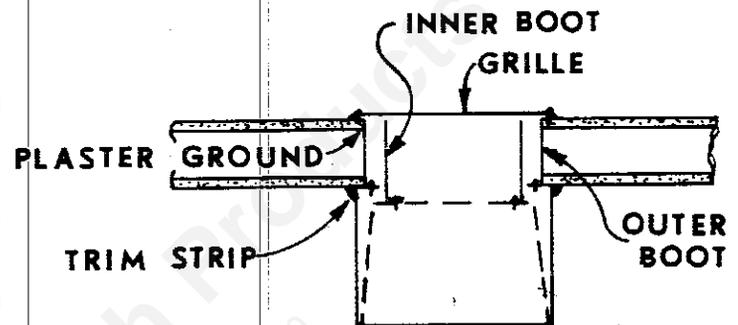


FIG. I

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 inner 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.

7 - OPTIONAL VENT ENCLOSURE

Install Optional Vent Enclosure Fig. J. 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.

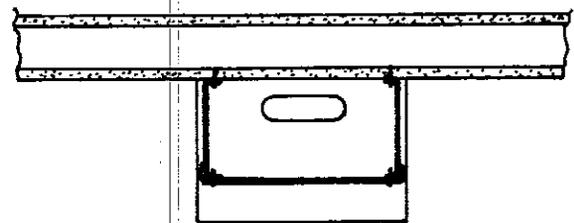
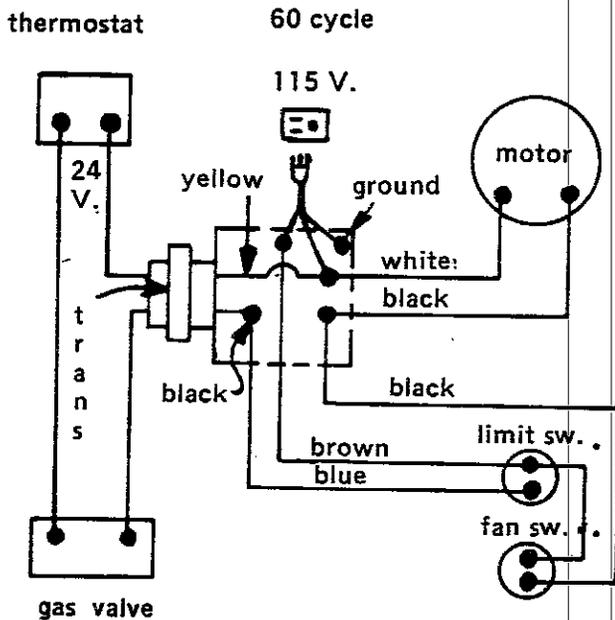


FIG. J

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.



115 V. 60 HERTZ — LESS THAN 3 AMP.
 If any of the original wire as supplied with the appliance has to be replaced, use only 18 ga. 4/64 insulation -- 105°C -- AWM.

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.

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 grills 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.

Your furnace is equipped with single speed control, the burner operates at rated capacity and the blower at one fixed speed.

SAFETY CONTROL: Your furnace is protected against unsafe operation by triple automatic safe 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.

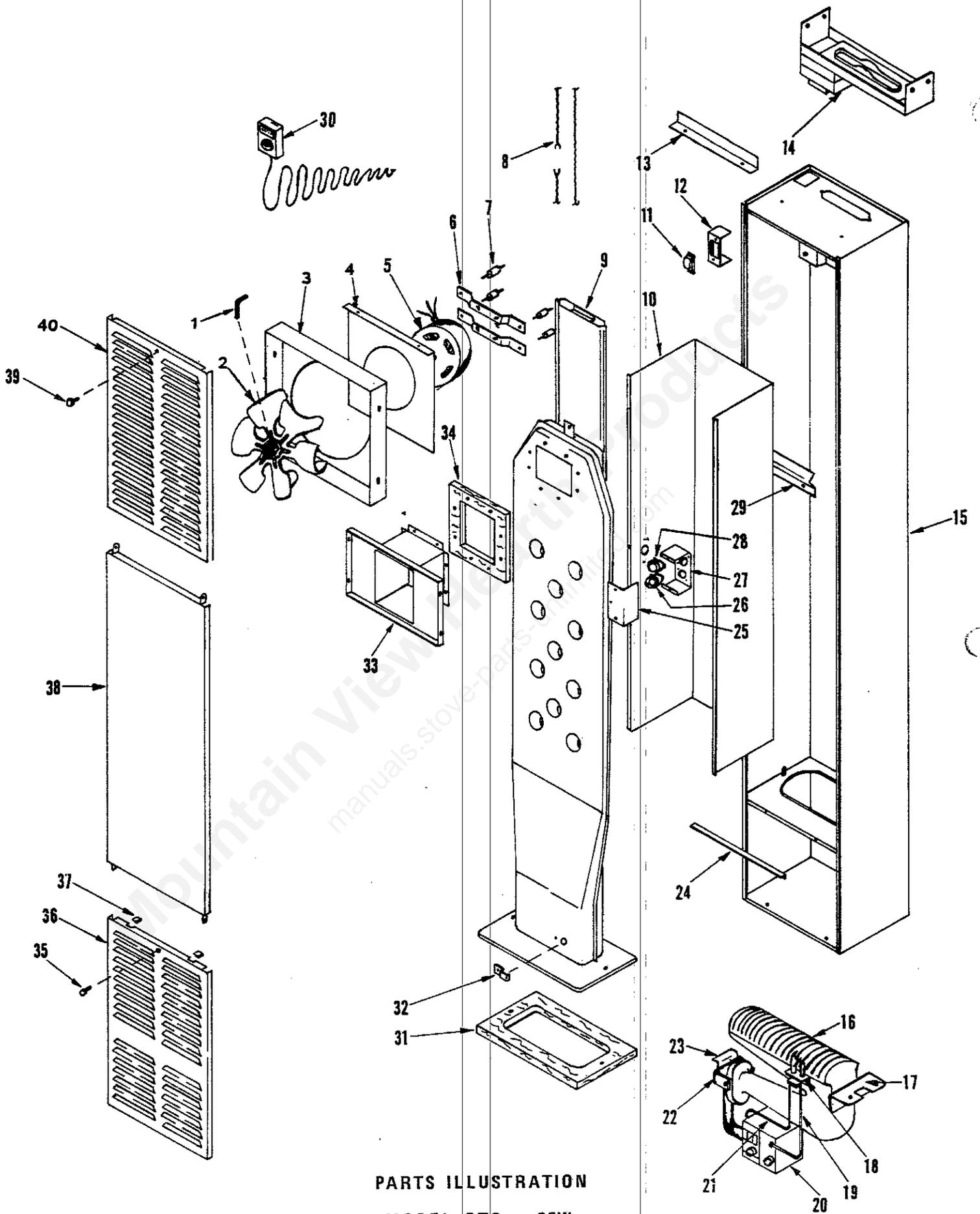
EACH SEASON -- It is recommended that a competent service man completely checks the furnace, motor, and all controls at the start of each heating season. Phone your authorized installing dealer.

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.

The motor will operate under normal service for many years without additional lubrication, However, for maximum life the manufacturer recommends the motor be inspected yearly, dust blown out of the ventilating holes, and a few drops of No. 20 oil added to each bearing cavity - more motors are ruined by over-oiling than from lack of lubrication - Do not over-oil.

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 ILLUSTRATION
 MODEL OTC - 35W

REPAIR PARTS LIST FOR MODEL OTC-35W

Key No.	Part No.	Description
1	9116	Allen Key 1/8"
2	9010	Blower Wheel
3	1809	Fan Cover
4	1886	Fan Shield
5	9011	Motor
6	1781	Motor Hangers
7	9146	Rubber Motor Mounts
8	9112	Wire Harness
9	6630	Heat Exchanger
10	6617	Cabinet Liner
11	9149	Transformer
12	1782	Junction Box
13	1796	Vent Cover
14	6637	Flue Mounting Plate W/Gaskets
15	6611	Cabinet
16	4325	Burner - Cast Iron
17	1817	Burner Brkt. Front
18	9134	Pilot Burner - Nat.
18	9130	Pilot Burner - LPG
19	9426	Thermocouple
20	9096	Gas Valve - Nat.
20	9030	Gas Valve - LPG
21	9517	Pilot Tube
22	9133	Manifold
23	1811	Burner Brkt. Rear
24	1770	Heat Shield Angle
25	1833	Limit & Fan Switch Cover
26	9047	Fan Switch
27	1832	Limit & Fan Switch Brkt.
28	9140	Limit Switch
29	1767	Back Brace
30	9039	Wall thermostat & wire
31	9035	Gasket - Combustion Chamber
32	1792	Pilot Lighter Door
33	6621	Draft Diverter
34	9137	Gasket - Draft Diverter
35	9594	Lower Panel Knob
36	1849	Lower Panel
37	9019	Tinnerman Clips
38	1799	Center Panel
39	9014	Knurled Head Screw
40	1807	Upper Panel

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

UNITED STATES STOVE COMPANY

Lawson Division
SOUTH PITTSBURG, TENNESSEE

LAWSON VENTED GAS HEATERS