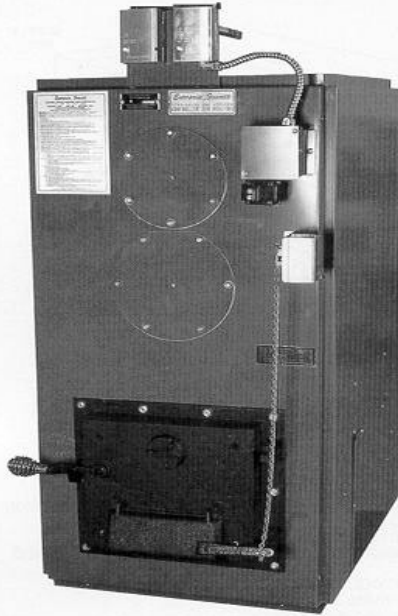




ENTERPRISE FAWCETT

“Compact” Wood Burning Furnace Add-On Model WF90A



Cast Iron Door and Frame

Manufacturer's Comment

The “FAWCETT” Compact Wood Burning Furnace was designed to satisfy the demand for a smaller heating unit capable of looking after the requirements of today's modern sized, well insulated home.

Cabinet insulated with aluminum foil faced fibreglass.

Our model WF90, although smaller in size and output than our WF200 model, offers the same quality features, being very efficient, airtight construction and thermostatically controlled. Cast iron fire door prevents warping.

The heat exchanger is completely electric welded to eliminate all possibilities of leaks. The heat exchanger design is such that the fire and hot flue gases make three separate passes before leaving the furnace. The primary heat exchanger is constructed of 1/8" steel plate and the secondary heat exchanger is of 16 gauge steel.

Separate blower and cabinet.

The free standing fan box can be installed on either side of the furnace.

6 Year Limited Warranty on Model WF90.

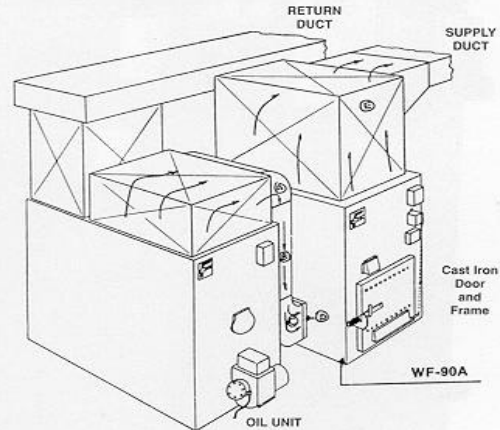
For use as an add-on to your existing oil fired W.A. system, please specify WF90A.

Optional Hot Water Coil (coil not CSA certified)



CSA certified

WF90A Installed with Oil Furnace



DUCT KIT

- A. 20" x 16" TRANSITION SHORTWAY ELBOW TO 20" x 12", 6" RADIUS, 20" x 16" END FLANGED, 20" x 12" END TO DUCT.
 - B. 20" x 12" DUCT LENGTH (35" LONG).
 - C. 20" x 12" TRANSITION SHORTWAY ELBOW TO 20" x 12", 6" INSIDE RADIUS.
 - D. 20" x 12" FLAT COLLAR, ONE END FLANGED.
 - E. 36" HIGH PLENUMS 22" x 28 1/2"
- AIR FLOW

SPECIFICATIONS

LENGTH	30 1/2"
WIDTH FURNACE	24"
HEIGHT	45 1/2"
BLOWER CABINET	18W x 30 1/2L x 45 3/4H
FIRE BOX	20" DIA. x 26L
FIRE DOOR OPENING	10 1/2"H x 12 1/2"W
SMOKE PIPE	7"
BTU OUTPUT (APPROX.)	90,000
BLOWER	10"
BLOWER MOTOR	1/3 H.P.
STATIC PRESSURE	0.20" W.C.
AIR FILTERS	2 - 16 x 20 x 1
W.A. PLENUM 26 GA.	22" x 28 1/2"
C.A. PLENUM 26 GA.	16" x 28 1/2"
SHIPPING WEIGHT - FURNACE	300 LB.
SHIPPING WEIGHT - BLOWER	110 LB.

INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS:

Read these instructions carefully. Consult your local authorities concerning local fire safety regulations. Installation must be made in accordance with the Local, Provincial or State codes in your area which may differ from this manual. Always comply with the most severe application. Proper installation and use will ensure safe and satisfactory performance. Improper installation or use could result in voiding your warranty.



ENTERPRISE FAWCETT
Making Wood Stoves Since 1852

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Sackville, NB
E4L 4A2

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We reserve the right to make improvements and design modifications without notification.

GENERAL INSTRUCTIONS:

Read all instructions and labels thoroughly. Check for any signs of damage before beginning installation.

NOTE:

Burn Wood Only. If furnace is installed in a tight basement or furnace room, adequate air must be supplied for combustion and ventilation.

Minimum Clearances from Combustible materials:

Front: 48" (122 cm)

Side 1: 24" (61 cm)

Side 2: 18" (46cm) above plenum and first 6' of duct including the branch runs 6".

Duct: ½"

Flue Pipe: 18"

Floor: Non-Combustible

Note: Maximum limit setting is 257° F. (125° C.)

GENERAL INSTALLATION:

- ◆ Your Fawcett Wood Furnace can be set up with the oil furnace on either the left or right-hand side. This may simplify the duct installation. Place the furnace near the chimney to eliminate flue pipe and elbows as much as possible.
- ◆ Set the furnace on a full sized non-combustible level foundation (recommend cement slab about 2" thick with about 18" extra in front of feed door).
- ◆ Place the furnace on foundation in the selected area.
- ◆ The installation must conform with local ordinances having jurisdiction.
- ◆ Fuel storage must conform with local ordinances having local jurisdiction.
- ◆ Connect the furnace to an approved chimney for solid fuel. Recommended chimney size 8" x 8" inside. Smoke pipe should have a minimum of 1¼" rise per foot of run. Install draft control at this time. The draft control setting must not exceed 0.05" W.C. **WARNING:** To exceed - 0.05" W.C. Draft could cause a fire to burn out of control.
- ◆ All smoke pipe joints must be secured with metal screws. Smoke pipe should be constructed of 24 gauge metal.
- ◆ The unit may be used as a gravity system in a power failure and we recommend the following:
- ◆ Locate the furnace as near central as practical for better distribution of warm air.
- ◆ Oversize the extended plenum (rectangular duct) one or two sizes according to recommended sizes in National Warm Air Standards.

- ◆ Use 6" diameter pipe size.
- ◆ Where possible grade (slope) ducts and pipes upward to assist in gravity flow of warm air.
- ◆ Do not use a smoke pipe damper with this furnace.
- ◆ The furnace should be installed by a qualified installer.
- ◆ Install the humidifier in return air plenum as heat at power failure time may damage the humidifier.
- ◆ Install thermostat in selected area.
- ◆ Do not store fuel within furnace installation clearances or within the space required for charging and ash removal.
- ◆ The chimney will be a type suitable for solid fuel burning appliances. The chimney and flue pipe must be clean and in good condition.

INSTALLATION INSTRUCTIONS:

The Fawcett WF 90A Wood Fired Furnace has been certified by the Canadian Standards Association for series connexion to the outlet only of an existing oil fired furnace. The following instructions must be observed to insure safety and comfort.

The WF 90A may be connected to the oil furnace with a minimum input of .65 G.P.H./U.S. and a maximum of 1.10 G.P.H./U.S. Oil furnaces which burn less than .65 G.P.H. or more than 1.10 G.P.H. are not suitable for connexion to the WF 90A.

The interconnecting duct will have a cross-sectional area of not less than 240 sq.in. and the duct elbows will have a minimum inside radius of 6". The installer will find that the Fawcett add-on kit, which includes the proper elbows and 20" x 12" duct is the most suitable for this installation.

The installer will find it necessary to enlarge the existing opening in the appropriate side panel of the furnace.

A typical add-on installation is shown in Figure 2. This configuration must be followed. The wood furnace may be on either side of the oil furnace.

Wire the wood furnace in accordance with Figure 3 using the wiring harness and controls provided. The proper positioning of the controls is shown in Figure 2. The interconnecting wiring from the oil furnace to the wood furnace will conform to all local codes and regulations. It is recommended that an approved conduit be used for this purpose. Limit control to be nearest the oil furnace.

CAUTION:

DO NOT CONNECT THE DUCTWORK IN SUCH A MANNER THAT REVERSE AIR FLOW IS POSSIBLE.

OPERATE THE OIL UNIT PERIODICALLY TO ENSURE THAT IT WILL OPERATE SATISFACTORILY.

DO NOT RELOCATE ANY OF THE SAFETY CONTROLS IN THE ORIGINAL INSTALLATION.

BE SURE THAT THE DUCT SYSTEM IS IN GOOD CONDITION AND THAT THE CHIMNEY IS SUITABLE FOR CONNEXION TO A WOOD BURNING APPLIANCE.

DO NOT CHANGE THE OIL FURNACE BLOWER.

NOT CERTIFIED FOR INSTALLATION USING A DIVIDER IN THE PLENUM OF THE OIL FURNACE.

TO THE INSTALLER:

It is necessary to ensure that there is sufficient air flow through each furnace after the add-on installation has been completed. It is suggested that the temperature rise method be used since most installers are likely to have the necessary equipment. The temperature measurements may be made by using a potentiometer and thermocouples, mercury thermometers or bimetal dial thermometers. If thermometers are used, sufficient time must be allowed for the thermometer to reach the actual temperature. As much as twenty minutes may be required.

PROCEDURE:

Existing system must be checked and recorded prior to any alteration. To check the existing system, drill a 1/4" hole in the side of the return air plenum on an oil furnace and a similar hole in the side of the main supply air duct, 24" from the supply air plenum. Insert a temperature measuring device in each of these holes and start the oil furnace. Allow the oil furnace to operate until all temperatures thus obtained and note the temperature difference, this difference should not exceed 85° F (47° C).

Complete the installation of the WF 90A in the add-on mode, in accordance with Figure 2 and drill a third 1/4" hole in the 20" x 12" duct, see Figure 2. Insert a temperature measuring device.

Operate the oil furnace again until temperature stability has been reached and note the temperature difference. Should this temperature difference exceed 85° F (47° C), increase the blower speed by pulley adjustment and/or change until the temperature rise is equal to or less than 85° F (47° C). A further increase in the blower speed will be necessary.

Once the proper air temperature rise has been obtained, an ammeter should be connected to the blower motor to measure the current draw. If it exceeds the rating on the motor rating plate, change the motor to the next higher horsepower rating, again measure current draw and ensure that this is within the rating on the motor rating plate.

It is permissible to change the blower motor and the blower drive in the oil furnace but a change of a blower is not permitted.

This equipment must be installed according to the manufacture's instructions and in a manner acceptable to the regulatory authority having jurisdiction, by mechanics experienced in such services. When required by the regulatory authority.

This installation will comply with the applicable requirements of C.S.A. standard B365, "Installation for Solid Fuel

Burning Appliances and Equipment,” and if changes are made to the installation of the oil furnace, these will comply with C.S.A. Standard B139, “Installation Code for Oil Burning Equipment”.

When the installation is complete, close the power supply switch and set the thermostat above room temperature. Damper motor should open draft door. If not, check the following: (a) freedom of draft door, (b) power supply and fuses, (c) output of a transformer to damper motor, if output is ok, damper motor is defective. Oil blower motor twice a year with 2-3 drops of SAE 20-30 motor oil on each bearing.

OPERATION:

The chimney will be of an approved type for solid fuel.

BURN WOOD ONLY.

Do not fill the firebox above the level of the fire door handle catch.

Do not use fluids, gasoline, chemicals, etc. to start the fire.

Do not burn garbage, tar products, gasoline, oils, plastics, rubber, driftwood containing salt and chemicals, etc.

Do not set flue draft above 0.05" W.C.

WARNING:

If flue draft is increased for any reason, it could cause a solid fuel fire to BURN OUT OF CONTROL.

Keep doors, seals, gaskets and flue pipes in good condition.

Keep doors closed when operating.

NOTE:

Check furnace, flue pipe and chimney for creosote build-up daily until experience shows how often cleaning is necessary. Be aware that the hotter the fire the less creosote is deposited, and weekly cleanings may be necessary in mild weather even though monthly cleanings may be enough in cold weather.

OUT OF CONTROL FIRE:

Caused by excessive fuelling, soot build-up or too much draft:

Close all supply of combustion air to the fire by lowering the thermostat setting or unhooking the damper chain.

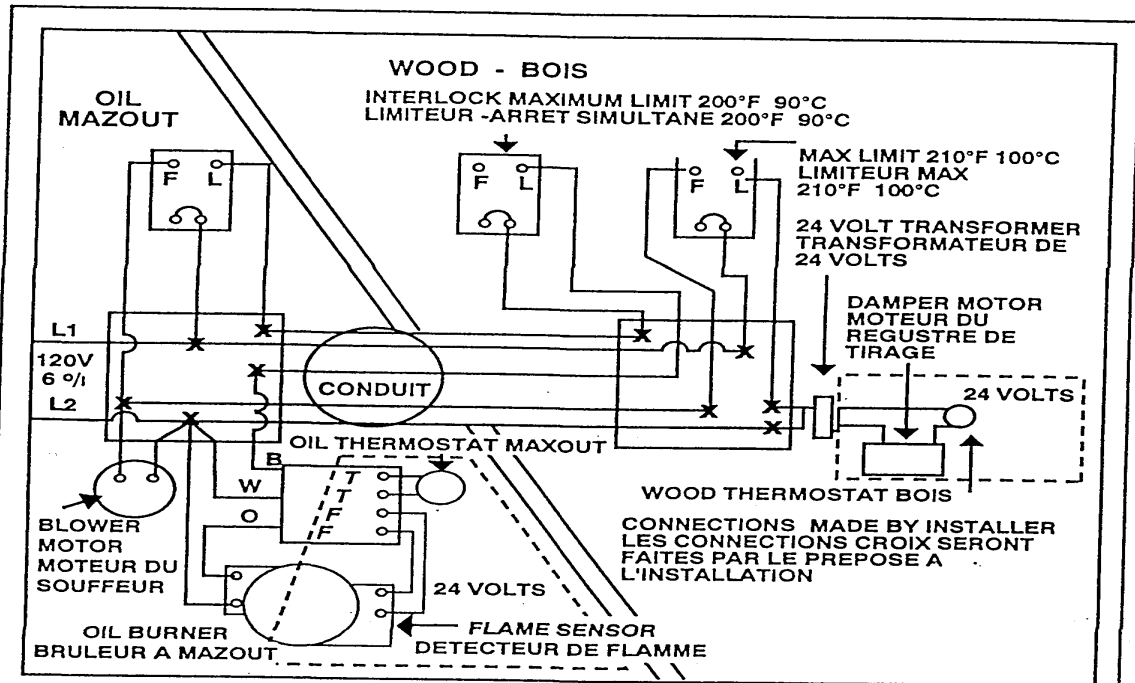
Reduce draft by fully opening the flue pipe draft regulator.

Since excess heat may damage the safety controls, they should be checked before restoring the furnace to service.

POWER FAILURE OPERATION:

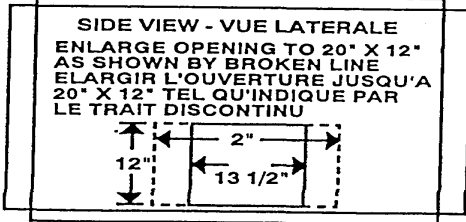
- ! Remove gravity panel.
- ! Open all warm air registers and dampers.
- ! Open furnace room door for air circulation.

- ! Maximum fuel charge 1/2 way between door catch and sill.
- ! Maximum draft opening C" - Caution: DO NOT EXCEED THIS OPENING.
- On bottom edge of combustion air door is a hinged piece of C" in a power failure operation, hinge this piece upward and close door, this will give the required draft opening. When power is restored and thermostat calls for heat, the C" hinge will drop downward to normal operation position.
- ! Do not allow inexperienced operator to service fire.
- ! Check controls for proper operation when power is restored.



CERTIFIED BY CANADIAN STANDARDS ASSOCIATION
 HOMOLOGUEE PAR L'ASSOCIATION CANADIENNE DE NORMALISATION
 MAY - MAI 1982 FBL 11187 - 96

DUCT CONNECTIONS: WF90A / WF200A
 RACCORD DE CONDUIT: WF90A / WF200A



- DUCT KIT - KIT DE CONDUITS**
- 1 ELBOW - COUDE 20" X 16" TO 20" X 12"
 - 1 DUCT 20" X 12" - 36" LONG
 - CONDUIT 20" X 12" - 36" DE LONG
 - 1 ELBOW - COUDE 20" X 12"
 - 1 FLAT COLLAR - 20" X 12"
 - COLLET FLAT 20" X 12"

ENTERPRISE FAWCETT
 SACKVILLE, NEW BRUNSWICK

FIGURE 3

NOTE:

The flue products contain carbon monoxide, particularly where the wood is being starved for air (made to burn at a slow rate). Vent pipes should have a relatively gas-tight secure engagement.

Connect furnace to a chimney approved for solid fuel. Avoid long horizontal runs of vent pipe, use as few elbows as possible. Horizontal pipes should be graded upward 1 ¼" per foot of run. All vent pipe joints should be gas tight and held together with sheet metal screws.

CHIMNEY FIRE CONTROL:

- ! Close draft regulator.
- ! Close combustion air damper, lower thermostat setting or unhook chain.
- ! Starve the fire for air.
- ! Do not attempt to remove the flue pipe.
- ! Inspect the flue passage and chimney before restoring system to service as damage may have been caused from excessive heat.

This unit is not certified for use with an automatic stoker.

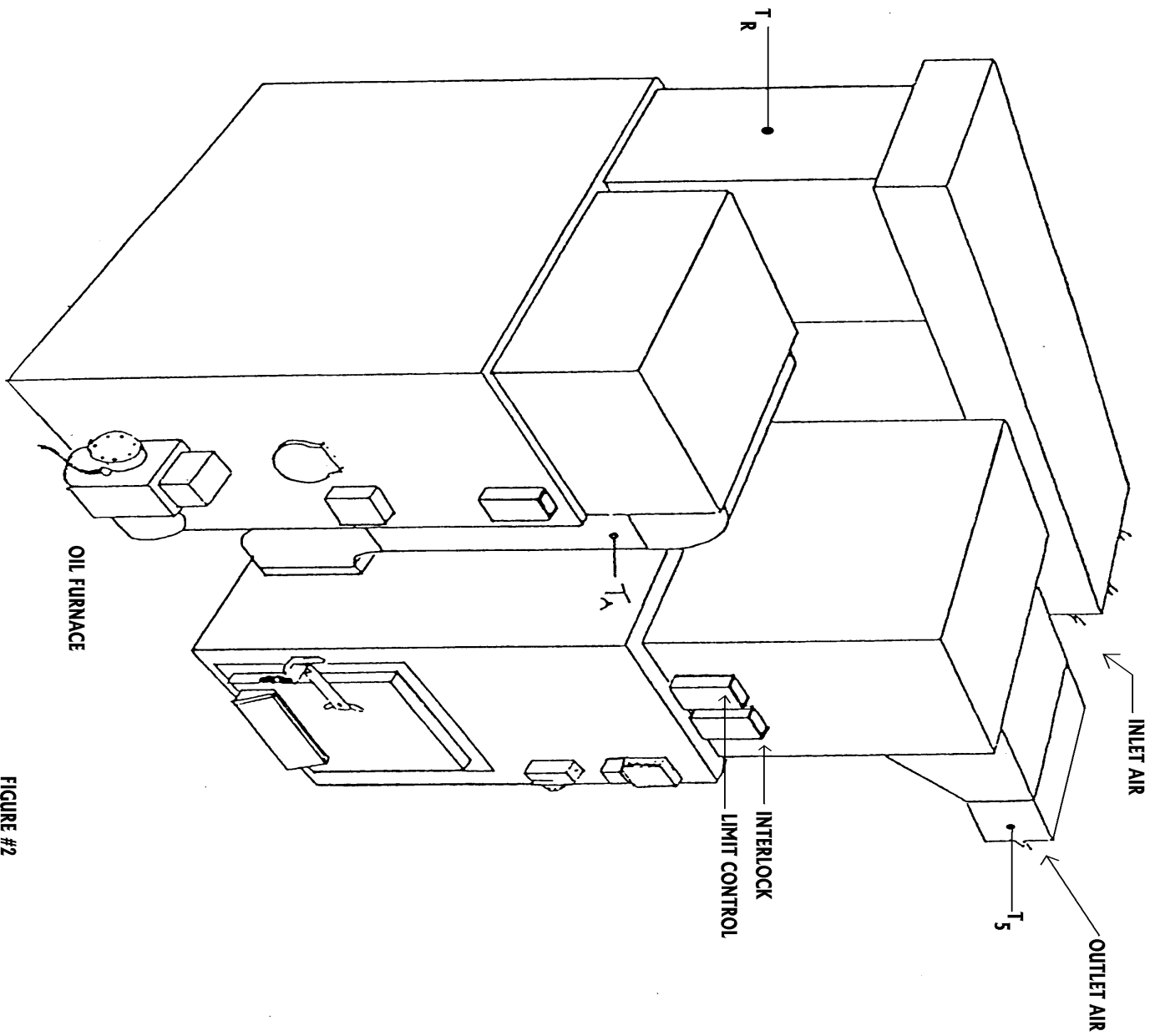
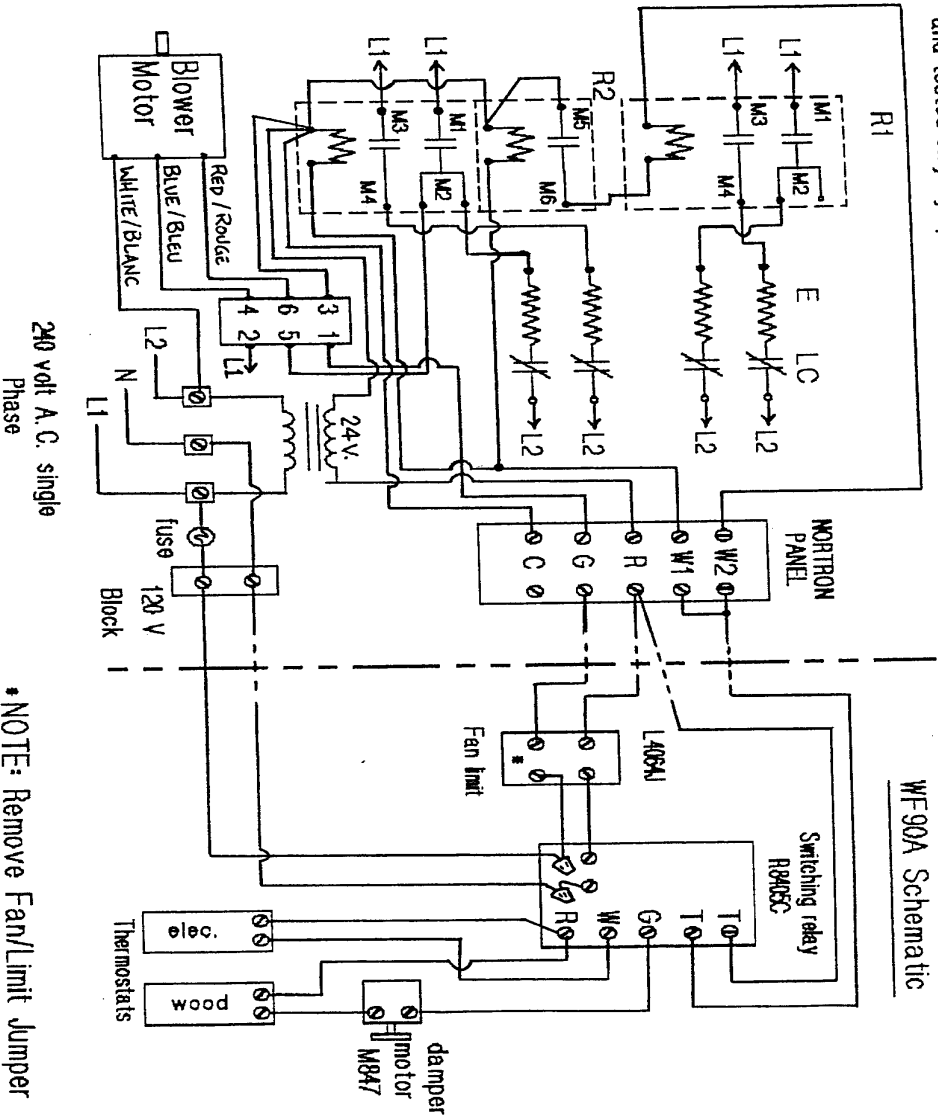


FIGURE #2

NORTRON ELECTRIC FURNACE
B-18-20 KW 240 volt

ENTERPRISE FAWCETT

CAUTION: this equipment may be installed
and tested only by qualified personnel.



*NOTE: Remove Fan/Limit Jumper

CAUTION: Always disconnect electric
power from both the electric
and add-on furnace before
servicing.

WF 90A WOOD-ELECTRIC ADD-ON
ELECTRICAL SCHEMATIC FOR
NORTRON series B 20KW UNIT

ENTERPRISE FAWCETT

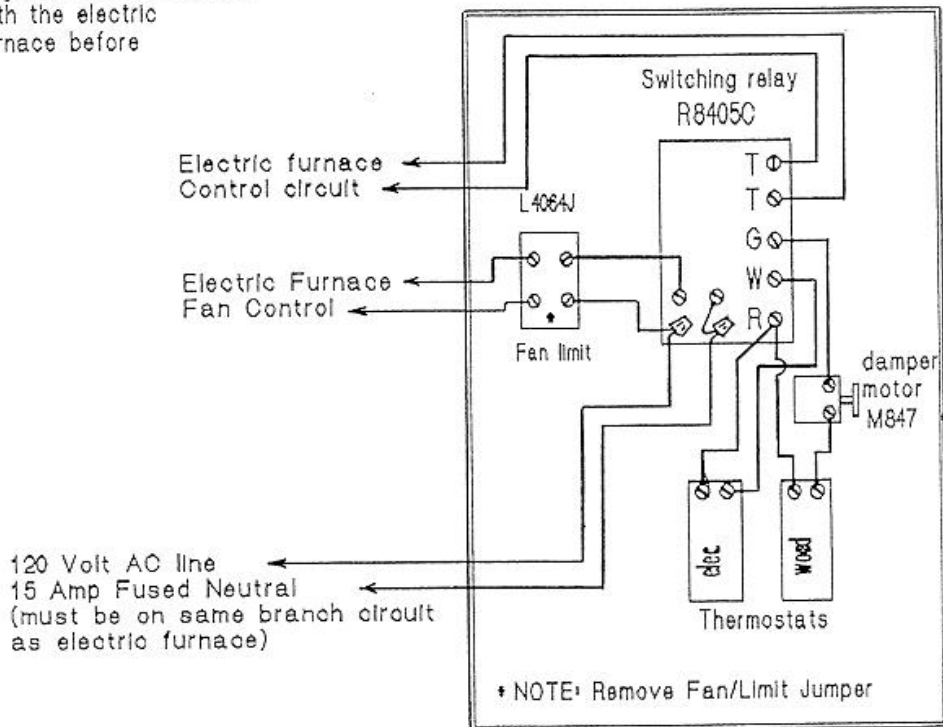
OTHER ELECTRIC FURNACES APPROVED TO CSA C22.2 No. 23 - 1980
"ELECTRIC CENTRAL WARM AIR FURNACES"

The WF 90A may be added to an electric furnace having
an original name plate rating between 20 KW and 33.8 KW.

CAUTION: this equipment may be installed
and tested only by qualified personnel.

CAUTION: Always disconnect electric
power from both the electric
and add-on furnace before
servicing.

WF90A ADD-ON WOOD FURNACE



ALL ELECTRICAL WIRING MUST CONFORM TO NATIONAL AND LOCAL CODES
WIRING TO FAN/LIMIT CONTROL SHOULD BE 105 Deg C TEW
MOUNT WIRING ON STANDOFF BRACKETS PROVIDED

