

SCOTTY

WOOD FURNACE MODEL DB-102

OWNER'S MANUAL

IMPORTANT

READ OWNER'S MANUAL THOROUGHLY BEFORE INSTALLING FURNACE OR LIGHTING FIRE.

CONSULT LOCAL AUTHORITIES IF IN DOUBT ABOUT YOUR LOCAL FIRE SAFETY REGULATIONS.

ALL INSTALLATIONS MUST BE MADE IN ACCORDANCE WITH LOCAL AND STATE OR PROVINCIAL CODES WHICH MAY DIFFER FROM THIS MANUAL.

IMPROPER INSTALLATION WILL RESULT IN VOIDING OF WARRANTY.

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Rear Cover

GRANBY SCOTTY Wood Furnace Model DB-102

Certified by the Canadian Standards Association

Manufactured by: GRANBY FURNACES INC
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 12118 HIGHWAY 209
 PARRSBORO NOVA SCOTIA CANADA
 B0M 1S0

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SPECIFICATIONS

Length		46 1/2"
Width		22 1/2"
Height		43"
Shipping Weight		344 lb
Fire Box 1/8"plate	Length	27 1/2"
	Diameter	18"
Secondary Heat Exchanger		14 gauge steel
Fire Box Door	Cast Iron	12" x 12"
Warm Air Plenum		28 7/8" x 20 5/8"
Return Air Plenum		14 1/2" x 20 5/8"
Air Filter Size		16" x 20" x 1"
Blower Size		G9 – 10
Blower Motor		1/4 hp
CFM		1000 (Required)
Smoke Pipe		7" Inside Diameter
Floor to smoke pipe center		36"
Output (max)		70,000 Btu/h
Fuel		Wood 24" logs
Electrical Rating		Volts 120, Cycles 60, Amps 15

NOTE – Keep this manual in a safe place for future reference. Follow manual carefully for the correct way to install and operate this unit.

CAUTION – Do not fire this unit until operating instructions have been read and fully understood.

INSTALL WOOD FURNACE ONLY ON A FURNACE DUCT SYSTEM AND CHIMNEY THAT ARE IN GOOD CONDITION AND APPROVED FOR USE.

SAVE THESE INSTRUCTIONS

1.0 OPERATING INSTRUCTIONS

1.1 INTRODUCTION

Congratulations on your purchase of the Granby Scotty wood furnace. Developed in Atlantic Canada, this furnace has been designed to allow you to heat your home with wood, one of North America's most abundant fuels. Designed with you in mind, the Scotty wood furnace will provide you with many years of safe and efficient central heating.

To ensure you have a clear understanding of the operating procedures of this furnace, please take the time to read the remainder of this section on operating procedures.

1.2 WOOD-BURNING

The furnace will burn most wood fuels however it is recommended that only dry, seasoned hardwood be used as much as possible since it affords cleaner, safer and more efficient operation. Burning seasoned hardwood will leave less ash, soot and creosote residue and will require fueling less often. Use smaller loads of wood on warmer days.

WARNING: DO NOT use chemicals or fluids to start the fire or during operation. **DO NOT** burn driftwood or manufactured logs (compressed wood).

Before adding fuel to an existing fire turn up the thermostat for about five minutes or lift damper chain to hold damper fully open for about one minute before opening the loading door. This action will allow residual smoke to clear from the combustion chamber and reduce smoke entering the basement during refueling.

Twice daily refueling may be sufficient in modern well-insulated homes. However, we recommend that small fuel loads be added morning, noon and early evening and late evening, rather than large quantities infrequently. A small intense fire will burn more efficiently than a large smoldering fire and will produce less creosote.

When refueling, the remaining coals should be raked to the front of the combustion chamber before adding any new fuel. Place the fresh supply of wood to the rear of the combustion chamber. This gives more of an even cigar type fuel burn, rather than a large hot fire to a slow amber fire. This will help create a more even and efficient burn. The owner should attempt to gauge fuel quantities with outdoor temperatures; a little practice will provide greater satisfaction and efficiency.

WARNING: This furnace is not to be used with an automatic stoker. Keep firing door tightly closed and maintain door seal in good condition.

CREOSOTE

Wood combustion is never 100% complete. Wood smoke always contains some unburned gases and a mixture of unburned tar-like liquids. A percentage of these materials will condense out on any cool surface leaving a dark brown or black substance with an unpleasant acrid odour. This substance is commonly called creosote.

These wood gases condense out on cool surfaces such as a cold chimney or a long smoke pipe; they retain large amounts of water and will be very fluid. At higher temperatures the condensed creosote will resemble tar (thick and tacky).

Creosote generation is highest during low heat outputs common with long smoldering burns. Creosote generation is lowest during high heat outputs common with intense fires. It is recommended that a small intense fire be used for best results against creosote build up even though the wood furnace will require refueling more often.

Creosote generation is also higher when burning green wood. The moisture in the green wood absorbs the heat from the fire, cooling the fire below the point at which the creosote can be consumed. The low temperature smoke is then further cooled in the upper furnace chambers' smoke pipe and chimney allowing large amounts of creosote to form.

To reduce creosote build-up during periods of low heat requirements (i.e. Spring and Fall) it is recommended to fuel the wood furnace with smaller quantities of smaller diameter logs. Matching fuel loads and heat requirements will generally result in cleaner combustion and higher efficiency.

IN CASE A SERIOUS CREOSOTE FIRE BEGINS:

- a) Close the damper door by disconnecting chain.
- b) Close all draft regulators.
- c) Throw 1/2 lb of coarse or table salt on the fire and close door immediately.
- d) Call the FIRE DEPARTMENT at once!

Have a firmly established Emergency Procedure in place for the handling of a flue fire.

1.3 STORAGE OF WOOD

Once cut, green wood dries (or seasons) quickly at first and then at a slower rate. When the wood has been cut to the proper length and split it should be piled outside during the summer months. Place two poles on the ground to serve as rails to keep the firewood off the moist ground. Stack the wood so that both ends of the logs are exposed to the air if space is available, since more drying occurs through the cut ends than through the sides. This is true even with wood that has been split. The woodpile should be under cover so that it will not absorb moisture from the rain and snow before it is used but still open on the sides and ends to the drying effect of the wind and sun. Store wood in neat well supported piles.

1.4 MAXIMUM SOLID-FUEL CHARGE

The maximum level for a solid-fuel charge is the middle of the loading door or the level of the handle. **DO NOT OVERFILL.** The furnace will accept whole or split logs up to 27" (686 mm) long but a 24" (610 mm) log length is recommended for convenience and ease in handling.

Maximum damper gate opening is 11/16". Do not tamper or adjust to greater opening in an attempt to increase fire or over-firing and hazard may result.

1.5 MAINTENANCE

Some regular maintenance is necessary. A good practice is to establish a routine for the storage of fuel, care of the appliance and firing techniques.

1.5.1 CLEANING (Fig S102-6)

The furnace must be cleaned regularly to maintain top efficiency. The furnace needs cleaning more often when burning green wood or during long periods of low fire. When the furnace is first installed the heat exchanger should be checked visually from the firebox and smoke pipe hole every week to determine the rate at which creosote or ash is accumulating within the furnace. Cleaning should be done whenever there is more than 1/4" of build-up on the heat exchanger or 3" of ash in the base. If the furnace is to be left unused for an extended period of time (more than one month) then the appliance should be cleaned of all ash and residual left from the burning of wood.

CLEANING PROCEDURE:

- 1) Make sure fire is completely out and the furnace has cooled.
- 2) Remove the smoke pipe located on the rear of the furnace heat exchanger.
- 3) The heat exchanger is now accessible for cleaning.
- 4) Use the scraper provided to remove all soot and ash from the furnace heat exchanger and exposed surfaces.
- 5) Scrape all residues in the top heat exchanger towards the front of the furnace where it will fall into the firebox.
- 6) Always check flue pipe for creosote or ash build-up in the pipe and clean if necessary.
- 7) Reinstall smoke pipe making sure that all joints are secured with at least 3 sheet metal screws.
- 8) Check chimney cleanout for ash build-up and remove any accumulation.
- 9) Residue may be removed from the firebox or left to be burnt during the next fire. It is good practice to leave a layer of ash approximately one inch deep in the base of the firebox.

DISPOSAL OF ASHES

Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled. **IMPORTANT** – No other waste shall be placed in this container.

WARNING – Ashes usually contain live dormant coals which may burn for many hours after a recognizable flame has disappeared. Use extreme caution when handling and disposing ashes.

1.5.2 SERVICING

The furnace air filter must be checked monthly and replaced each year. Annually lubricate the blower motor, if it is not permanently lubricated, with 4-6 drops of SAE-30 oil in each bearing.

CAUTION: Failure to keep air filter clean will result in poor furnace performance and possible damage to the heat exchanger.

1.6 SAFETY

If the furnace overheats due to improper operation the following precautions should be taken:

- 1) **DO NOT** shut off power. The blower must be kept running to disperse excessive heat.
- 2) Manually close the damper door by unhooking the chain.
- 3) Check controls for proper operation before starting a new fire.

WARNING – The maximum opening of the combustion air damper is preset at the factory. **DO NOT** adjust the stop or attempt to increase the combustion air by any means.

1.7 CONTROLS (Fig S102-3)

Thermostat

The primary control is the room thermostat located near the center of the house on the main floor or near an existing thermostat. The thermostat operates the damper motor to open and close the damper door thus allowing more or less air into the combustion area to control the fire.

Fan & Limit

The fan and limit control mounted in the plenum controls the operation of the circulating blower and prevents the furnace from over-heating. When the air temperature in the plenum reaches the “ON” set point of the fan switch (usually 140°F (60°C)) the blower starts and runs until the plenum cools to the “OFF” set point (usually 100°F (38°C)) when the blower is switched off. The limit function in this control is usually set at (250°F (121°C)) and will override the room thermostat to close the damper door if the furnace overheats and will also prevent the oil furnace from starting.

1.8 ELECTRICAL POWER FAILURE

If no one is home during a power failure the damper will automatically close and some gravity heating will take place. Combustion air will continue to enter through the secondary air holes and a fire should be maintained.

IMPORTANT – This furnace is CSA certified for operation under power failure only if the following procedure is followed.

For optimum heating during a power failure follow the procedure listed below:

- 1) Manually open the blower compartment access door of the wood furnace to allow gravity flowing air to all areas (check with your installer).
- 2) Place a coin under the damper flap in such a way that it will fall clear when power is restored.
- 3) Maintain a careful watch on the furnace temperature. If it should exceed 200°F (95°C) close the damper door.
- 4) Do not leave the furnace unattended in this position.
- 5) Refuel frequently with small load to maintain a small fire at 1/2 normal maximum volume.
- 6) Do not expect to maintain maximum comfort under power failure conditions.
- 7) Do not allow anyone who is unfamiliar with the operation of the furnace to attend it during a power failure.

1.9 HOMEOWNER CHECKLIST

- Keep area around unit clean and clear of combustibles.
- Use only dry wood. **DO NOT** burn garbage, gasoline or naphtha.
- Load carefully.
- Remove ashes as directed.
- Watch for soot in smoke pipe – clean regularly.
- Clean furnace heat exchanger regularly.
- Be aware of danger due to over firing unit.
- Do not load above maximum loading level (middle of loading door) or overheating may result.
- This unit is NOT suitable for automatic stoking.
- Load carefully. Do not slam fuel against rear or sides of firebox. This may damage the firebox.
- Always observe the following minimum clearances to combustible materials – Front 48” (1220 mm); one side 6” (152 mm); opposite side and rear 24” (610 mm); and flue pipe 18” (465 mm).
- Do not store solid fuel within the above clearances or within the space required for charging and ash removal.
- Establish a routine for storage of fuel, care of the appliance and firing techniques.

2.0 INSTALLATION INSTRUCTIONS

2.1 INTRODUCTION TO INSTALLERS

Before installing the furnace, please read the following instruction manual carefully. This unit is designed as a freestanding or add-on central heating furnace to provide complete central heating in medium sized well-insulated homes. Before installing be sure unit is properly sized for the intended application. Warranty does not cover misapplication of unit.

Applicable Standards

The furnace must be installed in accordance with the requirements of the National Fire Protection Association codes, the Canadian Heating, Ventilation and Air Conditioning Code, The National Board of Fire Underwriters and the CSA Standards for solid fuel burning equipment as outlined in B365. In all cases consult your local authorities and fire insurance company for specific regulations.

2.2 UNCRATING

When you receive your furnace, check it carefully to ensure that all components are present and in good condition. If there has been any damage or loss in transportation please notify the carrier and retailer at once. Inspect for the following:

- Firebox/Heat exchanger
- Poker/coins rake
- Marking template (return air and power failure bypass inlet)
- For free-standing model optional equipment required:
 - a) Control Kit “B” (Scotty only)

CONTROL KIT B (free-standing) that includes:

- L4064R Fan and Limit Control
- Control Mounting Plate
- Damper Motor
- Thermostat (T822D or equivalent)
- Wiring Harness and Parts
- Transformer– Kit “B” only

NOTE: Some parts may be packed inside furnace firebox. Check shipment carefully before assuming shortage.

2.3 LOCATING THE FURNACE (Fig S102-2)

The location of the furnace must be as close as possible to the chimney. The chimney must be approved for wood burning appliances (ULC S629). Keep in mind also the day-to-day operation and place for ease of fueling and cleaning. We recommend installation, if possible, in a central location in relation to the outlet registers and the use of large warm air ducts to improve heat distribution during a power failure.

It is important to provide adequate combustion air to the furnace. It may be necessary to add a ventilator to an exterior wall of a closed furnace room or an airtight basement.

The furnace must be installed so that the clearances as shown in Fig. S102-1 or those of local authorities are met. If the furnace must be installed on a combustible floor, a non-combustible base must be built as shown in Fig. S102-2. Two layers of hollow masonry block (4” thick) are placed at right angles to each other so that the ventilation holes of one layer are opposite to those of the other layer. Also there must be a minimum of one layer of fireproof board and one layer of 26 gauge galvanized metal beneath the masonry blocks. This base must extend beyond the furnace to a minimum distance of 18” (457 mm) in front and 8” (204 mm) on all sides.

2.4.1 COMBUSTION AIR SUPPLY

Air inlets of at least 200 square inches free area (1.5 in²/1000 Btu) must be provided to the room occupied by the wood-fired or oil-fired furnace. These fresh air inlets must provide or allow free access of fresh outside air to the furnace. At no time or under any circumstances can a wood or oil-burning appliance be starved of combustion air.

The appliance must at all times be able to maintain the approved stack draft. The barometric draft regulator must be installed on the furnace smoke pipe in the same room or at least in such a way that there is unrestricted free passage of air between the combustion air inlet to the furnace or burner and the barometric draft regulator.

It is important to provide adequate combustion air to the furnace. It may be necessary to add a ventilator to an exterior wall of a closed furnace room or an airtight basement.

Operating a wood or oil-fired appliance with inadequate combustion air could be hazardous.

2.4.2 FLUE PIPE & CHIMNEY

The furnace must be located to meet a minimum venting distance needed between the furnace and the flue. It should also be ducted so that there are a minimum number of elbows used. The flue pipe must be installed with a gradual rise of 1/2" or more per foot from the furnace to the flue.

NEVER ALLOW THE SMOKE PIPE TO RUN DOWNHILL TO THE FLUE!

The smoke pipe and chimney should be at least 7" in diameter. The flue pipe or a chimney may be of different cross-sectional area than that of the appliance smoke pipe, provided that sufficient draft is available at the appliance. Space must be provided around the smoke pipe and the back of the furnace to allow easy access for the purpose of cleaning. Smoke pipes must not be lighter than 24 gauge black steel. All pipes must be securely fastened with at least 3 sheet metal screws at every joint and properly supported.

Always meet or exceed flue pipe clearance specifications - 18" clearance from flue pipe to combustibles in all directions.

Connect the furnace only to an approved chimney suitable for solid fuel appliances and capable of venting the product of combustion. The chimney must be installed with proper clearances above roof and from adjacent structures and trees. If a masonry chimney is used it must be in good condition and be equipped with a tile liner. Flue thimble or flue pipe must not extend into the chimney flue, as it will reduce the draft.

Connect only to a flue or chimney capable of maintaining a negative draft of .05" wc at all times and conditions.

WARNING: If this setting is exceeded it could cause a solid fuel fire to burn out of control.

We recommend that the furnace be connected to its own chimney. However, two or more fuel fired appliances, other than fireplaces or incinerators, may be connected to the same chimney.

The National Standard of Canada, Installation Code for Solid-Fuel-Burning Appliances and Equipment, CSA-B365-01 clause 5.2.9 states that:

Two or more appliances shall not be connected to the same chimney flue unless:

- a) The appliances are located on the same storey;
- b) A negative pressure is maintained at the flue collar of each appliance;
- c) Each appliance is provided with a means to control the rate of flow of air or flue gases through the appliance combustion and heat exchanger chambers. Where limitations on flue pressure (draft) are contained in the manufacturer's instructions, such means shall be capable of maintaining at the flue collar, the pressure specified by the appliance manufacture; **NOTE:** For the purpose of this Clause, draft controls include ash pit air control dampers, dampers or draft slides wherever located, over fire and flue key pipe dampers, and check draft controls located on or in the flue pipe.
- d) The flue pipes of the appliances are connected to a manifold as close to the chimney as practicable or directly to the chimney in the following order:
 - (i) If only solid fuel is used, the flue pipe from the smallest appliance shall be on top (downstream);
 - (ii) If different fuels are used as permitted in Clause 5.2.7, the oil flue pipe shall be on top (downstream); and the solid fuel flue pipe on the bottom (upstream); and
- e) The chimney flue is capable of venting the flue gas by natural draft when all appliances not interlocked to prevent simultaneous firing are firing at their maximum rate at the same time.

When installing a wood-burning appliance to an existing chimney carefully inspect entire chimney for the presence of old inlet holes which may be improperly covered by metal caps or other unacceptable means. Fill any openings with brick and mortar to ensure no hazardous openings exist.

2.5 CLEARANCES (Fig S102-1)

The furnace is to be installed in accordance with National Building Code or local regulations. Allowances front and rear must be made for cleaning and servicing.

NOTE: Regardless of minimum clearances to combustibles for safety reasons, a minimum clearance of 30" (765 mm) should be allowed at the furnace rear for cleaning (due to length of cleaning rake) and access to smoke pipe.

Minimum safety clearances to combustibles are:

Front	48"	1220 mm
One Side	6"	155 mm
Other Side (for rear access)	24"	610 mm
Rear (see Note above)	24"	610 mm
Flue Pipe to combustible, other furnace & electrical wiring	18"	457 mm
Wood Furnace Above Plenum and 6' (1.8 m) of duct	6"	153 mm
Supply Duct beyond 6'	2"	50 mm
Return Duct Plenum and 6' (1.8 m) of duct	6"	150 mm

WARM AIR DUCT & PLENUM CLEARANCES

The following clearances must be observed and must meet all local building, electrical and fire codes. Follow the National Standard of Canada, Installation Code for Solid Fuel Burning Appliances and Equipment, CSA-B365-01; the National Board of Fire Underwriters and in the US the NFPA codes.

The furnace warm air plenum and first 6' (1.8 m) of warm air supply duct in any direction must be installed observing a minimum of 6" (155 mm) clearance from the joists or combustible materials. Beyond the first 6' (1.8 m) of supply duct, a 2" (55 mm) minimum clearance must be maintained between the warm air supply ducts and all joists or combustible material (Fig. S102-1).

Return air ducts, including main ducts and branch ducts, on solid fuel burning warm air furnaces shall be installed to provide at least 6" (150mm) clearance to combustible construction for the first 6' (1.8 m) away from the furnace plenum.

It is recommended that a non-combustible rigid board be fastened on the underside of the floor joists in the area of the ceiling above the furnace, warm air ducts and smoke pipe.

2.6 DUCT CONNECTION

See Fig. S102-7 for Approved Furnace Ductwork Configurations.
See Fig. S102-7 for Prohibited Furnace Ductwork Configurations.

The use of A/C coils is not recommended unless special arrangements are made.

Minimum cross-sectional area of ductwork from furnace should be approximately 180 square inches with equal or larger size for return air.

The furnace must not be installed as a gravity only system as the controls are not designed for this type of operation.

Approved ductwork configurations can be seen in Fig. S102-7.

Prohibited ductwork configurations can be seen in Fig. S102-7. The main supply duct for the stand-alone wood furnace is not allowed to be located lower than the plenum connection to the furnace. Also no section of the supply main duct is to have any downward slope, which would drop the main supply duct more than half of the height of the main supply duct. At least 75% of all takeoff supplies shall terminate above the main supply duct.

2.7 FREE-STANDING (Fig S102-4)

The furnace is designed to be the sole source of central heating in medium sized, well-insulated houses using an integral blower to circulate warm air. In this system connect the ductwork as you would for any conventional warm air heating system except you use increased clearances.

NOTE: This furnace is not to be connected to ductwork that is still connected to another furnace.

The wiring diagram is shown in Fig. S102-4.

ALL ELECTRICAL WIRING MUST CONFORM TO NATIONAL AND LOCAL CODES.

2.8 CONTROL SYSTEM (Fig. S102-5)

The fan and limit control and the damper motor should be located as shown in Fig. S102-3 and Fig. S102-5.

The control system serves the following functions:

T822 – Room Thermostat – Wood Furnace

The primary control is the room thermostat located near the center of the house in the main floor or near an existing thermostat. The thermostat operates the damper motor to open and close the damper door thus allowing more or less air into the combustion area to control the fire.

M847 – Damper Motor

The damper door lever should be attached to the damper motor wheel with the chain included. Be sure the damper door is fully closed and the damper motor is not powered. Connect the chain to the damper door level and to the bottom hole in the damper motor wheel. As a final adjustment bend the top chain link slightly to vary the damper position.

L4064R – Wood Furnace/Limit Control

The fan and limit control mounted in the plenum controls the operation of the circulating blower and limits the air temperature to prevent the furnace from overheating.

Note: The fan/limit stand-off bracket provided in the wiring kit must be installed under the fan/limit control.

Set Points:

- “ON” is usually set to 140°F (60°C). It turns on the circulating blower when the air temperature in the plenum reaches this temperature.
- “OFF” is usually set to 100°F (38°C). It turns off the circulating blower when the circulating air temperature in the plenum drops to this temperature.
- “Hi limit” is preset to 250°F (121°C). This will over ride the room thermostat to close fire damper door if the wood furnace overheats.

ALL ELECTRICAL WIRING MUST CONFIRM TO NATIONAL AND LOCAL CODES.

2.9 INSTALLERS FINAL CHECKLIST

DUCTWORK INSPECTION

- 1) Furnace ducted properly?
- 2) Proper duct clearances maintained?

FURNACE INSPECTION

- 1) **DO NOT** use firebrick in the furnace.
- 2) Check settings on fan limit controls.

WIRING INSPECTION

- 1) Is main disconnect switch within view?
- 2) Wiring cables protected from heat and not touching hot surfaces?

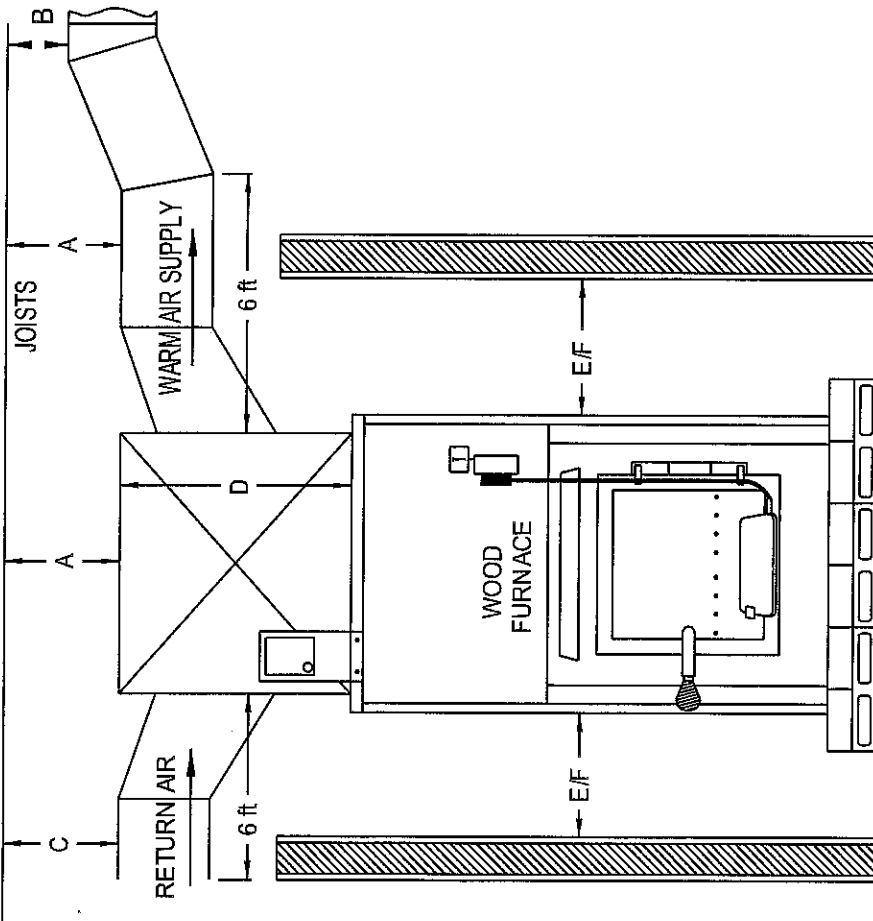
FLUE AND SMOKE PIPE INSPECTION

- 1) Flue inner size equivalent to 7" round or larger?
- 2) Separate entry and lower to flue for both solid-fuel and oil or gas smoke pipes?
- 3) Smoke pipe 24 gauge or better?
- 4) Smoke pipe secured by screws?
- 5) Draft regulator (if used) set at .05" wc maximum?
- 6) Clearances of smoke pipe 18" or better from combustible material?
Metal protection is recommended.

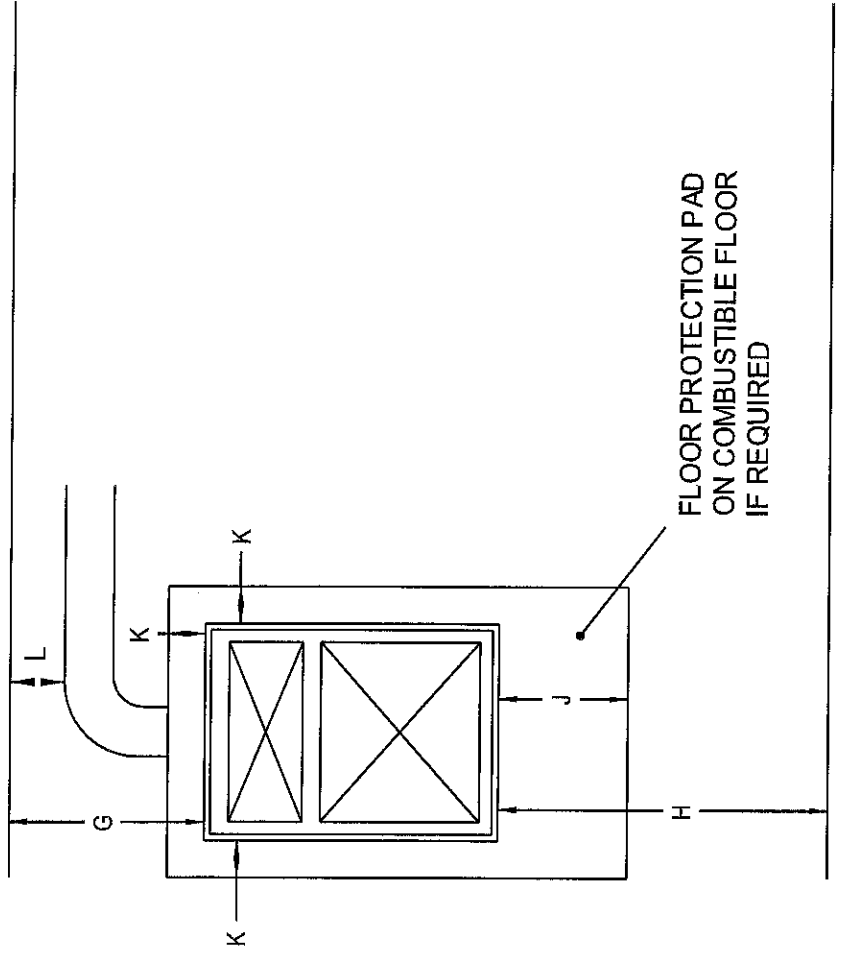
DEALER TO INSTRUCT HOMEOWNER

- 1) Keep area around unit clean.
- 2) Use DRY wood only. Hardwood preferred.
- 3) Load carefully.
- 4) Load level no higher than center of door.
- 5) Remove ash regularly as directed.
- 6) Watch for soot in smoke pipe.
- 7) Danger of flue fire if poor fuel or poor maintenance produces creosote buildup.
- 8) Operation of unit during power failure (i.e. manual operation).
- 9) When shutting down for extended periods, clean unit thoroughly.

DRAWINGS NOT TO SCALE



- A - 6" (152 mm) Supply plenum and all ducts within 6 ft (1.8 m) of supply plenum.
- B - 2" (52 mm) All sides of the warm air supply 6 ft (1.8 m) remote from plenum.
- C - 6" (150 mm) All sides of return air duct within 6 ft (1.8m) of return air plenum.
- D - 18" (457 mm) Minimum warm air supply plenum height
- E - 6" (152 mm) One side of the furnace.
- F - 24" (610 mm) Other side of the furnace for access.

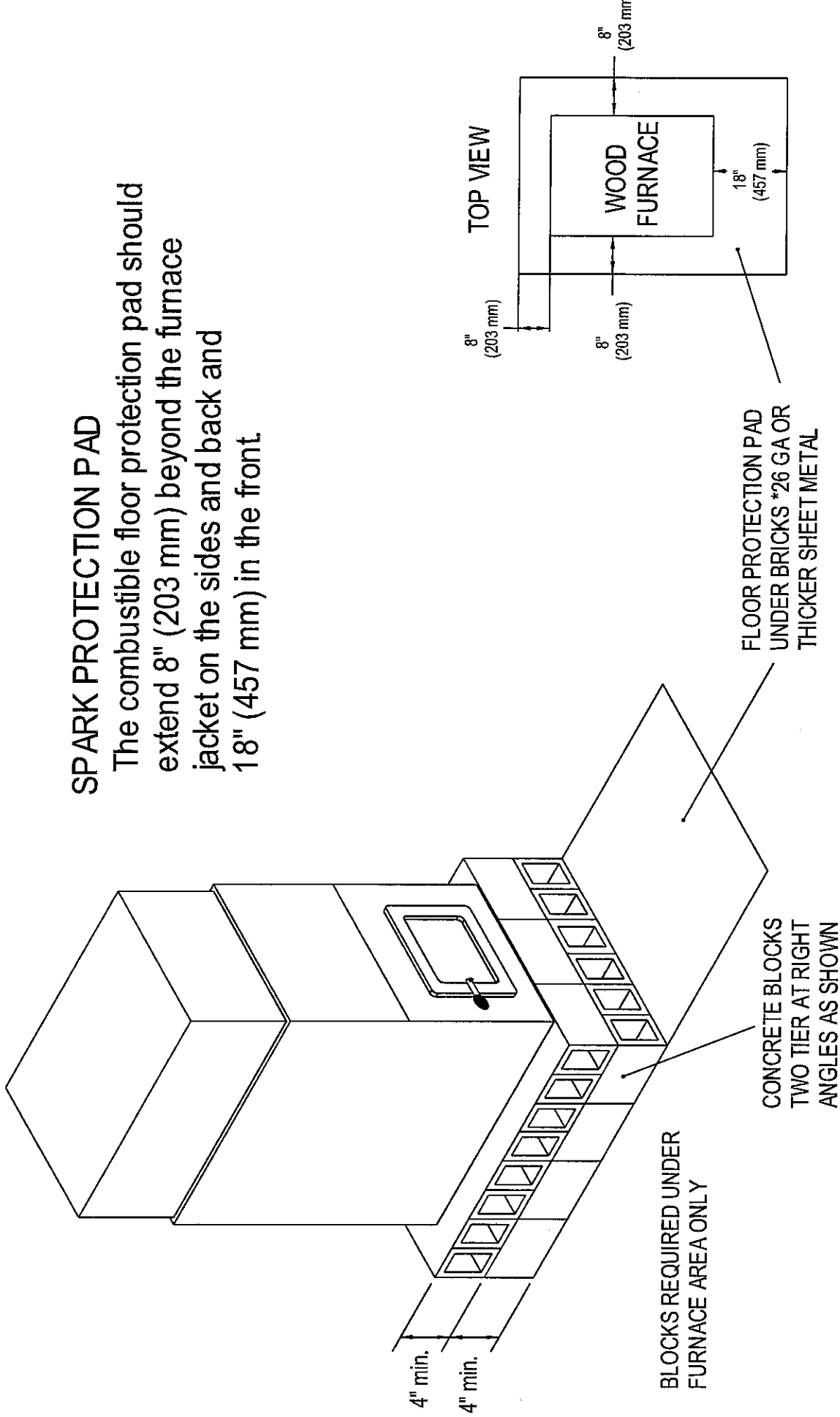


- G - 24" (610 mm) Rear clearance to combustible . A rear access clearance of 30" should be maintained for cleaning.
- H - 48" (1220 mm) Front fueling.
- J - 18" (457 mm) Floor protecting pad (if not solid concrete floor).
- K - 8" (203 mm) Floor protecting pad (if not solid concrete floor).
- L - 18" (457 mm) Flue pipe to combustible and electrical services.

CLEARANCES

FIG. S102-1

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BASE FOR USE ON COMBUSTIBLE FLOOR FIG. S102-2

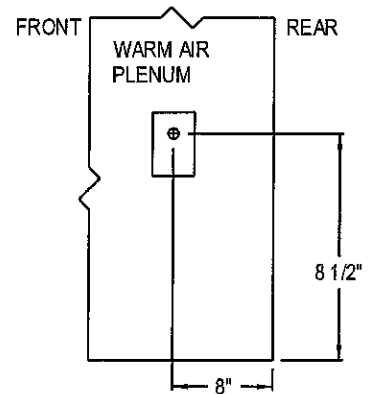
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CONTROL PLACEMENT - FIG. S102-3

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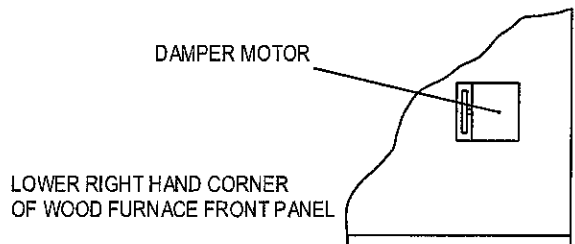
FAN AND LIMIT CONTROL

The fan and limit control must not be mounted in the wood furnace jacket. This control should be mounted on the side of the wood furnaces' warm air plenum (see S102-5) and supported by the bracket assembly provided in Kit B - 250.



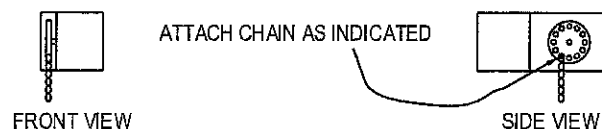
DAMPER MOTOR INSTALLATION

1. Using sheet metal screws, attach the damper motor in the lower right corner of the cabinet front panel as shown below. NOTE: The mounting holes are pre-drilled at the factory.

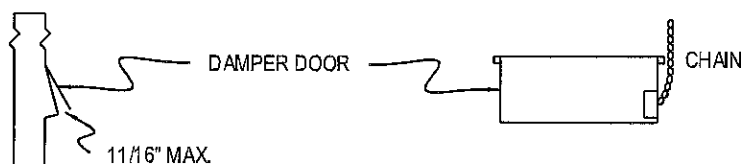


2. Attach the damper chain to the hole on the immediate left of the bottom hole in the motor wheel as shown below.

NOTE: Be certain to reclose the chain link when attaching the chain.



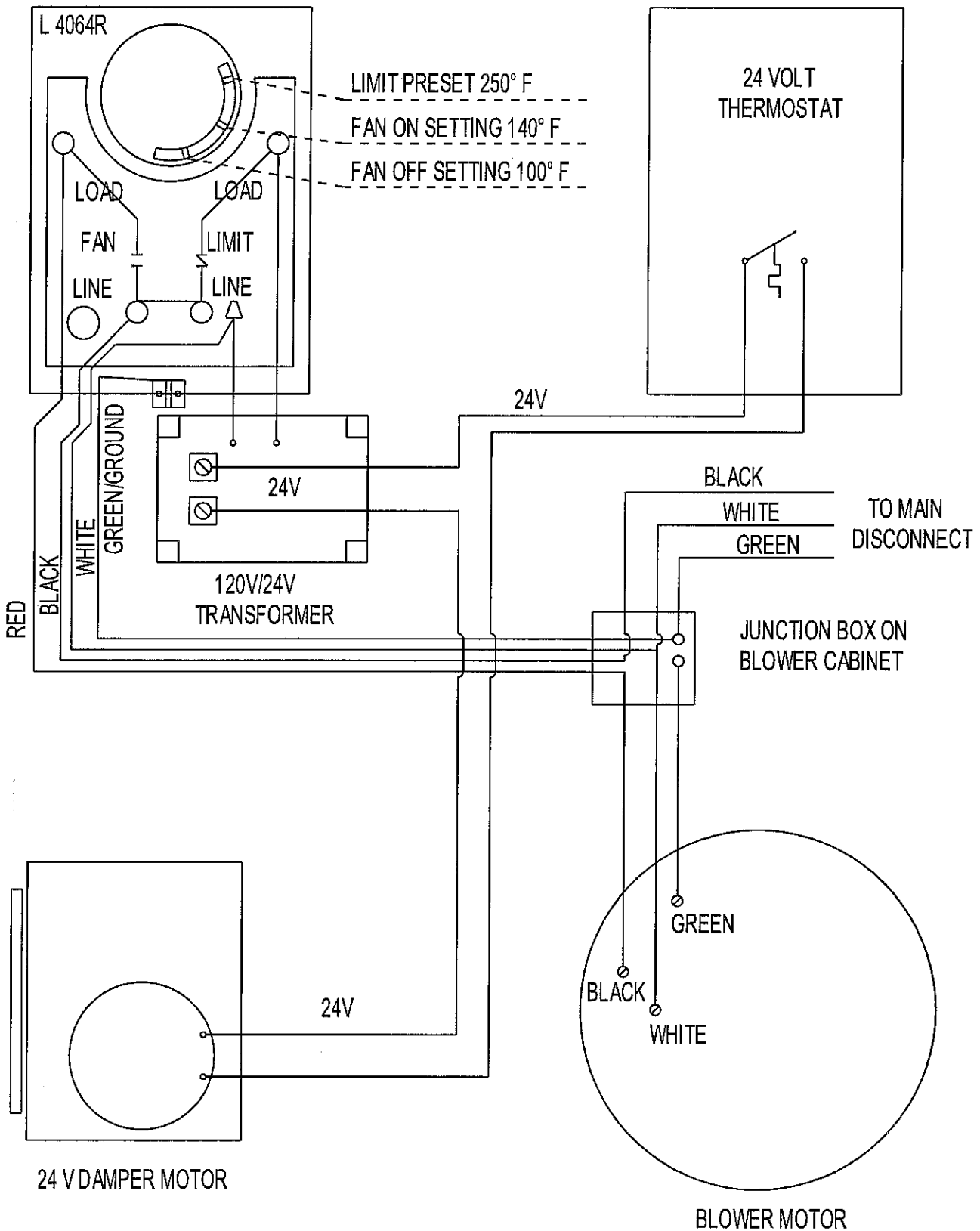
3. Attach the damper chain to the lift rod on the damper door using the link in the chain that permits the most direct chain connection between the bottom hole in the damper motor wheel and the lift rod on the damper door (when door is in the down position). Remove excess chain. The damper limit stop must limit the maximum damper opening to 1 1/16". See below. NOTE: As a final adjustment, the lift rod may be slightly bent up or down to ensure that the damper door closes completely when motor is in down position. Do not alter the damper limit stop setting for increased firing for any reason.



WIRING DIAGRAM - FIG. S102-4 FREE-STANDING

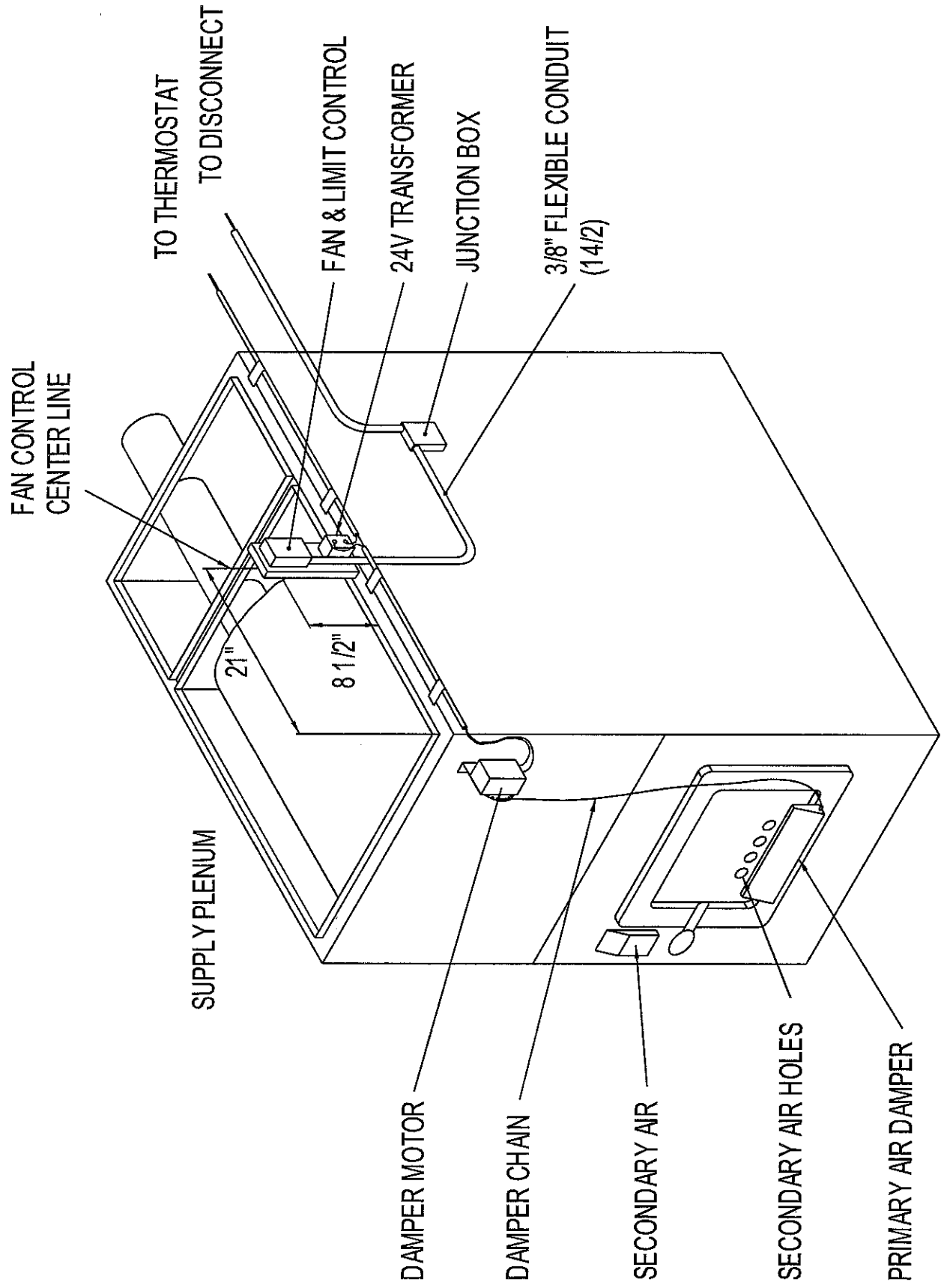
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FAN & LIMIT CONTROL

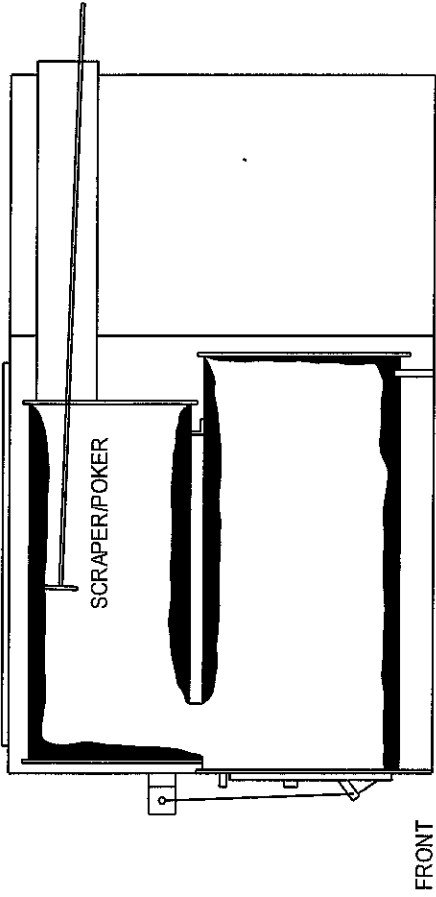


PLACEMENT OF CONTROLS FIG. S102-5

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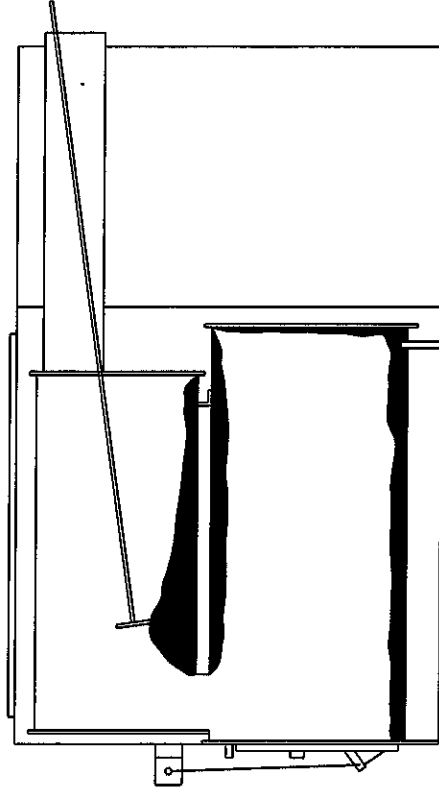


USING PROVIDED SCRAPER/POKER REMOVE
CREOSOTE FROM HEAT EXCHANGER



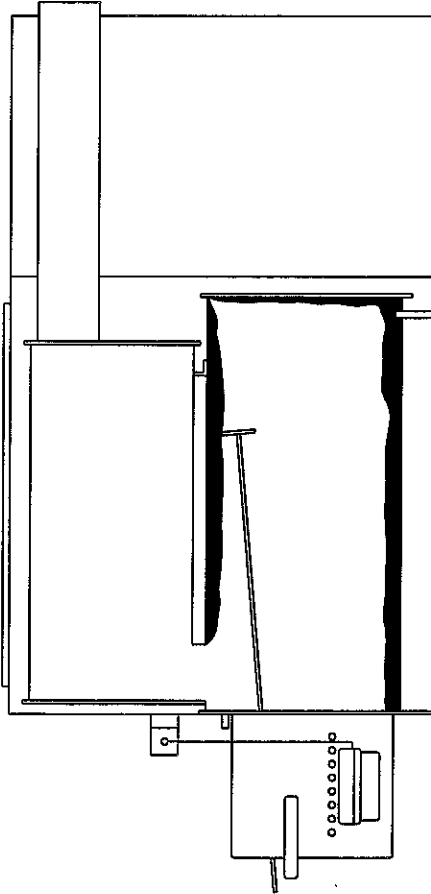
A

PUSH CREOSOTE FROM HEAT EXCHANGER INTO THE FIREBOX



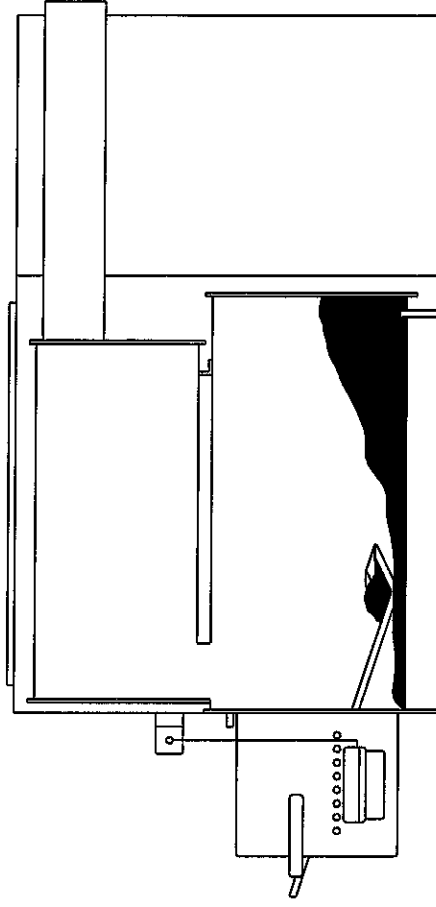
B

REMOVE CREOSOTE FROM THE TOP
AND REAR OF THE HEAT EXCHANGER



C

SHOVEL ALL CREOSOTE FROM THE FIREBOX THROUGH
THE FRONT DOOR AND REPLACE THE FLUE PIPE



D

(CREOSOTE AMOUNTS EXAGGERATED)

CLEANING FIG. S102-6

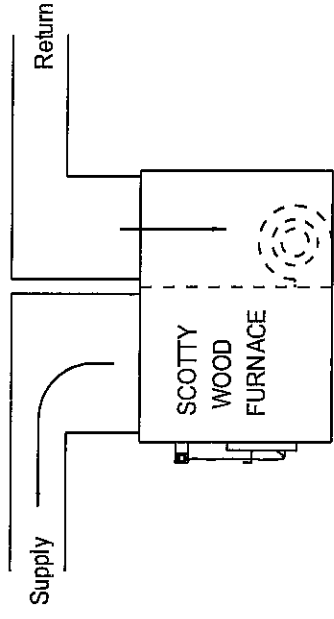
102M0006.JAN11

APPROVED FURNACE DUCTWORK CONFIGURATION

FIG. S102-7

102M0007JAN11

The following ductwork configuration is approved:



APPROVED - Typical ductwork for stand-alone wood furnace.

PROHIBITED FURNACE DUCTWORK CONFIGURATION

The following ductwork configuration is prohibited:

PROHIBITED - The supply main duct for the stand-alone wood furnace is not allowed to be located lower than the plenum connection to the furnace. Also no section of the supply main duct is to have any downward slope which would drop the main supply duct more than half of the height of the main supply duct. At least 75% of all takeoff supplies shall terminate above the main supply duct

