American Energy Systems, Inc.

50 Academy Lane
Hutchinson MN 55350
320-587-6565 Fax 320-587-8872

OWNERS INSTALLATION
&
OPERATIONS MANUEL FOR
MAGNUM WOOD/COAL FURNANCE

(Formerly Dakfire)

MODEL 2500

CAUTION: Read all rules for safe operation

UNPACKING & INSPECTION: Inspect the unit when unpacking for excess damage or parts missing. Contact your local dealer if problems occur.

INTRODUCTION:

IMPORTANT: Please read all instructions carefully before attempting installation of this furnace.

LOCATING THE FURNACE:

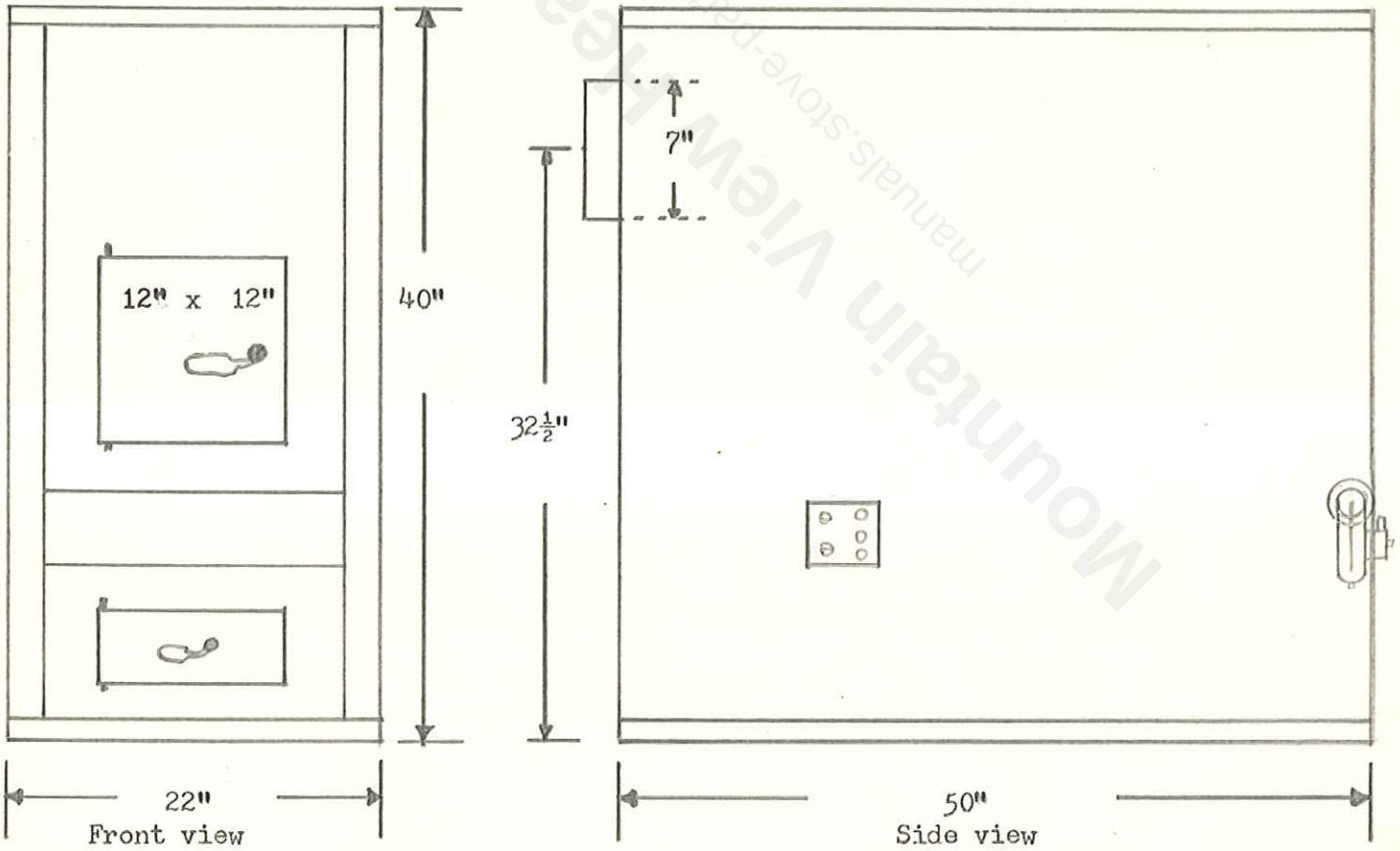
Locate the furnace as close to the chimney or flue as possible and near the center of the heat distribution system or next to the primary furnace.

Locate furnace where there is sufficient air supply for ventilation and proper combustion to comply with the minimum clearance required for fire protection and accessibility.

FURNACE SPECIFICATIONS:

- Model 2500 Wood/Coal furnace
- Size 22"W X 50" L X 40" H
- Weight 575 lbs.
- Cast Iron Grate System
- Color Beige
- Fire Brick Lined
- Blower 1400 CFM
- Fire Door 12" X 12"
- Ash Door 7" X 12"
- Combustion Chamber 7 Gauge X 16" X 28" X 27 1/4"
- Heat Outlet 12" Round
- Cold Air Return 14" X 18"
- Smoke Outlet 7" round (inside)
- Filter 1" X 16" X 20"
- Approximate B.T.U. output 135,000

Furnace Dimensions
Fig. 1



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THANK YOU

I take this time to thank you personally for the purchase of this MAGNUM product. You have purchased a product that has over the last 26 years earned a reputation for extremely high quality and efficiency. With proper operation your MAGNUM Wood/Coal furnace will give you years of trouble-free operation.

I ask that you read this manual completely through before attempting to install your MAGNUM furnace. This manual will give you step by step instructions for proper installation and operation.

PLEASE ENJOY SAFE SURE HEATING

Sincerely,

Mike Haefner
Owner/president

Safety & Service Clearances

For equipment of this type, NFPA (National Fire Protection Assoc.) Standard No. 90B specifies the minimum standard clearances to combustible surfaces as summarized below:

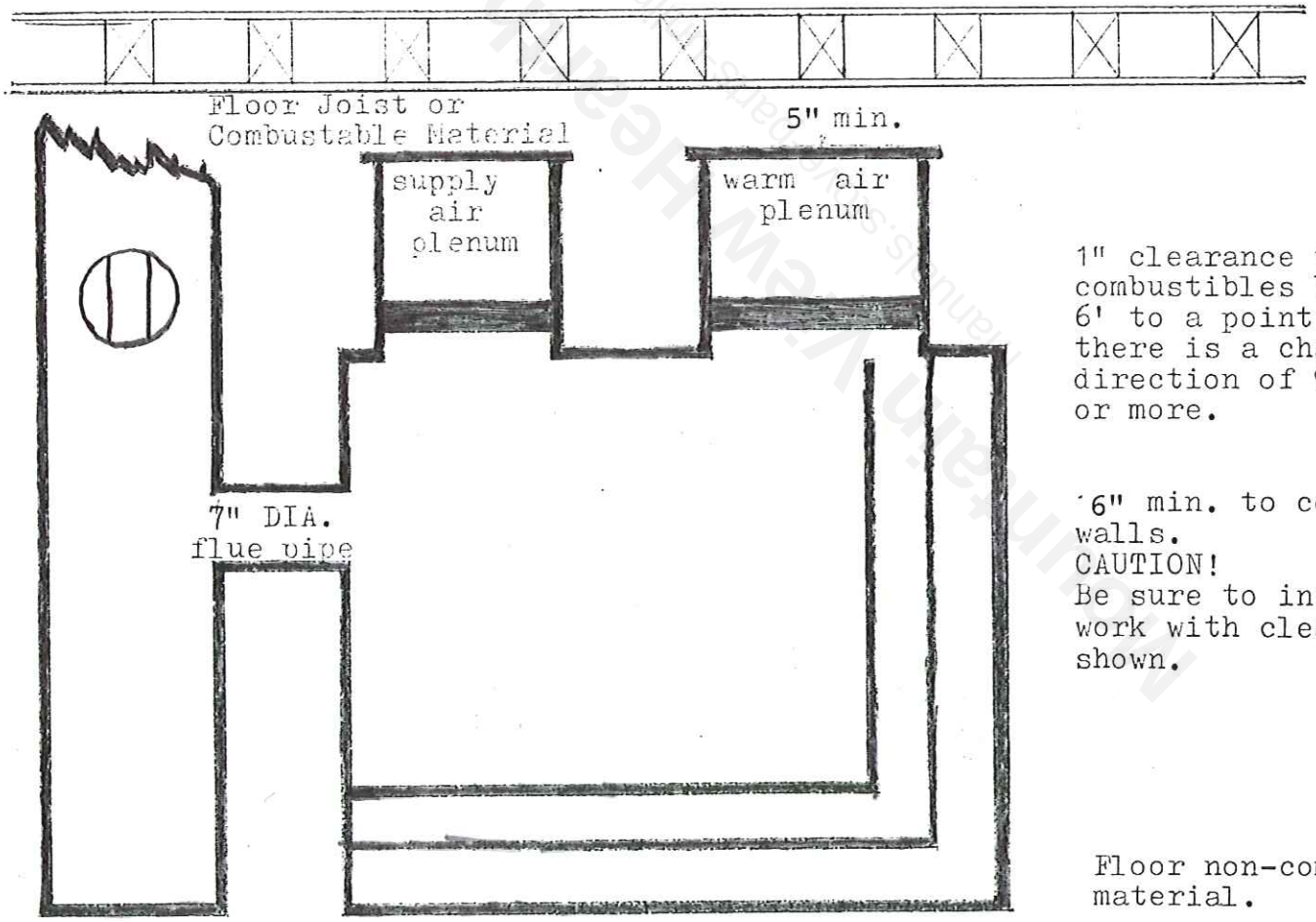
Above Top	6"
From the Front	48"
From Sides and Back	6"
From Flue Pipe to Combustibles	18"
From Horizontal Warm Air Duct	
Within 3' of Plenum	5"
Beyond 6' of Plenum	1"

Lesser clearances to combustibles are allowed if area between furnace and ducts are insulated according to NFPA Bulletin No. 90B. This copyrighted book is available from National Fire Protection Association, 60 Batterymarch Street, Boston, Massachussetts 02110.

CAUTION!

Be sure to install duct work with clearances shown. Clearances shown are in accordance with NFPA Std. No. 90B-1978 warm air heating and air conditioning systems or in accordance with local or state codes.

Fig. 2



1" clearance to combustibles beyond 6' to a point where there is a change in direction of 90 degrees or more.

6" min. to combustible walls.
CAUTION!
Be sure to install duct work with clearances shown.

Floor non-combustible material.

Safety Rules For Installation & Operation

·Read these rules and the instructions carefully. Failure to follow these rules and instructions could cause a malfunction of the furnace. This could result in death, serious bodily injury, and/or property damage.

·The installation of this furnace must comply with state and local codes.

·Connect furnace to a masonry or approved all-fuel Class-A prefabricated chimney only.

·Make sure that there is a sufficient supply of combustion air to the area in which the furnace is located.

·Use only wood logs or coal in this furnace. Overfiring can result in failure of heat exchanger and cause dangerous operation, voiding warranty

·Always follow a regular service and maintenance schedule to insure efficient and safe operation.

·Before servicing, allow furnace to cool. Always shut off electricity to furnace when working on it. This will prevent electrical shocks or burns.

CAUTIONS - DANGERS - WARNINGS

Burn wood logs or coal only

DANGER - Risk of Fire Explosion

DANGER - Do not burn garbage, gasoline, thinners, drain oil, kerosene, etc., as explosion, house fire, and personal injury could result.

DANGER - When starting fire, do not use chemicals or fluids. Severe body burns or a house fire could result.

DANGER - To avoid possible explosion, do not store combustible liquids or materials near the furnace.

DANGER - Do not attempt to light wood fire when oil or gas vapors are present. An explosion or flashback could cause serious injury.

DANGER - Do not connect to outside chimney unless chimney is boxed in and insulated. Proper clearance to combustibles must be maintained.

CAUTION

CAUTION - Keep children away from furnace at all times. Wood burner has hot surfaces.

CAUTION - In the event of an electric power failure, be sure ash door and fire door are closed.

WARNING - Fire Risk

WARNING- never pile coal above brick

WARNING - Be sure that fire and ash doors are closed during operation to insure safety and efficiency. Failure to do so will cause furnace to overfire and will result in damage to combustion chamber and grate.

WARNING - In the event of overfire, be sure ash door and fire door are closed, and close primary air damper and stack damper.

WARNING - Do not install MAGNUM on combustible floor.

WARNING - Wood/coal must be loaded carefully or damage may result to firebrick.

WARNING - In the event of a soot fire, call your fire department immediately. Turn down primary air draft, or thermostat. and make sure ash door and fire door are closed.

WARNING - Frequently inspect the heat exchanger, smoke pipe and chimney for creosote and soot deposits. Clean whenever creosote and soot deposits appear. Failure to do so could cause chimney or house fires. Deposits also act as an insulator, which causes the furnace to lose efficiency.

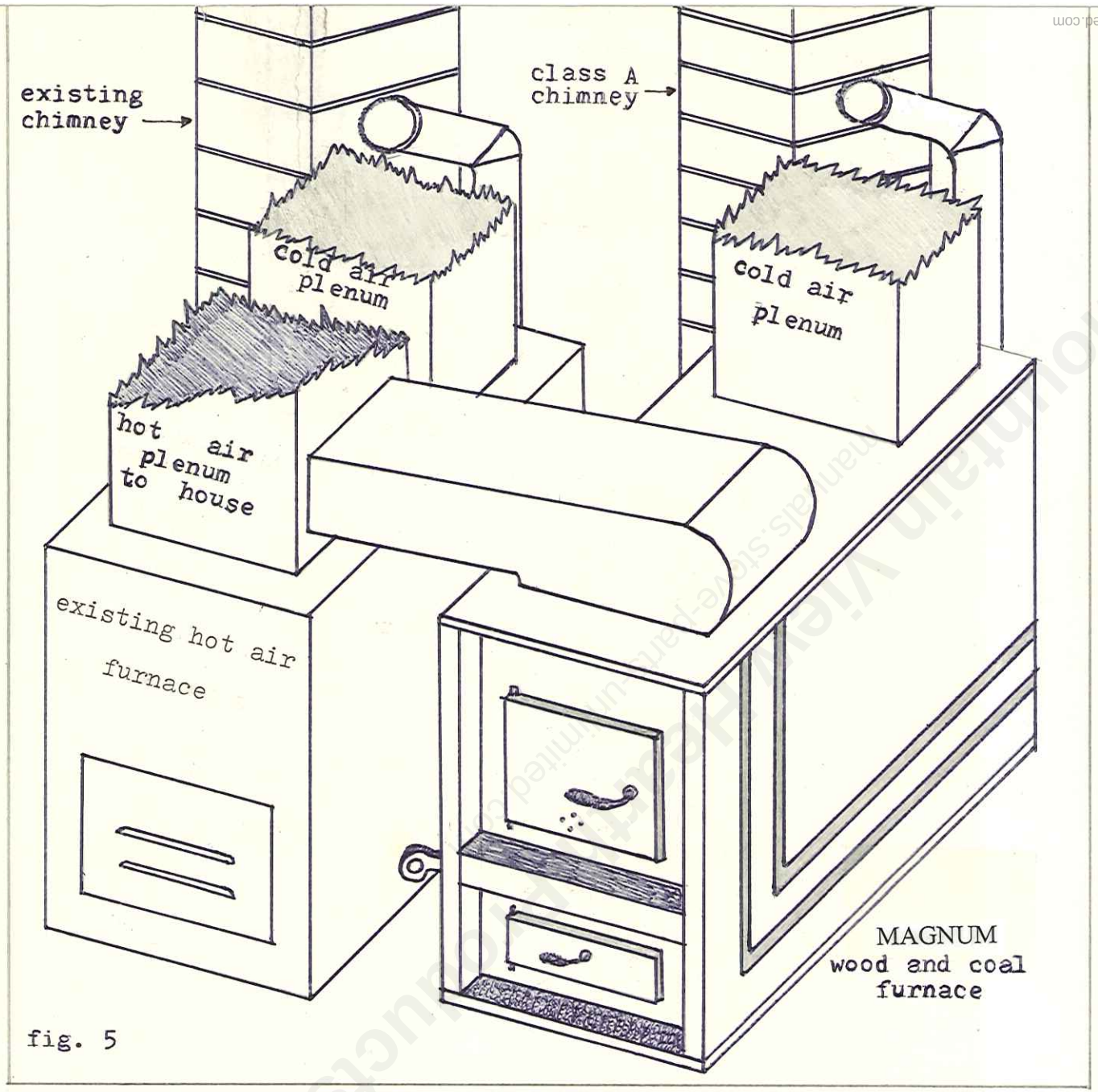


fig. 5

DUCTWORK CONNECTIONS

Warm Air Duct (30 gauge materials)

- Install warm air outlet to existing furnace. Refer to fig. 5. Install manual back draft damper in plenum so that when your wood/coal furnace is not in operation, the air from your existing furnace will not circulate back through the wood/coal furnace.
- You can either use rectangular ductwork or round. (NOTE! you must have a cross sectional area of at least 120 square inches to maintain proper static pressure.) A flat plate can be purchased, and fastened over the opening to reduce the rectangular opening or adapt to a round pipe.(no smaller than a 12" round can be used)
- Secure all ductwork connections with sheet metal screws. This will prevent vibration and possible ductwork coming apart.

NOTE Follow the directions for proper ductwork clearances to combustables shown in fig 2. Also check for local code requirements.

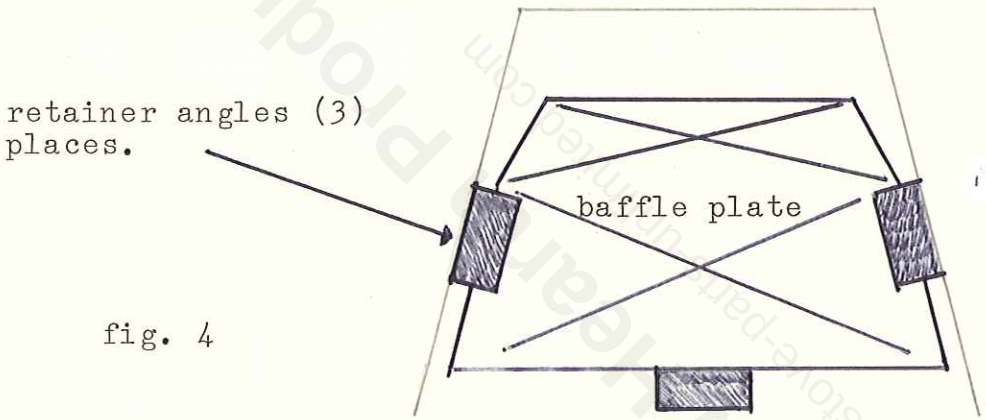


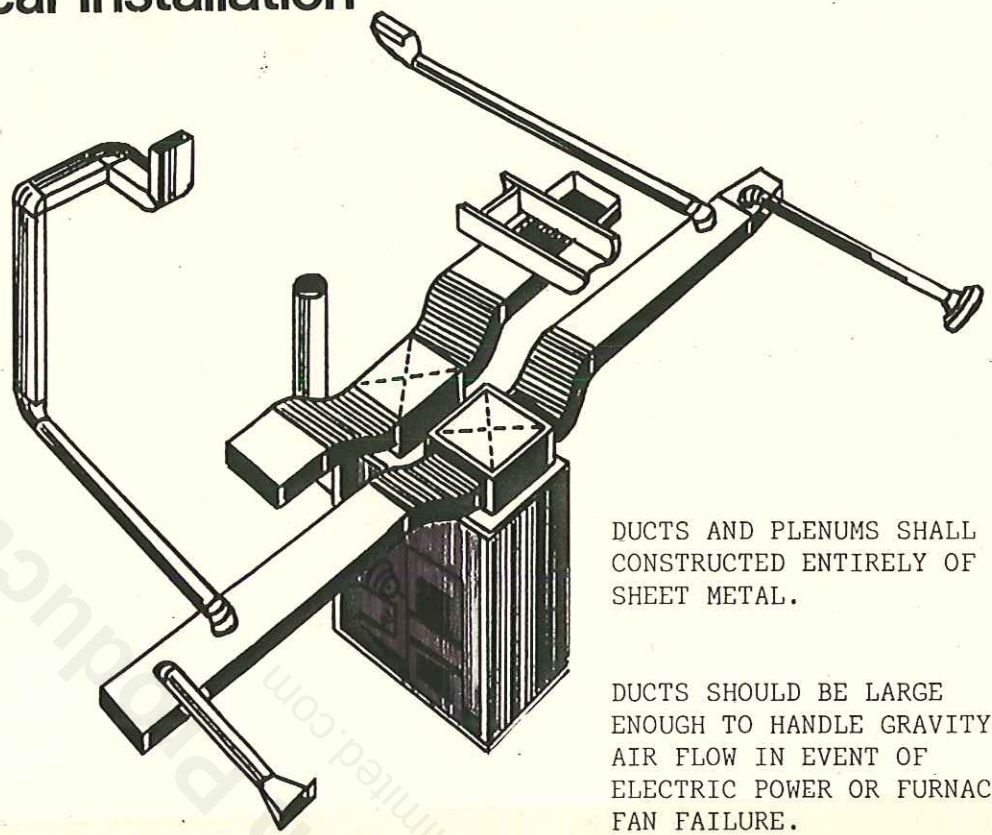
fig. 4

Return Air Duct (30 gauge materials)

- If possible leave cold air plenum the same size as is on the furnace. Reducing plenum size may cause the blower to heat up, causing failure and voiding the warranty.
- Do not install cold air return into existing furnace cold air plenum. This will cause the furnaces to circulate within themselves. If you do hook them together you must install proper equipment to prevent the circulating between furnaces. This can be accomplished by installing electronic dampers that will cut off the cold air flow to one or the other furnaces.
- Install cold air duct from wood/coal furnace into existing cold air run doun line from the existing cold air duct. Install damper so that when either furnace is in operation the other wont be affected.
- The best is to run a separate cold air run to various parts of the house and hook directly into the wood/coal furnace.
- The best alternative to doing this is to install a louvered vent in the basement door, and then run your cold air return just outside the furnace room.
  WARNING Never draw cold air from inside the furnace room as this could draw smoke out of the furnace and circulate it through the home.
- Secure all ductwork connections with sheetmetal screws.

Typical Installation

Fig. 6



DUCTS AND PLENUMS SHALL BE CONSTRUCTED ENTIRELY OF SHEET METAL.

DUCTS SHOULD BE LARGE ENOUGH TO HANDLE GRAVITY AIR FLOW IN EVENT OF ELECTRIC POWER OR FURNACE FAN FAILURE.

= Wood/Coal furnace can be installed as an independent system with its own ductwork. (refer to fig 6)
- Before installing this system make sure that you have figured out the size plenums for the number of runs that you will need. If you are installing this system yourself, ask your local plumbing and heating contractor for information on duct size, proper static pressure , and proper air flow.
- REMEMBER WHEN INSTALLING DUCTWORK TO ALLOW PROPER CLEARANCES TO COMBUSTABLES. (refer to safety and service clearnaces fig. 2)

Connecting Smoke Pipe

Set the smoke pipe end of the furnace as close to the chimney as possible. For every foot of lateral pipe, the rise of the smoke pipe toward the chimney must be at least one inch. Do not exceed 8' in length. A clean-out tee must be installed for removal of soot and fly ash. (See Fig. 8 .)

Chimney must be all-fuel. The smoke outlet temperature is needed to carry the by-products of combustion out through the chimney.

The smoke pipe must not pass through any combustible material.

WARNING

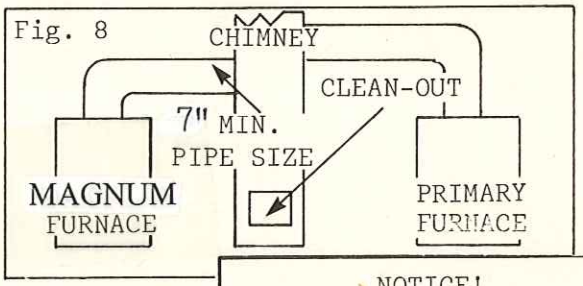
Do not install heat saver or automatic vent damper other than manual draft damper, if needed, in or on the smoke pipe.

CAUTION

Do not use any smoke pipe less than 24 gauge between furnace and chimeny.

The smoke pipe entrance into a masonry chimney should be at least 2' above the cleanout. The smoke pipe must not extend into the chimney beyond the inner face of the chimney liner. Separate flue connections from two or more appliances must not enter at the same level.

Fig. 8



NOTICE!
PRIMARY FURNACE PIPE MUST ENTER CHIMNEY AT A HIGHER LEVEL THAN THE MAGNUM FURNACE PIPE

DRAFT REGULATOR LOCATION

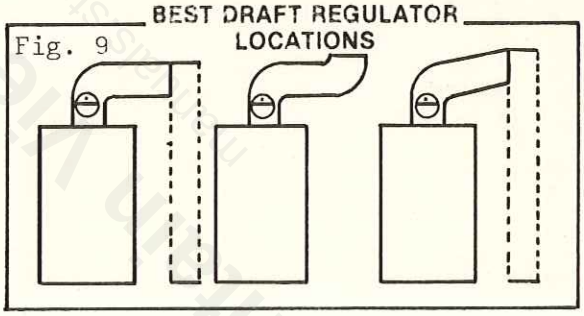
A 7" BAROMETRIC DRAFT CONTROL ON SMOKE PIPE IS RECOMMENDED. (It can be purchased at most hardware stores.)

Locate the regulator as near the furnace as possible. It must be in the same room as the furnace and be at least 18" from any combustibles.

Never install heat-saving or automatic vent dampers on the smoke pipe.

Be sure the draft control is plumb and level, front face is exactly vertical, and hinge pin is exactly horizontal. Follow directions you receive with the regulator as to necessary changes depending on whether the regulator is installed in a horizontal or vertical smoke pipe.

Fig. 9 **BEST DRAFT REGULATOR LOCATIONS**



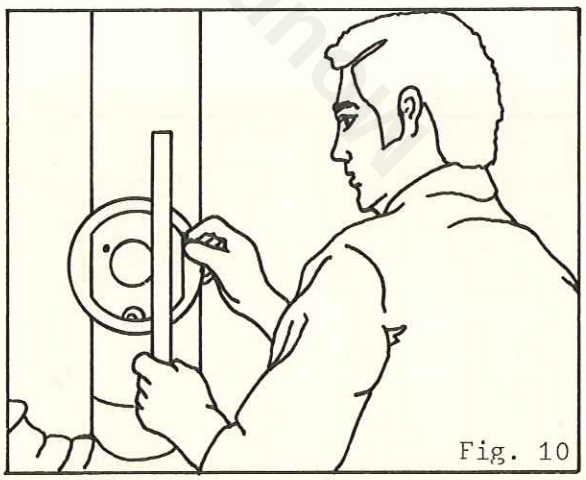


Fig. 10

Proper Chimneys

The National Fire Protection Assoc. (NFPA) Standard No. 211 requires factory-built chimneys to be U/L listed and installed in accordance with the manufacturer's instructions. NFPA Std. No. 211 also requires that your pipe extend at least 3 feet above the highest point where it passes through the roof and at least 2 feet higher than any portion of a building within 10 feet of the pipe. Factory-built chimneys must be what NFPA refers to as "chimney for residential type and building heating appliances". This chimney was formerly referred to as "Class A" or all-fuel. The other approved chimney is a tile-lined brick or stone chimney.

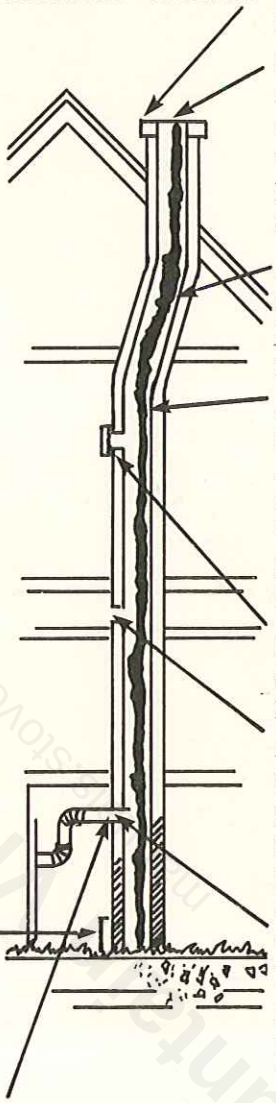
The chimney must be clean and smoke-tight.

The chimney should be no less than 8" inside diameter or equal.

WARNING

The chimney is a very important part of your heating system. It must be the right size, properly constructed, in good condition, and a minimum of 8" diameter. No furnace can function properly with a bad chimney. The chimney must supply a draft of at least .02" Water Column and not exceed .06" Water Column. If possible, use a 15' or higher chimney. Add an additional foot to chimney for each 1000' elevation above sea level.

CAUSES OF FAULTY DRAFT Fig. 11



TOP OF CHIMNEY LOWER THAN SURROUNDING OBJECTS — REMEDY: EXTEND CHIMNEY ABOVE ALL OBJECTS WITHIN 30 FEET

CHIMNEY CAP PUSHED OVER FLUE OR FLUE OBSTRUCTED BY A VENTILATOR
REMEDY: REMOVE OBSTRUCTION

ACCUMULATION OF SOOT OR DEBRIS IN OFFSET
REMEDY: REMOVE

AIR LEAKS THROUGH CRACKS IN FLUES AND CHIMNEY DISCLOSED BY SMOKE TEST
REMEDY: CLOSE LEAKS WITH CEMENT

FLUE CAP RUSTY AND LEAKY
REMEDY: CLOSE LEAKS

ANOTHER STOVE OR HEATER PIPE CONNECTED TO SAME FLUE
REMEDY: REMOVE AND SEAL OPENING

VENT PIPE PUSHED INTO FLUE
REMEDY: MAKE END FLUSH WITH INSIDE OF FLUE

LOOSELY FITTED VENT PIPE DISCLOSED BY SMOKE TEST — REMEDY: CLOSE LEAKS WITH CEMENT

LOOSELY FITTED CLEANOUT DOOR DISCLOSED BY SMOKE TEST — REMEDY: CLOSE LEAKS WITH CEMENT

OPENING BETWEEN FLUES DISCLOSED BY SMOKE TEST — REMEDY: CLOSE OPENINGS

NOTE: TO MAKE A SMOKE TEST, USE A SPECIAL SMOKE BOMB AND, WITH TOP OF CHIMNEY CLOSED, LOOK FOR LEAKS.

Combustion Air

There must be a supply of fresh air great enough to assure proper combustion. In many homes with the furnace in the basement, the air that leaks through cracks around doors and windows will usually be enough for combustion. The stair door should not fit tightly. Do not caulk around the windows in the basement.

However, the design of the new, energy-efficient homes, or added insulation around doors and windows of existing homes makes the home air tight. This causes a lack of combustion air.

Lack of combustion air can cause several problems: a negative pressure in the home, which can cause drafts from air being drawn in through cracks around doors and windows; incomplete wood/coal combustion, causing an abnormal amount of creosote to form in the furnace, smoke pipe, and chimney, which poses a fire-hazard and will reduce furnace heat output; a decreased efficiency of your oil burner, which will cause a greater use of oil than necessary; or smoke puffing out when the feed door is opened, because there isn't enough air to carry the smoke and by-products up the chimney.

When this is the case, you must install an outside air intake. See Fig.15 for an example of how to provide a source of outside air. The openings of ducts supplying such make-up air shall have unobstructed areas not less than the area of the furnace flue pipe. You should also install such an intake if you use your fireplace, or a bathroom or kitchen exhaust fan, as these all draw on combustion air.

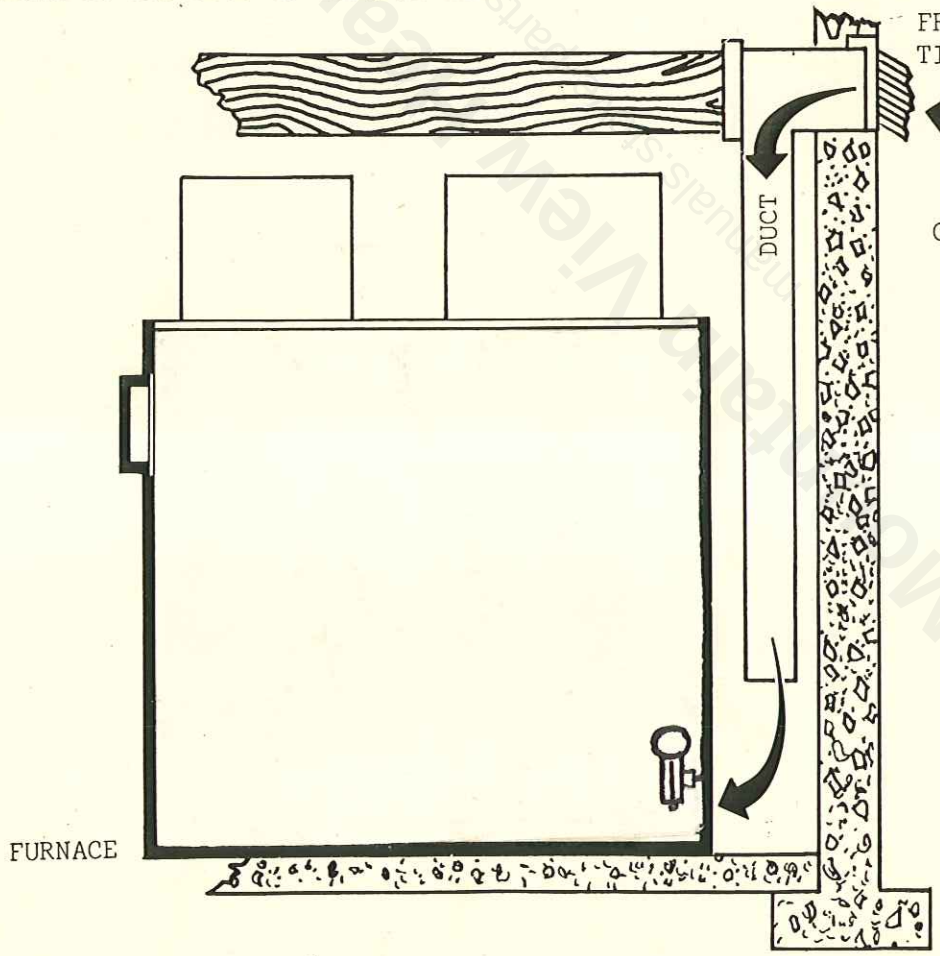


Fig. 15

FORCED DRAFT CONTROL SYSTEM

- Your draft blower is packaged in a box inside your furnace. Take the blower out of the box and save the warranty instructions that are packaged inside. The blower is warrantied directly from the blower company so you must retain the papers inside of the box.
- Mount the blower on the left lower fromt side of the furnace using the three screws that are on the furnace. (refer to fig 13)
- Make sure that the screws are securely fastened so that the blower will not vibrate loose.
- Hook up the wiring as shown in the electric wiring portion of this manual.
- Located on the side of the combustion blower is a slide that is fastened by one screw. This plate can be adjusted so that the blower will increase or decrease the draft to the fire.
- Open draft slide wide open if the electricity goes off. (watch heat output) If unit is overheating close slide until proper heat output is maintained.
- Open draft slide wide open if you are burning coal until the bed of coal gets burning properly,then adjust slide for proper heat.
- Never close draft slide over 2/3 of the way closed as it will cause the motor to overheat and motor will fail.
- In mild weather adjust slide $\frac{1}{2}$ closed to 2/3 closed. This furnace can be accurately adjusted for proper heating for your home and weather conditions. Adjust thermostat upstairs, and slide on blower to match the desired heat consistency that you want.
- Clean the squirrel cage on the blower periodically to maintain long life and trouble free operation.

NOTE If furnace tends to burn too rapidly and closing the slide does note slow it doun enough your draft may be set too high in the chimney. Follow directions on setting your draft regulator.

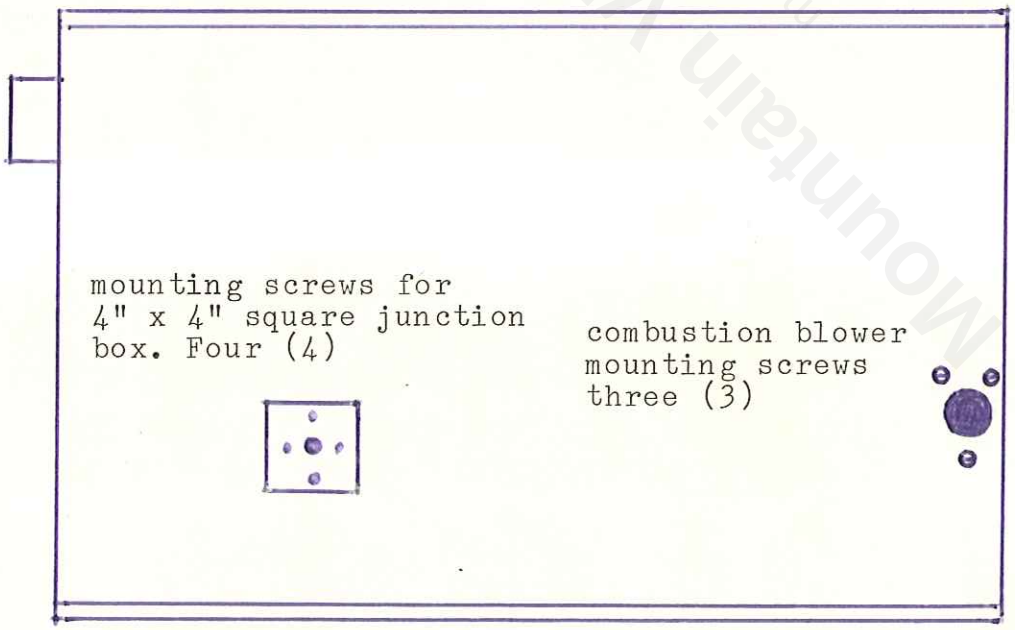


fig. 13

FURNACE OPERATION

Follow these few basic steps and you will have years of trouble-free efficient heating for your home-shop-garage- cabin- etc.

- When starting your **MAGNUM** furnace turn up the thermostat to start the combustion blower. On manual draft models open draft all the way. Start fire by placing paper and small kindling in firebox and lighting. (If you have a manual damper in smoke pipe make sure that damper is all the way open. After fire is going place larger logs or coal in small amounts until a full bed of coals is built up. When burning coal build small layers at a time until you have a good bed of glowing coals stoked up. Never add too much coal at one time which could smother out the fire and possibly cause an explosion.
- Adjust combustion blower slide and combustion thermostat to suit your heating needs. Remember these furnaces are highly efficient. There is no need to pile a lot of wood or coal in the firebox to heat your home. A sure constant heat is aquired by learning how to operate your furnace.

ENJOY SURE SAFE EFFICIENT HEATING WHILE BEATING THE HIGH COST OF ENERGY.

ASH REMOVAL

- Remove and empty ash drawer when furnace is not in operation. WEARING GLOVES IS A MUST. Empty ashes into an air tight METAL container and remove from premeses immediately.

NEVER VACCUM ASHES FROM UNIT

- Do not allow ashes to build up to base of grate. Air flow will be restricted and possibly will cause warping of the grate.

LARGE "SCOOP TYPE ASH DRAWER WITH SPECIAL HOOK HANDLE

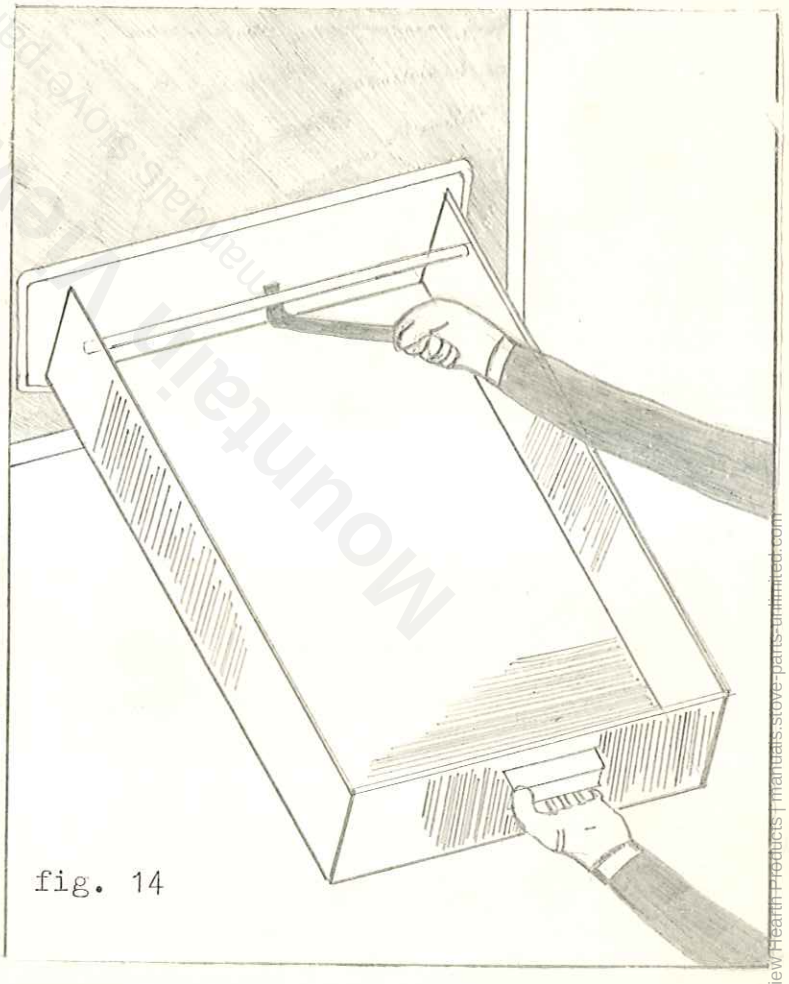


fig. 14

BURNING COAL EFFECTIVELY AND EFFICIENTLY:

Coal can provide constant efficient heat but must be handled and burnt carefully. Follow these few basic steps for safe operation.

- Store coal in a bin where the dust and smell won't filter into the house.
- Only buy enough coal to last the winter. Coal setting over the summer will lose most of its heat value.
- Coal stored in a dry place can cause an explosion if you have to store the coal over the summer. If you have left over coal wet it doun periodically and pour some used oil over the coal.
- When starting a coal fire, start first with wood or small kindling. Get the fire going good and then start adding small amounts of coal until a good bed of coals is built up. NEVER pile coal on too fast as it could smother the fire.
- If you do happen to smother out the fire be very careful. When you open the door the fresh oxygen could cause the gases to ignite causing an explosion. Watch the fire closely until it gets going so that explosions won't dislodge the smoke pipe. etc.
- If a serious explosion results, have appropriate fire extinguishers ready or call the fire department for assistance.
- Always carry coal ashes out in sealed metal container. Coal ashes stay hot a long time. Do not pour ashes near a building or on your garden. Coal ashes can be very bad for the soil in your garden.
- Coal requires alot of draft. Use the forced air combustion blower when you are burning coal. If you have a manual draft unit open the draft wide open until coal is burning evenly, then adjust for desired heat output.

FOLLOW THESE FEW BASIC STEPS AND YOU CAN HAVE YEARS OF TROUBLE-FREE EFFICIENT SAFE DEPENDABLE HEAT.

ELECTRIC WIRING

All furnaces covered by this manual and installed in the United states of America operate on 115 volts, 60 cycle, 1 phaze current.

All electrical wiring must be done in accordance with the national electrical code and the code legally authorized in the area where the installation is being made.

NOTE: No lighter than no. 14 gauge wire solid core should be used in the furnace power supply circuit.
WARNING: Turn off electric power circuit protector device before making any line voltage connections.

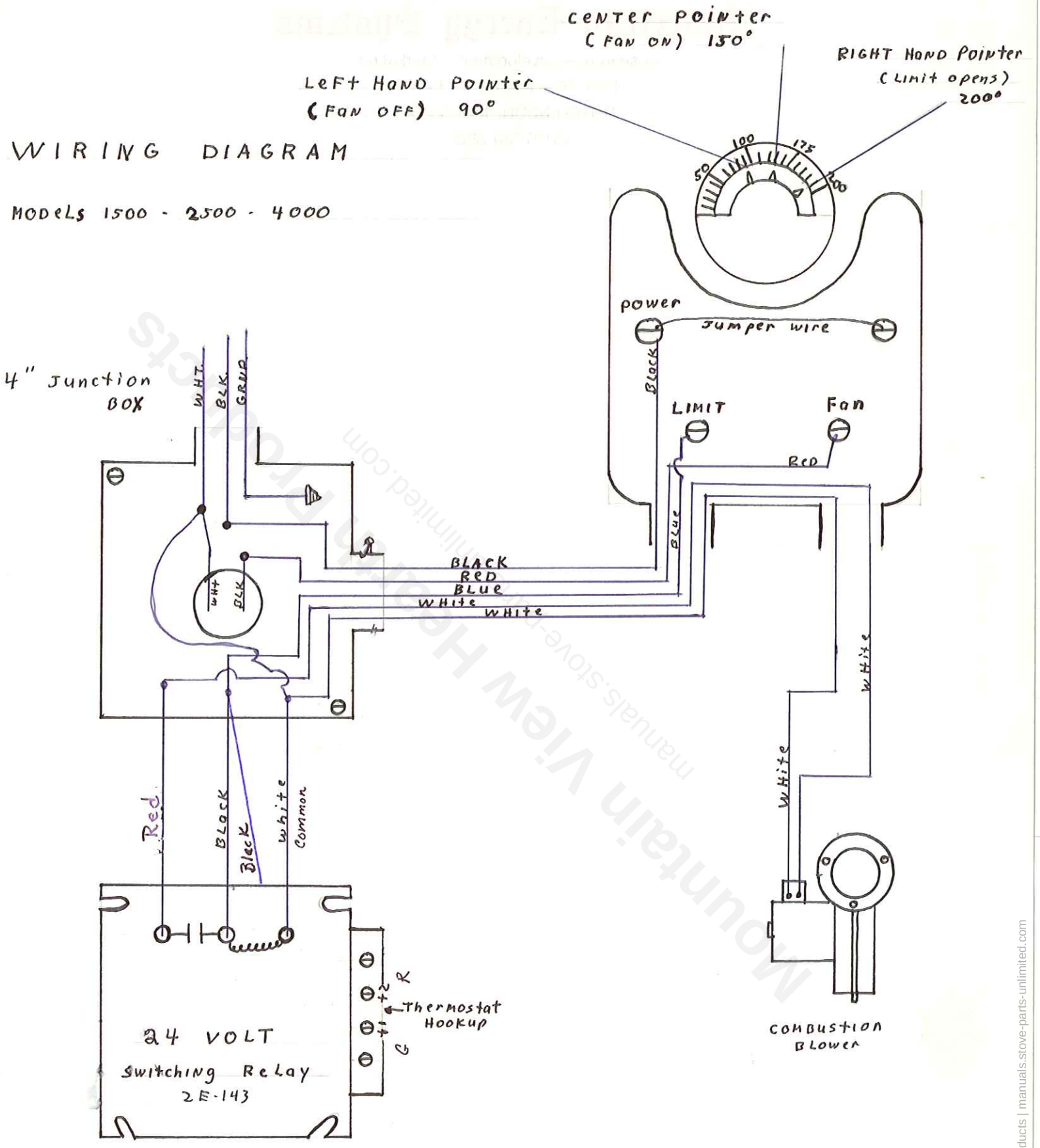
NOTE: IF YOU ARE GOING TO HOOK THE BLOWER FROM THE EXISTING FURNACE TO THE WOOD/COAL FURNACE IN A DIRECT LINE BE SURE TO FOLLOW STRICT INSTRUCTIONS FROM YOUR ELECTRICAL CONTRACTOR.
Hooking this system up improperly could cause serious electrical problems and could shut doun your entire heating system.

WIRING THE FURNACE

Your MAGNUM furnace comes with all of the electrical components that it needs for proper operation. The wiring harness is pre-wired at the factory so that all that is needed in the field is to hook up the color coded wires that are in the wire harness.(see wiring diagram)
Take all of the electrical componets out of the inside of the furnace make sure that you keep all warranties and instructions that are packaged in the boxes.
- first mount the 4" x 4" square junction box on the lower left side of the furnace where the wire gromet and (4) four screws are located. Align junction box holes with holes on furnace and attach. Pull wire through the gromet about 6 inches to allow for proper connections.
- Next drill a 7/8 inch hole in the plenum for the fan and limit control. The control should be mounted 6 inches above the top of the furnace and in the center of the plenum. (see wire harness location) Attach control with the sheet metal screws that are provided in the fan and limit control. Read instruction sheet provided.
- To adjust the fam and limit setting levers, hold the scale plate dial to keep it from turning and straining the sensing element. Move the setting levers to the control points listed. FAN OFF 90 degrees FAN ON 135 degrees - LIMIT OFF 200 degrees (set at factory)
- next fasten the flex conduit to the 4"x4" junction box using the knockout plug on the side or top of the junction box. fasten the flex conduit that has the 5 wires coming out of it to the junction box. Fasten the flex conduit that has the 2 wires coming out of it to the combustion blower junction box. Yellow wire nuts are provided to make the wire connections. (see the wire harness location diagram)
- Follow the wiring diagram directions for the proper wire connections The wires are color coded for easy hookup.
- Mount the 24 volt switching relay to the 4"x4" junction box after hooking up the wiring according to the wiring diagram directions.
- Mount the 24 volt thermostat according to the instructions that are provided in the thermostat box. Hook the thermostat wires to the switching relay according to the directions in the wiring diagram.

WIRING DIAGRAM

MODELS 1500 - 2500 - 4000



Maintenance Instructions

CAUTION

Before cleaning chimney, smoke pipe and furnace, be sure to turn off electrical power to furnace and any other appliance connected to chimney. Be sure wood/coal fire is out and inside of furnace is cool.

At the beginning of the heating season, follow these simple steps:

1. It is advisable to have a heating contractor inspect and service your MAGNUM and primary furnaces for the coming heating season.

2. Furnace, smoke pipe and chimney should be cleaned and checked for repairs.

3. Visually inspect heat exchanger for cracks or excessive soot build-up.

- Keep ash drawer emptied. Failure to do this will cause grate to warp.

- The chimney and heat exchanger should be checked and cleaned several times each heating season. Soot will act as an insulator which will cause less heat to be transferred into your duct system, thus reducing the efficiency of the wood/coal being burned.

HOW TO PREVENT RUST AND CORROSION

- At the end of each heating season:

  1. Clean heat exchanger and ash pan thoroughly.

  2. Paint the inside of the heat exchanger with automobile crankcase oil. This will decrease rusting caused by summer moisture.

- If black paint on firing door area wears or burns off, it can be repainted with a high-temperature, flat black, air drying paint.

CLEANING THE CHIMNEY, SMOKE PIPE AND HEAT EXCHANGER

To avoid chimney fires, on a regular schedule, check for creosote and soot build-up in the chimney, smoke pipe and heat exchanger. They must be kept clean.

Steel brushes are the safest for cleaning metal surfaces. Salt solutions and some chemicals may damage metal surfaces. Do not overfire your furnace. Do not burn anything that combusts in seconds. Excessive flue temperatures may result, thereby igniting creosote.

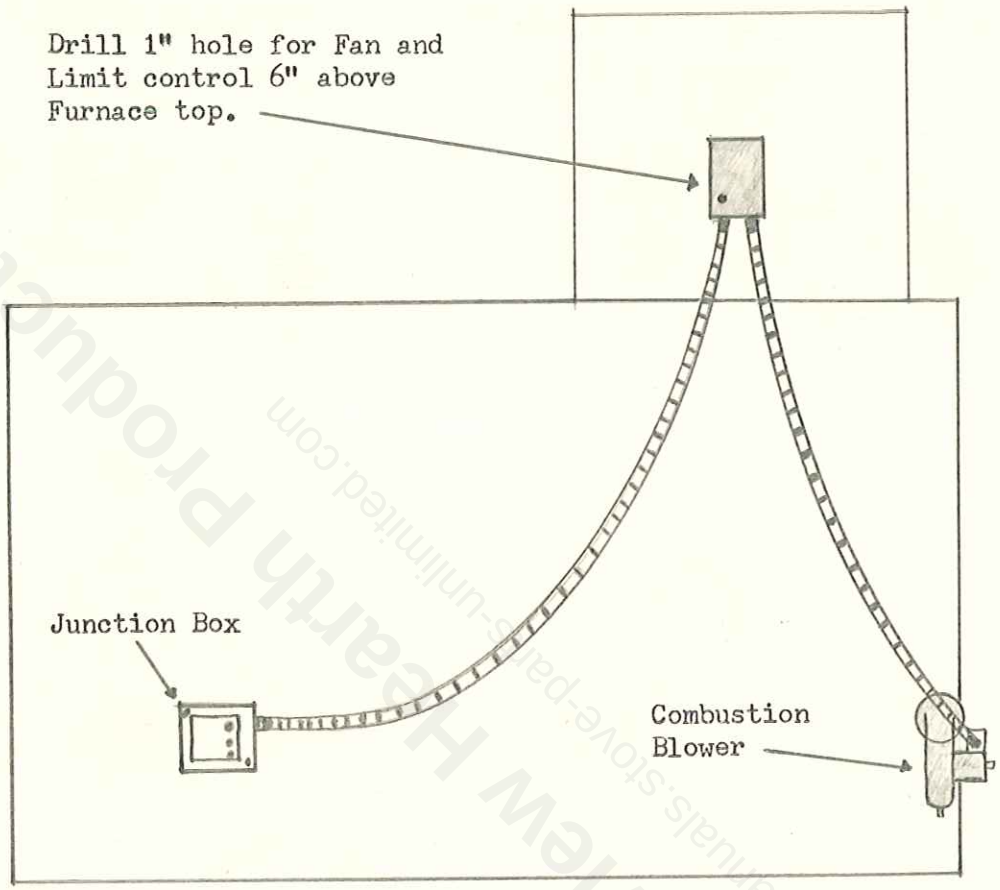
To clean the chimney, obtain a stiff brush with an extendible handle and insert the brush into the chimney from the top. Continue brushing and sweeping downward until entire length of chimney is cleaned.

After cleaning, the debris will be at the bottom of the chimney at the clean-out opening. Open the clean-out door and sweep the debris out into a metal container.

The smoke pipe from the furnace to the chimney can be cleaned with a steel brush.

The inside of the firebox can be cleaned with any steel brush.

WIRE HARNESS LOCATION



American Energy Systems, Inc.

LIMITED WARRANTY

American Energy Systems, 50 Academy Lane, Hutchinson, Minnesota, 55350, extends this Limited Warranty to the original purchaser of an American Energy Systems furnace, Serial No_____, which is installed and used under normal conditions. (Please refer to paragraph III entitled "Conditions of the Limited Warranty")

I. WHAT THIS LIMITED WARRANTY COVERS AND FOR HOW LONG:

(A) American Energy Systems will repair or replace, at its option, any casing or heat exchanger which fails as a result of a defect in material or workmanship for a cost to the purchaser of a proportion of the existing manufacturers suggested retail price as follows.

Cost to Purchaser: (year after purchase)	First Year	0 Percent
	2nd and 3rd year	30 Percent
	4th -6th year	50 Percent
	7th-10th year	80 Percent

(B) American Energy Systems will repair or replace, at its option motors, switches, controls or similar parts manufactured by others within one year of the date of shipment from American Energy Systems factory warehouse only. Firebrick is not covered by Warranty.

(C) American Energy Systems does not agree to pay the cost of service calls to the site of original installation, or the cost of labor to remove or install parts covered by this limited warranty, nor does American Energy Systems agree to pay freight or other transportation expenses which may be incurred in connection with obtaining performance under this limited warranty.

(D) American Energy Systems is not responsible for any damage to or malfunction of this product unless caused by a defect in material or workmanship. Damage caused by abuse or breach of the conditions of this limited warranty will excuse American Energy Systems performance of any part of this limited warranty. American Energy Systems has the right to investigate and inspect in the event a claim is made under this limited warranty to determine whether the damage or malfunction complained of was caused by abuse or other cause outside this limited warranty.

(E) American Energy Systems is not responsible for any consequential damage resulting from any malfunction. Some states do not allow the exclusion or limitation of incidental or consequential damages so that the above limitation may not apply to you.

(F) **LIMITATION OF WARRANTIES:**

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED , INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. AMERICAN ENERGY SYSTEMS EXPRESSLY DISCLAIMS WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTIES, EXPRESS OR IMPLIED, OR MADE BY AN AGENT OF AMERICAN ENERGY SYSTEMS, OTHER THAN AS SPECIFICALLY SET FORTH IN THE FOREGOING PARAGRAPHS.

II. HOW TO OBTAIN PERFORMANCE UNDER THIS LIMITED WARRANTY.

(A) Purchaser should first contact the dealer or contractor from whom the American Energy Systems furnace was purchased, and notify him of the defect or malfunction complained of, purchaser's name and serial number of the furnace. Parts to be replaced under warranty should be delivered to the dealer or contractor, or shipped directly to American Energy Systems factory service center at Hutchinson, Minnesota, **freight prepaid**. If the satisfactory performance of this limited warranty is not available through the dealer or contractor, the purchaser may contact American Energy Systems at 50 Academy Lane, Hutchinson, Minnesota, 55350, but all correspondence must be in writing.

III. CONDITIONS OF THE LIMITED WARRANTY:

American Energy Systems performance under this warranty is conditioned as follows:

(A) That the purchaser shall give notice to manufacturer of the fact of purchase within ten (10) days of the date of purchase by mailing the attached postal card or other written notice sufficient to identify the purchaser, the furnace purchased (including serial number), and the place of original installation.

(B) That the furnace must have been installed in accordance with all applicable codes, laws and ordinances; that the furnace draft must have been properly adjusted according to the instructions provided with the furnace.

(C) That the furnace must have been operated during each heating season according to the manufacturer's instructions, within its listed capacity and with proper controls and adjustments.

NOTE: Note that the overfiring of your American Energy Systems furnace is contrary to the manufacturer's instructions.

IV. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

American Energy thanks you for purchasing another American built product, manufactured by American people. This furnace is of extremely high quality and if used properly will give you years of dependable trouble-free heat for your home.

THANK YOU FOR PURCHASING OUR PRODUCT.

In order to establish your warranty date with the factory, fill out this form and return it to American Energy Systems, Research - Development - Marketing, 50 Academy Lane, Hutchinson, MN 55350.

We appreciate your taking time to provide information to us pertaining to who buys Magnum products and what they save in energy costs by using our energy products. Thank You for your cooperation.

Model_____ Serial No._____

Owners name_____ Telephone _____

Address_____

Dealers Name_____ Purchase Date_____

1. Age Group _____21-35 _____36-50 _____Over 50
2. How did you hear about Dakfire Products? _____ Friend _____Relative _____Dealer _____Show _____Advertising_____Other
3. Did you see a Dakfire operate prior to purchasing? _____Yes _____No
4. Installation will be in _____City _____Rural
5. It is used with _____ Gas furnace _____Oil furnace _____Electric
6. Do you cut or purchase firewood _____cut _____buy _____both
7. What percentage of your total home heating will be wood or coal heat?

   _____ 100% _____ 75% _____ 50% _____ 25%
8. If you are using coal, have you burned coal before? _____Yes _____No
9. Who installed unit? _____Dealer _____Contractor_____Other
10. Please expand if you wish on the product, features, owners manual Dealer, etc.