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Burn Wise
Your Guide To
Best Burning
Practices

IMPORTANT!
MUST READ
DAKA Wood-Burning Furnace Manual FIRST

This Is A SUPPLEMENT To Your Owner's
Manual

Read the installation-operations manual to familiarize yourself with the controls and features of your DAKA wood burning furnace.

A properly installed, correctly operated wood-burning furnace should produce a minimum amount of smoke. If you see or smell smoke that means you may have a problem. Practice the following guidelines to burn wise in your DAKA wood-burning furnace and reduce smoke inside and outside your home.

Once your DAKA wood-burning furnace is properly installed, building an efficient fire requires good firewood (using the right wood in the right amount) and good fire building practices. The following practical steps will help you obtain the best efficiency from your DAKA wood-burning furnace.

Season wood outdoors through the summer for at least 6 months before burning it. Properly seasoned wood is darker, has cracks in the end grain, and sounds hollow when smacked against another piece of wood. Store wood outdoors, stacked neatly off the ground with the top covered. Air needs to circulate between the ranks of wood. Large tight piles will not season properly.

Wood burns best when the moisture content is less than 20%. A wood moisture meter to test the moisture content of your wood before you burn it is provided.

Burn only dry, well-seasoned split wood.

Use of a smoke vent thermometer to monitor stack temperature is recommended. Normal operation will produce flue gas temperatures in the 300° - 600° F range.

When preparing to light your DAKA wood-burning furnace the auto damper control should be set on high. If it is a forced draft unit the draft fan should be running and the smoke bypass damper should be open if there is one. Also, open the ash pan door 1" - 2". Use only clean newspaper and dry kindling. Don't overload the furnace, a smaller load of wood is best. Getting the stack temperature in the burn range quickly as possible is very important. Too much fuel at one time can cause the stack temperature to drop causing more smoke and less heat. Once the stack temperature is in the operating range the ash pan door should be closed. Never leave your DAKA wood-burning furnace unattended with the ash door unlatched. Now the smoke bypass damper should be closed if there is one and the auto damper control or the wall thermostat on forced draft models can be set to the desired settings.

Keeping the stack temperature in the burn range, high quality, low moisture firewood (20% or less) and an ability of the chimney to produce necessary draft are key factors in maintaining a clean efficient fire with a minimum amount of smoke.

Burn hot fires. Flue temperatures should be between 300° and 600° F.

To maintain proper airflow, regularly remove ashes from you DAKA wood-burning furnace and place into a metal container with a cover and store outdoors.

Buying and burning locally cut firewood decreases the risk of transporting invasive forest pests to your property.

Never burn household garbage or cardboard. Plastics, foam and the colored ink on magazines, boxes, and wrappers produce harmful chemicals when burned. They may also damage your DAKA wood-burning furnace.

Never burn coated, painted, or pressure-treated wood because it releases toxic chemicals when burned.

Never burn ocean driftwood, plywood, particle board, or any wood with glue on or in it. They all release toxic chemicals when burned.

Never burn wet, rotted, diseased, or moldy wood. It will not burn properly and will cause air quality problems.

Keep all flammable household items - drapes, furniture, books, etc. - far away from the appliance.

Start fires only with newspaper, dry kindling and all natural organic fire starters. Never start a fire with gasoline, kerosene, or charcoal starter.

Do not burn wet or green (unseasoned) logs. These will cause creosote buildup that could lead to a chimney fire.

Do not use logs made from wax and sawdust. If you use manufactured logs, choose those made from 100% compressed sawdust.

Build hot fires. A smoldering fire is not a safe or efficient fire.

Keep the doors of your wood-burning furnace closed unless loading or stoking the live fire. Harmful chemicals, like carbon monoxide, can be released into your home.

Regularly remove ashes from your DAKA wood-burning furnace into a metal container with a cover. Store the container of ashes outdoors on a cement or brick slab (not a wood deck or near wood).

Keep a fire extinguisher handy.

Is your wood dry? Take the moisture meter test.

Wet wood can create excessive smoke which is wasted fuel. A moisture meter that allows you to test the moisture level in the wood is provided. **Properly dried wood should have a reading of 20% or less.** Dry wood creates hotter fires. Hotter fires save wood - ultimately saving you time, money, and help to protect the environment. Burn Wisely.

Refer to your owner's manual for installation guidelines and operating instructions.

Start a small fire with dry kindling then add a few pieces of wood at a time.

Give the fire plenty of air - fully open the air controls until the fire is roaring and stack temperature is in the burn range.

Burn the fire to heat the chimney or flue before adding more wood.

Keep space between the firewood as you add more to the fire. Large tightly stacked loads of wood may not be able to burn efficiently.

Check for local burn bans and avoid wood furnace use while in effect.

Avoid burning garbage, treated lumber, or saltwater driftwood. Burning these items can damage your furnace and cause serious health issues.

Check your chimney regularly and have your stove and chimney professionally inspected and serviced yearly.

A smoldering fire or smoke from the chimney are both signs that a fire needs more air or your wood is too moist. There is a difference between smoke and water vapor. A good hot fire may produce some water vapor but very little smoke.

1. SPLIT

- Start with the right sized wood
- Split wood dries much faster
- Split the wood in a range of sizes to fit your stove, but no larger than 6 inches in diameter
- Split small pieces for kindling

2. STACK

- Stack wood to allow air circulation
- Build the stack away from buildings
- Keep wood off the ground - stack it on rails
- Stack wood in a single row with the split side down

3. COVER

- Cover the top of the stack to protect it from rain or snow
- Make sure there is space between the cover and the stacked wood - don't allow the cover to rest directly on top
- Keep the sides open so air can circulate through the stack

4. STORE

- Allow enough dry time
- Softwoods take about 6 months
- Hardwoods take about 12 months
- Cracked ends on the wood typically mean it is dry enough to burn



SUPPLEMENTARY / CENTRAL WOODBURNING FURNACE MODEL 832

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INSTALLATION AND OPERATION INSTRUCTION MANUAL

NOTE: These models have been tested and listed in accordance with Underwriters Laboratories standard UL 391-2010-March 2010 and Sept. 2010 for Solid Fuel Central and Supplementary Furnaces by Warnock Hersey International, Inc. ICBO Report No. TL116; NER Qa219.

PRINCIPLE OF OPERATION:

These furnace models are designed for conventional upflow residential central forced air heating systems, to be installed in either of the following ways:

1. Supplementary "Add-on" Furnace Application (See Figure 1)

As a supplementary furnace, these models are connected in parallel to a conventional primary furnace system, using present ductwork to distribute wood-heated air throughout the home. As long as the heat produced by the supplementary furnace keeps the living area temperature above the setting on the primary furnace wall thermostat, the primary furnace should not burn any gas, oil, or use any electricity beyond that required to run the primary distribution blower. Should the wood fire fail to provide sufficient heat, however, the primary furnace will begin operating as usual.

2. Central Furnace Application (See Figure 2)

This furnace also may be used as a freestanding central furnace, with its own plenums and ductwork. The large multi-speed blower provided with this furnace is sufficient to provide air distribution for most homes. As wood burning requires periodic attention, use of this unit as a central furnace is somewhat inconvenient and requires a second heating system (electric baseboard, vented gas room heaters, etc.) to act as a backup.

CAUTIONARY NOTES:

1. This furnace is designed for use only in conventional upflow systems, and must deliver heated air to a supply (warm air) plenum, never to ductwork. The warm air supply from this furnace must never be connected to the cold-air return inlet of a central primary furnace, as a possibility exists of components of the central furnace overheating and causing the central furnace to operate other than as intended. **Do not use as freestanding radiant heater.**

2. Installation of this unit must be performed by a qualified installer familiar with solid-fuel systems.
3. This furnace must be connected to a minimum 6" listed Type HT (high temperature) appliance-type chimney, or a code-complying tile-lined masonry chimney. **Connection to a chimney flue serving another appliance is prohibited.**
4. A barometric regulator/damper must be used in the chimney connector (smoke pipe leading to chimney flue) and must be set to maintain no more than .06" water column updraft (DAKA barometric regulator #283 with adjustable settings available at extra cost through your DAKA dealer or online @ www.dakacorp.com / Energy Division or by calling Toll-free 1-800-884-3252).
5. **Installation of this furnace in mobile homes or garages is prohibited.**
6. This furnace must be installed on a non-combustible floor surface such as solid concrete or 3/8" non-combustible floor protector board. This surface must extend at least 16" in front and 8" to both sides of the furnace and also extend at least 2" out from the sides of the chimney connector. See Fig. 3 for ductwork clearances and Fig. 4 for wall clearances.

Clearance to combustible surfaces are as follows:

To Side Wall	12"	Flue to Back Wall	18"
To Back Wall	28"	Flue to Side Wall	21"
To Front Wall	48"	Top of plenum to ceiling	6"

If you have any questions regarding venting your furnace, request a copy of the National Fire Protection Association's (NFPA) Publication 211 [Standard for Chimneys, Fireplaces, Vents & Solid Fuel-based Appliances].

**National Fire Protection Association
1 Battery March Park, Quincy MA 02169-7471,
1-617-770-3000 or online at www.nfpa.org.**

7. Check local building and mechanical codes prior to installation to insure conformance with all requirements; review home insurance policy for coverage.
8. Chimney Requirements:
 - 1) Minimum 6" inside diameter
 - 2) "Type HT" (High Temperature)-listed appliance-type chimney or a code-complying tile-lined masonry chimney.
 - 3) Chimney must extend 3' above roofline and be at least 2' higher than any point of roof within 10'.

DO NOT install more than two 90° degree elbows in the flue pipe to help maintain proper draft.

This furnace requires its own independent chimney. DO NOT connect to a chimney flue serving another appliance.

All horizontal runs must have a minimum upward rise of 1/4" per foot.

The chimney connector (smoke pipe leading to chimney flue) must be of minimum 24-ga. pipe with each section joined with three sheet metal screws. All fissures should be sealed with furnace cement. Do not use galvanized pipe as the coating could melt and cause toxic fumes.

A stack thermometer is recommended. Stack temperatures can be checked with a simple surface-mounted or probe-type thermometer. It is recommended to maintain normal operating range of 300-600 ° F. Temperatures lower than 300° F indicate insufficient draft or inadequate combustion air and may result in creosote formation in chimney flue.

The maximum draft setting is a maximum of .06" W.C. (measured in water column). Use of a gauge is highly recommended. Follow gauge manufacturer's instructions. Gauges to

measure chimney draft are readily available at furnace shops and are economical to purchase or rent. If a draft gauge is not available, with the draft regulator fully installed and a good fire burning, adjust the counterbalance weight closer to the gate for as low a draft setting as possible, without the fire dying or getting smoke-back with the stove door slightly open. To obtain higher heat levels, move the weight away from the gate to increase the setting.

9. It is designed to operate with a maximum warm air duct pressure of 0.2" water column and a maximum warm air duct temperature of 250° degrees F. The warm air supply duct system must be constructed of materials with a minimum temperature rating of 250° degrees F. Plenums installed to the furnace must be constructed of metal. Do not use flexible pipe.

IMPORTANT: WHETHER INSTALLED AS A SUPPLEMENTARY/ADD-ON OR CENTRAL FURNACE, INSTALLATION OF A COLD AIR RETURN LINE IS MANDATORY.

10. When any supplementary furnace is connected in parallel to an existing primary central furnace, a back-draft damper must be installed in the plenum of the primary furnace below the warm air inlet from the supplementary furnace to prevent the primary furnace from operating in an unintended manner; see Fig. 1 for an illustration of the position of this damper.

DANGER - RISK OF FIRE OR EXPLOSION. DO NOT BURN GARBAGE, GASOLINE, DRAIN OIL OR OTHER FLAMMABLE LIQUIDS.

WARNING - RISK OF FIRE. DO NOT OPERATE WITH FLUE DRAFT EXCEEDING .06" WATER COLUMN. DO NOT OPERATE WITH FUEL LOADING OR ASH REMOVAL DOORS OPEN, DO NOT STORE FUEL OR OTHER COMBUSTIBLE MATERIAL WITHIN MARKED INSTALLATION CLEARANCES. INSPECT AND CLEAN FLUES AND CHIMNEY REGULARLY.

CAUTION - HOT SURFACES. KEEP CHILDREN AWAY. DO NOT TOUCH DURING OPERATION. MAXIMUM DRAFT MARKED ON NAMEPLATE.

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 the soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

Creosote - Formation and Need for Removal

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire.

The chimney connector and chimney should be inspected at least twice monthly during the heating season to determine if a creosote buildup has occurred. If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

INSTALLATION INSTRUCTIONS:

I. UNPACKING

- DO NOT LIFT FULL CARTON THAT CONTAINS FIREBRICK AND BLOWER FROM INSIDE THE FIREBOX.
- Open box and remove individual firebricks and blower first.
- Check piece count against parts list in back of manual.

PLEASE DO NOT RETURN THE PRODUCT TO THE STORE WHERE PURCHASED.

CALL DAKA CORPORATION DIRECTLY.

**1-800-884-3252 Monday through Friday
8:00 AM to 4:30 PM Central Time**

It is our goal to send replacement parts to you immediately after we receive your order.

In order to assist our Customer Service Representative, please have the following information available.

- **Furnace Model Number, Product Part Number, Description, Furnace Serial Number**

We are committed to customer satisfaction and are dedicating our efforts to earn your continued support.

II. FURNACE ASSEMBLY

- Attach fire door (Key No. 1 on parts list) to door frame using hinge kit as provided. Note that door features a double latch operation to limit initial swing of door to 1" on opening. Continue turning handle clockwise beyond 3 o'clock position to permit full opening of door. Close door with handle in same position, and rotate counterclockwise to lock. Attach Ash Door (5) to Ash Pan (7) using 1/4" nuts and bolts provided. Ensure that Ash Pan Gasket (6) is in place on Ash Door when received.
- Remove cast-iron grate (11) from firebox. Proceed to install firebricks (16) along sides and back of firebox, starting at the front, standing them upright on the grate support rails. CAUTION! FIREBRICK MUST BE INSTALLED CORRECTLY OR HEAT DAMAGE MAY OCCUR!
- Reinstall cast-iron grates in firebox, reinforcing ribs down, resting on side rails.
- Attach Draft Blower Adapter Plate (10) to front of furnace below fire door using six No. 12 x 1/2" screws provided, and then attach 50-cfm draft blower (9) to adapter plate using three No. 12x 1/2" screws. **TIP: Put a drop of oil on each screw thread to ease insertion in heavy-gauge steel.**
- Attach mounting brackets (1-R, 1L) to each side of large multi-speed blower outlet using (4) four screws provided with brackets.
- Install Blower (14) on back of furnace using four No. #12 x 1/2" screws provided.
- Install Swing Plate (19) on hooks inside combustion chamber above fire door opening, with bent edge inward.

III. FURNACE CONTROL CENTER ASSEMBLY

NOTE: Furnace is designed for installation with supply connection on left side; should right side supply connection be preferred, it is possible to exchange side air jacket panels, but conduit and wiring provided will not be usable then, and will have to be replaced locally.

- On left side of furnace, mount two Snap-Disc Controls (20) & (21) over inner three of five 13/64" holes pre-punched toward top of furnace, using three No. 12 metal screws provided.
- Mount 4x4-in. Junction Box Extension Ring (2) over Snap-Disc controls, using two No. 12 metal screws provided in pre-punched holes; remove three knockout plugs from bottom of extension ring.
- Run each set of two blue wires through both flexible conduits. Attach the straight & 90° connectors to ends of the flexible conduit. Attach 90° connector to junction box on the blower motors and straight connector end into one knockout hole on side mounted junction box ring.

IV. **WIRING INSTRUCTIONS** (See Figure 7 for wiring schematic)

NOTE: For power supply connections, use No. 14 AWG or larger wires acceptable for at least 105°C. SHUT OFF ALL POWER WHILE INSTALLING.

- A. Attach approved conduit carrying 3-wire 120V AC 15 amp service to any unused knockout hole on J-Box ring with conduit connector (not included for field wiring connections).
- B. On Relay/Transformer (Key No. 3), attach crimp terminal to either of black solenoid pigtails; attach other crimp terminal to one end of wire. These crimp terminals will be attached to Snap Disc Fan Control (Key No. 20) blade terminals.
- C. Make all wiring connections per the schematic in Fig. 7, making all connections shown with wire nuts provided. Check all wiring connections for tightness and electrical safety.
- D. Tuck all wires into J-Box Ring and install Transformer/Relay as J-Box cover. Reinstall cover plates on blower junction boxes.

V. **CONNECTIONS TO DUCTWORK**

A. FOR USE AS A SUPPLEMENTARY "ADD-ON" FURNACE (SEE FIG. 1)

NOTE: A back draft damper must be installed in the warm-air supply plenum of the primary furnace below the point where the warm air ductwork connection from the DAKA furnace enters the plenum. Actual design and installation procedure for such a back-draft damper is left to the installer, due to the large number of plenum configurations involved. See Fig. 1 for illustration of placement.

1. Using 10" round starter collar as template, mark and cut out 2 10" round holes in the side of the supply (warm air) plenum of the primary furnace.

IMPORTANT: Verify beforehand that sufficient clearance is available above air conditioner coils, etc. If sufficient clearance is not available, air conditioner coil may have to be moved to a second plenum with diversion baffles for summer use.

2. Attach a 90° sheet metal elbow to one end of a straight 10" pipe of a length sufficient to project out over the DAKA furnace; insert this 90° elbow into supply plenum of primary furnace with outlet pointing upward. Slip plenum collar over straight end of 10" pipe and push up tight against supply plenum for a good air seal.

IMPORTANT: The 90° elbow within the supply plenum forms a venturi to extract air from DAKA furnace when primary furnace blower comes on. An absence of this elbow will cause back pressure down the warm air pipe to the DAKA furnace, adversely affecting heat distribution and possibly damaging the DAKA furnace. If space prohibits installation of 90° elbow as recommended see Fig. 5 for alternate designs.

3. Using 10" starter collar (13) included, attach another straight 10" pipe to top of DAKA air jacket. Join it to pipe leading to primary furnace. Supply plenum with another 90° elbow. For best seal, apply duct tape to all pipe joints. Repeat steps 3 and 4 for second 10" air outlet.
4. Connect cold air return of primary furnace to DAKA furnace blower by means of a minimum 12" pipe joined to the cold air filter box inlet.

NOTE: After attaching warm and cold air supply and return pipes to primary furnace, check entire system to insure that static pressure remains unaffected. Verify horizontal duct clearances per Fig.3.

B. FOR USE AS A CENTRAL FURNACE (SEE FIG. 2)

1. Install a minimum 16" x 16" plenum on air jacket top, cutting top with tin snips or saber saw as needed, and using starting collar to attach.
2. Install ductwork with proper clearances to combustibles in accordance with local building codes.
3. **NOTE: A cold air return line must be installed between the cold air return filter box and the rooms being serviced by the warm air outputs of the DAKA furnace.**

VI. CONNECTING DAKA FURNACE TO CHIMNEY

Mount and secure 6" non-galvanized smoke pipe, 24-ga. or heavier, to rear smoke outlet on DAKA furnace. Continue same gauge single wall pipe to chimney connection, with following safety rules in mind:

1. A barometric regulator should be installed in smoke pipe at least 18" from furnace, to permit adjustment of chimney draft to a maximum of .06" water column draft. DAKA Barometric Regulator No. 283 with adjustable draft setting is available through your DAKA dealer or at www.dakacorp.com / Energy Division store or call Toll-Free @ 1-800-884-3252.
2. Smoke pipe should maintain a minimum 18" clearance to all combustibles and should never pass through walls or ceilings; use proper thimbles for those passages.
3. Heat reclaimers, fins or the like should not be used on smoke pipe, as they tend to cool flue gases and add to creosote formation on stoves and furnaces of advanced airtight design.
4. All joints of chimney connector pipe should be secured with a minimum of three No. 7 sheet metal screws, and further sealed with furnace cement to maintain good draft. Smoke pipe should normally be installed with male ends leading from chimney to furnace; should runny creosote be formed in chimney connector, it will then return through pipe to furnace without dripping out of joints.
5. Maintain a minimum of 1/4" per foot of pipe rise to chimney connection; the steeper the rise, the more easily draft will be maintained.
6. Avoid the use of 90° elbows in any chimney connector, as they adversely affect draft. If 90° elbows must be used, do not install more than two in any chimney connector.
7. Adequate combustion air must be provided in furnace area to prevent poor firing and smoking. Keep a window cracked open in furnace area, or install minimum 3" vent to bring in fresh air.

VII. OPERATING CONTROLS

- A. Snap Disc Fan Control (Marked F120 or F110)
The snap disc fan control (mounted in the J-box extension ring on the side of the DAKA furnace) is designed to turn on the multi-speed blower on the DAKA furnace whenever the air temperature within the air jacket exceeds 120°F and turn it off whenever the air jacket temperature falls below 100°F. This range is built into the snap disc thermostat and cannot be adjusted.
- B. Snap Disc Operating Control (Marked L190-20 or L190-2)
This control is a normally-closed switch wired to the front-mounted 50-cfm draft blower. It is designed to open, or turn off power to the draft blower, whenever the furnace air temperature exceeds 190°. It will not turn on again until the air temperature falls to 170°. This means that even if the upstairs thermostat is calling for heat, the draft blower may not run.

C. Living Area Thermostat (Key No. 22)

The Honeywell T812A1002 thermostat is to be installed in any ground floor room on an inside wall, preferably beside the thermostat governing the primary furnace which should be set approximately 5° lower than the DAKA thermostat. When falling room temperatures call for heat, the DAKA thermostat turns on the 50-cfm front draft blower on the DAKA furnace; the additional combustion air increases the heat output until the DAKA room thermostat signals the blower to cut off. Combustion air then reduces to a maintenance level with relatively low heat output, ready for the next firing cycle. Should there be insufficient fuel to increase the room temperature as called for, the primary furnace will fire when the temperature falls to the 5° lower setting. The DAKA draft blower will continue to run; however, to turn it off, lower the DAKA room thermostat setting below that of the primary furnace.

IMPORTANT: Normal operation will produce flue gas temperatures in the 300°-600°F range. If higher or lower operating temperatures are normally obtained, increase or decrease the barometric draft control setting and room thermostat setting to bring temperatures to within range. Too cool a flue gas temperature can result in heavy creosote formation, while too hot a temperature increases danger of chimney fire.

VIII. EMERGENCY OPERATION INSTRUCTIONS

A. Operation During Power Failure

1. Remove furnace filter(s) to prevent fire hazard.
2. Close damper plate on draft blower to no more than 1/3 open.
3. Continue firing the fire with smaller loads, more frequently tended. Do not fill above bottom of door opening.
4. Use extreme care and vigilance during power failure to keep furnace from overheating, which could cause severe warpage or breakage.

CAUTION! Do not expect the DAKA furnace to keep the house as warm during a power failure as when power is on. Do not attempt to increase heat output by opening ash door or fire door.

B. In Case of a Chimney Fire:

1. Call the fire department immediately.
2. Close damper plate on DAKA draft blower to cut off oxygen to the chimney. Use chimney fire extinguishing flares if you have them. (Available at fireplace and woodstove shops.)
3. After chimney fire, do not attempt to use chimney again until a professional inspection is made to determine safety.

IX. MAINTENANCE OF YOUR DAKA FURNACE

CAUTION! TURN OFF ALL POWER TO UNIT BEFORE CLEANING.

A. Flue pipe and chimney

These must be checked frequently during heating season and deposits of soot and creosote over 1/8" thick removed using stiff-wire brushes designed for the job. Professional cleaning by a chimney sweep at least once a season is highly recommended.

B. DAKA Furnace Blowers

The DAKA blower is self-lubricating and does not require oiling. Vacuum away dust and dirt on motor air inlets, and also on blower impellers at least once each season.

C. Fire chamber and ash pan

Check ash pan every few days and safely dispose of ashes. Keep ashes from building up on grate and interfering with combustion air flow from below.

At end of heating season, clean out all residual ashes and soot from furnace. The moisture they contain could rust your furnace over the summer months, thereby shortening the life of the unit.

X. TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Smoke puff back when loading, poor burning, insufficient heat	<ol style="list-style-type: none"> 1. Insufficient draft. 2. Insufficient make-up. 	<ol style="list-style-type: none"> 1. Debris or creosote could be blocking flue. Inadequate chimney height or design could be causing downdrafts. Check chimney connector for air leaks and seal with furnace cement. Adjust barometric regulator to higher setting. 2. The house could be so well insulated that infiltration air is not getting in to replace air used in combustion. Open a window slightly in furnace room or install a vent to the outside in furnace area.
Poor heat throughout house while burning wood	<ol style="list-style-type: none"> 1. Poor quality wood. 2. Cold air return closed or blocked. 3. Duct joints leaking air. 4. Check flue gas temperature. 5. Fan control not adjusted properly. 	<ol style="list-style-type: none"> 1. Burn only wood which has been air-dried for at least six months, preferably a year or more. Use hardwoods such as hickory, oak, maple, etc. for highest heat value per load. 2. Check to insure that all cold air return vents are open and not blocked with furniture, etc. 3. Make sure that all duct joints are airtight. Apply duct tape to seal. 4. Normal operating range is 300-600°F. Lower temperature would indicate insufficient draft or inadequate combustion air. To check flue gas temperature, we recommend that a smoke pipe surface thermometer or probe-type thermometer be used. 5. Insure that primary furnace blower is turning on to distribute heat effectively. Lower "FAN ON" settings on primary furnace fan control to start circulation earlier.
Auto Damper Control won't hold setting	<ol style="list-style-type: none"> 1. Auto damper control not in adjustment. 	<ol style="list-style-type: none"> 1. Adjust tension on shaft by tightening only the shaft nut closest to the coil spring. Using a 7/16" open end or adjustable wrench, turn tension nut counter-clockwise moving it only a quarter of a turn at a time. Check tension on knob. Do not over tighten.
Loose Knob on Auto Damper Control	<ol style="list-style-type: none"> 1. Loosened through usage. 	<ol style="list-style-type: none"> 1. With furnace in cool mode, turn shaft so that arm of coil spring is in 10 o'clock position. Turn loose knob to 12 noon position. Tighten set screw with 5/64" Allen wrench.
Paint discoloration (whitish appearance)	<ol style="list-style-type: none"> 1. Overheating. 	<ol style="list-style-type: none"> 1. Paint is rated for 900°F surfaces. Overheating of furnace will cause a whitish appearance on outside of combustion chamber surfaces (it is normal around back & door). Reduce chimney draft to control overheating. Pink or white discoloration on chimney also is normal. NOTE: To cover discoloration, obtain a high-combustion flat black spray paint from hardware store or fireplace shop.
Creosote Formation	<ol style="list-style-type: none"> 1. Burning too cool of a fire. 2. Auto Damper setting too low. 	Also reference page 3.

Customer Service
DAKA CORPORATION
955 Industrial St NE Pine City MN 55063
320-629-6737
Monday through Friday, 8 AM to 4:30 PM Central Time

FIG. 1 – Typical Installation As Supplementary “Add-On” Furnace

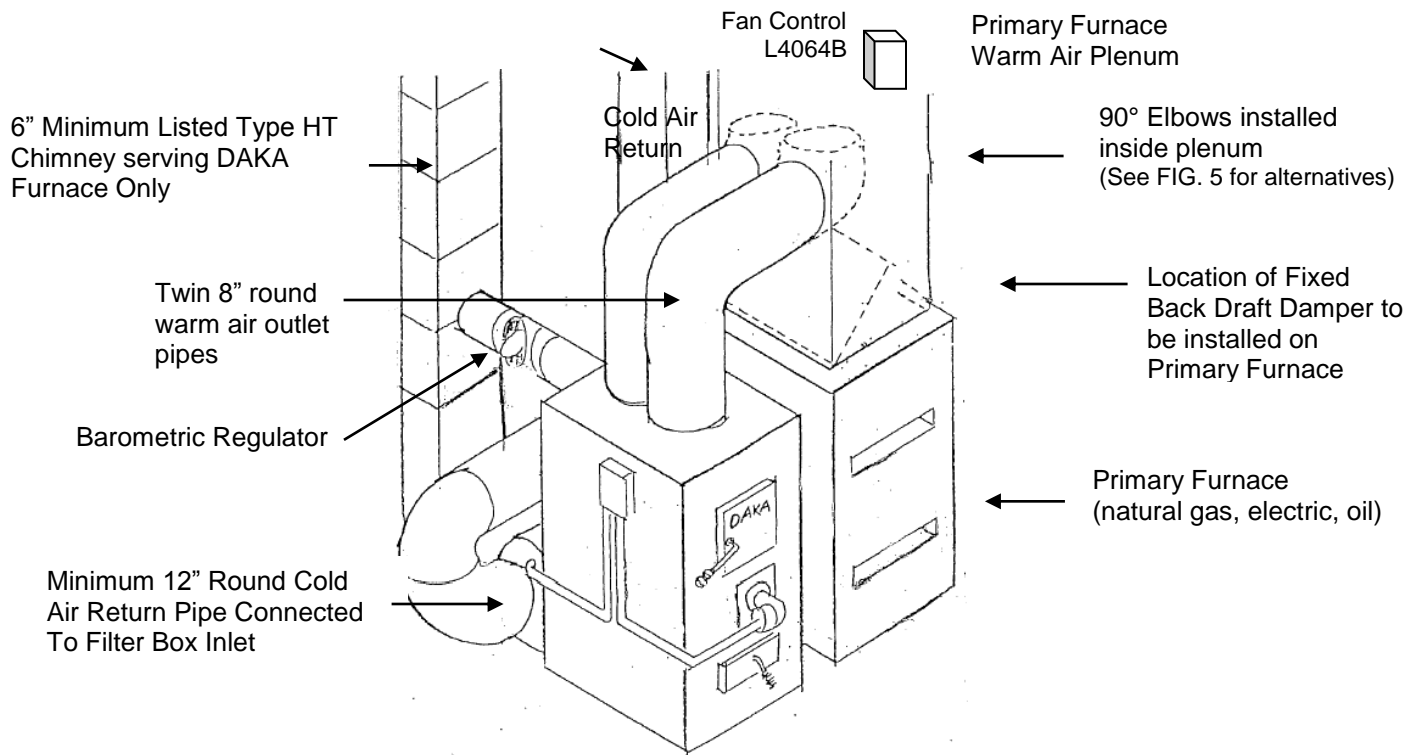


FIG. 2 – Typical Independent Central Furnace Installation

- A - STACKHEAD
- B - VERTICAL STACK (2 STORY HOUSE)
- C - REGISTER BOOT
- D - 6" DIA. OR LARGER HEAT PIPE
- E - RECTANGULAR DUCT
- F - RECTANGULAR DUCT REDUCER
- G - SIDE DUCT STARTING COLLAR
- H - END BOOT (RIGHT OR LEFT)
- I - DUCT DAMPER
- J - 50° SHORT ELBOW
- K - BASEMENT HEAT REGISTER
- L - UNIVERSAL OR TOP TAKE-OFF
- M - DUCT STARTING COLLAR (RECTANGULAR)
- N - COLD AIR RETURN GRILL
- O - COLD AIR PLENUM
- P - WARM AIR PLENUM
- Q - DUCT END CAP
- R - COLD AIR RETURN DUCT

CAUTION:
SEE DUCT CLEARANCES FOR PROPER INSTALLATION.
CHECK LOCAL CODES.

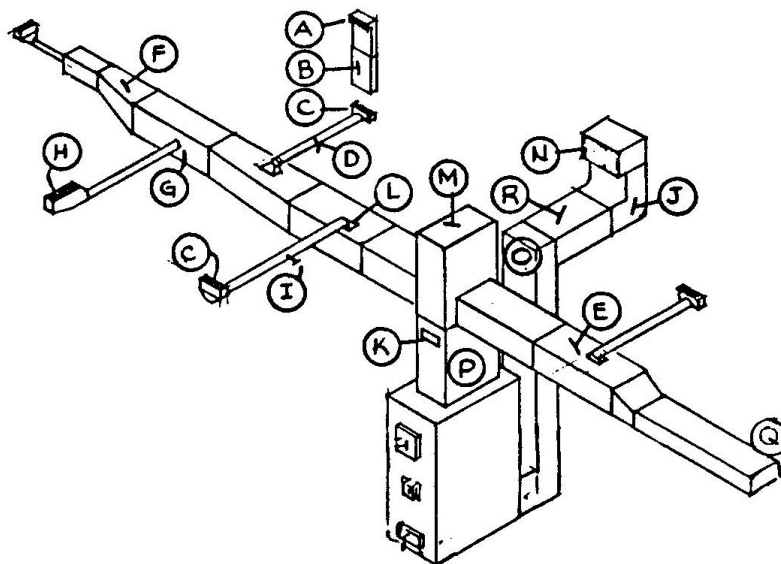
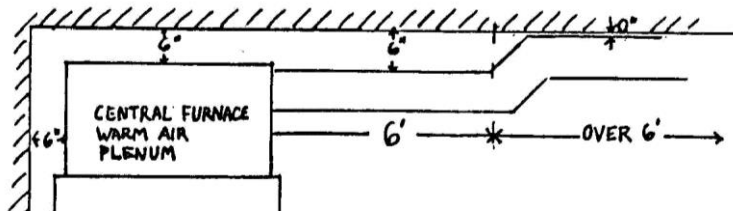


FIG. 3 – Clearances from Horizontal Warm Air Ducts



From Sides and Top of Warm Air Plenum – 6"
 From Horizontal Ducts within 6 Ft. of Plenum – 6"
 From Horizontal Ducts beyond 6 Ft. of Plenum – 0"

FIG. 4 – Clearances to Combustibles

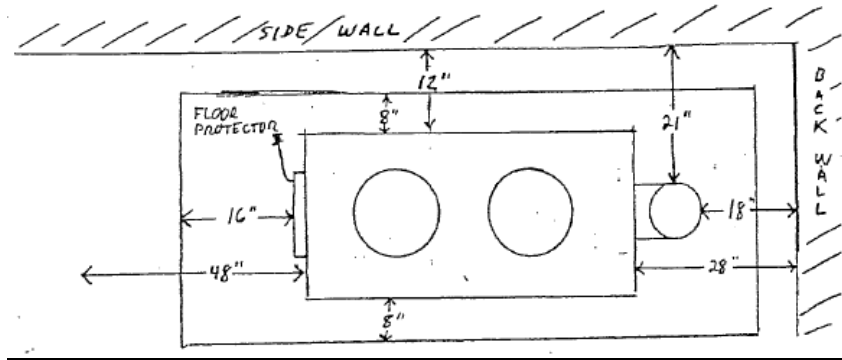
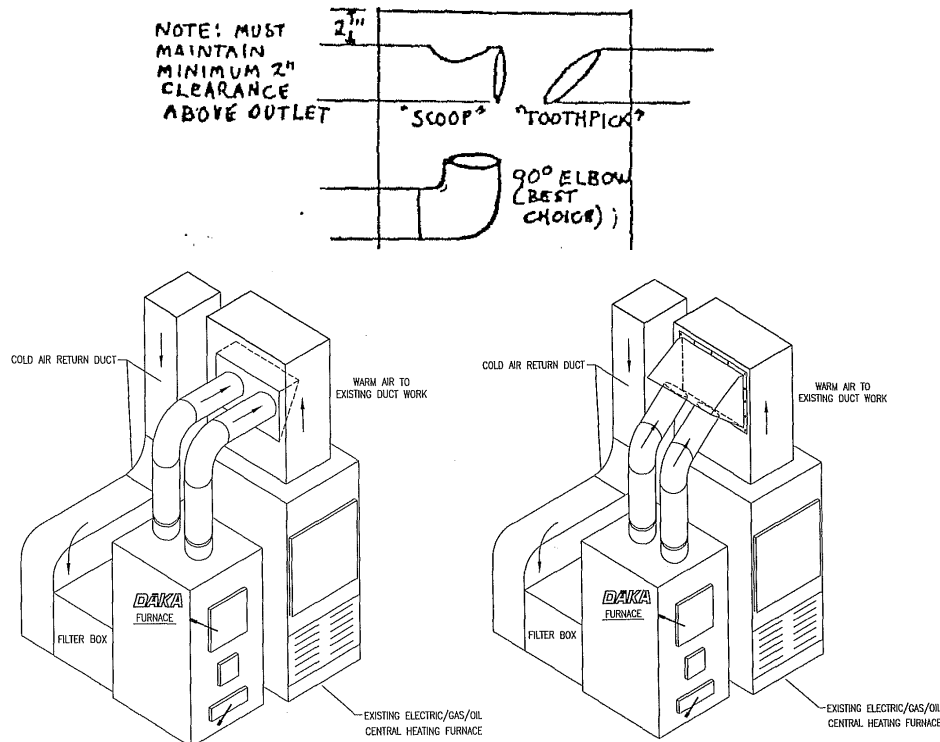


FIG. 5 – Alternative Warm Air Plenum Pipe Insert Designs

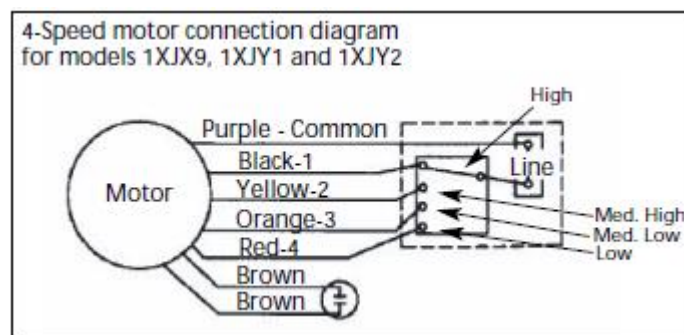


CAUTION: 

Disconnect all electrical power to DAKA furnace before proceeding.

Install wiring from blower motor using the existing wiring. Remove top panel of filter box. Using the existing wiring supplied with furnace, located the flex conduit with 2 blue wires coming down from the fan control located on the side of DAKA furnace. Install 90° conduit connector on end of flex conduit. Insert the 2 blue wires through hole in top of filter box cover. Place conduit connector nut over blue wires. Secure connector to filter box top. Attach 1 blue wire to the common purple wire. The other blue wire in the flex conduit gets attached to either the black, yellow, orange or red wire depending on desired fan speed (See FIG. 7 WIRING DIAGRAM). With the 2 blue wires hooked up, make sure to place wire nuts on all other single wires not being used. Install top portion of 90° conduit connector to hold flexible conduit securely in place. All wire nut connectors should be located inside the filter box.

Fig. 6



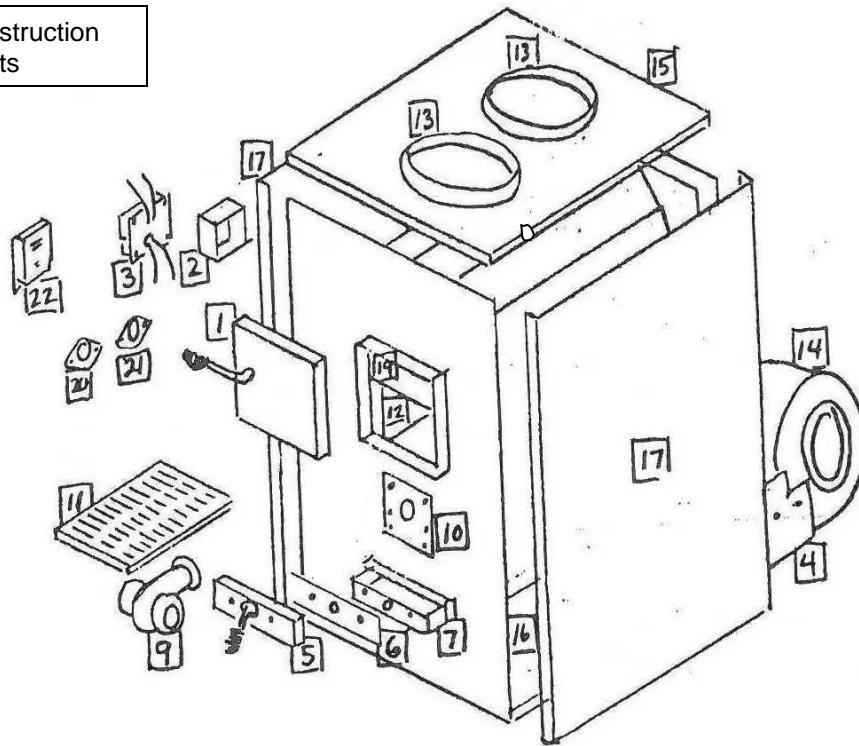
— ALSO REFER TO FIGURE 7 WIRING SCHEMATIC ON NEXT PAGE —

daka 832 furnace manual_3-18-13



PARTS LIST – DAKA MODEL 832 FURNACE

Also refer to #218 Instruction Manual for other parts



No.	Part Description	Part	Quantity
1	Fire Door w/gasket	34200	1
2	Junction Box Ring - 4x4	62630601	1
3	Transformer/Relay	58640002	1
4	Blower Bracket	63611002	1 pr
5	Ash Door Assembly	35200	1
6	Thermal Gasket - Ash Door	57610203	1
7	Ash Pan Assembly	35600	1
8	<i>Number not used</i>	-	-
9	Draft Blower 50-cfm	63811142	1
10	Blower Adapter Plate	57670603	1
11	Cast Iron Grate – 16"	59650004	2
12	Firebrick	57600001	16
13	Starter Collar – 10" (<i>not shown</i>)	56660026	2
14	Blower, Multi-Speed	636110010	1
15	Air Jacket - Top Panel	64590809	1
16	Air Jacket - Bottom Panel	64590807	1
17	Air Jacket- Side Panel	64590808	2
19	Swing Plate	57590512	1
20	Operating Control - Snap Disc L190	58640005	1
21	Fan Control - Snap Disc - F120)	58640000	1
22	Wall Thermostat	58640003	1
--	Flexible Conduit	62630407	2
--	Wire Nut - Large	62630801	2
--	Wire Nut - Small	62630802	4
--	Sheet Metal Screw - #12xl	61660208	15
--	Sheet Metal Screw #12x3/8	61660217	3
--	Wire Set	60670006	1
--	Conduit Connector - Straight	62670201	2
--	Conduit Connector - 90°	62670202	2
--	Crimp Terminals	62670205	4

LIMITED WARRANTY

DAKA Corporation warrants the combustion chambers of its supplementary furnaces to be free of defects in material or workmanship for five years from date of sale; all other components, including electronics, gaskets and grates are covered in the same manner for a period of one year.

DAKA will repair or replace defective components, at our option, at no charge for parts and labor, and will pay freight charge for one-way shipment for warranty claims during first year. In second and subsequent years, only parts and labor will be provided at no charge. DAKA is not responsible for installation or dismantling costs.

Warranty void if unit is used in other than residential service connected to conventional basement-type up flow central heating system, if non-approved fuels are used in firing of units, or if unit is damaged due to accident, improper installation or negligence.

For service under this warranty, contact selling dealer or DAKA Corporation, Customer Service Dept., 955 Industrial St NE, Pine City MN 55063; Telephone (320) 629-6737.

Implied Warranties including that of merchantability are expressly limited in duration to the duration of this warranty. DAKA Corporation disclaims any responsibility for consequential damages. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so this limitation and exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This is our exclusive written warranty.