



Installation and operating instructions for the CADDY ADVANCED wood furnace (PF01020)

Certified according to CSA B415.1-10, CSA B366.1, UL391.

FURNACE MODELS INCLUDED IN THIS MANUAL

WOOD ONLY | Parallel WOOD ADD-ON
(Allowed only in the USA)

**Read these instructions carefully before installing
and operating your furnace.**

CONGRATULATIONS!

You have purchased one of the finest wood furnace available on the market. We are confident that your furnace will provide years of comfort and safe operation.

Please keep this document!

Verified and tested for Canada and the United States
by an accredited laboratory.



This manual is available for free download on the manufacturer's web site. It is a copyrighted document. Re-sale is strictly prohibited. The manufacturer may update this manual from time to time and cannot be responsible for problems, injuries, or damages arising out of the use of information contained in any manual obtained from unauthorized sources.



**Eco-energy at the
hearth of your home**

Caddy
250, de Copenhague,
St-Augustin-de-Desmaures (Quebec)
CANADA G3A 2H3

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IMPORTANT NOTE

This furnace and its hot air duct system must be sold and installed by a professional. In the absence of a professional installer, the manufacturer reserves the right not to apply its warranty or to refuse any technical support.

REGISTER YOUR WARRANTY ONLINE

To receive full warranty coverage, you will need to show evidence of the date you purchased your furnace. Keep your sales invoice. We also recommend that you register your warranty online at: <https://www.caddyfurnaces.com/en/warranty/warranty-registration>

Registering your warranty online will help us track rapidly the information we need on your furnace.

1 INTRODUCTION

This furnace uses the *Dual Fire®* technology with a two-stage electronic combustion control. Find peace of mind with a self-regulated combustion that allows easy ignition. Its automated air supply and self regulated systems synchronize with your thermostat to offer additional safety, optimize comfort and reduce emissions with minimal maintenance. This model meets the emissions limits of CSA B415.1-10 Standard and EPA 40CFR Part 60, subpart QQQQ (2020 limit).

To optimize the efficiency of your furnace, here is some advice that you should follow when installing or operating your Caddy Advanced.

- Respect the local codes (when in doubt, consult your local dealer).
- Make sure your furnace is installed according to the instructions on the certification label.
- All controls and adjustments must be performed by a qualified technician. The blower speed must conform to the recommendations of local codes and should respect the static pressure ranges in the warm air plenum of the furnace.

We recommend that our wood burning hearth products be installed and serviced by professionals who are certified in the United States by NFI (National Fireplace Institute®) or in Canada by WETT (Wood Energy Technical Training) or in Quebec by APC (Association des Professionnels du Chauffage).

This furnace has been developed and built for residential heat source. Commercial and industrial use is prohibited and will void the warranty.

2 APPLIANCE PERFORMANCE⁽¹⁾

Fuel type	Dry cordwood	
Recommended heating area[*]	1,000 to 2,500 ft ² (93 à 232 m ²)	
Firebox volume	3.6 ft ³ (0.102 m ³)	
Maximum burn time[*]	10 h	
Maximum input capacity (dry cordwood) ⁽²⁾	310,000 BTU	
Overall heat output rate (min. to max.) ⁽³⁾	19,354 BTU/h to 47,052 BTU/h (5.6 kW to 13.8 kW)	
Average overall efficiency ⁽⁸⁾	76.6% (HHV) ⁽⁵⁾	82.0% (LHV) ⁽⁶⁾
Delivered heat output rate (min. to max.) ⁽⁷⁾	13,297 BTU/h to 42,234 BTU/h (3.9 kW to 12.4 kW)	
Average delivered efficiency ⁽⁴⁾	60.7% (HHV) ⁽⁵⁾	65.0% (LHV) ⁽⁶⁾
Optimum overall efficiency ⁽⁹⁾	83.2%	
Optimum heat transfer efficiency ⁽¹⁴⁾	81%	
Average particulate emissions rate ⁽¹⁰⁾⁽¹¹⁾	0.095 lb/mmBTU (0.041 g/MJ)	
Average CO ⁽¹²⁾	8.78 lb/mmBTU (3.78 g/MJ)	
Average electrical power consumption ⁽¹³⁾	330 W (PSC blower at 0.2" WC) and 220 W (ECM blower at 0.2" WC)	

[*] Recommended heating area and maximum burn time may vary subject to location in home, chimney draft, heat loss factors, climate, fuel type and other variables. The recommended heating area for a given appliance is defined by the manufacturer as its capacity to maintain a minimum acceptable temperature considering that the space configuration and the presence of heat distribution systems have a significant impact in making heat circulation optimum.

(1) Values are as measured per CSA B415.1-10, except for the recommended heating area, firebox volume, maximum burn time and maximum input capacity. Performances based on a fuel load prescribed by the standard at 10 lb/ft³ and with moisture content between 18% and 28%.

(2) Input value at 10lb/ft³ fuel loading density and dry energy value of 8,600BTU/lb.

(3) Overall: Radiated and delivered heat together at 10lb/ft³ fuel loading density over one total burn cycle.

(4) Efficiency based on delivered heat when allowing cycling from high to low burn to simulate thermostat demand.

(5) Higher Heating Value of the fuel.

(6) Lower Heating Value of the fuel.

(7) Delivered: Remotely provided to other rooms through ducting at 10 lb/ft³ fuel loading density over one total burn cycle.

(8) Efficiency based on radiated and delivered heat when allowing cycling from high to low burn to simulate thermostat demand.

(9) Optimum overall efficiency at a specific burn rate (LHV).

(10) Based on delivered heat output.

(11) This appliance is officially tested and certified by an independent agency.

(12) Carbon Monoxide. Based on overall heat output at 10lb/ft³ fuel loading density.

(13) Unless stated otherwise, measures were taken directly at the main power source and include all electrical components present in the appliance.

(14) The optimum heat transfer efficiency is for the low burn rate and represents the appliance's ability to convert the energy contained in the wood logs into energy transferred to the room in the form of heat and does not take into account the chemical losses during combustion.

3 GENERAL FEATURES


Maximum log length	21 in (533 mm) / north-south**
Diameter of the flue collar	6 in (152 mm)
Recommended connector pipe diameter	6 in (152 mm)
Recommended chimney diameter	6 in (152 mm)
Required type of chimney	CAN/ULC S629, UL 103 HT (2100 °F)
Baffle material	C-Cast or equivalent
Alcove installation	Not approved
Mobile home installation†	Not approved
Appliance weight (without option)	635 (288 kg)
Shipping weight (without option)	705 lb (320 kg)
PSC Blower: PA08585 (wood only)	1/3 HP, direct drive, 1 speed, up to 875 CFM
ECM Blower: PA08586 (wood only)	1/2 HP, direct drive, 1 speed, up to 875 CFM
Filter - dimensions (Width x Depth x Height) (included with optional blower assembly)	14 in x 25 in x 1 in (356 mm x 635 mm x 25 mm)
Filter - quantity	1
Particulate emission standard	EPA / CSA B415.1-10
USA standard (safety)	UL 391
Canadian standard (safety)	CSA B366.1

** East-west: through the door you see the longitudinal sides of the logs; north-south: through the door you see the tips of the logs.

† Mobile home (Canada) or manufactured home (USA): The US department of Housing and Urban Development describes “manufactured homes” better known as “mobile homes” as followed; buildings built on fixed wheels and those transported on temporary wheels/axles and set on a permanent foundation. In Canada, a mobile home is a dwelling for which the manufacture and assembly of each component is completed or substantially completed prior to being moved to a site for installation on a foundation and connection to service facilities and which conforms to the CAN/CSA-Z240 MH standard.

4 SPECIFICATIONS

Color	Grey and black
Thermostatic control	Yes
Door type	Single, glass with cast iron frame
Glass type	Ceramic glass
Air return plenum - dimensions (Depth or Height)	15 3/4 in
Air return plenum - dimension (Width)	24 3/4 in
Hot air plenum - dimensions (Depth or Height)	28 5/8 in
Hot air plenum - dimension (Width)	24 1/2 in
Ash pan - dimensions (Width x Depth x Height)	13 5/8 in x 20 1/2 in x 4 in
Clearance - front	48 in
Clearance - back wall	24 in from the blower housing recommended service clearance
Clearance - side wall	6 in
Clearance - side wall	24 in recommended service clearance
Clearances - ducts	6 in for the first 6 feet and 1 in after
Clearance - recommended for maintenance on left side	24 in
Top cold air plenum option - material	Galvanized steel
Top cold air plenum option - dimensions (Width x Depth x Height)	24 7/8 in W x 15 7/8 in D x 10 3/4 in H
Top cold air plenum option - smoke pipe diameter	6 in
Fresh air intake adapter option	5 in
Fresh air intake adapter - connection location	Left or right
Tested and listed as per applicable standards	By an accredited laboratory (CAN/USA)
Warranty	Limited lifetime



ETL US
Intertek
STANDARDS / NORMES D'ESSAI
Certified to/Certifié selon CSA B389.1
Certified to/Certifié selon UL 293
Certified to/Certifié selon CSA B415.1-20
Certified to/Certifié selon ASTM E2319-1033
(MARCH / MARS 2021)
Control number: 4003463

LISTED STAND ALONE WOOD FURNACE
FOURNAISE AU BOIS HOMOLOGUÉE

FOR USE WITH WOOD ONLY POUR UTILISATION AVEC BOIS SEULEMENT

MODEL / MODÈLE :
CADDY ADVANCED

Serial Number / No. de Série: 1

CONTACT LOCAL BUILDING OFFICIALS ABOUT THE RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA.
COMMUNIQUER AVEC LES AUTORITÉS LOCALES DU BÂTIMENT ET DE LA PRÉVENTION DES INCENDIES AU SUJET DES RESTRICTIONS D'INSTALLATION DANS VOTRE SECTEUR.

FUEL / COMBUSTIBLE: WOOD / BOIS
AC CURRENT ONLY / COURANT CA SEULEMENT

CAUTION: Use copper wire no. 12 AWG suitable for 187°F.
ATTENTION: Employer des fils d'alimentation adéquats pour 75°C.

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS /
DÉGAGEMENTS MINIMUM AUX MATÉRIEAUX COMBUSTIBLES

WITH SINGLE WALL CONNECTOR / AVEC TUYAU À PAROI SIMPLE		WITH DOUBLE WALL CONNECTOR / AVEC TUYAU À PAROI DOUBLE	
Ceiling (1st 6 feet of ductwork including plenum): Plafond (1er 6 pieds de conduit incluant le bonnet):	6 in 152 mm	Ceiling (1st 6 feet of ductwork including plenum): Plafond (1er 6 pieds de conduit incluant le bonnet):	6 po 152 mm
Plenum past 1st 6 feet: Plénum passé le premier 6 pieds:	1 in 25 mm	Plenum past 1st 6 feet: Plénum passé le premier 6 pieds:	1 po 25 mm
Back Wall (from blower box): Mur arrière (du boîtier du ventilateur):	6 in 152 mm	Back Wall (from blower box): Mur arrière (du boîtier du ventilateur):	0.875 po 22 mm
Front Wall: Mur avant:	48 in 1219 mm	Front Wall: Mur avant:	48 po 1219 mm
Right Side Wall: Mur latéral droit:	6 in 152 mm	Right Side Wall: Mur latéral droit:	6 po 152 mm
Left Side Wall: Mur latéral gauche:	24 in 610 mm	Left Side Wall: Mur latéral gauche:	24 po 610 mm
Floor: Plancher:	0 in 0 mm	Floor: Plancher:	0 po 0 mm
Flue Pipe: Tuyau à fumée:	18 in 457 mm	Flue Pipe: Tuyau à fumée:	18 po 457 mm

INSTALL AND USE ONLY IN ACCORDANCE WITH SBI STOVE BUILDER INTERNATIONAL INSTALLATION AND OPERATION INSTRUCTIONS.
L'INSTALLATION ET L'OPERATION DOIT SE FAIRE SELON LES INSTRUCTIONS D'INSTALLATION ET D'UTILISATION DE SBI FABRICANT DE POÊLES INTERNATIONAL.

PREVENT HOUSE FIRES

- Type of chimney: chimney suitable for use with solid fuel.
- Use with wood only. Do not use other fuels.
- Load fuel carefully, or damage may result.
- Do not use chemicals or fluids to start the fire.
- The heat exchanger, flue pipe and chimney must be cleaned regularly to remove accumulated creosote and ash. Ensure that the heat exchanger, flue pipe and chimney are cleaned during the summer months. The appliance, flue pipe and chimney must be in good condition.
- Do not use this furnace without ducts.
- In the USA, the unit must be installed on a non-combustible floor pad extending at least 18 inches (457 mm) in front of the door opening and at least 8 inches (203 mm) on each side of the door opening. In Canada, the unit must be installed on a non-combustible floor pad extending at least 18 inches (457 mm) in front of the door opening and at least 8 inches (203 mm) at the back and on each side of the unit. The floor pad must have a thickness of at least 0.015" (0.38mm). Consult owner's manual for more details.
- May be connected to ductwork that is still connected to another furnace.

Do not connect this unit to a chimney flue serving another appliance.

- Do not connect ductwork so that reverse flow is possible.
- Do not relocate or bypass any of the safety controls in the original furnace installation.
- Caution: Maintain combustion air to the unit; air starvation is dangerous.


PRÉVENEZ LES INCENDIES

- Type de cheminée: cheminée conçue pour utilisation avec combustible solide.
- Utiliser du bois seulement. Ne pas utiliser d'autres combustibles.
- Charger avec soin pour éviter d'endommager la fournaise.
- N'utiliser aucun produit chimique ou fluide pour allumer le feu.
- Nettoyer l'échangeur de chaleur, le conduit de raccordement et la cheminée pour enlever la créosote et les cendres accumulées. S'assurer que l'échangeur de chaleur, le conduit de raccordement et la cheminée sont nettoyés à la fin du mois de l'été.
- L'appareil, le conduit de raccordement et la cheminée doivent être en bon état.
- Ne pas utiliser cette fournaise sans conduit.
- Aux USA, l'appareil doit être installé sur une plaque incombustible qui s'étend de devant de l'ouverture de porte d'au moins 18 pouces (457 mm) ainsi que chaque côté de l'ouverture de porte d'au moins 8 pouces (203 mm). Au Canada, l'appareil doit être installé sur une plaque incombustible qui s'étend de devant de l'ouverture de porte d'au moins 18 pouces (457 mm) ainsi que l'arrière et chaque côté de l'appareil d'au moins 8 pouces (203 mm). La plaque incombustible doit posséder une épaisseur minimale de 0.015" (0.38 mm). Consultez le manuel d'instructions pour plus de détails.
- Peut être raccordé à des conduits raccordés à un autre générateur d'air chaud.

Ne pas brancher cette unité à une cheminée servant à un autre appareil.

- Ne pas raccorder aux conduits de ventilation de façon à permettre un débit inversé.
- Ne pas réinstaller ou contourner les contrôles de sécurité originaux de la fournaise.
- Attention: Assurer l'air de combustion adéquate à l'appareil, une privation d'air est dangereuse.

The furnace can be used during a power-loss. Remove air filter and let the damper stay in closed position. See owner's manual for optimum performance under those conditions.




- Do not attempt to light a fire when there is oil vapor present.
- See owner's manual for electrical diagram.
- For more information, refer to owner's manual.

Cette fournaise peut être utilisée lors d'une panne de courant. Le filtre à air doit être retiré et le registre d'entrée d'air doit être laissé fermé. Voir le manuel d'instructions pour des performances optimales dans ces conditions.

- Ne pas allumer lorsque des vapeurs d'huile sont présentes.
- Voir le manuel d'instructions pour les diagrammes électriques.
- Pour de plus amples renseignements, référez-vous au manuel d'instructions.

Made in La Guadeloupe (Gc), Canada
16/03/2021 (# test)

Fabriquée à La Guadeloupe (Gc), Canada
16/03/2021 (# test)



Fabricant de poêles International
Stove Builder International



REFER TO INTERTEK'S DIRECTORY OF EVALUATION PRODUCTS FOR DETAILED INFORMATION
 DE RÉFÉRENCE AU RÉPERTOIRE DES ÉVALUÉS DE PRODUITS D'INTERTEK POUR PLUS D'INFORMATION

STANDARDS / NORMES D'ESSAI:
 Certified to/Certifié selon CSA B365-1
 Certified to/Certifié selon UL 391
 Certified to/Certifié selon CSA 8415.1-10
 Certified to/Certifié selon ASTM E2313-2012
 (MARCH / MARS 2021)

Control number: 9002463

**PERFORMANCE TESTING OF SOLID-FUEL
 BURNING HEATING APPLIANCE**
**RENDEMENT D'APPAREIL DE
 CHAUFFAGE À COMBUSTION SOLIDE**
MODEL / MODÈLE :
CADDY ADVANCED

**PERFORMANCE TECHNICAL DATA FROM CSA B-415.1-10 /
 DONNÉES TECHNIQUES DE PERFORMANCE RELATIVE À LA NORME CSA B-415.1-10**

- The stated efficiency is based on the higher heating value of the fuel.
- The minimum and maximum delivered heat output rate are based on the tests performed in determining the average emissions rates.
- The average efficiency is based on the amount of delivered heat.
- Le rendement annoncé est basé sur le pouvoir calorifique supérieur du combustible.
- Les puissances thermiques minimales et maximales sont basées sur les essais réalisés pour la détermination du taux moyen d'émission de particules.
- Le rendement moyen est basé sur la quantité de chaleur transportée.

AVERAGE PARTICULATE EMISSION RATE / TAUX MOYEN D'ÉMISSION DE PARTICULE:	0.095 lb/mmBTU 0.043 g/MJ	MINIMUM DELIVERED HEAT OUTPUT RATE / PUISSANCE THERMIQUE MINIMALE:	13 297 BTU/h
AVERAGE EFFICIENCY / RENDEMENT MOYEN:	50.7%	MAXIMUM DELIVERED HEAT OUTPUT RATE / PUISSANCE THERMIQUE MAXIMALE:	42 334 BTU/h
AVERAGE OVERALL EFFICIENCY / RENDEMENT MOYEN GLOBAL:	75.6%	MINIMUM OVERALL HEAT OUTPUT RATE / PUISSANCE THERMIQUE GLOBALE MINIMALE:	19 354 BTU/h
AVERAGE ELECTRICAL POWER CONSUMPTION / CONSOMMATION D'ÉLECTRICITÉ MOYENNE:	330 W	MAXIMUM OVERALL HEAT OUTPUT RATE / PUISSANCE THERMIQUE GLOBALE MAXIMALE:	47 052 BTU/h

U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with the 2020 particulate emission standards using cord wood / AGENCE DE PROTECTION DE L'ENVIRONNEMENT DES É.U. (EPA). Conforme aux normes d'émission de particules de 2020 avec bûches de bois.
 This appliance needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. / Cet appareil requiert des inspections et réparations périodiques. Consulter le manuel de l'utilisateur pour plus d'information.
 It is against US Federal regulations to operate this appliance in a manner inconsistent with the operating instructions in the owner's manual. / Opérer cet appareil de chauffage de façon incohérente par rapport au manuel de l'utilisateur constitue une violation de la loi fédérale (USA).



WARNING: This product can expose you to carbon monoxide, which is known to the State of California to cause cancer, birth defects or other reproductive harm.
 (For more information go to www.p66warnings.ca.gov)

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 0.06" W.C. (15Pa).
- 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.

DANGER: Risque d'incendies ou d'explosion

- Ne pas brûler d'ordures, d'essence, d'huile moteur ou tout autre liquides inflammable.

AVERTISSEMENT: Risque d'incendies

- Ne pas utiliser si le tirage excède 0.06" C.E. (15Pa).
- Ne pas utiliser avec les portes d'accès et/ou de chargement ouverte.
- Ne pas entreposer de combustible ou matériaux combustibles à l'intérieur des dégagements prescrits.



- Inspecter et nettoyer le conduit de raccordement ainsi que la cheminée fréquemment.

**TECHNICAL DATA
 DONNÉES TECHNIQUES**

Blower / Ventilateur	50-110 1/3 HP
Max Output T° / T° max Sortie	150 °F 93 °C
Est. Static Pressure / Pression Statique Est.	0.2" - 0.5" W.C. 0.2" - 0.5" C.E.
Electrical Rating / Alimentation Électrique	120V, 2.8 AMPs, 60Hz

PROCEDURE TO FOLLOW IN CASE OF RUN-AWAY FIRE

- 1) Turn down thermostat
- 2) Keep fuel door closed
- 3) Close all combustion air controls

EN CAS D'INCENDIE DE CHEMINÉE

- 1) Baisser le thermostat
- 2) Maintenir la porte de chargement fermée
- 3) Fermer tous les dispositifs d'admission d'air

Made in La Guadeloupe (Qc), Canada
 16/03/2021 (# test)



Fabricant de poêles International
 Stove Builder International

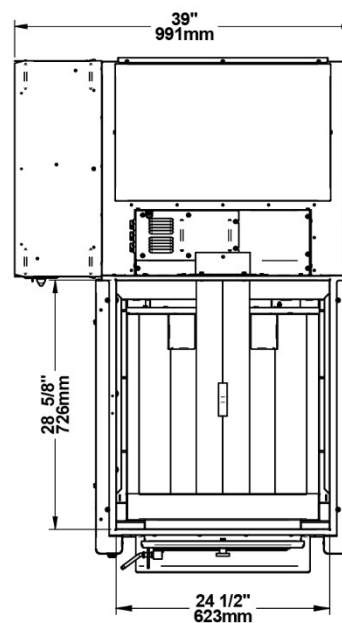
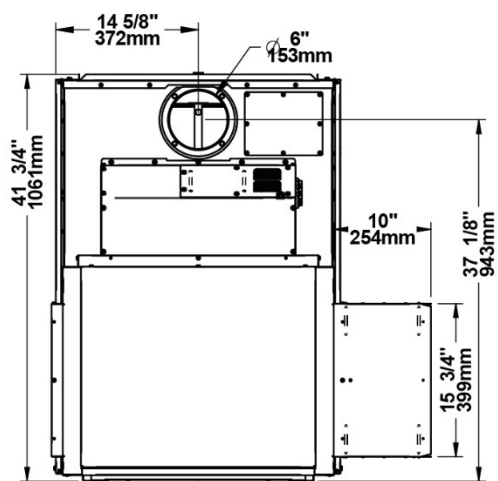
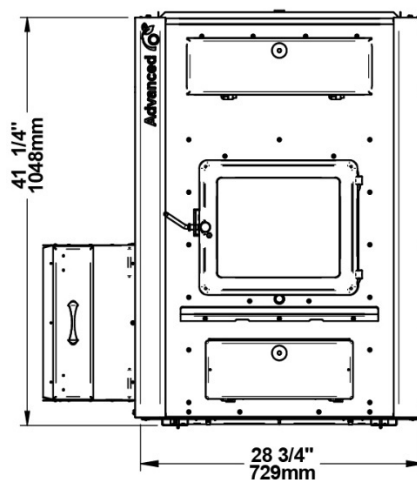
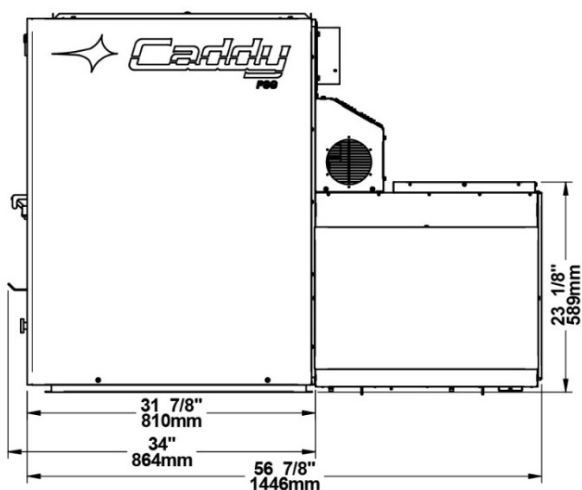
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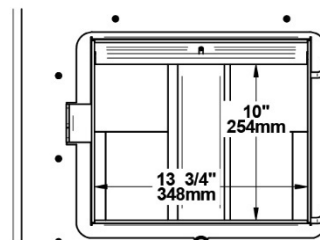
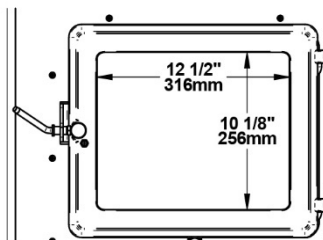
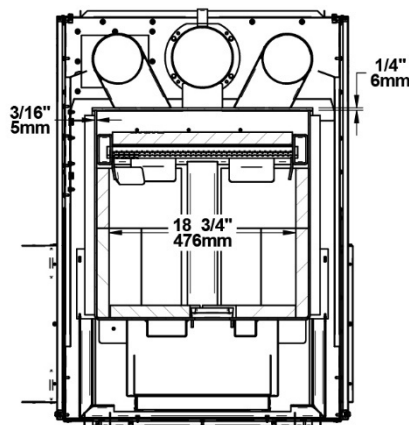
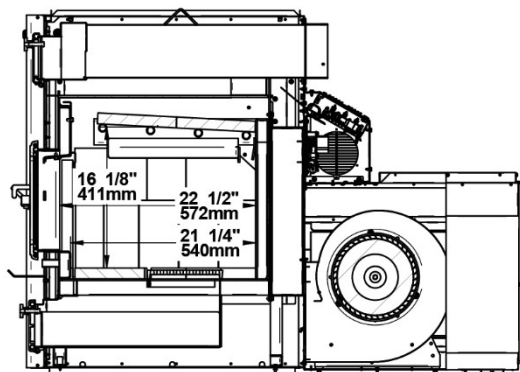
6 BLOWER TECHNICAL DATA

MODEL	(DIRECT DRIVE)			THEORETICAL DEBIT	TEMPERATURE VARIATION	STATIC PRESSURE		FILTER
CADDY ADVANCED WITH BLOWER / ADD-ON (PARALLEL)	BLOWER	MOTOR	SPEED	(CFM)	(°F)	MIN.	MAX.	(1)
		1/3 PSC	1	875	55	H2O		25" x 14" x 1"
	DD-10	1/2 ECM				0,2	0,5	

7 FURNACE DIMENSIONS

CADDY ADVANCED WITH BLOWER





8 CHIMNEY AND DRAFT

This furnace must be connected to a chimney certified for use with wood burning heating appliances, a 6-inch diameter chimney is recommended.

The unit is not to be connected to a chimney flue serving another appliance. If the chimney draft exceeds 0.06 IN.W.C., a barometric draft control should be installed on the smoke pipe. Never install a manual damper. The barometric control must be adjusted so that the maximum draft measured at the furnace outlet does not exceed 0.06 IN.W.C. Excessive draft can overheat the appliance and reduce burn time. Conversely, a lack of draft can lead to poor combustion and smoke returns.

9 SAFETY RULES

WARNING! THE INFORMATION GIVEN ON THE CERTIFICATION LABEL AFFIXED TO THE APPLIANCE ALWAYS OVERRIDES THE INFORMATION PUBLISHED, IN ANY OTHER MEDIA (OWNER'S MANUAL, CATALOGUES, FLYERS, MAGAZINES OR WEB SITES).

9.1 GENERAL REQUIREMENTS

- Make sure the chimney outlet and the pipes are clean and in good condition.
- Do not use chemical products or liquids to light the fire.
- Do not burn wood coated with paint, glue or chemical products.
- Do not burn wastes or flammable liquids such as gasoline, naphtha, motor oil, or other unsuitable matters.
- Do not store wood in the vicinity of the furnace. Respect the required clearances between combustible materials and the source of heat.

WARNING! THE ASH DRAWER AND EXCHANGERS ACCESS PANEL GET VERY HOT. DO NOT MANIPULATE WITH BARE HANDS.



WARNING: This product can expose you to chemicals including carbon monoxide, which is known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65warnings.ca.gov/

9.2 ODOUR FROM THE PAINT

It is normal that smoke and odours emanate from the unit when you first light it. It is recommended to burn it at high rate and ventilate the building until the odours disappear. The smoke is not toxic. **This should be done before the ducts are connected to the furnace to prevent smoke dispersion in the house.**

9.3 ASH DISPOSAL

Ashes must be placed in a metal container with a tight fitting lid. The container should be stored outdoor, well away from combustible materials. This container should not contain any other type of waste. If the ashes are meant to be buried in soil, wait until all embers have thoroughly cooled before burying.

9.4 CREOSOTE BUILD-UP AND REMOVAL

When wood is burned slowly, it produces tar and other organic vapours which, when combined with moisture, form creosote. The creosote vapours condensate in a relatively cool chimney flue. As a result, creosote residues accumulate inside the flue lining and the exchangers.

To minimize the frequency of the chimney cleaning, buy your firewood at least one year before using it. Store it in a dry place in order to obtain the minimum moisture rate and optimize the efficiency. Do not store wood or combustible materials within the installation minimum clearances or the space required to reload the appliance and remove ashes.

When ignited, creosote produces an extremely hot fire inside the chimney.

In the first year of use, inspect the chimney system at regular intervals to determine a cleaning cycle. Depending on the type of wood used and its quality, a mid-season cleaning may be required. A yearly cleaning is mandatory. **If a significant layer of creosote has accumulated, it must be removed immediately to eliminate the risk of chimney fire.**

Remember that a small, hot fire is preferable to a large smouldering one to prevent creosote build-ups within the system. Prepare an emergency procedure in case of a chimney fire. **It is recommended to clean the heat exchangers thoroughly at the end of season in order to prevent corrosion.**

9.5 SMOKE DETECTOR

We highly recommend the use of a smoke detector. It must be installed at least 15 feet (4,57 m) from the appliance in order to prevent undue triggering of the detector when reloading.

9.6 DOOR GLASS

- To maintain a clean and safe installation, do not build your fire too close to the glass or allow logs to lean on the glass.
- Do not operate your furnace at too low a setting. Keep the air inlet opened long enough during the fire start-up to prevent the fire from smouldering, which could stain the glass.
- An intense fire will help keep the glass clean. However, in the event that your glass gets stained, which should not occur under normal operating conditions, you will have to clean it using a wet cloth and a fireplace glass cleaner. Clean the glass **ONLY** when the unit has cooled down. Do not use abrasive cleaner.

WARNING! AVOID KNOCKING OR SCRATCHING THE GLASS. IT COULD CRACK OR BREAK.

Glass specifications:

- Made of 5/32" (4 mm) thick ceramic glass.
- Do not operate your wood furnace with a broken glass, as this could seriously damage your furnace.
- You can purchase a replacement glass from your Caddy dealer.

9.7 ASH DRAWER

Your furnace is equipped with an ash drawer to collect ashes produced by the combustion of wood. This drawer must not be left open during combustion as this may cause over firing and serious damages to the furnace. Moreover, the additional air created could cause the dispersion of ashes in the ventilation system. **The drawer must be cleaned weekly. Use a vacuum cleaner to remove any ashes around the drawer in order to avoid the dispersion of ashes in the ventilation system.**

It is important that the door, the heat exchanger door and the ash drawer be kept closed while the appliance is in use. Maintain all gaskets in good condition; in case of deterioration, contact your dealer for a genuine replacement gasket.

9.8 ASH GRATE

You must replace the ash grate if it is damaged and a replacement may be obtained from your dealer.

9.9 ADDITIONAL FRESH AIR SUPPLY

When the furnace and the chimney are completely cold, it may be necessary to provide fresh air by opening a door or a window for a few minutes while lighting the fire. Take note that a house constructed or renovated in order to be airtight may lack the volume of fresh air necessary for the proper combustion of a solid-fuel heating appliance.

In such a case, when starting up the fire, do not operate appliances that evacuate air outside the house, such as:

- Range hood
- Bathroom fan
- Air exchanger
- Ventilated central vacuum system
- Clothes dryer

Exhaust blowers that are in a fuel storage room should be installed so as not to create negative pressure in the room where the solid fuel appliance is located.

A fresh air supply may be necessary to prevent solid fuel units from spilling smoke into the house. The indications used to determine if an additional fresh air supply is necessary are not appropriate for all the situations. When in doubt, it is recommended to install a fresh air supply.

A fresh air supply may be needed if:

- Solid fuel units present anomalies, such as irregular draft, smoke return, bad combustion, and/or reversed draft (whether there is combustion or not).
- Existing solid fuel units such as a stove or fireplace release odours, heat badly, cause smoke returns, or reversed draft (whether there is combustion or not).
- The opening of a window, even slightly, in calm weather (windless), eliminates every problem mentioned above.
- The house is equipped with a tight vapour barrier and adjusted windows, and/or is equipped with an interior air mechanical evacuation device.
- There is excessive condensation on the windows in winter.
- The house is equipped with a ventilation system.

If, according to these symptoms or other similar ones, there is insufficient combustion air, it is necessary to ensure an additional combustion air supply. See section **11.8 FRESH AIR SUPPLY INSTALLATION**

10 FIREWOOD

What is good firewood?

Good firewood has been cut to the correct length for the furnace, split to a range of sizes and stacked in the open until its moisture content is reduced to 15% to 20%.

Tree species

The tree species the firewood is produced from is less important than its moisture content. The main difference in firewood from various tree species is the density of the wood. Hardwoods are denser than softwoods. People who live in the coldest regions of North America usually have only spruce, birch and poplar, other low-density species to burn and yet they can heat their homes successfully.

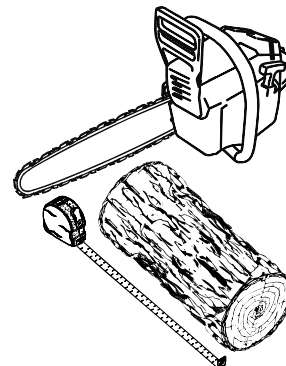
Homeowners with access to both hardwood and softwood fuel sometimes use both types for different purposes. For example, softer woods make good fuel for relatively mild weather in spring and fall because they light quickly and produce less heat. Softwoods are not as dense as hardwoods, so a given volume of wood contains less energy. Using softwoods avoids overheating the house, which can be a common problem with wood heating in moderate weather. Harder woods are best for colder winter weather when more heat and longer burn cycles are desirable.

Note that hardwood trees like oak, maple, ash and beech are slower growing and longer lived than softer woods like poplar and birch. That makes hardwood trees more valuable. The advice that only hardwoods are good to burn is outdated. Old, leaky cast iron furnaces would not hold a fire overnight unless they were fed large pieces of hardwood. That is no longer true. You can successfully heat your home by using the less desirable tree species and give the forest a break at the same time.

Log length

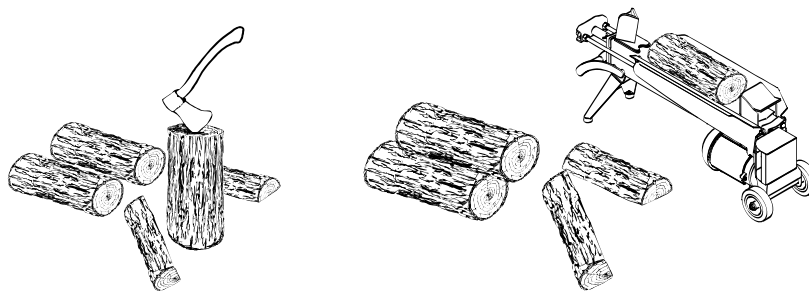
Logs should be cut about 1" (25 mm) shorter than the firebox so they fit in easily. Pieces that are too long make loading the furnace very difficult. The most common standard length of firewood is 16" (406 mm).

The pieces should be a consistent length, with a maximum of 1" (25 mm) variation from piece to piece.



Piece size

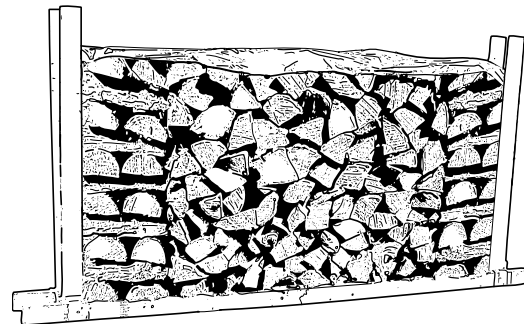
Firewood dries more quickly when it is split. Large unsplit rounds can take years to dry enough to burn. Even when dried, unsplit logs are difficult to ignite because they don't have the sharp edges where the flames first catch. Logs as small as 3" (76 mm) should be split to encourage drying.



Wood should be split to a range of sizes, from about 3" to 6" (76 mm to 152 mm) in cross section. Having a range of sizes makes starting and rekindling fires much easier. Often, the firewood purchased from commercial suppliers is not split finely enough for convenient stoking. It is sometimes advisable to re-split the wood before stacking to dry.

How to dry firewood?

Firewood that is not dry enough to burn is the cause of most complaints about wood burning appliances. Continually burning green or unseasoned wood produces more creosote and involves lack of heat and dirty glass door. See section **16 FURNACE MAINTENANCE** for concerns about creosote.



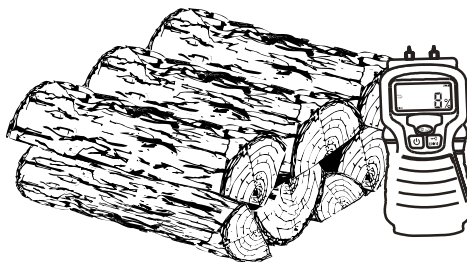
Things to consider in estimating drying time:

- Firewood takes a long time to dry.
- Firewood dries mostly from the exposed ends. Long pieces of wood should be cut to “firewood” length if expected to dry.
- Firewood bought from a dealer is rarely dry enough to burn, so it is advisable to buy the wood in spring and dry it yourself.
- Drying happens faster in dry weather than in damp, maritime climates.
- Drying happens faster in warm summer weather than in winter weather.
- Small pieces dry more quickly than large pieces.
- Split pieces dry more quickly than unsplit rounds.
- Softwoods take less time to dry than hardwoods.
- Softwoods like pine, spruce, and poplar/aspen can be dry enough to burn after being stacked in the open for only the summer months.
- Hardwoods like oak, maple and ash can take one, or even two years to dry fully, especially if the pieces are big.
- Firewood dries more quickly when stacked in the open where it is exposed to sun and wind; it takes much longer to dry when stacked in a woodshed.
- Firewood that is ready to burn has a moisture content between 15 and 20% by weight and will allow your furnace to produce its highest possible efficiency.

Judging firewood moisture content

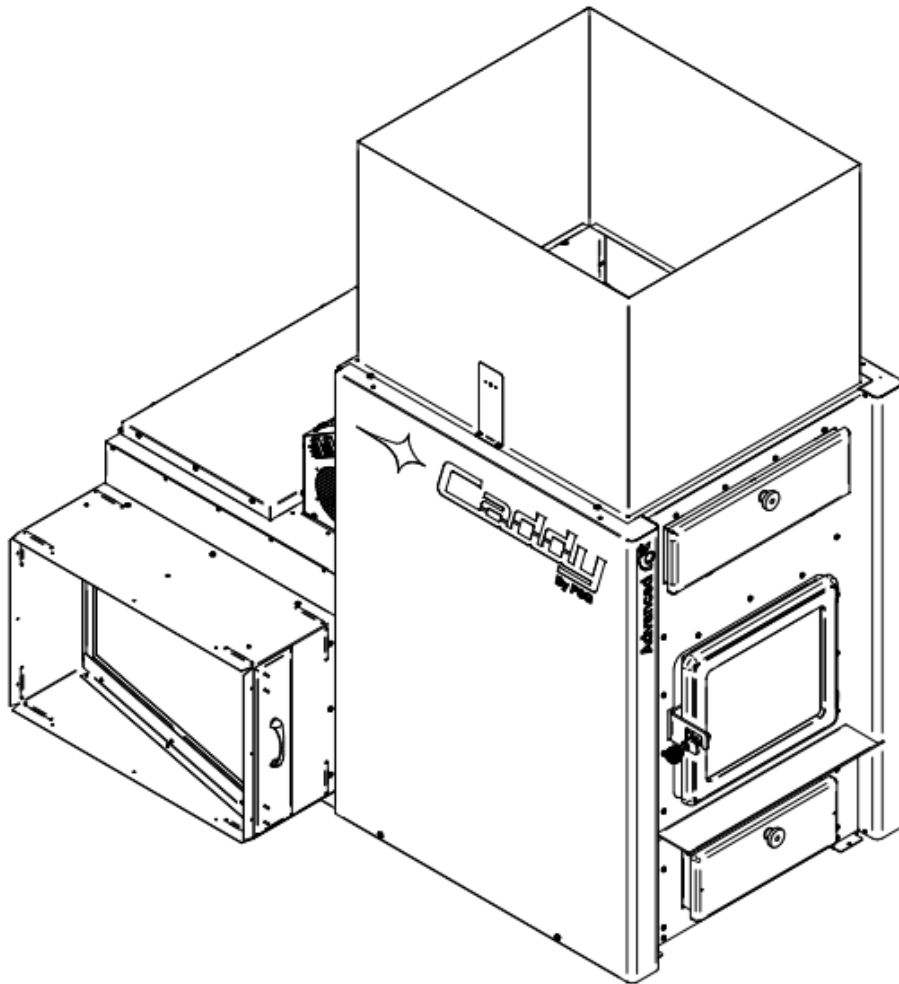
You can find out if some firewood is dry enough to burn by using these guidelines:

- Use the wood moisture meter provided with your furnace to test your firewood. Testing the middle of a freshly split piece of wood is the most accurate test point.
- Cracks form at the ends of logs as they dry.
- As it dries in the sun, the wood turns from white or cream colored to grey or yellow.
- Bang two pieces of wood together; seasoned wood sounds hollow and wet wood sounds dull.
- Dry wood is much lighter in weight than wet wood.
- Split a piece, and if the fresh face feels warm and dry it is dry enough to burn; if it feels damp, it is too wet.
- Burn a piece; wet wood hisses and sizzles in the fire and dry wood does not.



INSTALLATION AND OPERATION INSTRUCTIONS

CADDY ADVANCED WOOD FURNACE OR PARALLEL ADD-ON PF01020



11 INSTALLATION INSTRUCTIONS

Installation must be made in accordance with the CSA B.365 « Installation code for solid-fuel-burning appliances and equipment » standard in Canada and NFPA 90B « Standard for the installation of warm air heating and air conditioning system » in the United States. Moreover, for all electrical connection, the Canadian standard CSA C22.1 « Canadian electrical code » and in the United-States NFPA 70 Standard « National Electrical Code » must be followed.

All controls and adjustments must be performed by a qualified technician. The blower speed must conform to the recommendations of the Warm Air Heating and Air Conditioning National Association and should respect the static pressure ranges in the warm air plenum of the furnace.

We recommend that our woodburning hearth products be installed and serviced by professionals who are certified in the United States by NFI (National Fireplace Institute®) or in Canada by WETT (Wood Energy Technical Training) or in Quebec by APC (Association des Professionnels du Chauffage).

Inspect the furnace to make sure that nothing has been damaged in the shipping. Pull out the instructions manual kit and all components from the firebox of the furnace and the accessories from the flue pipe.

The following section contains installation instructions for the Caddy Advanced wood only and Caddy Advanced add-on parallel configurations.

WARNING! ONLY USE WIRES SUITABLE FOR 167 °F (75 °C) OR MORE.

11.1 BLOWER INSTALLATION

To use the wood only and parallel add on configuration, the blower assembly (PA08585 or PA08586 – sold separately) is required. The installation instructions are provided with the blower.

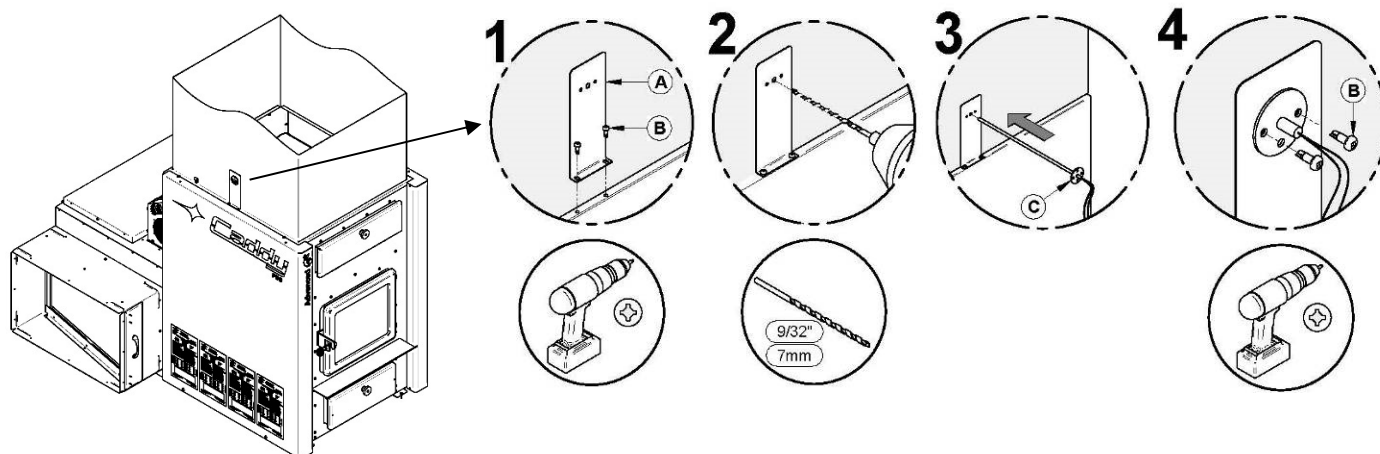
11.2 HOT AIR PLENUM TEMPERATURE PROBE INSTALLATION AND CONNECTION (RTD)

On the Caddy Advanced, a RTD must be installed on left the side of the furnace using the support provided with the unit. The RTD is a sensor that reads the temperature inside the hot air plenum. It is critical to the good operation of the furnace. It is important that the RTD and the RTD support be properly fixed onto the hot air plenum.

STEP 1: Secure the RTD bracket (A) with two screws found in the manual kit.

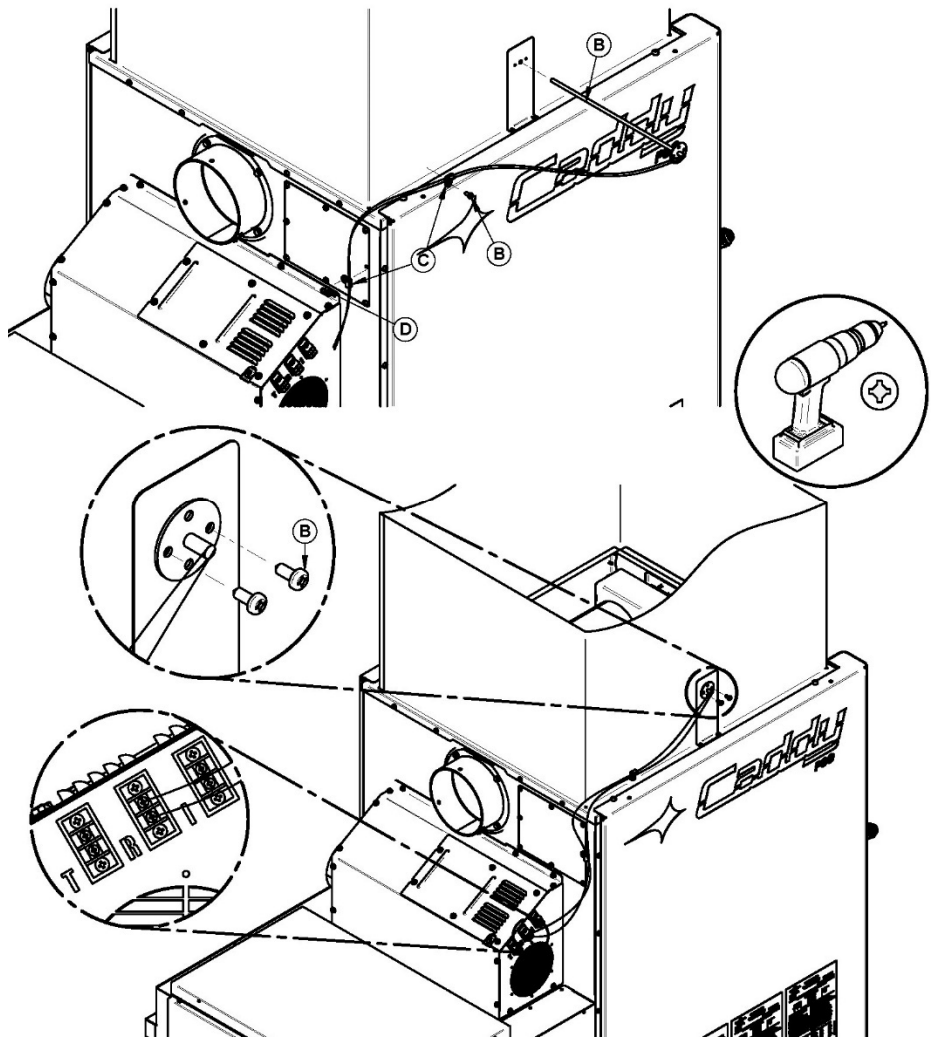
STEP 2: Using a drill and a 9/32" bit, drill a hole in the hot air plenum so that the RTD rod can pass into it.

STEP 3 & 4: Secure the RTD in place on the hot air plenum using the two self-tapping screws provided with the owner's manual.



STEP 5: Connect the RTD probe (B) to the furnace block terminal identified with a "R".

STEP 6: Use the wire grommets (C) supplied with the manual to attach the wires from the RTD to the furnace.



11.3 UNIT LOCATION

- ✓ For a safe and quiet operation, the furnace must be leveled in both directions and supported evenly to ensure stability.
- ✓ The furnace must be installed where outside air supply will be sufficient for proper combustion. In airtight houses, it might be necessary to install an outside air inlet. See section **11.8 FRESH AIR SUPPLY INSTALLATION**
- ✓ The furnace must be positioned so that the chimney connector is as short as possible. Minimize the use of 90° elbows.

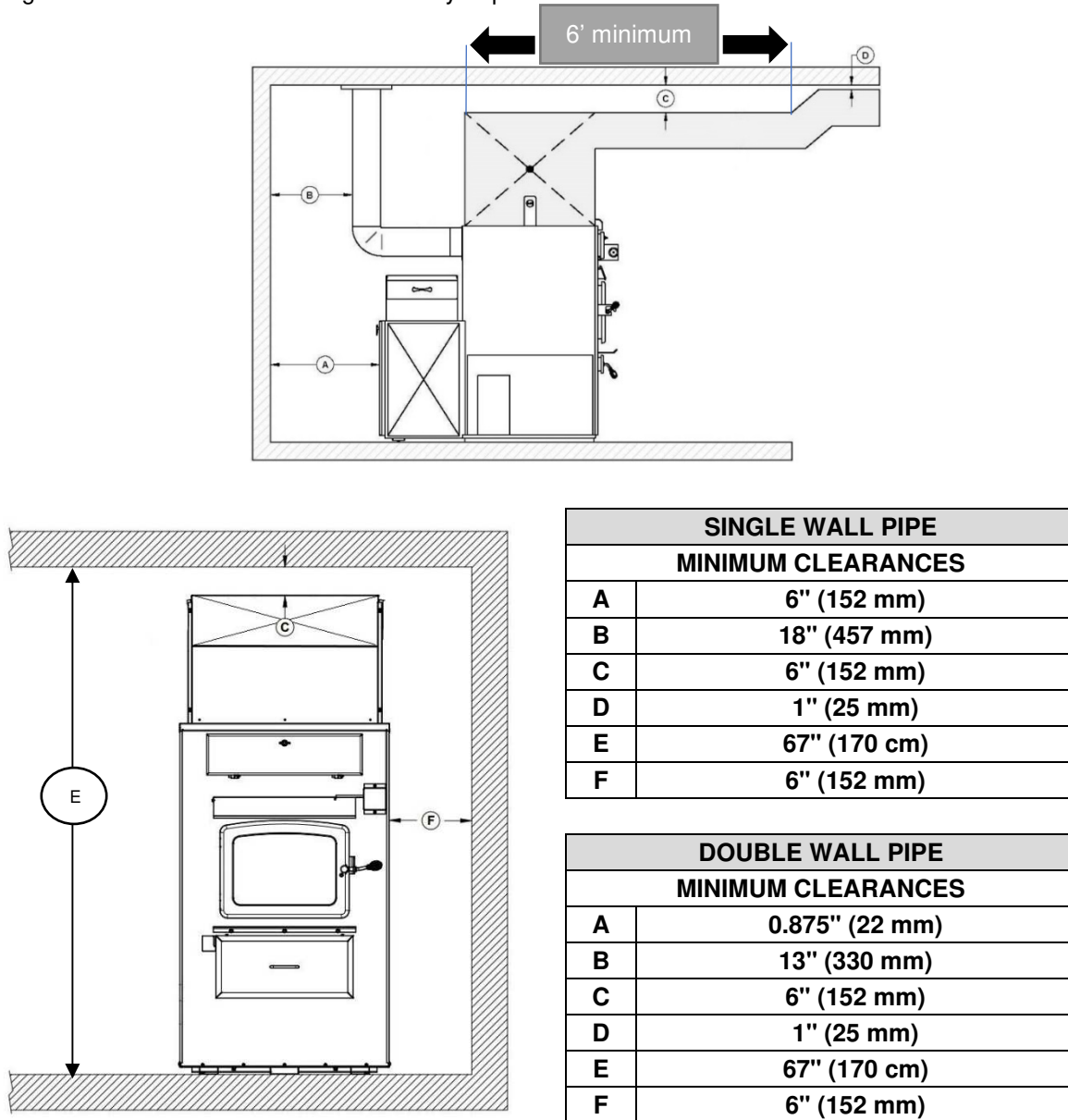
The owner must ensure a proper installation to allow a safe operation of the appliance.

11.4 MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS AND FLOOR PROTECTION

This appliance must be installed in accordance with the instructions on the certification plate applied on the unit.

11.4.1 MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

The clearances shown in this section have been determined by safety tests under normal and even abnormal operating conditions according to procedures set out in standards CSA B366.1 (Canada) and UL 391 (U.S.A.). Respecting the minimum clearances is mandatory to prevent risk of fire.



11.4.2 MINIMUM CLEARANCES TO COMBUSTIBLES MATERIALS FOR AIR RETURN DUCT

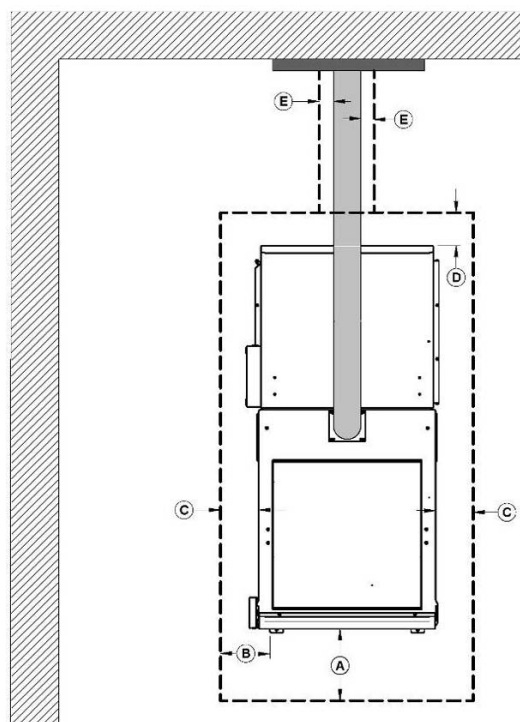
The return air duct should be at least equal in size to the return air plenum. The air return duct can be installed at zero clearance to combustibles.

11.4.3 MINIMUM CLEARANCES TO COMBUSTIBLES MATERIALS FOR HOT AIR PLENUM

Plenums installed on the furnace must be made of metal in accordance with NFPA 90B, 2-1.3. When a side wall is located less than 6 feet from the furnace, the hot air duct can pass through it with a clearance of six (6) inches around it. For a wall located more than 6 feet away, the clearances can then be reduced to 1 inch.

11.4.4 FLOOR PROTECTION

- If the floor is made of non-combustible material (like concrete), no floor protector is required.
- If the floor is made of combustible material, a non-combustible material floor protector is required (see table below).



Top view

	FLOOR PROTECTION*	
	CANADA	USA
A	18" (457 mm) From door opening	16" (406 mm) From door opening
B	N/A (USA only)	8" (203 mm) From door opening
C	8" (203 mm)	N/A (Canada only)
D	8" (203 mm) – Note 1	N/A (Canada only)
E	N/A (USA only)	Note 2

*Steel with a minimum thickness of 0.015" (0.38 mm) or ceramic tiles sealed together with grout. No protection is required if the unit is installed on a non-combustible floor (ex: concrete).

Note 1: The floor protection at the back of the furnace is limited to the furnace's required clearance (A) if such clearance is smaller than 8 inches (203 mm).

Note 2: Only required under the horizontal section of the connector. Must exceed each side of the connector pipe by at least 2 inches (51 mm).

11.5 THE STOVE PIPE

Before connecting the stove pipe, make sure you have removed any accessory from the flue pipe such as the scraper, shovel, and the poker.

The flue outlet on the Caddy Advanced furnace is 6" in diameter and it may be installed with a 6" chimney approved for use with wood burning heating appliances (2100°F). If the draft exceeds 0.06 IN.W.C., a barometric control must be installed. **Never install a manual damper.**

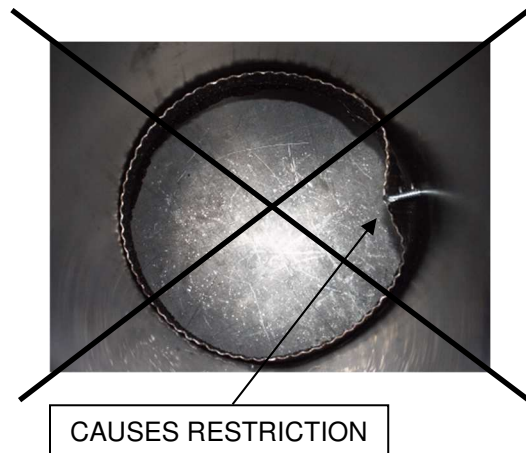
Best practices and requirements of the installation code:

- Recommended inner diameter: 6" (152 mm).
- If an increaser must be used (max 6" (152 mm) to 7" (178 mm)), it must be installed as close as possible to the chimney.
- All the stove pipe joints must be secured with three screws. Failure to secure them to each other may allow for separation and leaks.
- Minimum upward slope of chimney connector: 1/4 in/ft. (20 mm/m).
- Make sure that each screw goes through the inner wall of both connectors (male and female). See pictures below showing a male-female coupling.

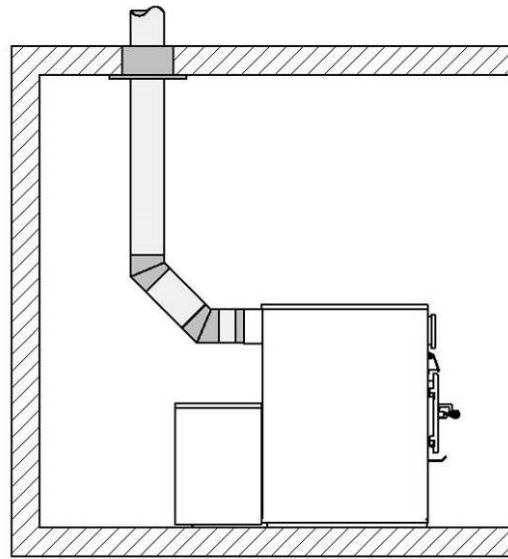
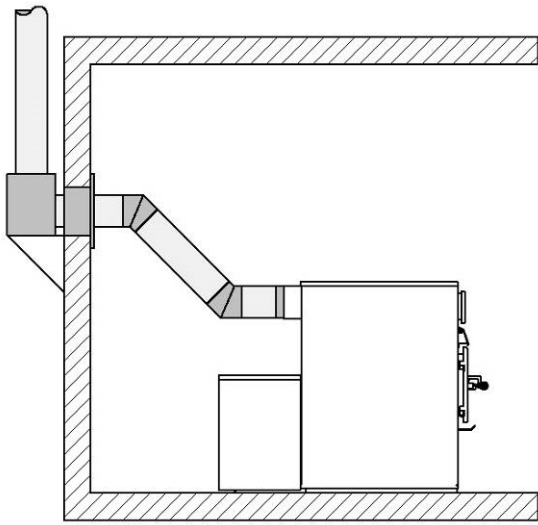
PROPER INSTALLATION



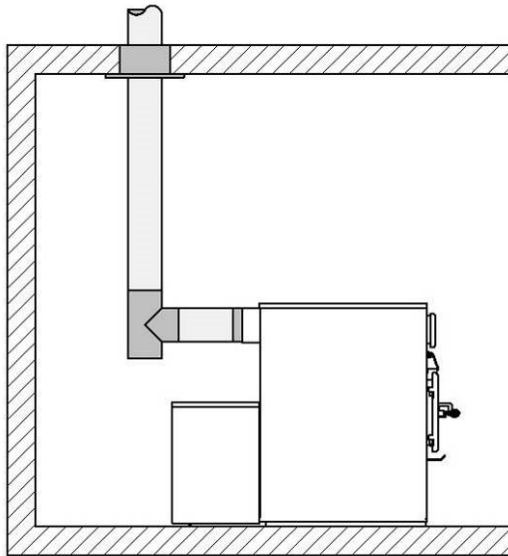
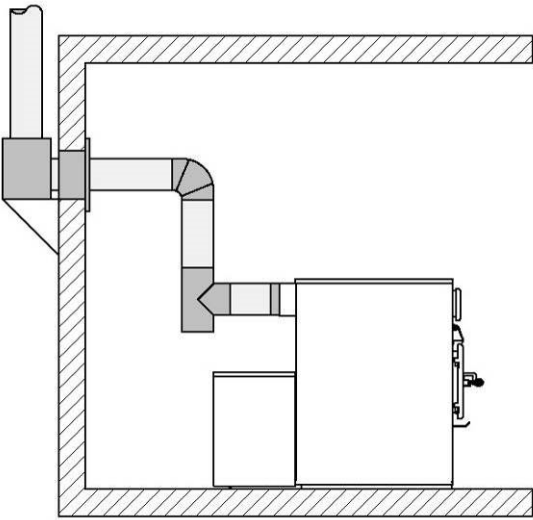
IMPROPER INSTALLATION



- A straight flue pipe assembly offers the least restriction to gas flow and results in stronger draft. Straight assemblies also need less maintenance as there are less restrictions from corners to collect creosote.
- The use of 45° elbows is strongly recommended.
- Never use more than two 90° elbows.



Use 45° elbows where possible, rather than 90° elbows.



Alternative installations with 90° elbow or tee.

11.6 ELECTRICAL CONNECTIONS

- ✓ The following instructions do not replace those of the local code.
- ✓ Installation and verification of this appliance must be done by a qualified service man.
- ✓ The furnace is fully assembled at the factory and no electrical connection is required other than plugging the power cord into an outlet, connecting the RTD and thermostat.

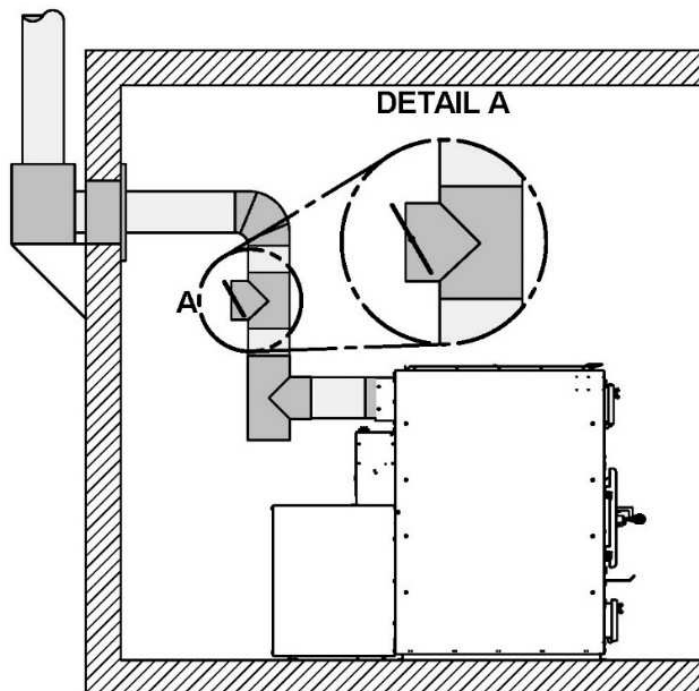
All wiring from the service panel to the heating unit must comply with the electrical code in force and all local regulations. It is recommended to feed the furnace with its own electrical circuit of 15 amps at 120 volts with a breaker (see wiring diagram).

11.7 DRAFT REQUIREMENTS

If the draft exceeds 0.06 IN.W.C., a barometric damper must be installed. The barometric damper must be adjusted so that the **maximum draft** measured at the furnace outlet is limited to **0.06 IN.W.C.** On the other hand, **the minimum** draft to be respected is **0.04 IN.W.C.**

The draft measurement is taken in the exhaust pipe 18" (457 mm) above the furnace's flue collar with a tube and a pressure gauge (manometer).

- **Poor draft: -0.03" W.C. (7.5 Pa) and under:**
 - ✓ Ignition problems, risk of smoke spillage, low performance of heat exchangers.
- **Ideal draft: from -0.04" to -0.06" W.C. (10 to 15 Pa):**
 - ✓ To obtain the optimum performance of the furnace.
 - ✓ A barometric draft control is not required.
- **Excessive draft: -0.08" W.C. (20 Pa): WARNING!**
 - ✓ This leads to premature wear of the furnace, a situation that is not covered by warranty.
 - ✓ A draft greater than -0.08" W.C. (20 Pa) leads to uncontrollable fire even if the air control is in closed position.
 - ✓ The self-regulating furnace control system reduces the risk of excessive draft. If necessary, a barometric control must be installed to control excessive draft. It must be adjusted to limit the maximum draft to -0.06 in W.C. (15 Pa).



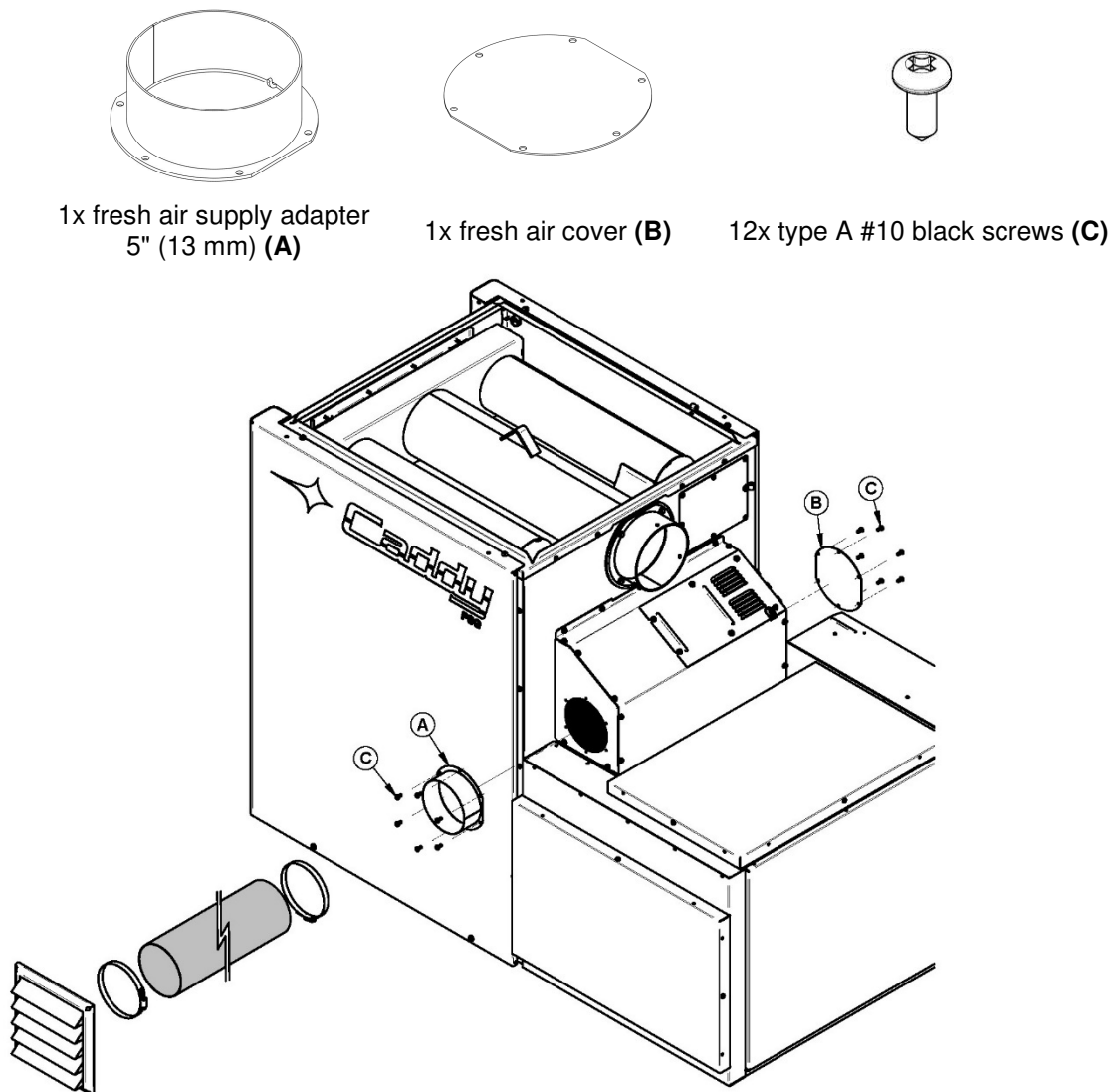
11.8 FRESH AIR SUPPLY INSTALLATION

Additional combustion air can be provided with the following methods, provided that they satisfy chapter 5 of the CSA B365:

Direct combustion air supply:

- Heating units requires specific certification to be connected directly with fresh air supply.
- The Caddy Advanced have been tested and is certified to be connected with direct combustion air.
- The fresh air supply adapter can be mounted on either side of the unit (left or right) to allows you to choose the most convenient side.

Components provided with the furnace for the installation of a fresh air supply.



Indirect combustion air supply:

- New combustion air can be brought into a pipe located within approximately 12" (305 mm) of the unit. If the pipe is too close to the furnace, it may interfere with its operation.
- The recommended diameter of the outside air intake pipe is 5" (127 mm).
- Mechanical ventilation system: if the house is equipped with a ventilation system (air exchanger or heat recovery), the ventilation system may provide sufficient auxiliary air to the furnace. Otherwise, the owner should be informed that the ventilation system may have to be rebalanced by a ventilation technician after the installation of the furnace.

11.9 TOOL HOLDER INSTALLATION

The furnace is provided with a tool holder which can be install on a wall closed to your furnace. Components provided with the furnace are:



1x tool holder **(A)**



1x shovel **(B)**

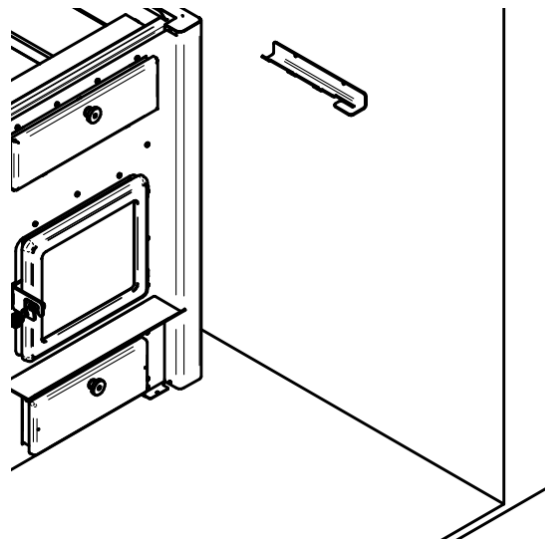


1x poker **(C)**

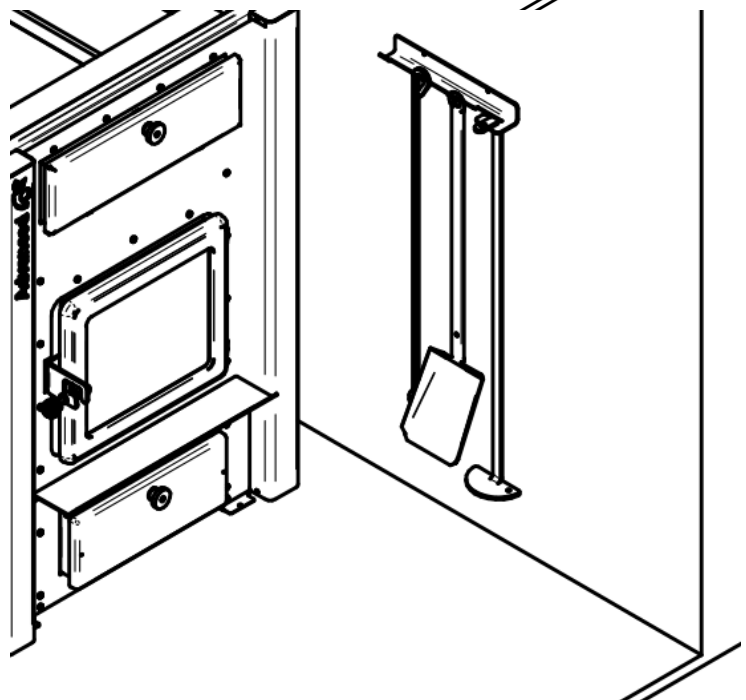


1x scraper **(D)**

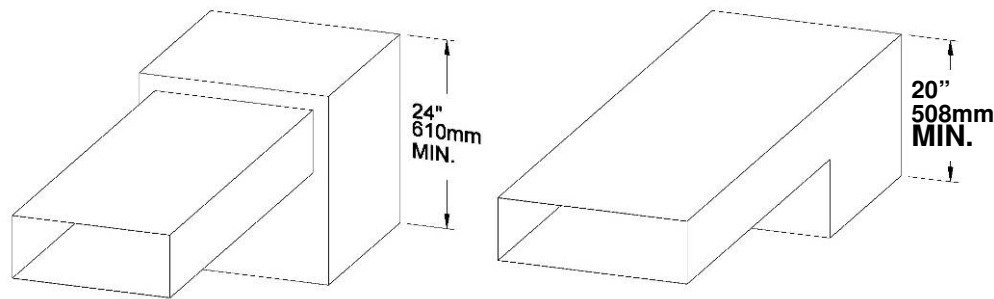
1. Securely fasten the bracket with the two screws.



2. Install the tools on the stand.



11.10 HOT AIR PLENUM



The hot air plenum coming out of the furnace is to have a minimum height of 24" (610 mm) if the top of the first vertical section is not flush with the first horizontal section. Otherwise, the minimum height is 20" (508mm). These dimensions for all hot air furnaces are in accordance with the standards CSA B140.4, UL 391m.

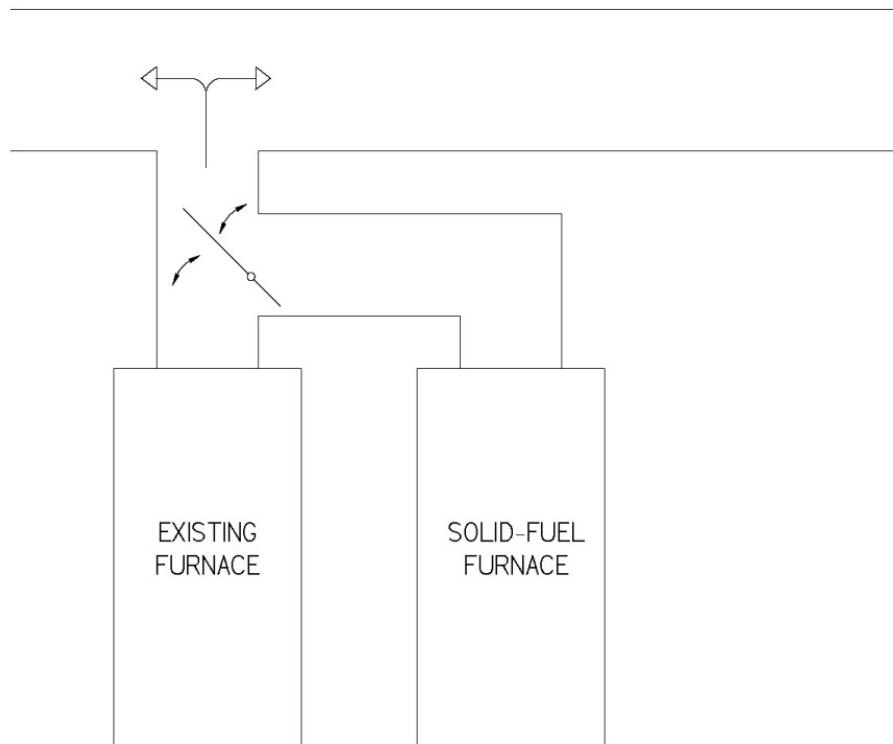
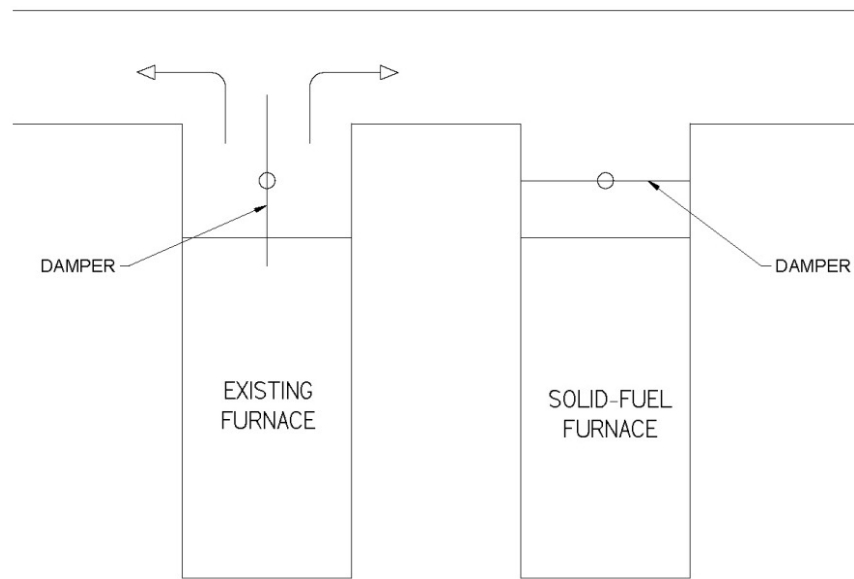
To ensure adequate static pressure, the system should be built in a way that **the volume of cold air return is at least equal or slightly higher than the volume of the hot air distribution.**

12 PARALLEL INSTALLATION

- ✓ The installation of the Caddy Advanced with another furnace using the same ductwork **is not allowed in Canada.**
- ✓ **This type of installation is only allowed in the United States.**
- ✓ The maximum BTU input of the existing oil, gas, or electric furnace should be equal or less than the maximum 120 000 BTU input of the wood furnace.
- ✓ It is mandatory to respect minimum clearances between the ductwork and combustible material as if the wood furnace was installed as a stand-alone unit.
- ✓ The ductwork and furnace should be adjusted in order to reach a static pressure of at least 0.20 IN.WC, but not more than 0.50 IN.WC. A back-flow damper should be installed in the plenum.
- ✓ The back-flow damper assures that when either unit is operated by itself, the hot air will flow into the home, and not back through the other furnace.
- ✓ Depending on your installation (see figures examples below), a back-flow damper may be required in each plenum.
- ✓ The warm-air supply outlet of the supplementary furnace shall not be connected to the cold-air return inlet of the central furnace because a possibility exists of components of the central furnace overheating and causing the central furnace to operate other than as intended.

Conditional to:

- The clearances required for wood furnace must be respected.
- The clearances between the hot air ducts and combustible materials must meet the highest values between the two furnaces.
- The necessary adjustments are made to the furnace or hot air ducts to maintain a static pressure of between 0.20 and 0.50 IN.W.C.
- A backflow damper must be installed to prevent air return in one or the other of the two furnaces and to ensure that hot air will flow into the house and will not return through the plenum of the other furnace. Depending on your system configuration, it is possible that more than one register is required to prevent air returns in the different hot air ducts (see examples below).



- ✓ To ensure a safe installation, the two furnaces must not, at any time, run simultaneously.
- ✓ To do so, the thermostat controlling the existing furnace must be connected to your Caddy Advanced interlock terminal. This way, when a heating signal is sent to the existing furnace, the Caddy Advanced receives the same signal. It will tell the Caddy Advanced to either not start or, to go into a shut down cycle, if the furnace was already heating when the demand for heat was sent.

13 THERMOSTAT INSTALLATION

13.1 WOOD FURNACE ONLY

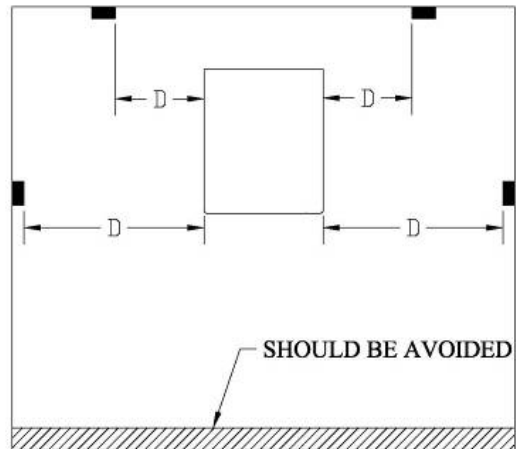
The furnace must be connected to a thermostat. You can use the one provided with the unit or use one that is already installed in your home. The thermostat must be installed on an inside wall and located where it is not likely to be affected by the draft coming from an air outlet. It must be installed at a minimum of 55 inches (140 cm) above the floor.

Thermostat use will help you maintain a constant temperature throughout the house. A fixed wall mounted 24v thermostat is required.

Thermostat manufacturer's instruction always overrides the information published in the following section.

Thermostat location

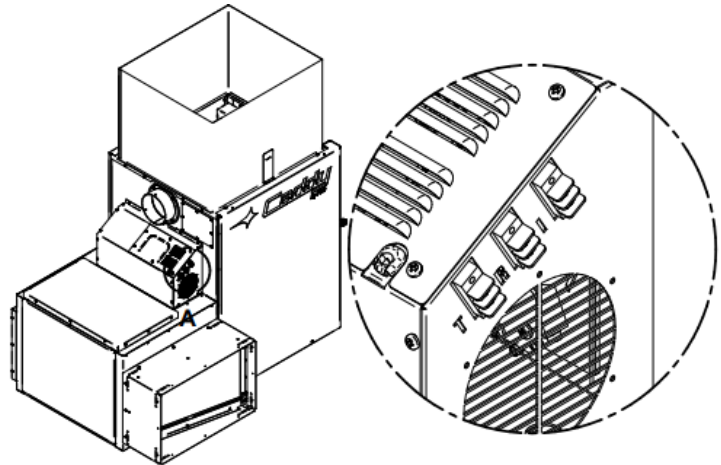
- Must be installed on an inside wall of the house.
- Where it will be the least affected by affected by air currents from a hot air outlet or cold outside walls.
- Must be installed at a minimum of 55" (140 cm) above the floor.
- Must be installed at a minimum of 15' (4.57 m) from the furnace and must not receive radiation heat from the glass door.



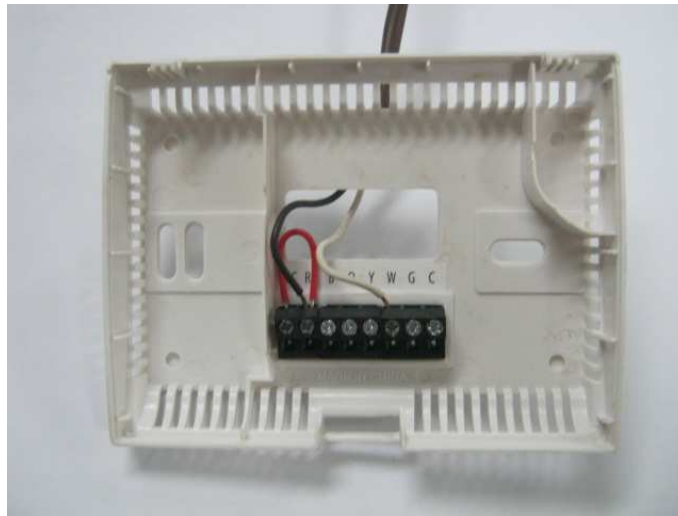
D = MINIMUM DISTANCE 15 FEET

Thermostat wiring

- Before installing the thermostat, disconnect the furnace from the outlet.
- Use an 18 AWG 2 strand wire.
- The terminal block is located at the back on the left side of the furnace when facing it. It is identified with the letter "T".
- Loosen the two screws in the middle of the terminal block and insert the wires in the terminal. Tighten the two screws.
- Open the thermostat housing and connect the wires following the manufacturer's instructions.



Example of thermostat wiring:



Connect one wire to "RH" and the other wire to "W". The red jumper can be left in place. For more information, refer to the manufacturer's instructions.

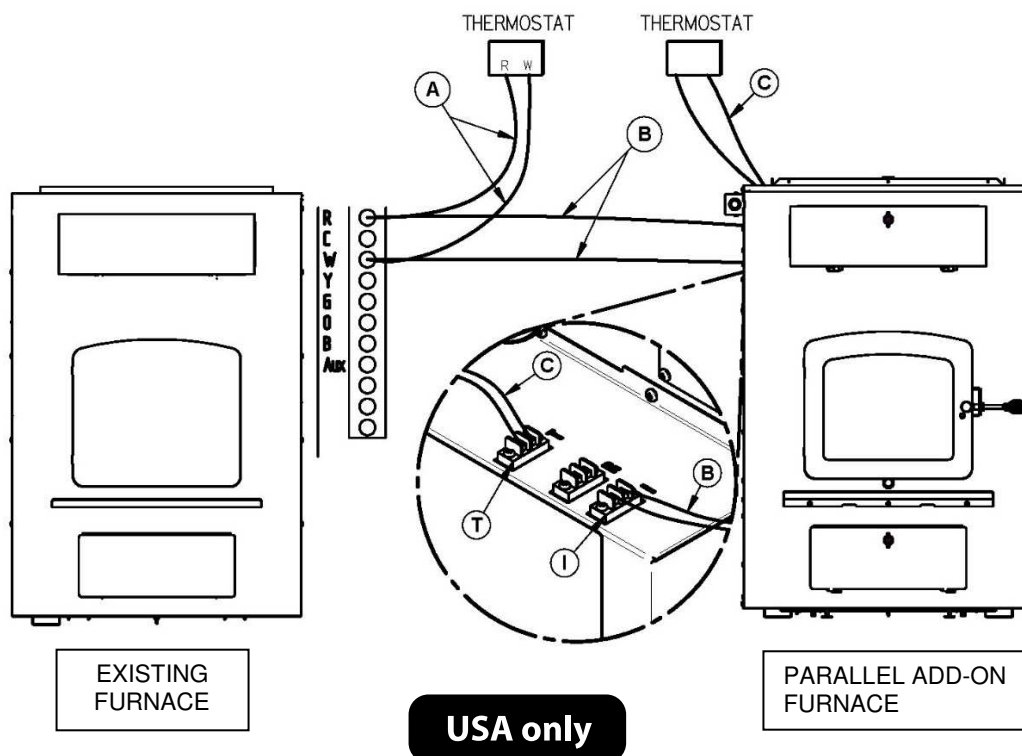
13.2 ADD-ON FURNACE

This furnace may be installed in parallel as an add-on to an existing furnace in the USA only. Such an installation requires that the furnace's controls be interlocked to prevent both furnaces from heating at maximum rate simultaneously.

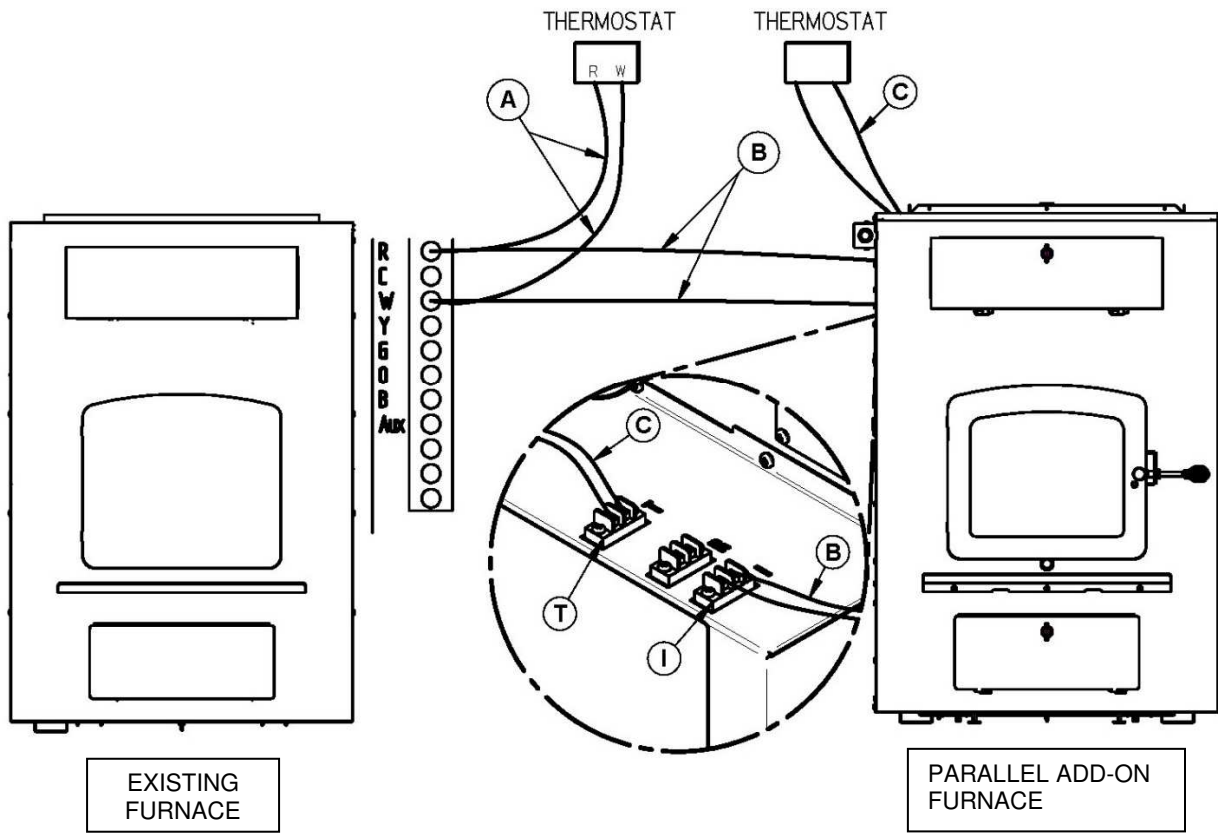
When the wood furnace receives the signal from the existing furnace thermostat calls for heat, combustion air controls will close slowly, the Caddy Advanced add-on wood furnace burn rate will reduce to its minimum. After the existing furnace thermostat is satisfied, the wood furnace will return under the control of its own thermostat.

Two ways to connect the existing thermostat to your unit:

- 1- From the terminal block of the existing furnace, connect 2 new wires (B) from the existing wires (A) of the thermostat (R and W) and attach them to the terminal block identified "I" (interlock) of the Caddy Advanced parallel add-on furnace.



- 2- From the thermostat connected to the existing furnace, connect 2 new wires (B) to the R and W terminals of your thermostat of your existing furnace and fix them to the terminal block identified "I" (interlock) of the Caddy Advanced parallel add-on furnace.



USA only

14 FURNACE OPERATION

14.1 HOW IT WORKS

The Caddy Advanced furnace is equipped with a self-regulated combustion air supply control system. Using two temperature sensors in the combustion chamber that measure the temperature in real time, your furnace will automatically adjust the amount of combustion air required for the cleanest and most efficient combustion.

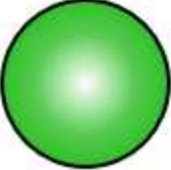
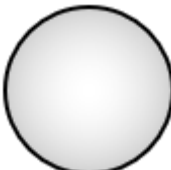


Coupled with the thermostat, the furnace will automatically modulate the combustion rate according to the thermostatic demand. When the thermostat calls for heat, combustion will be at its maximum burn rate. Conversely, when the thermostat is satisfied with heat, the combustion burn rate will be slowed down to maximum.














A third temperature sensor located in the plenum controls the air distribution fan. This will distribute the necessary heat in your ducts to satisfy the thermostat while maintaining a safe temperature in your heating system.

14.2 HOW RELOAD BUTTON WORKS

The furnace is equipped with a backlit reload button located at the front. To optimize combustion during ignition and reloading, it is necessary to press the reload button. When you press the button, it will flash rapidly three times. Automatically the combustion air supply will be increased to its maximum, thus the ignition of the charge and the recharge will be facilitated.

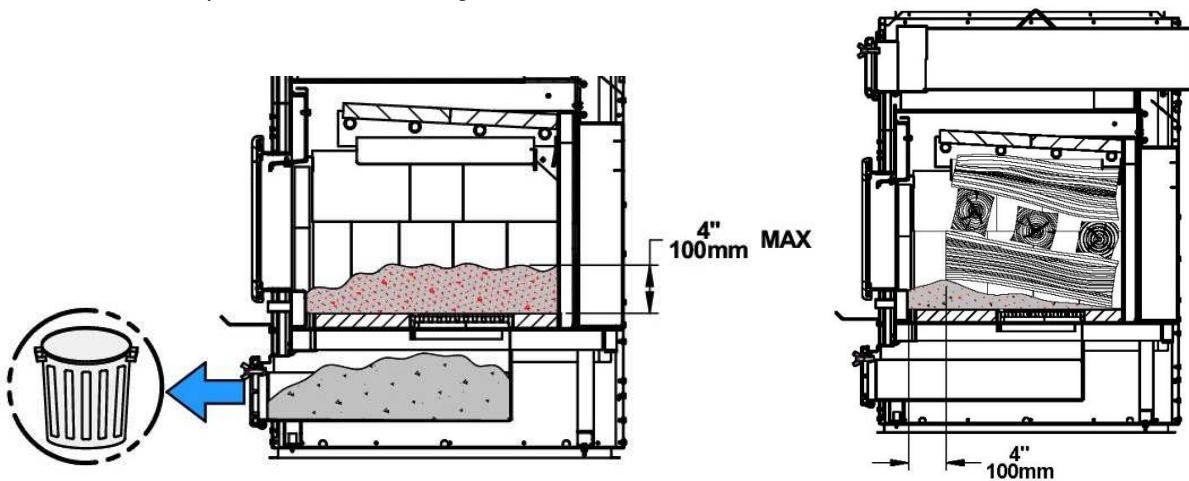
The button indicator light indicates the status of your furnace according to the thermostatic demand and the available heat. See the table below for details of each state.

Led button states	Meaning	Furnace status
Light is ON 	The thermostat calls for heat and there is heat available in the combustion chamber.	Maximum energy: The furnace goes to maximum burn rate and attempts to provide maximum heat while maintaining clean and efficient combustion. The fan blows at normal speed.
Light is OFF 	The furnace is cold. (Does not consider the state of the thermostat).	Low energy: The furnace is cold; it needs to be lit with paper and kindling to provide heat.
Light blinking slowly (1.5 second per blink) 	The thermostat does not call for heat and there is heat available in the combustion chamber.	Energy saving: The furnace burns to a minimum burn rate and distributes as little heat as possible through the distribution air ducts to save wood by maintaining clean and efficient combustion. The fan cycles to remove excess heat.
Light blinking quickly (5 blinks per second): 	The furnace has reached its maximum temperature.	Thermal protection: The furnace control system reduces to minimum the supply of combustion air. If firebox maximum temperature is reached, fan will blow at normal speed. If plenum maximum temperature is reached, fan will blow at maximum speed. DO NOT ADD WOOD!


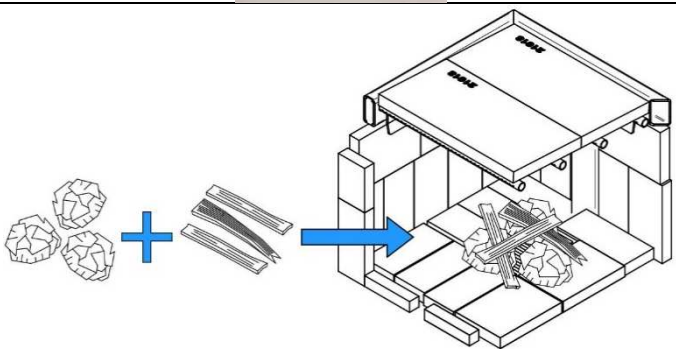
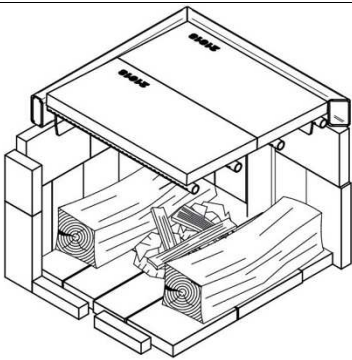
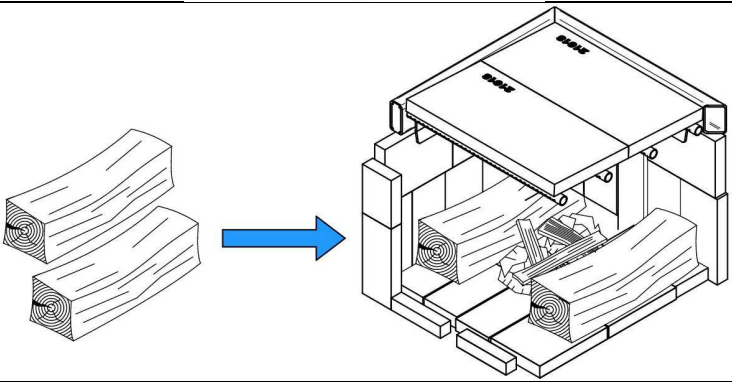
 EASY LIGHTING PRESS, LOAD, LIGHT AND CLOSE THE DOOR		
 ON	 CALL FOR HEAT   HEAT AVAILABLE	MAXIMUM ENERGY
 BLINKING SLOW	 NO CALL FOR HEAT   HEAT AVAILABLE	ENERGY SAVING
 OFF	 LIGHTING REQUIRED	LOW ENERGY
 BLINKING FAST	 DO NOT ADD WOOD	THERMAL PROTECTION
POWER OUTAGE REMOVE THE AIR FILTER (IF APPLICABLE)		
<small>FOR ANY ADDITIONAL INFORMATION, PLEASE REFER TO THE « INSTALLATION AND OPERATING INSTRUCTIONS ». 27857A</small>		

14.3 HOW TO LIGHT AND RELOAD THE FURNACE?


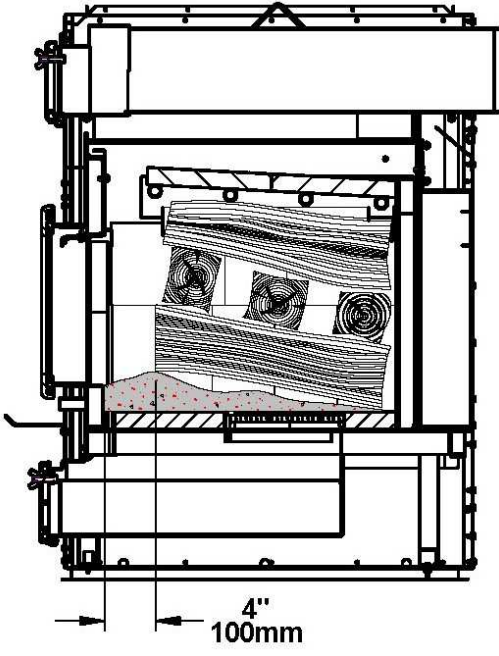
Always keep a maximum of 4 inches of ash in the firebox. Weekly empty the ash drawer to ensure the correct operation of the furnace. For a clean and efficient combustion always keep some space between the logs and leave at least 4 inches of space in front of the logs.



14.3.1 COLD START AND COAL EMBER BED (The led button light is OFF)

<p>1. Press reload button before opening the door.</p>	
<p>2. Place paper and kindling on top of the ash grate.</p>	
<p>3. Place two logs North&South on each side of the kindling.</p>	
<p>4. Place another row in a crisscross pattern on top of the first logs.</p>	
<p>5. Light the paper and leave the door ajar (45 degree). Wait until the kindling and the logs catch fire. Then close the door.</p>	
<p>Important: never leave unattended the furnace with the door opened.</p>	

14.3.2 HOT EMBER BED RELOAD (The led button light is ON or slowly blinking)

<ol style="list-style-type: none">1. Press reload button before opening the door.	
<ol style="list-style-type: none">2. Open the door and bring hot embers to the front.	
<ol style="list-style-type: none">3. Load two logs North&South at the back. Crisscross logs over. Always leave 4" of free space in the front.	
<ol style="list-style-type: none">4. Leave the door ajar (45 degree) until the first flames appear. Then close the door.	
<p>Important: never leave unattended the furnace with the door opened.</p>	

14.4 YOUR FIRST FIRES

Two things will happen when burning the first few fires; the paint cures and the internal components of the furnace are conditioned.

As the paint cures, some of the chemicals vaporize. The vapors are non-toxic, but they do smell bad. Fresh paint fumes can also cause false alarms in smoke detectors. So, when lighting the furnace, be prepared by opening doors or windows to ventilate the house. Burn one or two small fires to begin the curing and conditioning process. Then build bigger and hotter fires until there is no longer paint smell from the furnace.

As hotter and hotter fires are burnt, more of the painted surfaces reach the curing temperature of the paint. The smell of curing paint does not disappear until one or two very hot fires have been burnt.

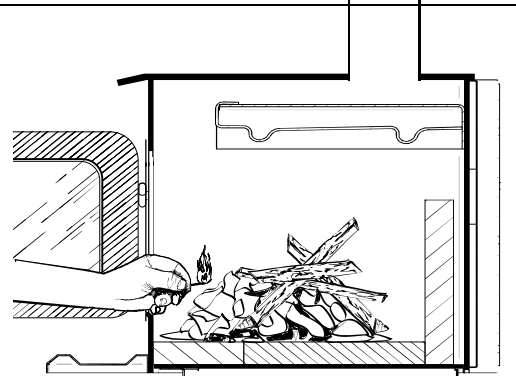
14.5 LIGHTING FIRES

Each person who heats with wood develops their own favorite method to light fires. Whatever method you choose, your goal should be to get a hot fire burning quickly. A fire that starts fast produces less smoke and deposits less creosote in the chimney.

Here are **three popular and effective ways to start wood fires**.

14.5.1 CONVENTIONAL FIRE STARTING

The conventional way to build a wood fire is to bunch up 5 to 10 sheets of plain newspaper and place them in the firebox. Next, place 10 or so pieces of fine kindling on the newspaper. This kindling should be very thin; less than 1" (25 mm). Next, place some larger kindling pieces on the fine kindling. Press the reload button, light the newspaper. If you have a tall, straight venting system you should be able to close the door immediately. If your venting system has elbows or an outside chimney, you may need to leave the door ajar for a few minutes as the newspaper ignites and heat in the chimney produces some draft. Once the fire has ignited, close the door.



DO NOT LEAVE THE FURNACE UNATTENDED WHEN THE DOOR IS SLIGHTLY OPENED DURING LIGHTING. ALWAYS CLOSE THE DOOR AFTER LIGHTING.

After the kindling fire has mostly burned, you can add firewood pieces until you have a fire of the right size for the conditions.

14.5.2 THE TOP DOWN FIRE

The top down fire starting method solves two problems with the conventional method: first, it does not collapse and smother itself as it burns; and second, it is not necessary to build up the fire gradually because the firebox is loaded before the fire is lit. A top down fire can provide up to two hours of heating or more. The top down method only works properly if the wood is well-seasoned.

Start by placing three or four full-sized split pieces of dry firewood in the firebox. Next, place 4 or 5 more finely split pieces of firewood (2" to 3" (51 mm to 76 mm) diameter) on the base logs at right angles (log cabin style). Now place about 10 pieces of finely split kindling on the second layer at right angles.

The fire is topped with about 5 sheets of newspaper. You can just bunch them up and stuff them in between the kindling and the underside of the baffle. Or you can make newspaper knots by rolling up single sheets corner to corner and tying a knot in them. The advantage of knots is that they do not roll off the fire as they burn. Light the newspaper and watch as the fire burns from top to bottom.

14.5.3 TWO PARALLEL LOGS

Place two spit logs in the firebox. Place a few sheets of twisted newspaper between the logs. Now place some fine kindling across the two logs and some larger kindling across those, log cabin style. Light the newspaper.

14.5.4 USING FIRE STARTERS

Commercial fire starters can be used instead of a newspaper. Some of these starters are made of sawdust and wax and others are specialized flammable solid chemicals. Follow the package directions for use.

Gel starters can also be used, but only to light a fire, in a cold combustion chamber without hot embers inside.

15 MAINTAINING WOOD FIRES

15.1 GENERAL ADVICE

Wood heating is very different than other forms of heating.

Do not expect steady heat output from your furnace. It is normal for its temperature to rise after a new load of wood is ignited and for its temperature to gradually decline as the fire progresses. This rising and falling of temperature can be matched to your household routines. For example, the area temperature can be cooler when you are active, such as when doing housework or cooking, and it can be warmer when you are inactive, such as when reading or watching television.

Wood burns best in cycles. A cycle starts when a new load of wood is ignited by hot coals and ends when that load has been consumed down to a bed of charcoal about the same size as it was when the wood was loaded. Do not attempt to produce a steady heat output by placing a single log on the fire at regular intervals. Always place at least three, and preferably more, pieces on the fire at a time so that the heat radiated from one piece helps to ignite the pieces next to it. Each load of wood should provide several hours of heating. The size of each load can be matched to the amount of heat needed.

When you burn in cycles, you rarely need to open the furnace's loading door while the wood is burning. This is an advantage because there is more chance that smoke will leak from the furnace when the door is opened as a full fire is burning. This is especially true if the chimney connector has 90° elbows and if the chimney runs up the outside wall of the house.

IMPORTANT

WHEN RELOADING, MAKE SURE YOU KEEP THE AIR INLETS LOCATED AT THE BOTTOM OF THE DOOR INSIDE THE COMBUSTION CHAMBER FREE OF ASH.

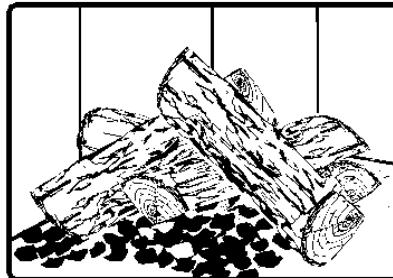
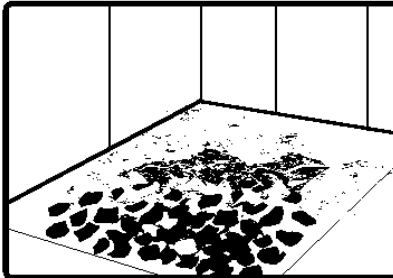
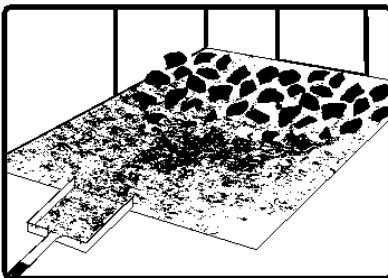
OPENING PROCEDURE FOR THE LOADING DOOR

TO MINIMISE THE RISK OF SMOKE SPILLAGE, CRACK THE DOOR OPEN ABOUT AN INCH (25 MM) AND WAIT ABOUT 10 SECONDS BEFORE OPENING IT WIDE TO ALLOW STABILISATION OF THE PRESSURE INSIDE THE FURNACE.

15.1.1 RAKING CHARCOAL

Rekindle the fire when you notice that the room temperature has fallen. Do not operate your furnace at too low a setting. Keep the air inlet opened long enough during the fire start-up to prevent the fire from smouldering, which could stain the glass. You will find most of the remaining charcoal at the back of the firebox, furthest from the door. Rake these coals towards the door before loading. There are two reasons for this raking of the coals. First, it concentrates them near where most of the combustion air enters the firebox and where they can ignite the new load quickly, and second, the charcoal will not be smothered by the new load of wood.

If you were to simply spread the charcoal out, the new load will smoulder for a long time before igniting.



Remove ash first, and then rake charcoal towards the front of the firebox before loading so that it will ignite the new load. Some people confuse ash (mostly a gray powder) with charcoal remaining in their firebox. Charcoal is wood in its final stages of combustion with significant heating value remaining and should not be discarded until fully consumed.

15.1.2 FIRING EACH NEW LOAD HOT

Press the reload button, place the new load of wood on and behind the charcoal. Close the door. Firing each load of wood hot accomplishes a few things:

- Drives the surface moisture from the wood.
- Creates a layer of char on the wood, which slows down its release of smoke.
- Heats the firebox components so they reflect heat back to the fire.
- Heat the chimney so it can produce strong, steady draft for the rest of the cycle.

Do not leave the furnace unattended while a new load is being fired hot.

DO NOT OVERFIRE.

When you burn a new load of wood hot to heat up the wood, the furnace and the chimney, the result will be a surge of heat from the furnace. This heat surge is welcome when the room temperature is a little lower than desirable, but not welcome if the space is already warm. Therefore, allow each load of wood to burn down so that the space begins to cool off a little before loading.

15.1.3 CONTROL OF THE AIR SUPPLY

Once the firewood, firebox and chimney are hot, the air combustion controls will close gradually to maintain the optimal combustion chamber temperature.

15.1.4 BUILDING DIFFERENT FIRES FOR DIFFERENT NEEDS

Your house will need far less heat in October than in January to be kept at a comfortable temperature. If you fill the firebox full in fall weather, you will either overheat the space or turn the furnace down so much that the fire will be smoky and inefficient. Here are some suggestions for building fires to match different heat demand.

15.1.5 SMALL FIRES TO TAKE THE CHILL OFF THE HOUSE

To build a small fire that will produce a low heat output, use small pieces of firewood and load them crisscross in the firebox. The pieces should be only 3" (76 mm) to 4" (102 mm) in diameter. After raking the coals, you can lay two pieces parallel to each other corner to corner in the firebox and lay two more across them in the other direction. This kind of fire is good for mild weather when you are around to tend the furnace and should provide enough heat for four hours or more. Small fires like this are a good time to use softer wood species so there will be less chance of overheating the house.

15.1.6 LONG LASTING LOW OUTPUT FIRES

Sometimes you will want to build a fire to last up to eight hours, but do not need intense heat. In this case use soft wood species and place the logs compactly in the firebox so the pieces are packed tightly together.

15.1.7 HIGH OUTPUT FIRES FOR COLD WEATHER

When the heat demand is high during cold weather, you will need a fire that burns steadily and brightly. This is the time to use your biggest pieces of hardwood fuel if you have it. Put the biggest pieces at the back of the firebox and place the rest of the pieces compactly. A densely built fire like this will produce the longest burn your furnace is capable of.

15.1.8 MAXIMUM BURN CYCLE TIMES

The burn cycle time is the period between loading wood on a coal bed and the consumption of that wood back to a coal bed of the same size. The flaming phase of the fire lasts for roughly the first half of the burn cycle and the second half is the coal bed phase during which there is little or no flame. The length of burn you can expect from your furnace, including both the flaming and coal bed phases, will be affected by several things, such as:

- | | |
|----------------------------------|--|
| ▪ Firebox size | ▪ Climate zone you live in |
| ▪ Amount of wood loaded | ▪ Time of year |
| ▪ Species of wood you burn | ▪ The moisture content of the wood |
| ▪ Size of the space to be heated | ▪ Time cycle for the thermostat to call for heat |

15.2 PROLONGED POWER OUTAGE

To reduce the risk of overheating during a prolonged power outage (more than 10 minutes), the combustion air controls will be closed automatically. In this scenario, remove the air filter to improve the natural circulation (convection) of hot air rising into the plenum and beyond. Do not load the furnace more than 50 percent of its capacity to prevent the risk of overheating.

16 FURNACE MAINTENANCE

Your new furnace will give many years of reliable service if you use and maintain it correctly. Some of the internal components of the firebox, such as firebricks, baffles and air tubes, will wear over time under intense heat. You should always replace defective parts with original parts (see section **18 EXPLODED DIAGRAM AND PARTS LIST**). For firing each load hot to begin a cycle as described above will not cause premature deterioration of the furnace. However, if the thermostat always calls for heat it can cause damage over time. The more the furnace overheats during combustion cycles, the faster its elements will deteriorate. For that reason, **never leave the furnace unattended while a new load is being fired hot.**

Recommended Maintenance Scheduled

Use this as a guide when used under average conditions.

Components	Weekly or after ± 1/3 Face cord	Monthly ± 1 Face cord	Annually or ± 3 Face cord
Glass	Inspect and Clean*		
Combustion Chamber	Empty / Vacuum*	Inspect	
Ash drawer	Empty*		
Air filter		Clean or replace every three months	
Firebricks		Inspect	
Baffle		Inspect	
Air tube		Inspect	
Heat Exchanger		Inspect, Sweep and Clean*	
Door tightness		Inspect and adjust or replace gasket if necessary	
Thermocouples			Inspect and Clean
Chimney			Sweep and Clean if necessary*
Blower			Clean

Face cord: 4' x 8' x 16" (≈42 ft³)

*Cleaning frequency may vary depending on the type of fuel used. Fuel with higher ash content will increase cleaning frequency.

CAUTION! IT IS RECOMMENDED TO CLEAN THE HEAT EXCHANGERS, FLUE PIPE AND CHIMNEY THOROUGHLY AT THE END OF THE HEATING SEASON IN ORDER TO PREVENT CORROSION DURING THE SUMMER MONTHS, CAUSED BY ACCUMULATED ASH AND/OR SOOT AND/OR CREOSOTE.

16.1 ASH REMOVAL

Ash should be removed from the firebox every week of full time heating. Do not let the ash build up in the firebox because it will interfere with proper fire management. A little remaining ash is ok, it is not imperative to remove every last bit of ashes as aggressive cleaning may reduce the life of the firebricks. Ironically some hardwoods produce much more ash than using pine, spruce and fir.

The best time to remove ash is after an overnight fire when the furnace is relatively cool, but there is still some chimney draft to draw the ash dust into the furnace and prevent it from coming into the room.

After ashes have been removed from the furnace and placed in a tightly covered metal container, they should be taken outside immediately. 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. Ashes normally contain some live charcoal that can stay hot for several days. 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. Other waste shall not be placed in this container.

NEVER STORE ASHES INDOORS OR IN A NON-METALIC CONTAINER OR ON A WOODEN DECK. ALWAYS LEAVE THE CONTAINER ON A NON-COMBUSTIBLE FLOOR.

16.2 CLEANING DOOR GLASS

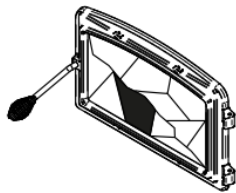
Under normal conditions, your door glass should stay relatively clear. If your firewood is dry enough and you follow the operating instructions in this manual, a whitish, dusty deposit will form on the inside of the glass after a week or so of use. This is normal and can be easily removed when the furnace is cool by wiping with a damp cloth or paper towel and then drying. **Never attempt to clean the glass when the furnace is hot.**

In spring and fall the furnace will cycle less often. You may see some light brown stains forming, especially at the lower corners of the glass. This indicates that the combustion has been incomplete and some of the smoke has condensed on the glass. When the weather is mild, you may find that letting the fire go out is better than trying to maintain a continuous fire. Use the technique described above for building a fire to take the chill off the house.

If you do get brown stains on the glass, you can remove them with special cleaners for wood furnace glass doors. **Do not use abrasives to clean your furnace's door glass.**

The deposits that form on the glass are the best indication of the quality of your fuel and how well you are doing in operating the furnace. Your goal should be clear glass with no brown stains. If you continue to see brown stains on the glass, something about your fuel and operating procedure needs to be changed. Stains on the glass indicate incomplete combustion of the wood, which also means more smoke emissions and faster formation of creosote in the chimney.

When brown streaks are coming from the edge of the glass, it is time to replace the gasket around the glass. The glass gasket should be self-adhesive. Follow the instructions in section **16.4 REPLACEMENT OF THE GLASS AND GASKETS** for installation. Always replace gaskets with genuine ones. See section **18 EXPLODED DIAGRAM AND PARTS LIST**.



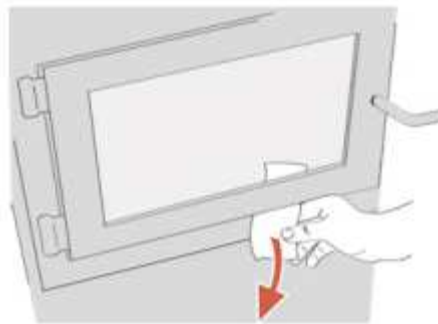
Do not clean the glass when the stove is hot.

Do not abuse the glass door by striking or slamming shut.

Do not use the stove if the glass is broken.

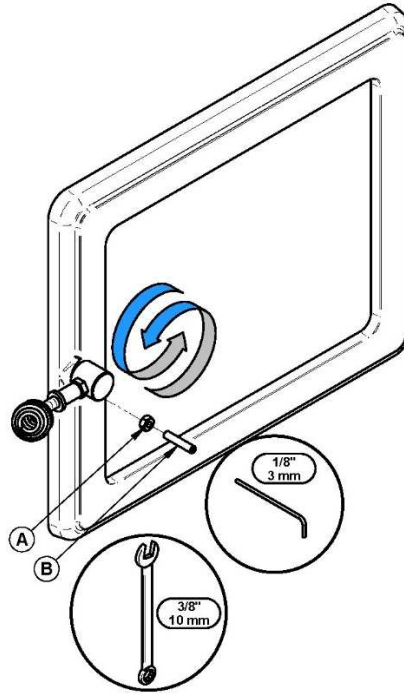
16.3 DOOR ADJUSTMENT

In order to burn at its best efficiency, the furnace door must provide a perfect seal with the firebox. The tightness of the door seal can be verified by closing and latching the door on a strip of paper. The test must be performed all around the door. If the paper slips out easily anywhere, either adjust the door or replace the gasket.



Door adjustment procedure:

1. Unscrew the locking pin **(B)** and nut **(A)** from the door.
2. To increase the pressure of the door on the gasket, turn the handle. Counter-clockwise, to reduce the pressure of the door on the cord, turn the handle clockwise to clockwise.
3. Finally, screw-in the locking pin **(B)** about 1/4" (6 mm) deep and make sure you lock it with the nut **(A)**. If after adjustment the door is not tight, replace the door gasket.



16.4 REPLACEMENT OF THE GLASS AND GASKETS

After a year or more of use, the gasket of the door will compress and become hard which can allow air to pass. You can check the air tightness of your door gasket by closing and locking the door on a piece of paper. Check all around the door. If the paper slides easily anywhere, replace the gasket. If with a new gasket the door is not sealing properly then adjust the door.

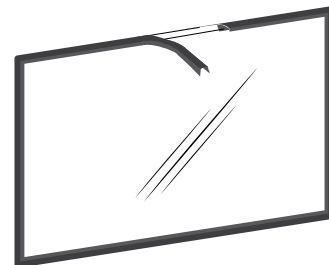
Always use a genuine gasket that you can purchase from your dealer. The correct size and density of the gasket are important to ensure a good seal.

Never use the furnace with a broken glass. To replace the glass, be sure to use ceramic glass as required. Ordering directly from your dealer or the manufacturer is a good idea. Replacement glass that SBI provides will always include the "self-adhesive flat glass gasket" installed on the replacement glass.

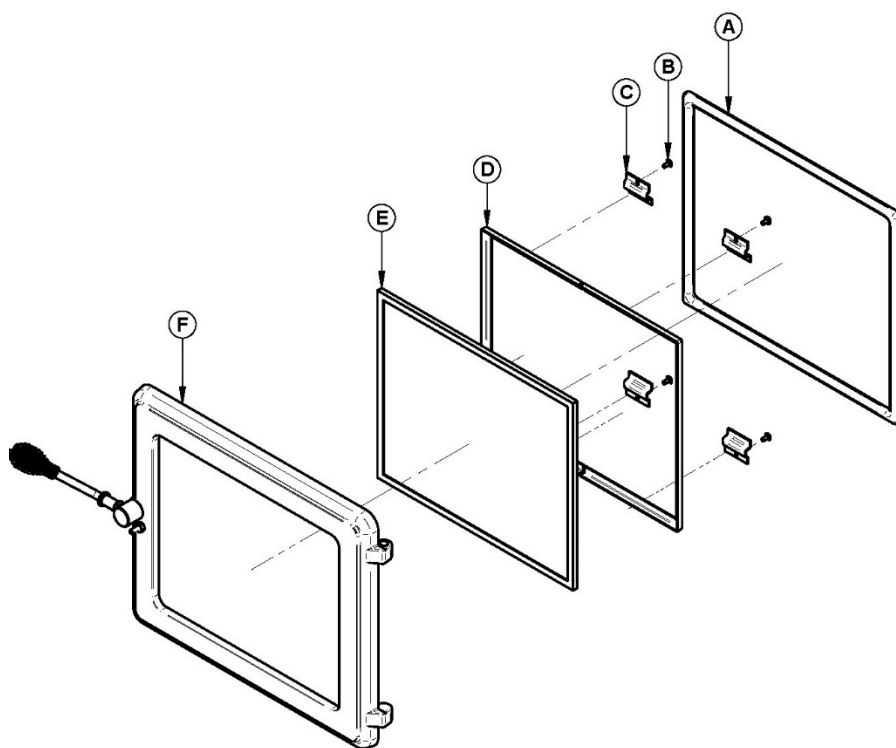
For the following steps, wearing gloves and safety glasses are recommended for handling seals can irritate the skin and the glass can be sharp.

- To replace the door gasket, use steps 1 to 3 and 10 outlined below.
 - To replace the glass, or glass gasket, use steps 1 and 3 to 9 outlined below.
1. Remove the door **(F)** and place it on a stable work surface, handle down.
 2. Using pliers, remove the door gasket **(A)**.
 3. Using a scraper or a small flat screwdriver, remove the adhesive left in the gasket groove in the door then clean the surface using a commercial vacuum.
 4. Use a Phillips screwdriver or a power drill to remove the screws **(B)** that holds the glass retainer **(C)**. If the screws are older and difficult to remove, consider using a penetrating oil to loosen them first. Be careful to not break or strip these screws.
 5. Remove the glass frame **(D)**.
 6. Remove the glass **(E)** (or pieces of glass if it is damaged) and clean the inside of the door frame.
 7. Remove the old glass gasket.

8. Install the new gasket on the glass. Remove a part of the paper covering the gasket adhesive. Center the gasket on the edge of the glass so that when folded and glued, the gasket is equal on both sides. Do not stretch the gasket during installation. Remove a majority of the paper, turn the glass to facilitate and complete the installation of the gasket. When you return to the starting point, cut the gasket so that the ends overlap by about 1/2" (13 mm). If purchasing SBI replacement glass, the glass gasket will have been installed on the glass for your convenience.



9. Install the glass (E) and glass frame (D) centering them in the door frame. Install the glass retainers (C) taking care not to over tighten the screws (B). Note that the two main causes of glass breakage are unequal position in the door and screws too tight.
10. Install the new door gasket (A). To do this, use about 1/4" (6 mm) of adhesive to the bottom of the groove that holds the gasket in the door. Then lay the new gasket starting from the center of the hinge side and taking care not to stretch the gasket during installation. Leave about 1/2" (13 mm) of gasket exceed the frame of the door. Once jointed, push the fibers protruding towards the inside of the groove in the adhesive. Install the door and let dry for 24 hours before using the furnace.



Do not abuse the glass door by striking or slamming shut. Do not use the furnace if the glass is broken. To change the glass, perform the same operation described above.

16.5 CLEANING AND PAINTING THE FURNACE

Do not attempt to clean or paint the furnace when the unit is hot. Painted surfaces can be wiped down with a damp cloth. Plated or enameled surfaces may be scratched by abrasive cleaners. To maintain the finish at its original brilliance, use only a damp soft cloth to clean plated or enameled surfaces.

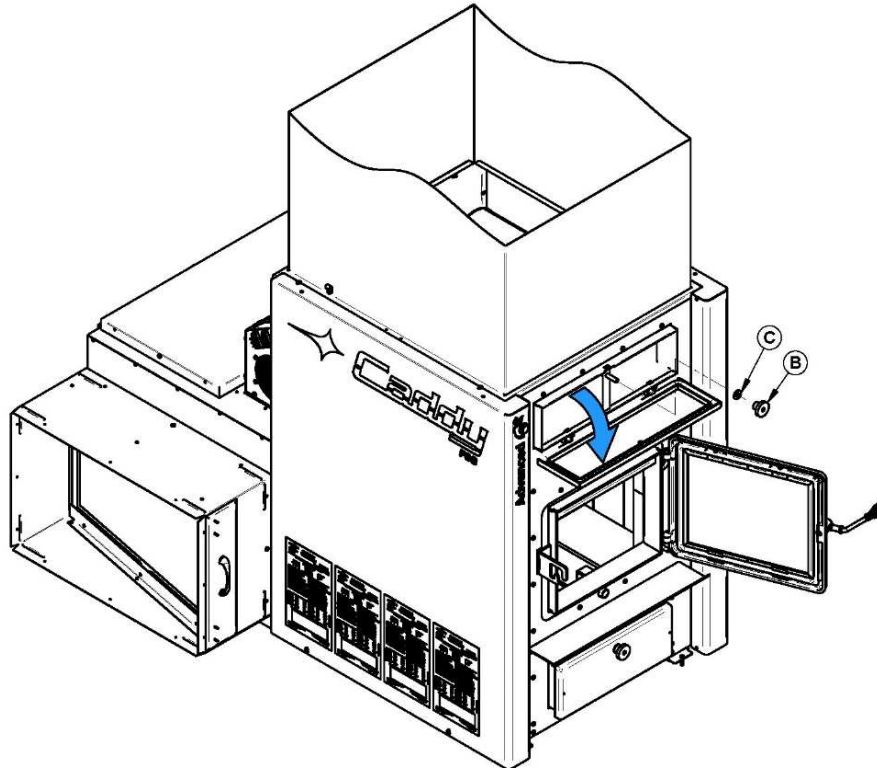
If the paint becomes scratched or damaged, you can give your wood furnace a brand-new look by repainting it with heat-resistant or enamel finish paint. Before painting, roughen the surface with fine sandpaper, wipe it down to remove dust, and apply two thin coats of paint. For best results, use the same paint that was originally used on the furnace, which is available in spray cans. See your dealer for details.

16.6 HEAT EXCHANGERS CARE

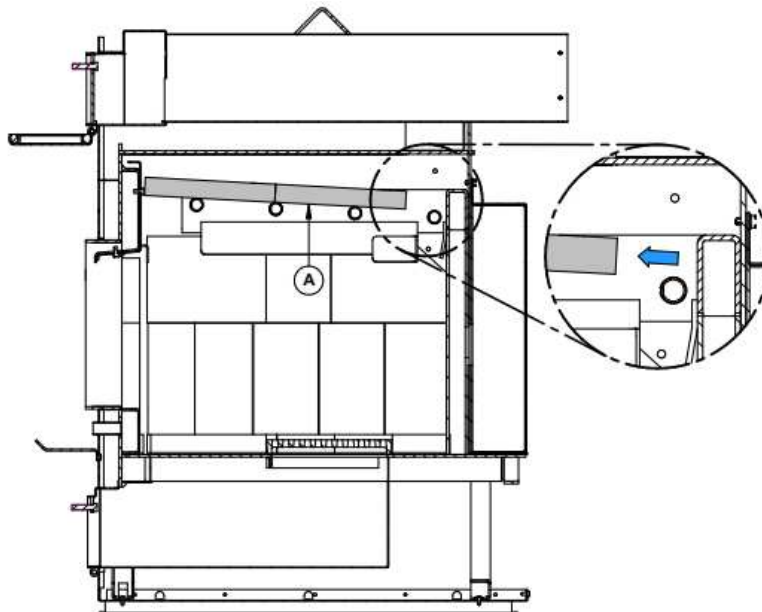
Heat exchangers must be cleaned thoroughly at the end of every heating season. During summer, the air in basements is damp with minimal air circulation within the furnace, it can mix with creosote and/or soot deposits in the exchangers to form an acid that could accelerate the corrosion process and induce premature decay of the steel. Corrosion damages are not covered under warranty.

Smoke pipe and exchangers must be inspected regularly during the heating season. Access to the exchangers is easy and does not require tools.

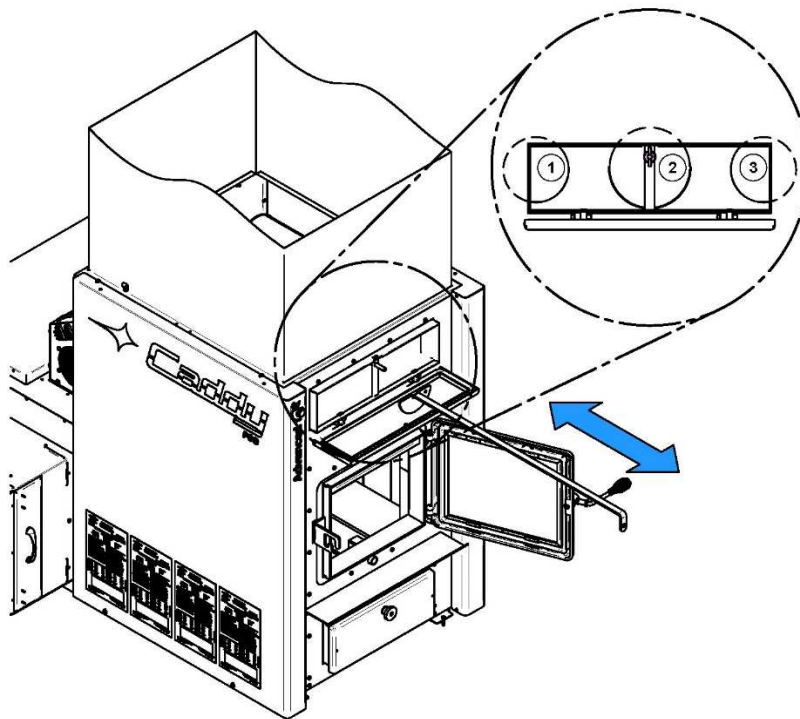
1. Unscrew the wing nut **(B)** and remove the washer **(C)** on the exchanger access door.



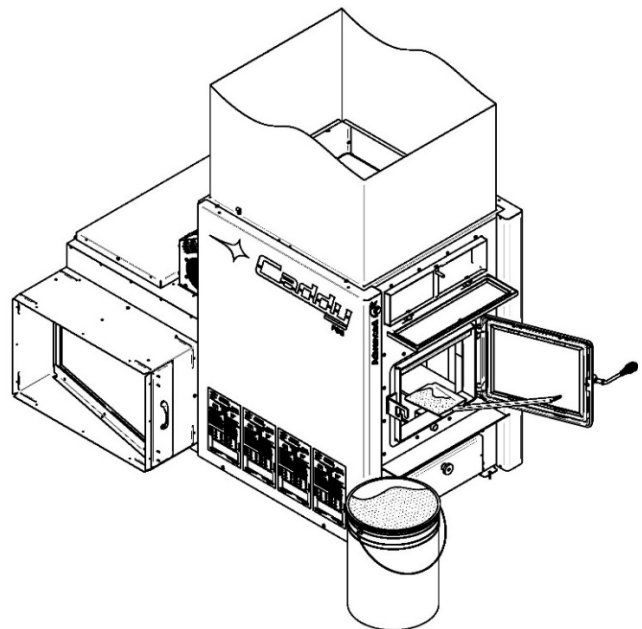
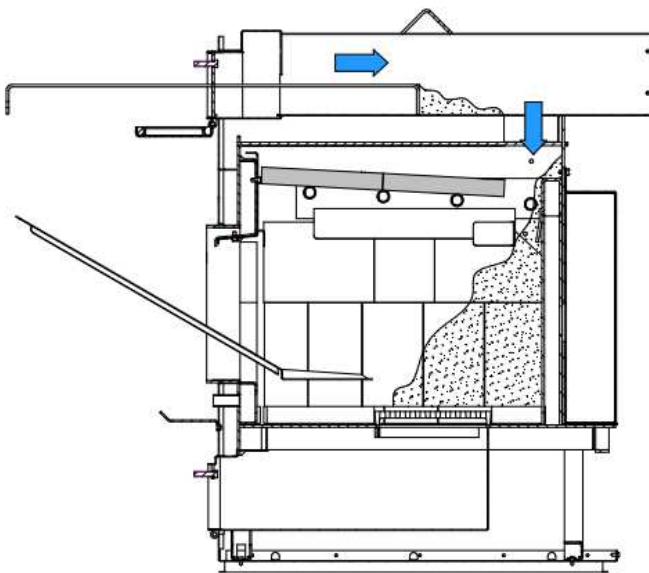
2. Move the baffle (A) of the combustion chamber forward.



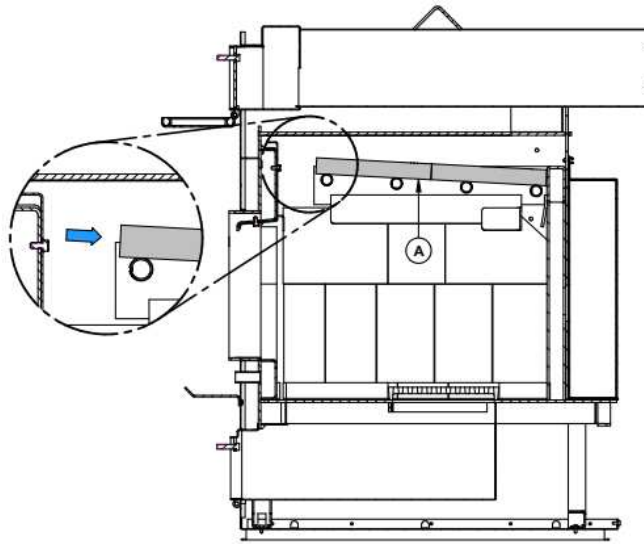
3. Use the tool provided, clean the three exchanger pipes.



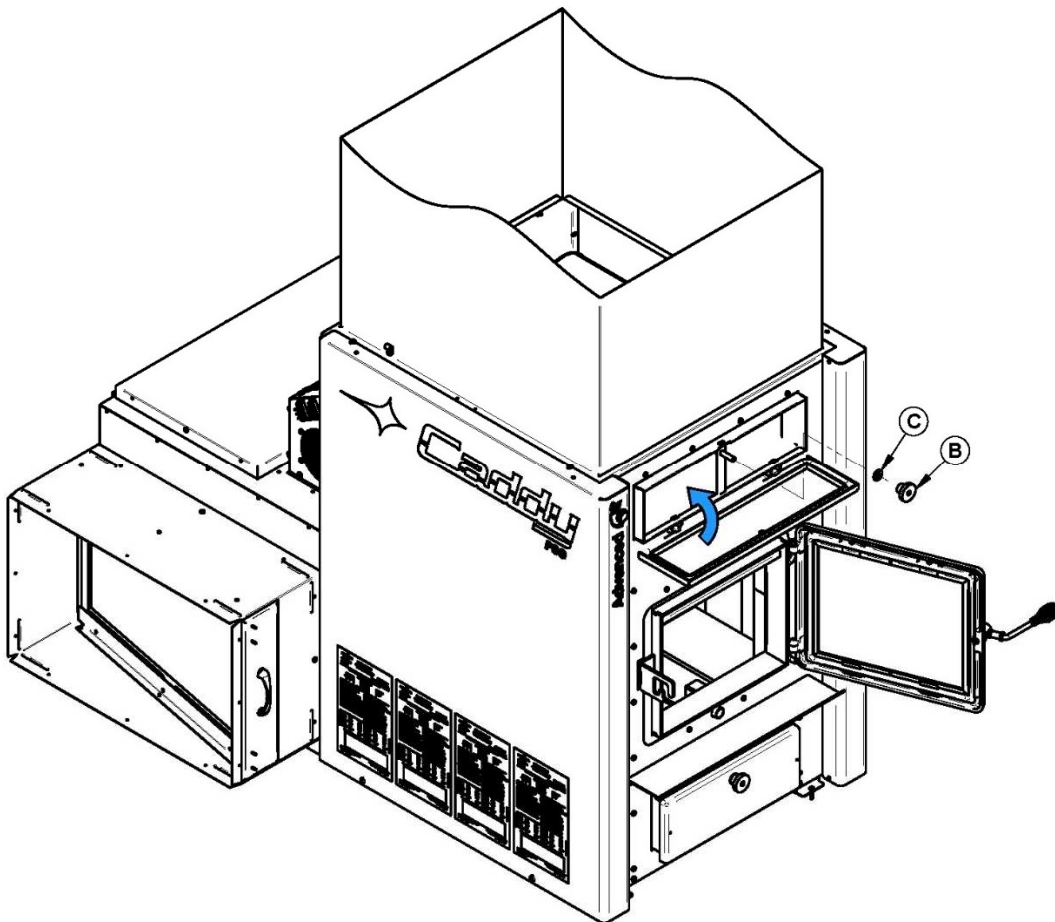
4. Dirt in the lateral exchangers (1 and 3) falls into the combustion chamber at the rear.



5. Dirt in the central exchanger (2) will be removed from the front or the rear of the furnace. If you remove dirt from the central exchange to the back of the furnace, remove the black pipe connector to dispose of the deposit.
6. Then, check that the baffle is clear of ash and reposition it in its original position towards the back of the combustion chamber. **Important to note that the furnace will not burn correctly if the baffle is out of place during use.**



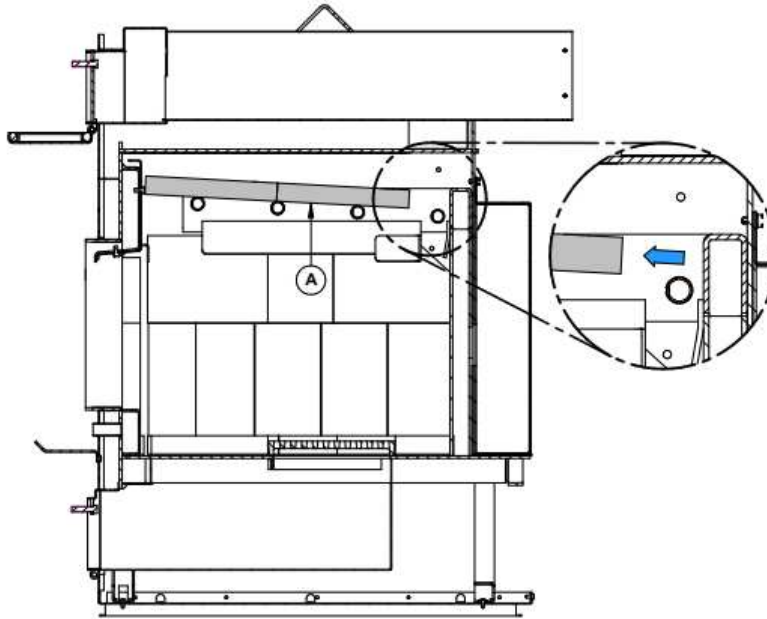
7. Close the exchanger access door and secure it using the washer (**C**) and wing nut (**B**).



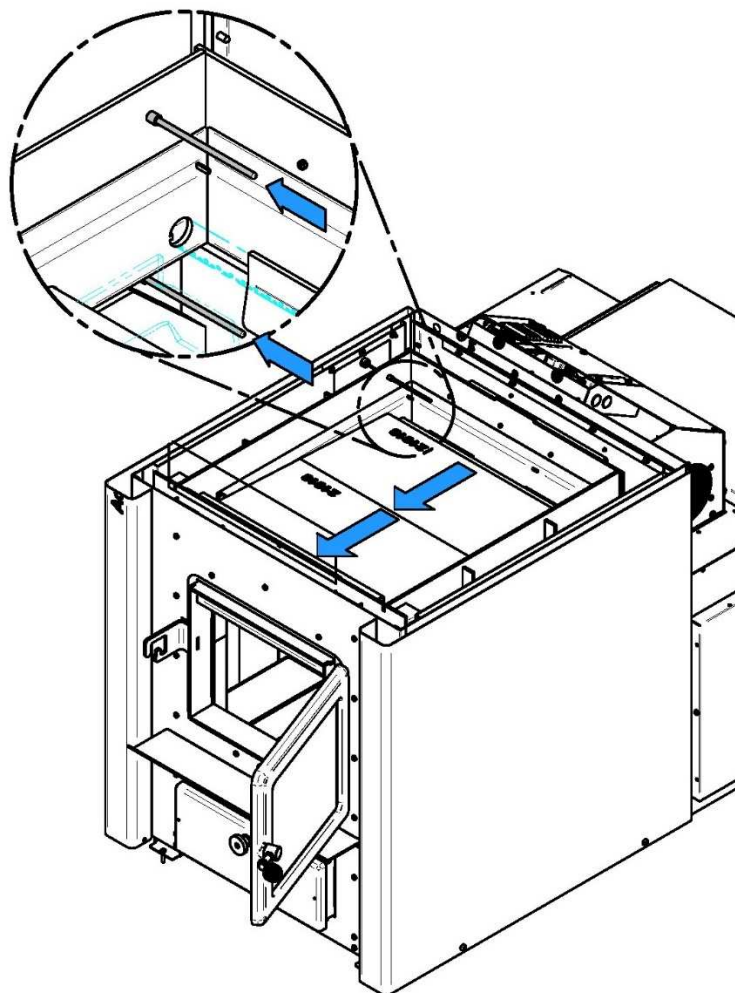
8. If you have performed the cleaning process by removing the chimney connector in the back of the furnace, be sure to reinstall the chimney connector with three screws at each connection.

16.7 THERMOCOUPLES CARE

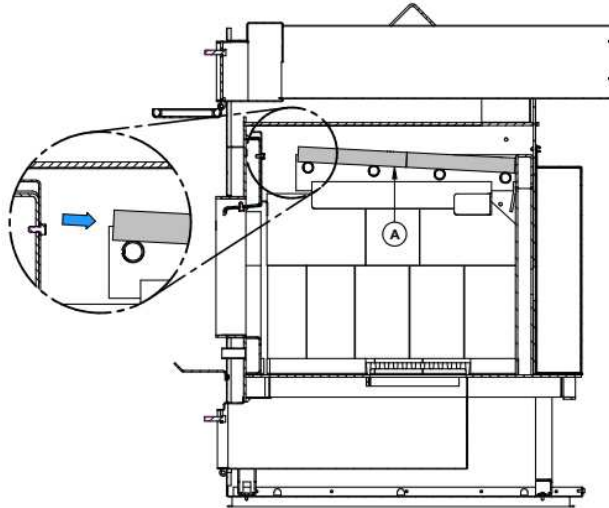
1. Move the baffle (A) of the combustion chamber forward.



2. With a brush, carefully clean the thermocouples.



3. Then, reposition the baffle in its original position towards the back of the combustion chamber. **Important to note that the furnace will not burn correctly if the baffle is out of place during use.**



16.8 CHIMNEY MAINTENANCE

Wood smoke can condense inside the chimney connector and chimney, forming a combustible deposit called creosote. If creosote is allowed to build up in the venting system, it can ignite when a hot fire is burned in the furnace and a very hot fire can progress to the top of the chimney. Severe chimney fires can damage even the best chimneys. Smoldering, smoky fires can quickly cause a thick layer of creosote to form. Avoid smoldering so the exhaust from the chimney is mostly clear with little or no visible smoke. Operating your furnace correctly will enable a clean burn thus reducing “creosote build-up”.

Cleaning frequency

It is not possible to predict how much or how quickly creosote will form in your chimney. It is important, therefore, to check the build-up in the chimney monthly until you determine the rate of creosote formation. Even if creosote forms slowly in your system, the chimney should be cleaned and inspected at least once each year.

Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

Cleaning the chimney

Be sure whomever cleans the chimney understands that there is a baffle in the furnace that requires special attention in the cleaning process. Chimney sweeping can be a difficult and dangerous job. People with no chimney sweeping experience will often prefer to hire a professional chimney sweep to inspect and clean the system for the first time. After seeing the cleaning process, some will choose to do it themselves.

The most common equipment used are fiberglass rods with threaded fittings and stiff plastic brushes. The brush is forced up and down inside the chimney flue to scrub off the creosote.

CAUTION! *Operation of your furnace without the baffle may cause unsafe and hazardous temperature conditions and will void the warranty.*

16.9 FIREBRICKS INSPECTION

Check firebricks to ensure that none are broken or damaged in any way. If so, have the damaged ones replaced.

16.10 SMOKE PIPE INSPECTION

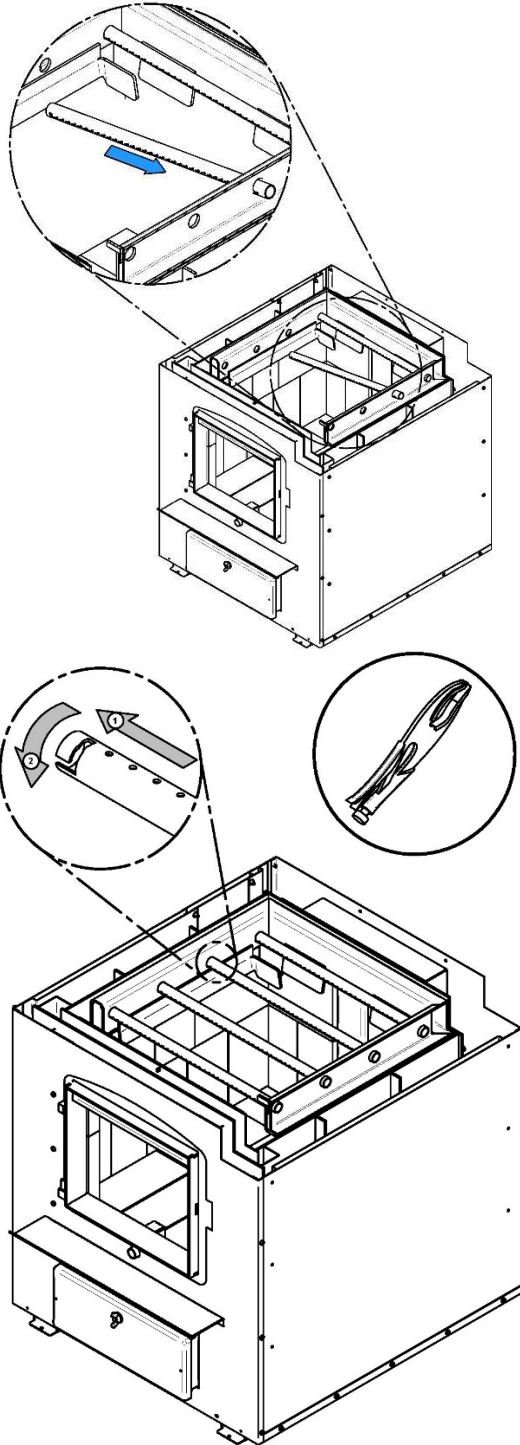
- The smoke pipe must be inspected regularly during the heating season.
- The pipe must be examined carefully to detect any defect or damage.
- The pipe can be reassembled if no defect is detected and defective pipe must be replaced immediately.
- **Inspect flue pipes, flue pipe joints, and flue pipe seals regularly to ensure that smoke and flue gases are not drawn into, and circulated by, the air-circulation system.**

16.11 BLOWER MOTOR MAINTENANCE

Periodic cleaning of the blower housing, impeller and louver as well as blower and blower blades using a vacuum cleaner provided for this purpose, is necessary in order not to affect performance and cause overheating of the system.

16.12 INSTALLATION OF SECONDARY AIR TUBES AND BAFFLE

The secondary air tubes can be replaced without removing the baffle board. Moreover, the 4 tubes are identical, so there is no need to worry about the position of each tube.



1- Starting with the rear tube, lean and insert the right end of the secondary air tube into the rear right channel hole. Then lift and insert the left end of the tube into the rear left channel.

2- Align the notch in the left end of the tube with the key of the left air channel hole. Using a “vise-grip” hold the tube and lock it in place by turning the tube as shown. Make sure the notch reaches the end of the keyway.

3- Repeat **step 1 & 2** for the other secondary air tubes.

4- To remove the tubes, use the above steps in reverse order.

17 TROUBLESHOOTING

When you have issues with your furnace, your first reaction may be to call technical support. This section will help you save time and money by enabling you to solve simple problems by yourself.

Most **common problems are generally caused by the following five factors:**

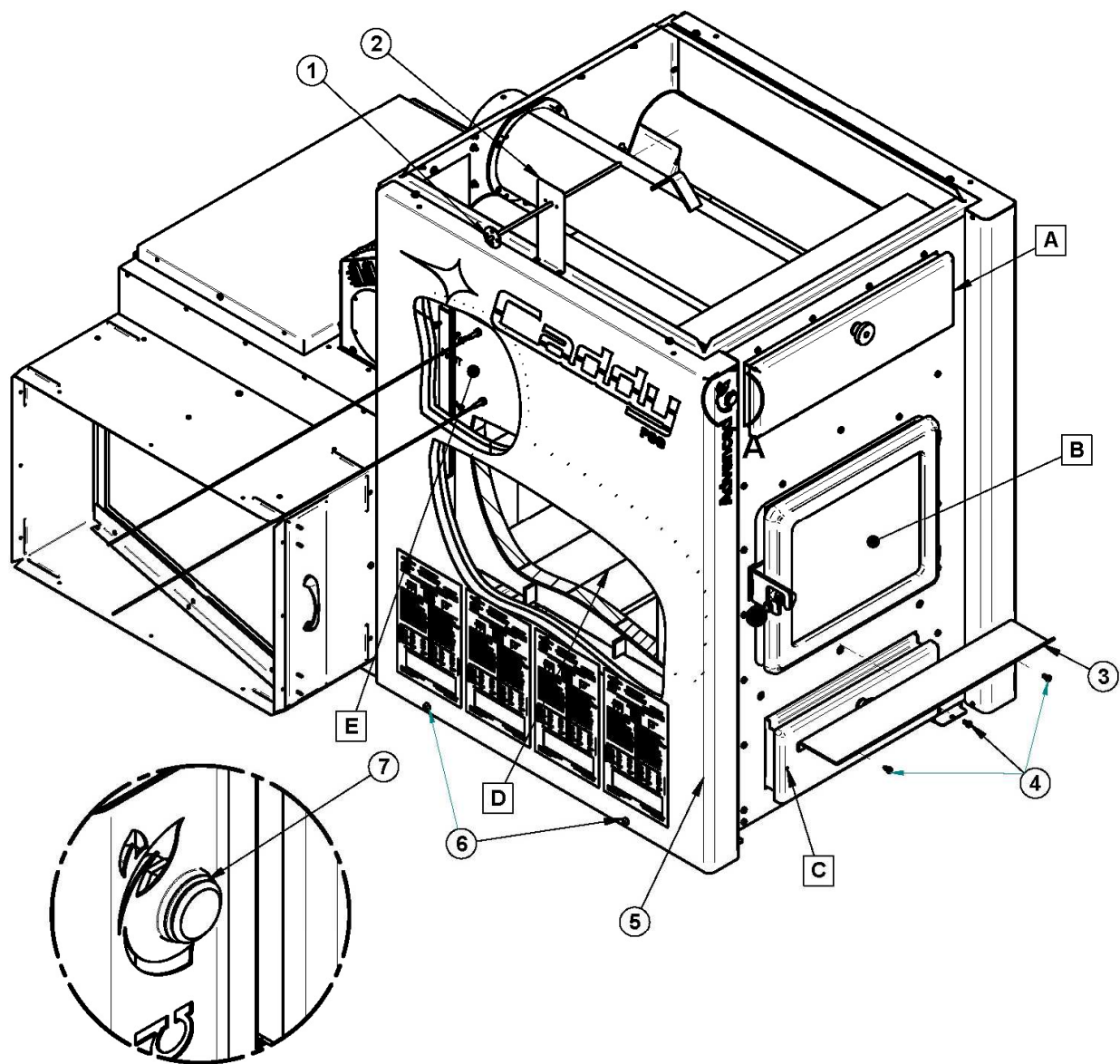
- Wrong operation or lack of maintenance
- Bad installation
- Poor quality combustible
- Component failure
- Factory defect

IF YOU NEED TO CONTACT YOUR DEALER OR TECHNICAL SUPPORT, MAKE SURE TO HAVE THE MODEL OF YOUR APPLIANCE AND THE SERIAL NUMBER ON HAND. (THEY CAN BE FOUND ON THE CERTIFICATION LABEL ON THE SIDE OF THE FURNACE).

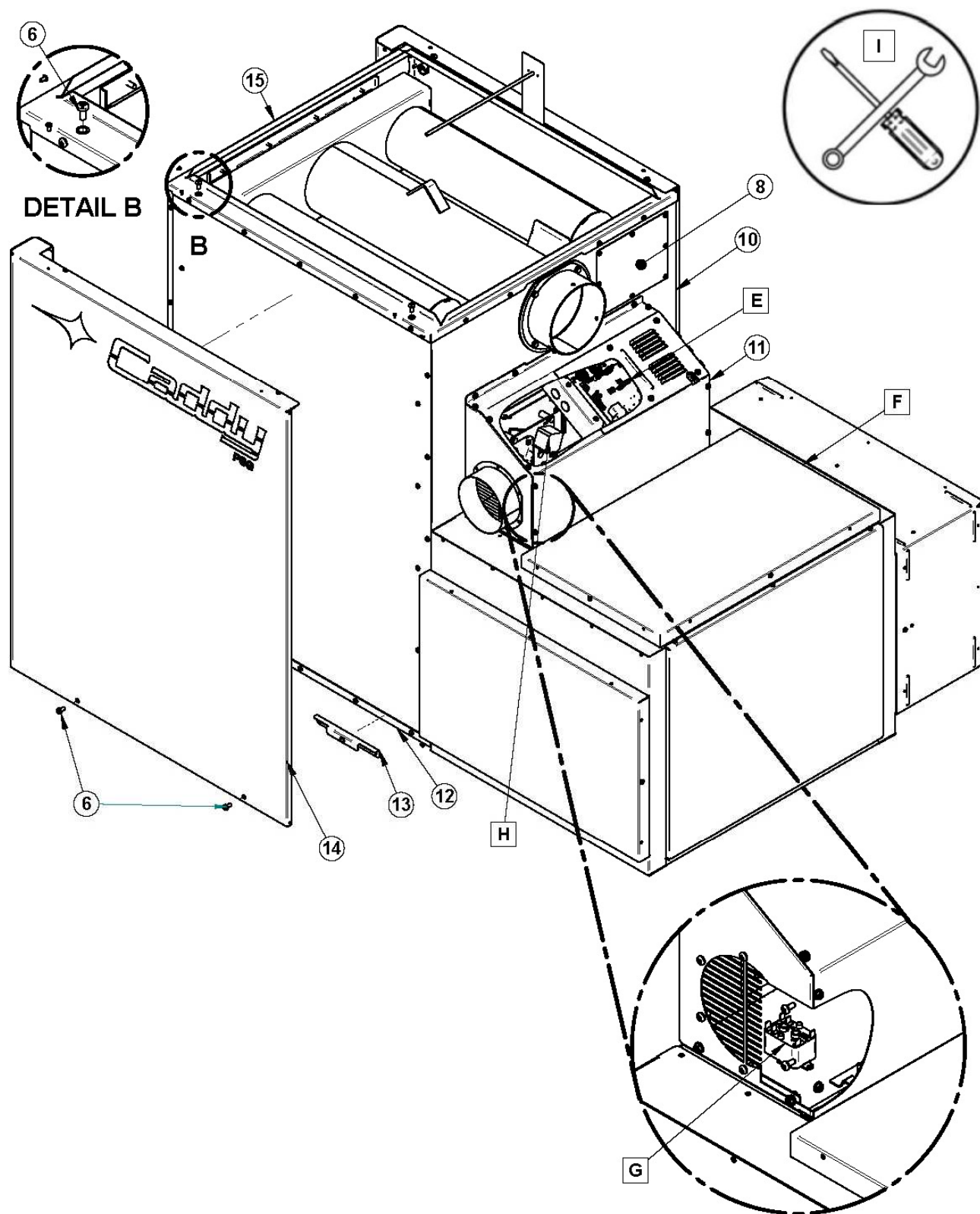
WARNING! RISK OF ELECTRIC SHOCK. IF YOU NEED TO MANUALLY TEST, HANDLE OR REPLACE A COMPONENT, THE FURNACE MUST BE DISCONNECTED FROM ITS POWER SUPPLY.

PROBLEM	CAUSES	SOLUTIONS
Heating inefficient during the first combustions. Lack of draft.	If installed, improper adjustment of the barometric damper (opened too wide). Chimney flue restriction (too long. 90° elbows).	<ul style="list-style-type: none">▪ Adjust the damper▪ Minimize the smoke pipe length and use of 45° elbows
Furnace burns well, warm air plenum is very hot but there is not much heat coming out in the room.	Improper installation of the ducts, low static pressure, unbalanced system (too many warm air outlets and not enough fresh air return).	<ul style="list-style-type: none">▪ Rearrange the ducting to respect the minimum static pressure of 0.20 in. W.C. (50 Pa) in the plenum
Furnace consumes a lot of wood.	The thermostat always calls for heat or is too close to a source of cold air. Air controls not properly adjusted. House not insulated enough. Furnace and ash drawer door not airtight. Furnace too small for the surface to be heated. Unbalanced ventilation system.	<ul style="list-style-type: none">▪ Relocate the thermostat▪ Rebalance the ventilation system to increase the air flow in the room where the thermostat is located▪ Check tightness of air controls, furnace and ash drawer door
A lot of creosote, moderate heat output.	Wet wood, lack of draft. Barometric damper not properly adjusted. Restriction in the furnace or chimney.	<ul style="list-style-type: none">▪ Use dry wood▪ Adjust the barometric damper▪ Clean the chimney, flue pipe and the furnace exchangers
Furnace heats a lot but the warm air duct does not get hot.	No static pressure. Unbalanced ventilation system. Wet wood or low grade wood.	<ul style="list-style-type: none">▪ Use dry wood▪ Rearrange the ventilation system correctly
Reload button LED blinking fast.	Unit is overheating	<ul style="list-style-type: none">▪ Leave the door closed, do not add more wood and wait for the end of combustion▪ Check the door and the ash drawer door for leaks▪ Excessive chimney draft. Check the tightness of the air controls
Primary air controls never opens.	Furnace is not plugged-in or an electrical component is faulty.	<ul style="list-style-type: none">▪ Make sure the furnace is plugged-in a functional power outlet▪ Test and replace if necessary, control switch, thermostat, and air control motor.

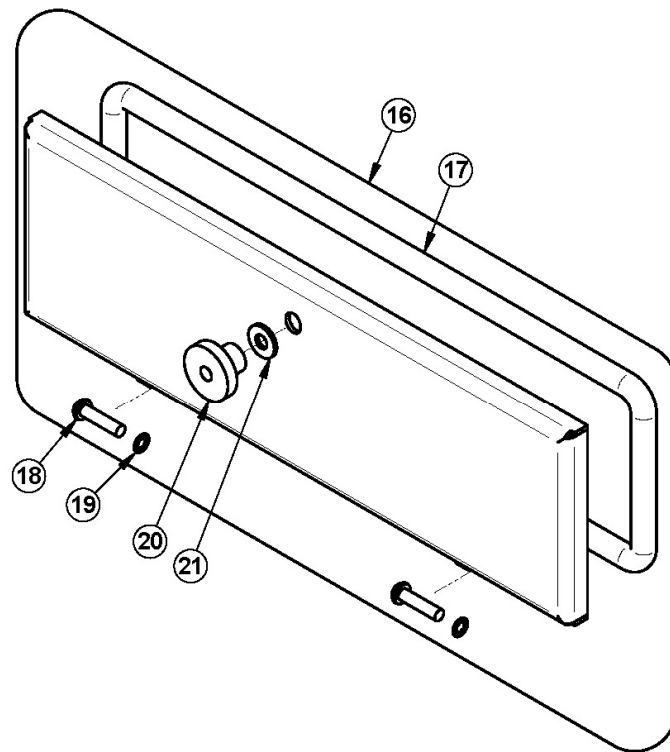
18 EXPLODED DIAGRAM AND PARTS LIST



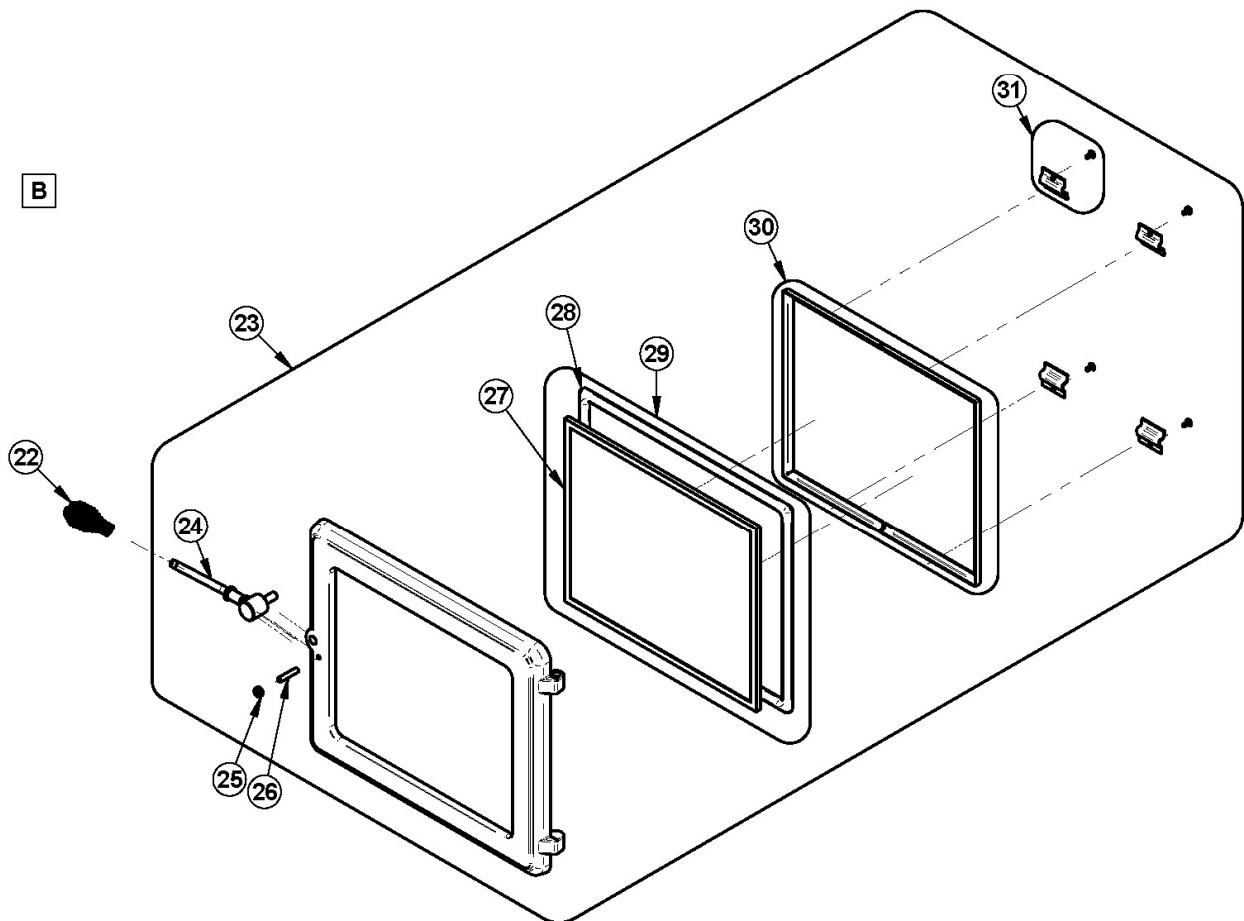
DETAIL A



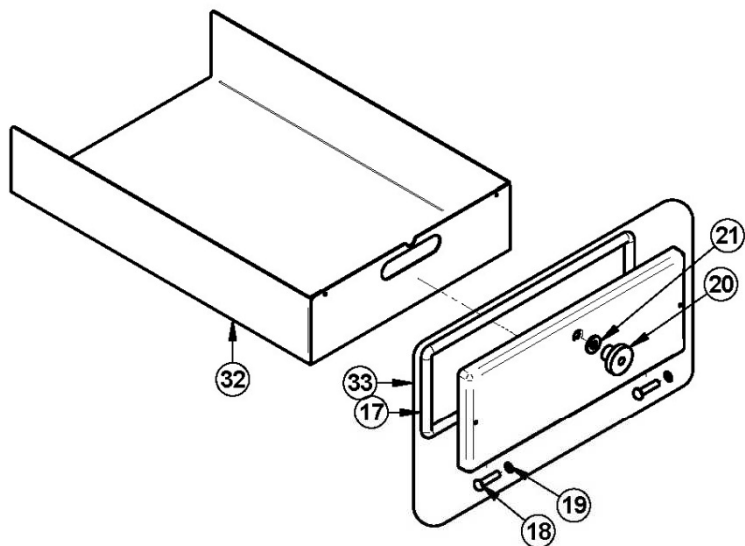
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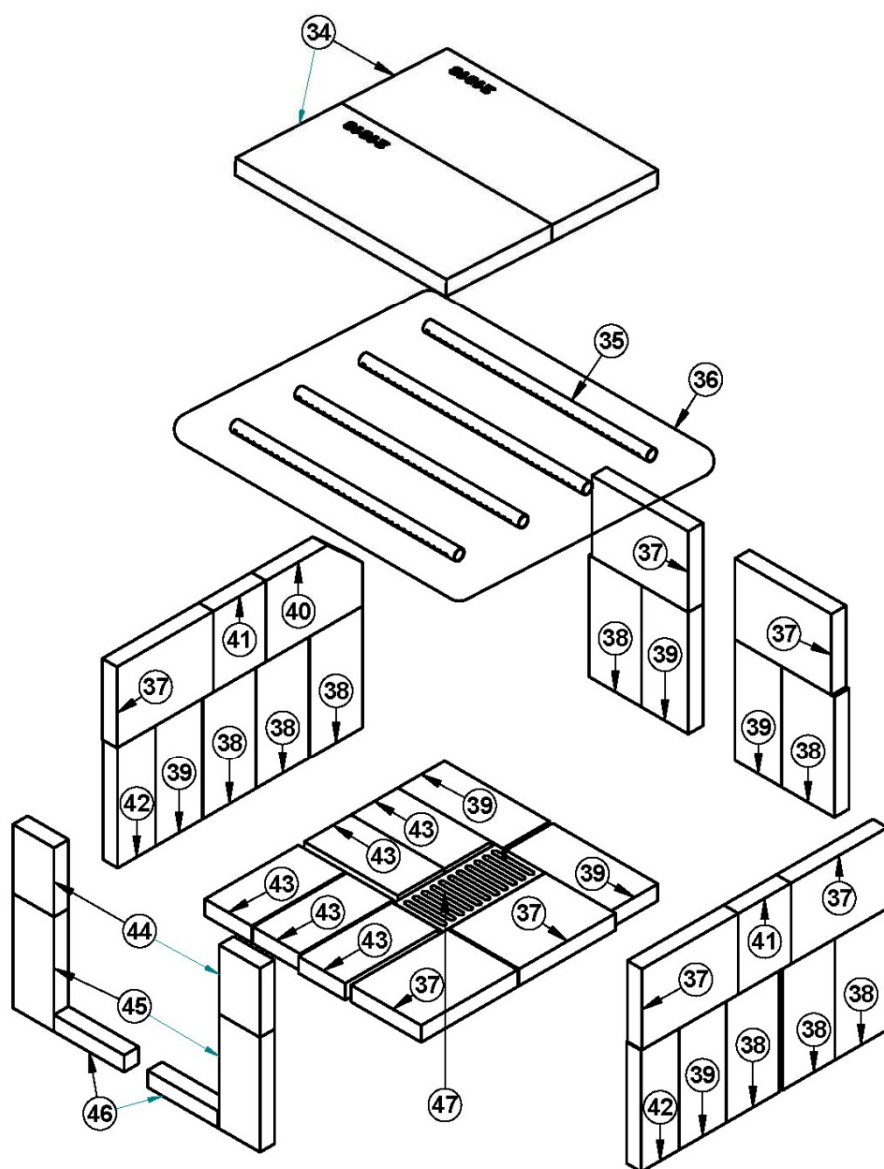
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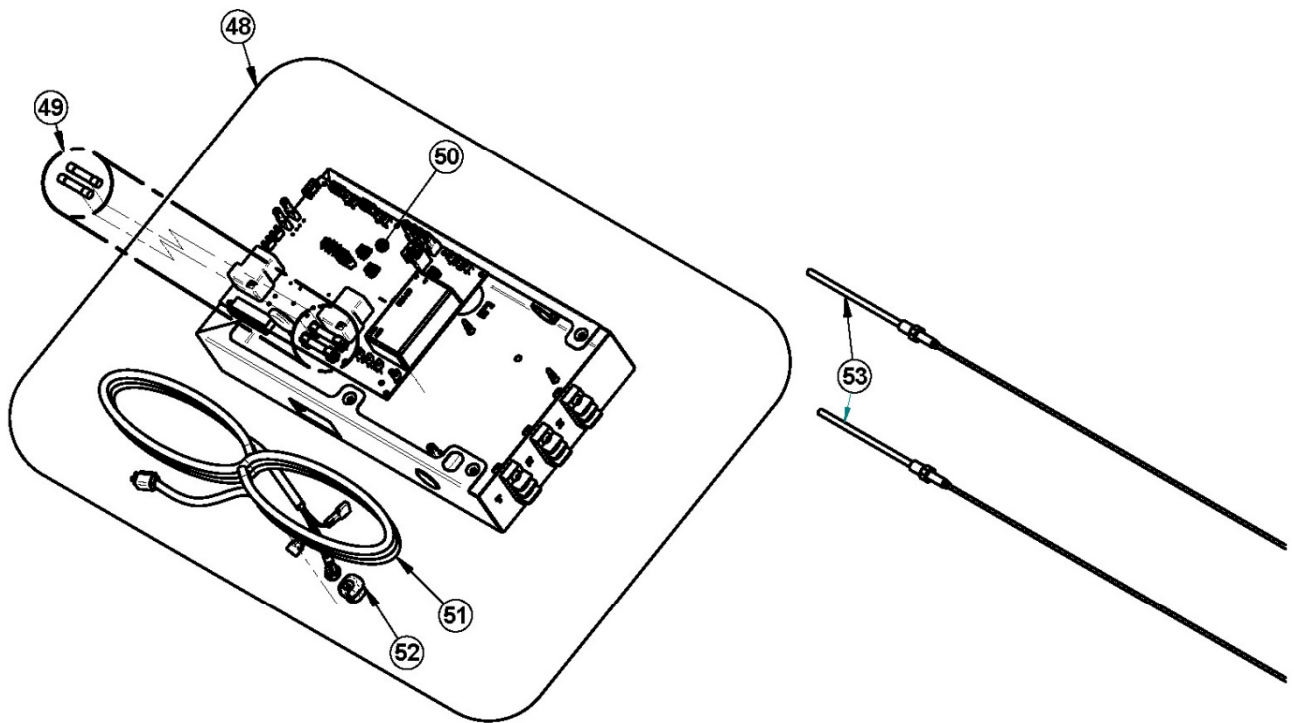
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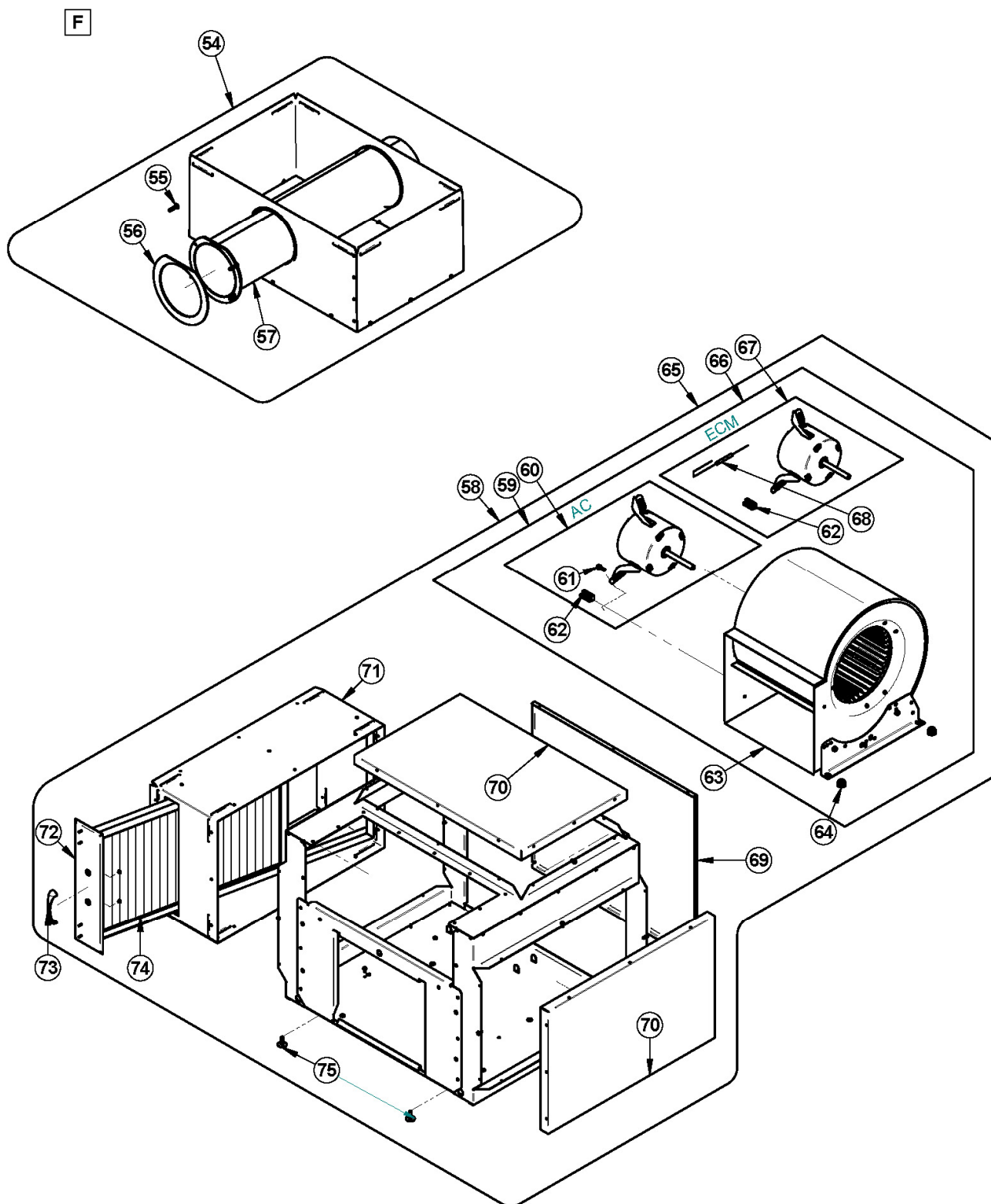


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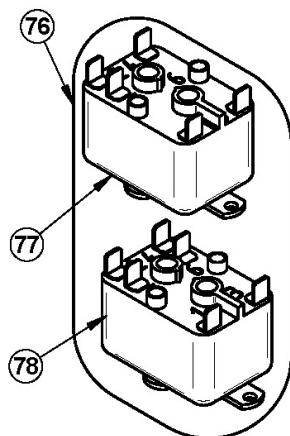


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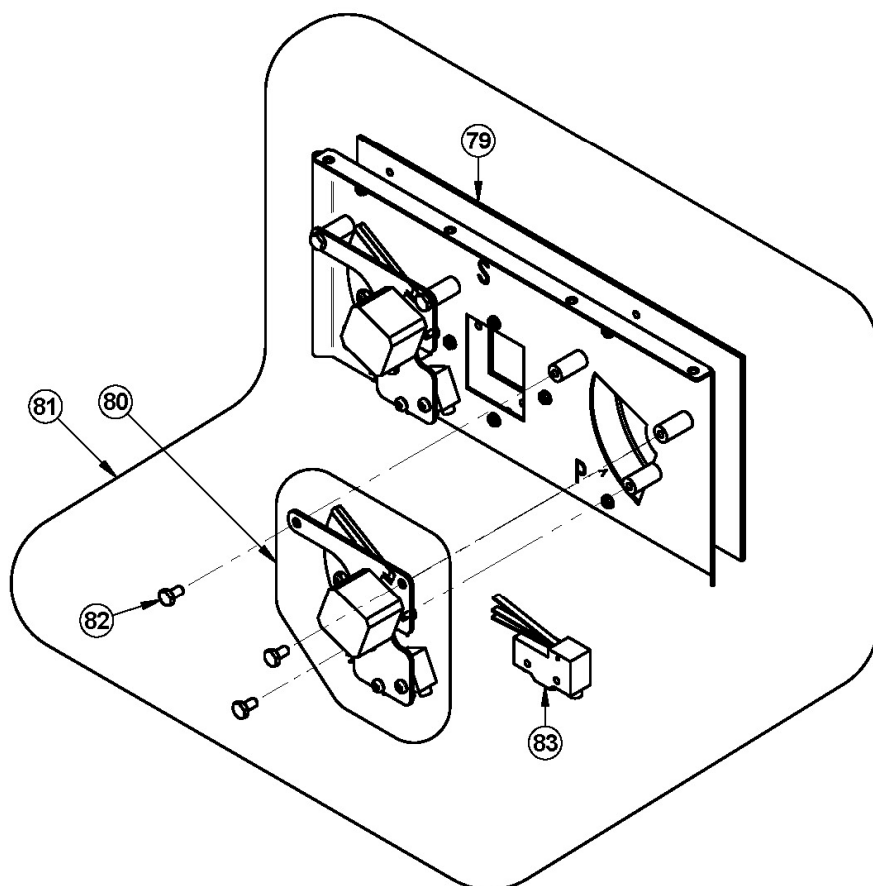


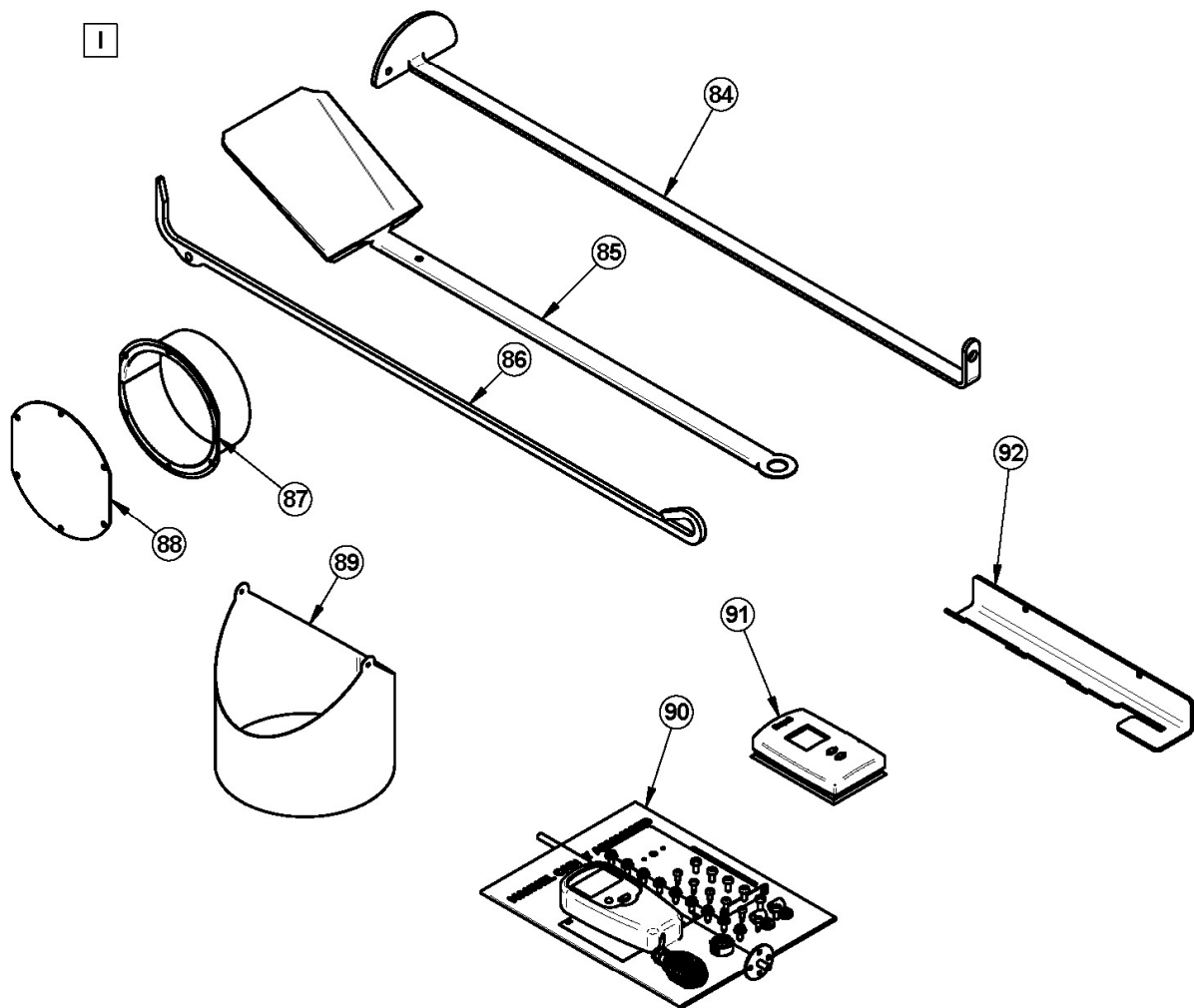


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H





IMPORTANT: THIS IS DATED INFORMATION. When requesting service or replacement parts for your furnace, please provide the model and the serial number. We reserve the right to change parts due to technology upgrade or availability. Contact an authorized dealer to obtain any of these parts. Never use substitute materials. Use of non-approved parts can result in poor performance and safety hazards.

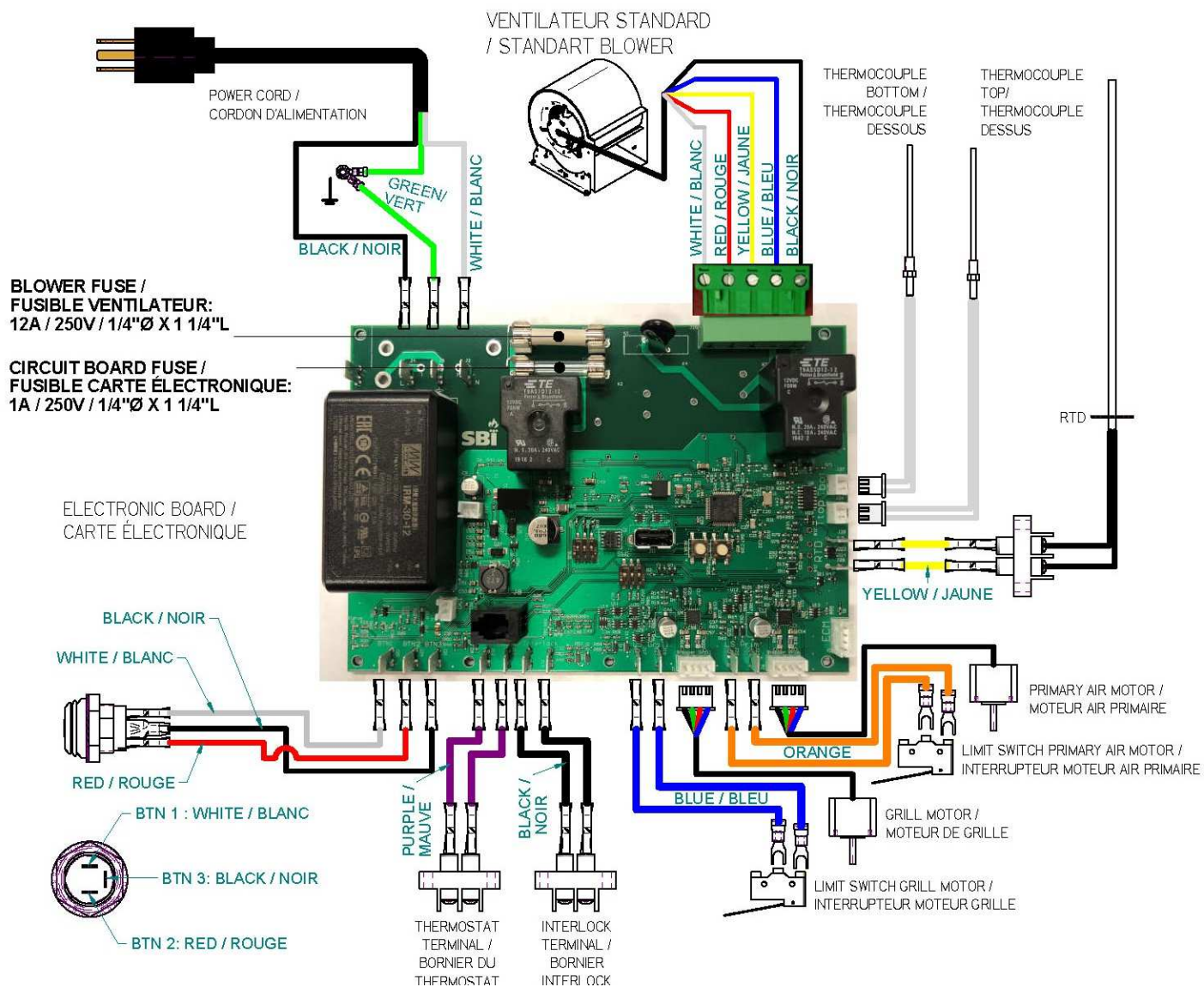
#	ITEM	DESCRIPTION	QTY
1	44096	100 OHM RTD PROBE 38" WIRE	1
2	PL48258	RTD SUPPORT BRACKET	1
3	PL56276	ASH SHELF	1
4	30154	BLACK SCREW #10 X 5/8" QUADREX #2 TYPE A	3
5	SE66244	LEFT SIDE PANELS KIT	1
6	30025	1/4-20 X 1/2" PAN-HEAD QUADREX BLACK SCREW	6
7	44241	SWITCH PUSH SPST-NO 10A 14V	1
8	PL66211	THERMOCOUPLE ACCESS PANEL	1
10	PL66225	FURNACE'S BACK	1
11	SE66231	ASSEMBLED AIR INTAKE SUPPORT	1
12	SE66160	AIR JACKET FLOOR ASSEMBLY	1
13	SE66246	PANEL ATTACHMENT SYSTEM	1
14	SE66245	RIGHT SIDE PANELS KIT	1
15	PL66260	FURNACE TOP	1
16	SE66176	HEAT EXCHANGER ACCESS DOOR	1
17	AC06900	BLACK 1/2" ROUND X 9' GASKET KIT WITH ADHESIVE	2
18	30168	HINGE PIN 5/16"Ø X 1 1/4"L	4
19	30055	HINGE PIN RETAINING RING 5/16" ID X 0.512" OD	4
20	30799	STEEL ROUND KNOB, 3/8"-16 THREADED	2
21	30210	WASHER 29/32" OD X 3/8" ID ZINC	2
22	AC07869	3/8" BLACK COIL HANDLE	1
23	SE24008-01	CAST IRON DOOR WITH HANDLE	1
24	AC09151	REPLACEMENT HANDLE KIT	1
25	30100	BLACK HEX NUT 1/4 - 20	1
26	30128	SOCKET SET SCREW 1/4"-20 X 1 1/4"	1
27	SE51352	GLASS WITH GASKET - 13 1/8"W X 10 7/8"H	1
28	AC06725	GLUE AND 3/4" X 7' WHITE DOOR GASKET KIT	1
30	SE51349	GLASS RETAINER KIT	1
31	SE51351	GLASS RETAINER FIXING KIT FOR FRAME	1
32	PL66175	ASH PAN	1
33	SE48054	HEAT EXCHANGER ACCESS DOOR	1
34	21618	C-CAST FIREWALL - 9.062" X 13.031" X 1.250"	2
35	PL66163	SECONDARY AIR TUBE	4
36	SE66163	SECONDARY AIR TUBES KIT	1
37	29005	6" X 8 1/4" X 1 1/4" REFRACTORY BRICK HD	7
38	29020	4 1/2" X 9" X 1 1/4" REFRACTORY BRICK HD	8
39	29011	4" X 9" X 1 1/4" REFRACTORY BRICK HD	6
40	PL66192	6" X 8 1/4" X 1 1/4" HD REFRACTORY BRICK	1
41	PL66190	HD 4 1/2" X 6" X 1 1/4" REFRACTORY BRICK	2
42	PL36102	3 1/4" X 9" REFRACTORY BRICK	2
43	29001	4" X 8" X 1 1/4" REFRACTORY BRICK HD	5

#	ITEM	DESCRIPTION	QTY
44	PL36116	3 1/2" X 5 1/8" X 1 1/4" REFRACTORY BRICK	2
45	PL36266	3 1/2" X 8 1/2" X 1 1/4" REFRACTORY BRICK	2
46	PL66191	1 1/4" X 6" X 1 1/4" HD REFRACTORY BRICK	2
47	24089	CAST IRON ASH GRATE 4 1/2" X 9"	1
48	SE66237	CONTROL BOARD ASSEMBLY	1
49	SE44137	CADDY ADVANCED FUSES KIT	1
50	PL66213	CONTROL BOARD	1
51	60013	POWER CORD 96" X 18-3 type SJT (50 pcs per carton)	1
52	60008	BLACK NYLON BUSHING	1
53	60413	TYPE K UNGROUNDED THERMOCOUPLE	2
54	PA08506	TOP AIR RETURN PLENUM KIT	1
55	30109	BOLT HEX 1/4 - 20 X 1"	1
56	21221	CHIMNEY ADAPTER GASKET	1
57	SE66267	ASSEMBLED EXHAUST PIPE	1
58	PA08585	BLOWER BOX WITH REGULAR MOTOR	1
59	SE48245	G10 BLOWER ASSEMBLY WITH 1/3HP MOTOR (115V/5A/575W)	1
60	51003	1/3 HP 4 SPEED MOTOR FOR G-10 DD	1
61	30094	HEX SCREW WASHER HEAD 1/4-20 X 3/4" F ZINC TYPE	1
62	44186	5 POSITIONS TERMINAL BLOCK	2
63	51011	BLOWER HOUSING G-10 DD	1
64	30335	BLOWER ANTI-VIBRATION CUSHION	4
65	PA08586	BLOWER BOX WITH ECM MOTOR	1
66	SE66250	G10 BLOWER ASSEMBLY WITH 1/3HP ECM MOTOR (115V/5A/575W)	1
67	51055	1/2 HP NANFENG ECM MOTOR	1
68	60436	WIRE WITH FUSE 10A ECM MOTOR	1
69	PL66230	BLOWER ACCESS PANEL	1
70	PL48215	BLOWER BOX SIDE PANEL	2
71	SE48216	DUCT SUPPORT ASSEMBLY	1
72	SE48217	FILTER SUPPORT ASSEMBLY	1
73	SE28062	HANDLE KIT	1
74	21367	CARDBOARD AIR FILTER 25" X 14" X 1"	1
75	30536	LEVELING BOLT 1/4 - 20 X 1"	2
76	PA08523	WIRING KIT FOR SERIAL INSTALLATION	1
77	51035	90-370 FAN RELAY	1
78	51019	FAN RELAY 90-382 6 PINS	1
79	21621	AIR ENTRY HATCH GASKET	1
80	SE66194	COMPLETE DAMPER ASSEMBLY	1
81	SE66193	DAMPER ASSEMBLY	1
82	30084	NUT 1/4-20 X 1/2" GRADE 5	3
83	44190	LIMIT SWITCH	1
84	PL48170	HEAT EXCHANGER SCRAPER	1
85	PL48171	ASH SHOVEL	1
86	PL48173	POKER	1
87	SE66198	FRESH AIR INTAKE ADAPTER	1
88	PL66200	AIR INTAKE COVER	1

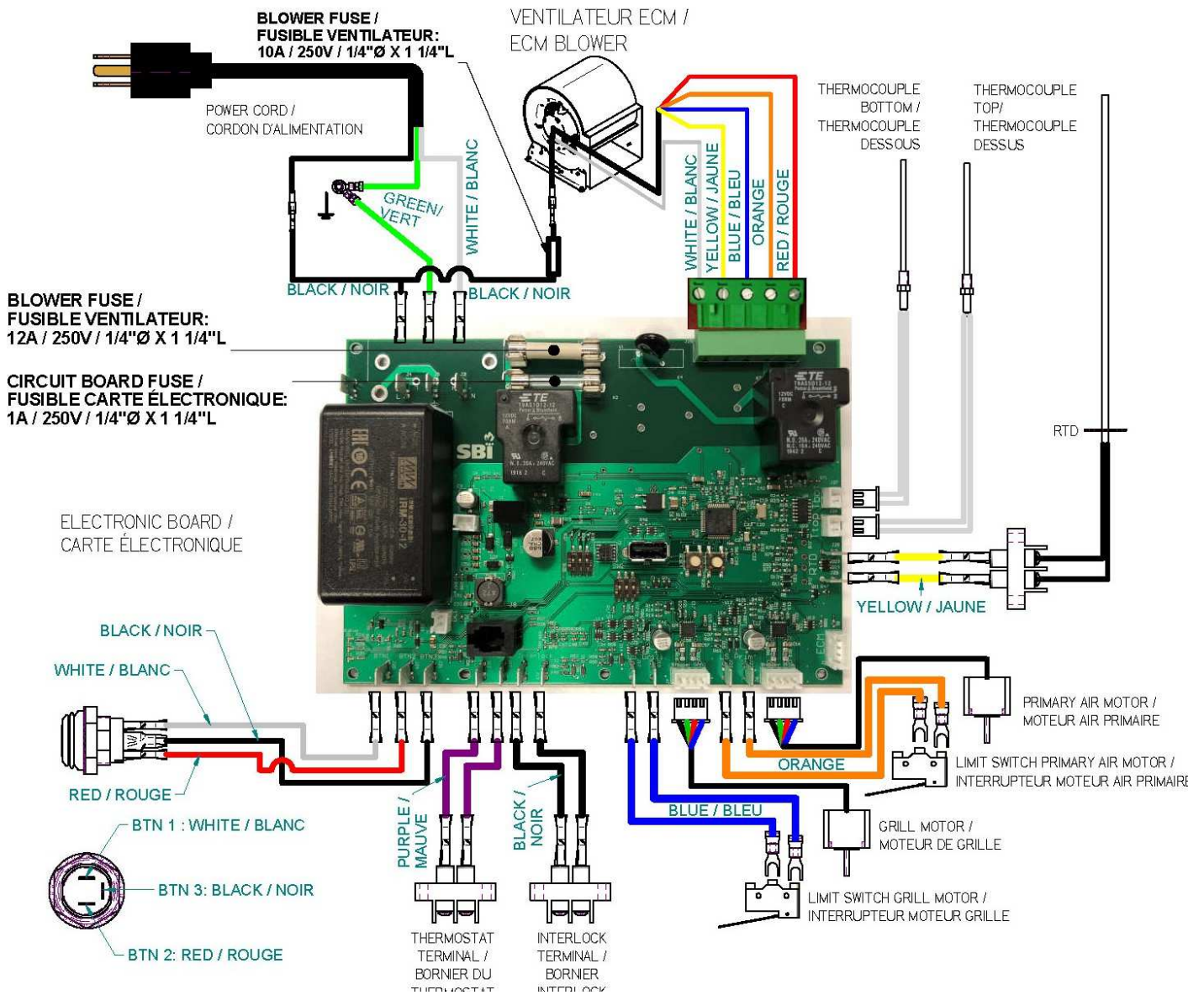
#	ITEM	DESCRIPTION	QTY
89	51018	BAROMETRIC DAMPER 6", 7" AND 8"	1
90	SE46245	CADDY ADVANCED MANUAL KIT	1
91	44189	THERMOSTAT	1
92	PL66268	TOOL HOLDER	1

19 ELECTRICAL DIAGRAM

19.1 BLOWER BOX WITH REGULAR MOTOR



19.2 BLOWER BOX WITH ECM MOTOR



20 WHY PURCHASE THROUGH AN AUTHORIZED CADDY DEALER?

To make sure your Caddy furnace provides comfort and energy savings in your home for many years, your choice of installer is extremely important. An authorized Caddy dealer will ensure that the system is optimized and installed according to standards. Given the importance of the installation, Caddy recommends that it is carried out by a professional certified in the Building Code so that the furnace delivers its full potential. This is why Caddy offers an additional warranty that covers the cost of labor if your furnace has been purchased through an authorized Caddy dealer.

If you want to enjoy the best service on the market and substantial savings on heating costs, there is really only one choice: an Authorized Caddy Dealer.

CADDY LIMITED LIFETIME WARRANTY (REGULAR)

The warranty of the manufacturer extends only to the original consumer purchaser and is not transferable. This warranty covers brand new products only, which have not been altered, modified nor repaired since shipment from factory. Proof of purchase (dated bill of sale), model name and serial number must be supplied when making any warranty claim to your Caddy dealer.

This warranty applies to normal residential use only. Damages caused by misuse, abuse, improper installation, lack of maintenance, over firing, negligence or accident during transportation, power failures, downdrafts, or venting problems are not covered by this warranty.

This warranty does not cover any scratch, corrosion, distortion, or discoloration. Any defect or damage caused by the use of unauthorized parts or others than original parts void this warranty. An authorized qualified technician must perform the installation in accordance with the instructions supplied with this product and all local and national building codes. Any service call related to an improper installation is not covered by this warranty.

The manufacturer may require that defective products be returned or that digital pictures be provided to support the claim. Returned products are to be shipped prepaid to the manufacturer for investigation. If a product is found to be defective, the manufacturer will repair or replace such defect. Transportation fees to ship the product back to the purchaser will be paid by the manufacturer. All parts costs covered by this warranty are limited according to the table below.

The manufacturer at its discretion may decide to repair or replace any part or unit after inspection and investigation of the defect. The manufacturer may, at its discretion, fully discharge all obligations with respect to this warranty by refunding the wholesale price of any warranted but defective parts. The manufacturer shall in no event be responsible for any special, indirect, consequential damages of any nature, which are in excess of the original purchase price of the product. **A one-time replacement limit applies to all parts benefiting from a lifetime coverage.** This warranty applies to products purchased after April 1st, 2013.

DESCRIPTION	WARRANTY APPLICATION	
	PARTS	LABOUR
Castings, combustion chamber (welds only), castings, and heat exchanger (welds only)	Lifetime**	N/A
Stainless steel firebox components, secondary air tubes*, surrounds and heat shields and ash drawer	5 years**	N/A
Carbon steel firebox components, glass retainers, handle assembly, vermiculite, C-Cast or equivalent baffle*	3 years**	N/A
Oil burner, electrical elements, blowers, heat sensors, switches, rheostat, relays, damper motor, fan limit control, PC board, wiring, and other controls	2 years	N/A
Ceramic glass (thermal breakage only*), paint (peeling), gaskets, insulation, and ceramic fibre blankets	1 year	N/A
Firebrick	N/A	N/A
All parts replaced under the warranty	90 days	N/A

*Pictures required ** Limited to one replacement

Shall your unit or a components be defective, contact immediately your Caddy dealer. Prior to your call make sure you have the following information necessary to your warranty claim treatment:

- ✓ Your name, address and telephone number
- ✓ Bill of sale and dealer's name
- ✓ Installation configuration
- ✓ Nature of the defect and any relevant information
- ✓ Serial number and model name as indicated on the nameplate fixed to the back of your unit

Before shipping your unit or defective component to our plant, you must obtain from your Caddy dealer an Authorization Number. Any merchandise shipped to our plant without authorization will be refused automatically and returned to sender.

CADDY LIMITED LIFETIME WARRANTY (PRIVILEGE)

The warranty of the manufacturer extends only to the original consumer purchaser and is not transferable. This warranty covers brand new products only, which have not been altered, modified nor repaired since shipment from factory and purchased through an authorised dealer. Proof of purchase (dated bill of sale), model name and serial number must be supplied when making any warranty claim to your Caddy dealer.

This warranty applies to normal residential use only. Damages caused by misuse, abuse, improper installation, lack of maintenance, over firing, negligence or accident during transportation, power failures, downdrafts, or venting problems are not covered by this warranty.

This warranty does not cover any scratch, corrosion, distortion, or discoloration. Any defect or damage caused by the use of unauthorized parts or others than original parts void this warranty. An authorized qualified technician must perform the installation in accordance with the instructions supplied with this product and all local and national building codes. Any service call related to an improper installation is not covered by this warranty.

The manufacturer may require that defective products be returned or that digital pictures be provided to support the claim. Returned products are to be shipped prepaid to the manufacturer for investigation. If a product is found to be defective, the manufacturer will repair or replace such defect. Transportation fees to ship the product back to the purchaser will be paid by the manufacturer. Repair work covered by the warranty, executed at the purchaser's domicile by an authorized qualified technician requires the prior approval of the manufacturer. Labour cost and repair work to the account of the manufacturer are based on predetermined rate schedule and must not exceed the wholesale price of the replacement part. All parts and labour costs covered by this warranty are limited according to the table below.

The manufacturer at its discretion may decide to repair or replace any part or unit after inspection and investigation of the defect. The manufacturer may, at its discretion, fully discharge all obligations with respect to this warranty by refunding the wholesale price of any warranted but defective parts. The manufacturer shall in no event be responsible for any special, indirect, consequential damages of any nature, which are in excess of the original purchase price of the product. **A one-time replacement limit applies to all parts benefiting from a lifetime coverage.** This warranty applies to products purchased after April 1st, 2013.

DESCRIPTION	WARRANTY APPLICATION	
	PARTS	LABOUR
Castings, combustion chamber (welds only), castings, and heat exchanger (welds only)	Lifetime**	3 years
Stainless steel firebox components, secondary air tubes*, surrounds, heat shields and ash drawer	5 years**	3 years
Carbon steel firebox components, glass retainers, handle assembly, vermiculite, C-Cast or equivalent baffle*	3 years**	1 year
Oil burner, electrical elements, blowers, heat sensors, switches, rheostat, relays, damper motor, fan limit control, PC board, wiring, and other controls	2 years	1 year
Ceramic glass (thermal breakage only*), paint (peeling), gaskets, insulation, and ceramic fibre blankets	1 year	N/A
Firebrick	N/A	N/A
All parts replaced under the warranty	90 days	N/A

***Pictures required ** Limited to one replacement**

Shall your unit or a components be defective, contact immediately your **Caddy** dealer. Prior to your call make sure you have the following information necessary to your warranty claim treatment:

- ✓ Your name, address and telephone number
- ✓ Bill of sale and dealer's name
- ✓ Installation configuration
- ✓ Serial number and model name as indicated on the nameplate fixed to the back of your unit
- ✓ Nature of the defect and any relevant information.

Before shipping your unit or defective component to our plant, you must obtain from your Caddy dealer an Authorization Number. Any merchandise shipped to our plant without authorization will be refused automatically and returned to sender.