



**USER MANUAL /  
MANUAL D'UTILISATION**

**Q-Tee II C SST USA**

**RAIS<sup>®</sup>**  
ART OF  FIRE

## FIRE ENVIRONMENTALLY FRIENDLY!

5 Eco-friendly advices for sensible heating

- common sense both environmentally and economically.

1. Effective lighting. Use small pieces of wood (fir tree) and a suitable fire lighter, for example paraffined wood wool/sawdust. Open the air damper, so plenty of air is fed to the stove and the gases from the heated wood can burn rapidly.
2. Light the fire with only little wood at a time - this gives the best combustion. Remember plenty of air for every time new wood is added.
3. When the flames are diminished, adjust the air damper so that the air supply is reduced.
4. When only glowing embers remain, air flow can be reduced further, so heating demand is just covered. With a lower air supply the charcoal will burn slower and the heat loss through the chimney is reduced.
5. Use only dry wood - ie. wood with a humidity of 15 to 20%.

### RECYCLING:

The oven is wrapped in packaging that is recyclable. This must be disposed of according to national rules regarding the disposal of waste.

The glass can not be reused.

The glass should be discarded along with the residual waste from ceramics and porcelain.

Pyrex glass has a higher melting temperature and therefore can not be reused.

If discarded you make an important positive contribution to the environment.

# Q-Tee II C SST USA

Report no. : # 23-202, 300-ELAB-2635-EPA Rev 1  
Revision : 6  
Date (DMY) : 28-09-2023

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## Introduction

Congratulations on the purchase of your new RAIS woodburning stove.

A RAIS woodburning stove is more than just a source of heat, it is a symbol of the emphasis you put on decorating your home with superiorly designed high-quality products.

**PLEASE READ THIS ENTIRE MANUAL BEFORE YOU INSTALL AND USE YOUR NEW RAIS STOVE. FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY, OR EVEN DEATH. SAVE THIS MANUAL AND KEEP IT HANDY FOR EASY REFERRAL.**

**“DO NOT INSTALL IN A MOBILE HOME”**

**“DO NOT INSTALL IN TRANSPORTABLE BUILDINGS”**

**“DO NOT INSTALL THE WOOD HEATER IN A FACTORY-BUILT FIREPLACE”**

**“DO NOT INSTALL IN AN ALCOVE”**

The wood heater is NOT to be installed in a structure constructed on skids or running gear.

**“WARNING: Do not overfire. If the stovetop or chimney connector pipe glow red, you are overfiring”.**

**“Warning: Do not use other, than the specified original Rais components!”**

### Safety and environmental testing

The Stove is listed to **UL 1482-2022** and **ULC S627-2023**. It is also EPA certified.

For future reference, please write down the production number of your RAIS woodburning stove here. The number must be stated in all inquiries or complaints concerning this product.

## Warranty

We offer a five-year warranty on your RAIS stove. The warranty covers any defects in materials or workmanship. However, it does not cover damage from misuse or neglect, and the glass, gaskets and firebricks are not covered either. Warranties are void if the unit is used to burn any materials other than wood or not operated in accordance with this owner's manual

Distributor:

**Production number:**

**Produced by:**

**RAIS A/S**

**9900 Frederikshavn, DK**

Date:

**U.S. ENVIRONMENTAL PROTECTION AGENCY** Certified to comply with 2020 particulate emission standards using crib wood. 0.7 g/hr, Method 28R

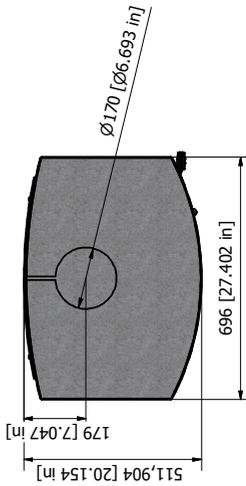
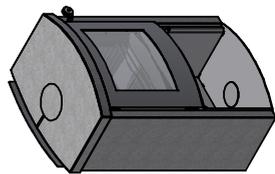
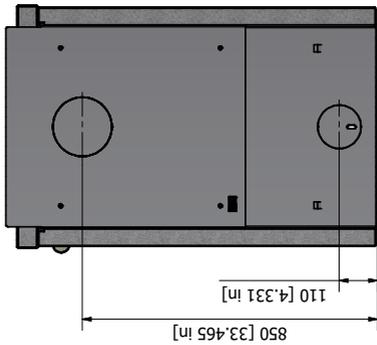
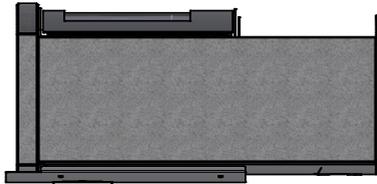
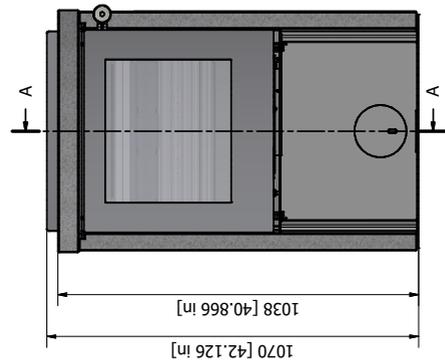
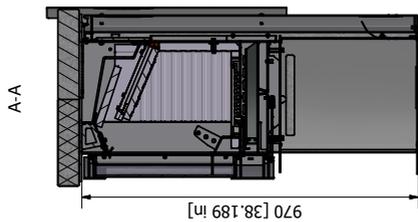
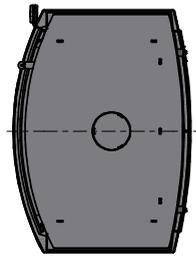
This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

This wood heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this wood heater in a manner inconsistent with operating instructions in this manual.

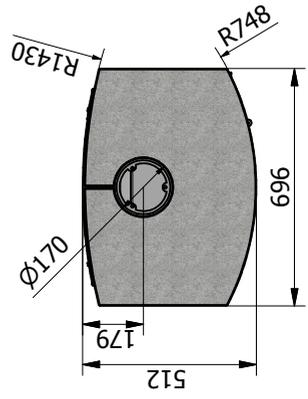
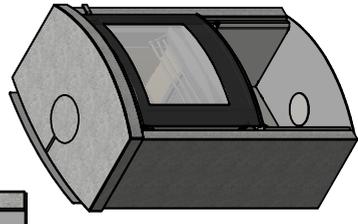
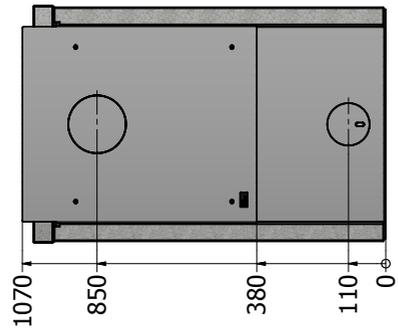
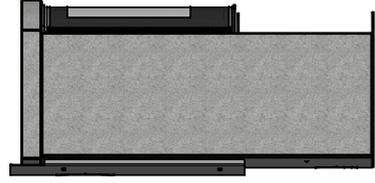
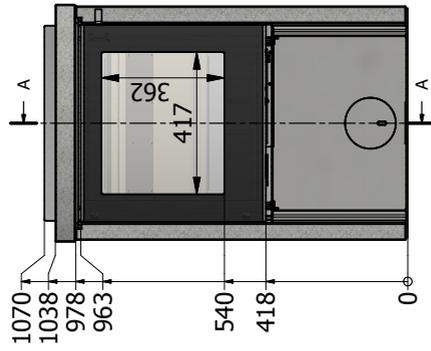
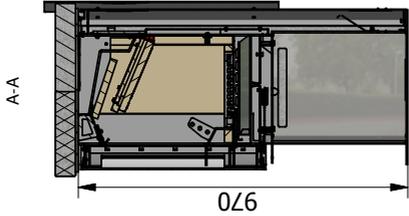
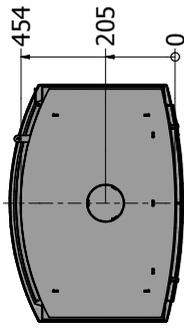
## Specifications:

	<b>Rais Q-Tee II C SST USA</b>
Weight of Stove	736 lbs (334 kg)
Stove exterior: Width/depth/height (inches)	27,5 / 20,2 / 42,1
Firebox interior Width/depth/height (inches)	17.5 / 10.9 / 10.4
Heating capacity at -20°C/-4°F	App. 100 m <sup>2</sup> / 1100 Square Feet
Recommended amount of wood when fueling (kg) wood: 2-3 logs of wood of app. 25-33cm	1,8(kg) / 4(lbs)
Intermittent operation:	Refuelling should be undertaken within 60 minutes.
Energy Efficiency (%)	73
Emission of CO (g pr. min.)	0,8
Single wall connector stove pipe:	6" (15 cm)
Chimney pipe - class A, UL-103 HT:	6" (15 cm)
Min./Max. output (BTU/hr):	11600-20005
Minimum stove draft pressure at above output:	0.048"WC (12 Pa)
Tested EPA emission particulate rate:	0.7 g/hr

Q-Tee II C SST USA  
Steel door  
8286550



Q-Tee II C SST  
Glass door  
8289002



# Label

Manufactured by: **RAIS AIS**  
ART OF FIRE  
 Industrivej 20, DK-9900 Frederikshavn, Denmark

Safety Report No. # 23-202  
 Emissions Report No. # 300-ELAB-2635-EPA Rev 1

Tested to:  
 UL 1482-2022  
 ULC S627-2023

Model: Q-Tea II C SST USA  
 Solid Fuel Room Heater

Made in Denmark  
 Fabriqué au Danemark

Serial no.  
 N° de série

Year  
 Année

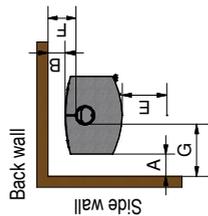
Month  
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Date of manufacture  
 Date of fabrication

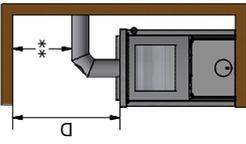
For Use With Solid Wood Fuel Only



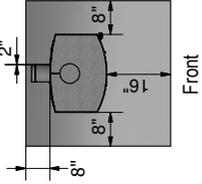
**Clearances to combustible surfaces**



**\*\*Rear/Top vent option**



**FLOOR PROTECTOR**



See further floor protection requirements at bottom of this label.

Floor protection for Canada: 18" (45 cm) from unit to front of floor protector.

Floor protector must be under the pipe and 2" (5cm) beyond each side for back venting.

**MINIMUM CLEARANCE**

	Top Vent	Rear Vent
A: BACK WALL TO UNIT	14"/356mm	14"/356mm
B: SIDE WALL TO UNIT	12"/305mm	12"/305mm
C: CORNER WALL TO UNIT	11"/280mm	N/A
D: CEILING HEIGHT	45"/1143mm	45"/1143mm
E: FRONT WALL / FURNISHING:	36"/915mm	36"/915mm
F: Back Wall to Pipe	15"/381mm	N/A
G: Side Wall to Pipe	22.5"/572mm	22.5"/572mm
H: Corner Wall to Pipe	20"/508mm	N/A

Do not store wood logs or combustible materials underneath the room heater

**FLOOR PROTECTION:**

Floor protection must be non-combustible material extending beneath the stove, and to the front and sides from door opening and to the rear as indicated.

The floor protection is not required to have thermal protection (R=0)

**\*\* Not Tested - NFPA Guidelines in USA, CAN/CSA B365-M91 in Canada**

**U.S. ENVIRONMENTAL PROTECTION AGENCY** Certified to comply with 2020 particulate emission standards using crib wood. 0.7 g/hr, Method 28R

This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

**\*\* Non testé - NFPA Guidelines au USA, CAN/CSA B365-M91 au Canada**

La protection de sol doit être au moins de 3/8 inch matériel non combustible placé sous le foyer s'étendant vers l'avant, les côtés les ouvertures et l'arrière comme indiqué.

Écartement minimum

	Évent supérieur	Évent arrière
A: Mur latéral - Appareil	14"/356mm	14"/356mm
B: Mur arrière - Appareil	12"/305mm	12"/305mm
C: Mur de coin - Appareil	11"/280mm	N/A
D: Plafond - L'appareil	45"/1143mm	45"/1143mm
E: Distance meuble devant	36"/915mm	36"/915mm
F: Paroi arrière de cheminée	15"/381mm	N/A
G: Paroi arrière de cheminée	22.5"/572mm	22.5"/572mm
H: Coin mur pour cheminée	20"/508mm	N/A

Ne pas stocker les journaux de bois ou des matériaux combustibles sous le radiateur de la chambre

To be installed as a freestanding room heater with the clearances in the manufacturer's installation instructions. Not to be installed in any factory-built fireplace.

Do NOT obstruct the space beneath the heater!

Combustion air openings are NOT to be obstructed!

Replace glass with only Rais authorized dealer supplied ceramic glass

A installer comme radiateur d'ambiance autonome avec les déagagements dans le instructions d'installation du fabricant. Ne doit pas être installé dans un foyer préfabriqué.

Les ouvertures d'air de combustion ne doivent PAS être obstruées !

Remplacez le verre par du verre céramique fourni uniquement par un revendeur agréé Rais.

**FLOOR PROTECTION:**

Floor protection must be non-combustible material extending beneath the stove, and to the front and sides from door opening and to the rear as indicated.

The floor protection is not required to have thermal protection (R=0)

**\*\* Not Tested - NFPA Guidelines in USA, CAN/CSA B365-M91 in Canada**

## TO PREVENT HOUSE FIRES

Contact local Building or Fire officials about restrictions and installation inspection in your area. Install and use only in accordance with manufacturer's installation and operating instructions and local codes.

In absence of any local codes, installation must meet minimum requirements of NFPA 221 in USA and B365 in Canada.

Refer to manufacturer's instruction and local codes for precautions required for passing chimney through a combustible wall or ceiling.

Inspect and clean chimney system frequently in accordance with manufacturer's instruction. Do not connect this stove to a chimney flue serving another appliance.

Do not use grate or elevate fire.

Build wood fire directly on hearth.

Flue connector pipe must be 6 inch diameter, minimum single wall 24 msg black or 25 msg blued steel. (Rais part number 61-110)

Chimney must be factory built 6" diameter Class "A" 103HT, or masonry.

### TO PREVENT CREOSOTE FIRES

Inspect and clean chimney frequently - Under certain conditions of use, creosote buildup may occur rapidly.

For Use With Wood Fuel Only".

**CAUTION:** Fully open combustion air control before opening the fuel feed door.

**CAUTION:** Only operate the wood heater with the doors closed.

To be installed as a freestanding room heater with the clearances in the manufacturer's installation instructions. Not to be installed in any factory-built fireplace.



**CAUTION:**  
HOT WHILE IN OPERATION-DO NOT TOUCH  
KEEP CHILDREN AND CLOTHING AWAY-  
CONTACT MAY CAUSE SKIN BURNS.  
SEE NAMEPLATE AND INSTRUCTIONS.  
KEEP FURNISHINGS AND OTHER COMBUSTIBLE  
MATERIALS A CONSIDERABLE DISTANCE AWAY  
FROM THE APPLIANCE.

Do not overfire - if heater or chimney connector glows, you are overfiring.

## POUR ÉVITER LES INCENDIES DOMESTIQUES

Contactez les autorités locales des bâtiments et des sapeurs-pompiers concernant les restrictions et les inspections d'installation dans votre région.

Installez et utilisez ce appareil uniquement conformément aux instructions d'installation et d'utilisation du fabricant, et aux codes locaux.

En l'absence de code local, l'installation doit satisfaire aux exigences minimales de la NFPA 221 aux États-Unis et de la B365 au Canada.

Reportez-vous aux instructions du fabricant et aux codes locaux pour connaître les précautions à prendre pour l'installation d'une cheminée à travers un mur ou un plafond inflammable.

Inspectez et nettoyez fréquemment le système de cheminée conformément aux instructions du fabricant. Ne raccordez pas ce poêle à un conduit de cheminée desservant un autre appareil.

N'utilisez pas de grille et ne faites pas monter le feu.

Disposez un feu de bois directement sur le foyer.

Le tuyau de raccordement au conduit doit avoir un diamètre de 6 pouces (152 mm), une paroi simple minimale de 24 msg noir ou 25 msg acier bleui. (N° de pièce Rais 61-110)

La cheminée doit être un modèle préfabriqué de 6 pouces (152 mm) de diamètre Classe « A » 103HT ou en maçonnerie.

### POUR ÉVITER LES INCENDIES DE CRÉOSOTE

Inspectez et nettoyez fréquemment la cheminée. Dans certaines conditions d'utilisation, la créosote peut s'accumuler rapidement.

A utiliser exclusivement avec du bois massif comme combustible.

**ATTENTION :** Ouvrez complètement le contrôle d'air de combustion avant d'ouvrir la porte du foyer.

**ATTENTION :** Utilisez le poêle à bois avec les portes fermées uniquement.

À installer comme appareil de chauffage autonome avec les dégagements indiqués dans les instructions d'installation du fabricant. Ne pas installer dans un foyer préfabriqué

**ATTENTION:**  
CHAUD PENDANT LE FONCTIONNEMENT - NE PAS TOUCHER ECARTE LES ENFANTS ET LES VETEMENTS- LE CONTACT PEU CAUSER DES BRULURES. CONSULTE LA PLAQUE ET LES INSTRUCTIONS. TENIR LES MEUBLES ET AUTRES MATIERES COMBUSTIBLES A GRANDE DISTANCE DE L'APPAREIL.

Évitez de surchauffer-si le feu ou la cheminée rougeoie, vous surchauffez.

## Convection

All RAIS stoves are convection stoves, which means that the sides of the stove never get too hot. Convection works by pulling cold air into the system at the base of the stove and up through the convection duct that is located along the combustion chamber of the stove. The heated air is released from the top of the stove, creating rapid air circulation in the room.

## Glass and replacement of glass.

All RAIS stoves supplied with Robax® glass in the door. Robax® glass is a ceramic glass type suitable for stoves. The glass is installed from RAIS as an integral part of the door and stove.

Inspect the glass for cracks prior to the first fire.

Abuse may cause damage to the glass and door.

Do not strike the door or glass nor slam the door

Do not build the fire close to the glass or opening.

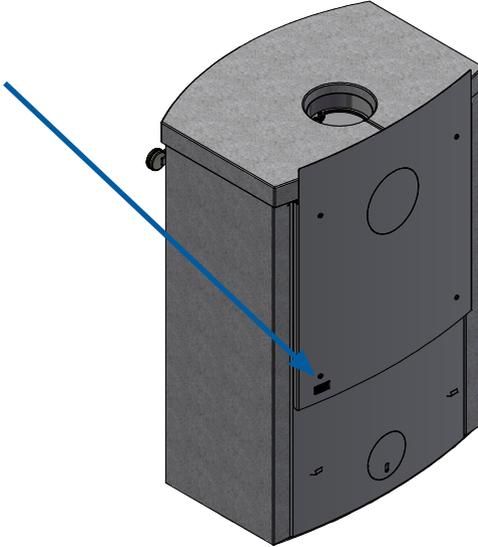
Do not use the stove if the glass is broken - contact your local authorized dealer.

In case of broken glass during use of stove - let the stove slowly burn the remaining firewood under supervision. Do not close the chimney baffle if installed. Contact your local authorized dealer

The glass is supplied as an integral part of the door for spare part. The Robax® glass may only be replaced by genuine spare parts from RAIS. Do not use substitute material. Replacement of the glass as separate component is only for authorized personnel.

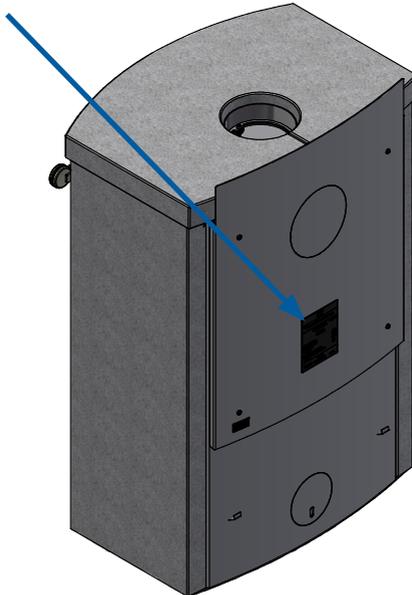
## Production number.

The production number can be found on the back of the stove.



## Name tag.

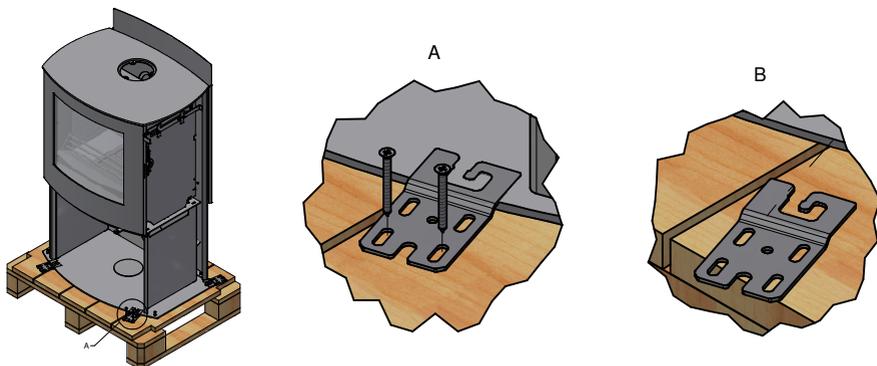
The name tag can be found on the back of the stove.



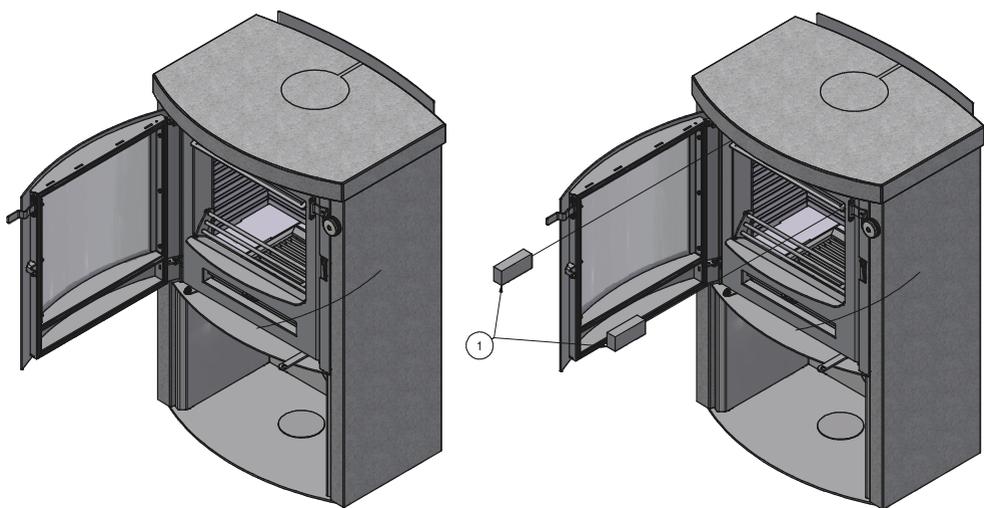
## DELIVERY PACKAGING

Upon delivery, the stove is secured to a transport pallet using four transport safety fittings, one in each corner (A).

The safety fittings are secured with screws, which must be unscrewed. The safety fittings can then be removed (B).

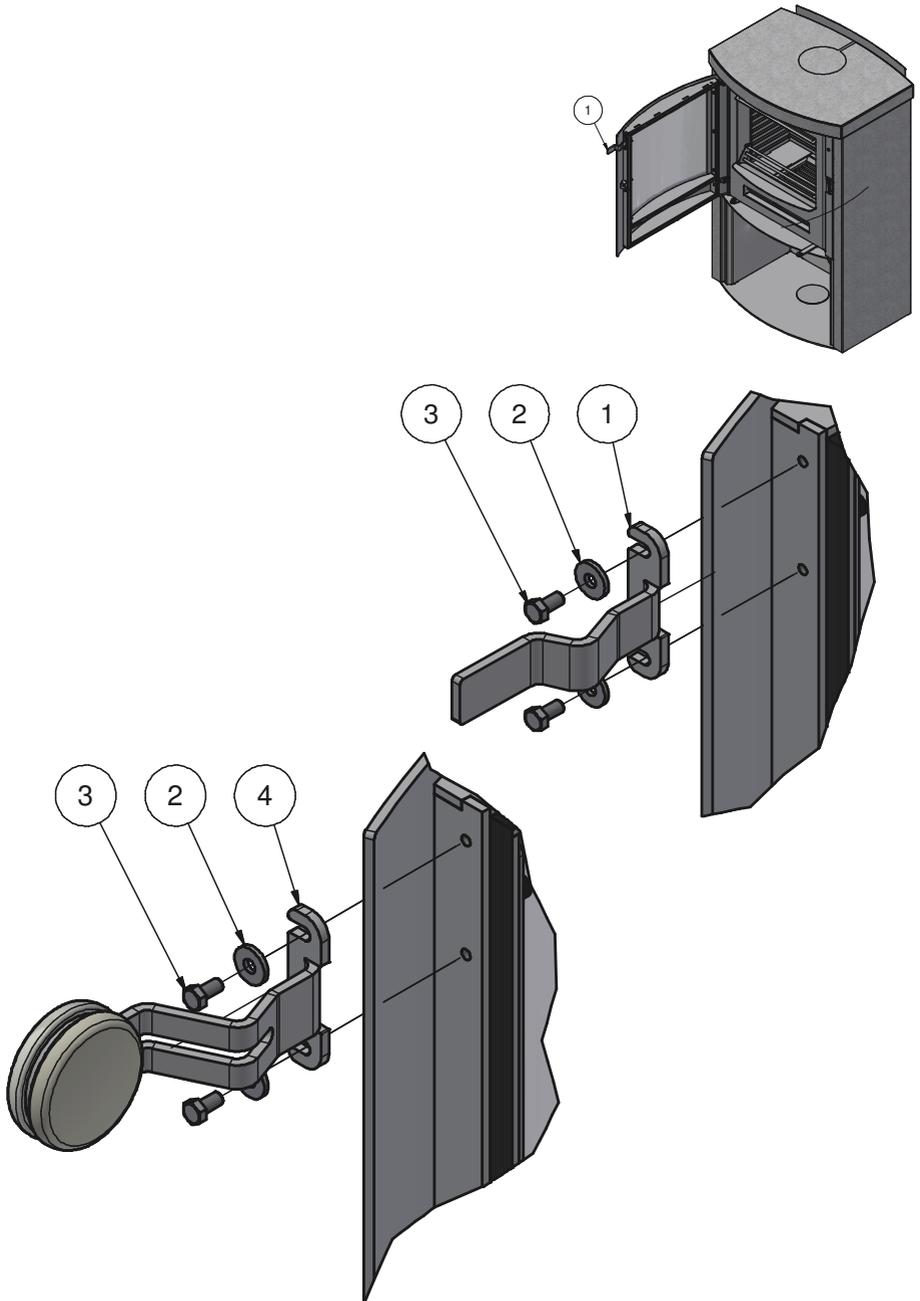


The top of the wood-burning stove has two polystyrene blocks (1), which protect the combustion chamber lining in transit. These must be removed before starting a fire in the stove.



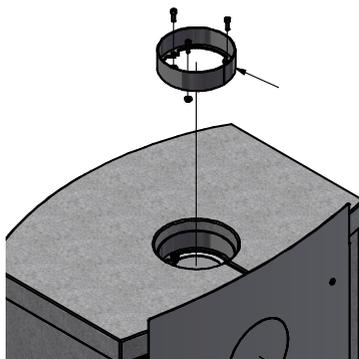
## FITTING/CHANGING THE HANDLE

The wood-burning stove comes with a temporary handle (1). To remove it, undo the screws and washers (3&2). The new handle (4) can now be fitted to the stove using the screws and washers (3&2).



## INSTALLATION OF FLUE COLLAR.

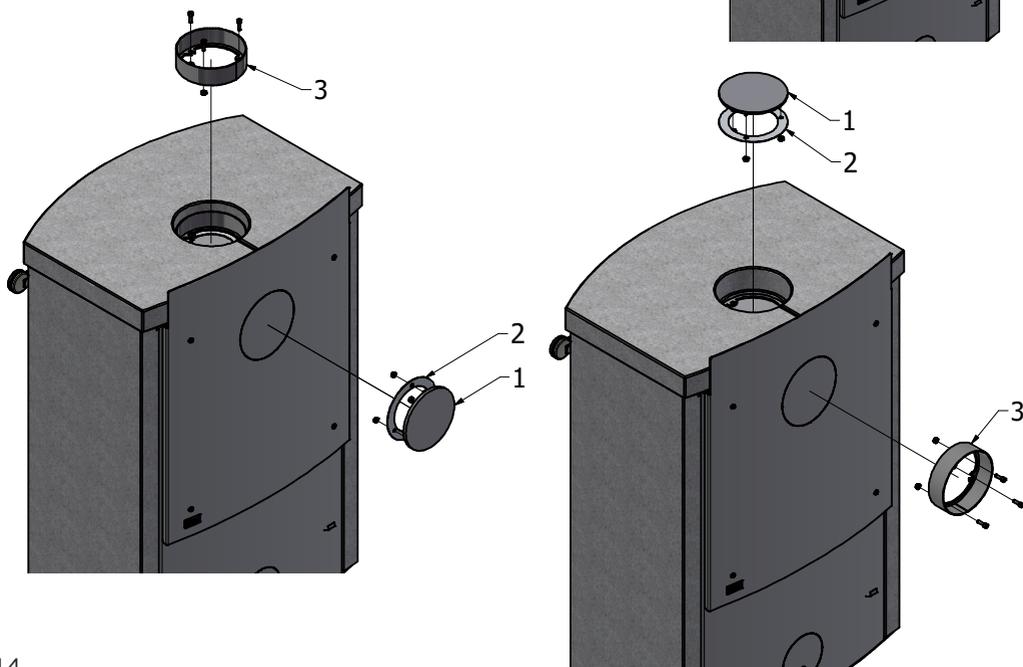
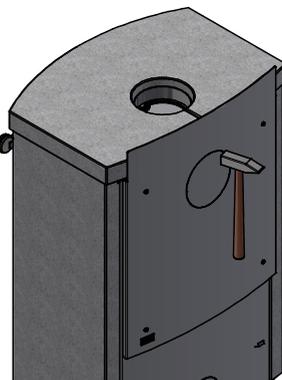
The stove is prepared for top outlet on delivery. Mount the flue collar (61-110) with the delivered M6 nuts and bolts.



## Rear outlet

The stove can be changed to rear outlet in the following way.

1. On the back of the stove there is a knock-out form that must be knocked free of the back. It is attached via four small points. This also applies to the reflector plate.
2. Remove the knock-out form with a hammer or similar.
3. Remove the cover (1) and gasket (2) from the rear outlet and mount it on the top outlet.
4. Mount the smoke connection (3) on the rear exit.

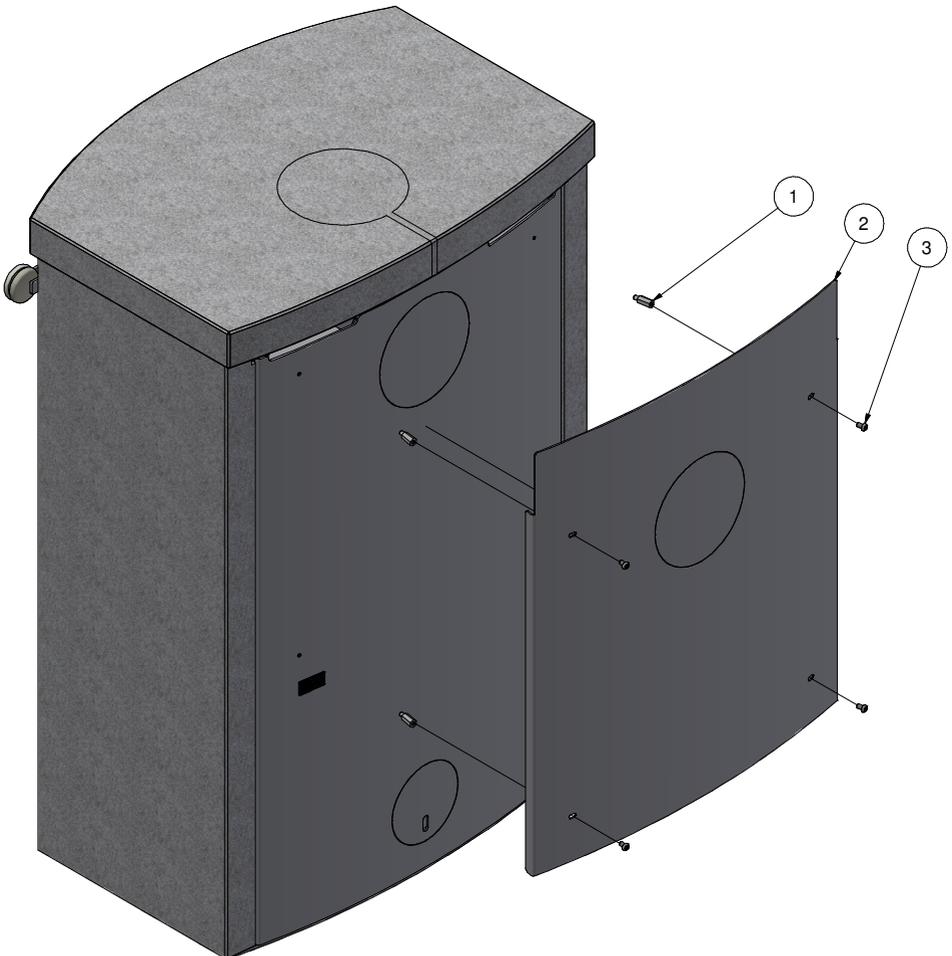


## Mounting of Heat shield

The Heat shield is not mounted to the stove on delivery, and must be mounted before the stove is put into use.

Step 1: Mount the distance piece (1) to the back of the wood stove.

Step 2: Mount the Reflector plate (2) with the four M6 bolts (3) to the distance pieces (1)



# Installation

## Precautions and Specifications

Before installation, remember to consult your local building inspector or fire marshal to determine the need to obtain a permit. Also enquire about restrictions and installation inspection requirements in your area. If utilizing an existing chimney, it is recommended that a professional mason or wood stove installer do a complete check-up of the chimney, liner, and flue beforehand.

In order for the wood stove to work and draw properly, sufficient air supply is important. Be especially aware of any mechanical fans (e.g. kitchen or bathroom exhaust systems) that may affect the proper draft.

Do not use grates, andirons, or other fuel support methods. Build fire directly on hearth.

# Chimney

RAIS stoves must be installed using a Class A UL 103 HT approved factory-built chimney system or a code-approved masonry chimney with a flue liner. In Canada, the appliance must be connected to a factory-built chimney conforming to CAN/ULC-S629.

The chimney pipe must be 6" in diameter.

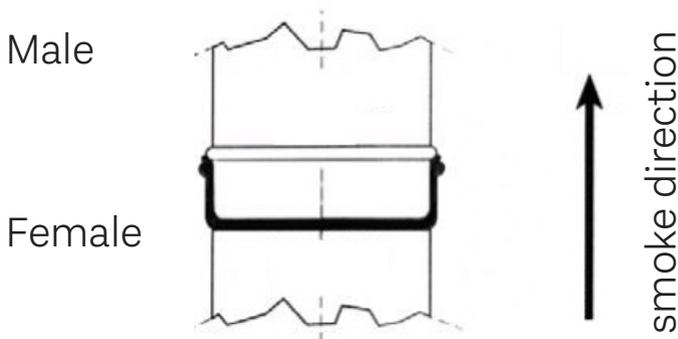
The chimney must extend through the roof at least 3' (1m), and 2' (.6m) above any structure within 10' (3m).

The condition and height of the chimney are very important for optimal use of the stove and we recommend a total minimum height of 10' (3m).

The stove is delivered with a 6" flue collar (Rais part number 61-110)

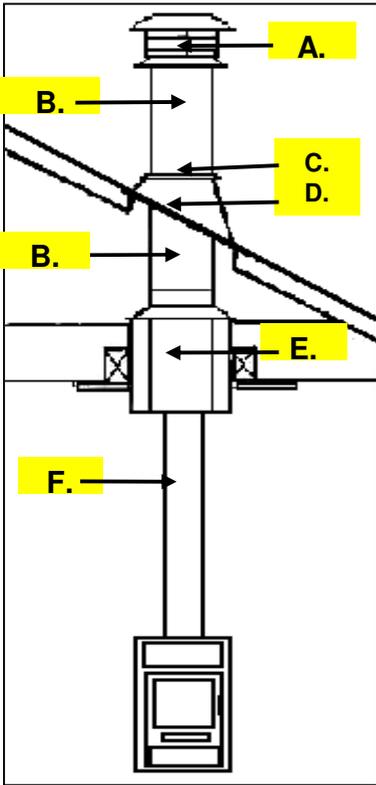
Note the chimney connector pipe should not pass through an attic, roof space, closet, concealed space, floor or ceiling.

Do not connect this stove to a chimney flue or air distribution duct or any system serving another appliance.



Each chimney connector or stove pipe section, must be installed to each other with the crimped end toward the stove. This prevents any amount of condensed or liquid creosote from running down the outside of the pipe or the stove top.

Fasten the connector pipe to the flue collar with 3 self tapping/drilling screws through the holes in the flue collar.

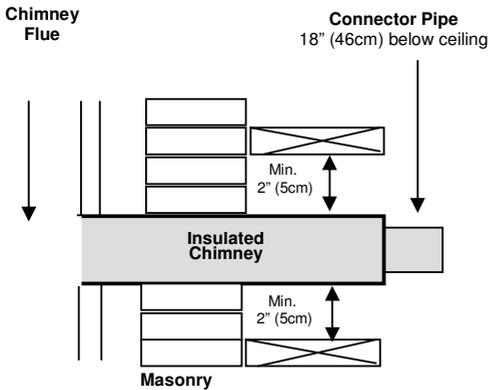


**Required Installation Components:**

- A. Chimney Cap
- B. Insulated Chimney
- C. Storm Collar
- D. Roof Flashing
- E. Ceiling Support Box or Joist Shield/Firestop Spacer
- F. Chimney Connector

For venting vertically into a Class A chimney, a single wall pipe (at least 24 gauge) may be used in the room where the stove is installed. Refer to the manufacturer's instructions for the connection to the listed chimney. The chimney/stove pipe must not be smaller than 6" (15cm) in diameter.

For venting directly into a masonry chimney or through a thimble, the top of the single wall pipe must be at least 18" (46cm) below a combustible ceiling and must conform to NFPA 211 guidelines and methods. Please see the diagram to the left.



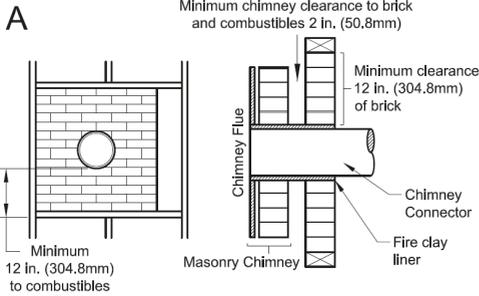
For rear venting or other unlisted configurations, consult the local building codes and follow the NFPA 211 guidelines.

If the stovepipe is fitted with a baffle, it must be manually operated, visibly placed for ease of use, and must not close completely. Consult your chimney expert if you have any questions.

**Important note:**

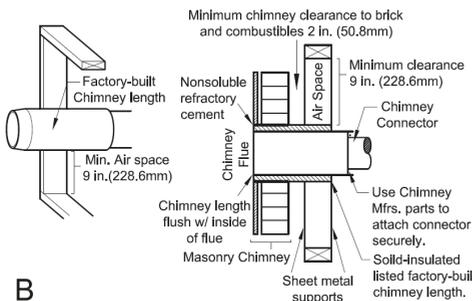
Please ensure that there is easy access to the chimney cleanout door.

# Chimney connector pass-throughs in combustible wall



## Method A:

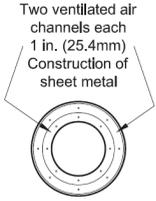
12" (304.8 mm) Clearance to Combustible Wall Member: Using a minimum thickness 3.5" (89 mm) brick and a 5/8" (15.9 mm) minimum wall thickness clay liner, construct a wall pass-through. The clay liner must conform to ASTM C315 (Standard Specification for Clay Fire Linings) or its equivalent. Keep a minimum of 12" (304.8 mm) of brick masonry between the clay liner and wall combustibles. The clay liner shall run from the brick masonry outer surface to the inner surface of the chimney flue liner but not past the inner surface. Firmly grout or cement the clay liner in place to the chimney flue liner.



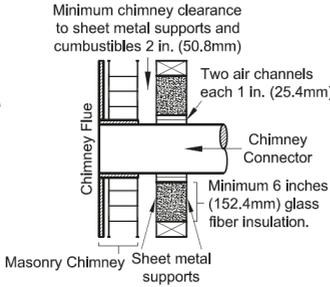
## Method B:

9" (228.6 mm) Clearance to Combustible Wall Member: Using a 6" (152.4 mm) inside diameter, listed, factory-built Solid-Pak chimney section with insulation of 1" (25.4 mm) or more, build a wall pass-through with a minimum 9" (228.6 mm) air space between the outer wall of the chimney length and wall combustibles. Use sheet metal supports fastened securely to wall surfaces on all sides, to maintain the 9" (228.6mm) air space. When fastening supports to chimney length, do not penetrate the chimney liner (the inside wall of the Solid-Pak chimney). The inner end of the Solid-Pak chimney section shall be flush with the inside of the masonry chimney flue and sealed with a non-water-soluble refractory cement. Use this cement to also seal to the brick masonry penetration.

# Chimney connector pass-throughs in combustible wall

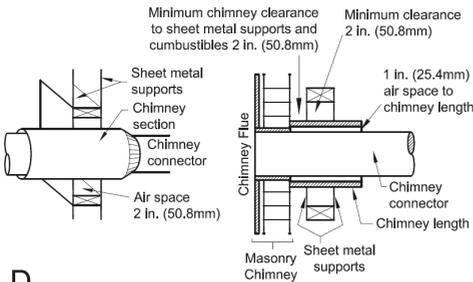


C



Method C:

6" (152.4 mm) Clearance to Combustible Wall Member: Starting with a minimum 24 gage (.024" [.61 mm]) 6" (152.4 mm) metal chimney connector, and a minimum 24 gage ventilated wall thimble which has two air channels of 1" (25.4 mm) each, construct a wall pass-through. There shall be a minimum 6" (152.4) mm separation area containing fiberglass insulation, from the outer surface of the wall thimble to wall combustibles. Support the wall thimble and cover its opening with a 24-gage minimum sheet metal support. Maintain the 6" (152.4 mm) space. There should also be a support sized to fit and hold the metal chimney connector. See that the supports are fastened securely to wall surfaces on all sides. Make sure fasteners used to secure the metal chimney connector do not penetrate chimney flue liner.



D

Method D:

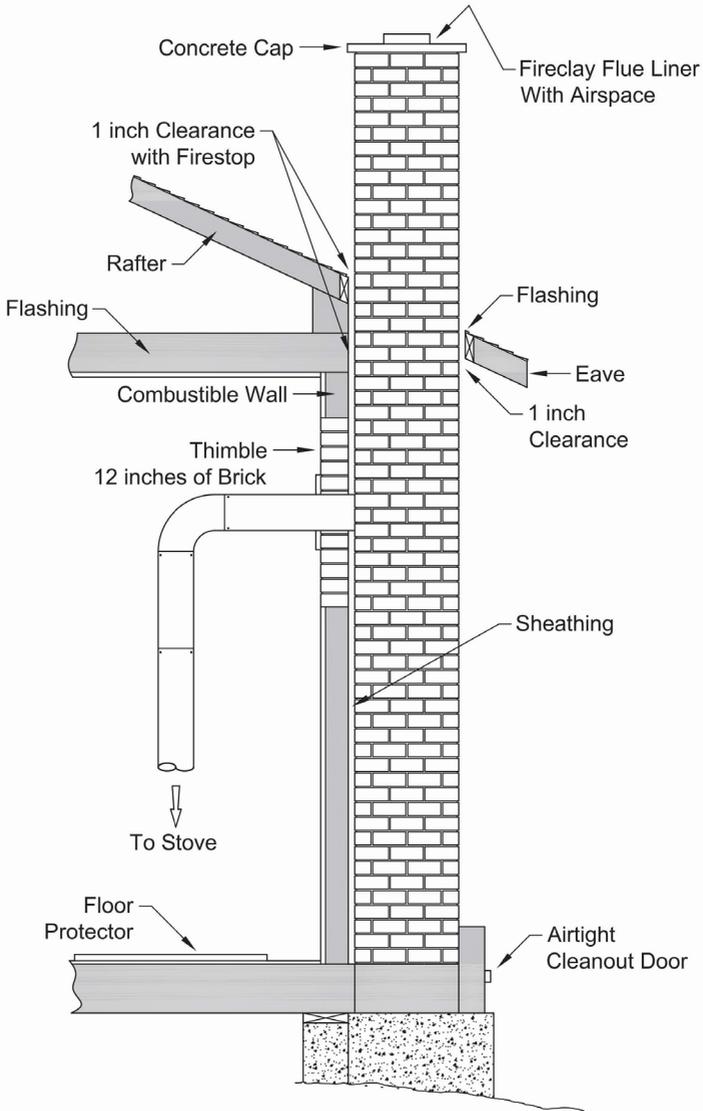
2" (50.8 mm) Clearance to Combustible Wall Member: Start with a solid-pak listed factory built chimney section at least 12" (304 mm) long, with insulation of 1" (25.4 mm) or more, and an inside diameter of 8" (2 inches [51 mm] larger than the 6" [152.4 mm] chimney connector). Use this as a pass-through for a minimum 24-gauge single wall steel chimney connector. Keep solid-pak section concentric with and spaced 1" (25.4 mm) off the chimney connector by way of sheet metal support plates at both ends of chimney section. Cover opening with and support chimney section on both sides with 24 gage minimum sheet metal supports. See that he supports are fastened securely to wall surfaces on all sides. Make sure fasteners used to secure chimney flue line.

NOTES:

1. Connectors to a masonry chimney, excepting method B, shall extend in one continuous section through the wall pass-through system and the chimney wall, to but not past the inner flue liner face.
2. A chimney connector shall not pass through an attic or roof space, closet or similar concealed space, or a floor, or ceiling.

# MASONRY CHIMNEY

Ensure that a masonry chimney meets the minimum standards of the National Fire Protection Association (NFPA) by having it inspected by a professional. Make sure there are no cracks, loose mortar or other signs of deterioration and blockage. Have the chimney cleaned before the stove is installed and operated. When connecting the stove through a combustible wall to a masonry chimney, special methods are needed.

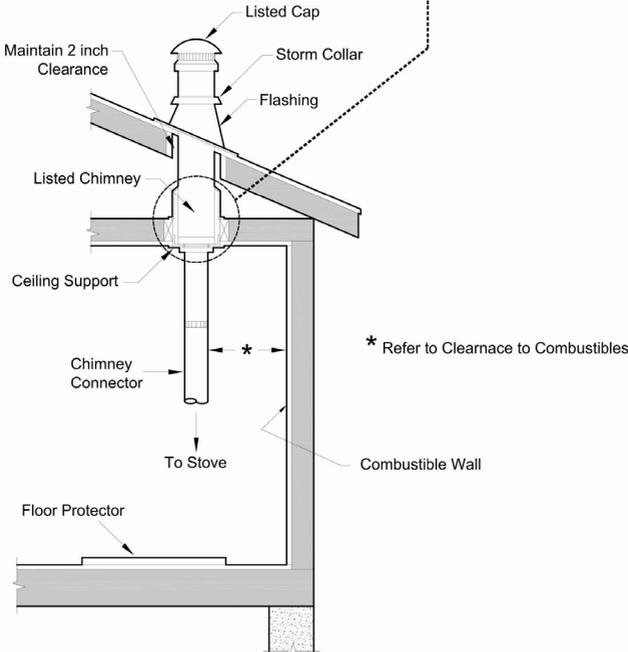
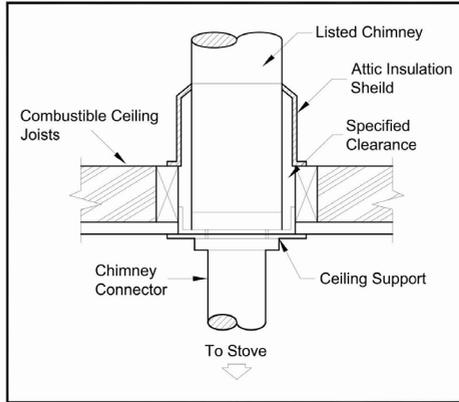


# FACTORY BUILT CHIMNEY

When a metal prefabricated chimney is used, the manufacturer's installations must be followed.

You must also purchase (from the same manufacturer) and install the ceiling support package or wall pass-through and "T" section package, firestops (where needed), insulation shield, roof flashing, chimney cap, etc.

Maintain proper clearance to the structure as recommended by the manufacturer. The chimney must be the required height above the roof or other obstructions for safety and proper draft operation.



# Floor protection

Alternate materials may be rated with C-factor (Thermal Conductance) or k-factor (Thermal Conductivity) ratings which must be converted to R-value to determine if the alternate material meets the tested requirements. The following instructions provide the proper information and formulas for conversion to R-value.

To determine if alternate materials are acceptable follow this sequence.

1. Convert material specifications to R-value.
  - a. R-value given – no conversion necessary.
  - b. K-factor is given with a required thickness (T) in inches:  $R = 1/k \times T$
  - c. C-factor is given:  $R = 1/C$
2. Determine the R-value of proposed alternate floor protector:
  - a. Use formulas in step 1 above to calculate R-value of proposed material(s).
  - b. For multiple layers, add R-values of each layer to determine overall R-value.
3. If the overall R-value of the floor protector system is equal to or greater than the floor protector specifications given, the alternate is acceptable.

Definitions:

$$\text{Thermal conductance (C)} = \frac{\text{BTU}}{(\text{hr})(\text{ft}^2)(\text{°F})} = \frac{\text{W}}{(\text{m}^2)(\text{°K})}$$

$$\text{Thermal conductivity (k)} = \frac{(\text{Btu})(\text{inch})}{(\text{hr})(\text{ft}^2)(\text{°F})} = \frac{\text{W}}{(\text{m})(\text{°K})} = \frac{\text{Btu}}{(\text{hr})(\text{ft})(\text{°F})}$$

$$\text{Thermal resistance (R)} = \frac{(\text{ft}^2)(\text{hr})(\text{°F})}{\text{Btu}} = \frac{(\text{m}^2)(\text{°K})}{\text{W}}$$

## Floor protection

The floor protection plate must lie under the stove and extend 16" (41cm) in front of the stove in USA and 18" (46cm) in Canada. The floor protection plate must extend 0" to the back of the stove in USA and 8" (20cm) in Canada. The floor protection plate must extend 8" to the sides of the stove. For installations with horizontal rear connector, the floor protection plate must extend under and 2" (50.8mm) to either side of the connector.

The floor protection plate when used WITH the base, must be listed to UL 1618, and is not required to have thermal protection (R=0).

Make sure that the floor and the sub-floor of the room in which the stove is installed is designed to carry the extra weight of the stove. The floor protector plate must be made of a non-combustible material.

When deciding where to install your stove, the heat distribution to other rooms should be taken into consideration. Put the stove at a safe distance from combustible materials; see the references at the name tag of the stove.

## Thermal Floor Protection

Stove placed on combustible material must have thermal protection with an R = 0 or greater under the appliance and extending 16" in front of unit in US and 18" in Canada.

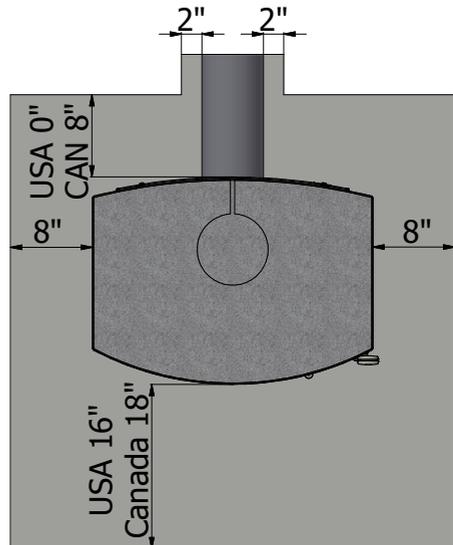
### Size of floor protector

#### USA

width = 43,4"  
Depth = 36,15"

#### CANADA

width = 43,4"  
Depth = 44,15"



## Clearance to combustible walls

To find out whether the wall by which the stove is to be placed is combustible or not, please contact your architect or the local building authorities.

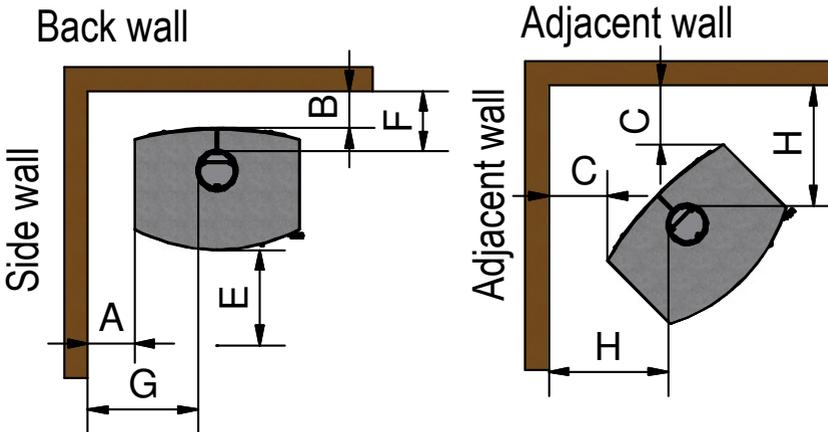
If the floor is combustible, the stove must be placed on a non-combustible plate such as steel, glass or stone. See pages 11 and 18 for additional information concerning floor protection.

It may be possible to reduce clearances to combustible walls using the methods detailed in NFPA 211. Seek guidance and permission in your locality as permits or inspections may be required.

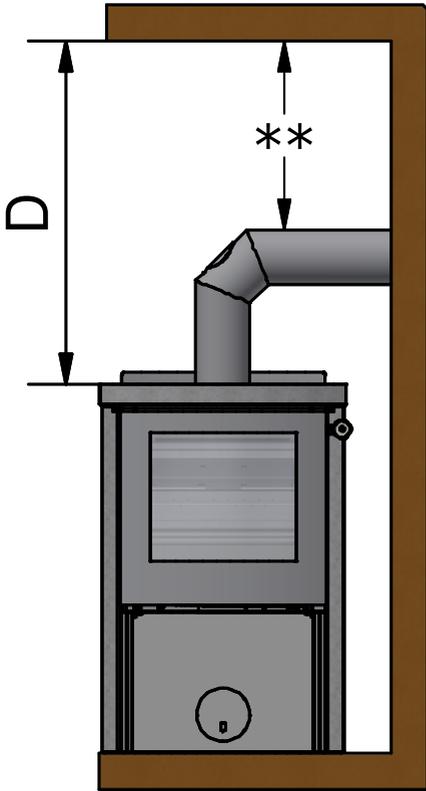
Clearances may only be reduced by means approved by regulatory authority

## Minimum Rear vent Clearance

	Top vent	Rear vent
A: Side Wall to Unit	14"/356mm	14"/356mm
B: Back Wall to Unit	12"/305mm	12"/305mm
C: Corner Wall to Unit	11"/280mm	N/A
D: Ceiling Height	45"/1143mm	45"/1143mm
E: Front Wall / Furnishing	36"/915mm	36"/915mm
F: Back Wall to Pipe	15"/381mm	N/A
G: Side Wall to Pipe	22,5"/572mm	22,5"/572mm
H Corner Wall to Pipe	20"/508mm	N/A



# \*\*Rear/Top vent option Ceiling



\*\*:

Please refer to NFPA guidelines in USA and CAN/CSA B365-M91 in Canada.

## Clearance to non-combustible wall

We recommend a minimum clearance to non-combustible material of at least 2" (50 mm) so that cleaning is easy. The cleaning door of the chimney should be accessible at all times.

Clearances may only be reduced by means approved by the regulatory authority.

## Floor protection

Floor protection must be non-combustible material extending beneath the stove, and to the front and sides from door opening and to rear as indicated.

The size of the floor protection is different in US compared to Canada. See User Manual pages 11 & 18 for more information.

### Note:

In Canada, to comply with CSA B365, Installation Code for Solid-Fuel-Burning Appliances and Equipment, any combustible covering beneath the appliance and/or within the area extending horizontally at least 450 mm (18 in) beyond the appliance on any side equipped with a door, and at least 200 mm (8 in) beyond the appliance on other sides, shall be protected by a continuous, durable, non-combustible pad that will provide ember protection. The 450 mm (18 in) ember protection required on any side with a door shall extend for the full width of the appliance plus the 200 mm (8 in) required on each side of the appliance without a door. Where an appliance is installed less than 200 mm (8 in) from a wall, the ember pad need only extend to the base of the wall. An ember pad shall not be placed on top of a carpet unless the pad is structurally supported to prevent displacement and distortion.

## Reduced clearances (CANADA ONLY)

Type of protection (shield)

Sheet metal, a minimum of 29 gauge in thickness spaced out at least 21 mm (7/8 in.) by non-combustible spacers.

Ceramic tiles, or equivalent non-combustible material on non-combustible supports spaced out at least 21 mm (7/8 in.) by non-combustible spacers.

Ceramic tiles, or equivalent non-combustible material on non-combustible supports with a minimum of 29 gauge sheet metal backing spaced out at least 21 mm (7/8 in.) by non-combustible spacers.

Brick spaced out at least 21 mm (7/8 in.) by non-combustible spacers.

Brick with a minimum of 29 gauge sheet metal backing spaced out at least 21 mm (7/8 in.) by non-combustible spacers.

TYPE OF PROTECTION	Reducing Clearances With Shielding	
	Sides and Rear/Back	Top
Sheet metal, a minimum of 0,013" (0,33 mm) spaced out at least 7/8" (21 mm) by non-combustible spacers.	67%	50%
Ceramic tiles, or an equivalent non-combustible material on fire-proof supports spaced out at least 7/8" (21 mm) by non-combustible spacers.	50%	33%
Ceramic tiles, or an equivalent non-combustible material on fire-proof supports with a minimum of 0,013" (0,33 mm) sheet metal backing spaced out at least 7/8" (21 mm) by non-combustible spacers.	67%	50%
Brick spaced out at least 7/8" (21 mm) by non-combustible spacers.	50%	N/A
Brick with a minimum of 0,013" (0,33 mm) sheet metal backing spaced out at least 7/8" (21 mm) by non-combustible spacers.	67%	N/A

Source: CSA Standard B365-1991, Table 4, Page 27

## Firewood

Only burn wood that has been seasoned for at least one full year (two years is better). If the wood has not been seasoned or dried, energy will be lost in evaporating the water held in the wood. Furthermore, condensation or creosote might occur in the stove and pipe when damp wood is burnt.

Freshly cut wood contains approx. 60-70% water and is completely unsuited for burning.

**Log size should be about 2" (5 cm) less than the width of the firebox**

**NEVER** BURN TRASH (PLASTIC AND OTHER TYPES OF ARTIFICIAL MATERIALS EMIT HARMFUL GASES), DRIFTWOOD, TREATED OR PAINTED WOOD, ARTIFICIAL LOGS OR NON-SEASONED WOOD.

**NEVER BURN FUELS OTHER THAN SPECIFIED!**

**BURNING CHARCOAL FOR EXAMPLE, CONTAINS THE RISK OF GENERATING CARBON MONOXIDE HAZARDS**

All types of wood heat equally per pound; however, the density of wood is not the same as is shown in the table below, where the combustible value of wood dried for two years with a moisture of 15-20% is taken into account. See table to the left.

### Drying and storage

Wood to be used for burning in a stove should be dried for two years to ensure optimal burning.

Here are some storage tips:

- Cut and split the wood before storing.
- Keep the woodpile in a dry sunny place, protected from the rain. Do not cover the pile with plastic, because that prevents the wood from drying properly.
- Stack the wood with enough space between the rows to ensure good air circulation.
- Bring the logs inside the house two-three days prior to use.

Wood type	Dry wood kg/m <sup>3</sup>	In comparison to beech
Beech and oak	580	100 %
Ash	570	98 %
Maple	540	93 %
Birch	510	88 %
Mountain pine	480	83 %
Fir	390	67 %
Poplar	380	65 %

DO NOT STORE SOLID FUEL WITHIN SPACE HEATER INSTALLATION CLEARANCES OR WITHIN THE SPACE REQUIRED FOR CHARGING AND ASH REMOVAL.

## Adjusting the combustion air

All RAIS stoves are equipped with an easy-to-use handle for adjusting the air control. For the various positions of the control please see the following illustrations. To ensure proper combustion process it is very important to supply the correct quantity of air at the right time and place. The adjustment range made from factory may not be altered for increasing firing for any reason.

Primary air is defined as combustion air for burning the mass of wood and stimulates production of volatile gases.

Secondary air is used to burn off the gases at high temperatures (above 1,000°F/540°C) and to keep the glass free of soot. The secondary air is let through the air control beneath the combustion chamber and is heated through the side channels, which is then directed to the glass. The warm air runs along the glass, keeping it free of soot.

At the very back of the combustion chamber there is a tertiary channel at the top that helps to combust the remaining gases.

When positioning the air control between Pos. 1 and 2 optimum utilization of the energy contents of the wood is obtained, because of sufficient oxygen for combustion. When the flames burn bright and yellow, the control has been adjusted correctly. Finding the correct position takes some trial and error, but is easy to find.

Never close the air control completely when using the stove. A typical error is to close the control too soon, because the heat gets too intense. This results in the appearance of a dark cloud of smoke from the chimney and that means the energy value of the wood is not being used properly.

It is important for proper control of the fire that the instructions in the manual are followed and the stove door normally is kept closed. It is also necessary to keep the seals in a good condition.



REMEMBER THE STOVE IS HOT WHILE IN OPERATION, SO KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT WITH A STOVE WHEN BURNING MAY CAUSE SKIN BURNS.

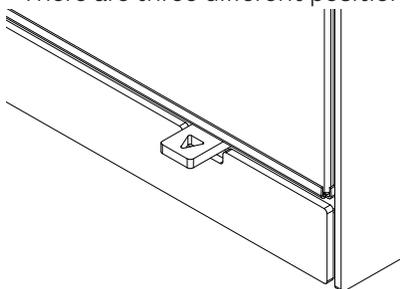
Warning: Do not fire the stove with the door open!

## Using the stove

Only use wood as fuel as described in the firewood section of this manual.

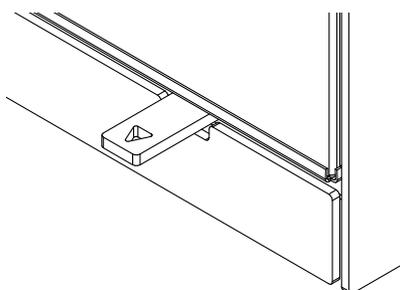
## Adjusting the air control

There are three different positions for air control:



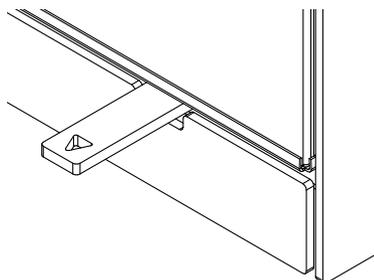
Position 1:

The damper is almost closed meaning that there is a minimal air intake.



Position 2:

Pull the handle out to the first stop. This position provides full secondary air intake. In the event of ordinary combustion the handle is to be adjusted to the interval between pos. 1 and 2. When the flames are clear and yellow, the damper has been adjusted correctly resulting in slow/optimal combustion.



Position 3:

Pull the handle all the way out. The damper is fully open and provides full primary and secondary air intake. This position is for the kindling phase and is not used in connection with normal operation.

## Smoke and carbon monoxide detectors

It is recommended to use smoke and carbon monoxide detectors with any hearth product, including this appliance. Follow all manufacturer's instructions when using smoke and carbon monoxide detectors.

Normal activity of loading fuel could result in emissions of smoke. It might be necessary to move carbon monoxide detectors, if they are triggered during normal useage of the stove.

## Control

If the ashes are white and the combustion chamber walls not covered with soot, the air adjustment has been correct and the wood sufficiently dry.

## First Fire

Your new RAIS should be run-in gently for top performance and to prevent paint damage, cracks in the firebrick, and excessive wear and tear. Start with a small fire (never overload the firebox) to allow the materials to get accustomed to the higher temperatures, and then gradually increase the intensity. Use up to a maximum of two logs.

For the first few fires you may detect a strange smell that comes from heat treating the paint and materials. This is normal and will soon disappear. Just ensure there is plenty of fresh air in the room. Furthermore, during the initial heating up and cooling down, the metal may emanate some clicking sounds due to being exposed to the large differences in temperature. This is normal as well.

For wood to burn properly, the right amount of air has to be supplied at the right time and place.

## Lighting and Stoking



To light the stove, use alcohol briquettes or similar, as well as approx. 2 kg of firewood, split into kindling sticks. Set the air damper to the fully open position.

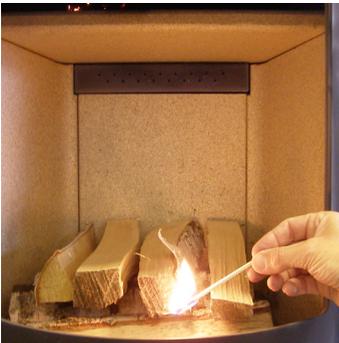
Be careful not to place the firewood too close to the opening and glass.



### TIPS before firing up:

Open a door or window close to the wood burning stove.

If there is wind in the stove coming from the chimney, it is advisable to place a curled-up piece of newspaper between the upper baffle plate and the chimney, set the paper on fire, and wait until you hear a “rumbling” noise in the chimney. This means that there definitely is a draft in the chimney and you avoid smoke in the room.



Light the fire and shut the door, leaving an open gap of approx. 10-15 mm.



When the flames are clear - after approx. 5-10 min.  
- close the door.



After approx. 10-20 min. - when you have a good bed of glowing embers - add 2-3 pieces of wood.

Be carefull not to place the firewood too close to the opening and glass.

Leave the door ajar until the fire has caught on properly - close the door.



After approx. 5 min. - or when the flames are clear and stable - close the damper gradually.

It is recommendable to have a layer of ash of approx. 20 mm, as it has an insulating effect.



**Note!**  
During operation the door should always remain shut.



## Fuel caution

**DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA, OR ENGINE OIL (plastic and other artificial materials emit harmful gases), driftwood, treated wood, artificial logs, or non-seasoned wood.**

**DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE**

**Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, naphtha, engine oil, or similar liquids to start or freshen up a fire in your RAIS stove. Keep all such liquids well away from the stove while it is in use.**

## Care and maintenance

You should have your chimney, stove and connector pipe checked once every two months during the heating season or at least once a year by a professional chimney sweep and cleaned as needed.

When cleaning the stove carefully inspect the seals for damage. The seals should be in good conditions and without damage.

When cleaning, checking or repairing, the stove must be cold.

If the glass has been covered in soot, here is a simple piece of advice:

- Dampen a piece of paper or newspaper, dip it into the cold ashes and rub the soot-covered glass.
- Use another piece of paper to polish the glass.
- A good commercial glass cleaner can also be used.
- Do not use abrasive cleaners.

The outer surfaces can be wiped with a soft, dry rag and if needed a small amount of mild detergent. NEVER scrub the surfaces.

Cleaning the soapstone:

Day-to-day cleaning can be made with a damp rag. If necessary the soapstone can be carefully cleaned with some paint-thinner from the hardware store. For difficult stains that cannot be dissolved by the paint-thinner, lightly sand them.

Cleaning the combustion chamber:

Rake out the ashes and store them in a metal container with a tight-fitting lid until cooled completely before throwing them in the trash can. Other waste shall not be placed in this container.

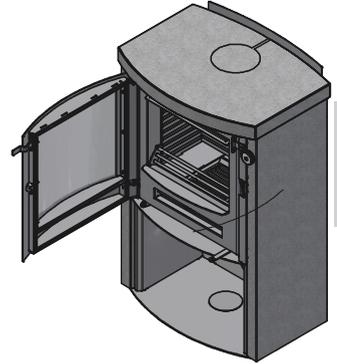
Remember NEVER to clean all ashes from the combustion chamber. Leave about a 3/4" layer for better combustion.

## **Maintaining the installation.**

Establish a routine for the fuel, wood burner and firing technique. Check daily for creosote build-up until experience shows how often you need to clean to be safe. Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. 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.

# REMOVING THE COMBUSTION CHAMBER LINING

The combustion chamber lining protects the body of the fireplace insert from the heat of the fire. The large differences in temperature can lead to cracks in the combustion chamber lining. This will not affect the functionality of the fireplace insert. The lining will only need to be replaced after several years of use when it begins to disintegrate. The liner panels are easy to place in position in the fireplace insert and can easily be replaced by you or your dealer.



US

Procedure for removing the combustion chamber lining:

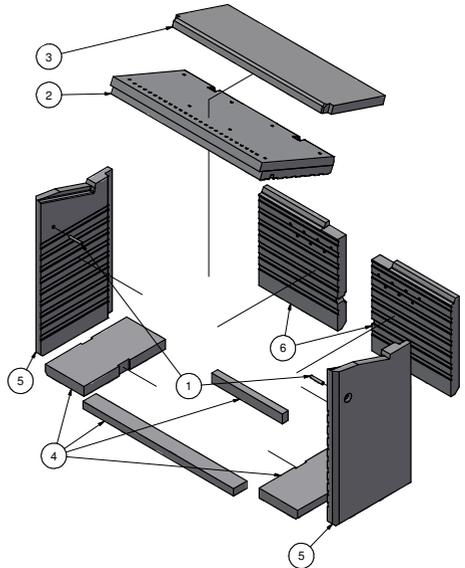
Remove the two steel pins (1) to remove the baffle plate (2). Then remove the smoke deflector plate (3) by pulling it forward and tilting it so that it is free of the vertical plates. The smoke deflector can now be carefully removed.

2. Remove the base plates (4).

3. Loosen the side plates (5) by turning the front end of the plate towards the center of the stove. Then take them out carefully.

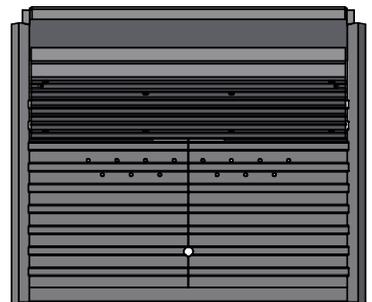
4. Remove the back plates (6) by pulling the side of the plates forward and out.

When the combustion chamber liner is to be reassembled, do so in reverse order.



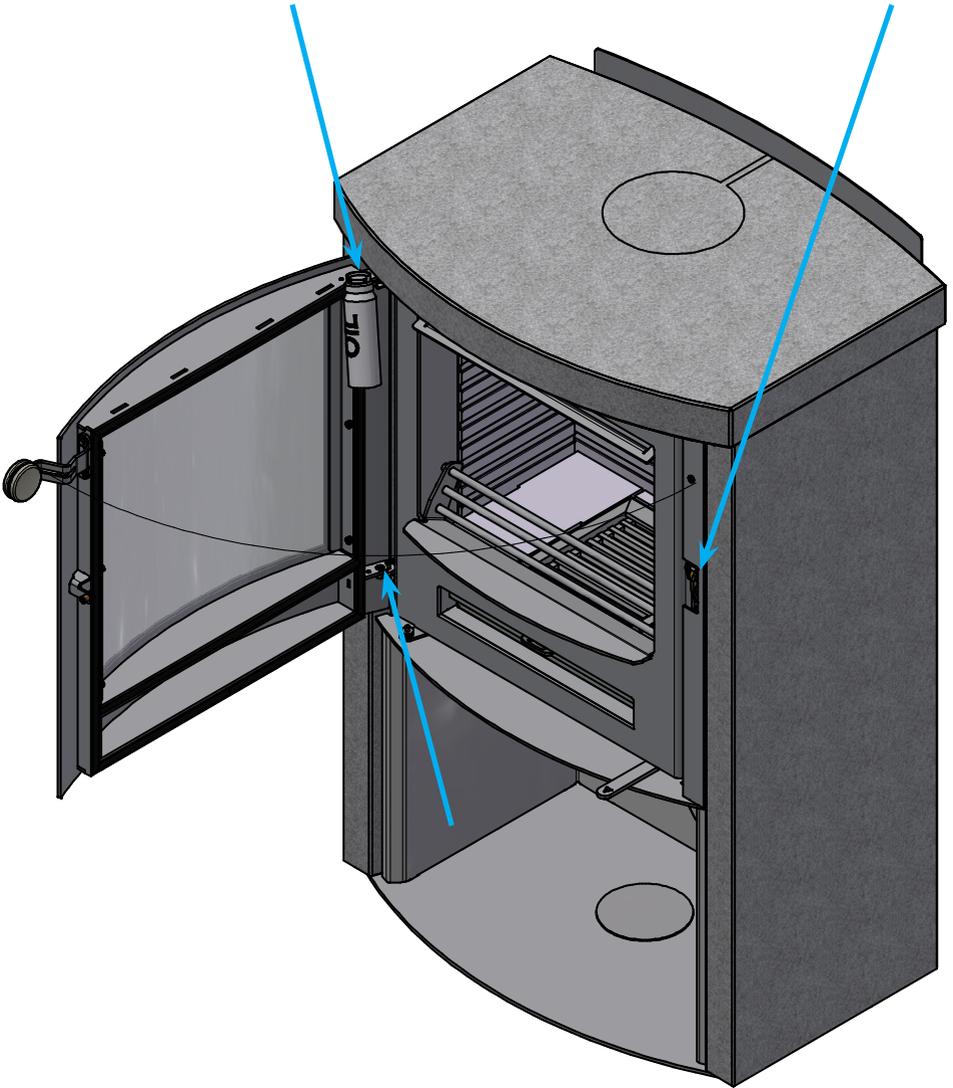
## MAX LOAD

The maximum allowable amount of firewood is marked with a series of holes in the back plates. This means that firewood may only be filled up to this row of holes.



## LUBRICATING THE HINGES & LOCK

The fireplace must be lubricated regularly using the three moving parts on the lock and hinges (see image). Use heat-resistant oil.



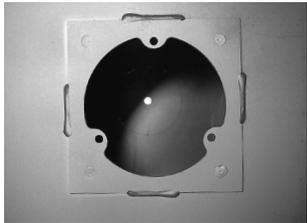
## Cleaning of smoke chicane



Remove the smoke converter plate by tilting it to one side and turning it a little slantwise. Pull out the plate carefully.



Then remove the smoke impediment by lifting it up and moving it forward. Carefully lift out the smoke impediment.



There is now an unblocked view of the smoke discharge. Remove dirt and dust, and mount the parts in reverse order.

## **CREOSOTE**

### FORMATION AND NEED FOR REMOVAL

WHEN WOOD IS BURNED SLOWLY, IT PRODUCES TAR AND OTHER ORGANIC VAPORS, WHICH COMBINE WITH EXPELLED MOISTURE TO FORM CREOSOTE. THE CREOSOTE VAPORS CONDENSE IN THE RELATIVELY COOL CHIMNEY FLUE OF A SLOW-BURNING FIRE. AS A RESULT, CREOSOTE RESIDUE ACCUMULATES ON THE FLUE LINING. WHEN IGNITED, THIS CREOSOTE MAKES AN EXTREMELY HOT FIRE. THE CHIMNEY AND CHIMNEY CONNECTOR SHOULD BE INSPECTED AT LEAST ONCE EVERY TWO MONTHS DURING THE HEATING SEASON TO DETERMINE IF A CREOSOTE BUILDUP HAS OCCURRED. IF CREOSOTE HAS ACCUMULATED, IT SHOULD BE REMOVED TO REDUCE THE RISK OF A CHIMNEY FIRE.

## **DISPOSAL OF ASHES**

ASHES SHOULD BE PLACED IN A METAL CONTAINER WITH A TIGHTFITTING LID. THE CLOSED CONTAINER OF ASHES SHOULD BE PLACED ON A NONCOMBUSTIBLE FLOOR OR ON THE GROUND, WELL AWAY FROM ALL COMBUSTIBLE MATERIALS, PENDING FINAL DISPOSAL. IF THE ASHES ARE DISPOSED OF BY BURIAL IN SOIL OR OTHERWISE LOCALLY DISPERSED, THEY SHOULD BE RETAINED IN THE CLOSED CONTAINER UNTIL ALL EMBERS HAVE THOROUGHLY COOLED. OTHER WASTE SHALL NOT BE PLACED IN THIS CONTAINER.

The firebox lining is made out of vermiculite slab insulation (skamol), which protects the outer steel plates from overheating. With time small cracks might appear; this is normal. If it breaks however, it must be replaced. Vermiculite is a porous, high-insulated material and must therefore be handled with care.

## Trouble Shooting

Smoke seeping through the door:

- Not enough draft in the chimney (<12 Pa)
- Check if there are any obstructions in the chimney or the wind pipe
- Check whether the kitchen exhaust fan is in use and if so, turn it off and open the window for a short period of time

Soot on the glass:

- The wood is too damp
- Make sure that the stove is sufficiently heated up before closing the door
- The air control has been set too low

The stove burns too quickly:

- Gasket may not be tight, please check and replace if necessary
- Chimney draft maybe too high >22 Pa, if this is the case, please install a damper

The stove is burning too slowly:

- Not sufficient amount of firewood
- Not enough air is getting into the stove
- Blocked chimney
- Leaking chimney
- Leak between chimney and pipe

If the problems continue we recommend contacting your chimney sweep or your local RAIS dealer.

Chimney fire, soot fire or creosote fire:

In case of a fire in the chimney quickly close all doors, dampers, vents and call your local fire department. NEVER use water to extinguish the fire.

## Spare parts Q-Tee II C SST USA

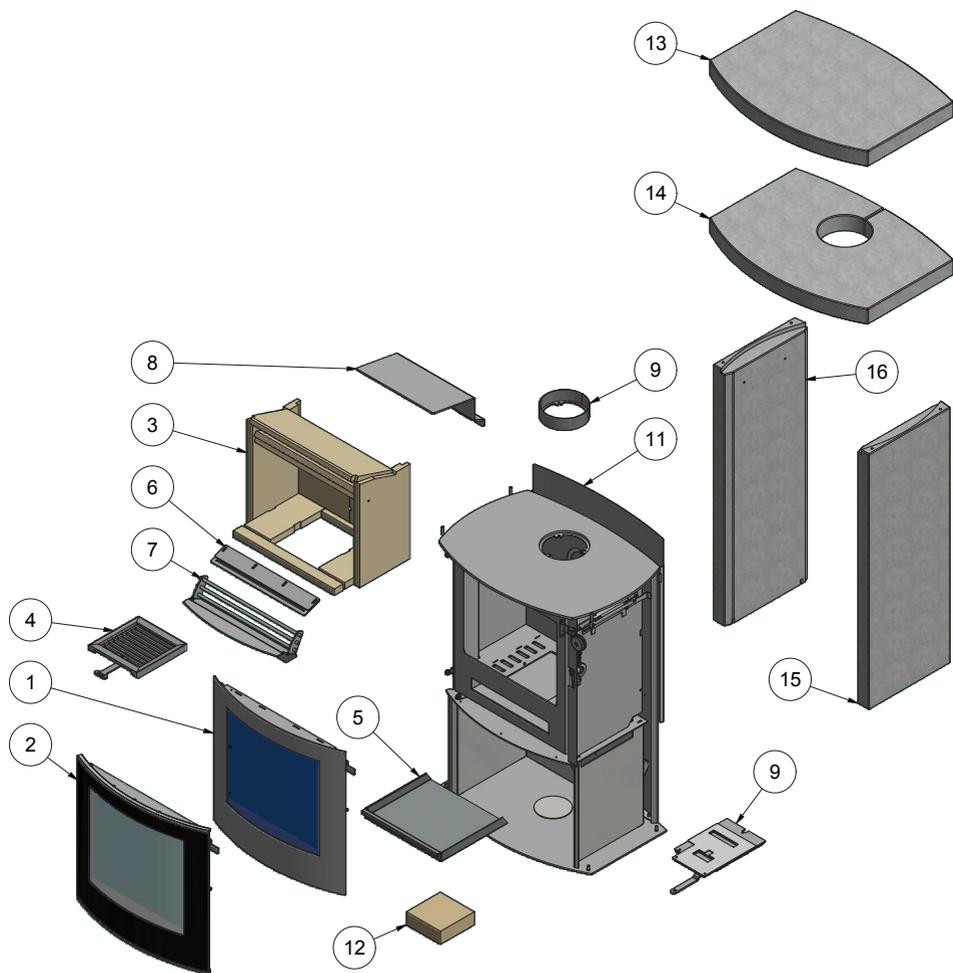
Only use the specified original Rais components!

If spare parts other than those recommended by RAIS are used, the warranty is voided.

All replaceable parts can be bought as spare parts from your RAIS distributor. For reference see spare parts drawing Q-Tee II (front of the user manual).

Pos.	PCS.	Item number.	Description
1	1	8341190	Steel door
2	1	8341090	Glass door
3	1	8422200USA	Fire brick set
4	1	8423800USA	Shaking grate
5	1	8384001	Ash pan
6	1	838121090	Air guiding plate
7	1	834121590USA	Turbo plate
8	1	8381301	Smoke chicane
9	1	61-110	Flue collar for USA- England - 6"
10	1	8340990USA	Air damper
11	1	8284101	Reflector - Curved
12	1	8345500	Seal set
13	1	8337001	Top plate for Back outlet
14	1	8337002	Top plate for Top outlet
15	1	8337003	Side Stone Right
16	1	8337004	Side Stone Left

# Spare parts



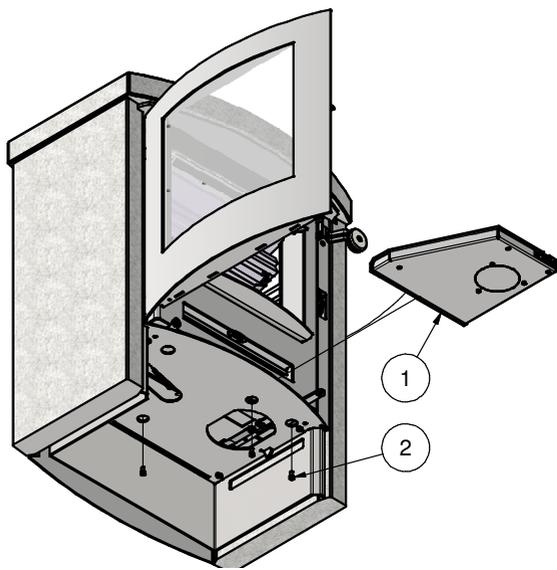
## Fitting the air-box.

To mount the air-box, first the build in frame and the bottom cover must be removed.

1. Replace the two screws holding the air damper with the stand offs delivered with the air-box

2. Slide the air-box (1) under the burning chamber, make sure that the back end of the air-box are resting on the two pins.

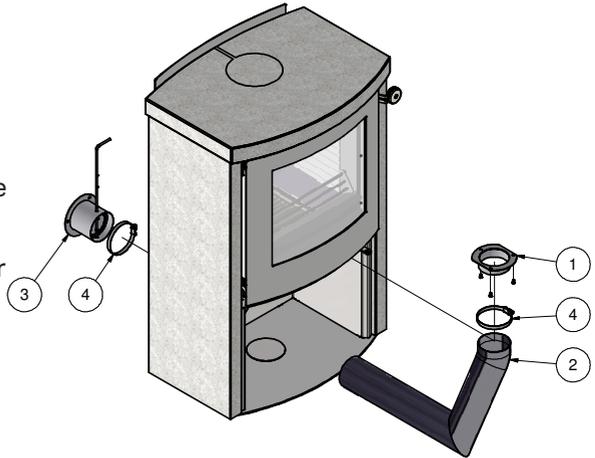
3. Fasten the air-box with the delivered screws (2).



## AIR KIT - FRESH AIR SUPPLY, AIR THROUGH THE BACK.

When the space heater is installed in a structure where direct combustion air is required, an air kit must be used to supply fresh air to the appliance from outside.

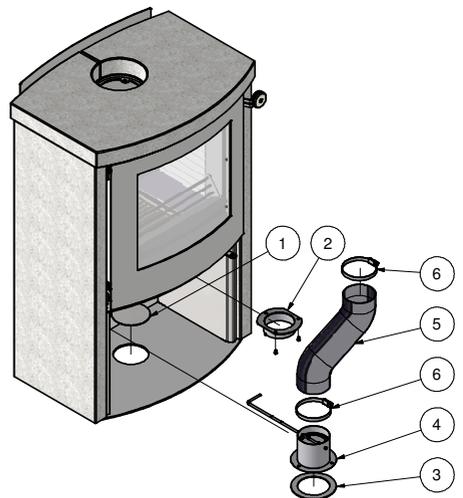
1. Remove the knock-out form in the air-box, plinth and the back panel.
2. Mount the air nozzle (1) on the air-box
3. Mount the air valve (3) on the wall, over the hole leading to the outside.
4. Mount the flex hose (2) to the air nozzle (1) with the hose clamp (4)
5. Connect the flex tube (2) to the air valve (3) using a hose clamp (4).



## AIR KIT - FRESH AIR SUPPLY, AIR THROUGH THE BOTTOM.

When the space heater is installed in a structure where direct combustion air is required, an air kit must be used to supply fresh air to the appliance from outside.

1. Remove the knock-out form in the air-box, and remove the cover plate (1)
2. Mount the air nozzle (2) on the air-box
3. Mount the air valve (4) over the hole in the bottom plate with the gasket (3)
4. Mount the flex hose (5) to the air nozzle (2) with the hose clamp (6)
5. Connect the flex tube (5) to the air valve (4) using a hose clamp (6).





**RAIS A/S**  
Industrivej 20  
DK-9900 Frederikshavn  
Denmark  
[www.rais.com](http://www.rais.com)



## Revision log:

<b>Rev</b>	<b>Dato (DMY)</b>	
3	01-05-2023	sparepart list updated with new part numbers for firebrick set and shaking grate.
4	15-05-2023	Section on "Smoke and carbon monoxide detectors" added
5	05-08-2023	Label changed according to S627-2023
6	28-09-2023	label changed