

This information refers to the following products

Rayburn cooker Model 216M

Please note that some original pages may not appear in original numerical order, but have been rearranged for clarity or deleted if not appropriate.

WARNING

This information is a copy of an original archive, therefore Aga cannot be held responsible for its continued accuracy or relevance.



Users Instructions for Rayburn Heatranger 216M Multi-Fuel Cooker



At the Heart of your Home

Consumer Protection

As manufacturers and suppliers of cooking and heating products, in compliance with Section 10 of the Consumer Protection Act 1987. We take every care to ensure as far as is reasonably practicable that these products are so designed and constructed as to meet the general safety requirement when properly used and installed. To this end, our products are thoroughly tested and examined before despatch.

IMPORTANT NOTICE: Any alteration that is not approved by Aga-Rayburn, could invalidate the approval of the appliance, the warranty and could also infringe the current issue of the statutory requirements.

Important

This appliance could contain any of the materials that are indicated below, it is the Users/Installers responsibility to ensure that the necessary personal protective clothing is worn when handling,

where applicable, the pertinent parts that contain any of the listed materials that could be interpreted as being injurious to health and safety, see below for information.

Firebricks – when handling use disposable gloves.

Fire Cement – when handling use disposable gloves.

Glues and Sealants – exercise caution – if these are still in liquid form use face mask and disposable gloves.

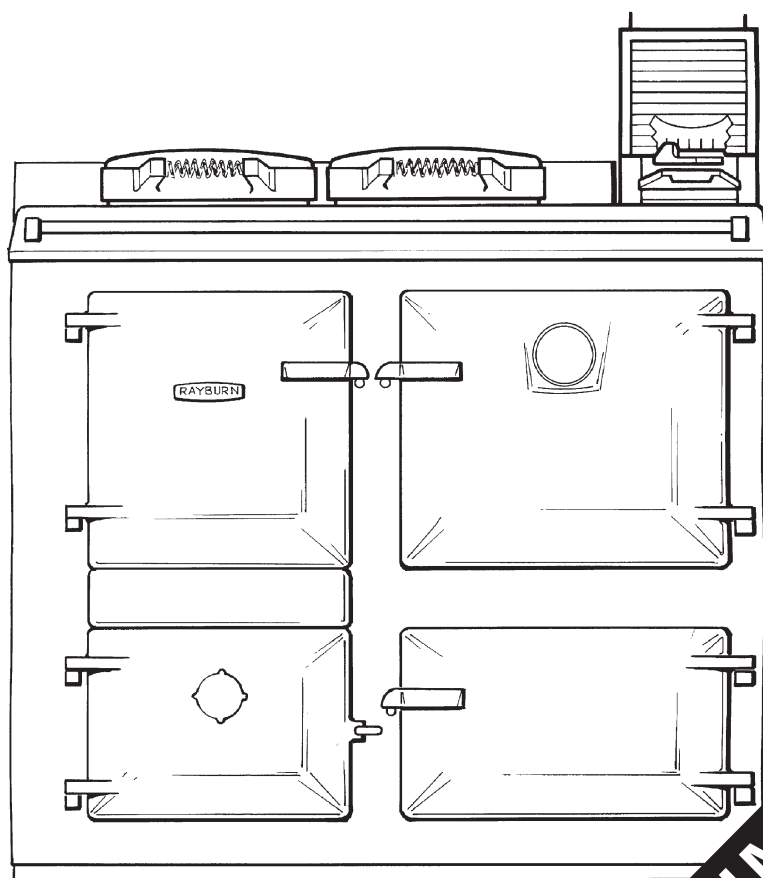
Glass Yarn, Mineral Wool, Insulation Pads, Ceramic Fibre, Kerosene Oil – may be harmful if inhaled, may be irritating to skin, eyes, nose and throat. When handling avoid inhaling and contact with skin or eyes. Use disposable gloves, face-masks and eye protection. After handling wash hands and other exposed parts. When disposing of the product, reduce dust with water spray, ensure that parts are securely wrapped.

INTRODUCTION

The user should obtain confirmation from the installer that the chimney is of sound airtight construction, is clear of obstructions and has been swept before installation. The Rayburn Heatranger 216M has been designed to burn a variety of solid fuels to provide heating facilities for cooking, domestic hot water and central heating. The cooker and water temperatures are manually controlled by the spinwheel on the front of the ashpit door.

WARNING

THE ASHPIT DOOR AND FIREBOX DOORS MUST BE LOCKED CLOSED AT ALL TIMES DURING NORMAL USE, EXCEPT WHEN LIGHTING OR RE-FUELLING



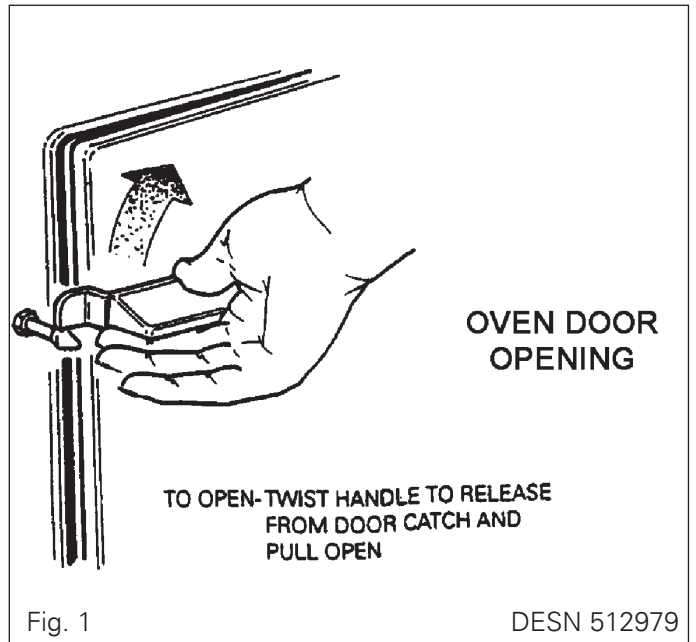
IMPORTANT
This cooker is intended to run in a continuously airtight condition at all times, at low fire rate when idling, unless servicing is required.

DOOR OPERATION

OVEN DOOR OPERATION - SEE FIG. 1

To open the doors. Twist the handle slightly to lift up the door catch from the locking spindle and pull the door open.

To close the doors. Gently push the door shut until the door catch makes contact with the locking spindle.



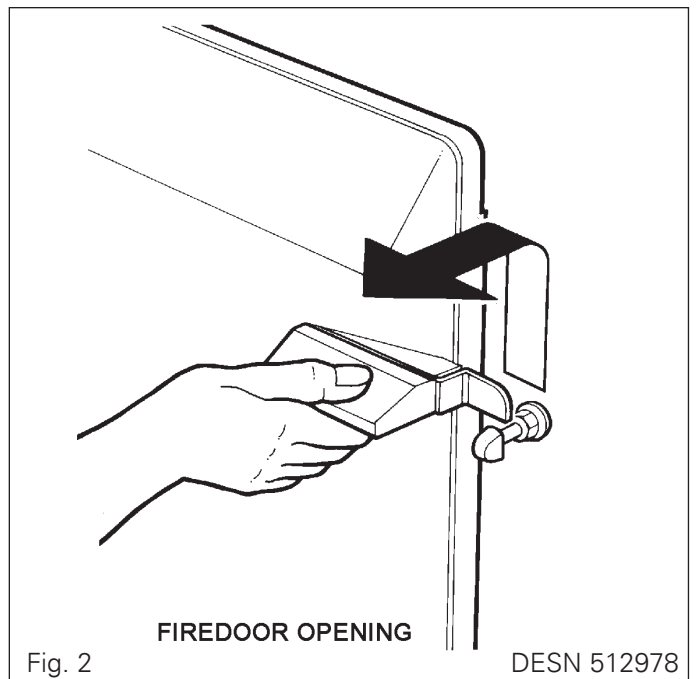
FIRE DOOR OPERATION - SEE FIG. 2

To open the door. Lift the door by the handle and pull forward.

To close the door. Lift the door up by the handle and push to shut.

**THE FIREDOOR MUST BE LIFTED SLIGHTLY WHEN
OPENING AND CLOSING, OTHERWISE DAMAGE TO
THE DOOR CATCH WILL OCCUR.**

DO NOT SLAM THE FIREDOOR SHUT!



GENERAL

Firebrick Positions and Replacement

The Rayburn is delivered complete including a set of boiler removable firebricks where positional location determines the amount of hot water supplied in winter and summer seasons. The oven side and firebox firebricks are permanently fixed with fire cement whilst the two boiler side bricks are located for the summer season thereby providing domestic hot water only.

For winter use or central heating facilities, the boiler face side bricks are removed. See Figs. 3, 4 and 5.

The firebricks fitted to Rayburn Cookers are of first quality manufacture, and providing the cooker has been installed and used correctly will have a reasonable life.

They are however, expendable items and in time will require renewal. The renewal of firebricks is not a major operation and can be carried out by the average handyman. The boiler side firebricks are supported on a frame on the boilers sides and are held in position by a retaining toggle at the top.

The front plate protection firebrick is held in position by a retaining rib on the boiler side. The firebricks are not attached with fire cement and can be removed and refitted quite simply. See Fig. 5.

Replacement bricks either in sets or singly can be obtained from your Rayburn stockist. Quote the serial number which will be found on a data plate inside the ashpit door.

Secondary Air Slide

On opening the firedoor the secondary air slide is seen on the base of the opening and should be set according to the fuel being as follows:-

Air Slide Open

ALL fuels except Sunbrite Coke

Air Slide Closed

SUNBRITE coke only

RECOMMENDED SOLID FUELS

Manufactured: Phurnacite Plus, Supacite, Coalite Nuts, Maxibrite, Phurnacite, Sunbrite Doubles, Extracite, Blazebrite, Taybrite.

Natural: Anthracite Large and Small Nuts, Selected Housecoal (Trebles/Large Nuts and Doubles/Nuts).

WARNING: PETROLEUM COKE MUST NOT BE USED.

Oversize fuel lumps should be broken down to size. Stone and other foreign bodies should be removed when fuelling.

Fuels should be stored under cover, particularly manufactured fuels which must be kept dry. Wet kitchen refuse should not be burned.

Fuelling with Wood or Peat

The cooker will satisfactorily burn wood logs, blocks or peat briquettes, but the logs should be perfectly dry in order to obtain the best cooker performance and minimise the deposits of creosote. Wet logs may also provide overnight banking and the following hints are recommended:-

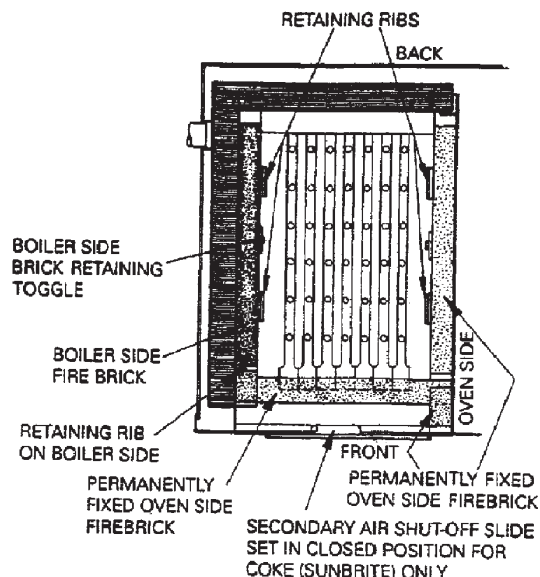


Fig. 3 Summer Use Domestic Hot Water Only

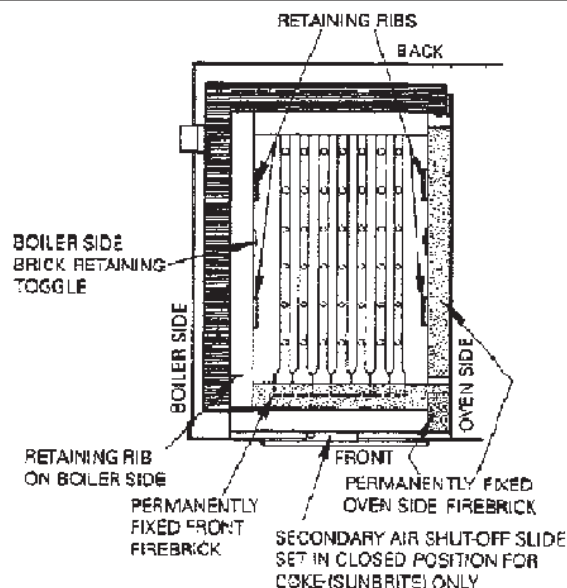


Fig. 4 Winter Use Domestic Hot Water and Heating

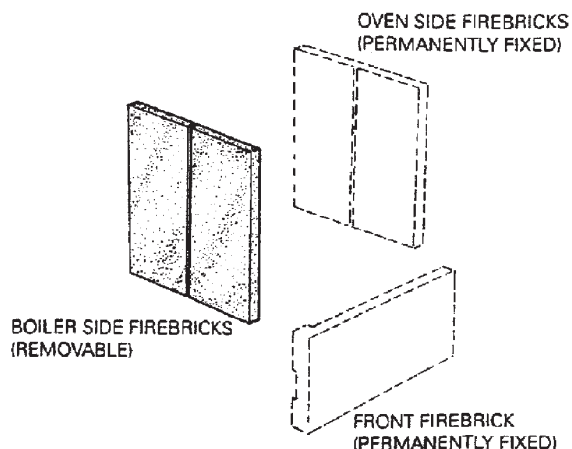


Fig. 5 Firebrick Fitting

- Burn dry soft wood in the daytime and dry hard wood overnight if possible.
- Avoid using 'green' wood on overnight banking as creosote deposits will be increased.
- Using hard wood in the daytime will give prolonged burning but heating response will be slower.
- Before refuelling, open the flue chamber damper to its full extent and fill the firebox up to the bottom of the firedoor opening, ensuring the secondary air slide is at fully open.

LIGHTING THE FIRE

All Fuels Using Wood and Paper

- Check the flue pipe is free of blockage.
- Open firebox door.
- Open ashpit door.
- De-ash (Fig. 7) and remove dead fuel from bottomgrate, rake fuel into ashpan.
- Remove ashpan, empty and replace (Fig. 8).
- Open flue chamber damper to maximum (Fig. 9).
- Flue dilution lever fully to 'left' (flue chamber door closed, Fig. 9).
- Lay a liberal supply of wood and paper on top of the bottomgrate bars together with a small quantity of fuel and light.
- Close and lock the ashpit door** with the spinwheel control open.
- Close and lock the firedoor.**
- With fire established, open firebox door and fill firebox with fuel. Check secondary air slide setting (Fig. 10). **Close and lock firebox door.** Push flue chamber damper back to position which has been found to give desired burning rate.

All Fuels Using a Gas Poker

- Check the flue pipe is free of blockage.
- Open firebox door.
- Open ashpit box.
- De-ash (Fig. 7) dead fuel from bottomgrate, rake fuel into ashpan. Insert flay bayonet type gas poker on top of bottomgrate bars.
- Remove ashpan, and empty (Fig. 8).
- Open flue chamber damper to maximum (Fig. 9).

- Flue dilution lever fully 'left'. (flue chamber door closed, Fig. 9).
- Lay a 75-100mm (3ins-4ins) shallow depth of fuel onto the bottomgrate and light gas poker.
- Close the ashpit and firebox doors as far as possible - spinwheel control open.
- When the fuel is well alight, extinguish and remove the gas poker, replace the clinker door and ashpan, **close and lock the ashpit door** with the spinwheel control open, close the firedoor.
- With the fire established, open the firebox door and fill firebox with fuel. Check secondary air slide setting (Fig. 8). **Close and lock the firebox door.** Push the flue chamber damper back to position which has been found to give best results. Set spinwheel to give desired burning rate.

NOTE: IF THERE IS DEAD FUEL IN THE GRATE, DROP THE BOTTOMGRATE TO REMOVE THE FUEL UNLESS A GAS POKER IS GOING TO BE USED - SEE UNDER 'TO DUMP THE GRATE'.

FUELLING

- The ashpit door spinwheel does not require to be open for more than:-
 - Coke - Five complete turns
 - Other recommended fuels - Three complete turns during cooking period.
- Ensure the chimney damper is fully open prior to refuelling and the secondary air slide is set in the permanently open position (all fuels except coke).
- With the firedoor only open, fill the firebox to the recommended level of the bottom firedoor opening (not above) and **close the firedoor**. A deep bed of newly charged fuel on a low fire will take time before the heat reaches the oven, hotplate and boiler. When burning coal or Anthracite, allow several minutes for the new charge to ignite before changing the damper setting.
- Once refuelling has been completed, close the firedoor immediately and open only for re-fuelling.**

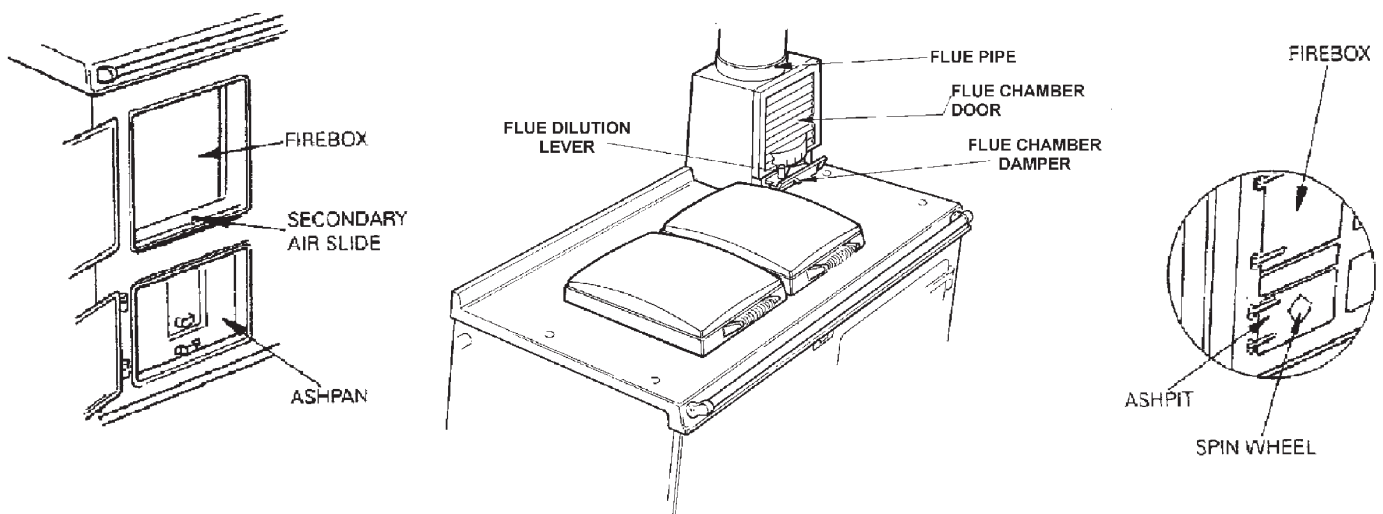


Fig. 6 Familiarise Yourself with the Cooker

CONTROL

The fire is controlled by using the spinwheel on the ashpit door to govern air supply. The chimney damper in the flue chamber is for reducing the chimney draught, and the more the damper can be closed the easier the cooker is to control. It is marked to enable you to repeat the best settings you find suits your chimney **No.1** is closed position and **No.6** when fully open.

Do not try to obtain a quick increase in temperature by opening the chimney damper to its full extent. This results in most of the heat being wasted up the chimney. Avoid excessive fire temperatures with solid fuel - they are not necessary and may do serious harm to the cooker. The first sign that the cooker is being overheated is the formation of clinker (melted ash), and clinker will damage the firebricks. Damaged firebricks should be repaired with fire cement or if necessary replaced as soon as possible.

Keep the ashpit door securely closed with catch provided.

Main Oven

The correct adjustment of the spinwheel damper to obtain the oven temperature required varies with the chimney draught, and can be found only by experiment. The following is a suggested method only, and may need modification to suit local conditions. Suppose an oven temperature for roasting is desired and the cooker is idling.

Thoroughly de-ash the fire as described in the 'Riddling' paragraph, and refuel. Set the chimney damper to **No. 3** setting and open the spinwheel as described under item 1 of 'Fuelling'. As soon as the fire has become nicely red all through, close the chimney damper. Do not allow the fire to become white hot. The temperature of the oven should now rise steadily. When it reaches a point about 30°C (50°F) below that required, close the spinwheel to approximately one turn open. Thereafter control the temperature of the oven by adjusting the spinwheel.

NOTE: THIS METHOD SHOULD PROVE SUCCESSFUL IN ALMOST ALL CASES, BUT IF CLOSING THE CHIMNEY DAMPER CAUSES THE FIRE TO SMOKE, IT SHOULD BE OPENED GRADUALLY UNTIL THE SMOKING STOPS.

OVEN TEMPERATURE

HOT	200°-260°C (400°-500°F)
MODERATE	150°-200°C (300°-400°F)
SLOW	90°-150°C (200°-300°F)

The Warming Oven

The oven is primarily intended for heating plates and keeping food warm. As a guide this warming oven is about half the temperature of the main oven.

NOTE: THE DOORS SHOULD NOT BE SLAMMED SHUT, OR THIS WILL WEAR AWAY THE METAL RETAINER CATCHES.

The Hotplate

The best results can only be obtained by using machine base utensils. The hottest part of the hotplate is immediately above the fire, the other end is for simmering.

The plug in the hotplate at the flue chamber end is for flue cleaning and should not be removed for cooking.

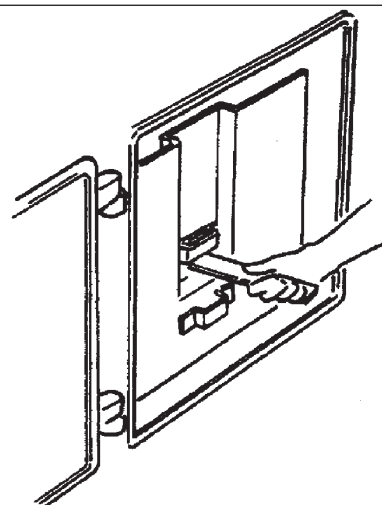


Fig. 7

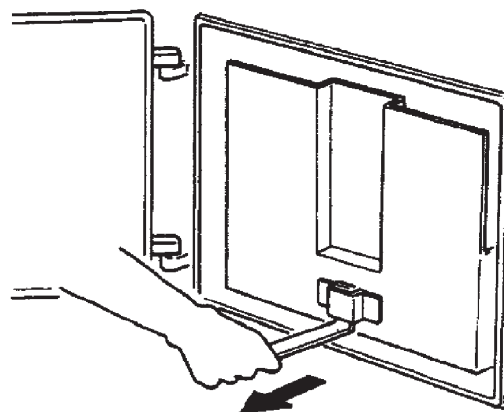


Fig. 8

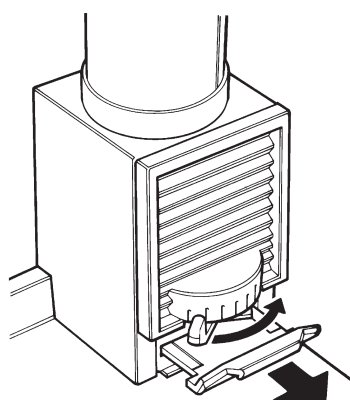


Fig. 9

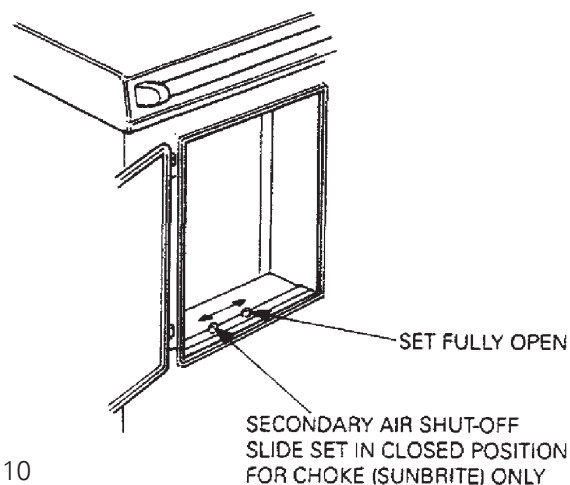


Fig. 10

NOTE: IN ORDER TO OBTAIN A OPTIMUM HOT PLATE PERFORMANCE FOR FAST BOILING OR HOT PLATE COOKING, FUEL THE FIREBOX TO THE BOTTOM EDGE OF THE FULLING APERTURE TO A HORIZONTAL LEVEL.

WARNING: THE COOKER TOP PLATE SURFACE AROUND THE HOTPLATE WILL BECOME HOT UNDER USE AND CARE MUST BE OBSERVED.

OVERNIGHT BURNING

Wood

The cooker is designed for continuous slumbering overnight up to a maximum of 12 hours depending on the type of dry wood being used.

Last thing at night, open the chimney damper, riddle the fire, empty the ashpan and refuel as described under **"Fuelling"**. **Ensure that the ashpit door is securely closed**, spinwheel is closed tightly and the damper is closed to its **No.1** setting.

Turn the pivoted dilution lever (on the bottom front flue chamber door) Fig. 9 from left to right hand side so that the door opens at the bottom and minimises the burning rate and chimney condensation.

NOTE: THE PRECISE AMOUNT OF OPENING DEPENDS ON THE CHIMNEY DRAUGHT AND MAY TAKE 2 OR 3 DAYS TO ASCERTAIN IN CONJUNCTION WITH THE TYPE/CONDITION OF WOOD BEING BURNT.

1. If the fuel in the firebox is exhausted prematurely, the overnight chimney draught must be reduced by further opening of the flue chamber door.
2. If the fuel does not burn but 'dies out' the draught should be increased by partly closing the flue chamber door. In the morning, close the flue chamber door, open the spinwheel and damper and fuel the fire. Immediately the new fuel has caught alight, riddle the fire and close the damper.

NOTE: BUILD-UP OF CREOSOTE DEPOSITS IN THE FLUE AND CHIMNEY CAN IN TIME, LEAD TO CHIMNEY FIRES. THESE DEPOSITS CAN BE PREVENTED BY THE REGULAR USE OF A PROPRIETARY BRAND OF CHEMICAL CREOSOTE REMOVER CHIMNEY CLEANER SUCH AS "ATTACK" WHICH REDUCES THE ADHESION STRENGTH OF THE CREOSOTE DEPOSITS, CAUSING THEM TO FALL.

IMPORTANT: CHEMICAL CLEANERS MUST NOT BE CONSIDERED AS AN ALTERNATIVE TO CHIMNEY SWEEPING, ONLY AS SUPPLEMENTARY.

Solid Fuel

The cooker is designed for continuous burning and the best results will only be obtained if it is allowed to burn overnight. It is no more expensive in fuel. Last thing at night open the chimney damper, riddle the fire, empty the ashpan and refuel. Do not overload. **Ensure that the ashpit door is securely closed**. Close the spinwheel and reopen it a quarter of a turn.

THE BEST POSITION FOR THE CHIMNEY DAMPER CAN BE FOUND ONLY BY EXPERIMENT, BUT FOR A START TRY CLOSING IT TO No. 1 SETTING.

In the morning, open the spinwheel and damper and riddle the fire. When it is burning, close damper, if the hotplate is required immediately, do not refuel before use.

SPARE PARTS

Open the chimney damper to its full extent and the ashpit door. Engage the operating tool into the riddling lever which projects through the ashpan front and push/pull the lever in a back and forth motion to de-ash.

To de-ash, riddle the grate by agitating the riddling handle in an up and down manner about 20 times to free the grate of ash. See Fig. 7.

ALWAYS DE-ASH BEFORE REFUELLING (SEE 'EXCEPTIONS' BELOW AT THE FOLLOWING INTERVALS).

SUMMER USE:

Three times daily at least.

WINTER USE:

Three time daily at least and more often if required.

NOTE: SHOULD THE BOTTOMGRATE DE-ASHING FAIL TO CLEAR AN ACCUMULATION OF STONES, SHALE OR CLINKER, IT MAY BE REMOVED AS DESCRIBED IN SECTION 'REMOVAL OF CLINKER'.

Open the ashpit door to give access to the ashpan which must be emptied regularly (See Fig. 8). In winter, this may be more than three times daily depending on weather severity. The class of fuel and cooker usage govern the frequency of refuelling.

NOTE: DO NOT ALLOW ASH TO ACCUMULATE IN THE ASHPAN UNTIL IT TOUCHES THE UNDERSIDE OF THE BOTTOMGRATE BARS OR THEY WILL QUICKLY BURN OUT.

Ensure the ashpan is fully home otherwise the ashpit door may not close and lock completely.

EXCEPTIONS: WHEN BURNING ANTHRACITE OR PHURNACITE ALWAYS REFUEL BEFORE EMPTYING ASHPAN AND RIDDLING.

Clinker Removal - 'To Dump the Grate'.

1. Open the ashpit door and remove ashpan.
2. Insert wire tool into locating sockets of grate frame (See Fig. 14) lifting hand holding end of too upwards until grate frame is free of its supports. Taking the weight of the grate frame, gently lower front of grate assembly until it rests on ashpit bottom plate.
3. Remove clinker from sloping bottom grate either by raking poker or tongs.
4. Lift tool upwards and replace front of grate in reverse manner described in **2** ensuring the grate frame is securely supported and located.
5. Check that the reciprocating bars operate by push/pulling the riddling lever with the tool.
6. Replace the ashpan and **lock the ashpit door securely**.

REFUELLING

The firebox should be filled to the recommended level of the bottom firebox door opening **and the firebox door closed**.

NOTE: WHEN BURNING ALL RECOMMENDED FUELS OTHER THAN SUNBRITE COKE, THE SECONDARY ARE SLIDE SHOULD BE SET IN A FULLY OPEN POSITION. A DEEP BED OF NEWLY CHARGED FUEL ON A LOW FIRE WILL TAKE TIME BEFORE HEAT REACHES THE OVEN, HOTPLATE AND BOILER.

When burning Coal, Phurnacite and Anthracite, allow several minutes for the new charge to ignite before changing the flue chamber setting.

ONCE REFUELLING HAS BEEN COMPLETED, CLOSE THE FIREBOX DOOR IMMEDIATELY AND OPEN.

FLUE CLEANING

ONLY FOR REFUELLING CHARGES.

When burning coke, anthracite and other smokeless fuels, logs or peat, the flue should be cleaned once a month.

The use of coal may call for weekly cleaning. The procedure is illustrated in Figs 11, 12 and 13.

Allow the fire to burn out, or it may be done with a low fire. Open the chimney damper to its maximum. Remove the flue chamber cleaning door. Brush the soot from the flue pipe, letting it fall on top of the oven. Remove the plug from the hotplate, rake the deposits forward, and push into the firebox (Fig. 12). Replace parts removed, Riddle the bottomgrate thoroughly, clear the ashpit and relight the fire.

NOTE: THE COOKER IS DESIGNED AND INTENDED TO BE UNDER CONTINUOUS FIRING AND WHEN NOT IN USE, ASHPIT AND FLUE CHAMBER DOORS SHOULD BE LEFT OPEN TO ENSURE FREE PASSAGE OF AIR THROUGH THE APPLIANCE AND SO AVOIDING PROBLEMS ARISING FROM CONDENSATION.

Chimney Sweeping

Sweep annually and an inspection of the soot box at 3 monthly intervals, remove any deposits.

NOTE: SWEEPS BRUSHES MUST BE OF THE TYPE WITH THE WIRE CENTRES AND GUIDE WHEELS.

To Replace Grate Bars

1. Dump the grate assembly as described in **1, 2 and 3** under 'To Dump the Grate - Clinker Removal'.
2. Lift up and draw forward the firebar in question and replace new firebar in reverse manner.

To Replace Grate Bar Support Frame

1. Dump the grate assembly as described in **1, 2 and 3** under '**TO DUMP THE GRATE - CLINKER REMOVAL**'.
2. Lift up and withdraw all the grate bars from the cooker.
3. Lift the support frame from its rear pivot support and withdraw until clear of ashpit.
4. Insert new frame ensuring its pivot/supported at rear.
5. Replace firebars ensuring they are in correct order.
6. Lift grate assembly (as described in **4 and 5** under '**TO**

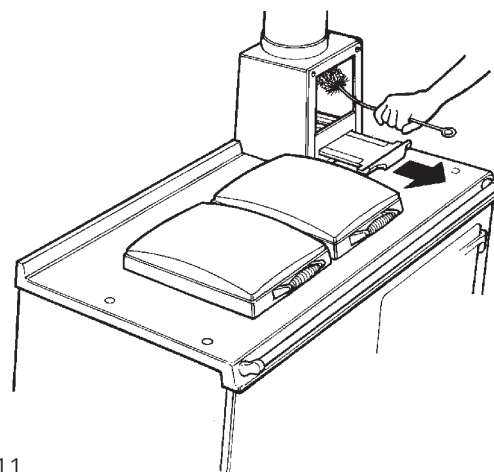


Fig. 11

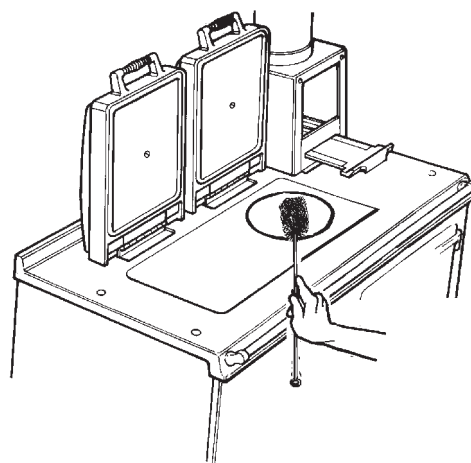


Fig. 12

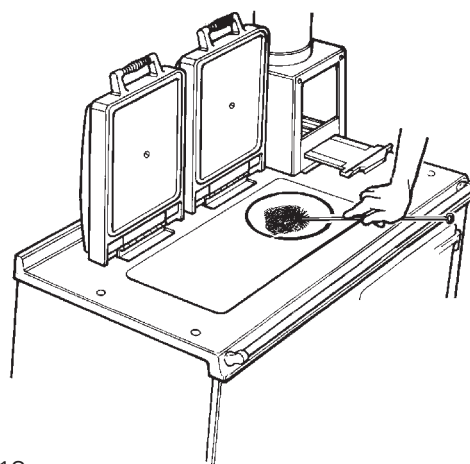


Fig. 13

DUMP THE GRATE - CLINKER REMOVAL'.

HOT WATER SERVICE

The cooker has been designed to provide a satisfactory supply of domestic hot water with or without a limited amount of heating with a normal day's cooking providing the cooker is kept alight overnight and the system complete with lagged cylinder conforms to the installation instructions.

SERVICING

Always use a qualified service/heating engineer when servicing is required.

FUME EMISSION WARNING

Properly installed and operated, this cooker will not emit fumes.

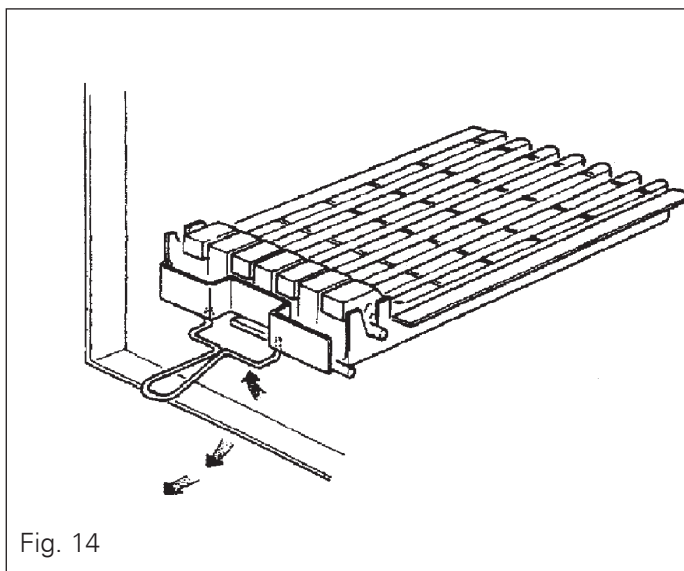
Occasional fumes from de-ashing and re-fuelling may occur, but persistent fume emission must not be tolerated. If fume emission does persist, then the following immediate action should be taken:-

- Open doors and windows to ventilate room.
- Let the fire out or remove lit fuel from cooker.
- Check for flue or chimney blockage and clean if required.
- Do not attempt to relight the fire until cause of fume has been identified, and if necessary seek professional advice.

SPARES LIST

Part Number	Description	No Req'd
RS4M 22093	Bottomgrate Bars Top	4
RS4M 22094	Bottomgrate Bars Bottom	3
RS4F3-13507	Oven Side Firebricks (Fixed)	2
RS4F4-13508	Firebox Side Top Firebrick	1
RS4F3-13509	Front Firebrick	1
RS4F3-13507	Boiler Side Firebricks (Removeable)	2
RS1M91905	Ashpan	2
RSFM61	Operating Tool	1

Replacement parts if required are available from your local stockist.



CLEANING

REMEMBER: BE CAREFUL OF THE HOT APPLIANCE.

Immediately wipe off any fuel streaks between the firebox and ashpit doors.

To keep the vitreous enamelled surfaces bright and clean, wipe over daily with a soapy damp cloth, followed by a clean dry duster. If milk, fruit juice or anything containing acid is split on the top plate or down the cooker, be sure to wipe it immediately or the vitreous enamel may be permanently discoloured. Keep a damp cloth handy, while cooking to wipe up spills as they occur, so they do not harden and become more difficult to remove later. If spills do become baked on a cream cleanser can be used. For stubborn deposits a soap impregnated pad can be carefully used on the vitreous enamel.

In the main oven, spills and fat splashes are carbonised at high temperature, occasionally brush off with a stiff brush. The oven door can be removed for cleaning - **do not** immerse in water, and shelves can be soaked and cleaned with a cream cleanser.

Both insulating covers should be raised and allowed to cool before cleaning with a soapy damp cloth. Use a wire brush to keep the cast iron hotplate clean. General cleaning is best carried out when the Rayburn is cool.

NOTE: SMOKE/SMELL EMITTED DURING INITIAL USAGE

Some parts of the cooker have been coated with a light covering of protective oil. During initial operation of the cooker this may cause smoke/smell to be emitted and is normal and not a fault with the appliance, therefore it is advisable to open doors and or windows to allow for ventilation. Lift the lids to prevent staining the linings.

Important: Aga-Rayburn recommend Vitreous Enamel Association approved cleaners for cleaning the vitreous enamelled surfaces of this product.

But they are unsuitable for use on chrome and stainless steel components, including the hand-rails and their brackets.

The insulating covers should be cleaned regularly with a NON-ABRASIVE mild detergent, applied with a soft (coarse free) cloth and lightly polished up afterwards with a soft (coarse free) duster or tissue, to bring it back to its original lustre.

COOKING HINTS

The oven is indirectly heated from outside by hot gases from the heat source so no flames or elements within the oven means full use can be made of the whole cooking space. The main oven is slightly hotter towards the top than the bottom. At a low idling heat from the main oven can be used for long slow cooking such as casseroles, stock, soup, curries, merigues, creme caramels, rice pudding etc, all of which benefit from the gentle slow heat and as the oven is vented into the flue, cooking smells disappear to the outside. One of the many benefits of the cast iron oven is that the floor of the oven is hotter than that of a conventional cooker. No need to bake quiche pastry cases "blind" just place the flan dish on the oven floor for half the cooking time for 'soggy-free' pastry. When the oven is hot the floor of the oven can be used for shallow frying (a cast iron dish is recommended) with the added advantages that fat splashes are carbonised so cleaning is minimised and the frying smells are taken away through the flue. For perfect baking results turn food during cooking. The top of a hot oven is where grilling takes place, use the meat tray with a grill rack (optional extra) so that fat can drip into the tray. The thermodial temperature gauge, on the main oven door is a guide to the internal oven temperature. Remember though on opening the door the temperature will appear to drop, do not worry, close the door and after a few minutes the true temperature can be read again. Heat is not lost as quickly from a cast iron oven as a pressed metal box type so you can peep at the cake to see how it is cooking without it sinking. As you have probably realised, the meat tray supplied with your Rayburn fits the oven size, hanging directly from the runners, so leaving the grid shelves free for other dishes. The oven grid shelves are designed to be non-tilt and should be fitted with the upstand to the top and at the back, so when pulled forward the shelf cannot come right out. The solid plain shelf can be used as a baking sheet or as a heat deflector. If the oven is too hot or food already in the oven is beginning to overbrowned slide in the solid plain shelf above the food. To be effective this shelf should be stored out of the oven, so it can be used from cold.

DO NOT USE ABRASIVE PADS OR OVEN CLEANERS

NOTE: IT IS NOT ADVISABLE TO PUT VERY WET CLOTHES ON THE HANDRAIL, AS THIS MAY CRAZE THE ENAMEL.

**For further advice or information contact
your local distributor/stockist**

With Aga-Rayburn's policy of continuous product improvement, the Company reserves the right to change specifications and make modifications to the appliance described and illustrated at any time.



Manufactured by
Aga-Rayburn
Station Road
Ketley Telford
Shropshire TF1 5AQ
England

www.aga-rayburn.co.uk
www.agacookshop.co.uk
www.agalinks.com
www.cookcraft.co.uk



Installation Instructions for Rayburn Heatranger 216M Solid Fuel and Wood Burning Cooker



At the Heart of your Home

Consumer Protection

As manufacturers and suppliers of cooking and heating products, in compliance with Section 10 of the Consumer Protection Act 1987, we take every care to ensure, as far as is reasonably practicable, that these products are so designed and constructed as to meet the general safety requirement when properly used and installed. To this end, our products are thoroughly tested and examined before despatch.

IMPORTANT NOTICE: Any alteration that is not approved by Aga-Rayburn, could invalidate the approval of the appliance, operation of the warranty and could also affect your statutory rights..

Control of Substances - Health & Safety Important

This appliance may contain of the materials that are indicated. below. It is the Users/Installers responsibility to ensure that the

necessary personal protective clothing is worn when handling, where applicable, the pertinent parts that contain any of the listed materials that could be interpreted as being injurious to health and safety, see below for information.

Firebricks, Fuel beds, Artificial Fuels- when handling use disposable gloves.

Fire Cement - when handling use disposable gloves.

Glues and Sealants - exercise caution - if these are still in liquid form use face mask and disposable gloves.

Glass Yarn, Mineral Wool, Insulation Pads, Ceramic Fibre, Kerosene Oil - may be harmful if inhaled, may be irritating to skin, eyes, nose and throat. When handling avoid inhaling and contact with skin or eyes. Use disposable gloves, face-masks and eye protection. After handling wash hands and other exposed parts. When disposing of the product, reduce dust with water spray, ensure that parts are securely wrapped.

INTRODUCTION

REMEMBER, when replacing a part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by AGA-RAYBURN.

The Rayburn Heatranger 216M is intended to supply heating for:-

- Cooking and domestic hot water.
- Cooking domestic hot water and central heating.

The cooker full meets the requirements of BS 1252 and is fully approved by the HETAS Ltd Approval Scheme.

Air for combustion within the firebox and the rate of burning is determined by the manually operated spinwheel control on the ashpit door.

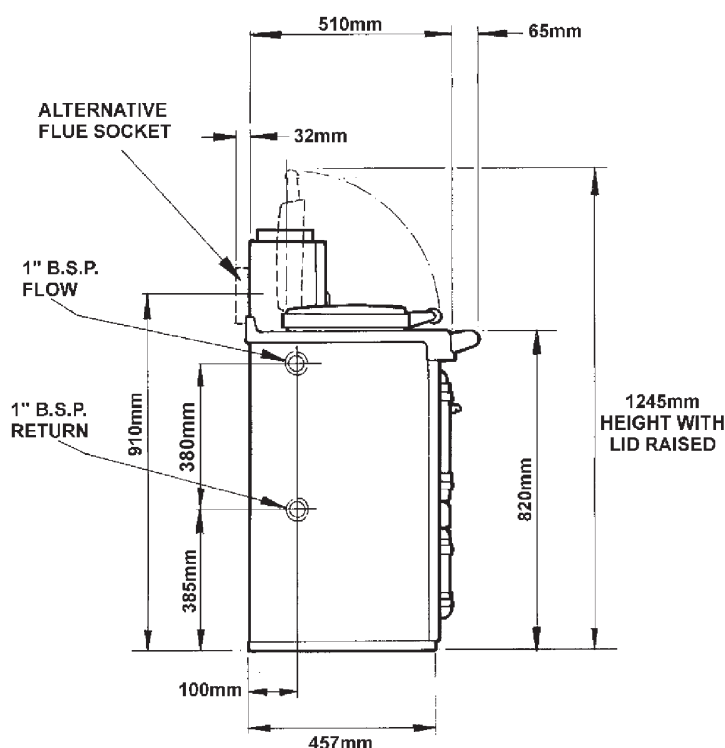
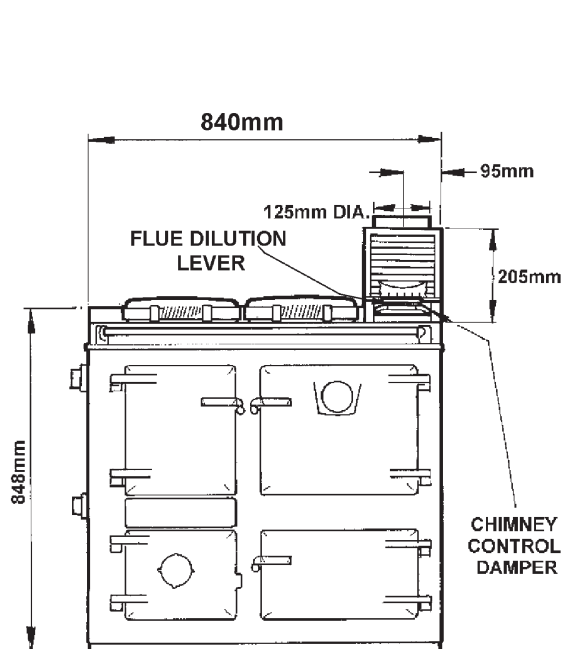
WARNING

THE ASHPIT AND FIREBOX DOORS MUST BE LOCKED CLOSED AT ALL TIMES DURING NORMAL USE, EXCEPT WHEN LIGHTING OR RE-FUELLING

Domestic Hot Water (solid fuel or wood)

When fitted for domestic hot water, the cooker will, with normal usage in 24 hours continual burning with solid fuel or wood provide two or three baths at intervals and hot water for normal household requirements. The following conditions must be fulfilled:-

1. Use only an indirect hot water storage cylinder of the double feed type, not less than 190 litres actual capacity, and to BS. 1566: Part 1 DF: Type 10.
2. The cylinder to be effectively lagged, and fixed vertically.
3. The cylinder should be as near to the cooker as possible. In no case may 1in B.S.P. or 28mm copper flow and return pipes exceed 10m each in length.
4. 1in B.S.P. or 28mm flow and return pipes exceeding 5m each in length must be lagged.



DESN 513402

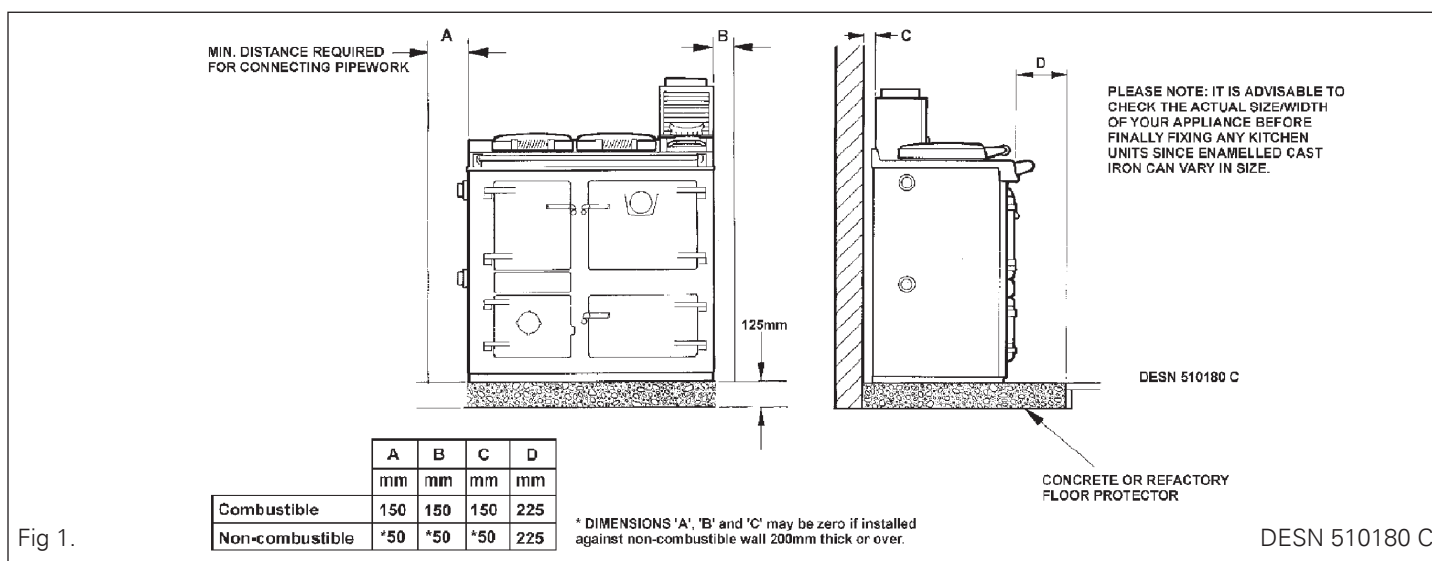


Fig 1.

- The draw-off pipe to the taps must be dead-leg connection from the expansion pipe.
- If burning solid fuel with 1in B.S.P., or 28mm copper flow and return pipes less than 7m each in length a towel rail/radiator with a surface area of up to 1m² should be fitted and suitably valved to close off the circulation in the event of a change to wood burning.

Domestic Hot Water and Heating (solid fuel)

When fitted for domestic hot water and heating burning solid fuel the cooker will, with a burning rate to maintain an oven temperature of 205-220°C (400-430°F), also heat 9.3m² of radiator surface and pipes.

The recommended heating surface area is based on an average heat emission of 0.5kW/m (160Btu/f h). The flow and return pipes from the cooker should be connected to a 190 litres **indirect cylinder** and the flow should be vented.

Domestic Hot Water and Heating (wood)

When fitted for domestic hot water and heating burning wood the cooker will also heat 5m² of radiator surface and pipes, but increased burning rate of the fuel must be obtained to achieve this.

The recommended heating surface area is based on an average heat emission of 0.5kW/m². The flow and return pipes from the cooker should be connected to a 190 litre **indirect cylinder** and the flow be vented.

PREPARATION OF SITE

The non-combustible hearth must be solid and level and together with the walls adjacent to the cooker and chimney, conform to current Building Regulations.

The cooker and chimney flue installation should be in accordance with the relevant recommendations of BS. 8303 and BS. 6461. Part 1, BS 7566 Parts 1 to 4, and the central heating system to BS. 5449 Part 1.

The boiler installation section must also be in accordance with the bylaws of the local Water Undertaking, Regulations for the Electrical Equipment of Buildings published by the Institute of Electrical Engineers and any relevant requirements of the Local Authority.

Ensure that any electrical wiring is correctly earthed.

COOKER POSITION

When the cooker is installed in a recess it must be 'freestanding' and not built-in solid at the sides. Ensure that any combustible material e.g. kitchen furniture is spaced away from the cooker to the recommended distances. See Fig. 1.

Tiling

Where the cooker is to stand in a recess or against a wall which is to be tiled, **in no circumstances should the tiles overlap the cooker top plate.**

THE CHIMNEY

Checking existing chimney

The internal and external condition of the chimney should be checked **before** the appliance is installed and rectification made where necessary to prevent leakage or porosity. The soundness of the chimney which should have a minimum flue dimension of 150mm can be confirmed by smoke testing.

Advice on the test method can be obtained from the local HETAS LTD.

When repairing or re-using existing chimneys its recommended that the building control officer be consulted before the commencement of work with particular attention to the chimney height and its termination.

The chimney must be swept before installation.

Erecting New Chimney

The flue through the chimney should be formed with pre-cast moisture and acid resistant liners with a minimum internal dimension of 150mm square and all in accordance with the current Building Regulations J/1/2/3 (England and Wales) and in Scotland the Building Standard (Scotland) (Consolidation) Regulations and the Codes of Practice for Chimneys and flues BS 6461. Part 1 and BS. 7566 Parts 1 to 4.

Ensure the chimney liners are free of projecting internal building jointing composition before the appliance is installed.

Factory made Insulated Chimneys

It is recommended the chimney be ceramic lined and comply with BS. 4543: Part 2.

The minimum diameter for a chimney is 150mm and there should not be more than two bends of 45° from vertical.

IN ALL TYPES OF CHIMNEYS THE MINIMUM HEIGHT FOR CORRECT OPERATION OF THE COOKER IS 5.5m AND SHOULD TERMINATE ABOVE THE ROOF IN ACCORDANCE WITH REGIONAL STATUTORY REQUIREMENTS.

RECOMMENDED FLUE DRAUGHT - 2mm W.G. (0.08 in) MINIMUM. THE APPLIANCE SHOULD BE INSTALLED AND CONFORM TO THE CURRENT CODES OF PRACTICE FOR INSTALLATION OF DOMESTIC HEATING AND COOKING APPLIANCES BURNING SOLID FUEL - BS. 8303.

ALWAYS ADVISE THE USER TO CLEAN THE COOKER FLUES IN ACCORDANCE WITH THE OPERATING INSTRUCTIONS AND TO HAVE THE CHIMNEY SWEEPED AT A MINIMUM OF 12 MONTHLY INTERVALS AFTER THE COOKER IS COMMISSIONED.

Cooker Flue Connection

The position of available type of flue layouts are shown in Figs. 2, 3 and 4, the cooker flue chamber is adaptable to provide either top or back flue outlets, by means of the reversible loose socket.

(a) Rear Flue Outlet

This must only be used where there is a brick flue immediately behind the cooker. Provision must be made for a condensate collecting vessel and cleaning door. See Fig. 3.

NOTE: EXTENDED HORIZONTAL FLUE PIPE CONNECTION IS ALLOWED UP TO MAXIMUM OF 150mm IN LENGTH. NO BEND CONNECTIONS ARE ALLOWED. WHEN BURNING BITUMINOUS COAL, BACK OUTLETS SHOULD NOT BE USED.

(b) Top Flue Outlet.

The cooker should be connected to the main flue via a 125mm minimum diameter cast iron pipe or appropriately internally/externally vitreous enamelled mild steel pipe and be sealed to the cooker flue chamber with soft rope and fire cement.

Any bends in the flue pipe must not be less than 135° (45° from horizontal) and be complete with a cleaning door.

Flue Layouts

In Fig. 2 the cooker is installed in an existing recess. There must be a clearance of not less than 150mm between the top of the flue pipe and any overhanging brickwork. Any cavities or pockets above the register plate should as far as possible be filled and if necessary the flue pipe should be extended into the throat of the chimney and soot door provided for chimney sweeping.

If a flue liner or insulated chimney is used, the size should not be less than 150mm.

In Fig. 3 the cooker is connected direct to a brick flue.

Horizontal pipe runs between cooker and brick flue must not be used.

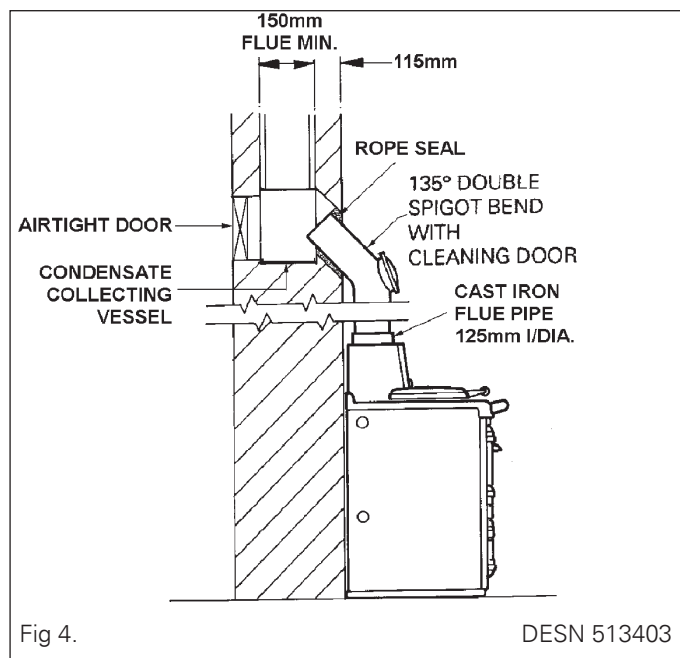
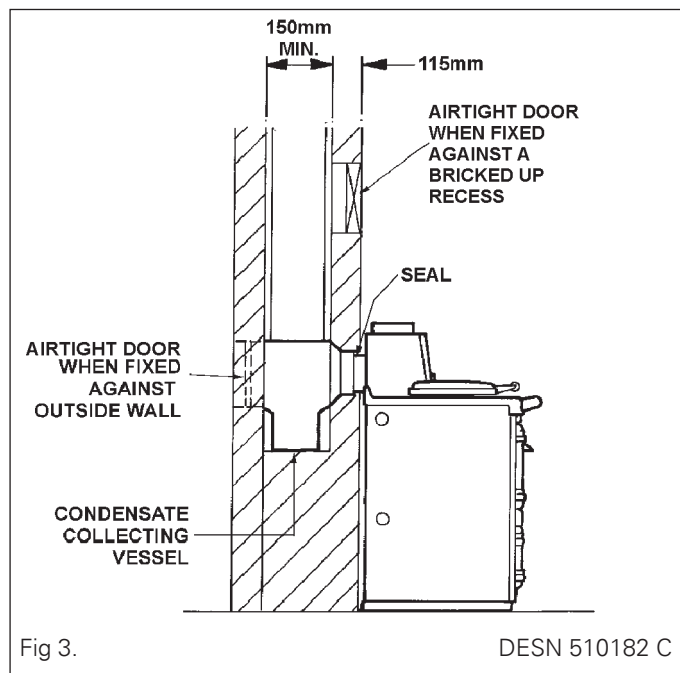
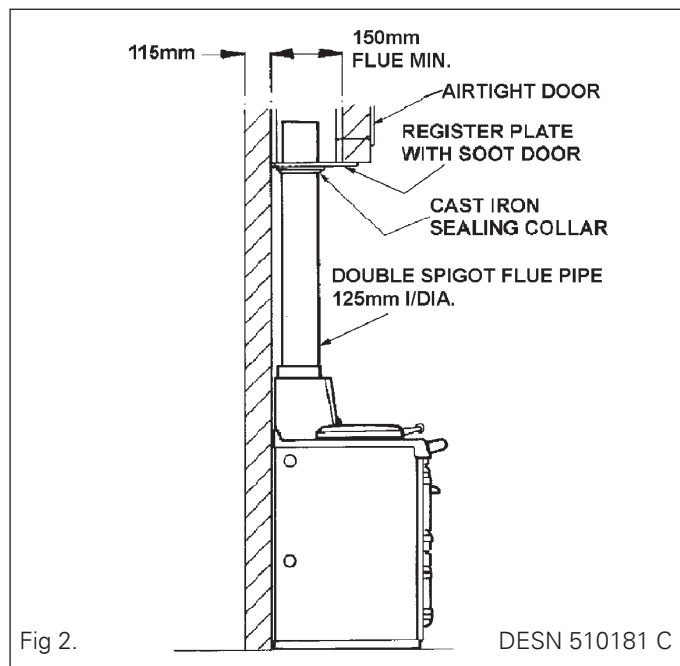
In Fig. 4 the cooker is connected to an existing brick flue with a length of flue pipe. Square bends and horizontal runs must not be used. There must be a cleaning door at every bend.

NOTE: WHATEVER METHOD OF INSTALLATION IS EMPLOYED, AIR MUST NOT BE ALLOWED TO ENTER THE CHIMNEY EXCEPT THROUGH THE COOKER. ALL JOINTS MUST BE AIRTIGHT.

If the chimney is unlined, and there is any doubt about its condition, it should be lined in accordance with Building Regulations J/1/2/3.

PROVISION MUST ALWAYS BE MADE FOR SWEEPING THE CHIMNEY.

IMPORTANT: CEMENT TYPE PIPES AND FITTINGS MUST NOT BE USED WITHIN 2m OF THE COOKER, CHIMNEYS OF PLAIN PIPE ARE NOT RECOMMENDED BUT CERTAIN PROPRIETARY MAKES OF INSULATED CHIMNEY ARE SUITABLE.



AIR SUPPLY

Provision must be made for a permanent unobstructed air vent having a minimum effective area of 126cm² communicating directly to outside air or an adjacent room which itself has a permanent air vent of at least the flue size direct to outside air.

Effect of Extractor Fan

Avoid the installation of an extractor fan in the same room as the cooker.

CENTRAL HEATING AND HOT WATER SYSTEM

It is recommended that a 190 litre indirect hot water storage cylinder of the double feed type e.g. (Manufactured by Albion Cylinders), complying with BS. 1566 Part 1: DF Type 10 should be lagged and fixed vertically as near as possible to the cooker. The 28mm minimum diameter primary flow and return pipes must not exceed 10m in length and pipes longer than 5m must be lagged.

Ensure that the flow pipe has an open vent and rises continuously from the boiler to the cylinder to ensure good gravity circulation.

In combined systems, the water draw-off pipes to the taps must be dead-leg connection from the vent/expansion pipe. There are only two boiler tappings on this cooker and a typical design layout is shown in Fig. 5.

An injector tee is provided which must be fitted to ensure adequate primary flow circulation when the water circulator is operating, otherwise there may be a lack of domestic hot water.

The heating flow and return pipes may be 22mm, the return pipe being connected to the 28mm primary return by the injector tee, and the tee output connected to the boiler return pipe.

All installations must be fitted with a drain tap at the lowest point of the system.

NOTE: IF THERE IS A POSSIBILITY OF BOILING TAKING PLACE, A REVERSE ACTING THERMOSTAT SHOULD BE FITTED TO THE DOMESTIC HOT WATER CYLINDER OR BOILER PRIMARY FLOW PIPES, AND ELECTRICALLY CONNECTED TO THE CENTRAL HEATING CIRCULATOR. THIS WILL SWITCH THE CIRCULATOR 'ON' TO PREVENT BOILING. TYPICAL CYLINDER OR BOILER FLOW PIPE THERMOSTAT TYPE SA 1452, SUPPLIED BY PEGLER-SUNVIC LTD, BELLSHILL ROAD, UDDINGSTON, GLASGOW.

Boiler - Recommendations

Water circulators which are continually operative will in conjunction with prolonged burning under banked conditions create cool boiler surfaces within the firebox.

This in turn will encourage boiler surface condensation followed by surface oxidation and reduced life span of the boiler.

To minimise this incident we strongly recommend a water pipe clamp on thermostat e.g. EBERLE Type 8750 or SATCHWELL SUNVIC Type PA fitted to the heating return pipe and sited between the injector tee and the cooker as shown on Fig. 5 - Typical Central Heating Hot Water System.

The thermostat should be electrically connected to the water circulator as indicated on the 'Typical Wiring Diagram' Fig. 6 and the adjustable dial should be set at a temperature of 50°C (122°F). A fall in the return pipe water temperature below 50°C interrupts the power to the water circulator which will then not operate until the temperature exceeds 50°C and power is restored.

FAILURE TO CONFORM TO THIS RECOMMENDATION MAY RESULT IN PREMATURE FAILURE OF THE BOILER.

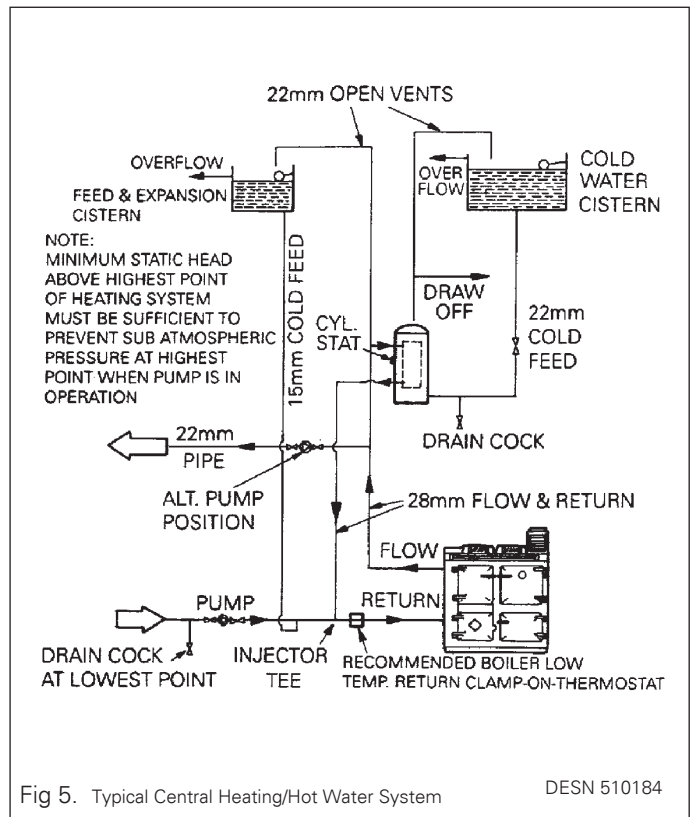


Fig 5. Typical Central Heating/Hot Water System

DESN 510184

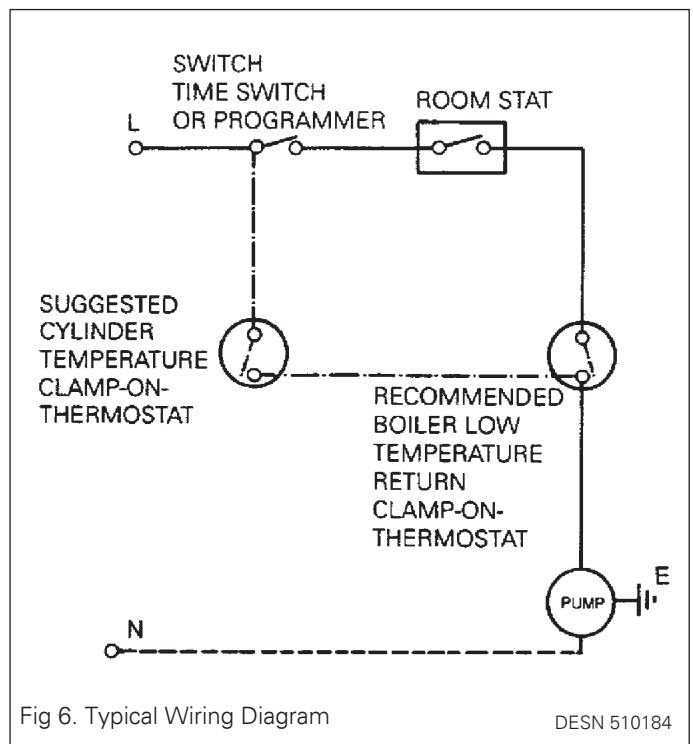


Fig 6. Typical Wiring Diagram

DESN 510184

HIGH UPDRAUGHTS

Tall chimneys may develop excessively high updraughts which prevent the appliance operating correctly.

It is recommended that a proprietary band adjustable flue draught stabiliser having an operable cross sectional area of 126cm² be fitted above the flue pipe connection, either in the brickwork or into a right-angle 'T' fitting in the flue pipe position that will not inconvenience appliance operation or maintenance.

INSTALLATION

Place the cooker in the intended position and lift out the surface ground hotplate, checking that the joint between the underside of the hob and the top of the cooker are intact.

Any joints which have opened should be made good with fire cement provided.

Replace the hotplate making sure that it is seating evenly on the soft rope seal and that it is approximately 1.5mm proud of the enamelled top plate, with an equal space all round.

Connect pipework to boiler flow and return tappings.

Fit the flue chamber which should be given a 1mm smear of fire cement on the underside then screwed to the cooker. Make sure there is a good seal between the flue chamber and the cooker top (if there is an ingress of air it can affect the flue draught and proper working of the cooker). Before the fire cement hardens remove any surplus with a damp cloth then polish with a dry cloth.

Open the firebox and ashpit doors and check that the bottomgrate is in position. Operate the riddling lever to ensure the bottomgrate operation.

Failure to do so can result in the enamel surface being permanently marked.

The handrail brackets are held on the front end of the cooker top-plate casting. Remove the travel nuts and replace with the handrail brackets ensuring the fibre protecting washers are in position. Insert the handrail with fitted endcaps into the brackets, positioning them correctly and tighten the locating bolts. (Fig. 7)

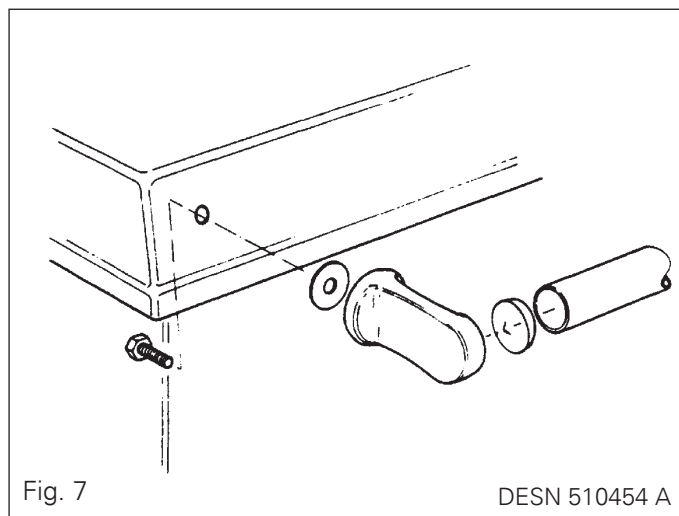


Fig. 7

DESN 510454 A

TESTING AND COMMISSIONING

After completing the installation, the Heating Contractor should demonstrate to the user, the operation of the appliance and the routine flue cleaning method.

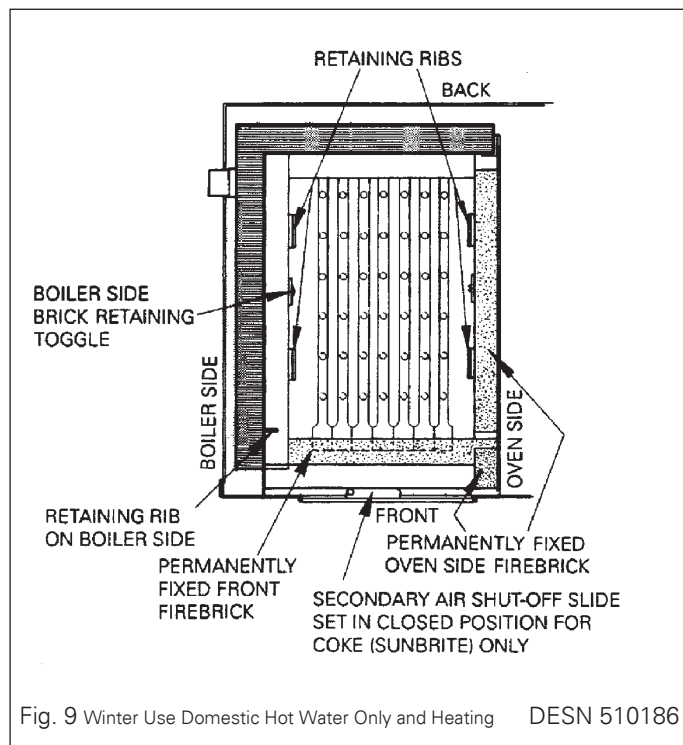
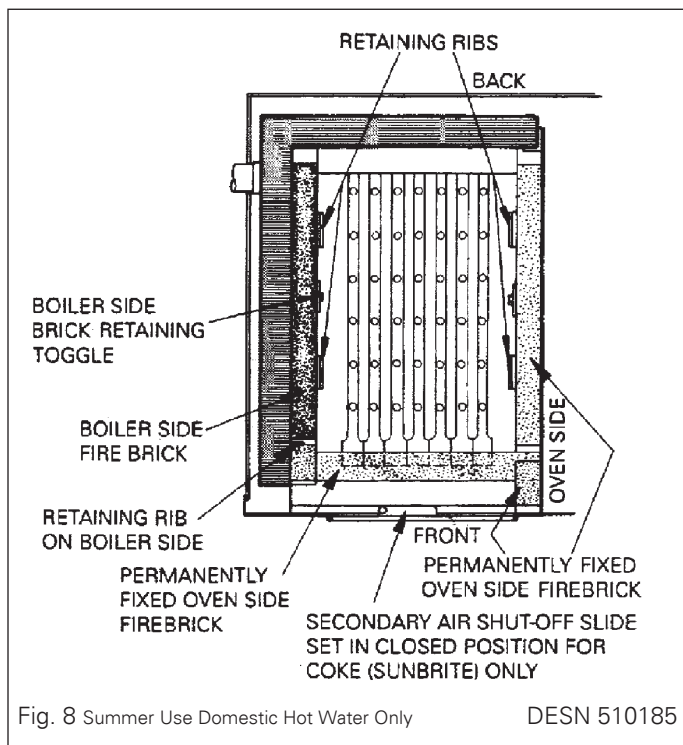
- (i) Check that the system is full of water and free from air locks.
- (ii) When lighting pull the flue chamber damper open to maximum.
- (iii) Add paper and sticks with a small quantity of fuel through fuelling aperture onto bottomgrate and close the firebox door.
- (iv) Open ashpit door, ignite fuel; and close the ashpit door when fuel is well alight with spinwheel on ashpit door at required setting.
- (v) Allow the cooker to heat up gradually at first time lighting.

NOTE: SMOKE/SMELL EMITTED DURING INITIAL USAGE

Some parts of the cooker have been coated with a light covering of protective oil. During initial operation of the cooker, this may cause smoke/smell to be emitted and is normal and not a fault with the appliance. It is therefore advisable to open doors and or windows to allow for ventilation.

Lift the lids to prevent staining the linings.

**LEAVE INSTRUCTIONS FOR
FUTURE USE**

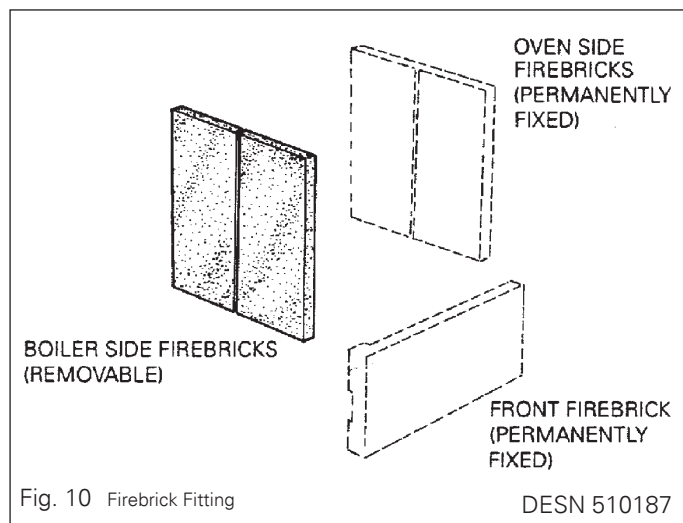


GENERAL - FIREBRICK POSITIONS AND REPLACEMENT

The Rayburn Heatranger 216M is delivered complete including a set of boiler removable firebricks where positional location determines the amount of hot water supplied in winter and summer seasons.

The oven side and firebox front firebricks are permanently fixed with fire cement, whilst the two boiler face side bricks are located for the summer season thereby providing domestic hot water only. For winter use or central heating facilities, the boiler face side bricks are removed. See Fig. 8, 9 + 10. The firebricks fitted to Rayburn Cookers are of first quality manufacture and providing the cooker has been installed and used correctly will have a reasonable life. There are, however, expendable items and in time will require renewal. The renewal of firebricks is not major operation and can be carried out by the average person. The boiler side firebricks are supported on a frame on the boiler sides and are held in position by a retaining toggle at the top. The front plate protection firebrick is held in position by a retaining rib on the boiler side. The firebricks are not sealed in with fire cement and can be removed and refitted quite simply. See Fig. 10.

Replacement bricks either in sets or singly can be obtained from your Rayburn Stockist. Quote the serial number which will be found on a brass plate inside the roasting oven.



**For further advice or information contact
your local distributor/stockist**

With Aga-Rayburn's policy of continuous product improvement, the Company reserves the right to change specifications and make modifications to the appliances described and illustrated at any time.



Manufactured By
Aga-Rayburn
Station Road
Ketley Telford
Shropshire TF1 5AQ
England

www.aga-rayburn.co.uk
www.agacookshop.co.uk
www.agalinks.com
www.cookcraft.com