

This information refers to the following products

Rayburn cooker Model 355M

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.



Better than you ever imagined

Users Instructions

Rayburn Heatranger 355M Solid Fuel and Wood Burning Cooker

Consumer Protection Act 1987

As responsible manufacturers we take care to make sure that our products are designed and constructed to meet the required safety standards when properly installed and used.

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

Control of Substances - Health and Safety Important

This appliance may contain some of the materials that are indicated. 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

The Rayburn 355M has been designed to burn a variety of solid fuels and thereby provide heating facilities for cooking, domestic hot water and central heating.

The thermostatically controlled hot water boiler can be operated independently of the cooker and will provide hot water for central heating and domestic use (normal setting for winter usage), whilst manually operated spinwheel control on the front of the ashpit door will provide heat for cooking and domestic hot water (normal setting for summer usage).

The cooker/boiler flueway damper knob on the centre front of the cooker below the top plate requires to be set in conjunction with the flue chamber damper to obtain the appropriate service required from the appliance.

PREPARING COOKER FOR USE

FIREBRICK POSITIONS

The Rayburn 355M 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 and should remain in their positions at all times.

The two boiler face side bricks and boiler face rear brick are so located for summer use when hot water, for domestic use only, will be provided.

For winter use or central heating facilities the boiler face rear brick is removed and the two boiler face side bricks are transferred to locate on/over the oven side bricks.

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 used as follows:-

Air Slide Open - ALL fuels except for Sunbrite Coke

Air Slide Closed - Sunbrite Coke only

WARNING

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

RECOMMENDED SOLID FUELS

MANUFACTURED - SUNBRITE SINGLES, SUNBRITE DOUBLES, COALITE, PHURNACITE and SUPACITE.

NATURAL - ANTHRACITE LARGE & SMALL NUTS, SELECTED HOUSECOAL (TREBLES/LARGE NUTS AND DOUBLES/NUTS).

PETROLEUM COKE MUST NOT BE USED.

Oversize fuel lumps should be broken down to size.

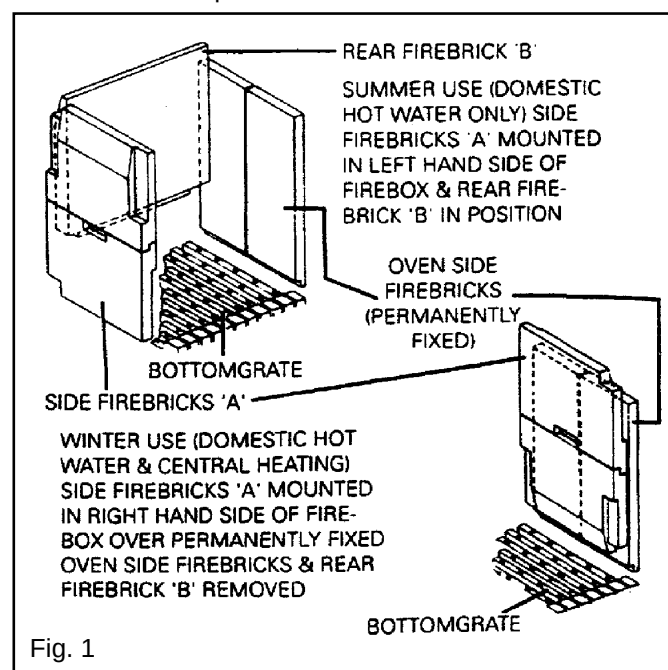


Fig. 1

Stones and other foreign bodies should be removed when fuelling.

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

DOOR OPERATION

OVEN DOOR OPERATION - SEE FIG. 2

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.

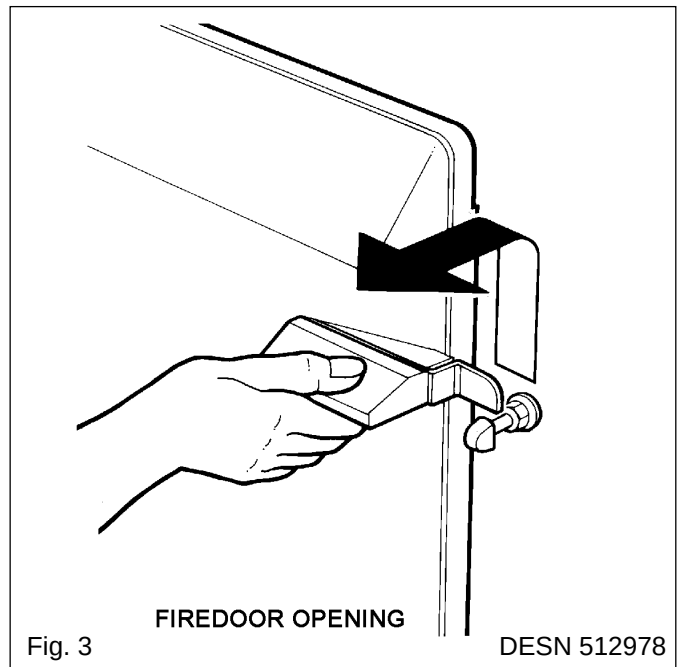
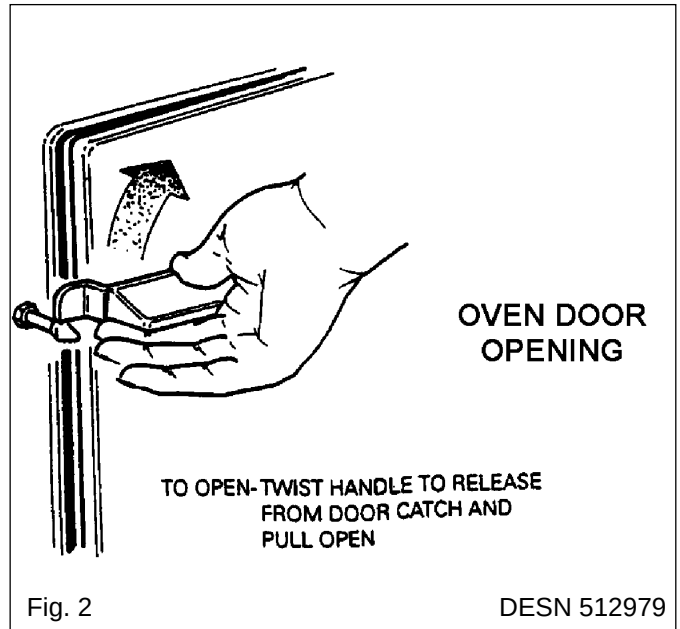
FIRE DOOR OPERATION - SEE FIG. 3

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!



FUELLING WITH WOOD OR PEAT

The cooker will satisfactorily burn wood logs, blocks or peat briquettes, but 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 problems and the following hints are recommended:-

- Burn dry soft wood in the day time 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 day time will give prolonged burning but heating response is slower.
- Wet kitchen refuse should not be burned.
- 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 is at fully open.
- To obtain the optimum burning rate with wood burning fuels only, a grate baffle should be located on the top face of the reciprocating bars at the rear of the firebox. See diagram. Grate riddling is not required when burning wood where poking will normally suffice. Always remove this grate baffle when burning solid fuels

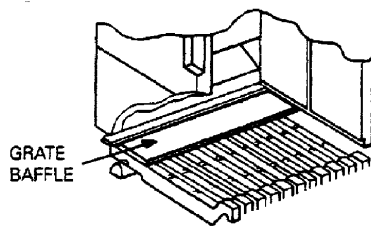


Fig. 4

FAMILIARISE YOURSELF WITH THE COOKER

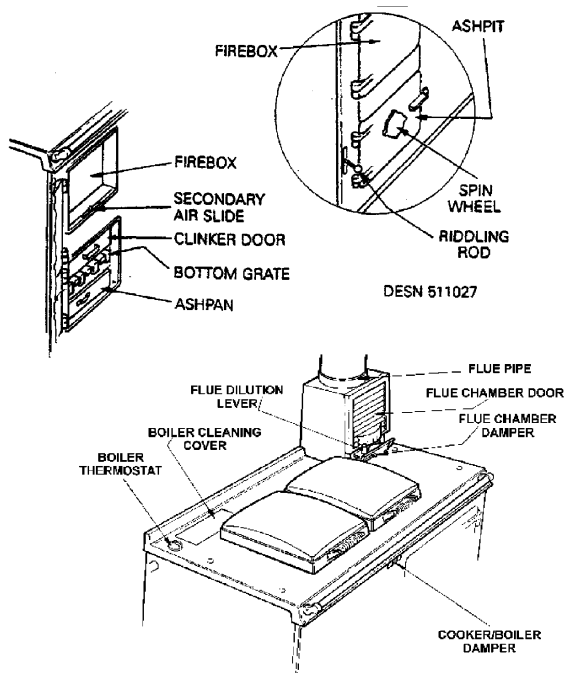


Fig. 5

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. 8) and remove dead fuel from bottomgrate (lift off clinker door above the bottomgrate (Fig. 10), rake fuel into ashpan replace clinker door).
- Remove ashpan, empty and replace (Fig. 9).
- Open flue chamber damper to maximum (Fig. 7).
- Flue dilution lever fully to 'left' (flue chamber door closed, Fig. 7).
- 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. 6). **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 flue pipe is free of blockage.
- Open firebox door.
- Open ashpit door.
- De-ash (Fig. 8) and remove clinker door (Fig. 10). Insert flat bayonet type gas poker on top of bottomgrate bars.
- Remove ashpan and empty (Fig. 9).
- Open flue chamber damper to maximum (Fig. 7).
- Flue dilution lever fully to 'left' (flue chamber door closed, Fig. 7).
- Lay a 75-100mm 3"-4") 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. 6). **Close and lock the firebox door.** Push the flue chamber damper back to position which has been found to give best results. Set spinwheel control to give desired burning rate.

COOKER CONTROL

Cooking Only - All Fuels

- The fire is controlled by using the spinwheel on the ashpit door to govern the air supply.
- The adjustable flue chamber damper is for reducing

the chimney draught, and the more it can be closed, the easier the cooker is to control. The line markings on the flue chamber enable you to repeat the best settings to suit your chimney, from No.1 in a closed position to No.6 fully open.

- c) Control over the direction of the flue gases is obtained by the setting of the cooker/boiler damper. Set the cooker/boiler damper knob on the front of the cooker to 'C' and the boiler thermostat knob on the rear left hand corner of the top plate, to its minimum setting.
- d) Thermostat set at No.1 as domestic hot water is obtained when cooking.

NOTE: INTERMEDIATE SELECTIVE SETTINGS OF THE COOKER/BOILER DAMPER KNOB AWAY FROM 'C' WILL PROGRESSIVELY RESTRICT THE AMOUNT OF HEAT TO THE TOP OF THE OVEN AND INCREASE THE AMOUNT OF HEAT INTO THE BOILER UNTIL THE KNOB IS POINTING TO SYMBOL 'H' FOR MAXIMUM WATER HEATING. IN THIS POSITION, THE MINIMUM PROPORTION OF HEAT IS DIRECTED TO OVEN HEATING.

CONTROL SETTING

Cooking Only - All Fuels

Set spinwheel open which does not require to be open more than:-

- a) Coke - Five complete turns
- b) Other fuels - Three complete turns during cooking periods.

After setting the cooker/boiler damper knob to 'C', set the flue chamber damper fully open after refuelling and reset to position which has been found by practical experience to give the best results. Do not try to obtain a fast increase in temperature by opening flue chamber to its fullest extent. This results in most of the heat being wasted up the chimney.

Avoid excessive fire temperatures with solid fuel - they are unnecessary and may do serious harm to the cooker. The first symptoms of an overheated cooker is the formation of clinker (melted ash) which will damage the fire bricks.

Damaged firebricks should be replaced as soon as possible but may be temporarily repaired with fire cement.

Keep the ashpit door securely closed with the front plate catch.

OVERNIGHT BANKING

Solid fuel

The appliance 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 costs.

Last thing at night, de-ash the fire, empty the ashpan and fully refuel but do not overload.

Ensure that the firebox and ashpit doors are securely closed, and after closing the spinwheel, re-open it a

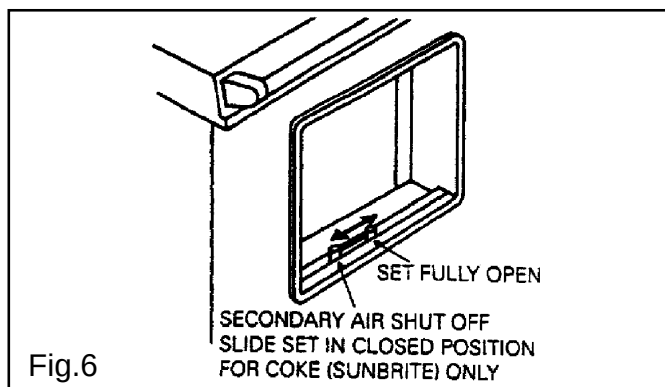


Fig.6

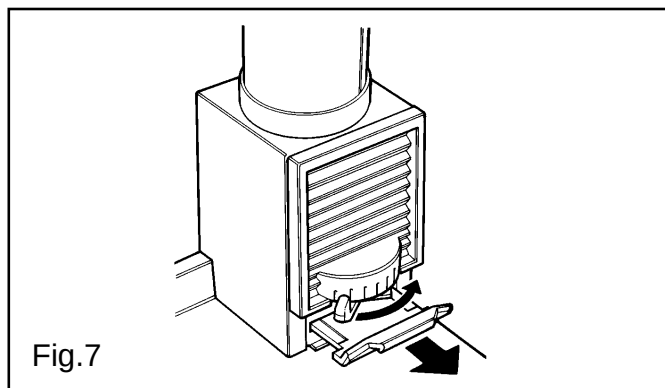


Fig.7

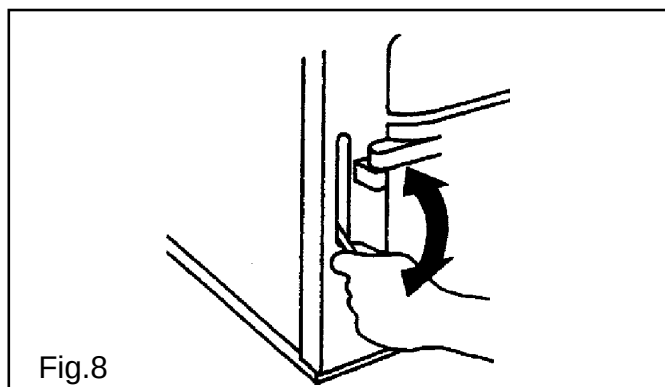


Fig.8

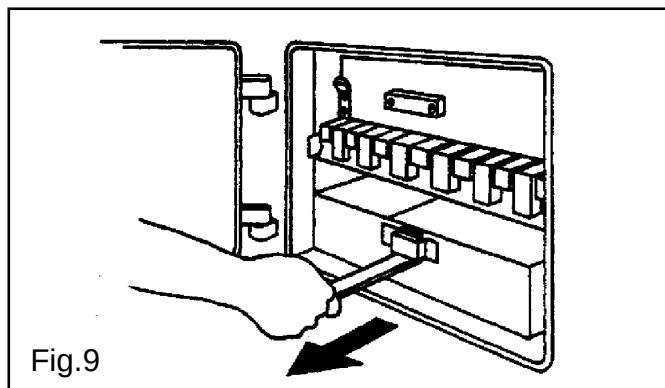


Fig.9

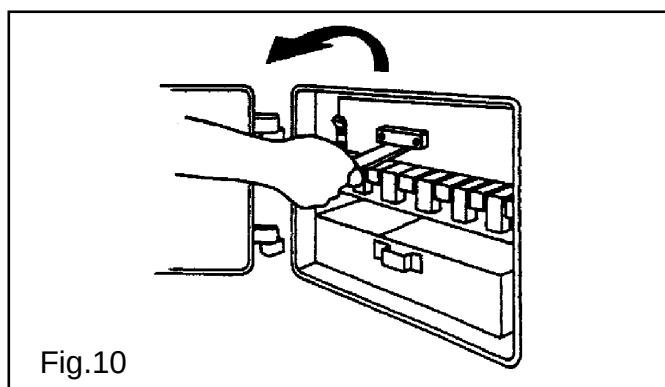


Fig.10

quarter of a turn.
Set the boiler thermostat knob to its minimum setting and close the flue chamber damper plate to No. 1 setting. Set the cooker/boiler chamber knob to 'C' to obtain optimum heat into oven and hot plate.

NOTE: THE BEST POSITION FOR THE FLUE CHAMBER DAMPER CAN BE FOUND ONLY BY EXPERIMENT BUT ALWAYS TRY THE LOW SETTING FIRST.

In the morning, open the spinwheel three complete turns, the flue chamber damper to maximum and riddle the fire. When it is burning brightly, close the flue chamber damper, but do not refuel before use if the hotplate is required immediately.

BOILER CENTRAL HEATING THERMOSTAT SETTING

All Fuels.
Set the cooker/boiler damper knob 'H'.
Close spinwheel.
To regulate burning, set the boiler thermostat knob to '8' (high) or minimum rate '1' (low).
Adjust as required to suit desired water heating.
Overnight banking and daytime slow burning should be obtained with the boiler thermostat knob set at '1' to give extended burning.

Woodburning
Some wood are more difficult to burn therefore it may be necessary to open the spinwheel in addition to the thermostat to obtain the desired results. The spinwheel must be closed as appropriate.

OVERNIGHT CENTRAL HEATING

Solid Fuel
The appliance may be operated overnight for the purpose of selected central heating when inclement weather conditions occur.
Set the cooker/boiler damper knob to 'H' after refuelling etc. and the boiler thermostat knob to No. 2 with the flue chamber damper set at minimum. The spinwheel should be closed and about four radiators can be run overnight under these conditions.

NOTE: THE HOTPLATE AND OVEN TEMPERATURE WILL BE CONSIDERABLY LOWER AND EXTENDED TIME WILL BE NEEDED TO HEAT UP THESE FEATURES. DO NOT FORGET TO RE-SET THE COOKER/BOILER KNOB TO 'C' FOR COOKING AFTER OVERNIGHT USE.

OVERNIGHT BANKING

Wood
The appliance is designed for continuous slumbering overnight for up to a maximum of 12 hours depending on the type of dry wood being used. Last thing at night, open the flue chamber damper. de-ash the fire, empty the ashpan and fully refuel.

Ensure that the firebox and ashpit door are securely closed, close the spinwheel tight and the flue chamber damper is set to No.1.

Set the boiler thermostat knob to its minimum setting and the front damper knob to 'c'.
Turn the flue dilution lever (See Fig. 7) from left to right hand so that the flue chamber door opens at the bottom and minimise burning rates.

NOTE: THE PRECISE AMOUNT OF OPENING DEPENDS ON THE CHIMNEY DRAUGHT, THE TYPE/CONDITION OF WOOD TO BE BURNT AND THIS MAY TAKE 2 OR 3 DAYS TO ASCERTAIN.

1. If the fuel in the firebox is exhausted prematurely, the overnight chimney draught must be reduced by increasing the opening setting of the flue chamber door, using the flue dilution lever.
2. If the fuel does not burn but 'dies out, the draught should be increased by reducing the opening setting. of the flue chamber door, using the flue dilution lever. Following overnight banking, the flue chamber door must be closed, the spinwheel and flue chamber damper opened and the fire refuelled. Immediately the new fuel has caught alight, riddle the fire and close the flue chamber damper.

NOTE: BUILD-UP OF CREOSOTE DEPOSITS IN THE FLUE AND CHIMNEY CAN IN TIME, LEAD TO CHIMNEY FIRE.

THESE DEPOSITS CAN BE PREVENTED BY THE REGULAR USE OF A PROPRIETARY BRAND OF CHEMICAL CREOSOTE REMOVE CHIMNEY CLEANER SUCH AS "ATTACK" WHICH REDUCES THE ADHESION STRENGTH OF THE CREOSOTE DEPOSITS, CAUSING THEM TO FAIL.

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

TYPICAL WATER TEMPERATURES

Against Thermostat knob settings with Cooker/Boiler Damper at 'H' and Spinwheel closed.

Thermostat Setting No.	Water Temperature (APPROXIMATE)
1	46°C (115°F)
3	54.5°C (130°F)
5	65.5°C (150°F)
8	80°C (176°F)

- a) Using the cooker boiler to provide heat for domestic hot water and radiators in the winter, a boiler thermostat setting at No.8 is recommended.
- b) Using the cooker boiler for the provision of domestic hot water only, in the summer, a boiler thermostat setting of No. 5 is recommended.

NOTE: TO CONSERVE FUEL, ENSURE THE HOT WATER CYLINDER AND PIPES ARE LAGGED WITH INSULATION.

REFUELLING

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

A correctly fully fire will last a minimum of 2 hours when burning solid fuel and 1 hour burning wood when maintaining the maximum rated output of the boiler with intermittent cooking periods included.

NOTE: When burning all recommended fuels other than Sunbrite Coke, the secondary air 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 ovens, hotplate and boiler. When burning Coal, Phurnacite and Anthracite, allow several minutes for the new charge to ignite before changing the flue chamber damper setting.

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

DE-ASHING

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. 8.

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 ON REMOVAL OF CLINKER.

Open the ashpit door to give access to the ashpan which must be emptied regularly (See Fig. 9).

In winter, this may be as much as 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.

REMOVAL OF CLINKER FROM BOTTOMGRATE

Due to an accumulation of pieces of stone, clinker and shale etc. it may not be possible to pass them through the grate when riddling, and may even cause jamming.

Allow the fire to burn out and then open the ashpit door. Lift off the clinker door (See Fig. 10) and insert hooked poker to drawn out any offending accumulation. Replace clinker door after use.

The amount of clinker formation is dependent on the heating load or burning rate and should be checked weekly for any build-up. Excessive build-up will lead to a fall in heating output requiring bottomgrate clean-out and reduction in life of the bottomgrate.

USE OF THE HOT PLATE

The best results can be obtained by using machined base utensils. The hottest part of the hot plate is immediately above the fire, the other end being for simmering.

The circular plug in the hotplate (near the flue chamber end) is for flue cleaning and must not be removed for cooking.

Keep the hotplate clean with a wire brush.

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

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

USE OF THE TOP ROASTING OVEN

The correct adjustment of the spinwheel and flue chamber 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 that the cooker is idling.

Thoroughly de-ash the fire as described in the respective paragraph, and refuel. Set the flue chamber damper to No.3 setting and open the spinwheel as described under 'CONTROL SETTING'.

As soon as the fire has become red all through, close the flue chamber 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: THE METHOD SHOULD PROVE SUCCESSFUL IN ALMOST ALL CASES, BUT IF CLOSING THE FLUE

CHAMBER DAMPER CAUSES THE FIRE TO SMOKE, IT SHOULD BE OPENED GRADUALLY UNTIL THE SMOKING STOPS.

To reduce top heat in the oven adjust the cooker/boiler damper knob gradually away from symbol 'C'. The oven may be cleaned with a stiff wire brush, when it is very hot.

OVEN TEMPERATURES:-

HOT

220°-260°C (400°-500°F)

MODERATE

150°-200°C (300°-400°F)

SLOW

90°-150°C (200°-300°F)

Check with pointer reading on oven door thermometer.

USE OF THE BOTTOM COOKING OVEN

It is not possible to control this oven, but during the course of roasting, sufficient heat input permits simmering of dishes that have been taken from the roasting oven.

OVEN TEMPERATURES:-

Idling - 95°C min.

During cooking - 135°C max.

During the cooker idling periods, the oven is ideal for heating plates and keeping food warm.

FLUEWAY CLEANING

When burning coke, anthracite, other smokeless fuels, logs or peat, the appliance flueways should be cleaned on a regular four weekly basis.

When burning bituminous coal, cleaning should be done at weekly intervals.

Prolonged soot formation may result in flueways becoming blocked and could give rise to the release of carbon monoxide, a poisonous gas into the room.

Failure to ensure clean flueways, flue pipes and bends may lead to emission of dangerous gases and an inferior performance from your appliance.

Cooker Flueway - Allow the fire to burn out, open the flue chamber damper to its maximum and remove the flue chamber door.

Turn the cooker/boiler knob 'C'.

Brush the soot or fly ash from the flue pipe allowing it to fall onto the top of the oven. Fig. 11.

Remove the hotplate plug and rake the deposits forward, pushing them into the firebox. Figs. 12 & 13.

Boiler Flueway - Set the cooker/boiler damper knob to 'H' and remove boiler cleaning cover in top plate adjacent to boiler thermostat control knob.

Lift out exposed boiler cleaning plate and brush near boiler flueways up and down allowing debris to fall into the firebox. Fig. 14.

Clean boiler flue outlet by inserting brush horizontal at right hand of boiler aperture below top plate.

Push brush above and below the boiler damper so that flash etc. is pushed onto oven top. Insert rake through hotplate plug aperture and pull deposits into firebox (after

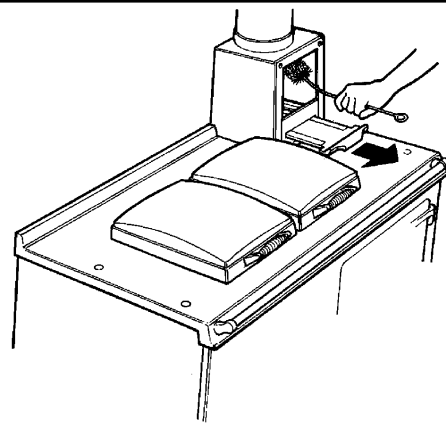


Fig.11

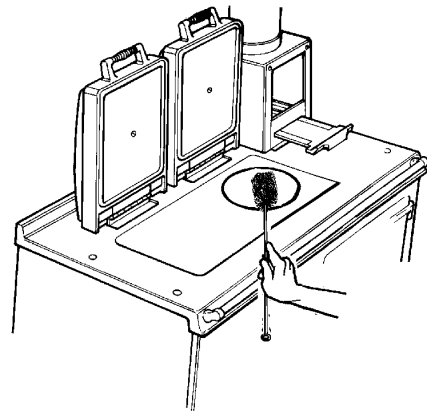


Fig.12

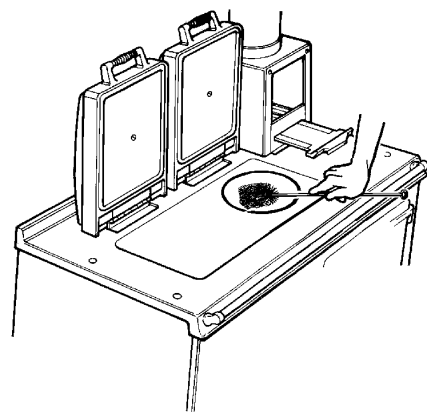


Fig.13

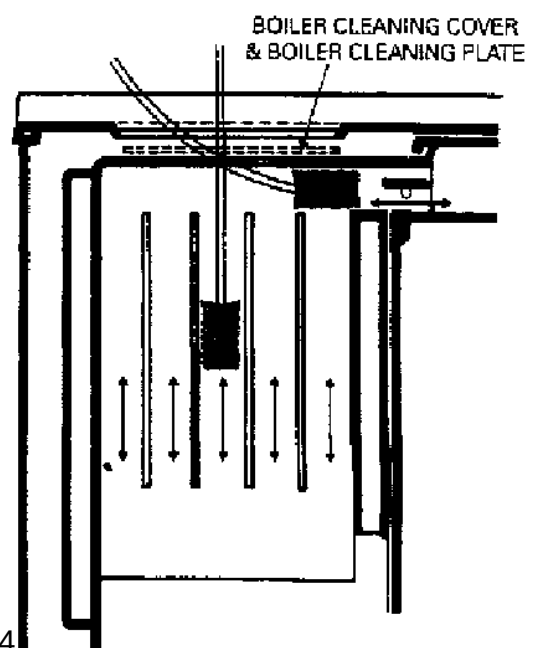


Fig.14

resetting cooker/boiler damper knob to 'C').

Replace flue chamber door and hotplate plug and riddle the bottomgrate thoroughly to clear the bottomgrate ready for relighting.

NOTE: THE APPLIANCE IS DESIGNED AND INTENDED TO BE UNDER CONTINUOUS FIRING BUT IF IT IS NOT IN USE ASHPIT AND FLUE CHAMBER DOORS SHOULD BE LEFT OPEN TO ENSURE FREE PASSAGE OF AIR THROUGH THE APPLIANCE AND AVOID CONDENSATION PROBLEMS.

CHIMNEY SWEEPING

Sweep annually and inspect soot box at 3 monthly intervals and remove any deposits.

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

CLEANING

Surface blemishes caused by spillage on the gloss enamel are easier to remove when the cooker is cool, and a damp cloth is usually all that is necessary.

This should not be done whilst the cooker is hot.

DO NOT USE ABRASIVE PADS, OVEN CLEANER, OR CLEANERS CONTAINING CITRIC ACID ON ENAMELLED SURFACES.

IMPORTANT NOTE: Aga 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.

TO REPLACE BOTTOMGRATE BARS

Allow fire to burn out first then open the ashpit door and lift off the clinker door. Remove dead fuel with hooked poker into ashpan and then lift up each individual bar, pulling forward to remove.

NOTE: THERE ARE TWO TYPES OF BARS ASSEMBLED AND THE REPLACEMENT BARS SHOULD BE CHECKED AGAINST 'REPLACED' BAR BEFORE REPLACEMENT.

FIREBRICK REPLACEMENT

The firebricks fitted to the Rayburn 355M 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. Replacement bricks either in sets or singly can be obtained from your Rayburn distributor. Always quote the manufacturing number.

The manufacturing number, which will be found on a brass plate inside the roasting oven, should be quoted if any question arises in connection with the Rayburn 355M Cooker.

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 fire until cause of fume has been identified, and if necessary, seek professional advice.

SPARES LIST

Part Number	Description	No Req'd
QWX	Boiler Thermostat	1
1/16182 T	Bottomgrate bars top	6
1/16182 B	Bottomgrate bars bottom	5
3/16272	Oven side firebricks	2
4/16273	Firebox side top firebricks	1
3/16271	Front firebrick	1
3/16274	Removable boiler face rear firebrick	1
3/16275	Removable boiler face side firebrick	2
3/18172	Grate Baffle	1

Replacement parts if required are always available ex-works. Write to us should any difficulty be encountered in obtaining them from your usual supplier.

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 insulating lids to prevent staining the linings.

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

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



Made by 

The word "Made by" is in a standard sans-serif font, followed by the Aga logo, which is a small black oval containing the word "AGA" in white, bold, sans-serif capital letters.

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

www.aga-web.co.uk
www.agacookshop.co.uk
www.agalinks.com



Better than you ever imagined

Installation Instructions for Rayburn Heatranger 355M Solid Fuel and Wood Burning Cooker

Consumer Protection Act 1987

As responsible manufacturers we take care to make sure that our products are designed and constructed to meet the required safety standards when properly installed and used.

IMPORTANT NOTICE: PLEASE READ THE ACCOMPANYING WARRANTY.

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

Control of Substances - Health and Safety Important

This appliance may contain some of the materials that are indicated. 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.

PERFORMANCE

The Rayburn 355M is intended to supply heating for:-

- (a) Cooking and domestic hot water.
- (b) Cooking, domestic hot water and central heating.

Air for combustion within the firebox is obtained from two sources viz:-

- a) When the appliance is being used for cooking and domestic hot water only, the rate of burning is determined by the manually operated spinwheel control on the ashpit door.
- b) When central heating is also required, close the spinwheel control and operate the burning rate by means of the boiler thermostat.

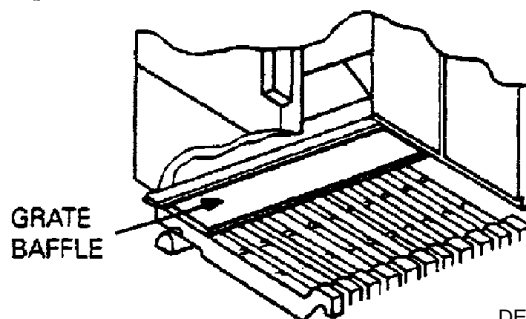
The cooker has both boiler and cooker flues which are opened/closed by internal dampers working in conjunction and operated manually by the cooker/boiler damper at the front of the cooker.

The setting should be relative to the services required, viz:- **H** for all services, **C** for cooking and domestic hot water only.

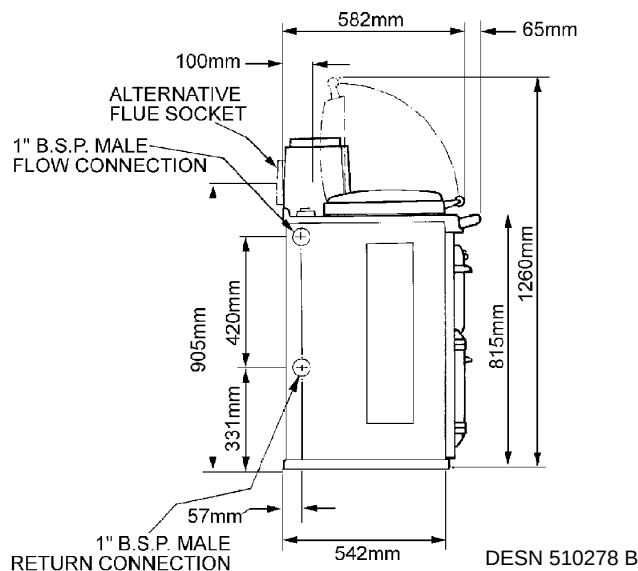
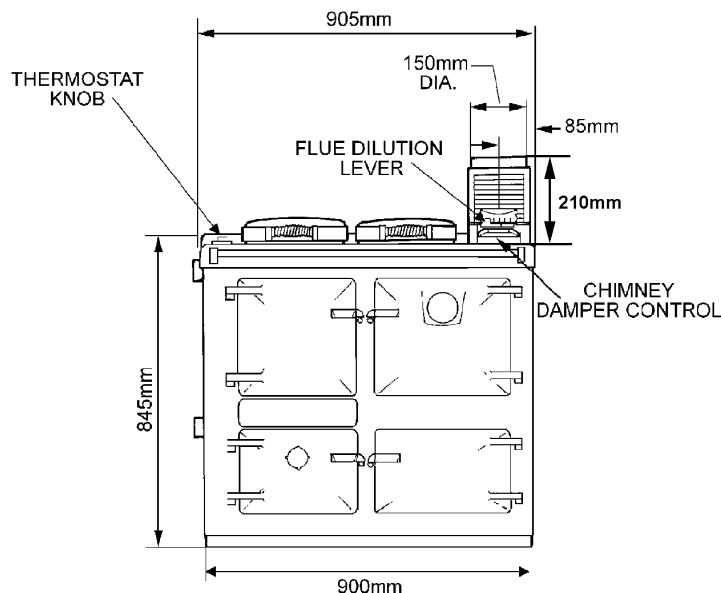
REMEMBER, when replacing a part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by AGA.

WARNING

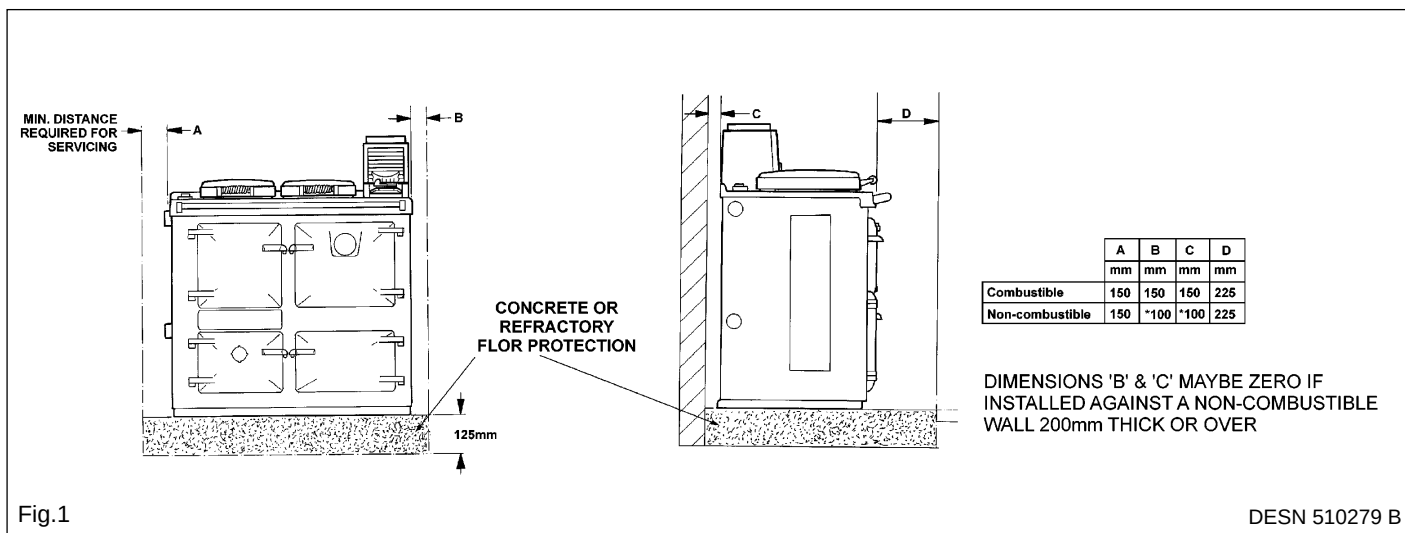
THE ASHPIT AND FIREBOX DOORS MUST BE LOCKED CLOSED AT ALL TIMES DURING NORMAL USE, EXCEPT WHEN LIGHTING OR RE-FUELLING.



DESN 510291



DESN 510278 B



RATINGS - Burning Solid Fuel

Winter Use (See Para. re: Firebrick Positions)

The maximum boiler output obtainable burning solid fuel at the optimum burning rate - with the cooker/boiler damper knob at **H** and the boiler thermostat at No.8 - is 16.12kW (55,000 Btu/h). This will provide for 29.89m of radiator surface and pipework plus domestic hot water or 32.24m of radiator surface and pipework only. The recommended heating surfaces indicated are based on an average heat emission of 0.5kW/m (160 Btu/h/ft). When cooking only, with the cooker/boiler damper knob at **C** and oven at a steady 230°C (450°F), the water output reduces to 5.6kW (19,000 Btu/h). Overnight banking with the cooker/boiler damper knob at **C** will produce 2.3kW (8,000 Btu/h) of hot water from the boiler.

Summer Use See para re: Firebrick Positions

With the cooker/boiler damper knob at **C** and the oven temperature maintained at a steady 200°C (390°F) the hot water output from the boiler will be 3.1kW (10,500 Btu/h). Overnight banking with the cooker/boiler damper knob at **C** will produce 1.9kW (6,900 Btu/h) of hot water from the boiler.

RATINGS - Burning Wood

Winter Use: To obtain the optimum burning rate with the wood burning fuels only, a grate baffle should be located on the top face of the reciprocating bars, at the rear of the firebox. See diagram.

Grate riddling is not required when burning wood where poking will normally suffice.

Always remove this grate baffle when burning solid fuels.

See para. re: Firebrick Positions

The maximum boiler output obtainable burning wood logs at the optimum burning rate - with the cooker/boiler damper knob at **H** and the boiler thermostat at No.8 - is 10.26kW (35,000 Btu/h). This will provide for 18.17m² (194ft²) of radiator surface and pipework plus domestic hot water 20.52m² (219ft²) of radiator surface and pipework only. Overnight banking with the cooker/boiler damper knob at **C** will produce 1.46kW (5,000 Btu/h) of hot water from the boiler.

Summer Use See para. re: Firebrick Positions

With the cooker/boiler damper knob at **C** and the oven maintained at roasting temperature the hot water output from the boiler will be 2.6kW (9,000 Btu/h) of hot water from the boiler.

Overnight banking with the cooker/boiler damper knob at **C** will produce 1.46kW (5,000 Btu/h) of hot water from the boiler.

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 the British Codes of Practice BS 8303, BS 6461 Part 1 and BS 7566 Parts 1 to 4 respectively and the central heating system to BS 5449 Part 1. The boiler installation section must also be in accordance with the byelaws 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.**

BUILDERS OPENING

From 200mm thick non-combustible or new recesses, an opening of 1,080mm wide minimum, by 343mm deep minimum and 1,680mm high minimum from floor is recommended.

NOTE (SEE FIG. 1): PLEASE NOTE IT IS ADVISABLE TO CHECK THE SIZE/WIDTH OF YOUR APPLIANCE BEFORE FINALLY FIXING ANY KITCHEN UNITS SINCE ENAMELLED CAST IRON CAN VARY IN SIZE.

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 175mm square or 185mm diameter can be confirmed by smoke testing. Advice on the test method can be obtained from HETAS.

When repairing or re-using chimneys its recommended that the building control office 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 185mm square and all in accordance with the current Building Regulations (England and Wales) and in Scotland the Building Standards (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.

The minimum diameter for a straight chimney is 175mm and if offsets are fitted the recommended minimum diameter is 200mm.

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. (0.08in) 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.

WARNING: PROLONGED SOOT FORMATION MAY RESULT IN THE FLUEWAYS BECOMING BLOCKED AND COULD GIVE RISE TO THE RELEASE OF CARBON MONOXIDE, A POISONOUS GAS INTO THE ROOM.

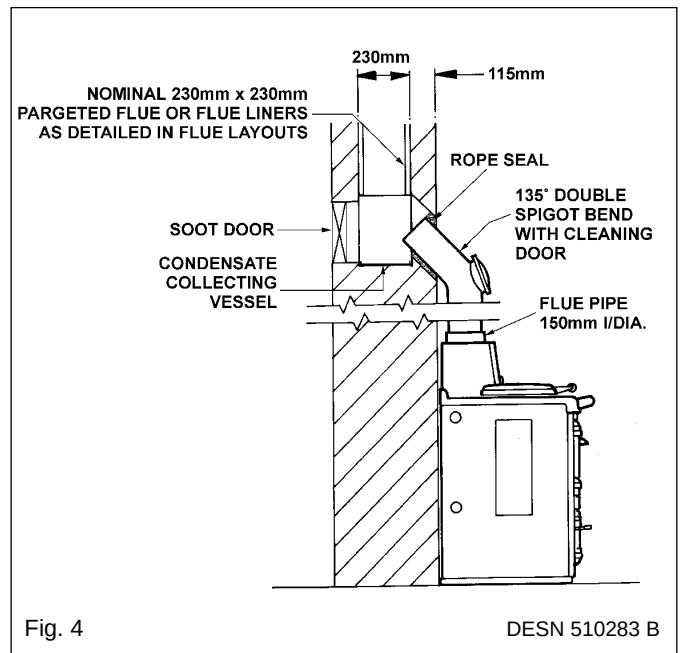
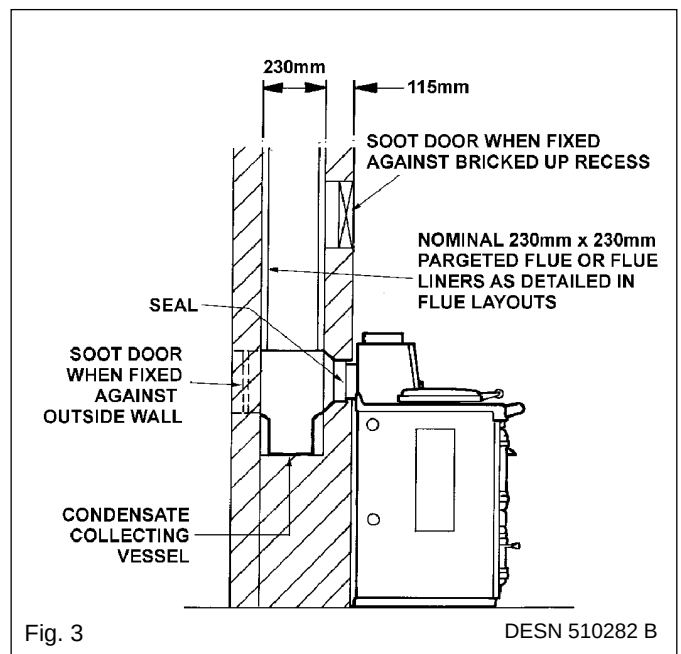
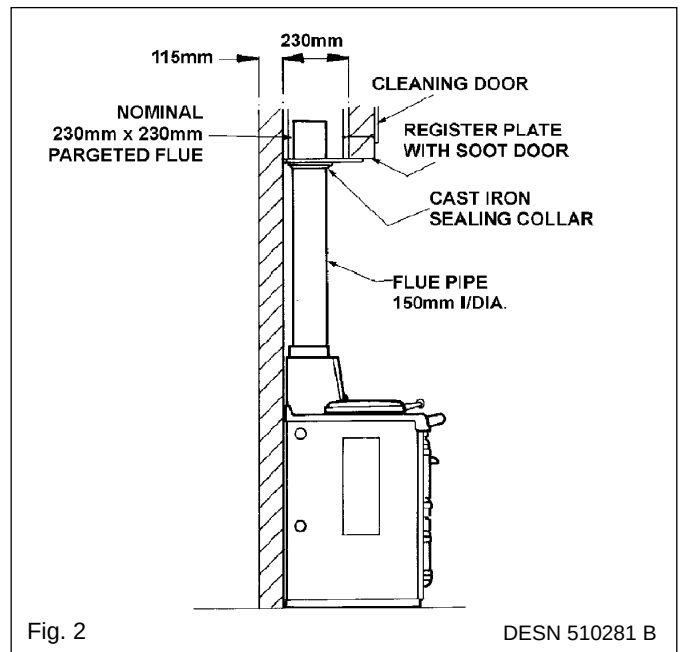
COOKER FLUE CONNECTION

The position of available types 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 REAR FLUE PIPE AND BENDS ARE NOT RECOMMENDED.



(b)Top Flue Outlet

The cooker should be connected to the main flue via a 150mm 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 be not 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 185mm square or 225mm diameter, and 175mm diameter respectively.

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 AIR-TIGHT.

If the chimney is unlined, and there is any doubt about its condition, it should be lined in accordance with current Building Regulations.

PROVISION MUST ALWAYS BE MADE FOR SWEEPING THE CHIMNEY.

IMPORTANT: CEMENT TYPE PIPES AND FITTINGS MUST NOT BE USED WITHIN 2m. OF 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 182.5cm² (28.25sq in) communicated 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 if possible the installation of extractor fan in the same room as the cooker. Compensating extra air inlets must be introduced equivalent to the capacity of the fan when fitted.

CENTRAL HEATING AND HOT WATER SYSTEM

It is recommended that a 190 litre (40 galls) 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

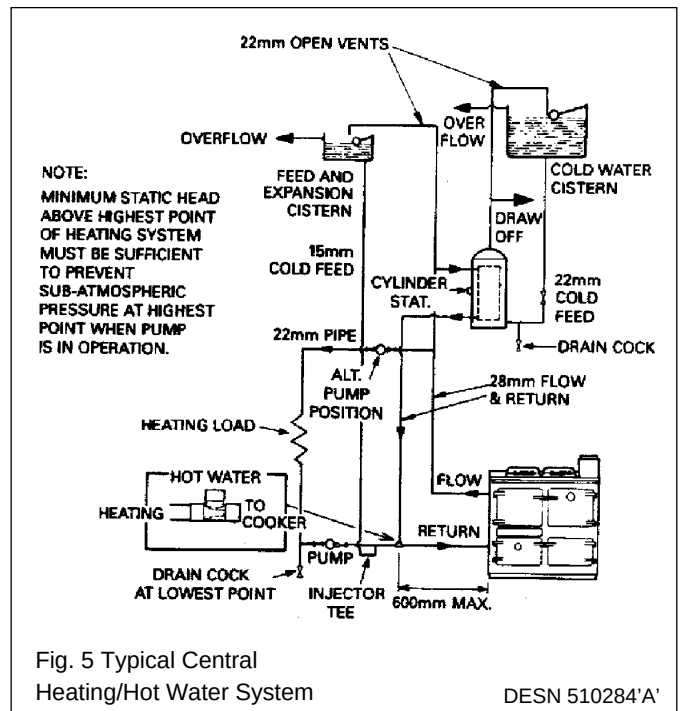


Fig. 5 Typical Central Heating/Hot Water System

DESN 510284'A'

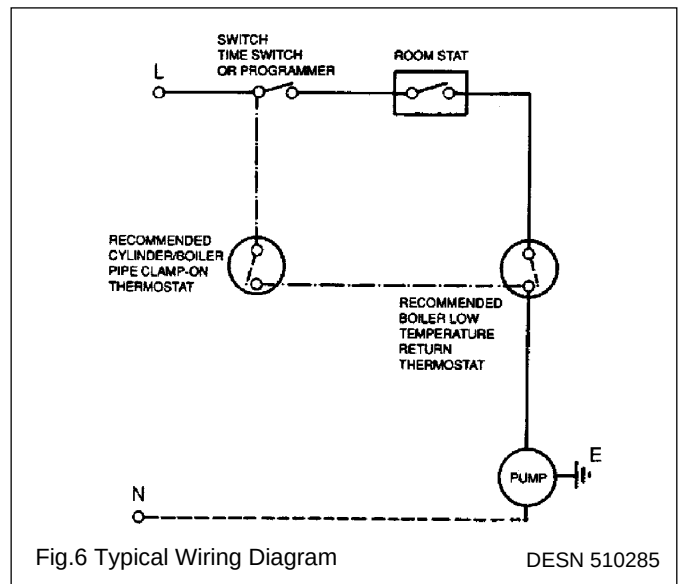


Fig. 6 Typical Wiring Diagram

DESN 510285

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.

BOILER - Control

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 outlet connected to the boiler return pipe.

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

In order to maximise the life of your boiler body, an electrical thermal re-set low temperature boiler thermostat has been fitted within the appliance, behind the LH side removable cover, whose purpose is to isolate the electrical power from the water circulator when the boiler thermostat falls below 60°C (140°F) and thus minimise harmful condensation on the boiler surfaces. The 3 core 0.75mm² cable lead from the appliance must be connected to/from the water circulator as indicated on the 'Typical Wiring Diagram' in Fig. 6.

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 PUMP, THIS WILL SWITCH THE PUMP 'ON' TO PREVENT BOILING.

HIGH UPDRAUGHTS

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

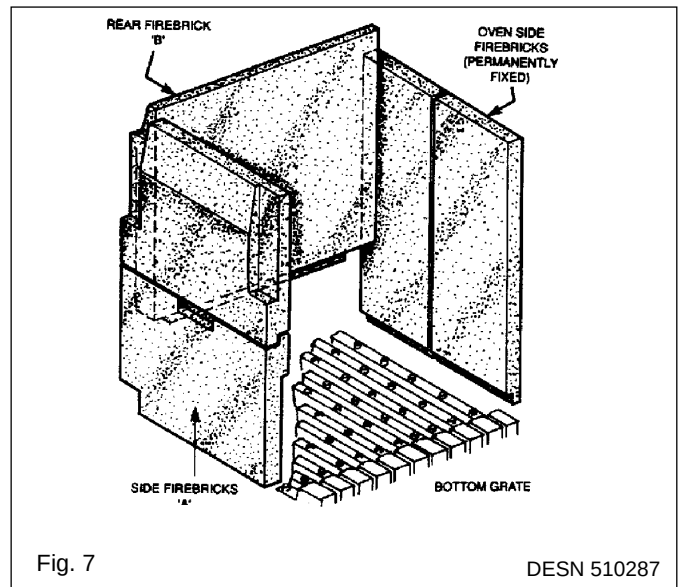
It is recommended that a proprietary brand adjustable flue draught stabiliser having an openable cross sectional area of 182.5sq cm (28.25 sq in) be fitted above the flue pipe connection, either in the brickwork or into a right angle 'T'; fitting in the flue pipe position that will not inconvenience appliance operation or maintenance.

GENERAL - Firebrick Positions and Replacement

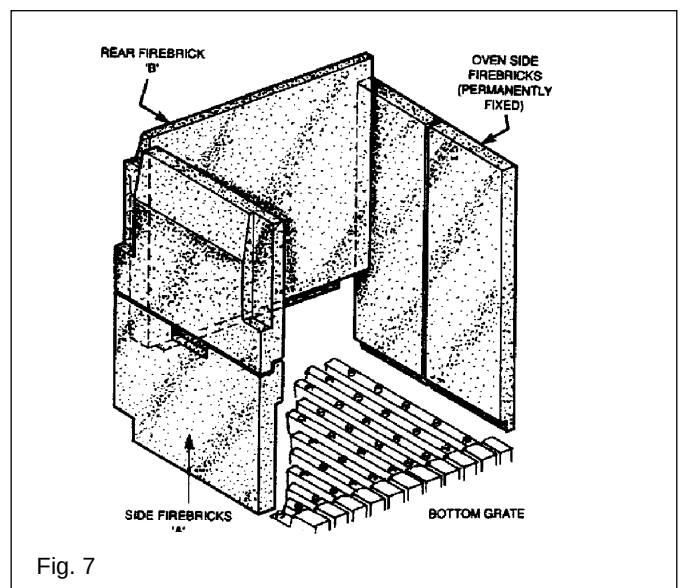
The Rayburn 355M is delivered complete including a set of boiler removable firebricks where positional location determines the amount of hot water supplied in winter and summer seasons.

The oven side and firebox front firebricks are permanently fixed with fire cement, whilst the two boiler face side bricks and boiler back brick are located for the summer season thereby providing domestic hot water only. For winter use or central heating facilities, the boiler face rear brick is removed and the boiler face side bricks are transferred to locate on/over the oven side firebricks. See diagram 7.

The firebricks fitted to the 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 a major operation and can be carried out by the average handyman. Replacement bricks either in sets or singly can be obtained from your Rayburn Distributor. Quote the serial number which will be found on the fire door dataplate



WINTER USE (DOMESTIC HOT WATER & CENTRAL HEATING) SIDE FIREBRICKS 'A' MOUNTED IN RIGHT HAND SIDE OF FIREBOX OVER PERMANENTLY FIXED OVEN SIDE FIREBRICKS & REAR FIREBRICK 'B' REMOVED.



SUMMER USE (DOMESTIC HOT WATER ONLY) SIDE FIREBRICKS 'A' MOUNTED IN LEFT HAND SIDE OF FIREBOX & REAR FIREBRICK 'B' IN POSITION.

INSTALLATION

Place the cooker in the intended position and lift out of 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.

Check that the boiler/cooker flueway dampers operate correctly by turning the knob on the front plate adjacent to the top left hand corner of the roasting oven door.

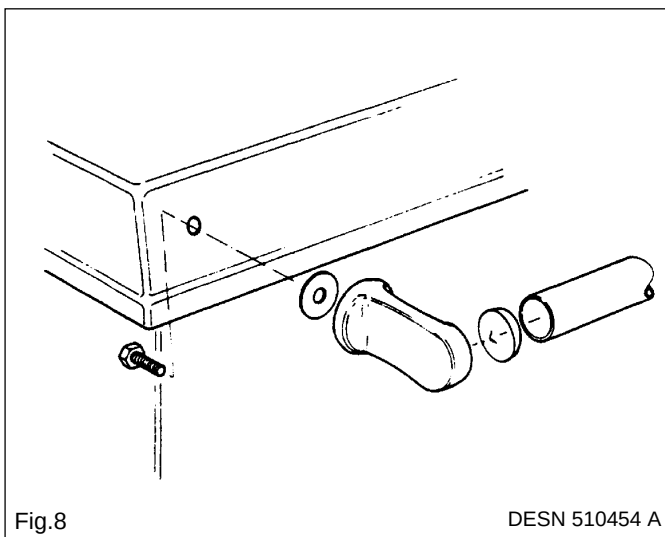
NOTE: IT IS NOT VISUALLY POSSIBLE TO SEE THE BOILER DAMPER AND THIS SHOULD BE CHECKED BY FEELING THROUGH THE HOTPLATE APERTURE TO THE BACK OF THE COOKER. THE COOKER DAMPER SPINDLE OPERATES THE BOILER DAMPER WHICH CAN BE FELT BY INSERTING HAND INTO FLUEWAY.

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

1. Connect pipework to boiler flow and return tappings.
2. 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. Failure to do so can result in the enamel surface being permanently marked.
3. Open the firebox and ashpit doors and check that the reciprocating bottomgrate bars are in position. Operate the riddling lever to ensure bottomgrate operation.
4. Turn the boiler thermostat knob at the rear left hand corner of the top plate from No.1 (low) to No.8 (high).

NOTE: THE HIGHER THE NUMBER, THE HIGHER THE WATER TEMPERATURE.

The handrail brackets are held on the front ends 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 handrails with fitted endcaps into the brackets, positioning them correctly, and tighten the locating bolts (Fig. 8).



TESTING AND COMMISSIONING

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

Check that the system is full of water and free from air locks.

When lighting pull the flue chamber damper open to maximum, add paper and sticks with a small quantity of fuel through fuelling aperture onto bottomgrate and close the firebox door.

Open ashpit door, ignite fuel and close ashpit door when fuel is well alight with boiler thermostat knob or spinwheel on ashpit door at required setting.

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.

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

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



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