INSTALLATION AND OPERATING INSTRUCTIONS FOR THE CHARNWOOD CW20i INSET ROOM-HEATER

A.J. WELLS & SONS
WESTMINSTER LANE
NEWPORT
ISLE OF WIGHT
PO30 5DP
U.K.

INSTALLATION INSTRUCTIONS FOR THE CHARNWOOD CW20i INSET ROOM HEATER

HEALTH & SAFETY AT WORK ACT 1974

It is the responsibility of the installer to comply with the Health and Safety at Work Act 1974 and particular attention must be given to the following:-

Handling

The stove is heavy and adequate facilities must be available for loading, unloading and the final manoeuvering into position. To make handling easier the main doors may be removed. In order to lighten the stove the side and back fire plates, the front firebars, the grate bars and the throat plate may be removed.

Glass

Care should be taken when handling the doors that the glass is not knocked.

Fire Cement

Some types of fire cement are caustic and should not be allowed to come into contact with the skin. In cases of contact, wash off with plenty of water.

Flues, Combustion Air Supply and Positioning of the Appliance

In addition to these installation instructions, Building Regulations and Local Authority By-Laws regarding flues and positioning of the appliance, Code of Practice no. 403; 1974 and BS 6461 Pt. 1 & Pt. 2; 1984 must be observed.

This appliance must not be sited in a room where an extractor fan is fitted as this could result in flue pull reversal and fume emission. There must be adequate air supply into the room totalling at least 16 square inches to provide combustion air.

CHIMNEY

The chimney must be in good condition free from cracks and blockages and should not have an excessive cross sectional area. If problems are encountered expert advice should be sought regarding the necessity of having the chimney lined. Should it be found necessary to line the chimney a lining suitable for solid fuel must be used.

If the appliance is to be fitted in a room where there is no existing chimney a prefabricated block chimney or a twin walled insulated stainless steel flue to BS4543 can be used either internally or externally. The internal diameter must not be less than 150mm (6 inches). These flues must be fitted in accordance with the manufacturers' instructions and Building Regulations.

Single wall flue pipe is suitable for connecting the stove to the chimney but is not suitable for using for the complete chimney.

Before connecting the appliance to an existing flue, the flue must be swept and checked. In order for the appliance to perform satisfactorily the chimney height should not be less than 4 metres measured vertically from the outlet of the stove to the top of the flue terminal. Should there be excessive draw in the chimney it may be necessary to fit a draught stabilizer.

HEARTH

The stove must stand on a fireproof hearth and must be situated at least 300mm (12 inches) from any combustible material. The positioning of the stove and the size of the hearth are governed by building regulations for Class 1 appliances. These building regulations state that the hearth must extend in front of the stove by at least 300mm (12 inches) and to the sides of the stove by at least 150mm (6 inches). If in doubt as to the positioning of the stove expert advice should be sought either from the supplier or the local building inspector.

PREPARATION OF FIREPLACE

The hearth, surround and opening for the appliance must conform with Fig. 1.a. The flat area around the opening must be a minimum of 750mm wide and 660mm high.The appliance will fit into a standard builders opening. Non-standard builders openings must comply with the minimum dimensions shown in Fig. 1.b. The hearth and the base in the opening must be flat and at right angles to the surround. The base of the opening must be level and flush with the hearth.

A hole will have to be made in the front of the chimney breast to give access for infilling and fixing the flue pipe.

FITTING THE STOVE

Apply fire cement to the rear face of the sealing flange. Fit the stove into the opening ensuring that it is central and that a good seal is made between the sealing flange and the face of the surround. The stove should be bolted or screwed to the hearth. Seal over the head of the fixing with fire cement and level flush with the base of the stove. Remove any excess fire cement from around the sealing flange ensuring that it is well sealed.

FLUE CONNECTION AND INFILLING

The flue connection should be made with a 45 degree elbow and a short length of 6" flue pipe (cast iron to BS41, 3mm thick vitreous enamelled mild steel or 1mm thick stainless steel). The end of the flue pipe should line up with the centreline of the chimney. Ensure that the flue pipe is not obstructed or restricted in any way and that all joints are well sealed.

The space between the body of the stove and the structural brickwork should be filled with vermiculite (eg. micafil or similar) concrete. The recommended mix is six volumes of vermiculite granules to one volume of portland cement thoroughly mixed together. Enough water should be added so that no more than one or two drops of water are released when a handful of the mixture is squeezed.

Before infilling, the front of the stove should be covered to protect it. Ensure that the flue pipe is central and then fill the space with the vermiculite mix. Ensure that there are no air pockets.

After filling with vermiculite the top of the flue connector pipe should be flaunched to the chimney with lime mortar.

Make good the hole in the front of the chimney breast making sure that it is completely airtight.

ASSEMBLY

Fit the side panels, hood and top grid onto the stove. Instructions for this are enclosed with the panel pack.

Replace all internal parts previously removed. In the following order (if appropriate):
Bottom grate fire bars, Back fireplate, Side fireplates, Throat plate, Front firebars, Ashpan.

THERMOSTAT

The thermostat is factory fitted and should not need any adjustment. However before initial lighting the cold setting distance should be checked. To adjust the distance slacken the locking nut and adjust the flap so that it is just closed when the thermostat knob is at the minimum setting.

PRE LIGHTING CHECK

Before initial lighting the following points should be checked.

1. The bottom grate bars must all be fitted and should move freely and easily when the riddling mechanism is operated.
2. The plates round the sides and back of the grate must be in position and sitting correctly.
3. The throat plate must be fitted in the roof of the appliance and should be checked to ensure that it has not become dislodged in transit.
4. Ensure that the overrun catch swings freely and easily on its spindle preventing the fire doors from closing until the ashpit door has been shut.

COMMISSIONING

On completion of the installation and after allowing a suitable period of time for the fire cement and mortar to dry out, the stove should be lit and checked to ensure that smoke and fumes are taken from the appliance up the chimney and emitted safely. Also check all joints and seals.

On completion of the installation and commissioning please leave these operating instructions with the customer. The customer should be advised on the use of the appliance and also of any controls on the system.

OPERATING INSTRUCTIONS FOR THE CHARNWOOD CW20i INSET ROOM HEATER

Before lighting the stove check with the installer that the work and checks described in the installation instructions have been carried out correctly and that the chimney has been swept, is sound and free from any obstructions.

FUELS

The recommended fuels for this stove are as follows:

Ancit
Anthracite Stove Nuts
Coalite
Homefire
Phurnacite
Rexco
Royal
Sunbrite Doubles
Welsh Dry Steam Coal Large Nuts

Smaller sizes of some of the above fuels may be burned in autumn and spring to give lower outputs.
The above may all be burned in Smoke Control Areas. In areas which are not Smoke Control Areas selected bituminous coal (doubles, trebles or cobbles), dry wood and peat may also be burned. If you are unable to obtain the fuel you want ask your supplier, an approved fuel distributor, or your local SFAS office to suggest an alternative.

MULTIFUEL GRATE

Your Charnwood stove is fitted with a multifuel grate which enables both solid fuels and wood to be burned equally effectively. The grate has two positions. In the solid fuel position the grate bars are vertical with gaps in between allowing the primary combustion air to come up through the grate and through the fuel bed. In the wood position the combustion air comes up round the sides of the grate and over the top of it. When in the wood position ash is able to build up on the grate as is necessary for effective wood burning. Movement of the grate from one position to the other is effected using the tool supplied. The grate is put into the wood position by moving the tool in the direction of the arrow 'W' (marked on the handle of the tool) until the tool is vertical. The grate is put into the solid fuel position by moving the tool in the direction of the arrow 'C' until the tool is horizontal. To riddle the appliance when burning solid fuels the tool should be moved from the horizontal to the 45 degree position several times. When burning wood the ash should be allowed to build up and riddling should only be carried out once or twice a week.

LIGHTING

There is a safety device fitted to the stove which prevents the main doors being closed when the ashpit door is open. This is to prevent accidental over-firing.
The sequence for opening and closing the doors is as follows:

Open the main doors
Open the ashpit door
Close the ashpit door

Close the main doors

The stove may be lit using paper and dry kindling wood or fire lighters.

Set the grate into either the wood position or the solid fuel position as required. Place the paper and kindling or fire lighters on the grate and cover with approximately 2 inches of fuel. Turn the thermostat control knob to the maximum setting and light the paper or fire lighters. Close the doors until the fuel is well ignited then load with fuel and adjust the thermostat to the required level.

On initial lighting, the stove may smoke and give off an odour as the silicon paint with which the firebox is painted reacts to the heat. This is normal and will cease after a short time. in the meantime the room should be kept well ventilated.

When relighting the stove, riddle, remove any clinker from the firebed and then empty the ashpan.

CONTROLLING THE FIRE

The rate of burning and hence the output is controlled by the control knob on the left hand side of the stove. This is linked to a thermostat which is based on the firebox temperature. The number at the top of the control is the number at which it is set and a high number will give a high burning rate and hence a high output. A low number will give a low burning rate and a low output. Experimentation will be necessary to obtain the desired heat output.
The stove is fitted with a manual secondary air control which is located at the bottom of the right hand side panel. When the arm is pointing to the right it is closed, when pointing backwards it is open. This control should be in the closed position when burning smokeless fuels and in the open position when burning other fuels.

RIDDLING

When burning solid fuels riddling twice a day is usually sufficient. When burning wood, ash should be allowed to build up and generally weekly riddling will be sufficient.
The fire should be riddled with all doors shut. Place the tool on the knob and rotate between the horizontal and the 45 degree position several times.
CAUTION: WHEN RIDDLING THE GRATE USING SOLID FUEL DO NOT GO BEYOND THE 45 DEGREE POSITION AS THIS CAN CAUSE THE GRATE TO JAM.
If jamming does occur then the fire should be allowed to burn for approximately half an hour before riddling the grate again as described above.
Too much riddling can result in emptying unburnt fuel into the ashpan and should therefore be avoided. Clinker should regularly be removed from the firebed.
After riddling, the grate should be put back into the solid fuel or wood position as required (the tool should be horizontal for solid fuel or vertical for wood).

ASH CLEARANCE

The ashpan should be emptied regularly before it becomes too full. Never allow the ash to accumulate in the ashpan so that it comes in contact with the underside of the grate as this will seriously damage the grate bars. Ensure that the air inlet damper is not prevented from closing by

spilled fuel or ash. The ashpan is handled using the tool provided. Care should be taken to ensure that ash is cool before emptying it into plastic liners or bins.

Always close the ashpit door tightly after replacing the ashpan.

REFUELLING

Keep the firebox well filled but do not overfill to prevent fuel from spilling over the top of the front fire bars. Care should be taken especially when burning wood that fuel does not project over the front fire bars or damage to the glass may be caused when the doors are closed.

WOODBURNING

When burning wood the grate should be kept in the wood burning position and should not be riddled until the ash becomes so deep that it begins to block the passage of air into the firebox at the side of the grate. When this is the case do not remove all of the ash using the riddling mechanism but keep a layer about half an inch thick as this enables the wood to burn more effectively.

Only dry well seasoned wood should be burnt on this appliance as burning wet unseasoned wood will give rise to heavy tar deposits. For the same reason hard wood is better than soft wood. Burning wet unseasoned wood will also result in considerably reduced outputs.

When burning wood use the primary air control in exactly the same way as when burning solid fuel but keep the secondary air inlet open (the secondary air inlet is located at the bottom of the righthand side panel).

OVERNIGHT BURNING

When burning solid fuel the fire will burn more slowly if a smaller size of fuel is used. The opposite is true when burning wood, so if long burning times are required use large logs rather than small ones.

When burning solid fuel the ashpan should be emptied if necessary and the fire should then be riddled. The thermostat control should be turned up to maximum for a brief period and then when the fire is burning brightly it should be loaded with fuel and the thermostat turned to a low setting. Some experimentation will be necessary to find the setting most suitable for the particular fuel used and the draw on the chimney. For overnight burning the fire doors must be closed. To revive the fire, riddle (when burning solid fuel), empty the ashpan if necessary and turn the thermostat control knob to maximum. When the fire is burning well load on more fuel as necessary and turn the control knob to the desired setting. When burning wood do not riddle but simply turn the air control to maximum until the fire picks up and then set the air control at the desired setting and refuel as necessary.

CLEANING AND MAINTENANCE

The stove is finished in vitreous enamel. To clean the surfaces simply wipe over with a dry cloth. Abrasive pads and scouring cleaners must not be used as these will damage the finish. Care should be taken not to knock the enamel with hard objects as it will chip.

The glass in the doors is a zero expansion ceramic glass which will not

crack due to the heat of the fire. It may be cleaned when hot without damage to the glass although care must be taken with any aerosols or cloths used. When burning solid fuel the glass may be cleaned simply using a damp cloth and then wiping over with a dry cloth, when burning wood any tar deposits on the glass may be removed with a proprietory oven cleaner. Alternatively deposits on the glass can often be burnt off simply by running the fire at a fast rate for a few minutes.

If the stove is not going to be used for a long period (for instance in the summer) then to prevent condensation and hence corrosion, the thermostat should be left at the maximum setting and the main doors left ajar.
After long periods where the stove has been out of use the chimney and stove flueways should be cleaned before lighting.

MONTHLY MAINTENANCE

It is important that every month the throat plate and all the stove flueways are thoroughly cleaned. It is not necessary to let the fire out completely to carry out these operations.

The throat plate should be lowered using the tool. The method of doing this is to pull the front of the throat plate forward and then to lower it. Any sooty deposits should then be swept from the plate and into the fire after which the throat plate should be returned to it's correct position. The method of doing this is to raise the front of the plate, push it back and then lower it onto the retaining lugs.

SWEEPING

The chimney should be swept at least twice a year. In most installations it will be possible to sweep the chimney through the appliance. If this is the case the the procedure for sweeping the chimney is as follows:

1. Remove the front firebars.
2. Remove the throat plate.
3. Sweep chimney ensuring that soot is removed from all horizontal surfaces after sweeping.
4. Replace all parts removed.

In situations where it is not possible to sweep through the appliance the procedure is as above except that instead of sweeping through the appliance the chimney must be swept through the soot door provided. After sweeping the chimney the appliance flue outlet and the flue pipe connecting the stove to the chimney must be cleaned with a flue brush.

Different types of sweep's brushes are available to suit different flueways. For standard brick chimneys a wire centre sweep's brush fitted with a guide wheel should be used. For prefabricated insulated chimneys the manufacturers instructions with regard to sweeping should be consulted.

TROUBLE SHOOTING

Fire Will Not Burn.

Check that: the air inlet is not obstructed in any way, that chimneys and flueways are clear, that a suitable fuel is being used.

Fume Emission.

WARNING NOTE: PROPERLY INSTALLED AND OPERATED THIS APPLIANCE WILL NOT EMIT FUMES. OCCASIONAL FUME FROM DE-ASHING AND RE-FUELLING MAY OCCUR PERSISTANT FUME EMISSION MUST NOT BE TOLERATED. IF FUME EMISSION DOES PERSIST, THEN THE FOLLOWING IMMEDIATE ACTIONS SHOULD BE TAKEN:

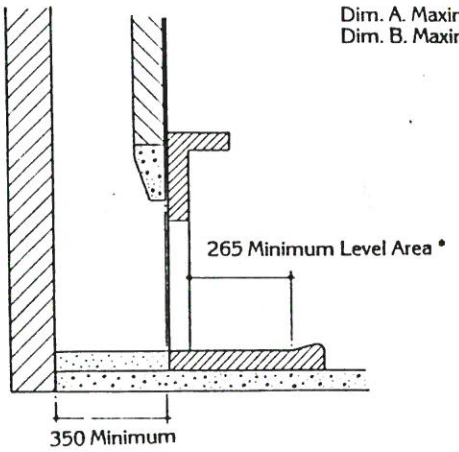
A) OPEN DOORS AND WINDOWS TO VENTILATE THE ROOM.
B) LET THE FIRE OUT AND SAFELY DISPOSE OF FUEL FROM THE APPLIANCE.
C) CHECK FOR FLUE OR CHIMNEY BLOCKAGE, AND CLEAN IF REQUIRED.
D) DO NOT ATTEMPT TO RELIGHT FIRE UNTIL CAUSE OF FUME HAS BEEN IDENTIFIED, IF NECESSARY SEEK PROFESSIONAL ADVICE.

Fire Blazing Out Of Control.

Check: that the ashpit door is tightly closed, that the thermostat knob is turned down to the minimum setting, that the inlet damper is closed (at the bottom left of the appliance), that a suitable fuel is being used.

Chimney Fires.

If the chimney is regularly swept properly chimney fires should not occur. However, if a chimney fire does occur turn the control knob to the minimum setting, and tightly close the doors of the appliance. This should cause the chimney fire to go out in which case the control should be kept at the minimum setting until the stove has gone out. The chimney and flueways should then be cleaned. If the chimney fire does not go out when the above action is taken then the fire brigade should be called immediately.
After a chimney fire the chimney should be carefully examined for any damage. Expert advice should be sought if necessary.



Dim. A. Maximum – 470 mm (18½") Minimum – 405 mm (16")
Dim. B. Maximum – 575 mm (22⅔") Minimum – 555 mm (21¾")

* This Dimension is required to enable the Ashpit Door to be opened. For overall sizes of hearth see the section titled "Hearth".

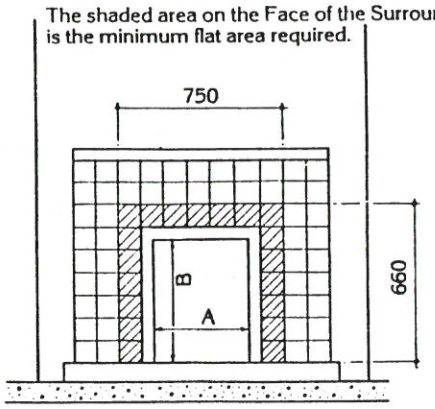


Fig. 1.a. Limiting Dimensions of Hearth Surround and Opening

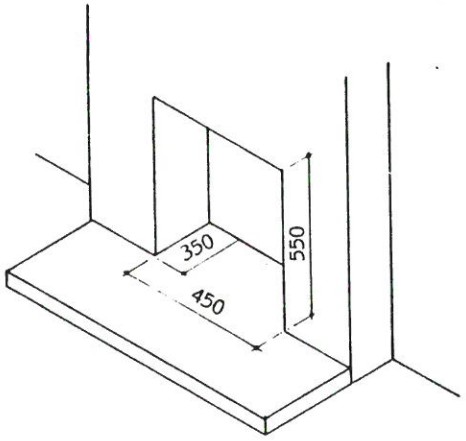
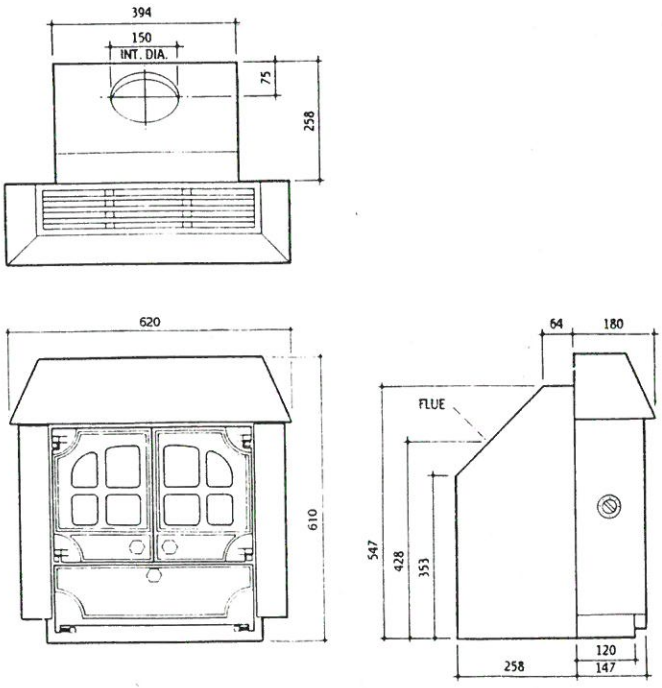


Fig. 1.b. Minimum Dimensions of Builders Opening

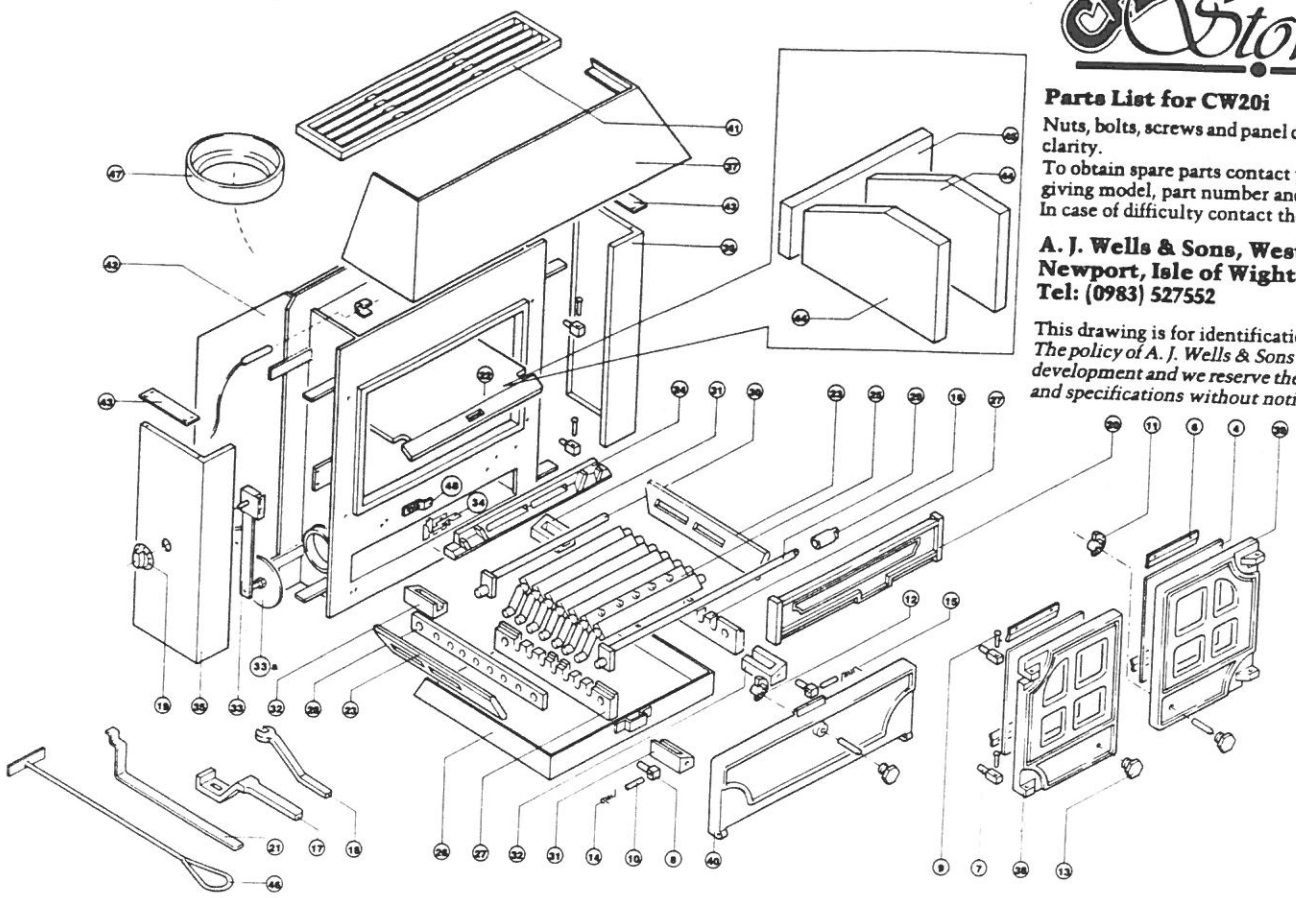


CHARNWOOD Stoves

Parts List for CW20i

Nuts, bolts, screws and panel clips are not show clarity.
To obtain spare parts contact your local stockis giving model, part number and description.
In case of difficulty contact the manufacturer:

A. J. Wells & Sons, Westminster Lan Newport, Isle of Wight PO30 5DP. Tel: (0983) 527552



Item	Part No.	Description
*	008/EW35L	L.H. DOOR SEAL
*	008/EW35R	R.H. DOOR SEAL
*	008/EW36	ASHPIT DOOR SEAL
*	008/EW35/S	DOOR SEAL SET
*	008/FW29	DOOR SEAL ADHESIVE
4	006/FW30/A	GLASS INC. GLASS CHANNEL
*	008/BW44/S	GLASS CHANNEL SET OF 8
6	004/EW23	GLAZING BAR
7	008/FW27	HINGE POST MAIN
8	008/FW28	HINGE POST A/P
9	008/BW39/S	HINGE PIN MAIN DOOR SET
10	008/BW40/S	HINGE PIN A/P SET
11	002/BW12MD/A	DOOR KNOB ASSEMBLY RH
12	002/BW12AP/A	DOOR KNOB ASSEMBLY ASHPIT
13	002/BW12	DOOR KNOB LH
14	008/BW43L	SPRING LH
15	008/BW43R	SPRING RH
16	002/CG06	RIDDLER KNOB
17	002/BW20	RIDDLER/ASHPAN TOOL
18	002/BW26	DOOR OPENING TOOL
19	008/BW50	THERMOSTAT KNOB
20	002/FW07	FRONT FIREBARS
22	002/HW32	THROAT PLATE
23	002/HW15	SIDE FIRE PLATE
24	002/HW16	BACK FIRE PLATE
25	002/CG01	BOTTOM GRATE BAR
25a	002/CG01/S7	SET OF GRATE BARS

Item	Part No.	Description
26	004/EW17	ASHPAN
27	002/EW30	CARRIER BAR
28	012/EW33	MOVER BAR
29	012/FW14	RIDDLER ROD
30	012/CG05	IDLER ROD
31	002/CG07	CARRIER BAR SUPPORT LH
32	002/CG08	CARRIER BAR SUPPORT RH
33	008/FW48	THERMOSTAT
33a	008/FW47	THERMOSTAT FLAP 75mm DIA.
33a	008/BW57	THERMOSTAT FLAP 90mm DIA.
34	004/BW46	OVER RUN CATCH
35	005/FW05L/#	SIDE PANELL LH
36	005/FW05R/#	SIDE PANEL RH
37	005/FW06/#	HOOD PANEL
38	003/EW01/#	DOOR LH
39	003/EW02/#	DOOR RH
40	003/FW03/#	ASHPIT DOOR
41	003/FW04/#	TOP GRID
42	001/HW10	FIREBOX CW20i
43	008/FW46/A	HOOD FIXING KIT
44	011/HW08	FIREBRICK SIDE
45	011/HW09	FIREBRICK REAR
46	012/FW34	SCRAPER TOOL
47	002/FW49	CAST IRON FLUE ADAPTOR (Supplied Separately)
48	012/BW45	A/P DOOR BRACKET
*	004/EW51	ASH CARRIER

 # PLEASE SPECIFY COLOUR WHEN ORDERING
** THESE ITEMS ARE NOT SHOWN ON THE EXPLODED DRAWING*