REPLACEMENT PARTS

09/07

1. BOILER BURNER		ECOFLAM PART NO
A. COMMON PARTS		
Mounting Gasket		18.04.2001
Oil Pump	Danfoss BFP 11R3	02.02.0002
Flexible Oil Line	740mm – 1/4 BSP Braided	01.02.3002
Control Box	Landis and GYR LOA 24	04.03.1013
Photocell	Landis & GYR QRB1	04.03.3007
B. 0-106 BURNER		
Nozzle	1.0 x 80ES	2021-258
Flame Tube	BFB 01.153/002	01.01.1002
C. 0-80 BURNER		
Nozzle	0.75 x 80ES	2021-256
Flame Tube	BFB 01.002/002	01.01.1001
D. 0-60 BURNER		
Nozzle	0.6 x 80ES	2021-254
Flame Tube	BFB 01.104	01.01.1010

2. COOKER BURNER		
Nozzle	Danfoss 0.3 x 80°H or Delavan 0.3 80°A	02.02.1150
Flame Tube	BFB 01.016/002	01.01.1020
Oil Pump	Danfoss BFP 21 R3	02.02.0202
Flexible Oil Line	740mm – 1/4 BSP Braided	01.02.3002
Control Box	Landis & GYR LOA 24	04.03.1013
Photocell	Landis & GYR QRB 1S	04.03.3011

3. THERMOSTATS		ESSE PART NO
Boiler Thermostat	Altecnic 540095	CENT 081 BO
Boiler Limit Stat	Altecnic 541510	2040-640
Cooker Thermostat	Anglo Nordic 1300608	2040-636
Cooker Limit Stat	Altecnic 541887	CENT 082 BO
Neon Light		2040-645 BO
Control Knob Cooker	Altecnic	2023-384 BO
Control Knob Boiler	Altecnic	2040-200 BO

When ordering replacement parts, quote the cooker serial number and type.

THE AUTHENTIC ORIGINAL

Ouzledale Foundry Co. Limited, Long Ing, Barnoldswick, Lancashire BB18 6BN
Tel: 01282 813235 Fax: 01282 816876 Email: enquiries@esse.com Website: http://www.esse.com

OIL FIRED COOKERS & BOILERS

INSTALLATION & COMMISSIONING INSTRUCTIONS

MODELS: OC, O-60, O-80 & O-106

THIS APPLIANCE MUST BE COMMISSIONED BY A OFTEC REGISTERED ENGINEER
THE WARRANTY CARD MUST BE RETURNED TO ENSURE GUARANTEE VALIDITY

HEALTH & SAFETY AT WORK ACT 1974
(AND AMENDMENTS)

The installer has a responsibility under this Act, to provide for the safety of person(s) carrying out the installation.

Attention is drawn to the following:-

1) The appliance is heavy and requires care in handling. Lifting off the pallet and positioning may be carried out using the Lifting Jack* available from ESSE dealers. There may also be sharp edges on certain components.

2) Fire cement is caustic and hands must be washed thoroughly after use.

Although this appliance does not contain asbestos products, it is possible that asbestos may be disturbed in existing installations and every precaution must be taken.

*Patent applied for.

CONTENTS

GENERAL INFORMATION

The installation of the cooker, the chimney, hearth and walls adjacent to the cooker must conform to local or national regulations currently in force. In the United Kingdom, the appropriate sections of the Building Regulations must be conformed to.

TECHNICAL DATA

MODEL	OUTPUT/INPUT kW (Btu/h)	Nozzle Size Type	Pressure† bar (p.s.i.)	Fuel Consump. l/h*	Air Setting Approx	CO_2 %	Soot No
BOILER BURNER							
O-106	29.3 (Output) (100,000)	1.0 80°ES	7.2 105	3.42	7.5 8.5	11.8 10.8	0-1
O-80	23.44 (Output) (80,000)	0.75 80°ES	7.6 110	2.63	2 3	11.4 10.4	0-1
O-60	17.54 (Output) (60,000)	0.6 80°ES	7.0 100	1.97	2 1	11.1 10.1	0-1
COOKER BURNER							
O-106, O-80, O-60, OC	10.55 (Input) 36,000 Btu/h	0.3 80° A or H	6.0 87	0.99	MIN + 1 notch	6.0 4.5	0-1

OVERALL AIR SUPPLY & FUEL CONSUMPTION		
MODEL	AIR SUPPLY MIN CM^2	TOTAL FUEL CONSUMP l/h*
O-106	170	4.41
O-80	130	3.62
O-60	100	2.96

* Constant Running † This pressure must not be exceeded

Important OC InstalLation INFOrmation: OC (cooking only) models should be installed using the cooker burner instructions only. OC models do not have a boiler and therefore all boiler instuctions are not required and can be ignored.

General Location

A 7mm air gap should be left either side of the black enamel top from combustable surfaces.
The location of the cooker must have:-

1) Sufficient room for the installation. (Fig. 1)
2) A satisfactory flue.
3) Adequate air supply.
5) Access for oil connection and fire valve.
4) Solid floor or base capable of supporting the total weight.

The points above are covered in more detail below.

Floor

The cooker weighs 350kg (786lbs) approx. The floor must be solid and level.

Electrical Supply

An electrical supply from an adjacent fused spur is required. 230/250 volts AC50Hz. Fuse rating 3 amps. One cable is supplied, which is live into programmer (black cable), see Wiring Diagrams. A 3 channel pre-wired programmer is incorporated into the cooker.

Oil Supply

The cooker is supplied for use only on Commercial Kerosene. 28 sec to BS 2869: 1983 Class C2. Incoming oil supply should not be less than 10mm copper. The L.H. side panel can be removed for access to the fitting (Fig 3). A tiger loop system may be used if required.

Ventilation

A supply of air is necessary for correct combustion via a purpose made air brick or grid. The minimum effective air requirement for the appliance is as specified in the Technical Data Section (Page 3).
It should be noted that the cooker will emit a certain amount of convected heat and ventilation arrangements should allow for this.

Where an extract fan is provided to vent the room of cooking smells, steam, etc, arrangements must be made to avoid any possibility of reversing the flow in the chimney. Arrangements for ventilation must always comply with any local by-laws or Code of Practice relevant to the installation.

Chimney / Flueing Arrangement

The flue box is suitable for 125mm (5") cast iron smoke pipe to BS 41. Either top or rear connection is achieved by fitting the blanking plate supplied. The flue should run into a chimney of not less than 125mm (5") internal diameter.

A conventional chimney should not be less than 125mm (5") internal diameter. A continuous flexible metallic liner (min 125mm (5") diameter) suitable for oil, must be used to line an existing chimney. Alternatively a clay liner to BS 1181 may be used.

A proprietary, fabricated chimney should conform to BS 4343. The minimum flue height should be 4.75m (15'). In all cases the chimney should conform to relevant Building Regulations.

Note: If on commissioning the appliance a minimum flue draught of 1.02mm (0.04") w.g. cannot be achieved (due to local topographic conditions) a fan flue system may be required.

The following general points should be noted:

1) The fabric of the chimney must be sound and the internal surface smooth and free from obstructions. Any air leaks and bad joints must be rectified.
2) The chimney should be terminated in such a manner to prevent ingress of rain.
3) The chimney must serve the cooker alone and not be shared with any other appliance.
4) External flues of asbestos or cast iron pipe must not be used. Excessive exposure will result in heat loss and poor performance.
5) Provision should be made for means of sweeping.
6) The maximum water temperature is 90°C.
7) Water capacity of boiler is 14.5litres (3.2 gals).

Important: For the burner to function correctly, a steady chimney draught not exceeding 2.5mm (0.10") w.g. and not less than 1.02mm (0.04") w.g. is required. The draught should be assessed with a reliable manometer after running both burners at a high control setting for at least thirty minutes. Down draught cannot be tolerated and arrangements must be made to overcome this condition where it occurs. Flue pipe connection should be made with good quality fire cement to make sure of an airtight seal between the flue box and the flue pipe. Any soot door, register plate etc, must also be sealed to form an airtight joint. Three schematic diagrams of installation methods are shown in Fig. 4, 5, 5a, 6 and 6a but modifications may be made to suit site requirements. In all cases, however, the important principle that no air must enter the chimney except through the inlets provided on the cooker, must be adhered to. The preferred option is to connect the flue liner direct to the flue pipe to ensure good seals.

Water Systems & Wiring Diagrams

As the heat conducted from the oven to the hot water system is negligible, either a fully pumped system or a pumped central heating and gravity hot water system may be used in accordance with current regulations.

Power Flush Water Systems

If the century is to be fitted onto an existing water system then it must be power flushed prior to the commissioning of the unit and inhibitor re-added. Failure to carry out this operation will seriously affect boiler performance and negate any warranty claim.

The cooker is factory wired to suit heating and hot water at the same time, using only 2 channels of the programmer (figs 4, 5 & 6). If hot water is required to be programmed separately from the central heating, the 3rd channel of the programmer is used (fig 5a). The relevant stickers supplied should be fitted to the programmer. Commission the programmer as described in figs 3a & 3b. Typical systems are shown in Figs. 4, 5, 5A, 6 & 6A.

The water system and the electrical wiring system used must be in accordance with current regulations.

The following general points should be noted:

1) An indirect system is essential in all cases. Cylinder capacity should not be less than 136 litres (30 gallons).
2) The tappings are 1"BSP. Connection may be made through the left-hand side panel. The flow tapping must be 28mm (1.09") pipe and any reduction made on a rising section of the piping.
3) Water circuit layout must follow establishedheating practice. The cooker must be level when fitted and the primary flow and return pipes must rise from the boiler. A drain cock must be fitted at the lowest point of the circuit and a permanent vent to atmosphere provided at the highest point.
4) The cylinder and pipe work must be insulated to avoid heat losses.
5) The system pressure must not exceed 2 Bar, and be fitted with a pressure release valve.
6) The maximum water temperature is 90°C.
7) Water capacity of boiler is 14.5litres (3.2 gals).

Bypass

A bypass should be fitted. Where the water system can allow the boiler and pump to operate on bypass only, the bypass must be placed at least 1.5m (5'3") away from the boiler.

Inhibitor

Attention is drawn to the current issue of BS5449 and BS 7593 on the use of inhibitors in central heating systems. If an inhibitor is to be used, contact an inhibitor manufacturer for their recommendations as to the best product to use.
The water system and the electrical wiring system used must be in accordance with current regulations.

INSTALLATION

The cooker is supplied with the air intake at the front. If required the air intake can be taken from the rear as follows:- (Fig. 7)

i) Remove the kicker plate securing screws.

ii) Remove the blanking plate located at the rear right-hand corner of the base. Fix the blanking plate over the front primary air intake at the front right hand corner of the base.

iii) Replace the kicker plate.

Move the cooker into position. Connect water flow and return pipes. Remove left-hand panel and connect oil supply. Fit electrical cables to the chosen system. Replace left-hand side panel. Fit the flue box. Make the flue connection.

Fit the flue box sealing plate and gasket. Fit the flue box door (Fig. 8)

Fit the towel rail using the towel rail brackets supplied.

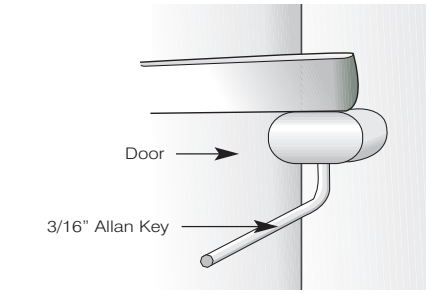
The baffle arrangement above the boiler heat exchanger need not be disturbed on installation. If however, they have been removed for any reason, then they must only be replaced as shown in Fig. 9.

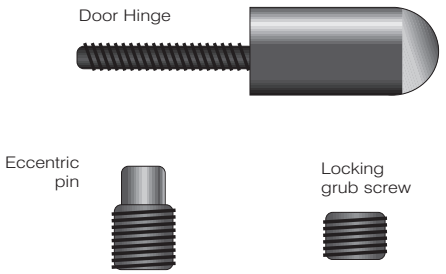
DOOR HINGE ADJUSTMENTS

i) Remove both upper & lower locking grub screws from hinges using the 3/16" allan key provided.

ii) Using the same allan key, adjust either or both eccentric pins in each door hinge to level the door.

iii) Once the door is level, lock the eccentric pins in place using the locking grub screws.





COMMISSIONING

This appliance is fitted with two oil pressure jet type burners and must be commissioned by an experienced pressure jet engineer (OFTEC) with the necessary equipment available for setting up the burner and checking that combustion characteristics and chimney draught comply with those detailed in the text.

Failure to comply will lead to incorrect operation, nuisance shutdown, equipment failure or damage to appliance. GUARANTEE will be invalidated if the appliance is not correctly commissioned.

Procedure

Important: Ensure the mains supply is isolated and that both thermostats are at the off position.

Remove control panel.
Check the oil and water connections for soundness.

Boiler Burner (Left Hand Burner)

Connect combined air bleed manifold and pressure gauge to pump.

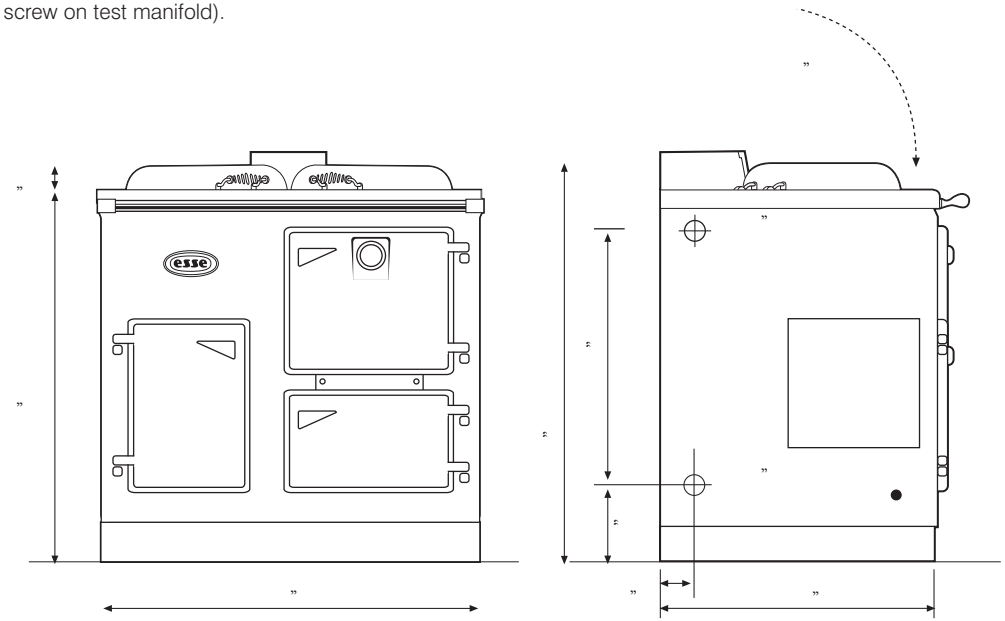
Re-establish the electricity supply to the cooker.

Warning: The power is now live. Extreme caution must be exercised.

Check that any ancillary controls e.g. room thermostat, programmer etc., are in an ON position.

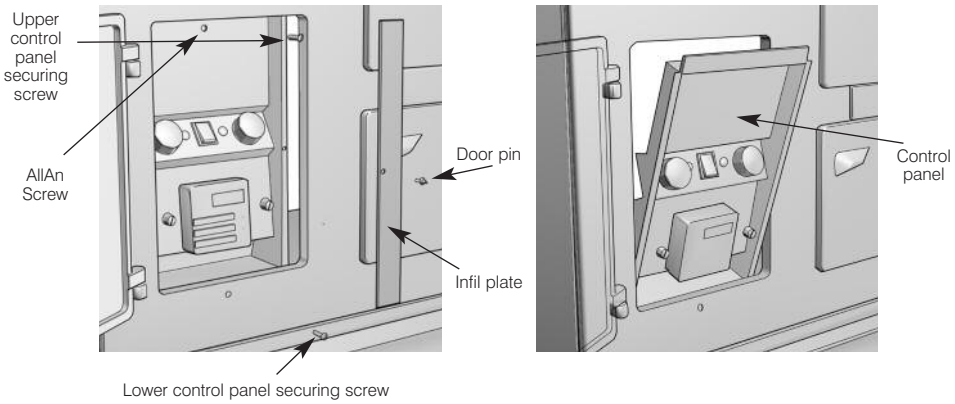
Turn boiler thermostat to 80°C position. Burner should start ignition sequence.

(When the burner motor starts on a one pipe system it may be necessary to temporarily open the air bleed screw on test manifold).

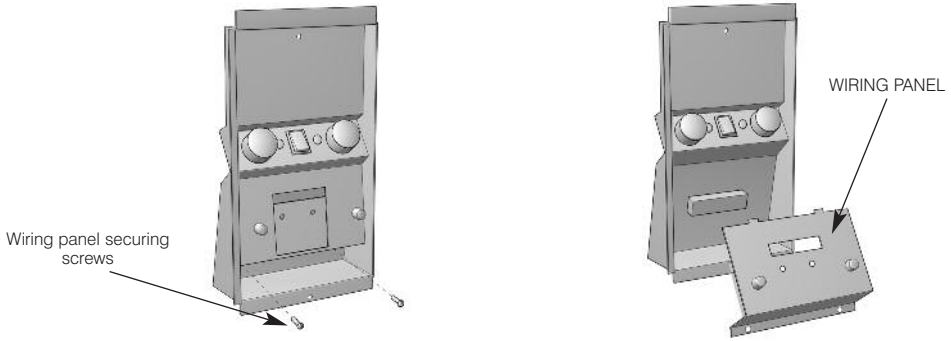


SIZES ARE APPROXIMATE ONLY. VARIATIONS MAY OCCUR IN MANUFACTURE.

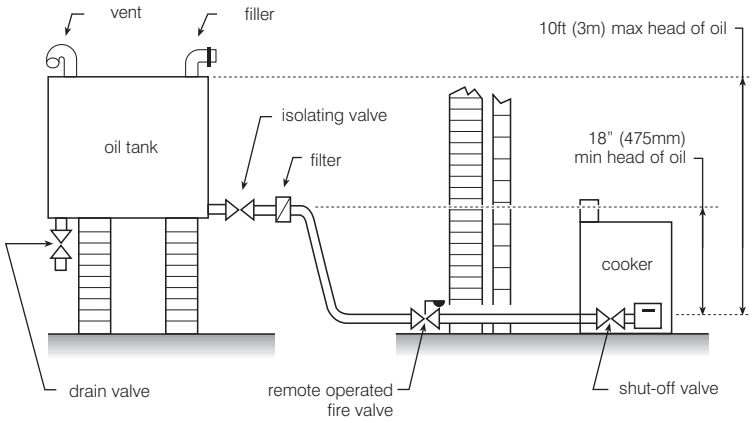
Removing the Control Panel - Fig.2a



Removing the Wiring Panel - Fig.2b



Oil Installation Schematic Diagram - Fig.3



Once burner is firing check and if necessary adjust oil pressure. (see Technical Data).

Carry out combustion checks by inserting probe into sampling point provided at the flue box behind the cast iron flue hood access door. (Fig. 8) The air setting is pre-set.

Check the smoke number and if necessary increase the air setting progressively until a number between 0 and 1 is achieved.

Note: From cold and particularly on a new installation, there will be a condensation of the flue gases and this may affect the paper

Allow boiler to heat up for a further 10 minutes then check smoke number, adjusting the air if necessary (see Technical Data). Monitor the flue draught at the same point and check that a steady updraught is obtained.

Turn boiler thermostat to 'O'. Isolate mains supply and remove the pressure gauge.

Cooker Burner (Right Hand Burner)

Connect combined air bleed manifold and pressure gauge to pump.

Re-establish electricity supply to the cooker.

Warning: The cooker power is now live. Extreme caution must be exercised.

Check that any ancillary controls e.g. programmer etc are in an ON position.

Turn cooker thermostat to 250°C position. Burner should start ignition sequence.

(When the burner motor starts on a one pipe system it may be necessary to temporarily open the air bleed screen on test manifold).

Once burner is firing check and if necessary adjust oil pressure (see Technical Data).

Carry out combustion checks by inserting probe into sampling point provided at the flue box. (Fig. 8)

The air setting is pre-set at minimum.

Check the smoke number and if necessary increase the air setting progressively until a number between 0 and 1 is achieved.

Note: From cold and particularly on a new installation, there will be a condensation of the flue gases and this may affect the paper.

Allow cooker to heat for a further 10 minutes then check smoke number, adjusting the air setting if necessary (see Technical Data). Monitor the draught at the same point and check that a steady updraught is obtained.

Turn cooker thermostat to OFF. Isolate mains supply, remove pressure gauge and replace the control panel.

To complete the commissioning process, you must fill in both of the following:

a) Commissioning Record - at the back of this booklet on p18

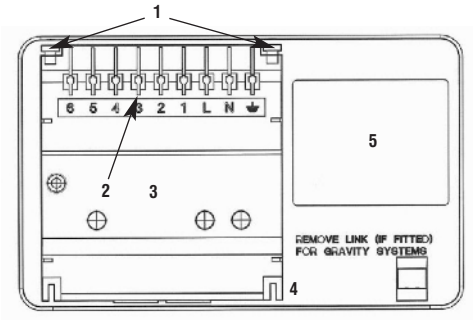
b) Commissioning Confirmation Form - a separate leaflet supplied with this cooker.

Important: Failure to complete these documents will invalidate the warranty of this product.

COMMISSIONING THE PROGRAMMER - O-60, O-80 & O-106 Models

All ChannelPlus XL controls are fitted with battery reserve which maintains programmed times in the event of a mains power failure.

Rear View of ChannelPlus XL Programmer - Fig.3a



1. Retaining Screws
2. Connector Blades
3. Production Date Label
4. Positioning Lugs
5. Ratings Label

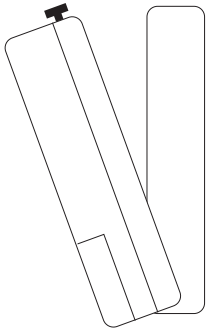
Removing/Fitting the Programmer

Loosen the two 'captive' retaining screws on the top of the unit. Now fit the programmer to the backplate, line the lugs on the programmer with the flanges on the backplate.

Swing the top of the programmer into position ensuring that the connection blades on the back of the unit locate into the terminal slots in the backplate.

Tighten the two 'captive' retaining screws to fix the unit securely, then switch on the mains supply.

End View of ChannelPlus XL Programmer



COMMISSIONING THE PROGRAMMER - OC Model

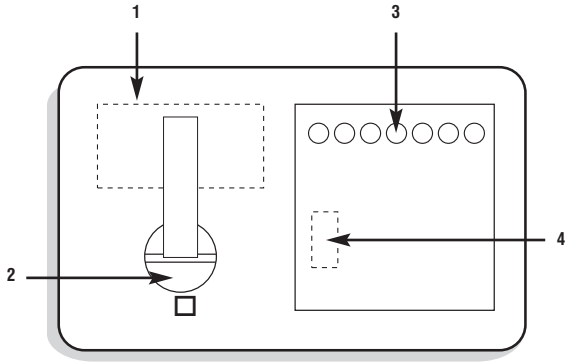
All CentaurPlus controls are fitted with battery reserve which maintains programmed times in the event of a mains power failure.

Battery Reserve

The battery must be commissioned prior to fitting the control to the backplate. This is achieved by the means of a COMMISSIONING STRIP situated on the back of the unit. Pull out the battery commissioning strip at the back of the programmer and re-insert the battery, the reserve is now activated.

When the programmer is running on battery reserve the clock display will disappear. This is to prolong the life of the battery.

Rear View of CentaurPlus Programmer - Fig.3b



1. Ratings Label
2. Battery
3. Connector Pins
4. Production Date Label

Fitting the Programmer

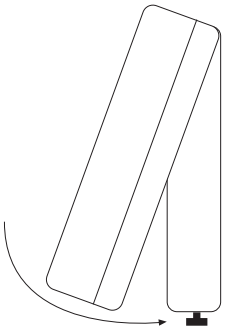
If surface wiring has been used, remove the knockout/insert from the bottom of the programmer to accommodate it.

Loosen the two 'captive' retaining screws on the bottom of the backplate. Now fit the programmer to the backplate, ensure the lugs on the backplate engage with the slots on the programmer.

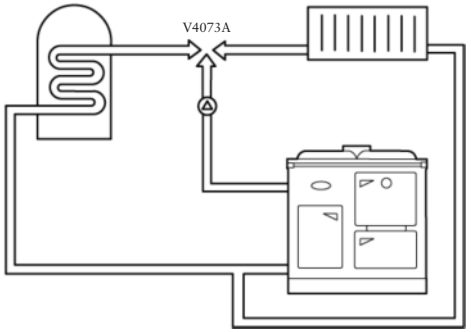
Swing the bottom of the programmer into position ensuring that the connection pins on the back of the unit locate into the terminal slots in the backplate.

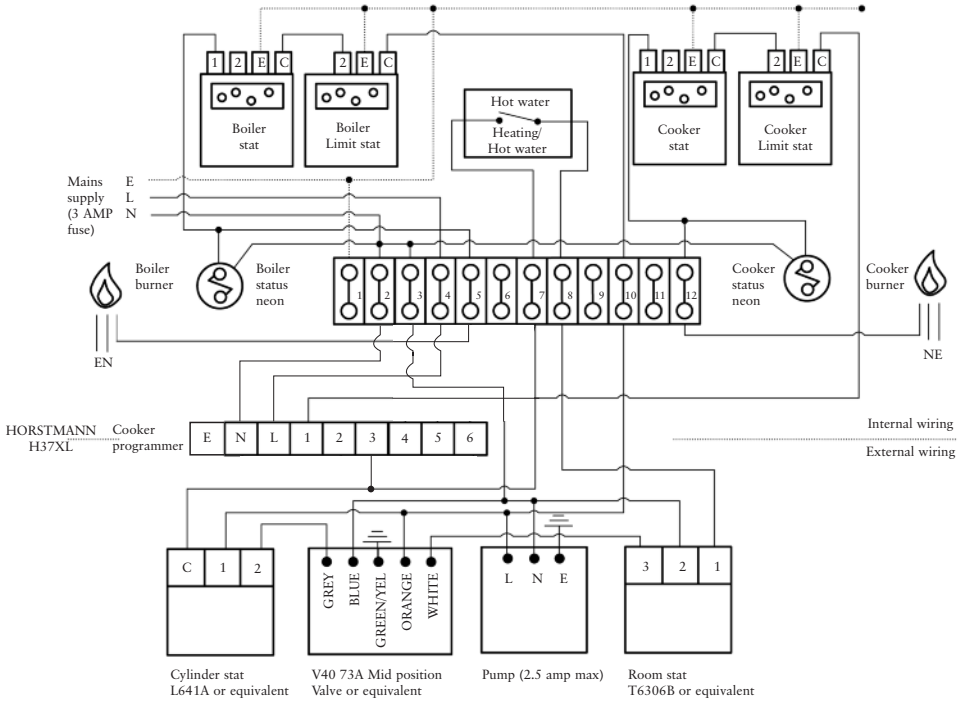
Tighten the two 'captive' retaining screws to fix the unit securely. Then switch on the mains supply.

End View of CentaurPlus Programmer

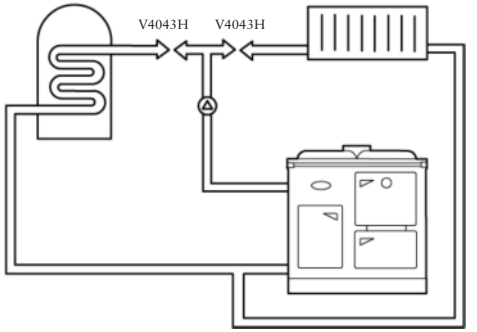


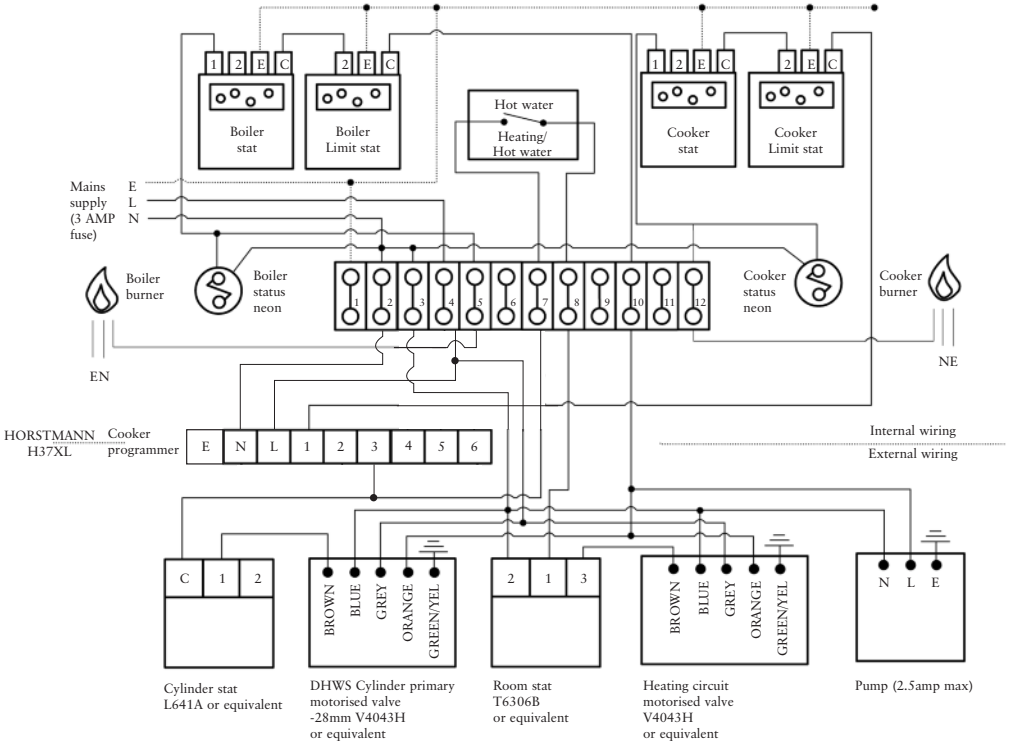
Honeywell 'Y' plan - fully pumped hot water and heating





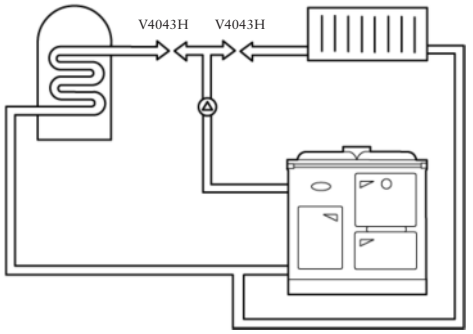
Honeywell 'S' plan - fully pumped hot water and heating

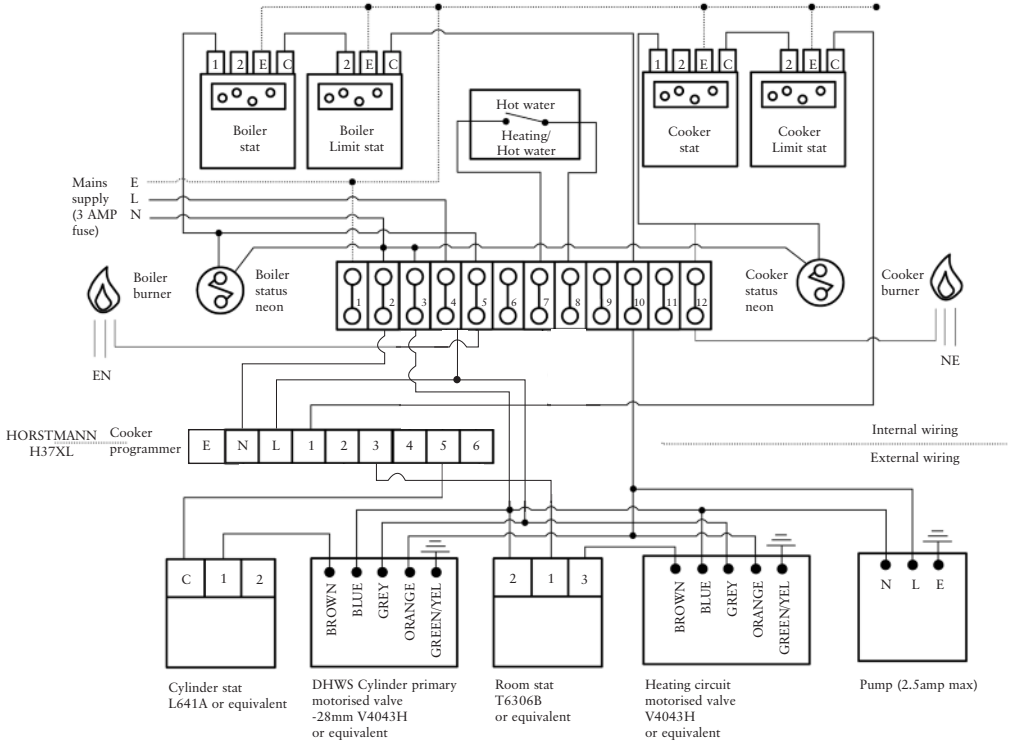




Honeywell ‘S’ Plan with heating and hot water timed seperately - Fig.5a

Honeywell ‘S’ plan - fully pumped hot water and heating

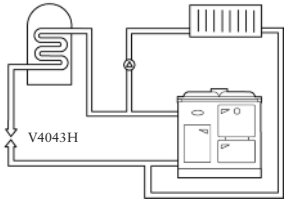


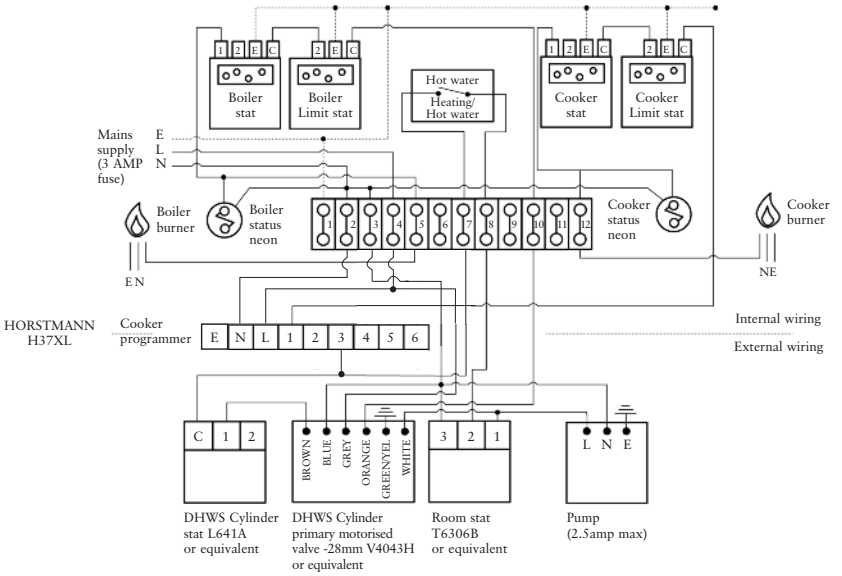


Honeywell ‘C’ Plan - Fig.6

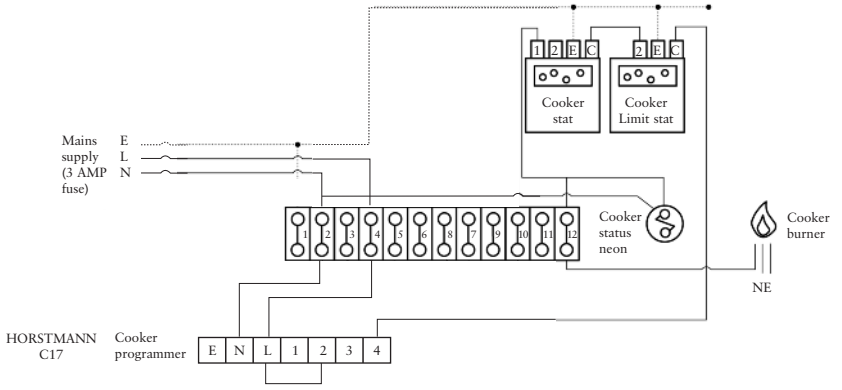
Honeywell ‘C’ plan - gravity hot water and pumped heating

Note: For a gravity primary and pumped heating system without a zone valve, cylinder thermostat or room thermostat, link terminals 7 & 10 and wire pump live to terminal 8

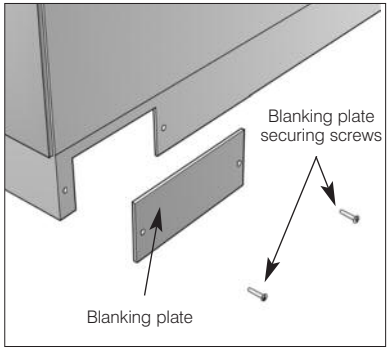


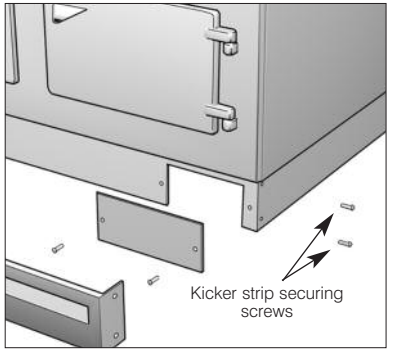


Model OC (COOKER ONLY) - Fig.6a

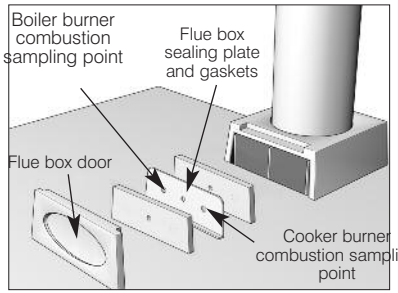


Blanking Plate - Fig.7

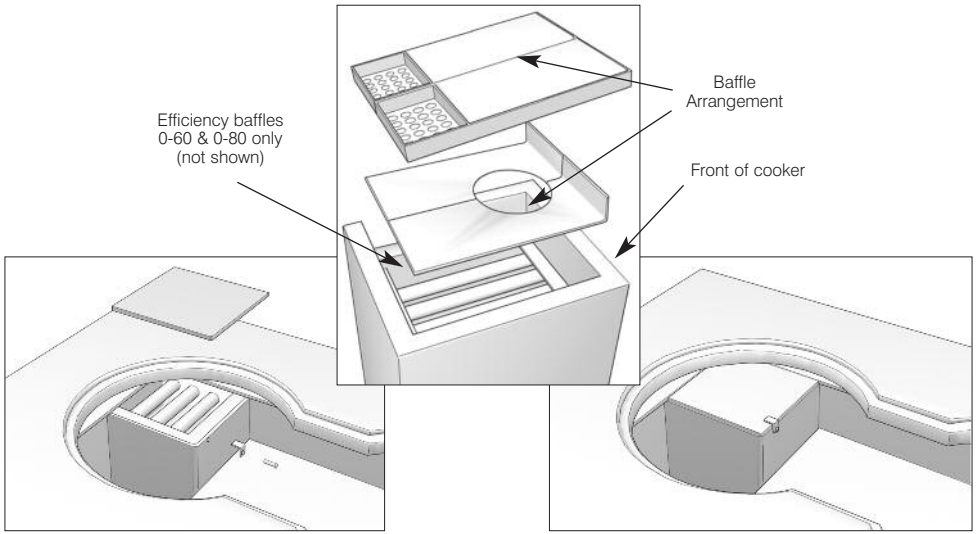




Sampling Points - Fig.8



Baffle Arrangement - Fig.9



BOILER/COOKER FAULT FINDING CHART

BURNER FAILS TO START

SITUATION	POSSIBLE CAUSES	REMEDIES
Motor Runs Burner pre-purges Flame occurs Burner locks out	Flame instability	Check nozzles to burner head dimension and electrode position
	Incorrect head settings	Check oil pressure
	Low oil pressure	Adjust air damper
	Excess air	Check that photo cell is clean and unobstructed
	Photo cell not seeing light	Confirm with photo cell
	Photo cell failed	Confirm with new control (NB. It is advisable to change the photo cell if also changing control)
	Control faulty	
Motor runs Burner pre-purges No flame occurs Burner locks out	False light	Check that photo cell is not seeing ambient light Check that H.T. leads are sound and are not arcing other than at electrode gap
	No spark	Check oil supply to burner- check that pump is not airlocked
	No oil	Check operation of magnetic valve.

BURNER FAILS TO START AFTER NORMAL OPERATION

Burner fails to start	Fuse has blown	Check or replace fuse if necessary. Check reason for failure
	Appliance thermostat has not reset	Adjust thermostat
	Appliance overheat device has operated	Reset overheat device, find reason for it's operation and rectify
Lamp not lit	Control relay or photo cell defective	Check by replacement
Motor runs	Oil not being delivered	Check that oil tank, oil lines, fire valve, pump and nozzle are all in good order
	Excess flue draught is preventing flame establishment	Rectify condition
Burner runs to lockout	No spark	Check ignition transformer. Check electrode gap and porcelains

DELAYED IGNITION, BURNER STARTS VIOLENTLY

Burner pulsates on start-up only with hot flues	Excessive draught	Recomission burner
Burner pulsates - on start up	Nozzle partly blocked	Replace nozzle
	Oil pressure too low	Check and recomission
	Flue blocked or damaged	Check and rectify
	Fan slipping on shaft	Check and tighten
	Pump coupling loose or worn	Check and replace
Burner starts violently	Delayed ignition	Check the electrode adjustment, see diagram Check electrodes for damage Check H.T. leads for damage and disconnection

COMMISSIONING RECORD

Engineers Name		Date	
Address			
Tel No.		Fax No.	
OFTEC/Reg No.			

SERVICE RECORD

Engineers Name		Date	
Address			
Tel No.		Fax No.	
OFTEC/Reg No.			

Engineers Name		Date	
Address			
Tel No.		Fax No.	
OFTEC/Reg No.			

Engineers Name		Date	
Address			
Tel No.		Fax No.	
OFTEC/Reg No.			

Engineers Name		Date	
Address			
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