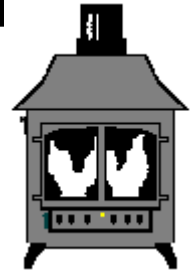
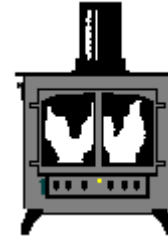


Woodwarm

Enigma



***Cleanburn
Multi-Role***

8Kw Freestanding Stove Installation and User Instructions

Please read this booklet thoroughly before attempting to install or to use this appliance

Includes Registration and Guarantee Document

Model

Enigma Flat Top

Enigma Low Curved Canopy

Serial Number

M49 - _____

M49L - _____

Woodwarm Stoves Established 1974

By

Metal Developments,

The Workshop, Wheatcroft Farm, Cullompton, Devon EX15 1RA

Tel: 01884-35806 Fax: 01884-35505

www.woodwarm.com

General Specifications - **Enigma 8Kw** Freestanding Stove

	Flat Canopy	High Curved Canopy
Overall Height	25.25" - 645mm	32.00" - 813mm
Overall Depth	16.75" - 425mm	16.10" - 410mm
Overall Width	22.50" - 575mm	25.00" - 635mm
Flue Size	6.00" - 152mm	6.00" - 152mm
Enigma with Boilers		
Boiler Output		Room Output
8,000 Btu Slab		6.25Kw
21,000 Btu Baffle		2Kw

Metal Developments has a policy of continual improvement .

We reserve the right to change sizes and specification without notice.

Cautionary Notes on Use

Maximum Temperature - Over-firing the Stove - Use Beyond the Rated Output

The stove body is designed to run up to a maximum temperature **not exceeding 700F or 400C** and we recommend the use of a stove thermometer available from your dealer or us.

There are 3 possible causes for stoves over-heating :-

- 1 Primary air vents left open.
- 2 The fire door rope seal worn, damaged or missing. It should be replaced if necessary or it can be pulled out, adjusted and easily repositioned in its' channel. No fixative is needed.
- 3 Excessive chimney draw (the design draught is:- not exceeding 2" water gauge). If the draught is high use remedial action; either the fitting of a flue stabiliser to the flue as close to the appliance as is aesthetically possible, or the fitting of a flue damper in the chimney (ask your dealer or contact us for details).

Chipboard and other composite wood-type materials contain corrosive additives, as do sulphurous coal products especially when mixed with wet wood, that may etch and permanently damage the surface of the glass.

A reminder to the installer.

The Boiler circuit should have an Inhibitor added to it.

10 Year Life Time Guarantee

The main components of the Stove are designed with a minimum life span of ten years. These are all listed at the end of the document. A failure of any of these components during this period will be replaced as listed, excluding the costs of fitting, or of transport, on the basis of age ie. A failed boiler say at 5 years old is halfway through its life and will be supplied at 50% of the current retail price to the customer, or registered user. A boiler for example failing within the first year will be sold subject to 100% discount, a boiler failing at 9 years old will only be subject to a 10% discount. etc etc

This **unique** Life Time Guarantee depends on the following circumstances being met.

- 1 The Product Registration Form is returned within 30 days of sale and is complete in all sections.
- 2 All the General Conditions of Sale have been met.
- 3 All the Conditions of Installation have been correctly implimented.
- 4 The correct fuels are burnt, and the correct chimney types are used, and cleaned at least once a year. Proof of this may well be asked for so do keep receipts.
- 5 Boilers are installed as described and are protected from return low water temperatures by the fitting of either Hi -Lo or similar two pipe thermostats set at not less than 85C for Flow and 55C for the return. On gravity systems, adequate protection of low water return temperatures have been provided for. (Pipe thermostats and/or motorized valves {power closed} at low return temperatures).
- 6 Consumable parts ie grates, glasses, fire boards are Excluded.
- 7 Acceptance of this Guarantee implies acceptance of the Terms and Conditions in full, and the decision of the Company is final.
- 8 The appliance has been run within the limits of its Design and Specifications. Abuse of the appliance will negate this Life Time Guarantee.
- 9 Metal Developments or its agreed agent will at all times be the sole arbitrators to any claim.

Metal Developments

INDEX

Air curtain	10
Airwash	10
Boiler blanking plates	12
Chimney draw/draught	inside front cover
Chimney sweep	9
Chipboard	inside front cover
Choke	11
Cleaning the Stove	9
Cleaning access in flue/chimney	3
De-ashing	9, 11
Electrical	2
Fireplace	2, 3
Flow check-valve	14
Flue	3, 4, 9
Flue spigot	4
Glass	2, 6, 10, 16
Graphite based lubricant	6
Guarantee	19
Guarantee Registration Form	middle pullout
Health and Safety and Handling	2
Hearth	2
Hi - Lo Pipe Thermostats	14
Hinges and Hinge pins	6, 9
Insulated flue and liners	3
Levelling bolts	4
Maintenance	9
Mini-Max Thermostats	14
Operating tool	9
Over-firing	inside front cover
Pipe thermostats	14
Product Registration Form	middle pullout
Specifications	inside front cover
Spare parts	17
Tar	8, 10
Temperatures of stove	inside front cover, 10, 11
Thermometer	11

LIST OF CONTENTS

Index	Page 20
Cautionary Notes on Use	Inside front cover
Regulations and Installation Instructions for the Woodwarm Enigma Stove	
Hearth	Page 2
Stove Site and Minimum Clearances	Page 2
Chimney and Flue	Page 3
Installing the Stove	
<u>Diagram 1 - Fitting of Fireboard and Baffle</u>	Page 4
Baffle	Page 5
Internal Fireboards	Page 5
<u>Diagram 2 - Baffle Position</u>	Page 5
Fire Door and Door Catch Assembly	Page 6
Glass Panel Cleaning and Replacement	Page 6
Commissioning	Page 7
Fuels for Burning on the Enigma Stove	Page 8
Daily Routine, Maintenance and Servicing	Page 9
Operating Instructions for the Woodwarm Enigma Stove	
How Cleanburn Works	Page 10
Initial Lighting	Page 10
Lighting	Page 10
To Achieve Cleanburn	Page 10
Product Registration and Guarantee Form - Centre Pages - Complete, Detach and Return	
Overnight Burning	Page 11
Ordering and Installation of Retrofit Boilers	
Slab 8,000 Btu Boiler	Page 12
Baffle 21,000 Btu Boiler	Page 12
Removing Boilers	Page 12
<u>Diagram 3 - 21,000 Btu Boiler Baffle Position</u>	Page 13
Pipe Thermostats	Page 14
<u>Diagram 4 - Pipe Thermostats - Wiring Diagram</u>	Page 14
Typical Central Heating Layouts in Conjunction with the 21,000 Btu Boiler	
<u>Diagram 5 - Typical 2 Pipe Central Heating Circuit</u>	Page 15
<u>Diagram 6 - Typical 4 Pipe Central Heating Circuit</u>	Page 15
Fault Finding	Page 16
Fume Emission	Page 17
Spare Parts	Page 17
Details of Product Registration for Owner Retention	Page 18
The Woodwarm Guarantee	Page 19

REGULATIONS AND INSTALLATION INSTRUCTIONS FOR THE WOODWARM ENIGMA STOVE

Health and Safety at Work Act

It is the responsibility of the installer to comply with current Health and Safety at Work Regulations, and particular attention should be given to the following:-

Handling

This stove is heavy and adequate facilities must be available for all handling operations and its final manoeuvre into position. In order to lighten the stove, the main door, grate and baffle 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.

Electrical

If any electrical components are used in the installation they should be installed in accordance with the manufacturers installation instructions and all wiring must comply with the regulations of the Electrical Equipment of Buildings.

Air supply

Building Regulations dictates that an air vent of some type (usually an air brick) must be fitted into an exterior wall to allow sufficient flow of air into the fire. Generally speaking the size of the air vent must be equal to the cross section of the flue connection.

This stove should not be fitted in a room where an extractor fan is in use, as this could result in flue reversal and the emission of flue gases into the room.

HEARTH

The stove must stand on a fireproof hearth which must be at least **130 mm (5") thick and constructed of a non-combustible material**. The positioning of the stove and the size of the hearth is governed by Building Regulations for Class 1 Appliances. These regulations state that the hearth must extend at least **300 mm (12")** in front and **150 mm (6")** to the side of the stove. This can be covered with decorative tiles so long as these are also non-combustible.

STOVE SITE AND RECOMMENDED MINIMUM CLEARANCES

There must be **no** combustible material (i.e. wooden wall panels, skirting boards, beams etc) **within 380 mm (15") of the stove**.

The clearance between the stove and any non combustible surface is recommended as **not less than 150mm (6")**.

THE WOODWARM GUARANTEE

Woodwarm stoves and boilers are made to precise specifications.

We guarantee the quality of our workmanship and give money-back guarantee on proof of defective workmanship and delivery of the defective item to our premises within twelve months of the date of purchase. Stoves must be installed to Building Regulations and comply with our Conditions of Installation and Operation for this guarantee to be effective.

Exclusions

It is possible that the continuous use of high intensity fuels (manufactured short flame, base intense heat fuels eg Ancit and Phurnacite) may cause heat distortion over a period of time. After two or three years of constant use the continual expansion and contraction of the cast iron grate may cause distortion. Generally this in no way interferes with the running of the stove. However for these reasons the **grate** is excluded from the guarantee alongwith the **fire boards, glass panels** and the **seal**, i.e. on the fire door. **Paint** is also excluded from the guarantee as it will eventually deteriorate over a period due to the normal working of the stove.

Metal Developments will not be liable for any consequential or incidental loss, damage or injury, however caused.

Claims under this guarantee should be first made through your Woodwarm retailer.

This guarantee is applicable only in the UK.

Nothing in the guarantee shall effect your statutory rights.

Your assistance is requested - by filling in and returning the Guarantee Form you will help maintain our record files and assist us in identifying your stove in the unlikely event of any problem occurring and also when you need to order spares.

We also offer a further **9 year Guarantee** making our unique

10 year Life time Guarantee.

To register for this additional facility you need to complete and return the Guarantee Form in the middle of this booklet and comply with the terms and conditions of this Installation and User Instructions Booklet.

**DETAILS OF PRODUCT REGISTRATION
FOR OWNER RETENTION**

STOVE TYPE Woodwarm *Enigma* _____

MODEL NUMBER AND SERIAL NUMBER OF STOVE **M 49** ---
(Found on the rear top right of stove and also on the front of this booklet)

Date of Purchase /..... 20.....

Date of Installation /..... 20.....

SUPPLIERS DETAILS

Suppliers Invoice Number.....

Name.....

Address.....

.....

.....

Phone Number.....

INSTALLERS DETAILS

Name

Address.....

.....

.....

Phone Number.....

CHIMNEY AND FLUE

The chimney should be thoroughly swept and examined for soundness. If the chimney is not lined, then we recommend strongly that before use it is fully lined with a **Class 1 Liner and insulated**. **It is not advisable to only partially line a chimney as this will only create further problems where the lining finishes.** If there are even the smallest air breaks in the mortar the chimney is not suitable for a wood stove. When hot wood stove fire gas rises up the chimney, it will pull cold air through any small break by capillary attraction. This cools the fire gas at that level causing wood tar to precipitate at that point on the chimney wall. Soon this will accumulate across the chimney and therefore constrict it and stop the fire burning properly. Eventually this will not only lead to a chimney fire, but will further rot the chimney structure.

Note: We do not recommend the use of Clay Liners for a chimney to be used with a stove. We have found that they create a cool interior chimney and its' associated condensation problems, what is wanted is a warm interior to the chimney.

For efficient stove working it is important to make sure that there is an adequate draw on the chimney. The chimney height should not be less than 4 metres measured vertically from the outlet of the stove to the top of the chimney.

The minimum flue size for these stoves varies according to the model, refer to the specification sheet for the minimum flue diameter, if possible line the chimney with a flue liner that is at least 25mm (1") larger than that of your particular stove. At no point in the flue should it be below the minimum flue diameter.

When the stove is to be connected to an existing fireplace, this will need sealing to the flue by a register plate, which can be mounted horizontally or vertically.

If elsewhere in the house another fireplace feeds into the same chimney this **must** be sealed, otherwise flue gases or air may either be drawn into, or flue gases escape from, the other chimney or fireplace. This contravenes Building Regulations as it is potentially **very dangerous**.

In the absence of a chimney; a prefabricated block chimney, a conventionally constructed chimney with a Class 1 liner, or a twin walled insulated flue to BS 4543, must be used either internally or externally. **The internal diameter must not be less than that of your particular appliance.** Flues must be fitted in accordance with the manufacturers instructions and according to local building regulations. If there is any doubt over flue connection or installation, consult your nearest professional installer, or the Building Inspector at your local council.

Whichever way you choose to use **DO NOT FORGET TO POSITION A CLEANING ACCESS** in your flue and chimney that is easily accessible for sweeping.

CHIMNEYS, FLUES, COMBUSTION, AIR SUPPLY AND POSITIONING OF THE STOVE

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 PT1 and PT2: 1984 must be observed.

INSTALLING THE STOVE

Place **stove** on chosen level hearth and remove any packaging materials. The shrink polythene can be used as a cover for the stove whilst installation is in progress as fire cement will mark the stove paint surface if left.

Grasp the handle on the bottom left of the main/fire door and bring the bottom of the lever forwards and upwards to open. Carefully remove the door by lifting it up and off its hinge pins (retaining these) and place it safely out of the way. From the front of the stove now can be removed **the operating tool, flue spigot, flue blanking plate, baffle, fire boards, the grate and the ashpan** if necessary.

The flue spigot supplied with the **Enigma** is 6". It is designed to be used for top or rear mounting and is interchangeable with the blanking plate and may be altered if a different stove and flue position is required at a later date. A smear of fire cement should be applied to the flange of both the blanking plate and the flue spigot to ensure an air tight seal. Locate the **blanking plate** and **flue spigot** in their chosen apertures then rotate each clockwise through about 15 degrees to lock them. Ensure seal is secure and airtight.

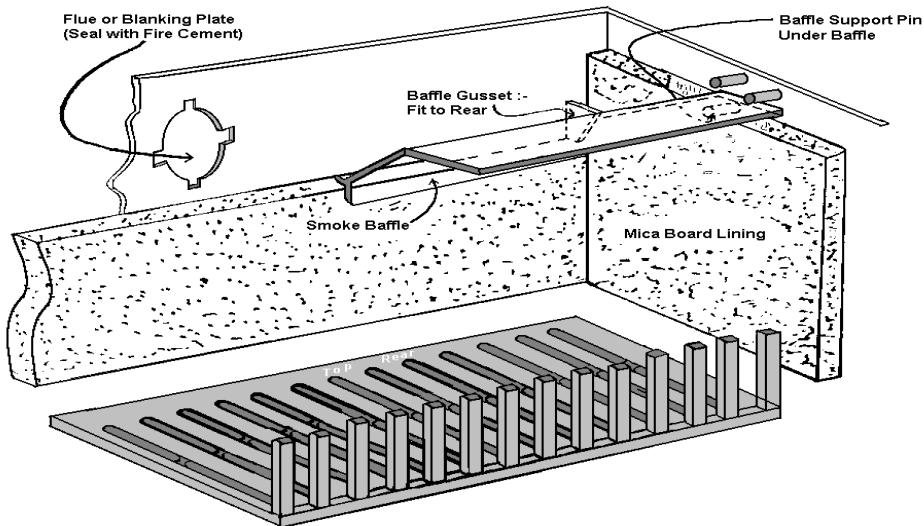
Seal the joint of **flue pipe** and flue spigot using fire cement and/or a length of fireproof rope around the base of the pipe with a final seal of fire cement. Carefully remove any excess fire cement immediately to ensure no marking of the stove finish.

Ensure an airtight seal where the **flue pipes** join and where the flue pipe goes through your chosen **register plate**.

The stove can now be **levelled** by using the levelling bolts in the legs.

If removed replace the fire boards, baffle, grate and ashpan followed by the main fire door.

Diagram 1 Fitting of Fireboard and Baffle



FUME EMISSION

WARNING NOTE: PROPERLY INSTALLED AND OPERATED THIS APPLIANCE WILL NOT EMIT FUMES OR SMOKE TO ROOM. OCCASIONAL FUMES FROM DE-ASHING AND RE-FUELLING MAY OCCUR. PERSISTENT FUME OR SMOKE EMISSION TO ROOM MUST NOT BE TOLERATED. IF EMISSION DOES PERSIST THEN THE FOLLOWING IMMEDIATE ACTION MUST BE TAKEN.

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

SPARE PARTS

Use only Metal Developments approved replacement parts.

Woodwarm **Enigma** Stove

Fire Door Rope	
Door Glass Ladder Rope	
Door Glass - 2 Panels	1 or 2 required
Operating Tool	
Grate and Loguard combined	
Door Hinge Pin	Bright or Brass
Ash Pan	
Door Handle Assembly	
Door Catch Assembly	

Baffle		Dry Stove
or if Boilered fitted with	either the	Baffle 21,000 Btu Boiler
	or the	Slab 8,000 Btu Boiler

Fire Boards	Vicuclad 900 Board 30mm
	1 x Rear Board - 464mm wide x 180mm high
	2 x Side Boards - 330mm wide x 242mm high

FAULT FINDING

- A Stove smokes on lighting or when fire door is opened**
 Flue ways blocked - sweep chimney and flue.
 Baffle incorrectly fitted.
 Adverse wind conditions, or down draught - check height and diameter of chimney.
 Flue not connected (or not sealed) to appliance or chimney .
- B Fire fails to burn overnight - fuel burnt through**
 Insufficient dry fuel.
 Air supply too great for fuel load.
 Fire door or ash door seal damaged.
 Door adjustment too slack.
 Door glass sealing rope damaged or missing.
 Insufficient bed of wood ash (when burning wood).
- C Fire fails to burn overnight - fuel not burnt**
 Insufficient air supply for fuel load.
 Wood fuel beyond 18% moisture content and therefore too wet.
 All section **A** applies also.
 Ashpan full whilst burning solid fuel.
 Fuel load not raised to a high enough temperature before closing to slumber.
 Boiler pipe thermostats set too low or not fitted at all.
- D Stove cannot be closed to slumber and runs too fast**
 Air controls open.
 If the above are closed and/or shut then **air is getting into stove** from elsewhere.
 Check if door and glass rope seals are damaged or not seating.
 Check all flue connections are airtight. Check if flue blanking plate is airtight.
 Go through installation procedures and cautionary notes.
 Chimney draw too fast - fit flue stabiliser.
- E Door glass sooting up**
 Allow stove to reach body temperature before closing air wash.
 Bottom air inlets open, whilst air wash control is shut.
 Use bottom air as choke only - ie **minimal use**.
 Fuel load too close to the door.
- F Boiler fails to reach operating temperature**
 Fuel load too wet.
 Boiler load too great - check BTU output required for circuit.
 Fit Hi- Lo thermostats.
 Fuel load too small for demand.
 Insufficient air supply for fuel load and demand.

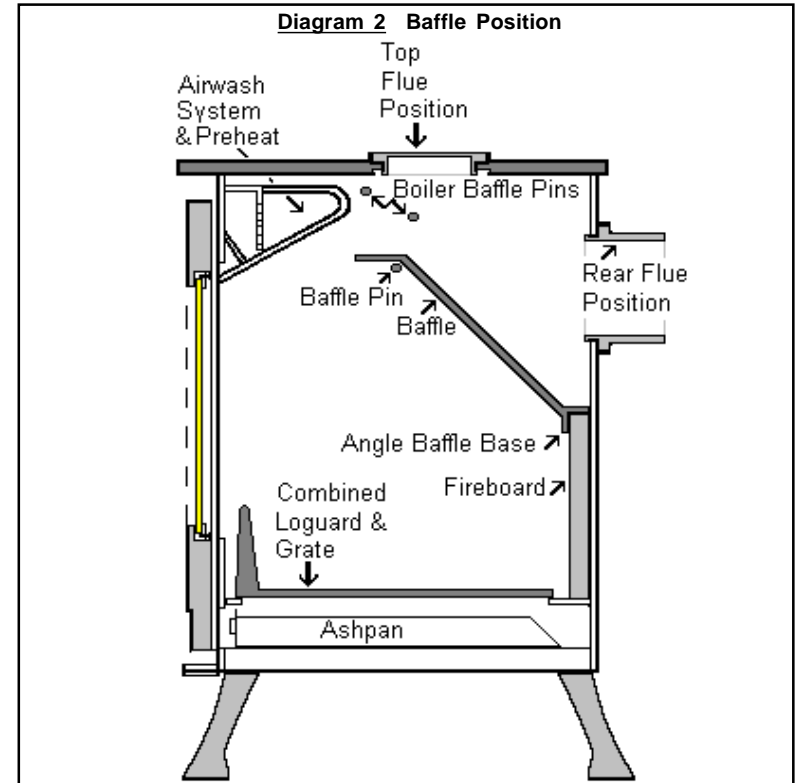
BAFFLE

The 90° angled bottom of the baffle 'sits' on the rear fire board (see Diagram 2 Baffle Position - below) and the top is held up on the lower of the 3 side pins. When fitting take this 90° angled bottom of the baffle in first to the bottom rear of the stove (with the gusset uppermost). Lift up the front single steel end and take it between the lower 2 of the 3 x 12 mm round pins located on the top inside of the stove and let it rest on the lowest pin. Now lift and sit the back of the baffle on to the rear fire board.

INTERNAL FIRE BOARDS

The interior of the fire chamber is lined with 30 mm Mica based fire resistant fire board . There are three pieces, one at the rear under the baffle and flue outlet and one on either side or, if boilered only on the non boilered sides of the stove. These fire boards are ready cut to size and shape and may be packed loose to prevent damage, they are very fragile so **handle with care**, especially when loading with fuel. They have a relatively short life, especially when burning coal, so do inspect them regularly and replace if they begin to deteriorate by showing signs of breaking up or wearing thin. This item is important for efficient combustion and is not covered by any warranty as it is considered a consumable product.

A table of replacement sizes is provided under **Spares on page 20**



FIRE DOOR

Check when refitting the fire door that the rope seal on the inner face of the door is making an even contact with the stove body when the door is closed. The door handle is lifted to open and pushed down to close the main fire door, and conversely lift the handle before closing the door in order to engage the door catch. Should the handle become hot the operating tool should be used.

DOOR CATCH ASSEMBLY

Important - This is factory set and should not need to be adjusted.

It consists of a threaded bar which passes from the front of the stove through to the rear and is secured there with a lock nut outside the stove body. The other end of the bar is secured in the ashpit area behind the front of the stove by another lock nut which holds the catch/clevis in place.

The Primary air control is at the bottom of this door. To open the primary air slots slide the brass knob to the left.

Important

It is very unusual to have to re-align the fire door. This job is very fiddly and only to be attempted if necessary. The doors are jigged at the factory for alignment to the stove body, but should you need to adjust them use a 10mm spanner and adjust the bolts attaching the hinges to the stove body. The hinge block is fastened to the body of the stove through an enlarged hole giving adjustment horizontally, and on shim plates giving adjustment of the throw of door to the stove body.

Method clue :- Have the door open at 90° to the stove and only partially loosen the fixing bolt so that the mechanism does not become loose.

GLASS PANELS AND CLEANING

There are two panels of glass in each door. They are made of a heat resistant ceramic product which will not break with the heat of the fire. However, it is important to maintain the movement of the glass within the door as, if the glass is restricted, it is likely to crack with the expansion or contraction of the cast door. To achieve this it has heat resistant fibre glass ladder rope around the edges and this should be replaced if it is showing signs of deterioration.

The glass can be cleaned when hot without damage to the panel although care must be taken not to burn your fingers etc., also care must be taken with aerosol cleaners and cleaning cloths. We recommend the proprietary stove glass cleaners. When solid fuel is being burnt any sooty deposits on the glass can be cleaned simply by wiping with a dry cloth.

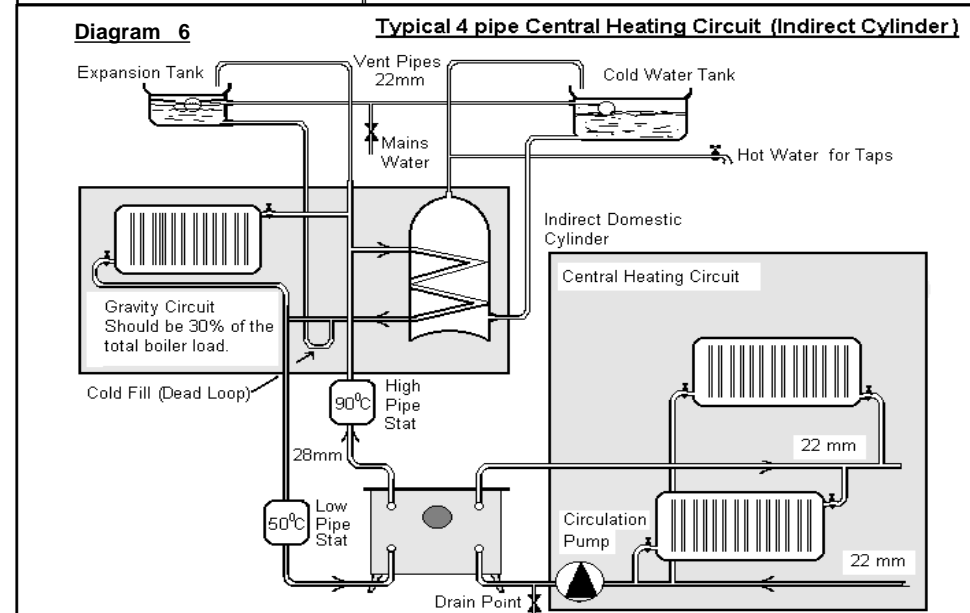
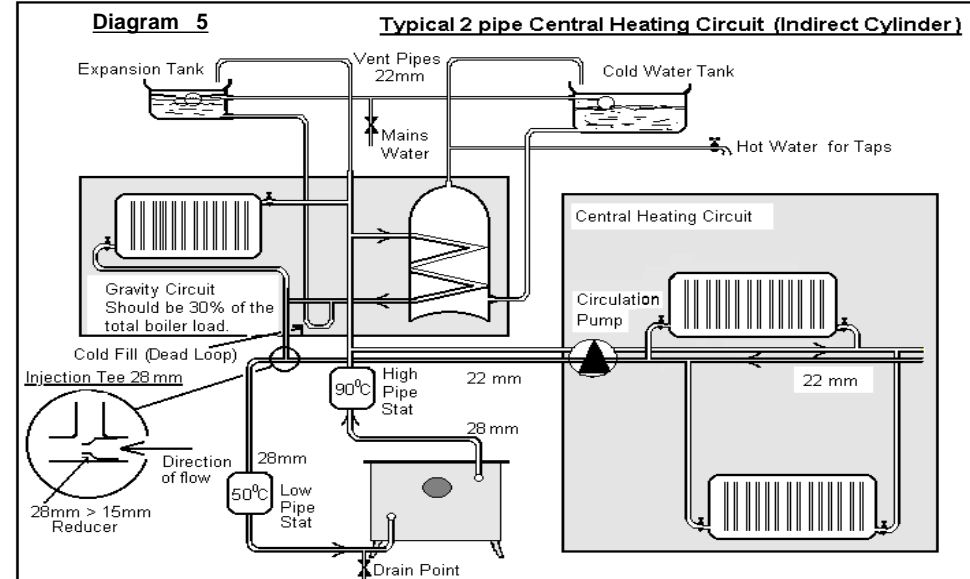
If the stove glass becomes dirty this is either due to the closing of the airwash before the fuel is up to temperature and/or wood fuel is too wet.

REPLACEMENT OF GLASS PANELS

Carefully lift the fire door from its hinge pins and lay it down - preferably on a soft substance - being aware of the door fastening catch. The outer glass panel (furthest from the fire) is mounted on fibre glass ladder rope which should surround all the edges. Caution is required when replacing this glass panel as the ladder rope has a tendency to slip out of position as the glass is fitted in position. The second or inner panel then fits directly on top of the outer followed by the top and bottom steel glass retainer brackets and the whole held together by the 4 x (M4 x 6mm) slotted pan head screws. It is recommended to apply some heat resistant 'copper-ease' or 'graphite grease' to the screws and **DO NOT OVER TIGHTEN THEM** as the glass panels will crack.

The stove requires both of these glass panels in place to achieve a clean burn state as they act in a similar way to double glazing in a domestic window.

Typical Central Heating Circuits in Conjunction with the 21,000 Btu Boiler



Note: The Boiler Circuit should have an Inhibitor added to it .

PIPE THERMOSTATS (or Hi - Lo Packages)

Every stove with boilers intended for more than domestic hot water should have an indirect copper cylinder, a central heating circuit pump and at least 30% of the heating load should thermo-syphon/gravitate to protect the system in the event of power/pump failure **plus** three essential devices to maintain safety, longevity of boilers and to comply with the Guarantee Conditions of Woodwarm stoves.

1 A high temperature pipe thermostat.

This is clamped on to the main 28mm gravity flow water pipe and switches the pump on when the boilers/pipe temperature rises. It should be set at between 85° C and 95° C and thus ensures that the copper cylinder hot water does not boil but is dissipated safely around the radiator circuit.

2 A low temperature pipe thermostat.

This is clamped on to the main 28mm return pipe and should be set at between 45° C and 55° C and thus switches the pump off when the temperature of the water returning from the system/hot water copper cylinder to the boilers begins to fall. It ensures that **cold water does not** circulate through the stove boilers and the circuit as this would:-

- Allow the heating circuit to rob the heat from the hot water copper cylinder
- Cause acid condensation to form on the boilers inside the stove and them to fail early
- Create a cold flue/chimney and the associated condensation/tar problems

The objective is to have a continuous circuit of warm-hot water circulating from the boilers in the stove to the copper cylinder and when the pump is on, continuing this around the radiators. Therefore the stove must be run at a sufficiently hot temperature to sustain this. It is important that the boilers' output, as in the specification table, is enough to do this and calculations should also take into account the Kw room output of the stove when the boilers have been fitted.

3 A flow check- valve

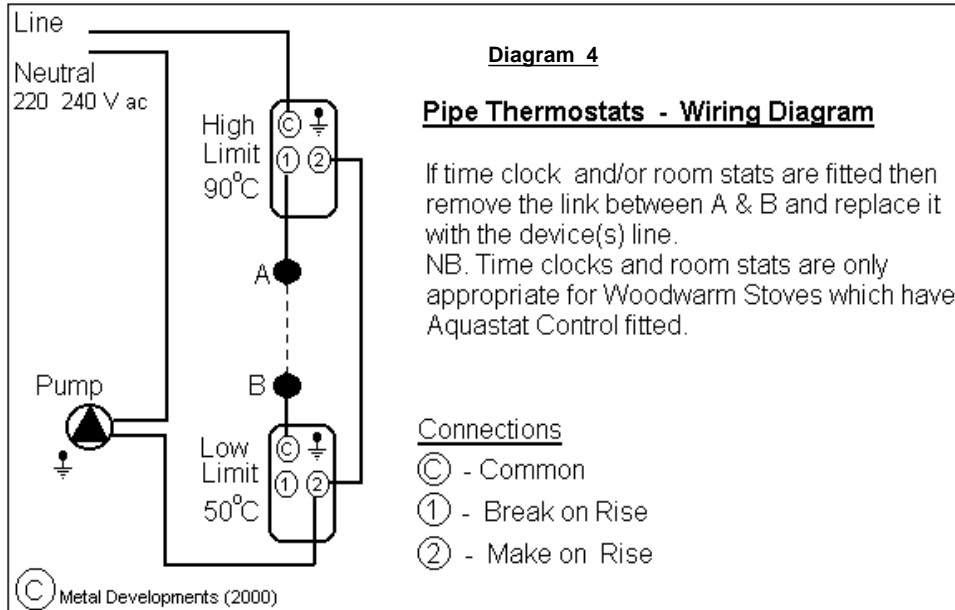
To prevent the 70% of the central heating load from gravitating around the radiators and creating cold water problems (as under 2a & 2b above) when the circulation pump is off.

COMMISSIONING

On completion of the installation and after allowing a suitable period of time for any fire cement or mortar joints to dry out, the stove should be cleaned using a soft dry cloth. Check joints and seals, especially boiler connections. The stove can then be lit and checked to ensure that smoke is taken from the appliance up the chimney and emitted safely. Ensure that any boiler connections are the right way round. (Flows are the top connection and returns the lower).

The customer should be advised on the operation of the appliance.

On completion of the installation and commissioning please leave this instruction booklet with the user.



FUELS FOR BURNING ON THE ENIGMA STOVE

SOLID FUEL

The recommended fuels for this stove are **broad based long flame** fuels as burnt on an open fire. 'Homefire' is one such fuel. However, if you have any queries consult your Approved Coal Merchant Scheme member for types and availability.
Solid Fuel Association - Tel No. 0800 600000

Do not use Petroleum based coals.

- * These stoves are suitable for use in a Smoke Control area so long as you burn a smokeless broad based long flame fuel such as 'Homefire' or 'Coalite'. Do experiment to find the best one for you, or mix them if you wish.
- * The prolonged use of high intensity low base heat fuels such as 'Antcit' or 'Taybrite' will cause distortion of the grate.
- * The use of petroleum based fuels will cause rapid deterioration of the grates and the whole structure of this appliance and is therefore not recommended.e.g. 'Petrocoke'
- * The use of 'coal' will soot up the flue ways very quickly and may 'etch' the inner glass.

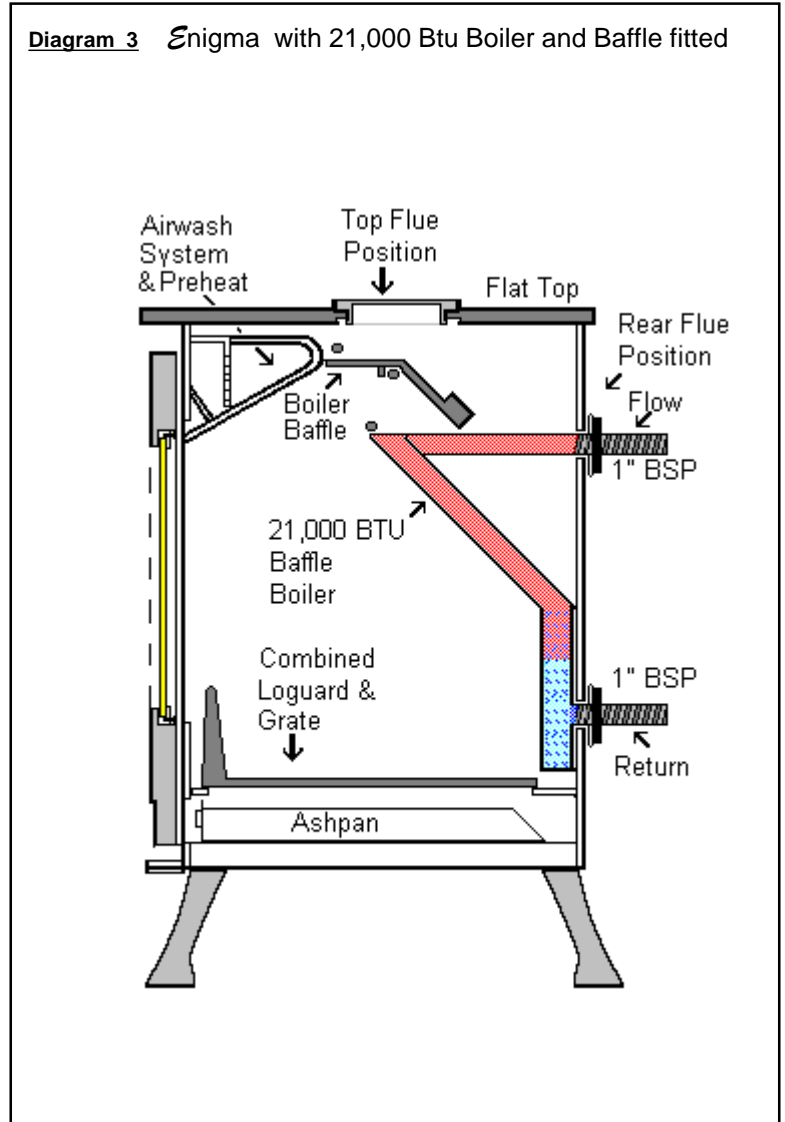
WOOD

If wood is the chosen fuel for your stove, **ALWAYS BURN DRY WOOD**. Wood burns **best on a bed of ash** so do be careful to retain some when de-ashing. Dry wood means that it has most **definitely not more than 18% moisture** content. Wood to be used as a fuel should be logged, chopped and **stored in a sheltered but airy site** for an absolute minimum of 12 months and **preferably 24 months**. Wood naturally dries at the rate of 1" per year so a 12" round will take 6 years to dry to the centre. **Do not be tempted to stack wet wood on or around the stove** believing this will dry the sap out of the wood. A 12" log takes approx 8 weeks in a kiln to dry to 18% moisture - so the odd hour or two on or by the stove only increases the likelihood of burning your house down! **Freshly cut green wood** - ie wood that still has sap in it - **is dangerous to burn**. It will cause a chimney to choke with wood tar in a few weeks with a grave risk of a chimney fire resulting. In any case, **burning sap wet wood is pointless**. It produces far less heat, maybe as little as 10% of that of dry wood. **Treat any bought in wood as wet unless its history is known.**

There is now available a lignite coal briquette. This will burn very effectively in a wood burning stove and eliminate some of the chores associated with wood.

Do not burn wet wood with solid fuel as a very aggressive acid is created which is lethal for the stove, chimneys and flues.

Tar is caused by burning wet wood. It is brown/black in colour and may be liquid. It has an offensive smell. On the sides of the stove, flue and chimney it resembles a black sticky 'chewing gum' and can eventually block the flue ways. When it ignites, it can cause a chimney fire and be highly dangerous.



ORDERING and INSTALLATION OF RETROFIT BOILERS

The *Enigma* has 2 boilers which can be retro-fitted and it has pre-drilled holes in the rear of the body. These are covered with blanking plates which can be knocked off using a hammer and cold chisel (**do ensure** you have the right holes by offering the boiler up to the holes **prior** to removing them). The 21,000 Btu boiler needs a different baffle.

Both **boilers** have **1" Male BSP stubs/tappings**.

SLAB 8,000 Btu BOILER

This boiler replaces the rear fireboard. It is available in stainless steel for 'direct' cylinders or steel for 'indirect' cylinders and has two **1" Male BSP stubs/tappings**.

To retro-fit the boiler remove the fire board and remove the relevant blanking plates. The two stubs are passed through the stove body holes and the nuts and washers are sealed (with fire cement or high temperature mastic, where the stubs come through the body) and tightened on the rear of the stove body. The higher boiler stub is for the gravity flow which should rise immediately from the boiler in 28mm pipe and the lower stub is for the return pipe.

BAFFLE 21,000 Btu BOILER

This boiler is available in steel for 'indirect' cylinders only and has 4 x **1" Male BSP stubs/tappings**. and the stove needs a change of baffle.

See Diagram 3 - *Enigma* with 21,000 Btu Boiler and Baffle fitted **opposite**

For a **2 pipe circuit** connect the main 28mm flow to a top stub and the main 28mm return to a lower (ideally diagonally opposite) stub.

See Diagram 5 - Page 15

For a **4 pipe circuit** connect diagonally all four stubs.

To retrofit the boiler follow the directions under the slab boiler.

See Diagram 6 - Page 15

REMOVING BOILERS

Should you wish to remove your boiler we can supply blanking plates, fire boards and dry stove baffle. To add or change a boiler first see under **General Specifications** (inside the front cover) for the different boiler and room outputs. Contact your dealer or us for advice.

DAILY ROUTINE, MAINTENANCE AND SERVICING

When properly used a Woodwarm *Enigma* stove is absolutely safe.

There is an **operating tool** provided to **operate all the various controls**. Obviously when the stove is in use the body will be too hot to touch by hand. Children and elderly people should be prevented from touching it by accident by using a suitable fire guard. This should be manufactured to BS 6539.

Combustible materials should never be left on the stove when it is alight. Linen, wool, wood and many other substances can spontaneously ignite if they become too hot. They do not have to come in direct contact with flames.

A routine should be established of :-

Daily - run the stove **hot for a time** using the procedure as explained on pages 10 and 11, along with a surface mounted thermometer to ensure optimum temperature is reached. This will assist in cleaning any marginal deposits of tar from the door glass, stove, flue and chimney internally. Check on amount of ash in the ashpan and empty if necessary.

Weekly - check seals, be they rope or fire cement, for air tightness. Ensure the door hinge pins are not rising up if so knock back down with a piece of wood. Clear any clinker or nails from the grate and check that the ashpit is clear of ash all the way to the rear.

Twice yearly - check the condition of the fire boards and seals and replace if deteriorated. Remove and clean over the baffle and clear flueways. More often if burning solid fuel. A visit from the chimney sweep will remove the small amount of ash dust which forms in the chimney if the above instructions are adhered to.

The names and addresses of your local Approved Chimney Sweeps can be obtained from :- The National Association of Chimney Sweeps, Unit 15 Emerald Way, Stone Business Park, Stone, Staffs. ST15 0SR. Tel. 01785 - 811732.

Maintain the paint surface solely with a soft dry cloth and nothing more.

If the stove is to be left unlit for any period of time ensure the air vents are left open.

On re-using the stove after a long period out of use, check that **all flue ways are clear** of obstructions before re-lighting.

OPERATING INSTRUCTIONS

FOR THE WOODWARM ENIGMA STOVE

Before lighting check with the installer that the work and checks described in the previous pages of this booklet have been carried out correctly and that the chimney is sound, has been swept and is free from any obstructions.

HOW CLEAN BURN WORKS

This stove has preheated (after initial warming up) air inlet channels venting the air to the stove at the front top of the door aperture. This method of air inlet builds an 'Air Curtain' over the glass and prevents all but a few of the normal tar deposits from condensing on the glass of the stove, and causes all, but a small proportion, to be burnt in secondary combustion, hence the 'CLEAN BURN' application.

INITIAL LIGHTING

Note The paint used for finishing the stove will emit fumes as it "cures" when first fired, and maybe on the second firing, as the body of the stove reaches operating temperature. Therefore ensure the room is well ventilated. As part of the process the paint **will soften whilst "curing" so avoid touching as this will severely mark the finish.**

LIGHTING

Open the air control lever on the left hand side of the stove by pushing it down. Open the air control knobs in the ash pit door by sliding them to the left. Make sure that the exterior of the stove is thoroughly cleaned using a dry cloth. The stove can be lit using paper, dry kindling, and/or fire lighters. Place the paper and kindling or fire-lighters on the grate and cover with wood or a 2" layer of solid fuel. Close the door until well ignited then load fuel and adjust the air controls to suit as in the following the section.

TO ACHIEVE CLEAN BURN

This section applies for the burning of dry wood and to long flame path solid fuels. Take some time to familiarise yourself with the air controls of the stove to achieve the clean burn state that these stoves are renowned for.

A small air bleed hole adjustment is provided, it is located on the airwash lever. Its function is to allow you to "Set" the stove to the chimney draught. Open it fully and over the first couple of nights, monitor the result of your stove's slumber. If it fails to stay in long enough, by burning through all the fuel too quickly, reduce the setting until you are happy. When you are, tighten up the self tapping screw, so that in future when you fully shut the airwash lever this hole will allow the stove to remain just open. Chimneys with a high draw may require this small air bleed hole to be closed.

Boilered Stoves Note:-

Cleanburn will be a little more difficult to achieve with boilered stoves. However perseverance to achieve as high combustion temperatures as possible will assist in keeping the glass clean.

The **AIR WASH** is controlled by the lever on the top left hand side of the stove. When the lever is in the **UP position** the air wash is **closed**. When the lever is in the **DOWN position** the airwash is fully **open**.

A When lighting or refuelling the stove allow it to reach operating temperature every time, before attempting to close the air wash control lever. The glass will get dirty if the stove body has not reached the optimum temperature first and clean burn will not be achieved. We recommend that you use a magnetic surface-mounted **thermometer** purchased from your supplier, or from us by post to achieve this. Place it on the body of the stove at the front right hand side just above the door hinges.

Regard the air controls in the bottom of the fire door like the choke on a car i.e. close them as soon as the stove is warm.

B Leave the top air wash control open until the surface temperature of the stove body has reached a temperature of 450-500 °F (250 - 280 °C), as shown by the thermometer, for at least 20 minutes. Slowly close the air wash lever. Although use of the bottom air controls will increase the draw of the fire, prolonged or excessive use of this under draught will cause dirtying of the glass, and can lead towards excessive over firing of the stove, therefore reduce under draught as soon as is practical.

C **When refuelling the stove - first** open the top air control to increase the draw of the fire and allow the chimney to warm up, this will draw any smoke/fumes up the chimney when you open the main door. To maintain the hot air flow from the front of the stove to the rear, drag any unburnt fuel to the front and add new fuel to the rear. Try and keep the fuel at least 25mm (1") from the door glass when the door is closed and repeat the procedure in B above.

Time spent now will reward you and remarkable results should be achieved. This will be even more apparent to you if you have previously owned a conventionally draughted stove. It will take a few loadings and firings before you become familiar with the air vents and amount of fuel necessary to achieve the burning rate you require. Try to load the stove with fuel enough i.e. not too small a load and not too big a load.

To be avoided at any time is loading the stove up and immediately closing all the air controls.

OVERNIGHT BURNING

When burning **solid fuel** the stove should be de-ashed, the bottom air controls opened for a brief period and when the fire is burning brightly it should be loaded with fuel without dowsing the flames. The bottom air controls should then be closed. The stove will burn more slowly if a smaller size of solid fuel is used.

The opposite is true when burning **wood**, thus if longer burning times are required use **dry** large logs of a hard wood rather than small ones, remembering to keep a bed of ash above the grate. Some fuels need more air than others to tick over so some experimentation will be necessary to find the right setting.

Do not mix solid fuel with wet wood to attempt to achieve long periods of burning.

Remember to allow the stove to reach operating temperature before closing the air wash lever.

PRODUCT REGISTRATION AND GUARANTEE FORM

Please complete this section and return to us for our records.
It will register your Guarantee and assist us when you need spares.

Affix Stamp

NAME

Address.....

.....

.....

.....Phone Number.....

SERIAL NUMBER OF STOVE Enigma M 49 --

(Found on rear top right of the body of your stove and on the front cover of this booklet)

DATE OF PURCHASE/...../20.....

DATE OF INSTALLATION/...../20.....

SUPPLIERS DETAILS Invoice Number.....

Name

Address

.....

.....

..... Phone Number.....

INSTALLERS DETAILS

Name

Address.....

.....

.....

..... Phone Number.....

**Stove Registration & Guarantee Department
METAL DEVELOPMENTS
The Workshop,
Wheatcroft Farm,
CULLOMPTON
Devon EX15 1RA**