User manual **EN**

hwam I 40/55

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www.hwam.com

Smart Control™

hwam intelligent heat

For UK - The Clean Air Act 1993 and Smoke Control Areas

Under the Clean Air Act local authorities may declare the whole or part of the district of the authority to be a smoke control area. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area. It is also an offence to acquire an ”unauthorised fuel” for use within a smoke control area unless it is used in an ”exempt” appliance (”exempted” from the controls which generally apply in the smoke control area).

In England appliances are exempted by publication on a list by the Secretary of State in accordance with changes made to sections 20 and 21 of the Clean Air Act 1993 by section 15 of the Deregulation Act 2015. Similarly in Scotland appliances are exempted by publication on a list by Scottish Ministers under section 50 of the Regulatory Reform (Scotland) Act 2014. In Northern Ireland appliances are exempted by publication on a list by the Department of Agriculture, Environment and Rural Affairs under Section 16 of the Environmental Better Regulation Act (Northern Ireland) 2016. In Wales these are exempted by regulations made by Welsh Ministers.

Further information on the requirements of the Clean Air Act can be found here: https://www.gov.uk/smoke-control-area-rules. Your local authority is responsible for implementing the Clean Air Act 1993 including designation and supervision of smoke control areas and you can contact them for details of Clean Air Act requirements.

The HWAM I 40/55 stoves detailed below have been recommended as suitable for use in smoke control areas when burning wood logs.

Appliances recommended as suitable for use in Smoke Control Areas :
- HWAM I 40/55c with SmartControl (IHS)
- HWAM I 40/55m with SmartControl (IHS)

Refuelling on to a low fire bed
If there is insufficient burning material in the firebed to light a new fuel charge, excessive smoke emission can occur. Refuelling must be carried out onto a sufficient quantity of glowing embers and ash that the new fuel charge will ignite in a reasonable period. If there are too few embers in the fire bed, add suitable kindling to prevent excessive smoke.

Fuel overloading
The maximum amount of fuel specified in this manual should not be exceeded, overloading can cause excess smoke.

Operation with door left open
Operation with the door open can cause excess smoke. The appliance must not be operated with the appliance door left open except as directed in the instructions.

Dampers left open
Operation with the air controls or appliance dampers open can cause excess smoke. The appliance must not be operated with air controls, appliance dampers or door left open except as directed in the instructions.

HWAM® SmartControl™

Congratulations on your new wood-burning stove complete with a HWAM® SmartControl™
We are pleased that you have chosen a HWAM woodburning stove and confident that it will give you much pleasure.

The HWAM® SmartControl™ is a digital control of the combustion in your new wood-burning stove. The purpose of the HWAM® SmartControl™ is to control the combustion in an environmentally optimal and economically efficient way, with a view to generating greater user comfort.

The HWAM® SmartControl™ is a new patented technology, which electronically adjusts the air supply to the combustion chamber. Your new wood-burning stove continually measures the temperature and the oxygen levels of the combustion. Moreover, it is programmed to supply oxygen to the fire through three important air inlets in the right amount, and at the right time and place in the combustion chamber. By downloading a free app for your smartphone or tablet, you can use the app among other things: to set the thermostat to the desired room temperature level, choose time for night-time reduction and keep your stove updated. The app also gives you current information on burning in the stove. See details in separate manuals for the app IHS Smart Control™ or in the Quickguide.
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Your new wood-burning stove and the HWAM® SmartControl™ will ensure the cleanest possible combustion as well as a good fuel economy, regardless of external conditions such as the type of firewood used, the chimney, the user's experience, and other external circumstances.

The HWAM® SmartControl™ consists of the following components:

- Air box: the Air box contains a printed circuit board/software, as well as three motors and dampers that control primary, secondary, and tertiary combustion air. The fresh air system can be mounted on the Air box to the back or in the bottom.
- Two sensors: a temperature sensor and an oxygen sensor transmit information from the wood-burning stove to the Air box.
- Room temperature sensor: The room temperature sensor with batteries communicates with the HWAM® SmartControl™ via a wireless connection. It should be placed so it does not have direct radiant heat from the stove. Note that the maximum distance between stove and room temperature indicator is about 4-5 metres. The range is reduced if there are walls or other obstructions between the stove and the room temperature indicator.
- Electricity supply: from the Air box to the nearest wall socket.
- App "IHS Smart Control™: The app can be downloaded free from the App Store or Google Play Store. See details in separate manuals for the app IHS Smart Control™ or in the Quickguide.

Your first heating session
When you light up for the first time, you must do it carefully as all materials must be introduced to the heat gradually. The lacquer will be fully hardened after the insert has been light up for the first time. The door must be opened carefully; otherwise there is a risk that the seals will stick to the lacquer. In addition the lacquer may initially give off an unpleasant odour, so make sure that the room is well ventilated.

Approved fuel types
The insert is EU approved for firing with wood exclusively. It is recommended to use dried chopped wood with a water content of 12-18%. Stoking a fire with wet wood results in soot, environmental problems, and a less efficient fuel economy.

Recommended wood types
All types of wood, for instance birch, beech, oak, elm, ash, conifers, and fruit trees can be used as fuel in your insert. The great difference is not in the fuel value, but in the weight of the wood types per cubic metre. Beech weighs more per m^3 of wood than common spruce, for instance. This is why more common spruce is required, in terms of volume, to obtain an amount of heat similar to that of beech. Heavy types of wood such as ash, beech, oak and elm are generally not that easy to light up. In addition, they burn more slowly and give off more embers. Light types of wood such as birch, maple, spruce and pine are more easy to light up. They burn faster and give off fewer ambers. You may therefore take advantage of the light types of wood for lighting and use the heavier types of wood to ensure a longer burning time.

Banned fuel types
It is not allowed to stoke a fire with the following:
- Printed matter
- Plywood, plastic
- Rubber
- Fluid fuels
- Rubbish such as milk cartons, lacquered wood or impregnated wood.
- Fossil fuels

The reason that you should not apply any of the above is that during combustion they develop substances that are health hazardous and harmful to the environment. These substances could also damage your insert and chimney, rendering the product warranty void.

Storage of wood
A moisture content of 12-18% is achieved by storing recently felled wood outdoors under a lean-to for at least one year, preferably 2 years. Wood stored indoors has a tendency to become too dry and combust too quickly. However, it might be advantageous to store fuel for lighting a fire indoors for a few days prior to use.

We recommend that you buy a moisture meter to continuously check that the wood has the correct moisture content before it is used for firing. Split the wood and measure the moisture content of the split surfaces.

Recommended dimensions
The dimensions of the fuel are important to good combustion. The dimensions should be as follows:

Fuel type	Length in cm	Diameter in cm
Wood for kindling a fire (finely chopped)	20-40	3-5
Chopped wood	20-40	7-9

Lighting up
A successful combustion process requires that the wood is lit in the right way. A cold stove and a cold chimney challenge the combustion process. Be careful to make a good lighting with suitably dry wood, using kindling and lighting the fire in the top layers of kindling. It is important to achieve a high flue gas temperature quickly. When the door of the stove is opened HWAM® SmartControl™ is activated. If lighting up does not occur within 15 minutes, the system will automatically go back to standby and the dampers will be closed.
Put split kindling, corresponding to two to three pieces of wood (about 2-2.5 kg), into the combustion chamber. The firewood cannot be stacked higher than as indicated on the rear insulation plate (see illustration). Place 2-4 fire-lighters in between the top layers of kindling. Light up the fire-lighters and close the stove door. Select the desired room temperature level.

Indication for max height of stacking wood

If the smoke temperature does not reach a high enough level after lightning or stoking, the app IHS Smart Control™ and the wireless room temperature sensor emit a restoking alarm, even if there is still unburned wood and flames in the combustion chamber. The restoking alarm is emitted to make you aware that the fire needs more energy. Restoking with small pieces of kindling wood can often provide a more rapid and sufficient temperature rise.

The HWAM® SmartControl™ closes all three air dampers in the Air box when the stove is in standby mode. This prevents hot air from the room to enter the chimney (heat loss). This might on the other hand result in a very cold chimney when the stove is lit. In certain cases it is necessary to assist the draught in the chimney by opening the door to the burning chamber 3-5 minutes before lightning the stove. Read more on www.hwam.com about the function of the chimney.

Important!
The ash pit must not be opened when lighting up. It must always be closed when the stove is in use. Otherwise the HWAM® SmartControl™ does not function. The door should only be opened when lighting up, when restoking, and when cleaning the stove. Never leave a stove before there are lasting flames in the wood after firing!

The Thermostat Function
The HWAM® SmartControl™ will in general have an environmentally friendly combustion and adapt to the desired room temperature. The thermostat function is designed as a radiator valve. The user enters a desired heat level, which suits the room in which the stove is installed. When the thermostat is set at a heat level, the control function will adapt to this temperature.

- If the room temperature is lower than the desired heat level, the HWAM® SmartControl™ increases the flue gas temperature in order to increase the heat radiation from the stove.
- If the room temperature is higher than the desired heat level, the HWAM® SmartControl™ decreases the flue gas temperature, thereby giving the layer of embers as long a life as possible before restoking. This will reduce the heat radiation from the stove and facilitate restoking without having to light up the fire anew. If the room temperature drops below the desired level, the ember phase will be shortened, and the HWAM® SmartControl™ will activate a restoking alarm. The HWAM® SmartControl™ will signal that a restoking is due at the flue gas temperature of 180° C, and at 100° C the HWAM® SmartControl™ will enter standby mode and all dampers will close.
- Should the room temperature be much lower than the desired heat level, the HWAM® SmartControl™ increases the flue gas temperature. If a satisfactory increase in temperature does not occur, the control will activate a restoking alarm, since it expects that more wood is needed to increase the heat level in the room.
- If the room temperature after a new restoking still does not reach the desired level, the water content in the firewood may be too high or the draught in the chimney too weak. The HWAM® SmartControl™ always strives for a sufficiently high flue gas temperature to ensure an environmentally friendly combustion.

Stoking
When alarm for restoking sounds the stove is ready for restoking. The alarm for restoking will come via the room temperature sensor or the acquired remote control. The app IHS Smart Control™ will also come with a notification that it is time for restoking if the app is opened. For more information on the app, see details in separate manuals for the app IHS Smart Control™ or in the Quickguide.

The amount of woo that is used for re-stoking should be adjusted based on the current heat demand. In terms of combustion technique, you should always stoke the stove with at least two pieces of wood at a time even if you only use a small amount of wood. The firewood cannot be stacked higher than as indicated on the rear insulation plate (see illustration).

Indication for max height of stacking wood

You can also choose not to restoke. After a while the stove will then automatically go into hibernation.

During combustion, the outer surfaces of the stove will become hot, and due care must therefore be shown.

Cleaning the glass
We recommend wiping the glass after a fire. This is best done using a paper towel.

Fuelling with coal or pet coke
The stove is not approved to use coal or pet coke as a fuel.

IN GENERAL ABOUT FIRING

Chimney
The chimney is the "motor" of the insert and it is crucial for the functioning of the insert. The chimney draft provides a partial vacuum in the insert. This vacuum removes the smoke from the insert, sucks air through the dampers for the so-called glass pane rinse which keeps the glass free of soot, and sucks air into the combustion via the HWAM® SmartControl™.
The chimney draft is created by the differences in temperature inside and outside the chimney. The higher the temperature within the chimney, the better the draft (a brick chimney takes longer to warm through than a steel chimney).
On days where the weather and wind conditions create insufficient draught inside the chimney, it is even more important to warm up the chimney as quickly as possible. The trick is to quickly get some flames going. Split the wood into extra fine pieces, use an extra firelighter, etc.
If the stove has not been used for a longer period, it is important to check that the chimney pipe is not blocked.
It is possible to connect several devices to the same chimney. However, it is important to first check the applicable rules. Contact your local chimney sweeper for the approval of your chimney.

Chimney sweeping
To prevent the risk of chimney fires, the chimney must be cleaned every year. The flue duct and the smoke chamber above the baffle plate must be cleaned together with the chimney. If the chimney is too tall to be cleaned from above, it must be equipped with a soot door.

In case of a chimney fire and overheating, the HWAM® SmartControl™ will enter a security mode and automatically adjust all dampers, effectively quenching the fire. Do not open the stove door, since that might cause the fire to rekindle. Contact the fire brigade. After a fire, the stove should be checked by a chimney sweep before use.

Quick or strong heat
Quick or strong heat is obtained by burning many small pieces of wood.

Maximum firing amount

Fuel	Maximum amount per hour
Wood	2.5 kg

Warning: If these limits are exceeded, the stove will no longer be covered by the factory guarantee, and it may also become damaged due to excessive heat, the glass may turn white, for example. If the flue gas temperature exceeds 580°C, the HWAM® SmartControl™ will revert to safety adjustments and automatically turn down the air valves to avoid overheating. When the temperature is reduced to 450°C, the normal functions apply again. The stove has been approved for intermittent use.

Normal re-firing interval for nominal firing

Fuel	Kg	Normal firing interval
Wood	Ca. 1.8	65 min

Prolonged burning time
You achieve the slowest combustion by setting the desired room temperature at level 0. At this level the combustion takes place with the lowest possible flue gas temperature and the ember phase will be drawn out as long as possible.

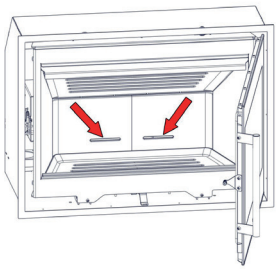
How to achieve the best combustion
HWAM® SmartControl™ is purposely designed to generate the cleanest and the most economical combustion. A good combustion is achieved when the fire gets the right amount of oxygen supply at the right time and place in the combustion chamber. HWAM® SmartControl™ allows for variations in external circumstances. Nevertheless, it is important to use clean and dry wood (humidity approx. 12-18%). Read more on www.hwam.com.

Cleaning

External cleaning
Any maintenance of the stove should only be carried out when it is cold. Daily maintenance is limited to vacuum cleaning the stove externally, using the soft brush attachment. You can also dust the stove using a dry, soft cloth or brush. But remember, only when the stove is cold. Do not use water, spirit or any other kind of cleaner, as this will damage the lacquer.

Once a year, the stove should be thoroughly serviced. The combustion chamber should be cleared of ashes and soot. The hinges and the closing hook must be greased with liquid copper fat spray (heat-resistant up to 1100 degrees Celsius), see drawing G. Lift the door approx. ½ cm and spray copper fat onto the hinge leaf.

Ash
Ash should be removed regularly to ensure that it does not block the air vents in the rear insulation plate of the combustion chamber.



We recommend removing ash from the combustion chamber with an ash suction device.
Ash can be disposed of through daily refuse collection. Be aware that embers in the ash can remain hot up to 24 hours after the fire in the insert has gone out!

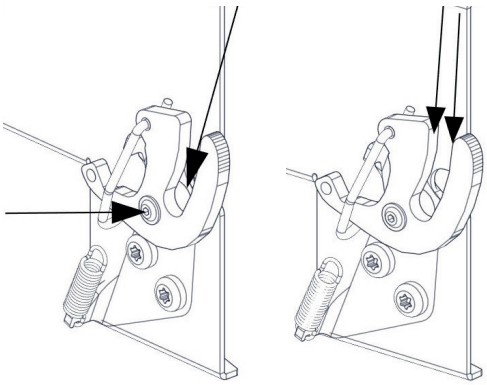
Maintenance

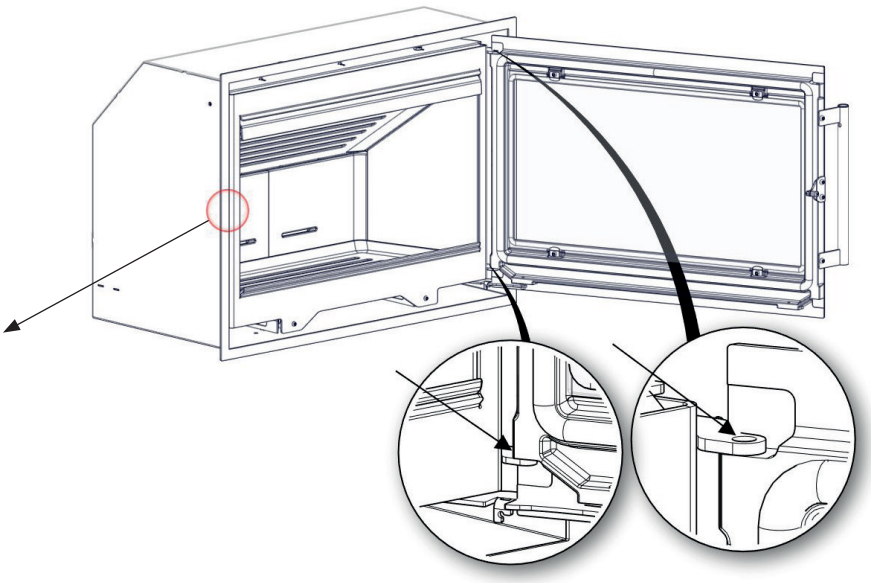
Service inspection
At least once every other year, the insert should receive a thorough, preventative service inspection. Among other things, the service inspection covers:

- A thorough cleaning of the insert.
- Checking gaskets. Replace gaskets if they are not intact or are no longer soft.
- Inspection/possible replacement of heat insulation material.
- Lubricating the hinges and locking fastenings with copper grease.

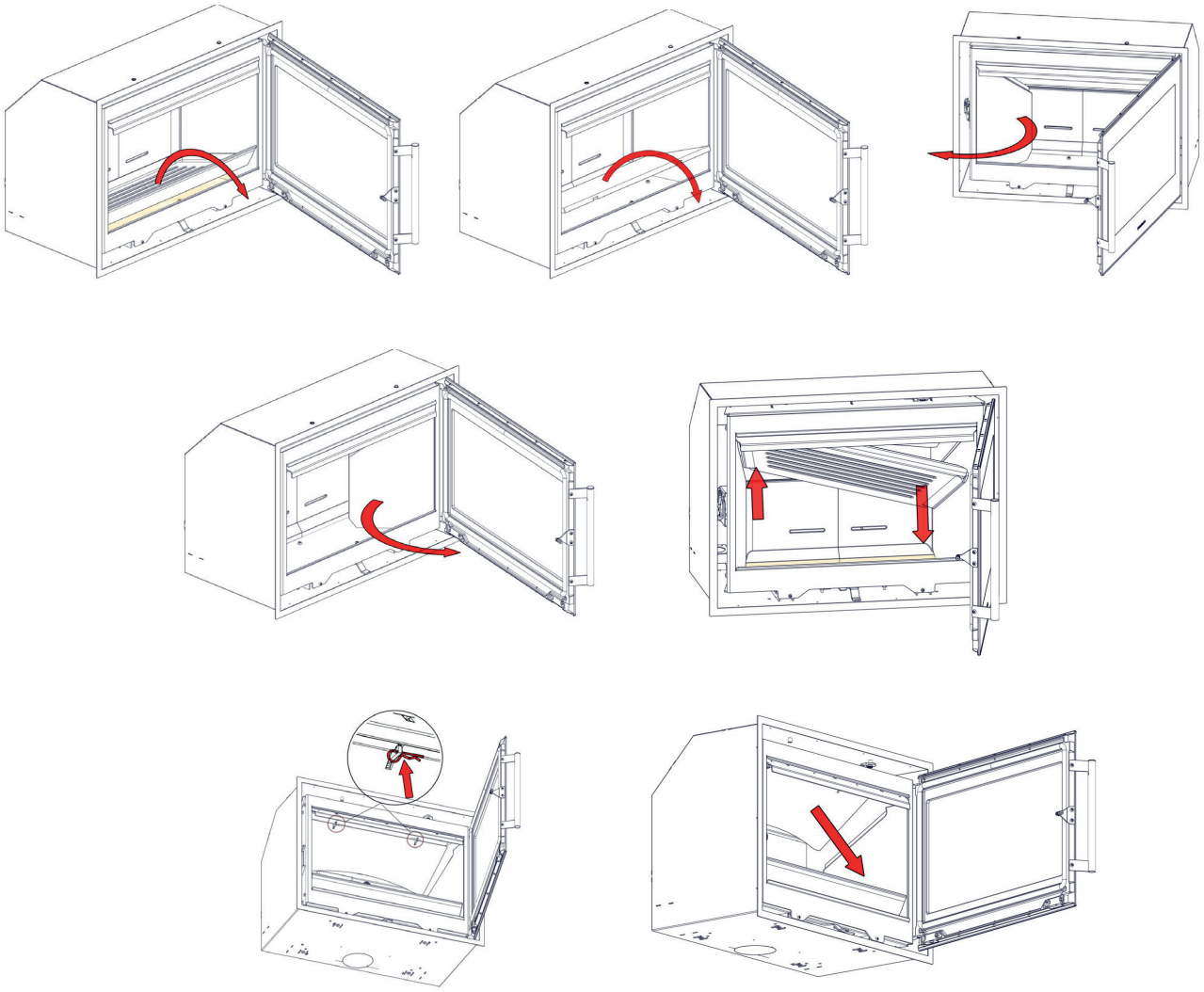
The inspection must be performed by a qualified professional. Use only original spare parts.

Lubricating the hinges and locking fastenings with copper grease:





Cleaning
Remove the grate, the skamolex bottom and the skamolex sides. Remove the smoke shelf. Push the plate forward and lift it up a bit to the side. Tilt one side downward. The plate is now free and can be removed from the combustion chamber. Unless the safety fittings for transportation (2 split pins) have not already been removed, start by removing the split pins. Lift the steel smoke deflector plate off of the hooks so that it can be removed.



Insulation
The efficient, but porous insulation of the combustion chamber may, in time, be worn and damaged. Cracks in the insulation are irrelevant to the efficiency of the stove. However, it should be replaced, if there are actual holes due to parts of the lining falling off or when, due to wear and tear, it has been reduced to less than half its original thickness.

Door/glass
A sooty glass door can easily be cleaned with a piece of moist kitchen roll dipped in ash. Go about it in vertical movements (up and down). Follow up with a dry piece of kitchen roll.

Seals
Check frequently to ensure that seals in the door and ash pan are intact and not brittle. Failing this, they should be replaced. Use original seals only.

Surface
Usually, it is not necessary to give a finishing treatment to the painted surfaces of the wood-burning stove. Any damage to the paint may, however, be remedied with spray paint, which can be bought from your stove retailer.

Guarantee
The guarantee does not cover damage due to insufficient maintenance!

Maintenance Alarms
If a maintenance alarm goes off, you can continue using the wood-burning stove, but contact your retailer as soon as possible. Your stove could be affected by impure combustion.

Operational problems

Blackened glass
- The wood is too damp. Only use wood stored for at least 12 months under cover and with a moisture level of approximately 12-18%.
- The doors seals may be not be tight.
- Intermittent firing. Allow the insert to heat through properly.

Smoke in the room when opening door
- The damper in the chimney may be closed. Open the damper.
- Insufficient chimney draft. See section on chimney or contact chimney sweep.
- Soot door leaking or dislodged. Replace or refit.
- Never open door when there are still flames in the wood.

Uncontrollable combustion
- A seal in the door is not completely tight. Replace the seal.

Safety alarms
In case the safety alarms go off, you must not use the stove. Contact your dealer as soon as possible.

If problems occur that you cannot fix yourself, please consult your wood-burning stove retailer.

Declaration of Performance

The DoP can be downloaded from our website via the following link:
www.hwam.com/dop/i40-55ihs


intelligent heat