

MULTI-SOLID FUEL HEATING STOVE

Tiger Superclean 'Eco 2022' Model

This is document v. 201 of 17/06/19

INSTALLATION AND OPERATING INSTRUCTIONS
LEAVE THIS DOCUMENT WITH THE HOUSEHOLDER !
THIS STOVE BECOMES EXTREMELY HOT AND CAN PRODUCE POISONOUS GASES
The installer must EXACTLY follow these instructions and all local, national and international Standards

Installer Certificate
This Tiger Installed by:
Contact details:

PLEASE TAKE CARE...

ASBESTOS: This stove doesn't contain asbestos or cadmium but be careful to avoid disturbing dangerous materials when removing an old installation.

FIRE CEMENT is caustic - wash your hands thoroughly after using it.

WEIGHT: Tiger is heavy. Protect your spine by moving the stove only with assistance - do take care to make sure that the floor has adequate load-bearing capacity and consider fitting a load distributing plate if necessary

FUME EMISSION: Properly installed and operated this stove will not emit fumes into the dwelling. Occasional slight fumes from de-ashing and refuelling might occur, but persistent fume emission is potentially dangerous and must never be tolerated. If fume emission persists, then immediately

(a) open doors and windows to ventilate the room. (b) let the fire go out or eject and safely dispose of fuel. (c) check the flue for blockage and clean if required. (d) do not attempt to re-light the fire until the case of the fume emission has been identified and corrected. If necessary seek expert advice

THE CHIMNEY

YOUR CHIMNEY. This stove must be connected to a single, dedicated chimney, which, by becoming hot inside creates the draught which makes your Tiger work - it must:

- Generate a draught in use of at least 12Pa (0.05ins wg)
 - Be capable of withstanding the temperatures generated.
 - Be fully sealed and incapable of leaking fumes into the dwelling
- This will *commonly* be achieved by it:
- Being at least 5m high.
 - Terminating at least 1m above any roof ridge.
 - Having an internal cross-section not less than 0.018m² (eg 150mm dia) and never more than 0.14m² (eg 375 x 375mm)
 - Being free from even the slightest crack or source of leakage.
 - Having no bends sharper than 45°.
 - Being entirely free of obstructions and swept by a qualified chimney sweep.
 - Being connected only to this one stove.
 - Being of thick (100mm+) masonry or otherwise adequately insulated.
 - Conforming to local building regulations.

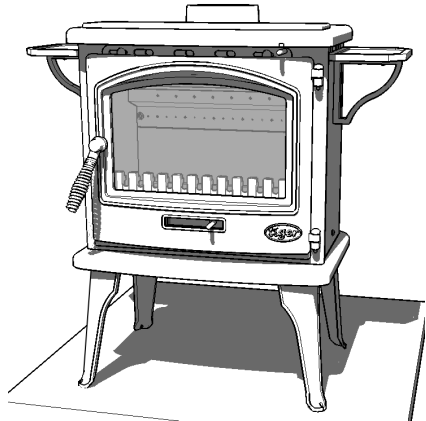
Special rules apply where the flue passes through timber, thatch or other vulnerable materials- take specialist advice.

<p>Conforms to EN 13240:2001+A2 2004</p> <p>Independently tested in 2018 by the SGS Environmental Laboratory, Arnhem. Approved Laboratory No 0608</p>	
<p>Intermittent burning solid fuel roomheater for installation with a single dedicated chimney When operated with one log of 1.2kg, primary air=0, secondary=30%, refuel every 45 minutes:</p>	
Fuel	Wood (Beech)
Efficiency	78.5%
Rated Output	5 kW
CO (at 13% O₂)	0.06 %
Mean Flue Temperature	275° C
Minimum to combustibles	55cm
CO (at 13% O₂)	0.06 %
Smoke Emission	31 mg/m ³
NOx	90 mg/m ³
CxHy	48 mg/m ³
Gas flow	5.2 g/sec
Flue Draught	12 Pa
Product Mass	96 kg
<p>The folowing fuels can be burned, but performance will differ: Anthracite, peat, coke, lignite, biomass briquettes and smokeless fuels.</p> <p><i>Glyn Hughes</i> I declare that this information is true, these products meet the requirements of Harmonised Standards and are fit for sale. Signed on behalf of the manufacturer by Glyn Hughes, Design Engineer, at Winster, Derbyshire, England 17. Jun. 2019</p>	

These stoves may be used in smoke control areas when operated strictly in accordance with these instructions and with Soliftec Smoke Advice Sheet No1 (www.soliftec.com/smokeadvice.htm), when burning:
RoI: Wood logs, smokeless fuels, but *not* petroleum coke (**Control of Atmospheric Pollution Regulations, 1970**)
UK: Untreated wood logs or smokeless fuels (**Clean Air Act 1993**)

ASSEMBLY

LEGS: Attach the legs. If the hearth is uneven, fit one or more washers between any leg and the Tiger body to lengthen it. Fix the



Tiger shown with both the optional longer legs and 'Americana' cooktop kit fitted

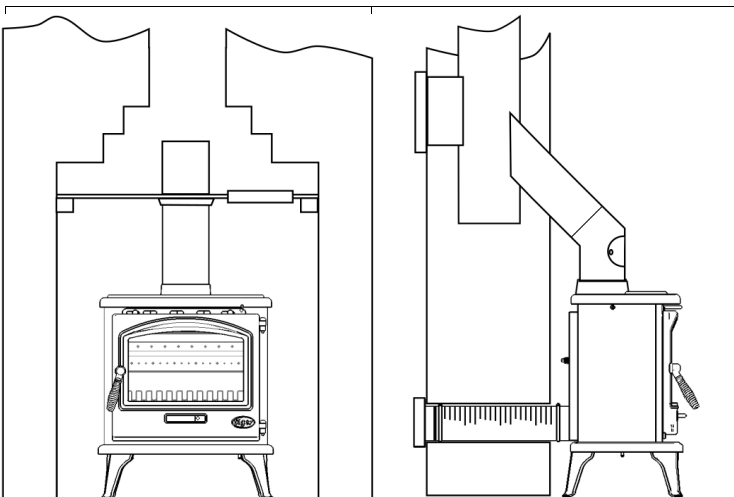
Tiger down to the hearth through the legs using the screws provided. You can get optional: Long legs (add 120mm height) or 'Americana' warming shelves (total stove width; 765mm)

FITTING

HEARTH: The Tiger must be fitted onto a non-combustible hearth providing protection for at least 150mm to each side and 250mm in front. The Tiger has a thermal barrier plate underneath and will not raise hearth temperature above 100°C so a light duty hearth may be used, conforming to your local building regulations. There must be no *unprotected* combustible material, including fuel, within 55cm.

Where these distances can't be met, protective materials are available.

FLUE CONNECTION: The Tiger can be connected to the chimney (using approved flue pipe components) in several ways, two of which are shown here. Whichever method is used it is imperative that: (1) The route for gases from the Tiger to the chimney terminal is completely air-tight; seal all joints with fireproof cement and/or heatproof rope. (2) It is possible to sweep the entire length- access doors may be required. (3) The entire construction is of durable fireproof materials- composite board is **not** a suitable material for closure plates, which should be of steel or concrete. The Stove should be secured to the hearth by screwing through the fixing holes drilled in the legs.



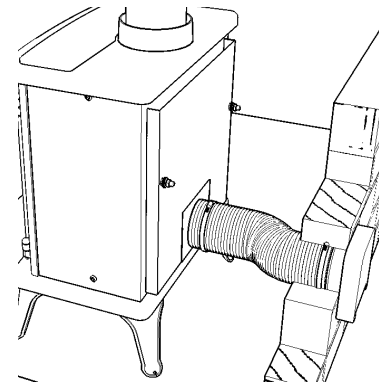
Top outlet through fully-sealed **steel** closure plate (fitted with cleaning door) into old, oversized, chimney with steel sealing collar.

Top outlet with 45 degree bend sealed into masonry chimney with cleaning door on opposite side. Shown with direct air supply kit

AIR SUPPLY: Your Tiger needs air to breathe - it *must* have permanent fresh air from outside the building available through a vent equal to 550mm² for each kW of nominal output. This ventilation can sometimes be provided by air leaking through small gaps and cracks in the building (it is commonly accepted that this

alone can often suffice for stoves below about 5kW) but in any case of doubt, fit a purpose-made air vent. Consider the possibility that an extractor fan, or another fuel-using appliance, elsewhere in the building can pull air *out*.

The optional 'Air Supply Kit' connects your Tiger direct to the outside through a sealed flexible tube and a unique 'labyrinth gasket' which delivers the correct amount of air for perfect combustion, along with a trickle of clean, fresh, warmed air to the room and the ability to remove stale air, without draughts.



Air supply kit - precise fresh, clean, warm air to both stove and room

CO DETECTOR: Carbon Monoxide is a poisonous gas, produced by this stove. Fit a CO alarm near the stove.

LIVING WITH A TIGER

STOVES GET VERY HOT! Use the glove or the handle provided to move hot parts and controls.

OPENING THE DOOR This stove is designed to be operated only with the door closed. Open the door slowly when refuelling or de-ashing to minimise fume emission.

LIGHTING Empty the ashes. Place two or three firelighters close together, or screwed-up paper covered with dry sticks, at the back of the grate and light them. When they are burning well gently fill the fire *very full* with dry fuel, close the door and set the air control slide to the 'high' position.

FILLING: Don't fill the Tiger above the level shown here.

CONTROL How fast the fire burns depends on how much air reaches the fuel. The Tiger has two air controls, one below the window ('primary'(1)) and one above ('airwash' (2)) Move the slides to the left for highest output, to the right for 'low'.

Our tests indicate best performance on wood with the primary control all but closed and the airwash 1/3 open. Anthracite works best with the airwash closed and the primary 1/3 open. But the best settings will depend on your fuel, air supply and flue draught and can only be found from experience.

EMPTYING ASHES Stir the fire with a poker. Use the tool to lift out the ashpan. Remember to let ash cool before disposing in plastic sacks or dustbins. There is no need to empty every last speck, but ash should never be allowed to build up so that it comes into contact with the underside of the grate.

EXTENDED BURNING Allow the fire to burn down to a low, hot firebed. Set the air control to 'low', empty the ash and fully fill with hard fuel such as anthracite (smaller sizes are best).

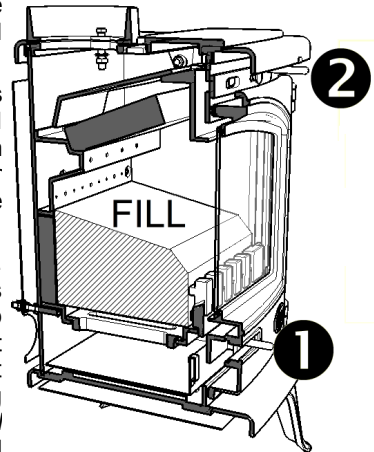
CLEANING Wipe the stove body with a slightly damp cloth when it is cool, don't use abrasives, metal polish or 'cream' cleansers as they can scratch the surface. Polished parts can be brightened using wire wool. Operating the Tiger for a few minutes at high output will usually burn-off any window deposits left by tarry or wet fuels. After a period of use tiny hairline cracks may appear on the window, this is not a fault but is a characteristic of the toughest and most heat-resistant material currently available.

FUELS

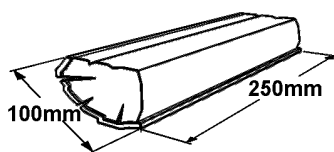
This stove is designed to principally burn dry wood logs. It can also burn a wide range of other low-smoke fuels

SMOKE CONTROL: In certain areas special rules apply to reduce smoke nuisance. Check with your local authority.

WOOD only emits as much carbon to the atmosphere as the tree took in when growing, so wood is considered the 'carbon neutral' fuel. When wood is cut down its cells are full of water. Burning such wet or 'green' wood wastes heat in making steam and produces



flammable, acidic tars which will cling to, and rapidly damage, your stove and chimney. Split logs will typically take two years to become reasonably dry, round logs much longer. Cracks in the ends, a hollow sound when tapped and bark falling away are all signs that a log may be ready for use. The fine, white residue produced when wood burns is not ash, but the remains of cell walls which can burn if kept hot enough, so don't de-ash a fire until absolutely necessary



when using wood.

For best performance, and always for low smoke emission:

- Split logs lengthways for drying
- Use logs no bigger than about 100mm x 250mm
- Ensure logs are absolutely dry (less than 20% moisture)
- Fill the Tiger criss-cross, so air can circulate between logs.
- Fill 'little and often'
- When first lighting, or reviving a fire from embers, use only very small, thin, dry, sticks.
- When refuelling, add a log and allow the flames to 'catch' and begin flaming before fully closing the door, then...
- Keep the door firmly closed in normal operation.
- Don't overfill the firebox – see the diagram.

JOINERY WASTE Dry wood offcuts will burn well, but don't expect softwood waste to burn as cleanly or for as long as hardwood logs.

ANTHRACITE (Smokeless) is a natural hard, shiny form of coal. Slow to light, it can burn for very long periods with great heat. Despite its high price-per-bag it generally works out to be one of the cheapest of all fuels. Use the 'small nuts' size.

PEAT: Like all fuels, needs to be very, very dry.

BRIQUETTES Are compressed blocks of fuel. Types made from plant materials such as straw or wood waste are very variable.. Mineral types, often in an 'egg' shape, are generally able to burn with very little smoke for long periods, but beware of 'economy' versions which may contain harmful sulphur.

DO NOT USE... dusty materials like sawdust, they burn far to violently. Don't use non-authorized 'smokeless fuels' or 'petcoke' - these are often made with dangerous high-sulphur oil waste and will rapidly damage your Tiger. Don't use raw bituminous coal, sometimes sold as 'Polish Coal'. These products, though cheap, rarely represent value for money.

HOUSEHOLD WASTES Some plastics give off toxic fumes when burned and remember that batteries and aerosols explode! The Tiger is definitely not an incinerator, so only ever use the recommended fuels and NEVER use liquid fuels in any form.

PROBLEMS

Problems like those listed here are usually due to some difficulty with the installation, chimney or fuels, so please check back through this leaflet carefully. If necessary seek specialist advice.

SMOKE FROM THE CHIMNEY It is quite normal for a little smoke to be emitted from the chimney when the fire is cold, so, start the fire using only a very little fuel. Use only VERY dry fuels.

DAMAGED LINERS Your Tiger gets very, very hot inside, it is quite usual for the replaceable liners to crack or craze. They need only be replaced when they have almost completely disintegrated. Help them last longer by using only very dry fuel.

POOR HEAT OUTPUT: A stove can heat a typical room of about 12m³ volume for each kW of output, so a 5kW model can heat up to (12 x 5) 63m³, a room of about 5m square. The actual size depends on the insulation, dampness and ventilation of the room. To attempt to heat a larger room will result in excessive fuel consumption and damaging overheating.

LACK OF CONTROLLABILITY This stove is designed to always burn enough to eliminate smoke - adjust the heat output by how much fuel you put on, as well as by using the controls.

DIFFICULTY BURNING FOR EXTENDED PERIODS This stove is not designed for non-stop burning but for quick heat-up and on-off use. Longer burning can be achieved only using very hard fuels such as anthracite.

CONDENSATION onto cool surfaces inside the stove can be severe if fuel is in any way damp. Use only very dry fuel.

OVER-FIRING: It is possible to leave the fire too long with the controls set too high leading to 'over firing', seen as glowing metal parts, excessive chimney temperature and risk of parts failing or chimney fires. Always set controls to the lowest practical setting.

SMOKE COMING INTO ROOM Fumes are poisonous- smoke emission must NEVER be tolerated, causes might be:

NEW STOVE: There is often a smell and sometimes visible fumes as the paint cures. This normally stops after an hour or so.

INADEQUATE SEALS: Are all flue pipes and connectors *absolutely* gas-tight? Even the tiniest crack or gap can spoil the draught.

BLOCKED FLUEWAYS: Has soot and ash collected above the inner back part of the firebox?

UNSUITABLE, BLOCKED OR UN-SWEPT CHIMNEY: The first requirement for correct operation is a sound chimney. Check the requirements earlier in this document and in any case of doubt engage a professional sweep or chimney engineer.

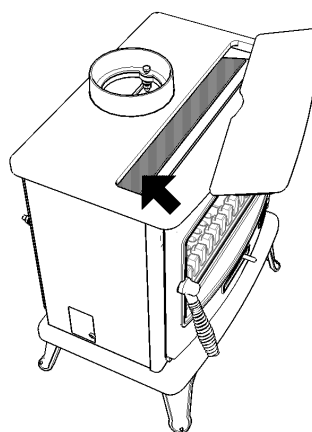
POOR AIR SUPPLY: Lack of air to the fire is a common cause of smoking and poor performance. Air supply problems may be worse in certain wind conditions (often incorrectly ascribed to 'downdraught', which is in fact very rare), where air can be sucked out of the room. The answer is to fit an air vent, as near to the fire as possible, facing into the usual wind direction.

DOWNDRAUGHT: Wind can blow *down* a chimney if there is something higher nearby such as a tree, hill or high building. Fitting an anti-downdraught cowl to the chimney top can cure this. Types which cannot be swept through are not recommended.

POOR CHIMNEY DRAUGHT- Chimney draught in use MUST be at least 12Pa.

CHIMNEY FIRE: In the rare event of deposits inside the chimney igniting (roaring sound + dense smoke and sparks from the chimney) immediately close the door, shut all air controls and call the fire brigade. Prevent fires by using *very dry fuel* and having your chimney swept regularly.

MAINTENANCE



Position of inner baffle

MONTHLY- CLEAN THE INNER Baffle and CHECK THE DOOR SEALS The inner baffle is a metal plate inside the roof of the Tiger (see diagram) With the stove cold, lift off the inspection hatch to remove, clean and inspect the baffle and carefully check for blockages.

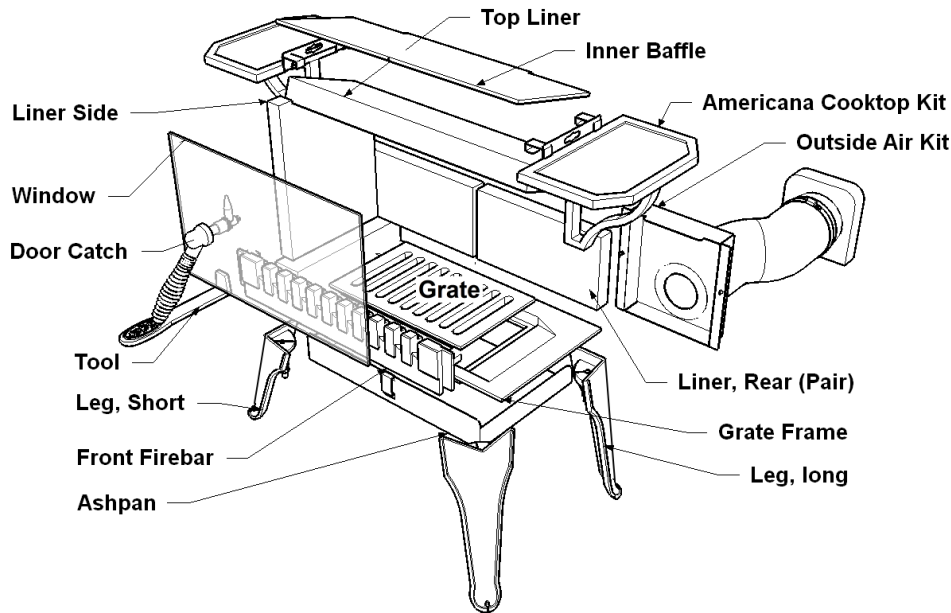
Check that the door seals are undamaged, (replacing them if necessary) and that they fully seal against the stove body.

ANNUALLY- SWEEP THE CHIMNEY The entire length of the chimney from stove to outlet should be swept annually by a qualified chimney sweep.

REFURBISHMENT Should the stove body become scratched or dull, repaint it only with heat resistant paint supplied for the purpose and only when the fire is completely cold.

SPARE PARTS

NEW PARTS Your Tiger has been extensively tested for safety - please don't try to modify it and always obtain *genuine* spare parts.



This is the Tiger Superclean 'Eco 2022' Model

For Spare parts: UK 01204 868 550 sales@percydoughty.com

The Tiger stove is fully guaranteed for one year from the date of purchase, in addition to your statutory rights.



Distributed in Europe by:

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Tel: 01204-868-550

www.tiger-stoves.com

Any questions?

For nearly twenty years it has been my personal mission to keep the Famous Tiger Stove as popular, safe and reliable as it always has been. We do that by having advanced research and manufacturing facilities, but most of all by listening to customers. You can contact me direct at any time at glyn@tiger-stoves.com



Republic of Ireland: Control of Atmospheric Pollution Regulations, 1970

This stove may be used in smoke control areas when burning wood logs and smokeless fuels but not petroleum coke

United Kingdom: 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" stove ("exempted" from the controls which generally apply in the smoke control area).

The Secretary of State for Environment, Food and Rural Affairs has powers under the Act to authorise smokeless fuels or exempt stoves for use in smoke control areas in England. In Scotland and Wales this power rests with Ministers in the devolved administrations for those countries. Separate legislation, the Clean Air (Northern Ireland) Order 1981, applies in Northern Ireland. Therefore it is a requirement that fuels burnt or obtained for use in smoke control areas have been "authorised" in Regulations and that stoves used to burn solid fuel in those areas (other than "authorised" fuels) have been exempted by an Order made and signed by the Secretary of State or Minister in the devolved administrations. This stove has been recommended as suitable for use in smoke control areas when burning wood logs. Further information on the requirements of the Clean Air Act can be found at <http://smokecontrol.defra.gov.uk/> 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



Designed in England by Glyn Hughes Design. The Tiger Stove is Patent GB2530273, is registered as a Design at the UK Patent Office, and is fully protected by Copyright © and UK Design Right, Glyn Hughes 1999/2018. Product developed in the UK and the Netherlands, cast parts made from Australian iron, assembled by the people of Gao Zhuangzi Village, Tianjin, China from components manufactured in the UK, USA, Japan and China. The suppliers reserve the right to change any specification without notice. CD&P Act 'right of recognition' is invoked. Issued a:17/06/19