



Keeping Safe with Solid Fuel Stoves 2, avoiding over firing – September 2008

The Boat Safety Scheme and the Solid Fuel Association (SFA) have further advice to offer owners of wood-burners, solid-fuel and multi-fuel stoves, this time it's on a potentially dangerous occurrence called 'over firing'.

Preventing it, or stopping it if it happens, is a matter of spotting any early signs of trouble, choosing the right fuel, keeping an eye on weather conditions and don't get distracted when you're supposed to be looking after the stove.

Have you noticed how the fire can pick-up and quickly race away in certain conditions? This is 'over firing'. It mostly happens because of increased draw up the chimney. As the intensity of the fire increases, the flue gasses heat up and get less dense thus increasing the speed of gasses exiting the chimney. When this happens the fire can get hotter and hotter until the appliance glows red and if there is a build up of soot and tar in the chimney, this can catch fire.

The stove and flue will get intensely hot and could set any combustible material around the stove alight, possibly very quickly. BSS records suggest that this may have been a cause of several serious boat fires.

The SFA provided several examples that have led to over firing:

- Whilst taking the ash pan out with the stove still lit and the ash-pan door open, in the brief time it takes to have a chat with a neighbour, the fire can take off causing the heat to build and build. This is because the open ash pan door can quickly allow the draw up the chimney to escalate dramatically;
- Burning logs and wood on an unattended, banked-up, fire can quickly lead to over firing because the burning behaviour of wood is more volatile than coal, especially if you are more used to a particular type of coal or smokeless fuel. This unpredictability can also apply to any fuel that you are unfamiliar with,
- When the weather is stormy or gusty, a boat in an exposed location is at risk from the wind whipping across the top of the chimney causing the flue gases to be sucked out, dramatically increasing the draw by perhaps two or three times normal, leading to an ever hotter fire and an over firing event.

The BSS and SFA say that having understood how easy over firing can happen, there's just a few straightforward, but really essential steps to help avoid such incidents:

- never leave the solid fuel stove unattended for long periods especially if you are unfamiliar with the fuel being used. So it is best to discover a 'new' fuel's burning characteristics when you are around to keep an eye on it;
- always use the appliance with the doors closed, including when taking the ash out;
- closely regulate the draw of the appliance by using the air inlet control, and if your appliance has damaged or cracked glass or missing, damaged or inefficient seals get them fixed to add to your ability to control the draw ;
- be very cautious about banking up the stove when it's windy outside or strong winds are forecast. If in doubt, feed the fire little and often and don't leave the fire unattended;
- keep the flue swept to avoid a chimney fire in case over firing happens to you.

If over firing does happen, then if it safe to do so, try to close the air inlet control, but remember, the stove and the area around is likely to be intensely hot.

If the stove is glowing red hot and you cannot safely get near it, or if it has already led to a chimney fire, then get everyone off the boat and call the fire service emergency number.



An article from the Boat Safety Scheme ©2008



Prepared with the support of the Solid Fuel Association

Early detection of fire is vital

While you will do your best to avoid fire breaking out, we strongly recommend that owners of boats with overnight accommodation fit at least one suitable smoke alarm and test it routinely. The greatest fire danger comes from being overcome by smoke or poisonous fumes, particularly whilst asleep.

The alarm of choice is an optical alarm with a long-life battery, a hush button and one that has been certified as meeting either BS 5446:2000 Part 1, or BS EN 14606:2005. Visit www.boatsafetyscheme.com/fire for more detailed tips about choosing an alarm and fixing in the boat.

Try to remember to test any alarm upon arrival at boat that is not in constant use and weekly when you are aboard.

Further useful information

Finally, we have more information on using solid fuel stoves safely in the article, keeping safe with solid fuel stove (Sept 2007) which is also on the BSS fire website portal or available on request from most navigation authorities.

www.boatsafetyscheme.com/Fire - Advice on how to avoid fires afloat and to make your fire action plan.

Health & Safety Executive carbon monoxide safety -

www.hse.gov.uk/campaigns/worksmart/videos/index.htm#gas – go to the gas safety section.

www.hse.gov.uk/gas/domestic/video/gassafety1995modem.wmv (narrowband) or

www.hse.gov.uk/gas/domestic/video/sassafety1995bb.wmv (broadband) for video information about CO, its symptoms and effects.

www.solidfuel.co.uk/pdfs/solid_fuels.pdf - The Solid Fuel Association guide to buying suitable fuels for different types of appliance and getting the best out of the fuel.

General fire safety advice can be found on www.direct.gov.uk/firekills