



Keeping Safe with Solid Fuel Stoves – September 2007

The Boat Safety Scheme is now very pleased to be working with the Solid Fuel Association (SFA) in offering advice for users of wood-burners, solid-fuel and multi-fuel stoves.

Solid fuel stoves are back as popular heaters for narrowboats, barges and other types of inland waterways craft. Many owners are finding that their stoves provide a homely warmth and in many cases hot water, with few or no problems. However, Boat Safety Scheme (BSS) records show solid fuel stoves are also a growth area for incidents of carbon monoxide (CO) poisoning and fires.

The good news is that most incidents are preventable and with some care and thought about the stove, its use and maintenance, the trend in incident figures could be reversed. The key to this is spotting any early signs of trouble. Consider any risks linked to using stoves and then if you suspect problems on your boat, ask yourself some questions. The answers will give you the direction if you need to act.

Am I safe?

Let's start with CO. It is a highly toxic gas and can affect people at low doses and kill quickly in higher concentrations. A good first step is to ask '*do I feel ill on my boat, but not ashore?*' The initial symptoms of CO poisoning are easy to detect, watery, itchy eyes, tightness across the forehead, headaches and drowsiness. However, these are also common to many complaints such as colds and flu. There are some short films on the Health & Safety Executive website in which some CO poisoning survivors describe amongst other things how the CO affected them. (visit www.hse.gov.uk/campaigns/worksmart/videos/index.htm#gas)

While you may feel OK, be wary for the sake of crewmembers that can be affected before you? Anyone with pre-existing heart or lung conditions, people who have been drinking, smokers, young children and pregnant women can fall victim more rapidly.

If the initial symptoms strike a chord with you, then getting good medical advice is crucial and remember to mention to the medical team your concerns that the symptoms could be CO related. If confirmed, the next question would be which appliance could be the potential source of CO.

Follow the clues

Even if you feel fine, don't ignore signs of early problems around the appliances and if the problems suggest it, change the way you run your stove.

For example, is the stove difficult to keep burning properly; are the flames lazy and weak? Do you have a strong smell of smoke when it's on? These could be signs that something isn't right with the appliance or how you're running it.

There are a few other easy checks, and these should be routine. Take a close look at the stove, is the body or glass cracked? Is the door still making a good seal and is the rope in good condition? Has the back or top plate (as appropriate) worked loose and is the flue well sealed all the way to the cabin roof? A sooty smear at a joint could be a bad sign.

What about the air supply to the stove? Whether it's only a few months since the boat's last BSS examination or a couple of years, check the boat's ventilators are still OK. Have they become blocked or restricted for example by spiders' webs, leaves or even deliberately by humans, perhaps trying to stop drafts?

A routine approach is just as important with the flue, for example, when was the last time you checked it or had it swept? A clean flue will help keep a good draw and so will running the stove at the right temperature. On the cabin roof, has the flue terminal been damaged, perhaps after taking the boat under an overhanging tree or been jumped on by children? Never use a stove that has a crushed flue terminal.



Using a fuel not recommended by the stove supplier could lead to an inefficient burn or damage to the stove and its flue by overheating. Even if you are using the recommended fuel, not keeping it dry could result in the lazy flame and poor burning which means your stove could be producing CO. Wood must not only be dry, it must also be well seasoned to help keep the flue clear. Furthermore, keeping solid fuel dry using a locker will help prevent it from being stolen or being used as fuel by an arsonist.

No Smoke Without Fire?

Take a few moments to consider how the stove is running and what's nearby. Has your nose told you something is getting hot or charring? Have you noticed a discolouration of wood, curtains or soft furnishings close by? Is it possible that something is too near to the stove or flue? Perhaps you can predict other trouble before it happens and use tiebacks or rails with curtains, drapes or linings at risk.

Even a fairly small stove can throw out a lot of heat and in the confines of a boat's cabin; you need to be watchful about the position of the furniture. With the stove burning brightly, have you ever sat down on a couch or bunk and felt it really hot to the touch? Ask yourself if the furniture is too close or is the fuel the wrong type? Is the stove too powerful for a small space; have you smelt charring but can't see any? If you can get access, check the wooden battens behind the nearest tiled or other fire resistant surface for problems caused by too much radiated heat.

And how do you run the stove? No doubt you're careful to guard against embers falling out onto wooden floors, rugs or other flooring materials, but some people still have too small hearths, or rugs being too close. There are others that run the stove with its door open whilst they are sleeping, or leaving it banked up and unattended whilst going off for a swift pint or bite to eat – this can be very risky, especially if a boater is the least bit unsure as to how the stove will behave – you don't want to come back to find your boat ablaze.

Early detection

Experts agree, that avoiding the causes of both CO and fire is the best policy, and that it's important not to rely on detector alarms completely. However, we do strongly recommend that owners 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 meets either BS 5446:2000 Part 1, or BS EN 14606:2005, visit www.boatsafetyscheme.com/fire for detailed guidelines.

We also suggest you consider fitting a CO alarm although most are generally intended for houses and may not be best suited for boats. Ask the supplier for more advice for fitting their alarms in your boat.

Try to remember to test any alarm upon arrival and weekly when the boat is in use.

Don't touch – it's hot

Finally, on the subject of burns from stoves and flues, have you ever been tempted to reach out and grab the stove flue when a passing boat rocks yours or, have you ever seen a crewmember stumble or trip coming down stairs by the stove from the foredeck? Would suitable fireguards or rails help, perhaps the stove manufacturer has some in its catalogue? A quick trawl of the internet is a good starting point to finding a solution.

If anything in this article has spurred you to act but you feel unsure about what you've found on your boat, ask a professional to find and fix any problems with your stove.



An article from the Boat Safety Scheme ©2007



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Useful websites

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.