



FUEL FOR THOUGHT

JOHN ZAMMIT and Boating Victoria's DOUG KING show how to take on fuel safely and avoid going up in smoke

While refuelling a boat seems a routine chore, the number of accidents and incidents of recent times indicate the hidden dangers. Indeed, fuelling can be dangerous, as we're dealing with volatile substances and things can, and all too often do, go catastrophically wrong.

Doug King, the Powerboat Training Coordinator for Boating Victoria, believes that boaters become blasé about the refuelling process, but it's serious business at bowser and skippers should never get complacent.

"Unlike a motor car, on a boat, all of the fuel tanks are internal, so any fuel leaks will stay in the boat and, along with dangerous fumes, collect in the engineroom or the bilge," King explains. "With plenty of ignition sources on board, the potential for a serious situation to occur is ever present."

FUEL-SYSTEM CHECKS

Preparation is the key and it's essential that the fuel system on your boat is in good working condition. As ever, a well-maintained boat will enhance safety.

Start by having a basic understanding of how your fuel system works. You need to know where the fuel tanks are situated and how the fuel gets to them, and where the fuel lines run, so you can inspect the system for signs of damage or deterioration before problems occur.

If you're not sure what to check, just ask your mechanic or boat dealer to run you through the fuel system. Otherwise, a quick inspection after fuelling provides assurance that everything is okay — no leaks, fumes, or anything else that may pose a danger.

IGNORANCE COSTS

I know a boater who took delivery of a secondhand boat and had some work done to the (petrol) engines. He subsequently proceeded to fill the

fuel tank to the brim, topping up each time the fuel receded back down the inlet. Unbeknown to him, someone had removed the overflow hose that ran to the breather vent and the excess flowed straight into his bilge.

It was not until he returned to the marina — that's right, he actually started the engine and drove what was essentially a floating bomb on a 3nm cruise — with three people onboard that he discovered the potential disaster. Fortunately, a tragedy was avoided, but not before the whole area was evacuated, the bilge watered down with a mixture of water and detergent and then carefully pumped out.

This story had a happy ending but it could just as easily finished up as a "three-people-die-in-boating explosion" headline in the next day's newspaper. And simply because this skipper did not know what to look for and did not check what seems obvious. Run through the following...



1 SAFE REFUELLING PREP

After securing the vessel at the fuel dock, turn off engines and switch off the ignition. Check the dock for warning signs and/or an instructional board. Make sure you read and understand the instructions.



2

Check for the location of fire extinguishers on the dock — they're usually designed for use on fuel-fed fires — the emergency fuel shut-off switch, and the emergency spill kit, which will be in the immediate vicinity.

Take time to familiarise yourself with the spill kit — a quick clean will minimise the danger, and any harm to the environment. All State Governments have legislation in regard to fuelling and most have a requirement for all passengers to be ashore during the process. Only personnel involved should remain onboard.

Identify any fire risks on or near the boat, such as:

- Smoking
- Cooking appliances
- Naked flames, including gas pilot lights

Such things must be extinguished.

Also, turn off the batteries and any other power source, ensuring all doors and hatches are closed to prevent fumes from spreading inside. You're now ready to start fuelling.

3

REFUELLING RULES

First and foremost, concentrate on the task at hand. Check that the right fuel, diesel or petrol, is being loaded into the correct filler — I know someone who filled their water tank with fuel and I've also heard of someone pouring fuel into a rodholder.

During fuelling, maintain contact between the nozzle and the filler and monitor progress. Don't wedge the bowser's filler-handle trigger open and stand back or walk away in case of spillage.

Some fuel depots have a policy to use only their staff for fuelling. Others demand that only the owner do it. But be aware that as the skipper you are ultimately responsible for the safety of your boat and need to monitor the process.

If fuelling portable tanks for a dinghy or tender, take them off the boat and fill ashore.

King related the story of the chap who was filling a tote tank on the back of houseboat. Leaking fumes travelled along the side of the houseboat reaching a gas hot-water service. The pilot light ignited the fumes and the rest, as they say, is history!

Granted, it's not common to have a gas-powered hot-water service on a boat, but if you have other gas appliances onboard, like fridges and cookers, pilot lights may be an issue.

Following fuelling, clean up any drips or spills. Check that the amount of fuel delivered agrees with the amount you expected to take on (if there's a discrepancy you may have a fuel leak), and check for any leaks in the bilge and engine room.

Now open all doors and hatches and ventilate for at least three minutes — if you have bilge blowers (which should be certified spark-proof) turn them on.

Once ventilation is complete and all is in order, it's okay to turn your engines on and get underway.

QUICK TIPS

1. When I'm refuelling my boat I have a small trigger-action bottle, filled with equal parts detergent and water, alongside with some absorbent rags. This allows for a quick mop-up in case of spillage.

2. For teak decks, just wet them down with water before fuelling — minor spills will be easier to mop up without staining the timber.

While all this may seem simple, straightforward and perhaps bleeding obvious, too many boats explode and catch fire. So make sure you don't finish up a statistic — after all, refuelling is not rocket science.

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It's common sense really, but under government legislation all crew, except the person tasked with the responsibility of fuelling, are to leave the boat.

4

TOTE TANK TEST

The fuel system for your dinghy or tender should not be neglected either, but checked regularly and each time you refuel.

Inspect lines, connections and the fuel tank for leaks or perishing. Make sure the lines are supple with no cracks, that the connections are secure, and the priming bulb is operative and in good condition.



Check fuel lines for hairline splits, above, and that the seals on the connectors, left, are in A1 condition. Look for signs of perishing on the primer bulb, below, and that lines are properly secured.



PRACTICAL



5

When using the fuel tank ensure the breather valve, usually located on the filler cap, is open. To prevent the spread of fumes and the ingress of water, close the breather valve when the tank is not in use. Or leave it ever-so-slightly ajar to prevent spillage due to expansion.



Above: It is mandatory by law to remove tote tanks from boats for refuelling. Left: Filler caps have an air-release screw that must be closed when the fuel tank is not in use.