



'Y' Valve(s) Help Protect From Dead Fuel

As more of our readers discover the hassles associated with "dead fuel" in their tanks, we're getting an increasing number of inquiries from readers seeking advice on how they can best set-up their petrol tank(s) to deal with this nasty problem.

In case you haven't heard, last year the Greens forced the Government to drop the sulphur that was being used in our unleaded petrol (that's where that funny pong unleaded petrol used to have, came from) with the result that the octane rating of petrol is no longer stable. As we discovered in *Far-Away*, it actually evaporates out of the tank into the air and out through your tank's breathers.

We were mortified to discover that we had about 150 litres of this 'dead' fuel in *Far-Away* and this led to an on-going investigation by PW and I into the situation and what could be done about it. PW is preparing a major feature about it, which we'll publish in the next issue or two, when he's heard back from the petrol companies.

In the meantime, the short version is this - unleaded petrol can go off in your boat's tank in as little as 3 months but will almost certainly be 'dead' within 6 months. It's worse up north where the evaporation rate is higher than it is down south, when the cooler climates restrict the evaporation to an extent.

For every boatowner using unleaded petrol, this is going to require much more careful management of their fuel "stock" they carry in the boat.

Tradition has always suggested that the best technique was to fill your tank up after every trip. That no longer applies, UNLESS you are going to go out in the rig again within the

that's gone 'off'.

If you have big tanks like we have in *Far-Away*, then the management strategy has to change even more. We've now switched over to a dual tank system where the aft tank (300L) is the one we use all the time locally, while the long-range tank (400L) is left empty, under the cockpit floor ahead of the aft tank.

This gave us a few headaches in the plumbing department, but if you study the photograph carefully, you can see how the system works.

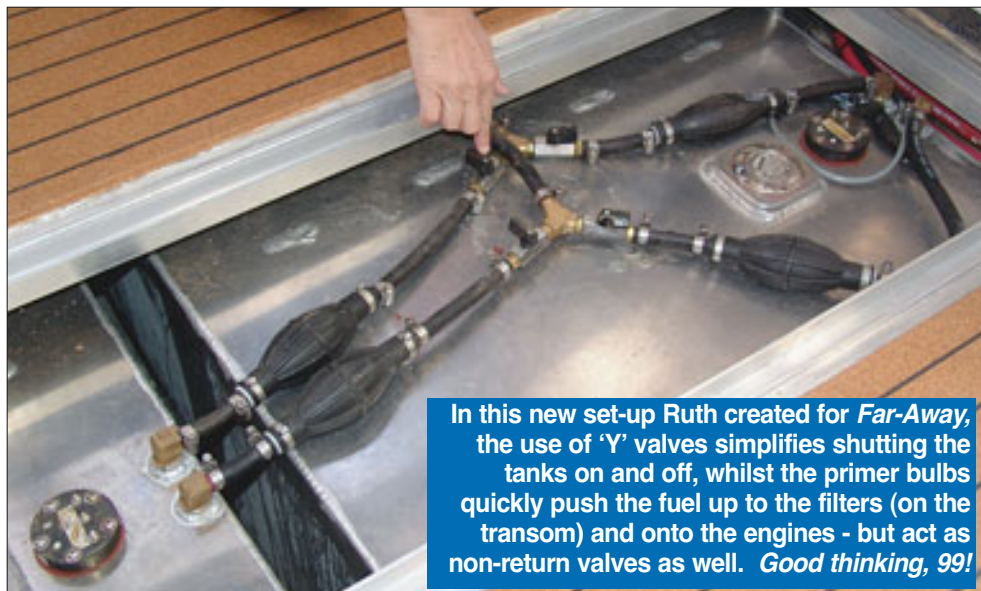
Of note, I wanted to ensure that we could easily Y-valve from either tank to both engines - so we have complete flexibility in terms of which tank we are using,

what causes so much grief with tanks set-up incorrectly.

With top-mounted primer bulbs near the engine(s), when the skipper switches over the tanks, he invariably discovers that the fuel has long since run back down from the 'new' fuel bulb back into the tank, and he has to try and suck it back up again with the primer bulb possibly one or even two metres away from the source.

By putting the primer bulb at the source, you achieve excellent (and fast) priming, and of course the fuel always remains in the line because it can't run back down past the primer bulb.

We going to have a lot



In this new set-up Ruth created for *Far-Away*, the use of 'Y' valves simplifies shutting the tanks on and off, whilst the primer bulbs quickly push the fuel up to the filters (on the transom) and onto the engines - but act as non-return valves as well. *Good thinking, 99!*

month or so.

If by any chance, you're going to leave the boat sitting in the garage or by the house for 2 or 3 months, then filling the tank up could be the worst thing you could do.

The best thing to do (now) is leave the tank empty, because it's much easier to get rid of a bit of a bit of water (from condensation) from the bottom of your tank than it is to get rid of 150L of very expensive unleaded petrol

with both running via the two separate fuel filters (one for each engine) to the outboards.

Ideally, boatowners should have the primer bulbs down on the tanks (as we have here), not up near the engine as we've all done for yonks. This way is better - the primer bulb valve acts like a non-return valve, and prevents the fuel from running back down the line into the tank when you change over from one system to the other. This is

more on this subject in the near future, but just for now, for the readers who have rung about the best system to use, this is definitely the way to fly in the future.

F&B

***After a 20 year career in ships chandlery, leading up to the position of GM with Whitworths and BIAS, Ruth became SEA Media's publisher in 1993, and has directed traffic at F&B ever since. Today, she also maintains a very deep involvement in boat building F&B's project craft, and is the skipper of "Whim-Away", F&B's camera boat, and "Far-Away", the long range expedition cruiser. Very few people have her depth of knowledge concerning boat fit-out and chandlery.*