



Gavin contemplates the next maintenance job. (above)

After hours in the engine room the happy hour view more than compensates. (right)



BY GAVIN LESUEUR

I HAVE HAD TO REVERSE MY personal problem solving approach. I am a medical doctor and when a patient walks into my rooms and says "I have had a headache for three days" I immediately assume the worse and work backwards. The most important things to exclude – cancer and meningitis. Sometimes I can do this by history alone, usually with some examination and occasionally resorting to some investigations. It is a principle of medicine to start at the most serious potential problem and work backwards. I

discovered that this is not the way to deal with boat problems.

My watermaker supply pump had stopped working. I was head down in the bilge with pump in bits when a friend arrived to say hi. We were anchored in Mrs Watsons Bay at Lizard Island as we often do in beautiful locations I was doing repairs. He leaned over to see what I was doing and nonchalantly said "Have you checked the intake?"

I was hot, sweaty and a bit greasy. "The pump had stopped," I replied, a bit gruffly.

"I'd start with the simple stuff first," Ray

continued. "The question to ask is what did you do before the problem started?"

I put the pump and bits down, carefully placing the screws and o-rings in positions that I would remember how they go back together and so that Fletcher (my three year old) would not immediately spread everywhere. He was helping ...

I went through the problem in my mind. I had run the watermaker in the Endeavour River as we were caught up river in a blow and the low tides stopped us from getting back to Cooktown. The

A photograph of a sunset over a body of water. The sun is low on the horizon, creating a bright, golden glow that reflects on the water's surface. In the foreground, the side of a boat is visible, with its hull and some equipment. The sky is filled with soft, golden light and some clouds. The overall mood is peaceful and serene.

# A problem solving principle

first filter – a debris trap before the supply pump – was checked after we left and it looked fine. I told this to Ray.

“As I said, start with the simple stuff. Make sure you have water coming in, that the lines are run right and the filters are not blocked,” he reiterated.

I followed his advice. As I unscrewed the intake filter I noticed that it was not quite as tight as usual. Had I left it slightly loose and caused an air intake to make an air lock?

With the pump in bits there was no real way to test it so I put the pump back

together and 20 minutes later switched everything on. Voila! It works! A simple air trap from an o-ring not seated. The pump was perfect.

When Ray left I pondered what he said. Simple first, complex later. Check supply and output long before pulling things apart.

I wish I had had that bit of advice a few years ago. Having gone from a relatively simple catamaran – minimal plumbing and electrics and only outboard motors – to a more complex beast with twin diesels, watermaker, hot and cold pressure

systems and a washing machine – I have had a run of tasks to learn and problems to solve. If I had thought the principle through I would have saved myself some time, money and frustration.

Not long after purchasing *Chaotic Harmony* the starboard engine lost power and blew black smoke at about 1600 revs. It sounded serious to me and being new to diesels I asked for advice. I asked for the free type of advice – from anyone with a diesel.

“Probably the injectors or fuel pump” someone said. I had the injectors



The skipper and crew do a running repair aboard. Gavin working on a water pump while Fletcher builds an entire ship.

serviced and sent the fuel pump in for checking. Little did I know that the tanks were well above engine height and the pump was not doing very much. The problem persisted.

I checked the propeller. I checked the air intake. I checked the exhaust system. All to no avail. Finally I went for the other type of advice. I asked someone who gets paid to give advice. This someone also works on diesels.

"It will be the exhaust system. Probably the manifold leg," they said. "You will need to take it off."

I had put my finger up the pipe and it felt fine but he said I could not reach it. So in desperation I took it off. The pipe diameter was meant to be 30mm. It would have been lucky to be 2mm with a slag build up where the water enters the wet exhaust. I went back to the mechanic.

"You need to replace it. And buy another one as well. You have two engines of the same age," he suggested.

"Why can't I just chip out the blockage?" I asked. "And the other engine works fine."

"You can't chip it out. It's solid," he replied knowingly. "And you will need two."

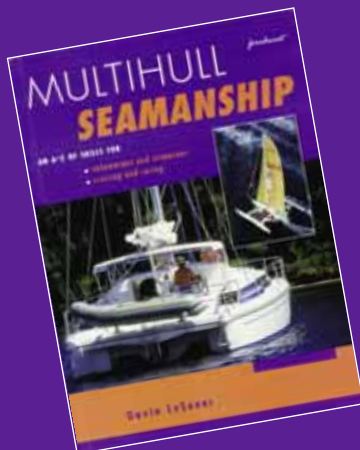
"I'll have a go anyway," I suggested.

The mechanic shrugged. "Good luck. See you soon."

I spent an afternoon with a cold chisel, a blow torch and a sledge hammer. I cut my finger and bruised my forearm. I removed absolutely none of the obstruction.

At \$320 each I bought one. Six hundred miles and two months later I needed another and it cost me \$370 with added freight needed to get it to my destination.

I learnt another valuable lesson. When you get good advice, take it. In the long run it is usually cheaper (and a lot less painful).



## MULTIHULL SEAMANSHIP

by Dr Gavin LeSueur Illustrations by Nigel Allison

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Multihulls, particularly catamarans, often have duplicated systems. Two engines, two heads, twin fuel tanks, twin water tanks. I have a service log aboard which details when I do what. This is important for routine tasks like oil and filter changes. When I do a repair I log it. I also try and guess when I will need to do the job on its duplicated system (if there is one) and also how many hours/months/years I will need to do the job again. I keep a 'maintenance log' summary in an attempt to pre-empt what will need to be done. This helps organise parts and gives me a reliability guide. It is, of course, guesswork. On occasions I have anticipated the need to do a job and got in before a disaster occurred. (Disasters are usually with toilets!)

I do not carry a mass of spare parts or tools. I will tell you a secret here and please do not spread it to our one hulled friends – 'Spare parts and tools are what monohulls are for'.

If you ever need a metal fitting repaired find the nearest steel yacht. There is a fair

chance they will have a grinder, welder, lathe and buffing tools. They will also probably have the skill to use them as well! I have lots of friends in monohulls. I cultivate it because you never know when you will need them. I guess this is one of the reasons I am not an evangelical multihuller. We need the yachts that carry spares. Failing this resource there is always DHL or Fed-Ex. They can get anything anywhere pretty quickly and in this day and age email and the internet can solve many dilemmas.

I was in the engine compartment doing a routine look around and noticed a tag on the pressure release valve of the hot water service. It said that the valve should be tested by releasing pressure every six months. We have had our Catana catamaran four years and I have never checked it. So, like a good maintenance person, I pulled the release valve to check its function. It gave a gentle pressure release and seemed to work fine. I released the valve. It dripped. I did it again. It dripped again. I

decided to read the manual at this stage. It told me what to do if the release valve failed to re-seat after testing. It was likely to be either some debris caught in the seat or the valve needed replacing due to corrosion or wear. Of course to clean the valve it needed to be removed and I needed to drain the hot water. My big mistake was doing all this in the middle of nowhere. We had cleared the Solomon Islands and were en route to Vanuatu. I tried everything to stop the drip. Nothing worked. Eventually I just directed the flow into a container to be re-used and got onto the web. Raritan in the USA were fast and efficient. They had the part waiting for me at Port Vila before I arrived.

There are many types of knowledge. Being aware of what we do not know is often the most useful. I have learnt that being aware of the knowledge I lack drives me to the manuals or instruction books. I just have to remember to do this first.



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