



above The Expresslube 'dialysis machine' arrives to clean out a contaminated fuel system.

# Diesel dialysis

You can remove all trace of diesel bug from your fuel system without the expense of stripping out tanks for cleaning. We tried an operation that decontaminates your diesel as it recirculates it.

REPORT BY JOHN CRAGG

Even if you are careful to prevent water or dirt getting into your fuel tanks, the dreaded 'diesel bug' can strike. And even if you use a biocide to kill it, a residue of sludge and slime can clog your filters. How do

you get rid of it? The obvious answer is to lift out your fuel tanks and have them professionally steam-cleaned. But that's a costly business; in fact, it can be damned near impossible without taking the boat apart.

Fortunately, there are other ways to clean your tanks and system thoroughly.

## MEDICAL EMERGENCY

Despite what we felt was good housekeeping in guarding our Cygnus 33's tanks from

contamination — including keeping them full over winter to prevent condensation and using a biocide with every other fill-up — our fuel system developed a bad case of diesel bug.

The problem manifested itself when the tanks were stirred up during a passage through the Alderney Race, when they were down to about half-full. The filters and pipes became so blocked with sludge that we needed an emergency strip and clean in St Helier just to get us back across the English Channel.

Clearly, drastic action was needed. Only a thorough clean of the tanks and system would sort out the problem properly.

Removing the tanks for steam-cleaning would mean major surgery and cost, so we were keen to find another solution.

A service called Expresslube claims to be able to achieve the same results without removing the tanks, so we decided to give it a shot.

## OPERATING THEATRE

The system is described as acting like a kidney dialysis machine. It works by repeatedly passing the fuel through a separator, centrifuging out the water and any sludge, slime or microbes.

Recirculating the fuel in this way stirs up any water and sludge in the bottom of the tanks sufficiently to ensure these run through the separator, although you can never be 100% sure of cleaning behind the baffles.

The water that is centrifuged off is drained into a container for easy viewing. Any other contaminants collect in a pre-filter, or on the side and base of the centrifuge bowl, in the form of a thick black slime.

Besides leaving the tank in place on the boat, the other bonus of this system is that you do not have to discard valuable fuel; once all the contaminants have been removed, it goes back in the tanks.

they can get access to the tank through an inspection hatch, or some other suitable hole of over 25mm (1in) diameter. They need to insert a rigid tube that will reach the very bottom of the tank.

In our case, the 62mm (2½in) holes for our direct-read tank gauges gave the required access, although this meant pumping out some fuel until it was below this level.

The pump circulates at up to 1200lph, and Expresslube say that fuel should be circulated at least three times. We had about 300lt in each tank, and this was circulated for about two hours at 1000lph.

We took the opportunity to drain from the taps on the balance pipe between the tanks (the lowest point in the system) and to check the fuel feed pipes again. The remainder of the system had already been fully cleaned.

Once cleaned, the fuel is treated with a heavy dose of Fuel Doctor water dispersant, at a rate of 1lt per 500lt. This followed by an addition of 25ml per 100lt with each fill of tanks. Expresslube do not recommend

the use of biocides, as these lead to a build-up of dead organisms at the bottom of the tanks, and will not deal with water.

## IN REMISSION

The whole process is clean and efficient, and, even with large tanks, can be carried out in a day. So your boat does not have to be laid up out of use.

Before the treatment, our fuel appeared somewhat cloudy. Afterwards, it was crystal clear.

Since the treatment, we have run the engines for the best part of a season, and have found no trace of water or sediment in the filter bowls. It might be my imagination, but I believe the engines are running a little more sweetly as well!

Not least of the advantages of the clean-out is that my peace of mind has been restored. When you're cruising at sea, it is not pleasant to be wondering whether your engines are about to stop.

We understand that some fuel supply outlets are now having their storage tanks treated by Expresslube, and pressure by boatowners could

## details

### TIME TAKEN

Less than a day.



### PRICE

From about £530 inc VAT, depending on the engineer's travel distance, the volume of fuel to be treated and ease of access to the tanks.



### ENQUIRIES

Expresslube (UK) Ltd  
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## further reading

- Fuel for thought (see MBM Oct 02 p62) Causes and consequences of fuel contamination.
- Beating the bug (see MBM Nov 02 p60) Fuel treatments on test.

persuade more to do likewise. Even if it adds a couple of pence to the price of a litre of diesel, that's a small price to pay for the knowledge that the fuel you are buying is free from the dreaded bug.



Weather or Knot went down with diesel bug during a cross-Channel cruise. Would 'dialysis' treatment cure her?



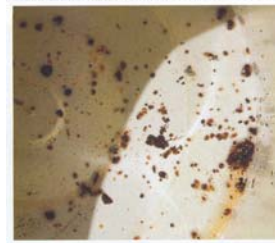
above Removing a tank gauge could allow access for a circulation pipe.



above A rigid, angled pipe is inserted through the access hole to suck fuel up from the bottom of the tank and circulate it.



above A pre-filter collects the worst of the contaminants in the circulated fuel.



above Inspecting the filter reveals some of the larger particles of dirt collected.



above A large separator uses a centrifugal action to remove water and other contaminants.



above Fuel Doctor water dispersant is added to the tank after cleaning, and with later fill-ups.