



DE-BUGGING YOUR FUEL SYSTEM

As fuel system specialists and diesel tank cleaners we are always astounded at the many different types of microbial growth we recover from tanks. There is often a combination of multi coloured live growth, algae, fungus (yes even little mushrooms), bacteria, yeasts and moulds, and residues of older dead organisms (black sludge) all of which tends to build up a loose layer on the tank floors. It is this material which when stirred up, becomes suspended in the fuel and which can rapidly overcome a primary filter system causing sudden engine stoppage.

Any water present in a tank, such as from condensation, water in the fuel or from faulty seals or vent systems will encourage growth of live diesel bug. Left unchecked, this growth will quickly escalate until all the water has been used up. At this point most of the live cells will die leaving sludge deposits which will remain until cleared from the system by physical cleaning.

We recommend a number of measures to minimize diesel bug problems. Keeping the tanks topped off reduces water ingress caused by condensation. Regularly drawing off samples from the tank drain (if it is at the lowest point) can also help. We do not recommend the use of fuel additives containing biocides, as these merely kill the live bug cells adding to the residue loading on the tank floors. The chemistry of these broad spectrum bug killers is another concern, as new chemical compounds can be formed with the heat of combustion, all of which could pose serious health risks if exhaust fumes were to be inhaled.

As an alternative to biocide use, in the past few years we have recommended the fitting of magnetic Bug treatment units in the fuel delivery lines prior to the primary filter. These work by exploding individual live bug cells into sub-micron sizes enabling the material to pass right through the primary and secondary filters to be burned in the engine along with the fuel. Not only does this tend to scavenge live bug from the tanks, but it also dramatically extends the life of fuel filters and which could be the difference in getting home safely or having to be towed (or worse) in rough conditions. Several brands are available but we have chosen to associate with Diesel Solution's De-Bug devices as these have been designed using a patented multi-magnet system for maximum effect. We have also noted that most overseas visiting vessels have New Zealand made De-Bug devices fitted.

John Perham.
Director,
Diesel Clean Ltd. www.dieselfclean.co.nz