

## Bug Off!

Spring. That wonderful time of the year when life bursts out after the long cold of winter.

Let us hope that this is not happening in your diesel tank. Like all living things, the diesel bugs (for there are many different types, including fungi, bacteria, moulds etc) require 3 key things. No, not sex, drugs and rock'n'roll – rather water, air and food. If there is any water in the tank, it will form a layer at the bottom underneath the diesel (it is denser after all). Air is dissolved in the water (fish would have a few problems if that did not happen), and the food is diesel. All you need is the right temperature (anything above 10°C is good – around 20°C is wonderful), a few spores (which can come with the diesel, but equally are in the air all the time), and the bug goes forth and multiplies.

Typically this forms a slimy mat between the water and the diesel, and if this is pumped through to your vehicle's engine, the bug blocks the fuel filter, and you stop.

The main trouble times for bugs are spring and to a lesser extent autumn. Spring because a problem, which has been lying dormant over winter, flourishes as the temperature warms. And autumn because a relatively tight mat at the water/fuel interface dies off with the cold, and breaks up. It then flows down the pipe to your engine

What should you do about bugs? Prevention is much better than cure. Keep the water out, and you also keep the air out. The bug can't grow, and any spores you have will go through the engine and be burnt. Thus if the tank is underground, care should be taken to ensure that there is no ponding above the fill points after rain. And if it is above ground, the tank should have a drain valve at its very lowest point. This should be cracked open occasionally to remove any water. The delivery line should be at the other end of the tank, and ideally about 50mm above the bottom of the tank. I know that will mean that you will not get the very last drop out of the tank – just try to plan your tank fills so that there is no need for this.

All connectors to the tank should be waterproof, with the relevant caps on. The bottom of the dipstick should have water finding paste on it (a good fuel delivery company will be doing this)

Maintaining the tanks on mobile plant is a bit more of a problem. If it is getting continuous use all should be well. With the movement of the machine, the water will tend to dissolve (to a small extent it does) in the fuel, and will then go out the exhaust pipe. The problems begin when the engine is left idle for long periods of time, particularly if the fuel level in the tank is low. With temperature changes, the tank "breathes", and water condenses and builds up.

There are biocides on the market, and these can be put in with the fuel to kill the bug. However, there are some significant drawbacks here.

1. Use strictly as per the manufacturer's instructions
2. You are using a very potent chemical. Be very careful that it does not get into the environment
3. Make sure that it is used only as a shock treatment. I have seen truck fleets crippled because a biocide was used continuously, and a biocide resistant bug evolved.

If all else fails, replace the fuel tank, (and lines if there is a recirculation system).

Bugs can be a time and money wasting pain. Good hygiene is the key – keep your fuel water free. Prevention is much better than cure

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