

Engine Problems Due to Fuel Contamination

Ninety percent (90%) of the technical questions received by Lite Machines on the Norvel Vmax-6 helicopter engine involve a fuel-related problem. The proper choice of fuel and field equipment is important to achieve the best performance from your Norvel engine.

Effect of Fuel Contamination

Certain brands of model engine fuel contain chemical additives that can foul the glow plug on the Norvel Vmax-6 helicopter engine. Sometimes engines operated on these fuels will run well for a flight or two, but then lose power. Sometimes engines will not start at all. These problems are commonly caused by contaminants that coat the glow plug coil and preventing the glow plug from operating properly.

All model glow-engines use a glow plug with a platinum metal glow plug coil. The platinum metal in the coil acts as a catalyst to maintain properly combustion of the air/fuel mixture in the engine. In order for glow engines to operate properly, the air/fuel mixture must actually touch the platinum wire for the catalytic reaction to occur. If the wire is coated with anything, even if only a few atoms thick, the catalytic reaction cannot occur and the engine stops running.

Rubber Contaminates Fuel

Many varieties of rubber will dissolve in glow fuel and quickly foul the glow plug. Avoid rubber fuel bulbs, syringes with rubber inserts, and neoprene fuel line when transferring fuel to your Lite Machines helicopter. Use only silicone fuel line and plastic (polyethylene) containers to store or transfer fuel.

Contaminated Glow Plugs Must be Discarded

After a glow plug coil has been contaminated, there is no practical way of cleaning it. Make sure to discard the contaminated glow plug when changing to a new fuel or after using rubber in the fuel system.