Electric Fuel Pump Precautions

Since the introduction of Mechanical Injection systems in the late 60s automotive engineering and environmental restrictions have forced manufacturers into producing more environmentally friendly vehicles, and this has led to a natural progression into Electronic Fuel and Engine Management. The result, a more fuel efficient engine producing optimum economy combined with smooth performance while retaining low emissions.

The heart of the fuel injection system is the main fuel supply and the fuel pump needs to operate at 100% for the injection system to function correctly.

So , why are we talking 'Fuel Pumps'?

Well, the purpose of this message is to ensure that we maximise our driving enjoyment and reduce maintenance expense by taking note of the following points:-

Fuel & Fuel Tank Contamination

Fuel Injection pumps are by design, manufactured to close (tight) tolerances to produce the desired high fuel pressure. Minute particles of contamination ie. water, rust or dirt entering the pump will prove fatal, causing permanent damage to the fuel pump.

Modified Fuels

Pumps are designed to run on fuel available from normal filling stations. Any additive or any alternative performance fuel are not recommended. If fuel pump failure is connected with the above, warranty will be refused.

Low Fuel Levels

People who consistantly drive on reserve fuel levels run also the risk of failure, An injection pump operates at approximately 5000 revs/minute and relies on fuel to lubricate and cool the moving parts.

Remember, next time you drive on reserve fuel, pump damage may be occurring. Fuel supplied by the petrol station can be contaminated, and this dirty fuel is just waiting at the bottom of your tank!

Pump Failed - Overheated!

The above events result in the pump overheating over weeks or months, followed by final failure, and low fuel levels will also not help with the cooling process of the pump.

Blocked Fuel Filter.

Always ensure that the Fuel Filter is maintained regularly. Fine contamination and fuel wax will restrict fuel flow causing backpressure on the fuel pump and restricting its natural function. This results in fuel cavitation followed by progressive pump damage and resulting in failure.

To conclude, Original Equipment Fuel System components are designed to provide a long term reliable service, and 95% of warranty failures are rejected for one of the above reasons. So please make sure that you:-

1) Avoid driving and ignoring the Low Fuel Warning Light.
2) If you are aware of fuel contamination, get the system cleaned, starting with the fuel tank!
3) Follow the maintenance program of your vehicle, which includes the fuel system.

Please Note:-

If you have just removed a fuel pump, ask yourself why it failed. If you do not take a minute to consider this question, the New Pump may suffer the same fate!

An expensive oversight for just a moments thought!