It's all about the pressure

Tim Stock, Helpline

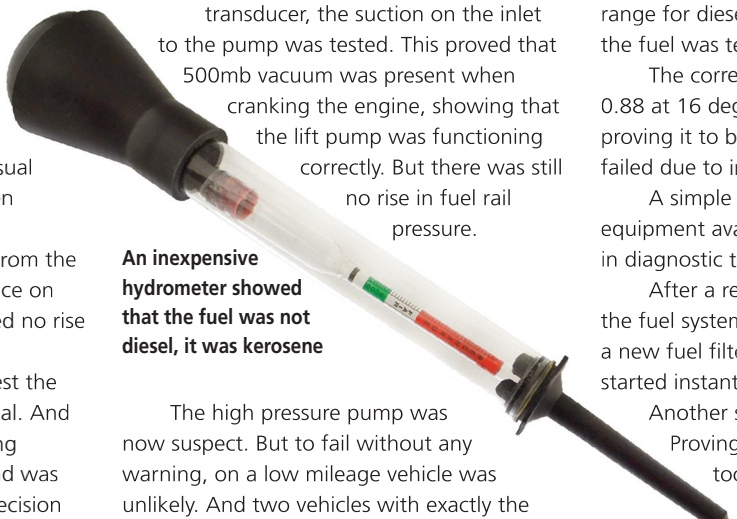
Recently we had 2 separate calls, both Ford Transits that would not start. Both garages are very capable in their diagnostic procedures, and went through the usual tests for the fault codes that had been retrieved for fuel pressure.

They tested the leak back flow from the injectors, then performed a scope trace on the fuel pressure sensor. This indicated no rise in rail pressure.

Both garages then decided to test the fuel volume valve for the correct signal. And both proved to be present and looking correct. A current trace was taken and was also as expected. So both took the decision to replace the volume valve, which did not fix the problem.

Then they decided to call us at the Helpline for help. We suggested the low pressure fuel circuit be tested first. The filter housing failed the vacuum check and was contaminated with what looked like water. Both garages replaced the housing and filter, as Ford knows this is a common issue.

Then, with a Pico WPS500 pressure transducer, the suction on the inlet to the pump was tested. This proved that 500mb vacuum was present when cranking the engine, showing that the lift pump was functioning correctly. But there was still no rise in fuel rail pressure.



An inexpensive hydrometer showed that the fuel was not diesel, it was kerosene

The high pressure pump was now suspect. But to fail without any warning, on a low mileage vehicle was unlikely. And two vehicles with exactly the same symptoms, at the same time in the same geographical area? Very suspicious. And both garages did not want to risk new pumps without a definite diagnosis.

We decided to ask both garages for a very simple test on the fuel, even though the smell of the fuel was like diesel. We asked if they could test the Specific Gravity of the fuel in the vehicle. After ordering a hydrometer with a range for diesel fuel, between 0.70 to 1.0, the fuel was tested.

The correct range for diesel is 0.82 to 0.88 at 16 deg C. The suspect fuel was 0.78, proving it to be kerosene. The pump had failed due to incorrect fuel present.

A simple and inexpensive piece of equipment available online could save hours in diagnostic time.

After a replacement pump was fitted, the fuel system was cleaned thoroughly and a new fuel filter was fitted, both vehicles started instantly.

Another success to a difficult diagnosis. Proving yet again that with the right tools, and armed with good information, all problems can be solved.

Join our growing team of members today, who all have access to 1000's of answers to tech questions on demand. Call us now on 01-905-9500 to join or for more information.