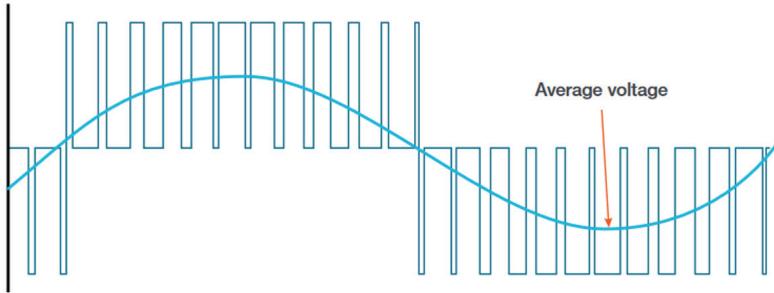


# Not starting immediately after servicing



**Tim Stock,**  
Autobiz Helpline



**Single scope trace of one of three phases supplied to the fuel pump (all three should be 120 degrees apart when compared)**

means they have a very long operating life.

When a new pump control module was fitted, the scope showed the correct phase shift, and the pump ran as expected. The results were shown to the customer, and explained that it was unfortunate, but it had not been the result of any work performed during the service. The customer understood that this was going to happen eventually, even if the vehicle was serviced correctly.

A diplomatic approach to the customers concerns, along with a clear explanation with documented evidence of the issue, resulted in a happy customer.

As technicians, most have heard customers say those few words that we dread. “Ever since you looked at my car, it is now doing this.”

An interesting case arrived at the Autobiz Technical Helpline line recently, with a 2013 Volkswagen Golf common rail diesel (2.0CR CRBC). It was in for a routine annual service, and everything proceeded as expected. The technician handed the vehicle back to the customer, with confidence that he had done a professional service.

On their way home, the car came to a complete stop. The customer managed to restart the vehicle, so he continued on. In the morning, he planned to return to ask the garage to check if anything was wrong. Unfortunately, the vehicle refused to start, and he called the garage for help.

A technician was sent to check it out, and found it had no fuel pressure and logged a code P0087 Rail Pressure Low. The vehicle was recovered back to the workshop for investigation.

The in-tank lift pump was not delivering any fuel, and could not be heard operating. The technician could not locate the fuel pump relay, and noticed the pump assembly had more terminals than he expected.

Calling the Autobiz Technical Helpline for advice, we explained this system has a 3 phase fuel pump, controlled by a pump module, and not a relay that he was searching for. We asked for the 3 pump phases to be scoped, to check for correct operation from the control module, using the pump ground for all channels. The scope traces showed all 3 phases were lined up, when they should have been 120 degrees apart. This pump could never run.

The pump control module creates a digital phase signal for each phase, each phase 120 degrees apart, these rotating phases force the motor to rotate, and increasing the frequency will speed up the pump to increase the flow volume. Fuel demand can be modified for any operating condition of the engine. As this pump has a brushless design, that

**Technical**   
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