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A poorly accelerating BMW 1 Series

A customer had complained to a garage that their car hadn't been running properly since it was serviced. The hunt was immediately on for the cause of the poor running, and to see if the servicing had anything to do with it. After being stumped for an answer, the mechanic turned to TEXA's David Gordon to get to the bottom of the problem.

The service on the 2008 BMW 1 Series, equipped with a 1.6 litre petrol engine, had been completed without any problems and without anything remarkable being noticed or repaired. The customer collected the car and nothing amiss was noted by the mechanic in driving the car.

After a few days, the customer brought the car back to the garage, complaining that ever since the service the car didn't run right and was sluggish and slow on acceleration. Nothing can be worse than hearing that everything was perfect before you got your hands on it. This can be a time to instill or increase your customers confidence in you if you handle it in the correct way. Even if you admit you made a mistake, or find that the cause of the problem wasn't related to your work, trust can be gained or enhanced with the customer.

Turning back to the BMW, a test drive confirmed the complaint of the owner. Under acceleration the engine had a misfire and MIL light was illuminated on the dashboard. The misfire was present up to about 20 km/hr or at engine speeds up to 2000 RPM. The engine would also idle completely normally, without any indication of any fault. The MIL light that was on was the traction Control warning light.

The mechanic's TEXA AXONE 4 was connected to the BMW, but no trouble codes were stored in the engine management ECU. The test drive was repeated, this time recording live data during the time the misfire was clearly present. In looking over the data, no faults or indications of a problem could be seen.

The mechanic was now at the end of their diagnostics, but with the problem still very present and without any idea on what to check next. This is when



the mechanic called me to see if there was something that he was overlooking. All of the tests and results were reviewed, or repeated as necessary for certainty or clarification. At this point all available ECUs on the BMW were checked for trouble codes, but none were found.

I asked the mechanic if any recommendations had been made to the

owner. A review of the invoice jogged the mechanics memory that the right front tyre was worn more than the other tyres and was in need of replacement.

In checking the tyres, it was found that the worn tyre had been replaced, but the new tyre was a 205, while the rest of the tyres were all 225. The replacement tyre was physically smaller than the others, and had a smaller circumference. This meant that the stability control system saw this tyre was rotating faster than the other tyres, and came to the conclusion that the car was losing traction at that wheel and was spinning. To correct what it thought was a loss of traction, it cut fuel supply to the engine as a way to reduce engine power, in an attempt to stop the wheel from slipping and regain traction. This was the misfire that was detected during the test drive. Because the ECU saw this as an ordinary event, where traction control was employed to assist the driver staying in control of the car, it did not see this as a fault and did not record a fault code.

When the customer was asked about the replacement tyre, he remembered it had been replaced at another garage immediately after the service. After the proper sized tyre was installed, the fault was no longer present.

This fault demonstrates a few things to remember:

- It is always important to use the correct size of any part that you are replacing.
- Also remember that not all problems are caused by faults, but can be caused by the conditions that a car thinks it is facing.
- And finally, as with a lot of problems that mechanics face when confronted by a car that is not working as expected, it is important to check all of the basics.



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