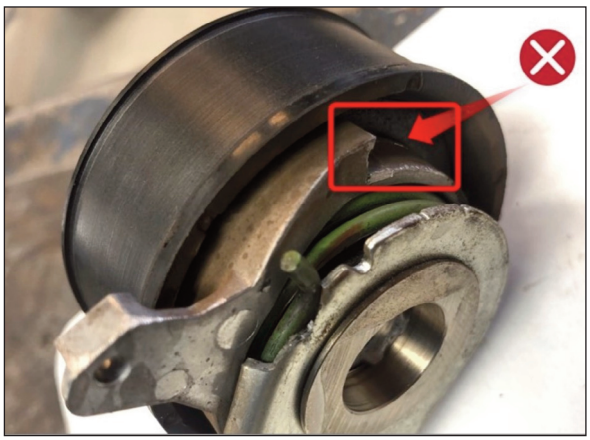

Tim Stock

Digging a little deeper on a poorly running Transit Connect

The customer complaint was of reduced power and MAF sensor codes in a Transit Connect with a 1.5 TDCi engine (XWGA). A slight engine rough idle quality and reduced performance were confirmed. After clearing the fault code (P2279) it can take up to 2 weeks driving for the fault to return.


A damaged tensioner is a known fault, but in this case it did not trigger timing correlation codes

The usual diagnostics for a MAF sensor fault would begin with checking the MAF data and the system for intake air leaks. Then DPF pressure data and boost pressure checks would be made. It may possibly include using the MAF data and confirming with a volumetric calculation to confirm and discrepancy in the air consumption.

All of these tests were performed and passed with no errors.

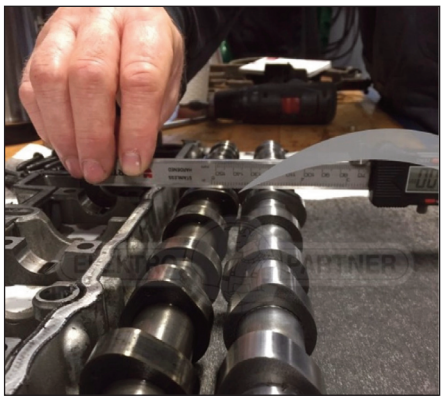
So a new MAF sensor was fitted, codes cleared and adaptions performed, The customer ran the vehicle until the code returned.

After investigating the fault in depth, a known issue came to light. A failed timing belt tensioner is a known issue for recorded MAF codes. A small piece breaks away from the tensioner and the belt becomes extremely loose. Unusually, no timing correlation codes were logged at any time.

After a replacement timing belt kit was fitted, the error code never returned. And engine performance was improved.

This time the customer was lucky, but when the belt has an issue there is the possibility of shifting the cam lobes on these engines. The camshafts are constructed with lobes that are pressed into position on the shaft, any piston to valve contact can move the valve timing on individual cylinders. This can also have an effect on MAF readings.

In this instance, it would be useful to analyse the in cylinder pressure waveform to determine if the valve opening and closing events are as expected.


Lobes are pressed into position on the shaft, any piston to valve contact can move the valve timing

Technical Bulletins and images provided by AutoFrontal.