

FOR FAILURE



work on the drive system completed for a second time, the vehicle was signed off. Unfortunately, that was not the end of this particular VW Transporter tale.

THIRD TIME UNLUCKY

A short time later, the vehicle was returned with a 'blown' engine. The garage was facing yet another repair bill — and some embarrassment! Was the second diagnosis incorrect? No, it was just incomplete!

Nobody had asked why the tensioner had failed. Under normal circumstances, automatic tensioners move in order to make small adjustments to the operating tension of the belt. The belt must have been placing too great a demand on the tensioner, which means it was running either too tight or too slack. In either case, the automatic tensioner would have eventually been unable to cope with the additional stress. Something had to be causing that.

Once again, the injection pump timing and valve timing were checked and found to be incorrect. Marks on the tensioner stops suggested that

once more, the tensioner was operating outside its set parameters. Attention switched to the injection pump, which was removed and sent away for a thorough investigation. No fault was found, but the report suggested that a check of the crankshaft pulley would be worthwhile.

THE CAUSE

The crankshaft pulley was removed for inspection and it immediately became clear that the retaining-key had sheared. This had allowed the crankshaft pulley to move freely on the crankshaft. It was this that had caused the tensioner to fail, produced problems for the belt and ultimately, produced the running and smoking problems with the engine.

THE MORAL

There is a lesson here for garages about the value of a clear inspection procedure and the need for a diagnostic approach to drive system problems. Had the technician been guided by a set of procedures, a thorough inspection for wear would have been made as a matter

of course. The associated metal parts would have been examined and the key indicator — the damaged tensioner — would have been revealed at a very early stage. In accordance with training received in the associated diagnostic routine, the technician would then have asked the question, 'Why did the tensioner fail?'

It was not an easy cause to identify and it would have been a very smart call. Crankshaft retaining-keys do not shear very often. However, the expert help could have been called in much earlier and a lot of time, effort, expense, inconvenience and embarrassment could have been saved.

A FEW WORDS OF WISDOM

The only way to be sure of a uniform standard of workmanship is to provide technicians with guidance about what is expected. Where a drive system is concerned, Gates advises that all associated system parts should be inspected for wear and that technicians should be trained to diagnose the reasons for premature failure. Gates provides a free training programme in association with its distributors. It also recommends that all metal parts should be replaced at the same time as the timing belt and that the vehicle manufacturer's most up-to-date replacement procedure should always be checked in case of amendment.

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- For more information on Gates timing belts and tensioning equipment circle readerlink 061