

RIGHT

A fourth point to note is that it should never be twisted — something that, once raised, helped to explode yet another myth at a more recent seminar.

TWIST AND OUT

In the early days of timing belt technology, a belt might run from crankshaft to camshaft with a long span and just a single tensioner. It seems that a “rule of thumb” emerged which suggested that, if the installed belt could be twisted through 90°, the correct tension had been achieved.

While some early technicians might have got away with such practices, the modern day technician cannot. Modern drive systems are much more complex and the belts are manufactured from different compounds and materials, have different weights, masses, widths and span lengths.

“Twisting a belt is unsafe from two perspectives. The twist might well have compromised the tensile strength of the belt, while the tension of the belt is almost certainly outside a very narrow margin for error,” says Andrew Vaux.

That’s why Gates has introduced its sonic tension tester, the STT-1. Sonic tension testers measure tension based on known information about each belt.

They can correctly determine the precise tension of a particular belt for a particular engine in a particular vehicle model. Consequently, the STT-1 can only be used to measure the tension of a belt that has been manufactured by Gates.

NO SHORT CUTS

At the heart of many of the misconceptions concerning installation procedures are misunderstandings about timing belt design and characteristics. It’s far from just a fan belt with teeth. Its operating tension must be precise, not approximated and consequently, there are no short cuts to accurate tension setting.

The following theory was raised at a timing belt technology seminar earlier this year. It was suggested that a technician who first cut the worn timing belt down the centre could then remove the first section, push the new belt into place and therefore — after removing the second section — save time because the correct operating tension of the timing belt had been retained.

“This is incorrect for two reasons,” points out Andrew Vaux. “First of all, the installation tension and the

operating tensions of a belt are not the same.

Secondly, no alignment of the belt in the drive system has taken place. That would lead to mismeshing of the belt and pulleys, premature belt failure and a reduction in the duty cycle.”

The use of a Multi-Lock timing belt tool in this case saves effort and makes it possible to lock the camshaft sprockets into position. This allows the old belt to be removed safely, easily and completely, while the replacement belt can be fitted correctly and according to the manufacturer’s recommendations.

“It’s another case where the technician should always make sure that the very latest fitting data is being consulted,” adds Andrew Vaux.



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