

cam belt clinic

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THE BIGGGER

When the evidence pointed to one problem with a timing belt, but remedial action failed to prevent a premature belt failure, it was time to call in the experts. Gates considers the bigger picture.

CASE STUDY I

Vehicle: Ford Escort
Model: RS Turbo

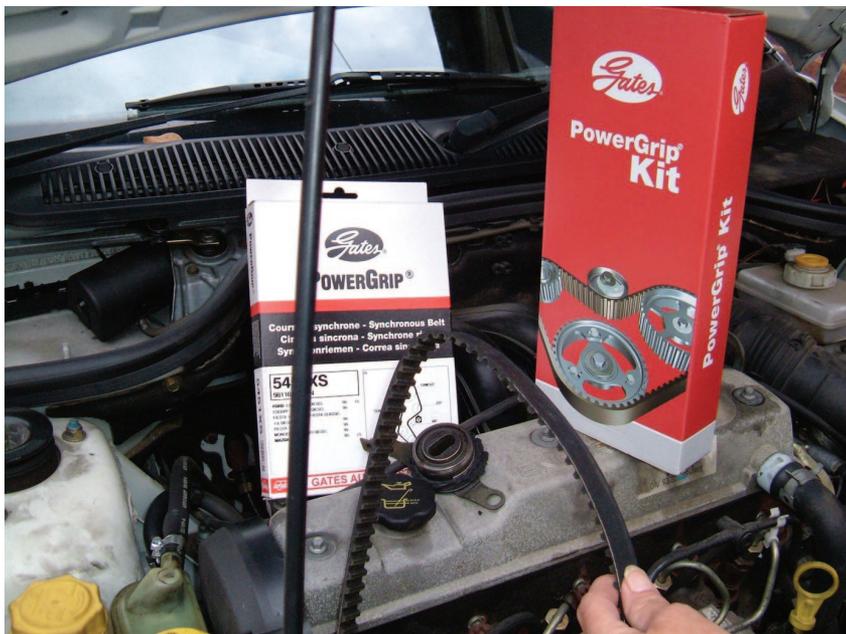
Most mechanics understand the need for a clean drive system. It is critical. It's a necessity so that the timing belt can complete its full duty cycle without compromise. Contamination of the drive by a 'foreign substance or foreign body' is always bad news. It causes problems that may at first seem inconvenient as far as the motorist is concerned, but may later lead to devastating consequences — first for the timing belt and then the engine itself.

Dirt, oil, water, or even broken parts from the drive system itself are all potential sources of contamination. So, as part of a regular and responsible preventive maintenance programme, Gates recommends that drive systems should be inspected whenever vehicles enter the workshop.

Sometimes, the cause of the contamination is easy to spot. At other times, there is confusion. Identifying the source of the trouble might not be so easy, as a recent case in North Yorkshire was to prove.

BODY OF EVIDENCE

As part of a preventive maintenance programme, the mechanic at the garage in question removed the cover to the main drive system on a 1985 Ford Escort RS Turbo. The evidence of contamination inside the drive was



unequivocal. There was a whitish residue clearly evident across a large surface area of the timing belt and throughout the drive system itself.

THE CAUSE APPEARED OBVIOUS

The drive system cover was not in poor condition, but it wasn't in pristine condition either. It was just possible that something had entered the drive system. Tyres regularly churn up foreign bodies from the road surfaces and on occasion, if the cover is damaged, broken or has been poorly fitted, they can find their way into the drive system. Stone chips are a good and relevant example of this. In such cases, the combination of the speed of the drive, the tension of the

belt and the opportunity to make regular high-speed impacts with the drive cover, the engine block or other drive system components can contribute to the break-up and eventual destruction of the foreign body. It's rather like the action of a grinding wheel inside a mill.

Depending upon the material involved and the length of time spent inside, it's possible that the only remaining evidence is the ground down remains of the object. Like the action of a millstone, all that remains from before may be a powdery substance.

TIME FOR A CHANGE

The mechanic had correctly identified contamination in the drive and assumed this was due to ingress