LOCATIONAL A

The reconstruction of an installation procedure resolves a short running timing belt mystery after two similar incidents less than 100 miles apart.

A seized tensioner in the drive system on a 1.9 TD Renault Megane (F8Q engine) was the key suspect in the premature failure of a timing belt that had been fitted by an installer in the North West of England. Intrigued by the similarity to a troublesome — and as yet unresolved — case just across the Pennines in West Yorkshire, the Gates inspector was pleased to be given the opportunity to give an opinion at the scene.

The investigation centred upon a tensioner that had apparently seized and seemed to be an obvious cause of premature timing belt failure in each case. The vital question in both incidents was, why?

CORRECT PROCEDURE

On arrival at the Lancashire-based garage, the broken belt and metalwork had already been removed from the drive system. Although this made a retrospective diagnosis more difficult, enough evidence remained in the drive system to resolve both cases — with surprising results for both the inspector and the technicians involved at each location.

In each case, the technician involved had considerable experience in replacing timing belts. For each scheduled change, the technician had chosen, correctly, to install a timing belt kit. The combination of a new belt and all new metal parts ensures that all of the components have the capability of running safely to the next full duty cycle that had been set by the vehicle manufacturer.

BLUE CLUE

A more detailed examination of the guide pulley was possible in the second incident, as in the previous incident, intense heat had been generated as a result of the seizure of the tensioner. The consequent heat caused by the friction had been transferred from the belt to the outside edge of the pulley, which in turn caused the grease to melt. As a result, the pulley collapsed and the tension was lost, with disastrous consequences for the engine.

Closer examination of the surviving pulley on the second vehicle suggested that a similar pattern of behaviour had been in progress. The blue tint around the outside edges of the pulley is entirely consistent with problems arising from a seized tensioner. However, the condition of the tensioner itself was

Fig 1. Top image: A new backplate. Bottom image: 'Scoring' on backplate. Note the crescent markings at the top of the flange.

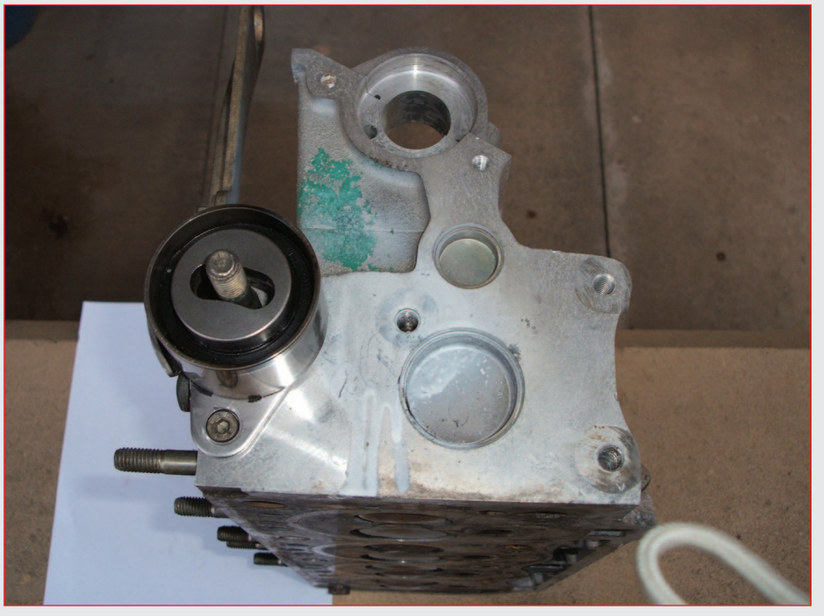

Fig 2. Tensioner is fitted securely, over the stud below the tensioner, in the correct position.