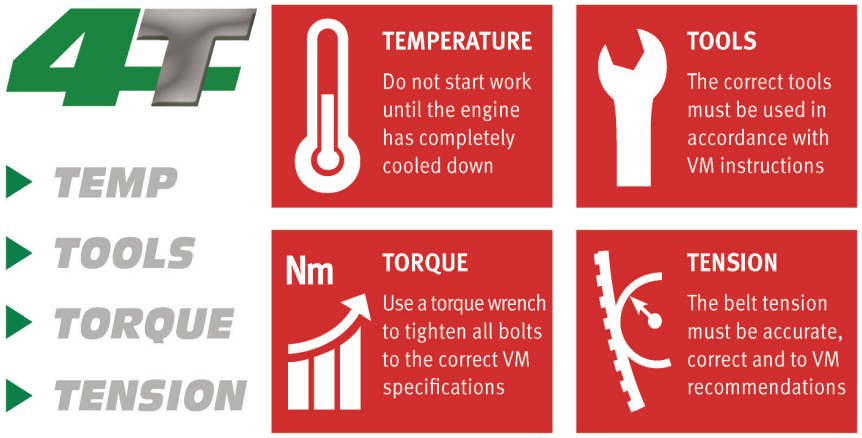
Timing Belt Servicing

Tim Adams, Schaeffler

4T Best Practice

Schaeffler is urging all technicians to follow its '4T' guidelines during the service and installation of belt systems and components. 4T was created by Schaeffler's team of REPXPERTs in a bid to boost service and installation best practice, helping to avoid fitting errors that can lead to premature belt failure.



When it comes to timing belt fitting, there are 4 Ts that should be kept in mind to avoid possible premature belt failure:

Temperature: do not start work until the engine has completely cooled down

Tools: the correct tools must be used in accordance with vehicle manufacturer (VM) instructions

Torque: use a torque wrench to tighten all bolts to the correct VM specifications

Tension: the belt tension must be accurate, correct and to VM recommendations

INA belt system specialist, Tim Adams, said: "We are not trying to teach mechanics how to suck eggs, but it is amazing how many problems can be created by not following these simple rules in the workshop.

"4T is easy to remember, and adhering to its principles will help to prevent fitting errors, saving time, effort and money for both the garage and its customers."

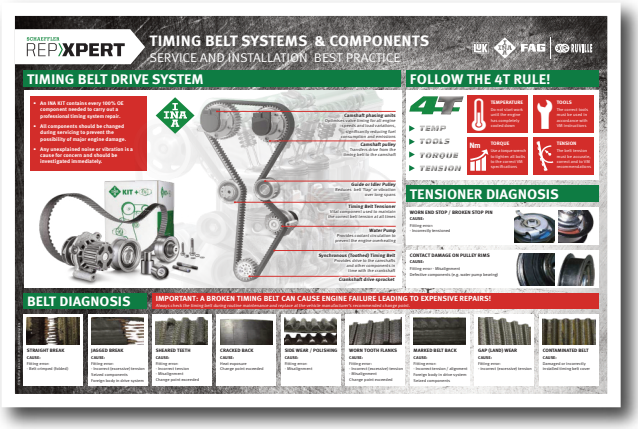
Investigate and repair

If drivers notice unexplained noises or vibrations when driving, the cause should be investigated by a technician immediately. If a timing belt system replacement is required, Schaeffler and VMs recommend that all components need to be changed at the same time to reduce the risk of major engine damage.

By using the INA range of Timing Belt KITs and KIT+, technicians will save time by having everything they need for a professional repair in just one box, with the KIT+ range including the water pump for belt driven applications.

Belt and tensioner diagnosis

A broken timing belt and/or tensioner can cause engine failure, which is why it is imperative that technicians check the system for wear during a routine service, and always replace it at the VM's recommended change point.



Schaeffler's 4T poster contains more details about belt and tensioner diagnosis

Diagnosing what causes a timing belt to break is not straight forward, but common reasons for failure can usually be classified:

Straight break – caused by the belt 'crimping' (usually a fitting or handling error)

Jagged break – caused by incorrect/excessive tension (fitting error) or a foreign body entering the drive system

Sheared teeth – caused by incorrect tension and misalignment (fitting error), or the recommended change point has been exceeded

Cracked back – caused by heat exposure and/or change point exceeded

Side wear/polishing – caused by misalignment (fitting error)

Worn teeth flanks – caused by incorrect/excessive tension and misalignment (fitting error), and/or exceeding the change point

Marked belt back – caused by incorrect tension and alignment (fitting error) or a foreign body entering the drive system

Gap (land) wear – caused by incorrect/excessive tension (fitting error)

Contaminated belt (grease/oil) – caused by other defective components, damage or an incorrectly installed timing belt cover

Signs of a broken tensioner include the following:

Worn end stop/broken stop pin – caused by an incorrect tension (fitting error)

Contact damage on pulley rims – caused by misalignment (fitting error) and defective components, such as water pump bearing

Find more information on fitting instructions can be found on the REPXPERT garage portal, www.repxpert.co.uk, or call the REPXPERT technical hotline on +44 1432 264 264.