Torsional vibration is often a concern in power transmission systems using rotating shafts. The power impulses of the engine result in torsional vibration in the crankshaft, which as a result starts twisting back and forth at a high frequency. This can cause the crankshaft to break and leads to increased wear of the components that are being driven by it: vibration of the belt between the pulleys creates belt wear and adds stress/strain on the tensioner and the other accessories.
The crankshaft torsional vibration damper, a device which is mounted on the front end of the engine’s crankshaft, is designed to reduce this twisting motion, therefore increasing engine component life and minimising crankshaft failure.

**DriveAlign® torsional vibration damper features**

The torsional vibration damper positively affects the performance of all components in the accessory belt drive system.

- Prevents failure of the crankshaft by fatigue
- Decreases wear and tear on the belt, tensioner and other components in the driven assembly
- Improves noise, vibration and harshness (NVH) characteristics, and therefore increases the comfort of vehicle drivers and their passengers
- As an OE supplier Gates offers a wide range of high-quality dampers to the aftermarket

Torsional vibration dampers are vital in keeping the crankshaft and engine working properly, so you need replacement products of the highest quality. As a complete system supplier, Gates offers you a wide range of OE equivalent DriveAlign® torsional vibration dampers that fit the application perfectly and cover all the major models in the market.

After a certain period of time, the harsh working conditions will inevitably start affecting the dampening device as well. The torsional vibration damper can break; deformation, wear and hardening can occur; the rubber can loosen, crack, get stuck between the pulleys or wear out; the outer ring can start slipping and even separate from the rest, or the damper can come off your engine completely!

A torsional vibration damper that is old and worn out, can not properly damp vibrations from the drive shaft. If the vibration is not controlled, the crankshaft can break and the accessories can be compromised. To ensure a problem-free operation of the accessory belt drive system, Gates recommends that you always check the torsional vibration damper when replacing a multi-ribbed belt. When engine problems occur people usually assume the belt is the problem, while in fact a damaged torsional vibration damper may be the real cause. Replacement is required when the dampening device is no longer able to provide reduction of vibration due to wear.

Application data on the Gates DriveAlign® torsional vibration dampers can be found on TecDoc and online at [www.gatesautocat.com](http://www.gatesautocat.com).