



# Fleet and Heavy Duty TECHTIPS



## Selecting the best belt tensioner

### Will Misalignment Decrease Service Life?

Next to contamination, one of the major causes of rough belt tensioner operation is misalignment.

Gates Corporation engineers say misalignment results from excessive wear at the point where the tensioner arm bushing rotates inside the base pivot, or spring housing, bushing. The hollow base pivot bushing enlarges so that it no longer fits snugly on to the tensioner arm bushing. This wear eventually leads to tensioner vibration, misalignment, and more frequent replacement of the belt and other accessory drive components.

Unfortunately, there is no preventive maintenance fix - the wear results from the design of the tensioner, says Gates.

The flat spring tensioner system is more susceptible to wear for several reasons.

First, its construction consists of a steel tensioner arm bushing and an aluminum base pivot bushing. The two dissimilar

metals create friction and wear as the tensioner arm oscillates.

Second, because of the manufacturing methods, the pivot bushing may not mate properly. When there is excessive "play" between the two bearing surfaces, wear accelerates.

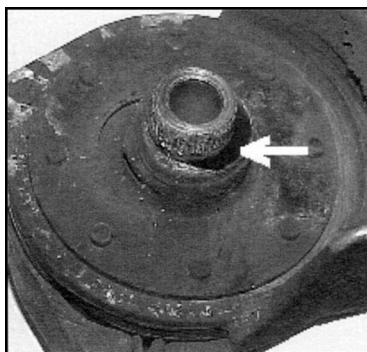
Round spring tensioners, however, have several design features that eliminate misalignment and wear.

First, the round spring tensioner bushings have approximately 40 percent more surface area. This larger contact area reduces pressure, dissipates the load and greatly reduces wear.

Second, both bushings of the round spring tensioner are made of precision cast aluminum. The two similar metals rotate smoothly, without friction, and therefore, do not wear.

Gates DriveAlign tensioners feature the round spring system to reduce component wear and increase the service life of the entire accessory belt drive system.

*Improper wear of the bearing shafts of a flat spring tensioner creates gaps (arrow) that increase vibration and reduce service life.*



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