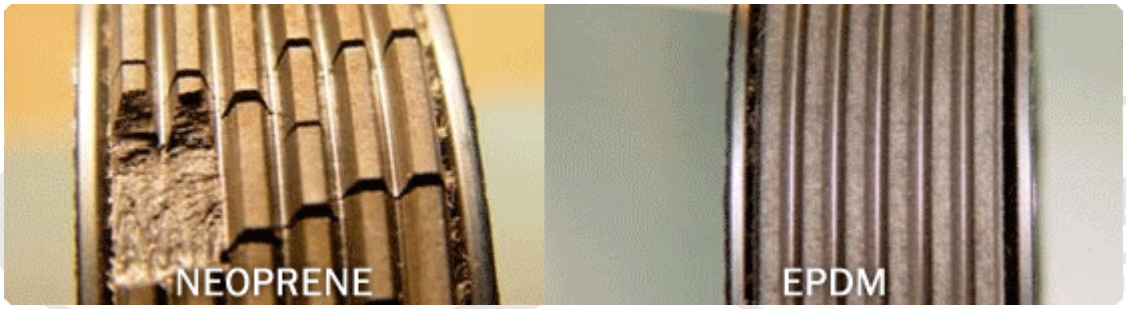
TECH TIPS

Belts and Belt Tension

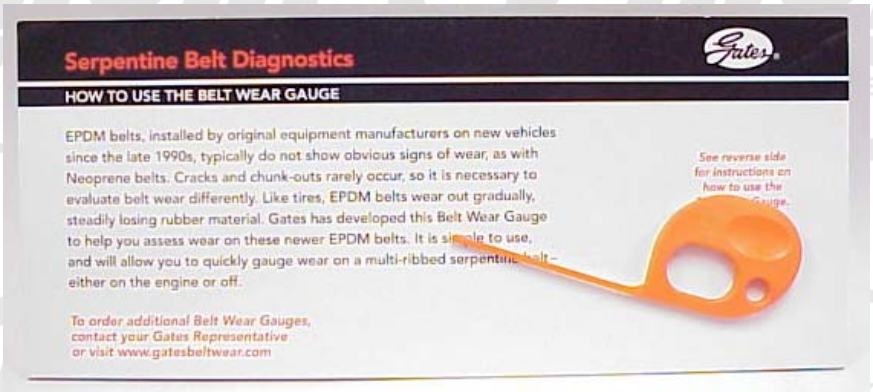
The alternator and battery are part of a complete system, and if one part is not working then other parts have to compensate, and in extreme causes result in catastophic failure. Often overlooked are the drive belt and the belt tension.

Gates has kindly provided details regarding the newer belts. Since the 1990's the OE manufacutres have changed the belt material away from neoprene to ethelyne propylene diene monomer… EDPM. The new EPDM belts do not crack and breakdown overtime as the neoprene ones did (see picture below). The grooves on the EPDM belts



Courtesy of Gates Corporation

simply wear away from the pulley. To the technician this poses a problem, how to determine when to replace the belt? *Gates* has a small simple tool that allows the belt to be checked off or on the vehicle (with the engine not running of course!). Contact your Gates Representative or visit http://www.gatesprograms.com/beltwear/beltwear.



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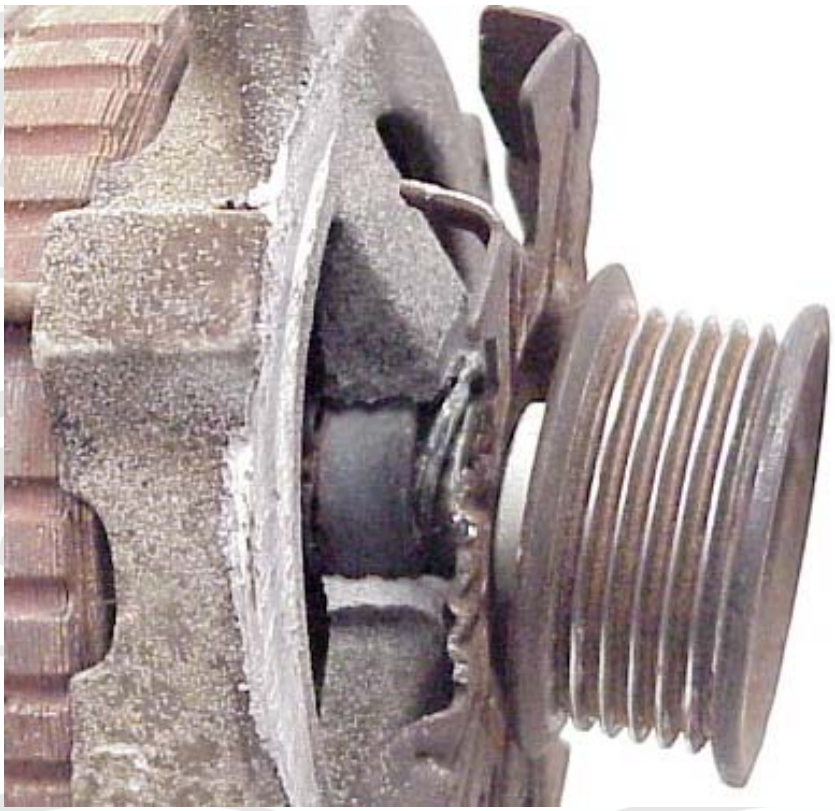
In addition to belt wear the belt tension is critical and must be checked according to the manufacture's specifications. A belt with too much tension can destroy the alternator, air conditioner compressor, water pump and any other device drive by the belt as the load capacity may be exceeded for the devices. The same is true of a belt with insufficient tension as it will slip and grab over and over and the resulting shock load damages components in the belt system. If there is an automatic belt tensioner it must be considered as wear item that does require replacement over time. The tensioner should be checked with the engine and accessories on and if the arm can visibly be seen moving the tensioner requires replacement. Below is a picture of the resulting damage when the belt tensioner is not changed when required.



Lastly, the pulleys and bearing must be checked on items like the belt tentioner or idler pulleys to ensure that they are turning freely and spin smoothly and that there is not excessive wear on the pulley surfaces.