

Lean Belt Drive Systems are here!

For several years now I have been giving technical seminars at both ERA and APRA shows worldwide, in an effort to educate the alternator rebuilding industry with respect to why the Litens Overrunning Alternator Decoupler is needed. One of the topics that I touch on is “Lean Belt Drive Systems”. This term refers to belt drive systems that have been completely optimized by the OEMs for fuel economy as well as cost.

Background: When a Litens OAD has been designed into a belt system by an OEM it allows them to use smaller tensioners (see photo), narrower belts and pulleys, low idle rpm and extremely low belt tension. All of these fuel economy and cost-down strategies can be achieved without any adverse effects for the customer. Quiet operation throughout the entire rpm range, as well as much smoother vibration control at or below idle enhances the customer’s driving experience. Reductions in component cost and increased fuel economy also keep the OEMs happy. A mutual benefit is that the vehicle actually has a system durability improvement which lowers the warranty costs for the OEMs and reduces operating costs for the owner.

When belt drive system design tension is extremely low, there is much less hub load on all of the bearings within the belt drive system. This means the water pump, power steering pump, tensioner pulley, routing idlers and of course the alternator bearings all last much longer and because they are under less tension they require less energy to operate. If you were to try to lower the belt system tension without using a Litens OAD, you would run into many problems. Such problems would include, excessive belt span flutter, tensioners wearing out or even breaking, belts falling off, excessive belt wear, as well as unwanted noise (belt slip) and vibrations that can be heard and felt by the driver.

So as you can see using the correct OE replacement pulley technology is very important. There are several alternator pulley companies that try to cross their part numbers to Litens claiming they perform as well as an original Litens OAD. This is unfortunately very confusing for the rebuilder because although these less expensive alternatives may “fit” onto the alternator they will never “function” the same. Some of these parts may have the overrun function but do not have the isolation function (internal spring), and some have the isolation function but do not have the necessary amount of overrun function. Only the Litens OAD has both of these functions. Both of these functions were chosen by the OEM for a reason and because Litens’ OAD technology is covered by numerous international patents, there is no other possible substitution on the market today that can work as well as the Litens OAD.

Remember, whenever rebuilding an alternator that came factory equipped with a Litens OAD, you should always replace the OAD with a new one. Your reputation as a quality rebuilder is at stake!

