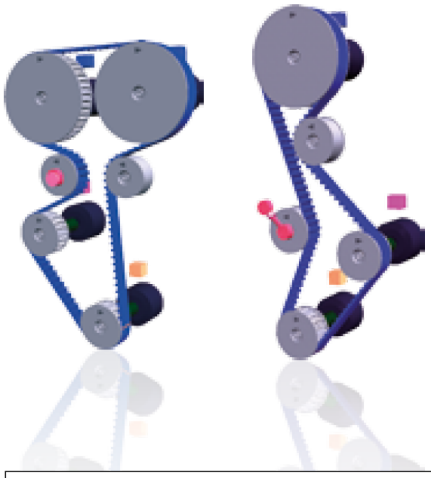
PRODUCT BRIEF

GATES ECO SPROCKET TECHNOLOGY

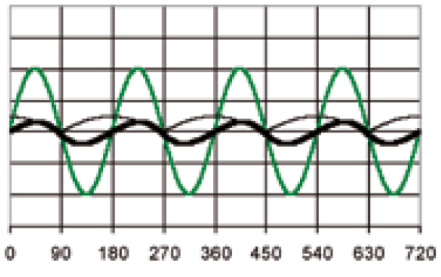
Gates have introduced an interesting alternative to their product portfolio for Synchronous Belt Drive Systems: the ECO Sprocket. This technology is a variation on a theme which has been widely known in the belt and chain industries for many years. In its simplest form, an appropriately phased alternating force is introduced in to the drive system by the ECO sprocket. By design, this force can be used to counteract harmful belt vibrations and improve NVH emissions which are produced by components such as the camshaft in petrol and diesel engines and, additionally, by the fuel injection pump in diesel engine applications.



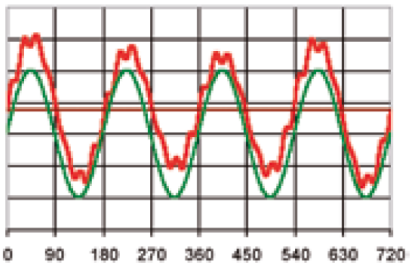
ECO SPROCKET DESIGN CAN BE ALTERED DEPENDENT ON VARIOUS DRIVE FACTORS:

- The torque characteristic
- The critical orders derived from the torque characteristics
- The stiffness and damping in the system due to the belt characteristics
- The stiffness and damping in the system due to the drive tensioner characteristic
- The location of the sprocket within the system
- The number of cylinders in the engine

Four Stroke Engine Load Characteristic



Eco Sprocket Phasing



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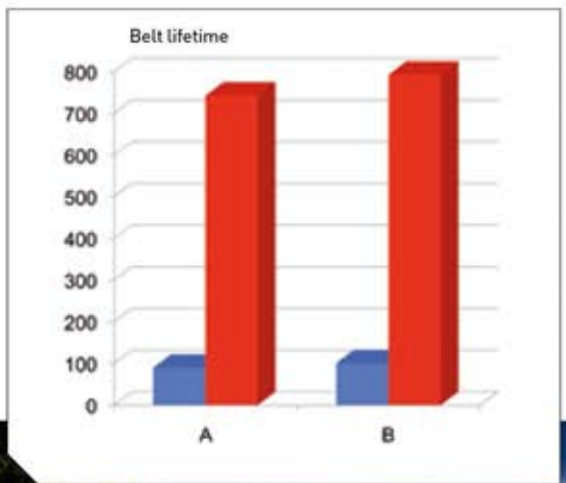
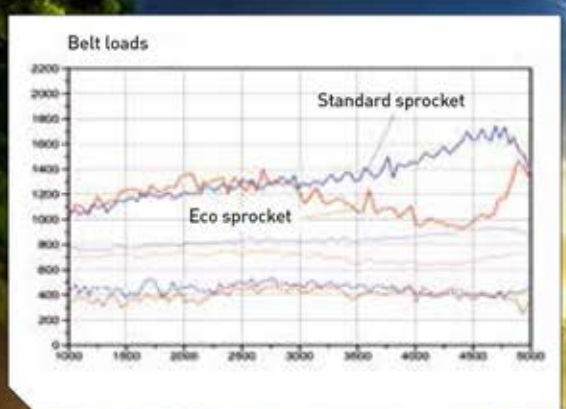


BENEFITS

- Up to 45% reduction in belt forces
- Up to 10 times longer belt lifetime

LEADING TO

- Increased durability for all components in the drive
- Increased drive robustness
- Improved drive NVH characteristic
- Potential drive lifetime exceeding customer requirements
- Potential for reduced drive package



For more information:
Asia: InfoAOEAsia@gates.com
Europe: InfoAOEEU@gates.com
North America: InfoAOENA@gates.com

Gates.com