

Transmission Design That Eliminates Gradual System Problems in Gearboxes

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Abstract : Reducers and transmission systems are power and speed transfer tools that have been used for many years in the technology world and in all engineering fields. Since today's transmissions have a threaded tap system, torque interruption occurs during tap change. besides, breakdown and manufacturing costs are high. Another problem is the limited torque and rpm setting in stepped gearbox systems. In this study, a new type of transmission system is designed to solve these problems. This new type of transmission system has been called the Continuously Variable Pulley. The most important feature of the transmission system in the study is that it can be adjusted Revolutions Per Minute-wise and torque-wise at the millimeter (precision) adjustment level. In order to make adjustments at this level, an adjustable pulley with the help of hydraulic piston is designed. The efficiency of the designed transmission system is 97 percent, the efficiency of today's transmissions is in the range of 85-95 percent. examined at the analysis and calculations, it is seen that the designed system gives realistic results and can be compared with today's transmissions and reducers. Therefore, this new type of transmission has been proven to be usable in production areas and the world of technology.

Keywords : gearbox, reducer, transmission, torque

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