A STUDY TO STANDARDIZE THE KINEMATIC DESIGN PROCEDURE FOR MULTI-SPEED GEARBOX

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ABSTRACT

Gearbox is a type of mechanism which is applied to transmit motion in a close space. Multi-speed gearbox is a set of mechanism which can be arranged to fulfill the users need. It is widely applied in automobile and machine tools.

The aim of this project is to study the feasibility for standardizing the procedure for kinematic design for multi-speed gearbox. The objectives of this study are:

1. To identify the general procedure for gearbox design.
2. To identify the parameters in gear design.

There are too many possible approaches in kinematic gearbox design. In order to limit the scope of study, an optimization method has been applied. By using synthesis approach, in which the design was done from the final requirement, it was found that the kinematic design for gearbox can be standardized.

Finally, a computer program has been developed to simplify the design procedure and it could help the designer to design and decide the gear arrangement faster.

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