MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR

Department of Mechanical Engineering

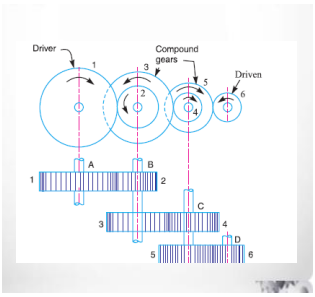
REPORT OF SKILL BASED MINI PROJECT

THEORY OF MACHINES -II (120411)

Title of Project: GEAR TRAIN (compound)

Introduction: Compound gear train is a kind of gear train in which compound gears are mounted on one or more intermediate shafts. The compound gear consists of two or more gears of different sizes fixed together to rotate at the same speed.

Description of Model In a compound train of gears, as shown in Fig., the gear 1 is the driving gear mounted on shaft A, 2M
gears 2 and 3 are compound gears which are mounted on shaft B. The gears 4 and 5 are also compound gears which are mounted on shaft C and the gear 6 is the driven gear mounted on shaft D.
Let N1 = Speed of driving gear 1,
T1 = Number of teeth on driving gear 1,
N2 ,N3 ..., N6 = Speed of respective gears in r.p.m., and
T2 ,T3..., T6 = Number of teeth on respective gears.
Since gear 1 is in mesh with gear 2, therefore its speed ratio is



Applications of Model

1. Automobile gear box
3. Clocks/ watches
2. Lathe machines
4. Electro mechanical meter

What I Learned Through Project:

It is easy to obtain a higher gear ratio. It uses a smaller size of gears thus it is more compact than the simple gear train. The compound gear train can give higher speed reduction with less centre distance between input and output shafts.

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