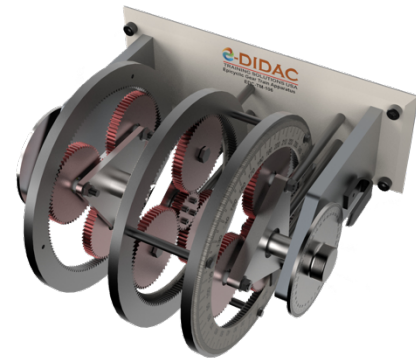


## Epicyclic Gear Train Apparatus (Multi-stage) (EDC-TM-106)

### EXPERIMENTAL DATA:

- Calculate and experimentally observe the angular velocity ratios of gear trains
- Experimentally obtain the gear ratios, efficiencies and velocity ratios can be calculated
- Calculate the efficiencies of gear trains and draw efficiency curve



### DESCRIPTION:

This apparatus consists of three standard epicyclic gear trains. Each gear train consists of a sun gear in the centre, three planet gears, a planet linkage and an internal or ring gear. The sun gear, ring gear and planet carrier all rotate about the same axis. The planet gears are mounted on shafts that turn in planet carrier and meshes with both the sun gear and the ring gear. Protractors are attached to the input and output shaft as well as individual step so that torque and velocity ratios may be determined.

First stage gear train takes input from the sun gear and reduces the ratio via planet gears to the ring gear while the carrier remains stationary. Second stage gear train reverses the input of first stage and transfers the output to third stage. In the third stage, input is given via the rotation of carrier while the ring gear remains stationary and the sun gear rotates as the output ratio.

### TECHNICAL SPECIFICATIONS:

- Sun Gear Teeth: 30
- Planet Gear Teeth: 60
- Ring Gear Teeth: 150
- Module 1.5

### WEIGHT AND DIMENSIONS:

- L x W x H (mm) : 500 x 200 x 150
- Weight (approx) : 4kgs

### SCOPE OF DELIVERY:

- 1 x EDC-TM-106 Assembly
- 4 x Spur Gears
- 3 x Gear Knobs
- Instruction manual

### RELATED LAWS:

- Automotive
- Epicyclic Gears
- Sun, planet, Annulus Gears
- Meshing
- Ratios
- Torque
- Efficiency
- Mechanical Advantage
- Load and Effort
- Machine Performance

