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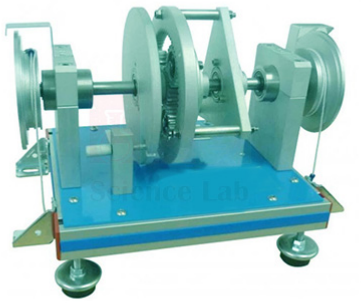
Product Name :

Gear Trainer Demonstrator

Product Code :

SLE/MCE/27



Description :

Gear Trainer Demonstrator (Product Code: SLE/MCE/27) is a sliding mesh gearbox demonstrator used to teach how gear ratios change speed and torque through a transmission, in automotive and theory of machines laboratories. It represents a typical three forward ratio and reverse sliding mesh box, with protractor pulleys on the input and output shafts so students can determine and verify velocity and torque ratios. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer, at its own factory in Ambala, India.

Key Details

Parameter	Detail
Gearbox type	Sliding mesh
Ratios	Three forward ratios and reverse
Gears	Gear wheels of different sizes
Measurement	Pulleys fitted with protractors on the input and output shafts
Experiments	Determination and verification of velocity ratio and torque ratio
Use	Classroom demonstrations and student laboratory work
System expansion	Can be coupled to an Overdrive and Differential to represent a simple transmission system (these units are not listed as included)
Product code	SLE/MCE/27
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Gear Trainer Demonstrator Used For?

The sliding mesh box is seldom found on modern cars and survives mainly on heavy commercial vehicles, yet its layout is the one from which most modern gearboxes were developed. That makes it the clearest starting point for students of automobile engineering and machine design. With each ratio engaged in turn, the class turns the input pulley through a measured angle, reads the output rotation on the second protractor and works out the velocity ratio.

Applying known loads at the pulleys then lets students compare torque ratio with velocity ratio and discuss losses between them. Counting teeth to predict each ratio before measuring it is a good check, and the reverse gear shows how an extra gear changes the direction of output rotation. The demonstrator works equally well at the front of a lecture room or on a practical bench, which makes it versatile engineering lab equipment for technical institutes.

What to Specify When Ordering

- Number of demonstrators for lecture and practical use
- Whether you also need an Overdrive and Differential to build a simple transmission —
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OEM