

Mech01.exl
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BASIC MECHANICAL TRAINER KIT



FEATURES

- Compact and sturdy construction
- Covers basics of Mechanical Engineering
- Self contained system
- Incorporates standard industrial components

DESCRIPTION

This trainer kit consists of a Base Unit and four separate modules. In order to use any of the modules a base unit is required.

The Base Unit consists of,

- Single-Phase 0.25 HP, 1440 RPM Motor
- Adjustable Motor Base
- Manual Motor Starter Switch with Lock-Out/Tag-Out
- Aluminium Structure with Acrylic Cover with safety interlocks

The Modules are,

1. Pulley and Belt Drives Trainer Kit
2. Chain and Sprocket Drives Trainer Kit
3. Gears Trainer Kit
4. Bearing Trainer Kit

One or all of these kits can be ordered separately or in any combination however one base unit is a must in order to operate the modules.

PULLEY AND BELT DRIVES TRAINER KIT

In this trainer kit following topics covered,

- Identify Different Types of Belts like V Belt, Flat Belt, End-less Belt, Variable Speed Belt & Timing Belt
- Application of Different Type of Belts
- Selection of Belt Drive: Calculation based on HP Transfer and Driven and drive speed.
- Safety Procedure
- Alignment of Belt
- Belt Tightening and Removal
- Check Shaft Run-out
- Check Pulley Run out
- Bushing Installation & Removal

This Trainer Kit consists of,

- V Belt of three different types- A, B & C-2 nos each
- Flat Belt, 2" width
- End-less Belt, 1" width
- Variable Speed Belt
- Timing Belt
- Three different type of Pulleys, 2 nos. each
- Three different type of Double Groove Pulleys, 2 nos. each
- Timing Pulley, 2 nos.
- Pulley Idler
- Pulley Suitable for Flat Belt, 2 nos.
- Pulley Suitable for End-less Belt, 2 nos.
- Taper Bush & Bolts, Qty: 4 to 6 nos.
- Shaft of different diameter, 2 sets of 2 nos. each
- Pedestal Bearing with taper bore
- Flange type Pedestal Bearing with taper bore
- Variable Pulley Set
- Damaged Belts of various types
- Damaged Pulley

- Run-Out shaft
- Run-out Pulley
- Sheave and Belt Gauge

Tools and instruments

- 1 m scale
- Dial gauge with stand
- Depth Gauge
- Puppet dial
- V block-pair
- Parallel block pair
- Magnetic base
- Try square-hand end and ground
- Hand Held Tachometer (Contact type/ non-contact type)

CHAIN AND SPROCKET DRIVES TRAINER KIT

In this trainer kit following topics covered,

- Identify Different Types of Chain
- Application of Different Types of Chain
 - Selection of Chain Drive: Calculation based on HP Transfer and Driven and drive speed.
- Safety Procedure
- Alignment of Chain
- Use of Idler sprocket
- Tightening and Removal
- Check Shaft Run-out
- Check sprocket Run out
- Bushing Installation & Removal

This Trainer Kit consists of,

- Single strand Roller chain
- Duplex Roller chain
- Conveyor Chain: Extended pitch
- Conveyor Chain: PIV
- Leaf (or lifting) chain
- Silent chain
- Sprockets of different types, 2 nos.
- Idler Sprocket of two types
- Chain Puller
- Chain Breaker
- Damaged chain of various types



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- Damaged sprocket
- Run-Out shaft
- Run-out sprocket

GEAR TRAINER KIT

In this trainer kit following topics covered,

- Identify Different Types of Gears
- Teeth Description: Pitch, No. of teeth and diameter.
- Backlash
- Application Gears
- Gear Ratio and rpm
- Safety Procedure
- Alignment of Gears
- Use of Idler gear
- Check Shaft Run-out
- Check Gear Run-out

This Trainer Kit consists of,

- Gear: Spur, Helical, Bevel 1 no. each
- Gear: Worm and Worm wheel set, 1 set
- Shaft with pedestal bearing for each of above gear
- Teeth gauge Caliper
- Micrometer
- Damaged gear of various types
- Run-Out shaft
- Run-out gear
- Flat Belt

BEARING TRAINER KIT

In this trainer kit following topics covered,

- Identify Different Types of Bearing
- Identify Different Types of Bearing Housing
- Bearing Tolerances: Shrink fit, slide fit and press fit
- Safety Procedure

This Trainer Kit consists of,

- Bearings: Ball Bearing, Roller Bearing, Needle Roller Bearing, Taper Roller Bearing, Angular Contact Bearing, Bush Bearing, Thrust Bearing and Journal Bearing , 1 each
- Shaft for each bearing of different types
- Board for bearing mounting
- Bearing Puller
- Hammer

- Mallet
- Punch- Brass or Copper
- Damaged bearing of various types

DOCUMENTATION

Self -explanatory operating manuals are provided with each system. Detailed theory as well as practical exercises is also included in the manual.

OPTIONAL ADDITIONAL

1. Tool Kit: Consisting of Impact Ring (24 nos.), Sleeves (2 nos.), Impact Rings, Impact Sleeves, Dead Blow Hammer, 1 kg, Shaft Support Rings (10 nos.), Bearing Puller, Spindle Hexagon Head, Sliding Hammer displacement
2. Laser Pulley Alignment System
3. Induction Heater (For Bearing Trainer Kit)

SERVICES REQUIRED

1. Electric supply

DIMENSIONS

- 1000 mm (W) X 600 mm (B) X 1200 mm (H)

- (1) Since research and development is an on-going activity, the specifications mentioned herein are subject to change without notice
(2) Photographs are indicative only.

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