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PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Working Of Suspension & Steering Trainer | Torquemaster-26

Category: Automobile Engineering Lab Equipment · **Order Code:** TORQUEMASTER-26 · **Country of Origin:** India

Product Overview

Working Of Suspension & Steering Trainer Torquemaster-26 teaches alignment geometry and MacPherson strut suspension with rack and pinion steering operation. This Working Of Suspension & Steering Trainer features two movable turntables, a magnetic alignment gauge, and three manual frame adjustments for creating abnormal vehicle conditions. It includes sway bar with quick disconnect, adjustable tie-rods for toe specification, front disc brakes, and a custom plastic coil spring for safe classroom demonstration without electricity or external power.

View this product online: https://scienticoindia.com/product/working-of-suspension-steering-trainer-torquemaster-26/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Working Of Suspension & Steering Trainer Torquemaster-26 — Technical Specifications

Parameter	Value
Model	Torquemaster-26
Suspension System	MacPherson strut suspension
Steering System	Rack and pinion steering
Brake System	Front disc brakes
Drive Configuration	Front wheel drive vehicle
Measurement Tools	Two movable turntables and magnetic alignment measuring gauge
Adjustment Features	Three manual adjustment features for abnormal vehicle conditions
Spring Type	Custom plastic coil spring, non-weight supporting
Sway Bar	Quick disconnect feature for easy adjustment
Steering Control	Steering wheel identical to actual vehicle configuration
Tie-Rod Adjustment	Equipped with typical adjustment methods for toe specification
Power Requirements	None (no electricity, air, or hydraulics required)
Length x Width x Height (approx.)	1400 x 1200 x 1400 mm
Weight (approx.)	165 kg

Technical Data

Suspension System

Component	Detail
Suspension Type	MacPherson strut suspension
Spring	Custom plastic coil spring, non-weight supporting
Strut Design	Full range of motion visible at any angle
Sway Bar	Quick disconnect feature for service and adjustment

Steering System

Component	Detail
Steering Type	Rack and pinion steering
Steering Wheel	Identical to actual vehicle configuration
Tie-Rod Ends	Equipped with typical adjustment methods
Tie-Rod Adjustment	For toe specification changes and measurement

Measurement and Adjustment

Component	Detail
Turntables	Two movable turntables for wheel positioning
Alignment Gauge	Magnetic alignment measuring gauge
Adjustable Parameters	Caster, camber, and toe
Frame Adjustments	Three manual adjustment features
Abnormal Conditions	Can create uneven loading and worn spring simulation

Braking System

Component	Detail
Brake Type	Front disc brakes
Configuration	Typical front wheel drive vehicle brake setup

Key Features

Key Features

- **No Power Requirements:** Does not require electricity, air, or hydraulics
- **Classroom Use:** Can be used in classroom without vehicle on rack
- **Component Visibility:** Full range of motion of all suspension components visible at any angle
- **Alignment Adjustment:** Students can perform changes, measure, and observe results for caster, camber, and toe
- **Sway Bar Design:** Quick disconnect feature for easy service and adjustment
- **Spring Safety:** Custom plastic coil spring eliminates MacPherson spring pressure danger
- **Manual Adjustments:** Three frame adjustment features for abnormal vehicle condition simulation
- **Measurement Tools:** Two movable turntables and magnetic alignment measuring gauge included
- **Design Type:** Working Of Suspension & Steering Trainer for comprehensive alignment and component training

Experiments

- Study of MacPherson strut suspension operation and geometry
- Observation of suspension component motion at different angles
- Caster angle measurement and adjustment

- Camber angle measurement and adjustment
- Toe angle measurement and adjustment
- Study of rack and pinion steering linkage operation
- Tie-rod adjustment procedures and toe specification changes
- Sway bar and stabilizer bar function and disconnection procedures
- Front disc brake component identification and operation
- Simulation of abnormal vehicle conditions through frame adjustments
- Measurement of alignment angle changes using the magnetic gauge

Construction and Design

The Working Of Suspension & Steering Trainer Torquemaster-26 is a standalone trainer consisting of a typical front wheel drive vehicle configuration featuring a MacPherson strut suspension, rack and pinion steering, and front disc brakes. The MacPherson strut system uses a custom plastic coil spring that does not support any of the weight of the suspension system, eliminating the danger of spring pressures. All components necessary for correct operation, service of alignment angle adjustments, and component identification are included. The sway bar has a quick disconnect feature allowing students to disconnect it for easy and precise alignment adjustment procedures. The rack and pinion steering linkage is connected to a steering wheel identical to actual vehicle configuration, with tie-rod ends equipped with typical adjustment methods for toe specification changes. Two movable turntables and a magnetic alignment measuring gauge assist in observing actual measurement and changes in alignment angles. The trainer frame has three manual adjustment features allowing creation of abnormal vehicle conditions such as uneven front or rear loading and worn springs. The unit requires no electricity, air, or hydraulics.

Scope of Delivery

- MacPherson strut suspension trainer with two front wheels
- Rack and pinion steering system with steering wheel
- Front disc brake components
- Two movable turntables
- Magnetic alignment measuring gauge
- Sway bar with quick disconnect feature
- Frame with three manual adjustment features
- Tie-rod adjustment mechanisms

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q1: What does the Working Of Suspension & Steering Trainer Torquemaster-26 teach?
A: It teaches basic alignment geometry and the function of a MacPherson strut suspension system with rack and pinion steering, along with component identification and adjustment procedures.

Q2: Can this trainer be used in a classroom?
A: Yes, the trainer does not require electricity, air, or hydraulics and does not need a vehicle on a rack, making it suitable for classroom use.

Q3: What alignment angles can students adjust and measure?
A: Students can measure and adjust caster, camber, and toe angles using the magnetic alignment measuring gauge.

Q4: How is the MacPherson spring pressure danger eliminated?
A: The stock coil spring is replaced with a custom plastic coil spring that does not support any of the weight of the suspension system.

Q5: What are the dimensions and weight of the trainer?
A: The approximate dimensions are 1400 x 1200 x 1400 mm, with an approximate weight of 165 kg.

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