

Product Name : Turbo Diesel Engine Chassis Trainer with Front-Wheel Drive and Lighting System	Product Code : TechnicalLab0486
Description : The Turbo Diesel Engine Chassis Trainer with Front-Wheel Drive and Lighting System is a comprehensive automotive training system designed to demonstrate the construction, operation, and maintenance of a modern front-wheel-drive vehicle. The trainer features a fully sectioned vehicle chassis with a transversely mounted turbocharged diesel engine, allowing students to study the interaction of the powertrain, steering, suspension, braking, cooling, and electrical systems in a realistic educational environment. The chassis has been precision cut away to expose major mechanical assemblies, while professionally applied color coding highlights individual components, lubrication passages, hydraulic circuits, and cross-sectional areas. The trainer operates electrically at a reduced speed, enabling students to safely observe the movement of engine and transmission components during classroom demonstrations. An integrated automotive lighting system, controlled from a functional dashboard, demonstrates the operation of front and rear vehicle lighting circuits. The trainer also includes a complete hydraulic power steering system, front and rear suspension assemblies, braking systems, radiator, cooling fan, and drivetrain components, providing a complete understanding of modern automotive engineering. Mounted on a heavy-duty steel frame with industrial wheels, the trainer is suitable for engineering colleges, automotive training institutes, vocational education centres, and technical laboratories. Key Features • Fully operational front-wheel-drive chassis cutaway trainer • Transversely mounted turbocharged diesel engine •	

Functional automotive lighting system with dashboard controls

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Precision sectioned engine, transmission, and chassis assemblies

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Professionally color-coded mechanical and hydraulic systems

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Electrically driven for safe classroom demonstrations

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Reduced operating speed for detailed observation of moving components

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Heavy-duty steel stand with lockable wheels

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Chrome-plated and galvanized components for long service life

Technical Specifications

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Vehicle Configuration: Front-Wheel Drive (FWD)

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Engine Type: Turbocharged 4-Cylinder Diesel Engine

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Engine Displacement: 1,700 cc

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Fuel Injection System: Indirect Injection with Pre-Combustion Chamber

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Fuel Pump: Rotary Fuel Injection Pump

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Turbocharger: Turbocharger with Wastegate Valve

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Transmission: 5 Forward Speeds + 1 Reverse with Differential

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Steering System: Hydraulic Power Steering with Double-Jointed Steering Column

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Cooling System: Radiator with Electric Cooling Fan

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Front Brakes: Disc Brakes

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Rear Brakes: Drum Brakes

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Front Suspension: Independent Suspension with Oscillating Arms

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Rear Suspension: Independent Suspension with Coil Springs and Gas Shock Absorbers

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Lighting System: Front and Rear Vehicle Lighting Operated via Dashboard Controls

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Operation: Electrically Driven

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Power Supply: 230 V AC

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Mounting: Heavy-Duty Steel Stand with Wheels

Educational Experiments

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Turbo diesel engine operation

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Fuel injection and turbocharging principles

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Front-wheel-drive power transmission

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Gearbox and differential operation

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Hydraulic power steering system demonstration

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Cooling system and radiator operation

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Automotive lighting circuit analysis

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Front and rear suspension system study

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Brake system operation and maintenance

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Vehicle chassis construction and component identification

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Preventive maintenance and diagnostic procedures

Applications

-

Automotive Engineering Laboratories

-

Vehicle Maintenance Training

-

Diesel Engine Technology Education

-

Technical and Vocational Training

-

Automotive Electrical System Training

-

Mechanical Engineering Demonstrations

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Skill Development Centres

-

Research and Educational Laboratories

Industries Served

-

Automotive Engineering Colleges

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Technical Universities

-

Vocational Training Institutes

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Automotive Service Training Centres

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Vehicle Maintenance Workshops

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Industrial Training Centres

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Research and Development Laboratories

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Automotive Manufacturing Training Facilities

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