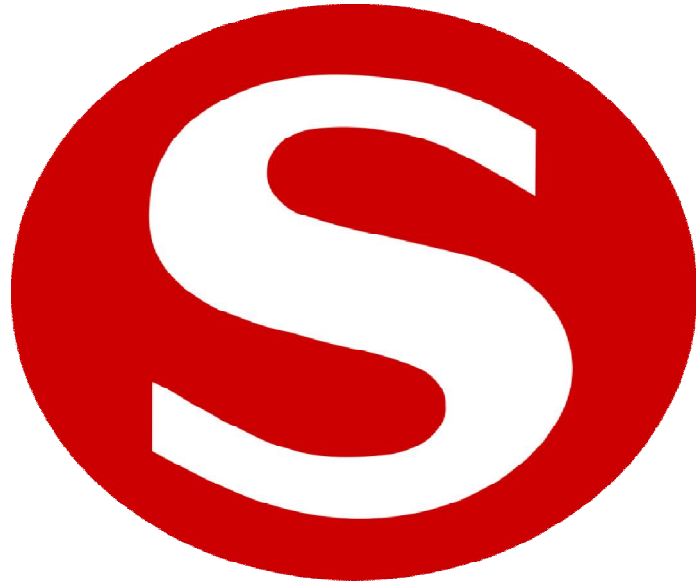


AUTOMOBILE



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**Education Training
Instrument**

INSTRUMENTS

Petrol Engine

Diesel Engine

Gear Box

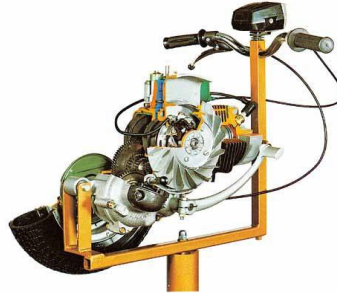
Transmission

Steering & Suspension

Brake System

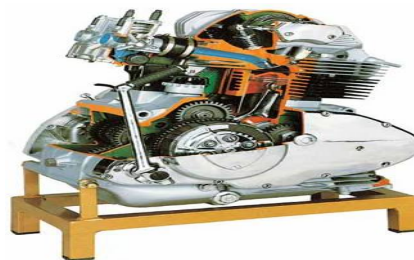
Petrol Engine

- **Motorcycle 2-stroke Petrol Engine – Vespa/Piaggio**



- **Main Technical Specifications:**
- Displacement: 125/150 cc
- Multiple-disc clutch
- Distribution by rotary valve
- Carburettor
- Gearbox: 3/4 forward speeds
- Other Specifications:
- Operated: Manually, through a crank handle
- Equipment Layout: On Stand with Wheels
- Dimensions: 80 x 80 x 60(h) cm
- Net Weight: 45 kg

- **Motorcycle Petrol Engine – Bullet**



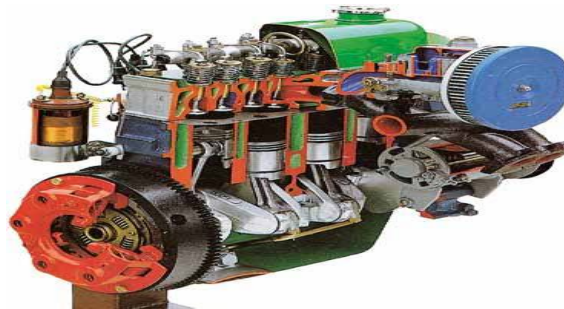
- **Main Technical Specifications:**
- 4 stroke engine; 2-cylinders
- Displacement: 350/500 cc
- Gearbox: 5 forward speeds
- Camshaft in the crankcase
- Point ignition
- Alternator
- Oil bath plate-clutch
- Air cooling
- Other Specifications:
- Operated: Manually, through a crank handle
- Equipment Layout: On Table Support
- Dimensions: 50 x 45 x 70(h) cm

- **2-cylinder Petrol Engine**



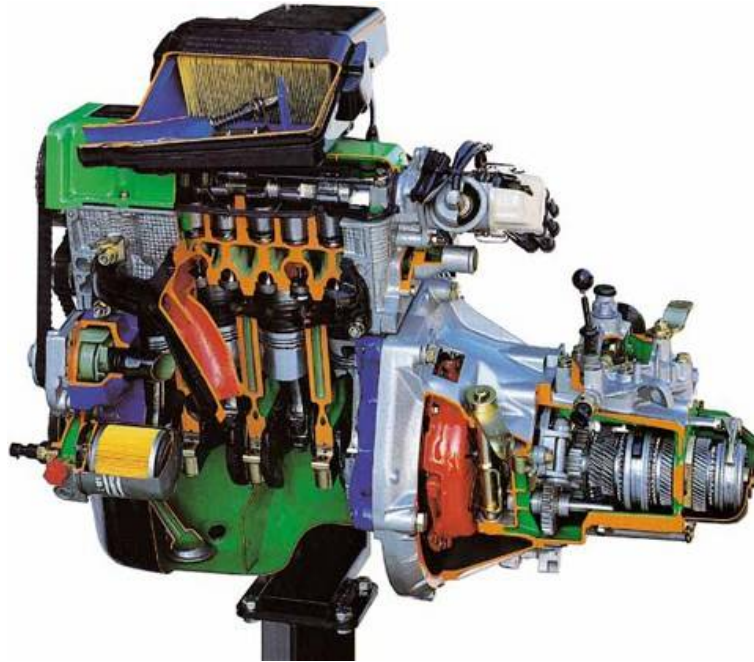
- **Main Technical Specifications:**
- Air cooling
- Displacement: 500 cc
- Camshaft in the crankcase
- Single body carburettor
- Overhead valves
- **Other Specifications:**
- Operated: Manually, through a crank handle
- Equipment Layout: On Base

- **4-cylinder Petrol Engine**



- **Main Technical Specifications:**
- Displacement: 1200/2000 cc
- Camshaft in the crankcase, Toothed chain
- Overhead valves in line
- Coil ignition
- Mechanical petrol pump
- Dry single-plate clutch
- **Other Specifications:**
- Operated: Manually, through a crank handle
- Equipment Layout: On Stand with Wheels
- Dimensions: 70 x 80 x 100(h) cm
- Net Weight: 160 kg

- **Petrol Engine with Gearbox**
- Available Models:
 - Petrol Engine with Carburettor and Gearbox
 - Petrol Engine with Mono-jetronic Electronic Injection and Gearbox
 - Petrol Engine with Multi-point Electronic Injection and Gearbox



- **Main Technical Specifications:**
 - 4 in-line cylinders
 - Displacement: 1000/1300 cc
 - Camshaft in head
 - Carburettor
 - Electronic ignition
 - Alternator
 - Toothed belt
 - Gearbox: 5 forward speeds + reverse with differential
 - Electronic Injection Engine:
 - 4 in-line cylinders
 - Displacement 1250 cc
 - Overhead camshaft
 - Electronic ignition
 - Multi-point or Mono-jetronic electronic injection
 - Gearbox: 5 forward speeds + reverse with differential
 - Other Specifications:
 - Operated: Electrically (Motor 230 V)
 - Equipment Layout: On Stand with Wheels
 - Dimensions: 120 x 70 x 100(h) cm

Diesel Engine

- **Diesel Engine for Small Car**

- This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts, cross-sections, lubricating circuits, fuel system, cooling system etc. Many parts have been chromium, plated and galvanized for a longer life.
- Available Models:
- Operated: Manually (Through a crank handle)
- Operated: Electrically (Motor 230 V)

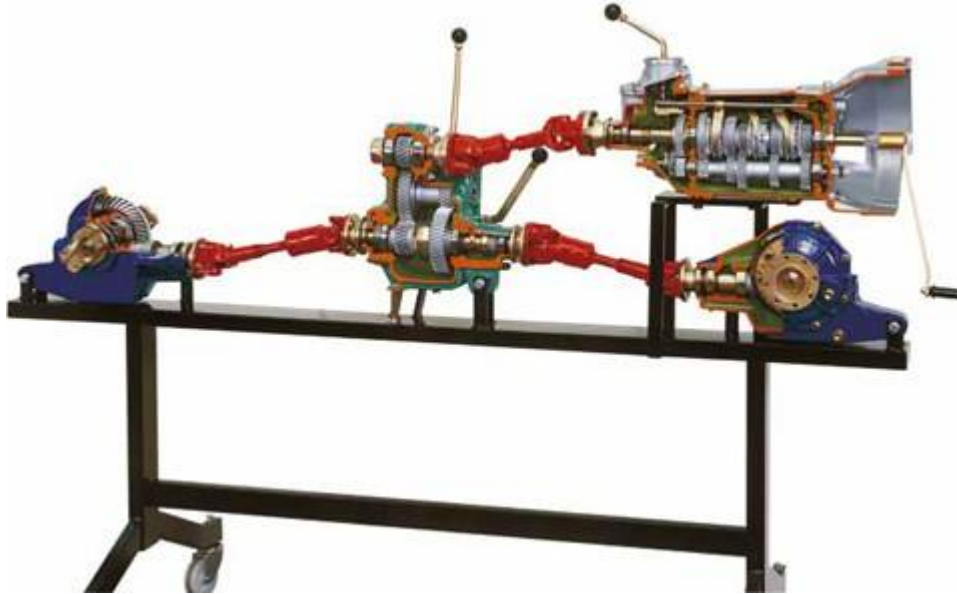


- Main Technical Specifications:

- 4 stroke engine
- 4 in-line cylinders
- Displacement: 1300 cc
- Indirect injection
- VE Bosch type rotary injection pump
- Overhead camshaft (OHC)
- Distribution through a toothed belt;
- Alternator
- Thermostatic valve
- Power: 45 hp.
- Water cooling
- Other Specifications:
- Operated: Manually (through a crank handle) or Electrically
- Equipment Layout: On Stand with Wheels
- Dimensions: 85 x 130 x 100(h) cm

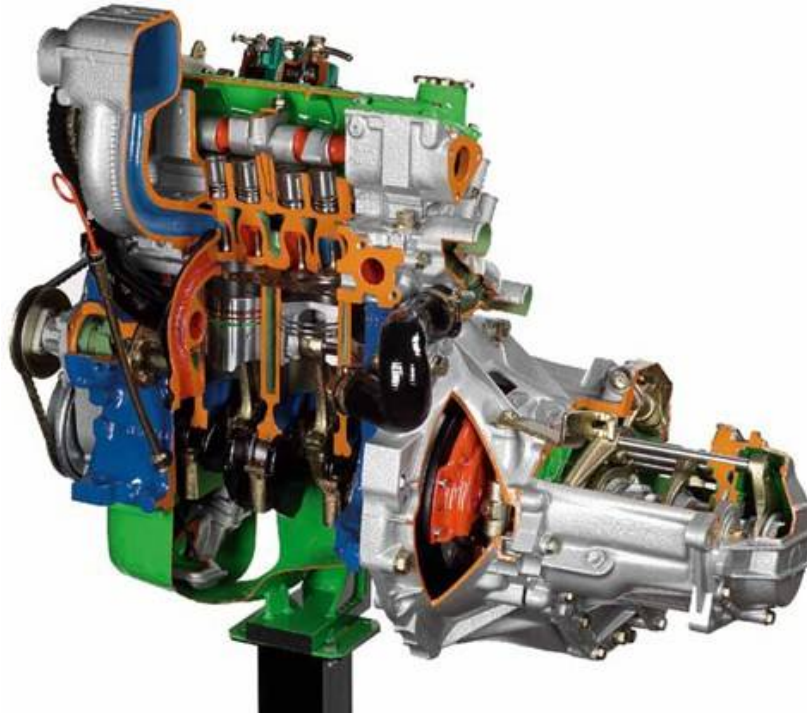
Gear box

- **4x4 Vehicle Transmission Assembly with 5 Speed Mechanical Gearbox**



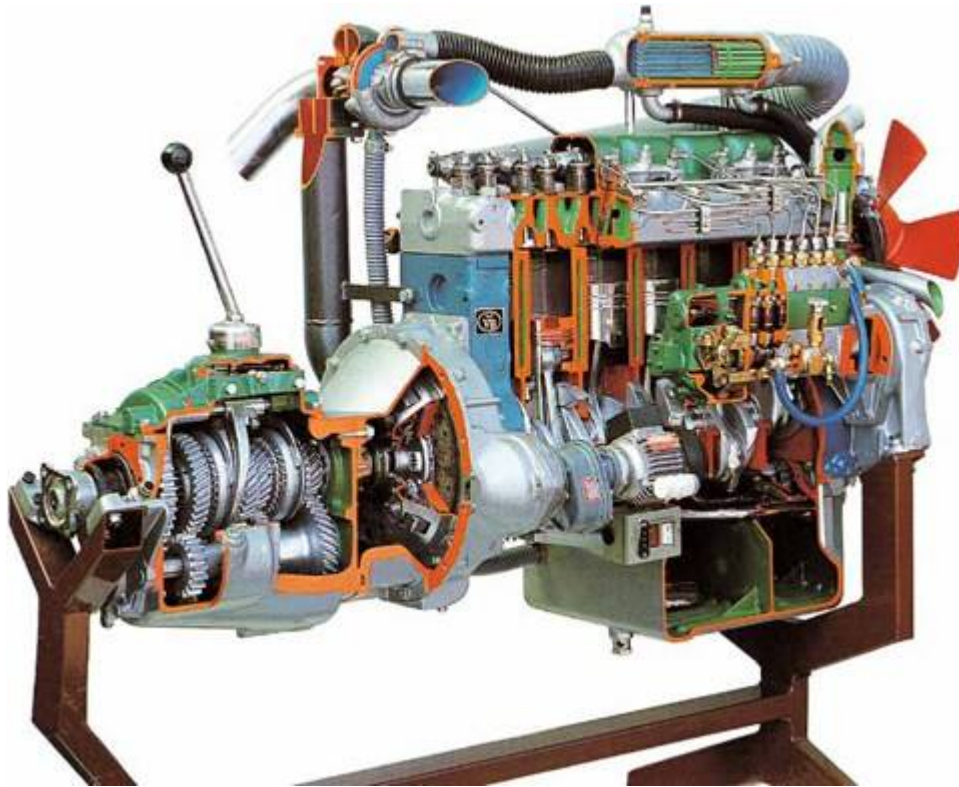
- **Main Technical Specifications:**
- Gearbox: 5 forward gears and reverse
- 2-Speeds reduction gear
- Movement restorer with front wheel drive manual control
- Drive shafts with universal joints
- Self-locking hypoid differentials
- Manual operation
- **Other Specifications:**
- Operated: Manually
- Equipment Layout: On Stand with Wheels
- Dimensions: 75 x 225 x 105(h) cm
- Net Weight: 230 kg
- Gross Weight: 300 kg

- **Diesel Engine with Gearbox**



- Operated: Manually (Through a Crank Handle)
- Operated: Electrically (Motor 230 V)
- **Main Technical Specifications:**
 - 4 stroke engine
 - 4 in-line cylinders
 - Displacement: 1300 cc
 - Indirect injection
 - VE Bosch type rotary injection pump
 - Overhead camshaft (OHC)
 - Distribution through a toothed belt
 - Alternator
 - Thermostatic valve
 - Power: 45 hp.
 - Gearbox: 5 forward speeds + reverse and differential
 - Single-plate clutch with diaphragm
 - Other Specifications:
- Operated: Manually (Through a Crank Handle) or Electrically (Motor 230 V)
- Equipment Layout: On Stand with Wheels

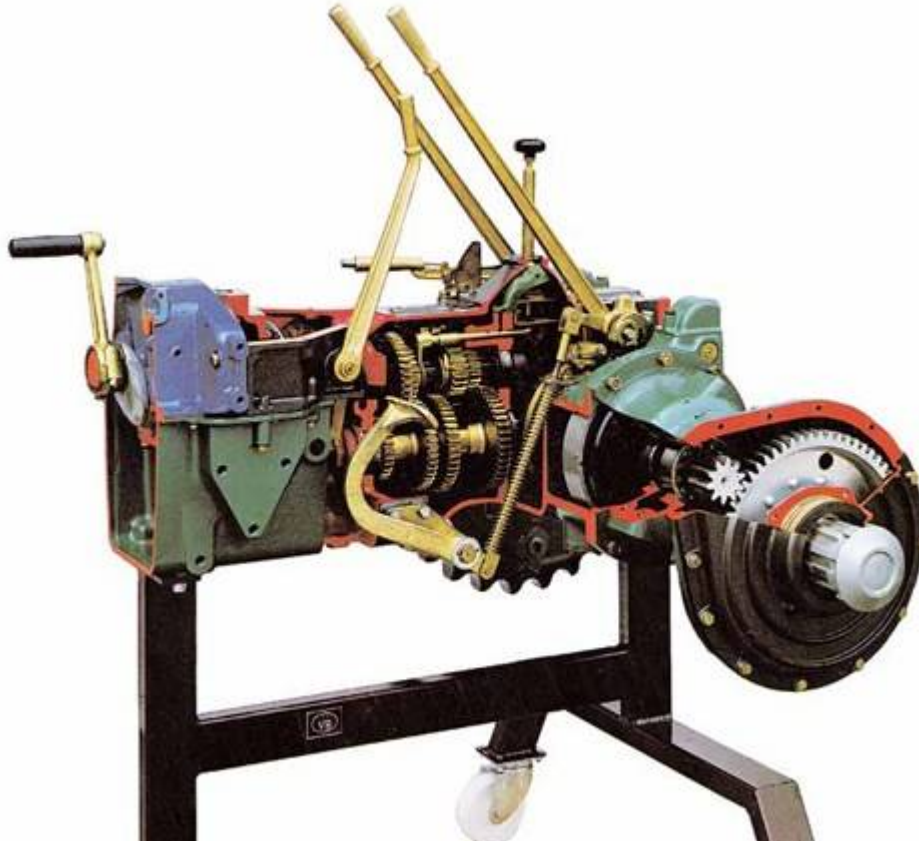
- **Truck Turbo Diesel Engine with Intercooler and Gearbox**



- **Main Technical Specifications:**
- 4 stroke engine
- 6 in-line cylinders
- Displacement: 5200 cc
- Direct injection
- Bosch type in-line injection pump with mechanical governor;
- Intercooler air-air
- Camshaft in the crankcase;
- Spring single-plate clutch;
- Fuel fed by turbo-supercharger and intercooler
- Gearbox: 4 forward speeds + reverse
- Geared distribution
- **Other Specifications:**
- Operated: Electrically (Motor 230 V)
- Equipment Layout: On Stand with Wheels
- Dimensions: 90 x 180 x 170(h) cm
- Net Weight: 450 kg
- Gross Weight: 560 kg

Transmission

- **Wheeled Tractor Transmission**



- **Main Technical Specifications:**
- Clutch unit
- Gearbox
- Pinion gear – ring gear
- Differential units axle shafts with band brakes
- Final reducer
- **Other Specifications:**
- Operated: Manually, through a crank handle
- Equipment Layout: On Stand with Wheels
- Dimensions: 145 x 170 x 120(h) cm
- Net Weight: 480 kg
- Gross Weight: 590 kg

Steering & Suspension

- **Steering Unit with McPherson Suspension**



- **Main Technical Specifications:**
- McPherson suspension
- Shock absorber
- Spring
- Rack and pinion steering box
- Disc brake
- Steering wheel
- **Other Specifications:**
- Operated: Manually (Through a Crank Handle)
- Equipment Layout: On Stand with Wheels

- **Steering Unit with McPherson Suspension and Brakes**



- **Main Technical Specifications:**
- McPherson suspension
- Shock absorber
- Spring
- Rack and pinion steering box
- Disc brake
- Drum brake
- Hydraulic pump
- Brake lever
- Steering wheel
- **Other Specifications:**
- Operated: Manually (Through a Crank Handle)
- Equipment Layout: On Stand with Wheels

- **Rear Axle**



- Specifications:
- Operated: Manually
- Equipment Layout: On Stand with Wheels
- Dimensions: 125 x 60 x 60(h) cm
- Net Weight: 52 kg
- Gross Weight: 70 kg

- **HGV Rear Axle**



- Specifications:
- Main Technical Specifications:
- Exposed components include: crown wheel and pinion, differential unit, hub assemblies, half-shafts, reduction hubs, brake drums and shoes.
- Mounted on a self contained frame and base plate, complete with castors.
- Powder coated paint finish.
- Other Specifications:
- Weight: 1000 kg

- **Car Forecarriage**

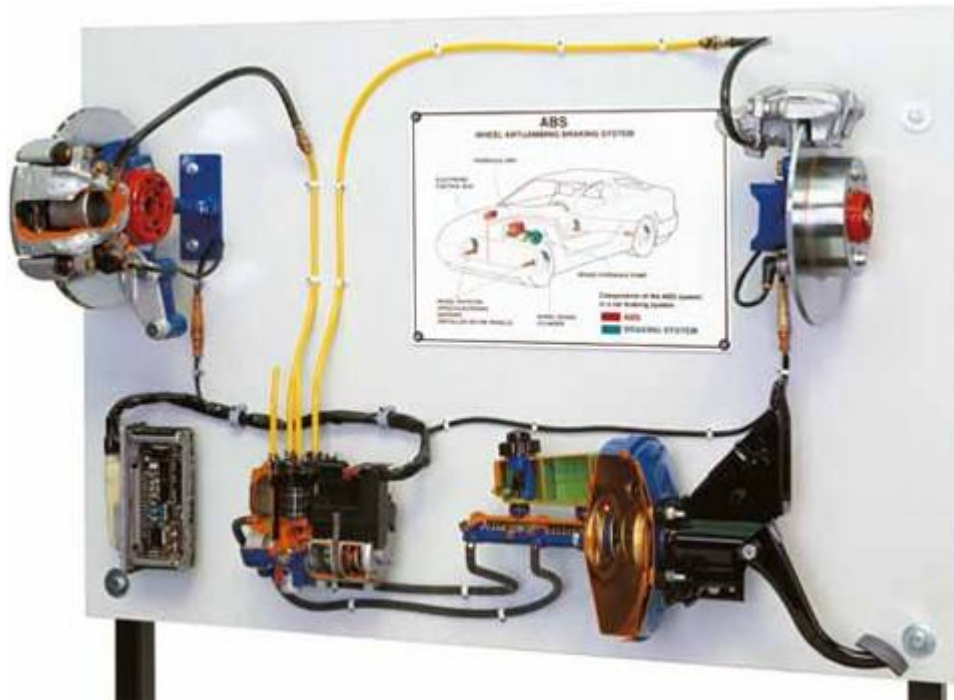


- **Specifications:**
- **Operated: Manually**
- **Equipment Layout: On Stand with Wheels**
- **Dimensions: 100 x 155 x 130(h) cm**
- **Net Weight: 80 kg**
- **Gross Weight: 120 kg**

Brake system

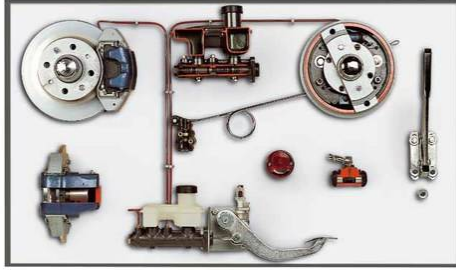
- **ABS Brake Board**

- Educational model of a modern ABS braking system for motorcars. All the brake parts are provided as detailed cutaway models, connected together to enable easy understanding of the brake assembly operation.
- This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts and cross-sections. Many parts have been chromium, plated and galvanized for a longer life.



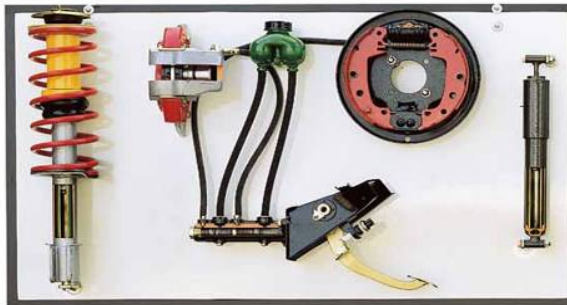
- **Specifications:**
- The assembly consists of:
 - Self-ventilating disc brake with phonic wheel and sensor
 - Rear disc brake with phonic wheel and sensor
 - Servo brake with foot control panel and brake pump
 - Electronic control unit
 - Oil tank
- **Other Specifications:**
- Operated: Static
- Equipment Layout: On Stand with Wheels
- Dimensions: 140 x 50 x 90(h) cm
- Net Weight: 60 kg
- Gross Weight: 120 kg

- **Double Circuit Brakes**



- **Wall panel representing a double circuit braking system. As in real conditions, it is operated by a hydraulic pump connected to the disc brake and a drum brake. A braking adjuster is placed between the pump and the (rear) drum brake in the circuit in order to avoid the rear wheels locking during the braking phase. The same devices used in the circuit have been sectioned and added in the panel to clearly show their operation.**
- **Specifications:**
- **Operated: Manually**
- **Equipment Layout: On Panel**
- **Dimensions: 110 x 60 x 40(h) cm**
- **Net Weight: 35 kg**
- **Gross Weight: 65 kg**

- **Brake and Suspension**



- **Specifications:**
- **This wall panel consists of:**
- **Disc brake**
- **Drum brake**
- **Double brake pump**
- **Rear damper**
- **McPherson damper**
- **Other Specifications:**
- **Operated: Static**
- **Equipment Layout: On Panel**
- **Dimensions: 110 x 65 x 300(h) cm**

- **Drum Brake**



- Specifications:
- Operated: Manually (Through a Parking Brake Lever)
- Equipment Layout: On Base
- Dimensions: 35 x 35 x 35(h) cm
- Net Weight: 8 kg
- Gross Weight: 12 kg

- **Disc Brake**



- Section of a disc brake, floating type. The small piston and the brake strips are clearly shown.
- Specifications:
- Operated: Manually
- Equipment Layout: On Base
- Dimensions: 35 x 40 x 40(h) cm
- Net Weight: 11 kg

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- **Disc and Drum Brake**



- This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts and cross-sections. Many parts have been chromium, plated and galvanized for a longer life.
- Specifications:
- Operated: Manually (Through a Parking Brake Lever)
- Equipment Layout: On Base
- Dimensions: 40 x 35 x 40(h) cm
- Net Weight: 20 kg
- Gross Weight: 26 kg