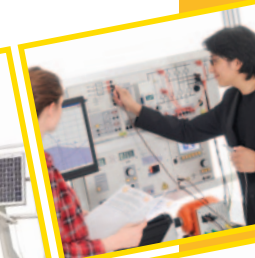




**Training Systems Australia**  
First in Vocational Training Equipment

## Engines & Models Cutaways



**Pullman Learning Group**

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## VB 4500M TOYOTA HYBRID ENGINE 1NZE-FXE HYBRID SYNERGY DRIVE - GASOLINE AND ELECTRIC (on stand with wheels)- manual

## VB 4500E TOYOTA HYBRID ENGINE 1NZE-FXE HYBRID SYNERGY DRIVE - GASOLINE AND ELECTRIC (on stand with wheels)- electrical

The Toyota hybrid system (THS) has two sources of power, the petrol engine and the electric motor. The THS recovers energy otherwise lost to heat in the brakes and uses it to supplement the power of its fuel-burning engine. MG1 (motor generator 1) generates electrical power and starts the engine; MG2 (motor generator 2) drives the vehicle. During deceleration the wheels drive MG2 which acts as a generator for regenerative power recovery. The THS uses different modes to achieve the most efficient operation in response to driving conditions.



Indicative picture for reference only

### Main technical specifications:

- 4 cylinders
- Displacement: 1500 cc
- DOHC overhead camshaft
- 4 valves per cylinder
- Roller chain
- VVT-I system (Variable Valve Timing with intelligence) electronically controlled intake valves
- Multi-point electronic injection with throttle
- Electrical engine
- Epicyclic engine
- Generator
- Transmission belt (CTV)
- Gears
- Differential group
- Exhaust manifold with Lambda probe

The engine is mounted on a stand with wheels and it is operated manually by means of one crank handle placed on the thermal engine and one on the electric engine in order to simulate the different cycles.

### Approx. weight and dim.:

Cm:	104x80x130h
Net Weight:	kg 180
Gross Weight:	kg 250

Same as VB 4500 but operated electrically by means of two electric motors: one on the petrol engine and the other on the generator. The electric motors can be operated separately or simultaneously, according to teaching requirements.

The engine is provided with nomenclature panel.

### Approx. weight and dim.:

Cm:	130x90x155h
Net Weight:	kg 190
Gross Weight:	kg 300



## **VB 4300M ELECTRONIC INJECTION MULTIPOINTS ENGINE WITH PETROL/LPG FEEDING SYSTEM (on stand with wheels) - manual**

Accurate section of an engine, where the main components of the two different feeding circuits (Petrol and LPG) are sectioned:

Petrol feeding circuit:

- electro-injectors
- throttle body
- rail
- sensors/ phonic wheel
- Lambda probe
- electronic ignition

LPG feeding circuit:

- genius reducer
- LPG electrovalve
- LPG tank with float device for the charge level
- charge socket
- filter
- rail and LPG electro-injectors



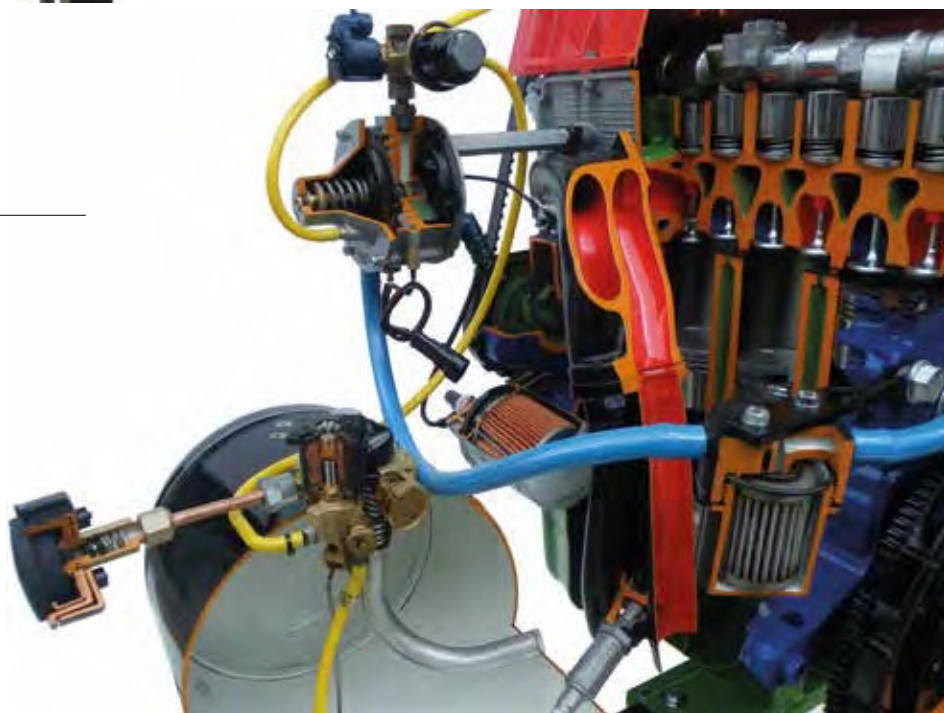
Indicative picture for reference only

For the engine specifications see **VB 5212** at page **A-19**.

Schematic illustration of the different mechanical components together with its electronic and electrical connections.

### **Approx. weight and dim.:**

Cm:	70x80x95h
Net Weight:	kg 86
Gross Weight:	kg 105

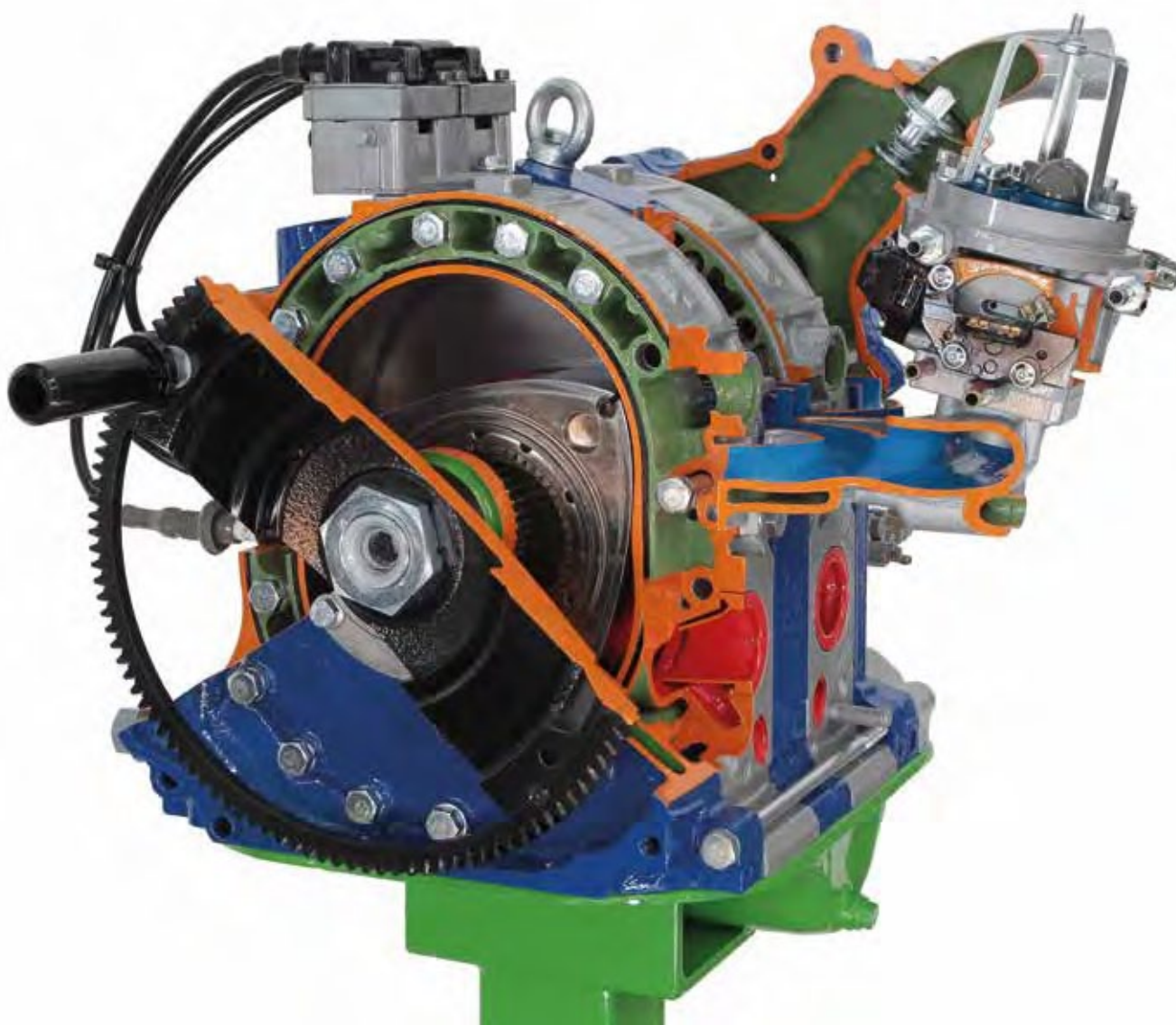


**VB 4300**

## VB 4400M MAZDA RX TWIN-ROTOR WANKEL ENGINE (on stand with wheels) - manual

Accurate section of the most common Mazda RX wankel engine, clearly showing the following main components:

- Drive shaft with flywheel
- Twin-rotor
- Suction and exhaust channels
- Chain-driven oil pump
- Water pump with thermostatic valve
- Electronic injection
- Twin-spark ignition



Indicative picture for reference only

*The engine is operated manually by means of a handle.*

### Approx. weight and dim.:

Cm:	70x70x100h
Net Weight:	kg 95
Gross Weight:	kg 140

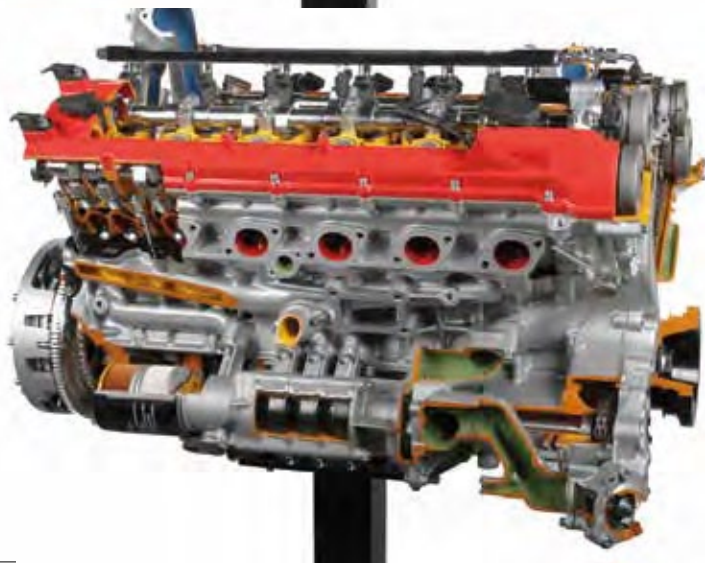


## **VB 4550M FERRARI 12 V CYLINDERS ENGINE (on stand with wheels) - manual**

## **VB 4551M FERRARI 8 V CYLINDERS ENGINE (on stand with wheels) - manual**

This accurate section shows the maximum expression of the most advanced automotive technique and engineering of our region: the Ferrari engine.

Indicative picture for reference only



### **VB 4550M**

#### **Main technical specifications:**

- 12 V cylinders
- 4 valves per cylinder
- Displacement: 5999 cc
- DOHC overhead camshaft
- 4 variable timing devices on the camshaft
- Multi-point electronic injection
- Chain/Belt timing
- 3 oil pumps
- Water pump

### **VB 4550M - VB 4551M**

#### **Approx. weight and dim.:**

Cm:	80x100x130h
Net Weight:	kg 180
Gross Weight:	kg 250

### **VB 4551M**

#### **Main technical specifications:**

- 8 V cylinders
- 4 valves per cylinder
- Displacement: 3000 cc
- DOHC overhead camshaft
- Mechanic injection with electronic governor KE3 Jetronic
- Belt distribution
- Oil pump
- Water pump
- Alternator

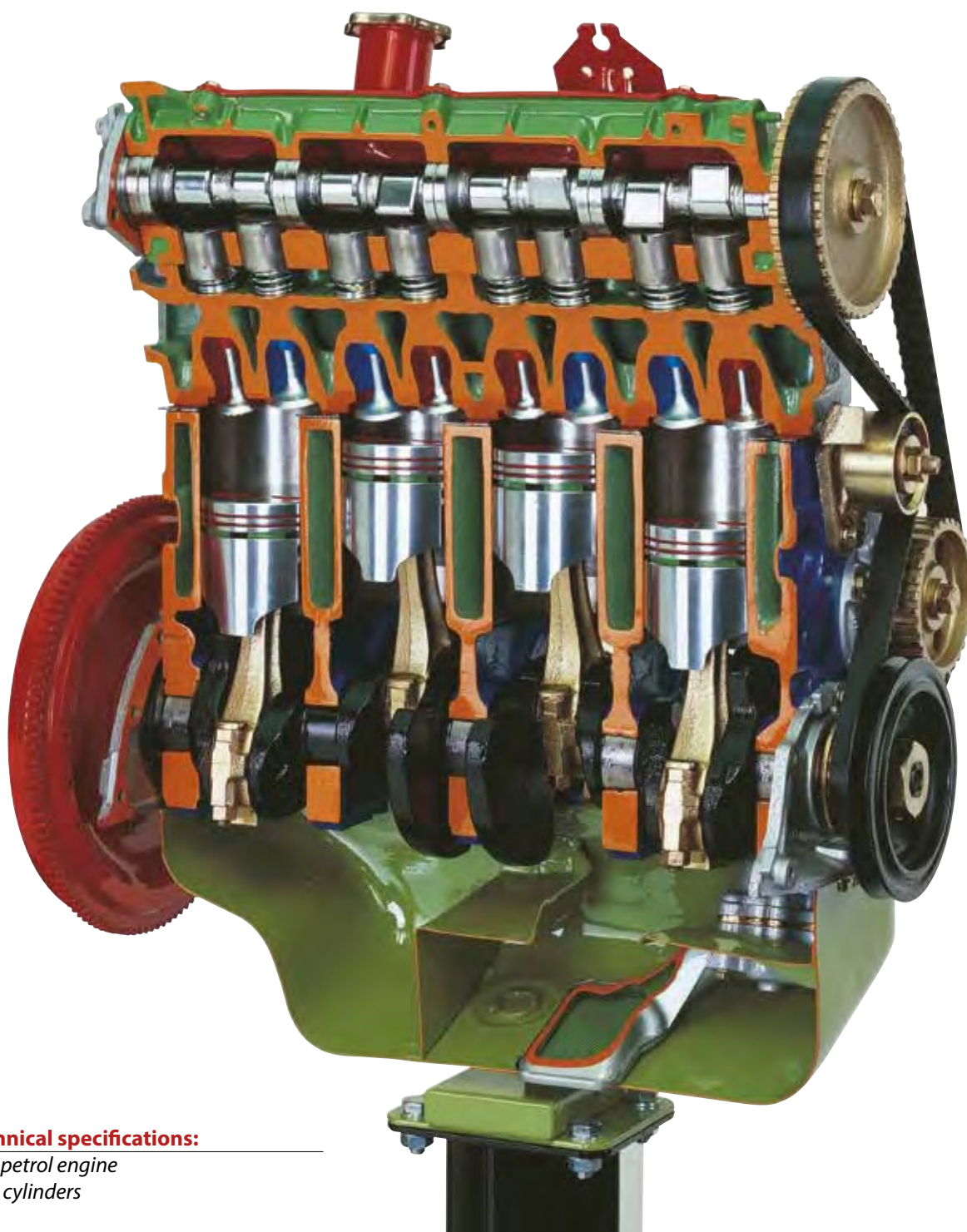
The engine is mounted on a stand with wheels and it is operated manually by means of a crank handle.

**VB 4550 - VB 4551**

# VB 5440 - VB 5445

**VB 5440M ENGINE UNIT WITH OVERHEAD CAMSHAFT (OHC) AND TOOTHED TIMING BELT (on stand with wheels) - manual**

**VB 5445M ENGINE UNIT WITH DOUBLE OVERHEAD CAMSHAFT (DOHC) AND TOOTHED TIMING BELT (on stand with wheels) - manual**



Indicative picture for reference only

## **Main technical specifications:**

- 4 stroke petrol engine
- 4 in-line cylinders

The engine is operated manually through a crank handle.

*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.*

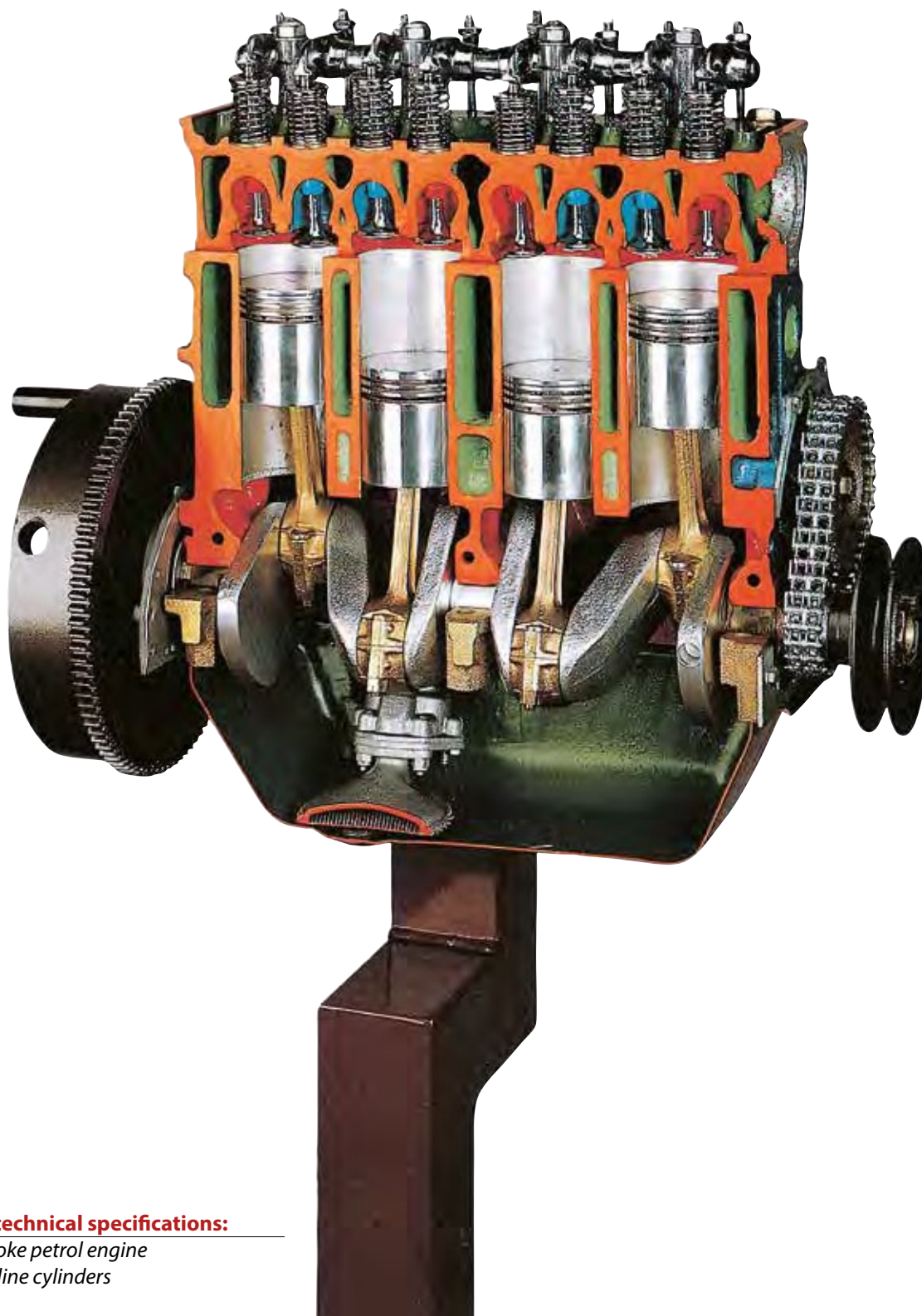
## **Approx. weight and dim.:**

Cm:	70x60x80h
Net Weight:	kg 60
Gross Weight:	kg 110



**VB 5450M ENGINE UNIT WITH OVERHEAD VALVE (OHV) AND TIMING CHAIN**  
(on stand with wheels) - manual

**VB 5450**



Indicative picture for reference only

**Main technical specifications:**

- 4 stroke petrol engine
- 4 in-line cylinders

The engine is operated manually through a crank handle.

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.

**Approx. weight and dim.:**

Cm:	70x60x80h
Net Weight:	kg 60
Gross Weight:	kg 110

# VB 4800 - VB 4801

**VB 4800E** 16 VALVE 4 CYLINDERS FIAT ENGINE WITH MULTI-POINT ELECTRONIC INJECTION (on stand with wheels) - electrical

**VB 4801M** 16 VALVE 4 CYLINDERS FIAT ENGINE WITH MULTI-POINT ELECTRONIC INJECTION (on stand with wheels) - manual



Indicative picture for reference only

## **VB 4800E**

### **Main technical specifications:**

- 4 in-line cylinders
- Displacement: 2000 cu. cm/1600 cc
- DOHC twin overhead camshaft
- Multipoint electronic injection with ignition-integrated control unit
- Vibration-damping balancing shafts
- 4 valves per cylinder
- Water cooling
- 12 Volt alternator
- Membrane clutch

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

## **VB 4801M**

Same as VB 4800 but operated manually through a crank handle

## **VB 4800E - VB 4801M**

### **Approx. weight and dim.:**

Cm:	90x120x125h
Net Weight:	kg 160
Gross Weight:	kg 210



**VB 4805E** 16 VALVE 4 CYLINDERS FIAT ENGINE WITH MULTI-POINT ELECTRONIC INJECTION + REAR DRIVE GEARBOX 5 SPEEDS + REVERSE (on stand with wheels) - electrical

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**VB 4806E** 16 VALVE 4 CYLINDERS FIAT ENGINE WITH MULTI-POINT ELECTRONIC INJECTION + REAR DRIVE GEARBOX 5 SPEEDS + REVERSE +DIFFERENTIAL WITH TURBOSUPERCHARGER (on stand with wheels) – electrical

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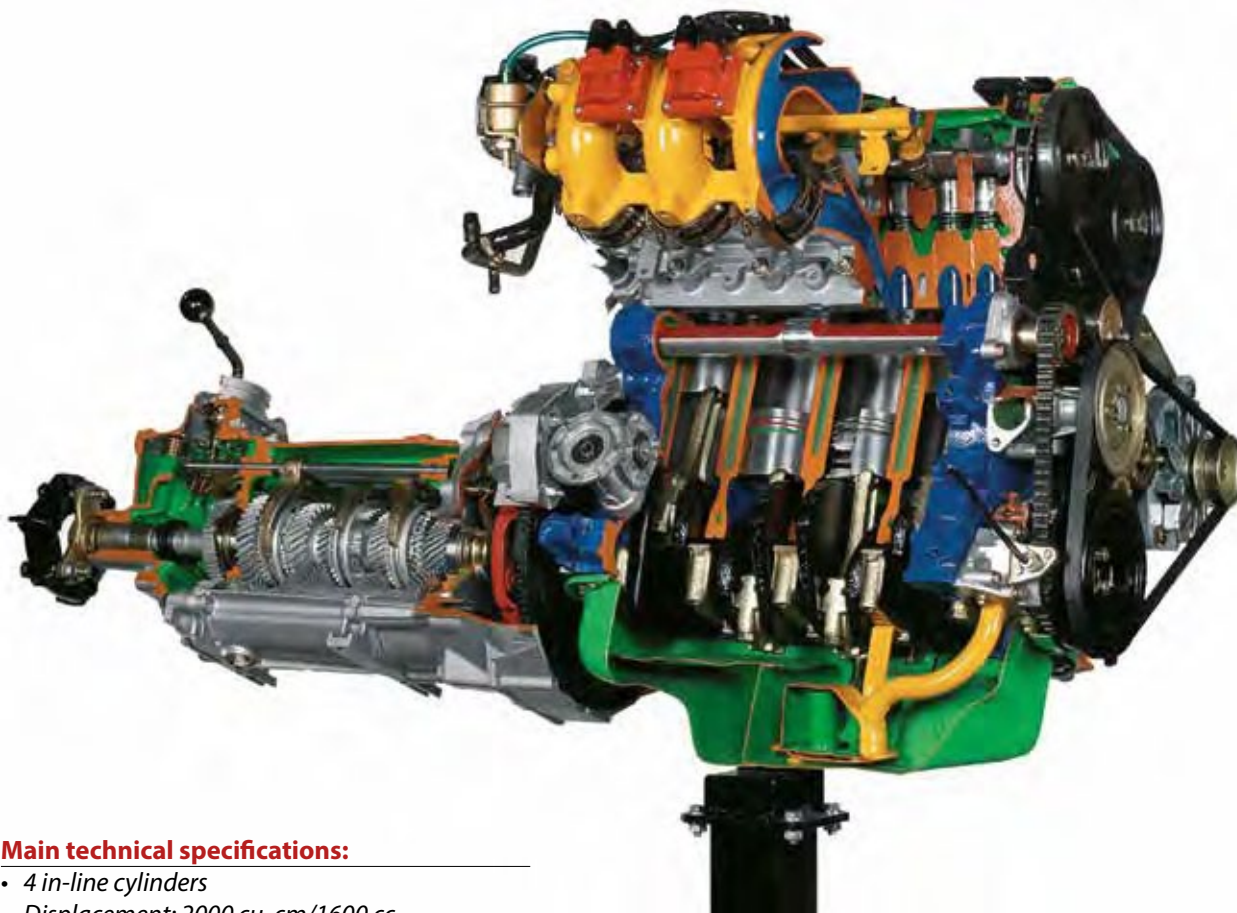
**VB 4807E** 16 VALVE 4 CYLINDERS FIAT ENGINE WITH MULTI-POINT ELECTRONIC INJECTION + **FRONT DRIVE** GEARBOX 5 SPEEDS + REVERSE +DIFFERENTIAL (on stand with wheels) – electrical

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**VB 4808E** 16 VALVE 4 CYLINDERS FIAT ENGINE WITH MULTI-POINT ELECTRONIC INJECTION + **FRONT DRIVE** GEARBOX 5 SPEEDS + REVERSE +DIFFERENTIAL WITH TURBOSUPERCHARGER (on stand with wheels) – electrical

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Indicative picture for reference only



#### **Main technical specifications:**

- 4 in-line cylinders
- Displacement: 2000 cu. cm/1600 cc
- DOHC twin overhead camshaft
- Multipoint electronic injection with ignition-integrated control unit
- Vibration-damping balancing shafts
- Gearbox 5 forward speeds + reverse
- 4 valves per cylinder
- Water cooling
- 12 Volt alternator
- Membrane clutch

#### **Approx. weight and dim.:**

Cm:	160x86x100h
Net Weight:	kg 195
Gross Weight:	kg 250

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

**VB 4805 - VB 4806 - VB 4807 - VB 4808**

**VB 4600E PETROL ENGINE WITH DIRECT INJECTION 16 VALVES MULTI-POINT ELECTRONIC INJECTION - 4 CYLINDERS 4 STROKES (on stand with wheels) - electrical**

**VB 4601M PETROL ENGINE WITH DIRECT INJECTION 16 VALVES MULTI-POINT ELECTRONIC INJECTION - 4 CYLINDERS 4 STROKES (on stand with wheels) - manual**

Petrol engines with direct injection (fuel inlet in the combustion chamber and not in the air suction duct), have high performances and are designed to comply with the most severe anti-pollution regulations.

We can provide the following:

**VB 4600/F** - TSI-FSI Audi/Volkswagen

**VB 4600/G** - GDI Mitsubishi

**VB 4600/J** - Alfa Romeo JTS



Indicative picture for reference only

## VB 4600 F/G/J

### Main technical specifications:

- 4 in-line cylinders
- Displacement: 1400-2000 cc
- DOHC twin overhead camshaft
- Multi-point electronic injection
- 4 valves per cylinder
- Water cooling
- 12V alternator

The engine is mounted on a stand with wheels and it operates at 220V; it runs at a reduced speed in order to let the student easily observe and understand the operation of the various mechanical parts.

## VB 4601 F/G/J

Same as VB 4600 but operated manually by means of a crank handle.

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.

## VB 4600 - VB 4601

### Approx. weight and dim.:

Cm:	90x110x125h
Net Weight:	kg 150
Gross Weight:	kg 210

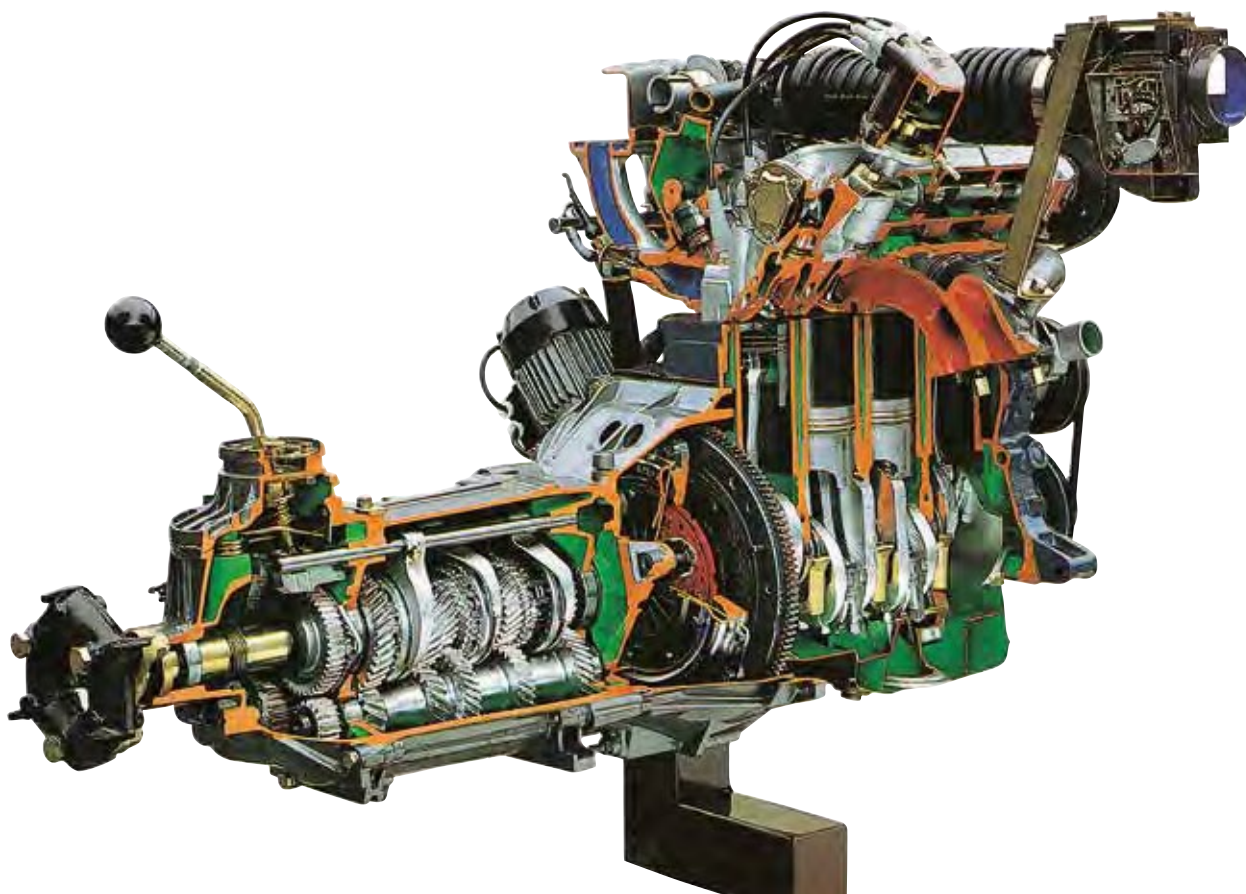


**VB 5150E** FIAT 4 CYLINDERS PETROL ENGINE (LONGITUDINALLY MOUNTED)  
WITH L-JETRONIC ELECTRONIC INJECTION **REAR wheel-DRIVE** (on stand with  
wheels) - electrical

**VB 5152E** FIAT 4 CYLINDERS PETROL ENGINE (TRANSVERSALLY MOUNTED)  
WITH L-JETRONIC ELECTRONIC INJECTION **FRONT wheel-DRIVE** (on stand with  
wheels) - electrical

**VB 5150 - VB 5152**

Indicative picture for reference only



#### **VB 5150E**

##### **Main technical features:**

- Displacement: 2000 cu. cm
- 2 overhead camshafts - DOHC
- MULTIPOINT electronic injection
- 4 in-line cylinders
- Gearbox: 5 forward speeds + reverse
- Max power: 140 hp.
- Electronic ignition

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

#### **VB 5152E FRONT DRIVE**

Same as VB 5150 with Gearbox 5 forward speeds + reverse and integrated differential and **FRONT** wheel-drive.

#### **VB 5150E - VB 5152E**

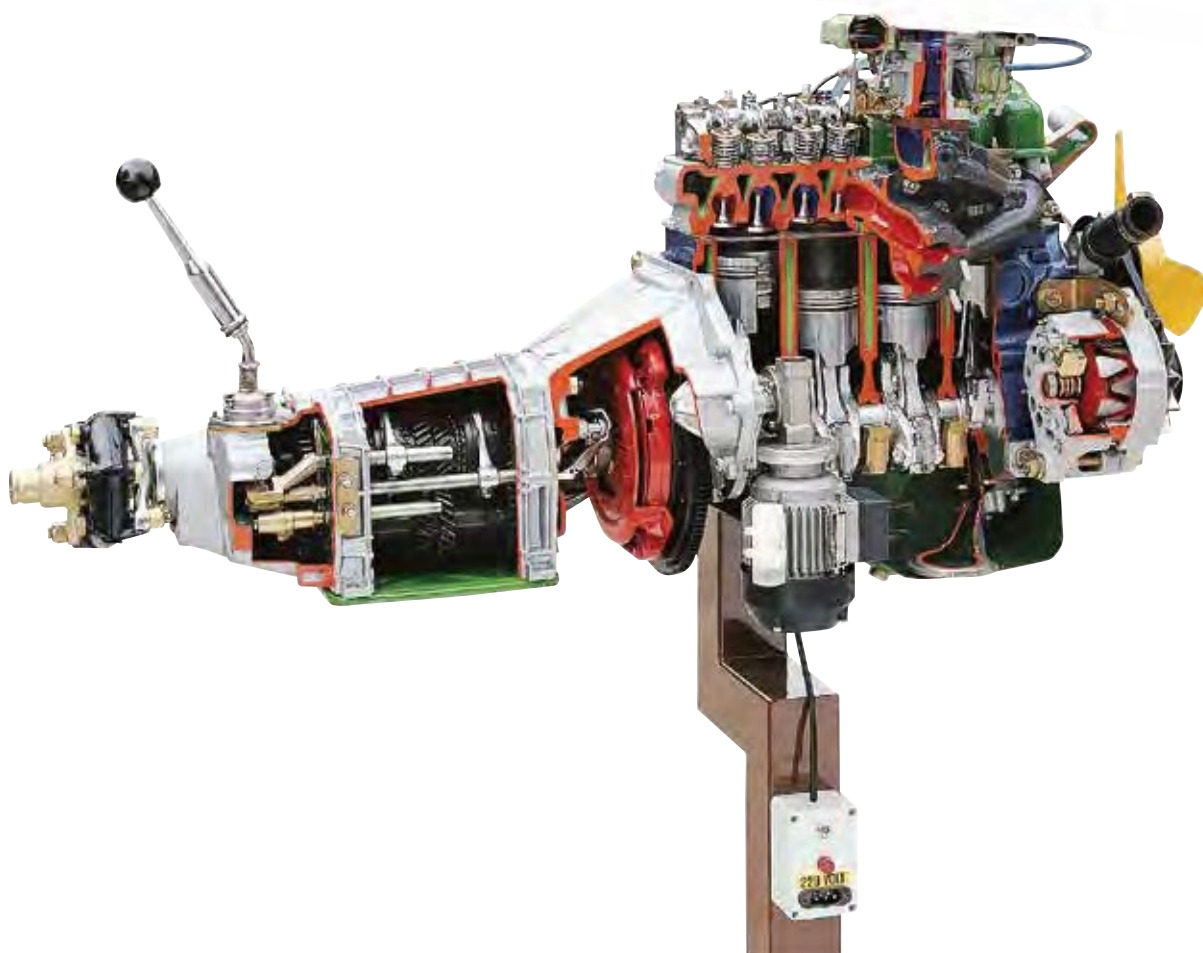
##### **Approx. weight and dim.:**

Cm:	80x140x110h
Net Weight:	kg 140
Gross Weight:	kg 200

**VB 5000E** FIAT 4 CYLINDERS PETROL ENGINE CARBURETTOR  
(on stand with wheels) - electrical

**VB 5010E** FIAT 4 CYLINDERS PETROL ENGINE CARBURETTOR WITH SIMULATED  
IGNITION (on stand with wheels) - electrical

**VB 5020M** FIAT 4 CYLINDERS PETROL ENGINE CARBURETTOR  
(on stand with wheels) - manual



Indicative picture for reference only

## VB 5000E

### Main technical specifications:

- Displacement: 1200/2000 cu. cm approx.
- Camshaft in the crankcase, belt/chain drive - OHV
- In-line overhead valves
- Coil ignition
- Mechanical petrol pump
- Gearbox 4 forward speeds + reverse
- Dry single-plate clutch

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

## VB 5010E

Same as VB 5000 with simulated ignition (small bulbs, located at the end of the relevant spark plug, lighting up during the combustion phase).

## VB 5020M

Same as VB 5000 but operated manually through a crank handle (without geared motor and simulated ignition).

## VB 5000E - VB 5010E - VB 5020M

### Approx. weight and dim.:

Cm:	60x155x90h
Net Weight:	kg 140
Gross Weight:	kg 185

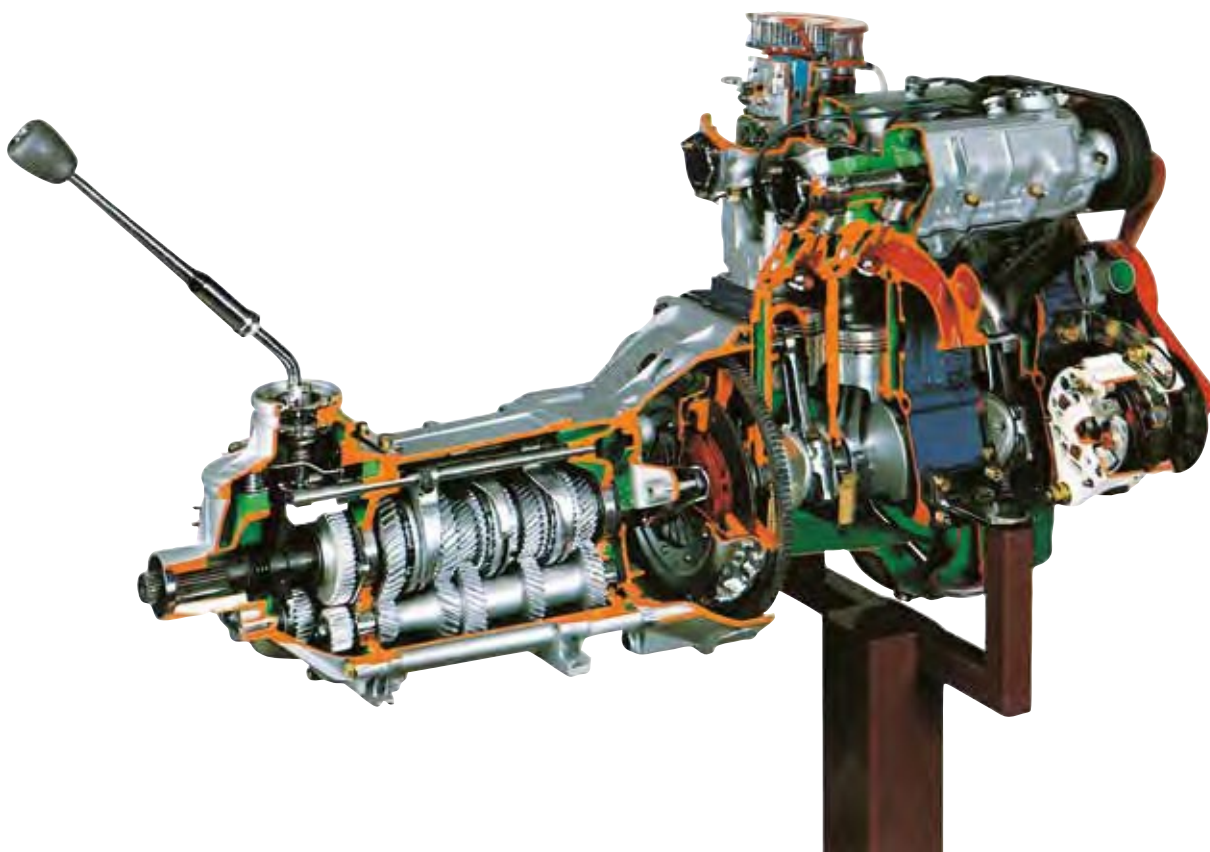


**VB 5100E** FIAT 4 CYLINDERS PETROL ENGINE TWIN-SHAFT CARBURETTOR  
(on stand with wheels) - electrical

**VB 5110E** FIAT 4 CYLINDERS PETROL ENGINE TWIN-SHAFT CARBURETTOR WITH  
SIMULTATED IGNITION (on stand with wheels) - electrical

**VB 5120E** FIAT 4 CYLINDERS PETROL ENGINE TWIN-SHAFT CARBURETTOR WITH  
KKK TURBOSUPERCHARGER + PRESSURE CONTROL VALVE  
(on stand with wheels) - electrical

Indicative picture for reference only



**VB 5100 - VB 5110 - VB 5120**

#### **VB 5100E**

##### **Main technical specifications:**

- Displacement: 1600/2000 cu. cm
- 2 overhead camshaft driven by a toothed belt - DOHC
- Overhead valves with V-arrangement
- Coil ignition
- Alternator
- Twin-carburettor
- Gearbox: 5 forward speeds + reverse
- Dry single-plate clutch

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

#### **VB 5110E**

Same as VB 5100 with simulated ignition (small bulbs, located on the relevant spark plugs, light up during the combustion phase).

#### **VB 5120E**

Same as VB 5100 but complete with KKK turbo-super-charger and pressure control valve.

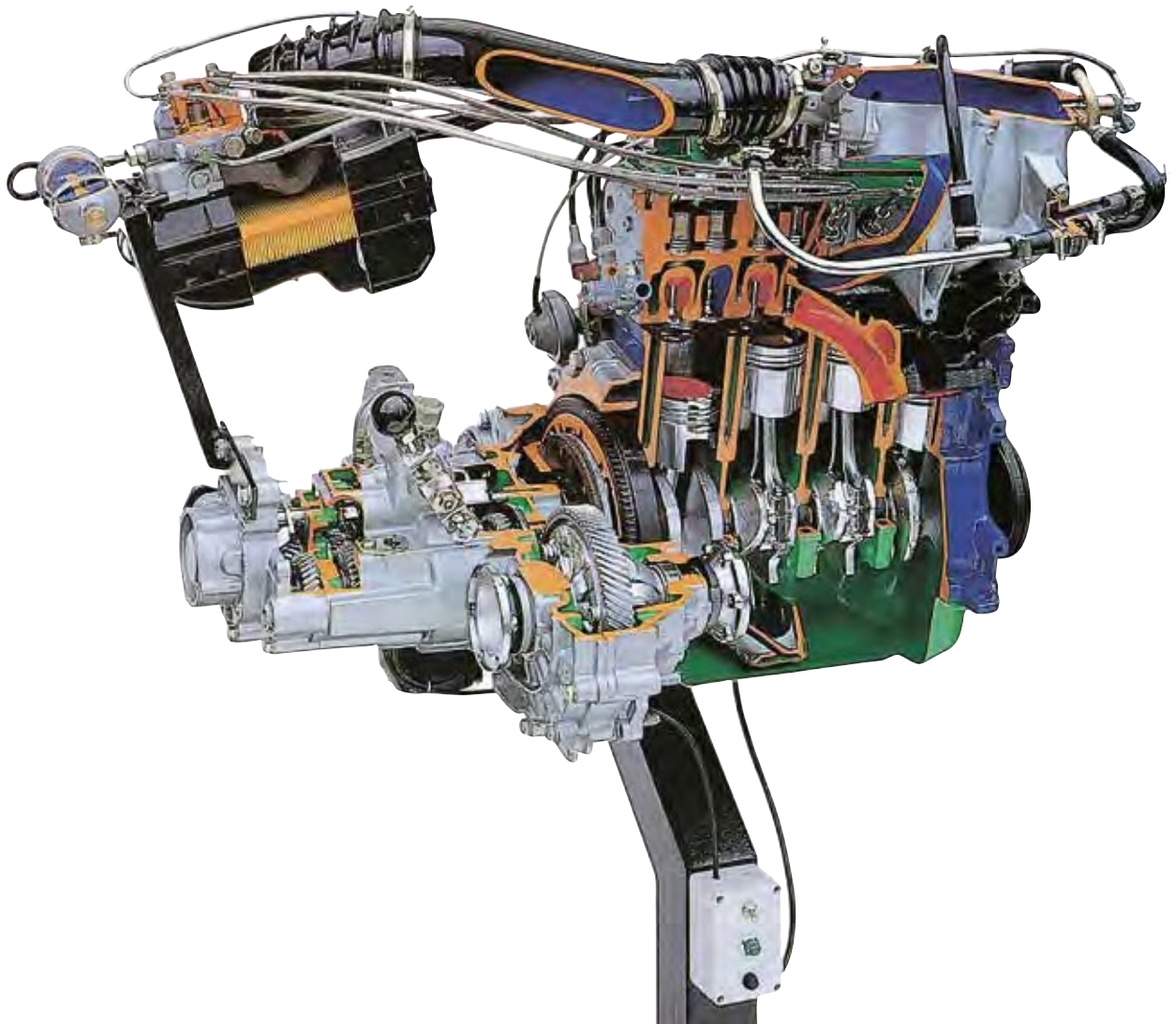
#### **VB 5100E - VB 5110E - VB 5120E**

##### **Approx. weight and dim.:**

Cm:	76x140x100h
Net Weight:	kg 150
Gross Weight:	kg 220

**VB 5165E VOLKSWAGEN 4 CYLINDERS PETROL ENGINE WITH K-JETRONIC INJECTION (on stand with wheels) - electrical**

**VB 5166E VOLKSWAGEN 4 CYLINDERS PETROL ENGINE WITH MULTI-POINT ELECTRONIC INJECTION (on stand with wheels) - electrical**



Indicative picture for reference only

## **VB 5165E**

### **Main technical features:**

- Displacement: 1600/1800/2000 cu. cm
- Overhead camshaft (OHC)
- Distribution by means of a toothed belt
- 4 in-line cylinders
- Gearbox: 5 forward speed + reverse, with integrated differential

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

## **VB 5165E - VB 5166E**

### **Approx. weight and dim.:**

Cm:	60x155x90h
Net Weight:	kg 155
Gross Weight:	kg 205



**VB 5170E BMW 6 CYLINDERS PETROL ENGINE WITH L-JETRONIC INJECTION**  
(on stand with wheels) - electrical

**VB 5175E BMW 6 CYLINDERS PETROL ENGINE WITH K-JETRONIC INJECTION**  
(on stand with wheels) - electrical

**VB 5176E BMW 6 CYLINDERS PETROL ENGINE 24 VALVES WITH MULTI-POINT ELECTRONIC INJECTION AND TWIN OVERHEAD CAMSHAFT (DOHC)**  
(on stand with wheels) - electrical

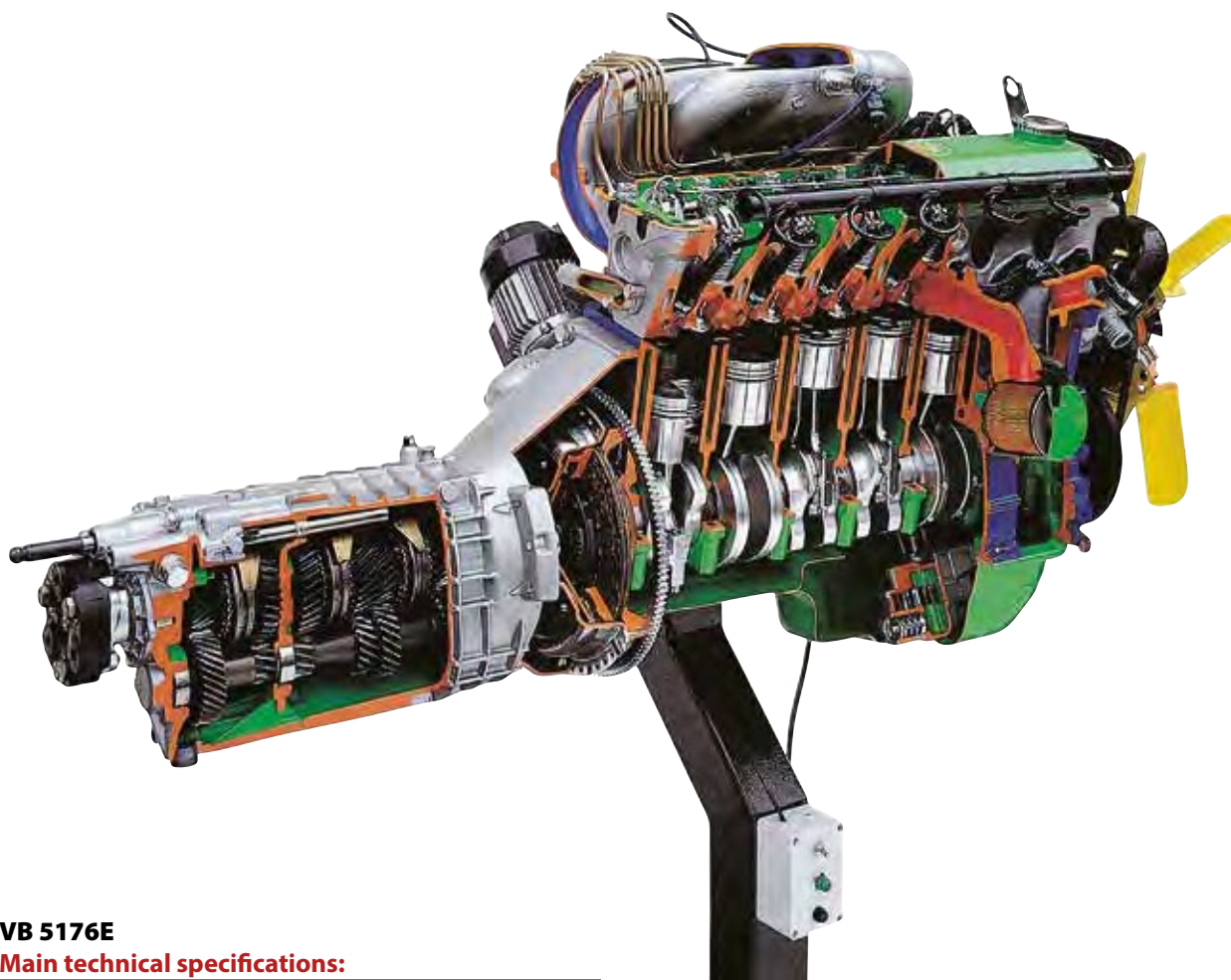
#### **VB 5170E - VB 5175E**

##### **Main technical specifications:**

- Displacement: 2000/3200 cu. cm
- Overhead camshaft (OHC), valves with V-arrangement
- Distribution by means of a roller chain
- 6 in-line cylinders
- Gearbox: 5 forward speeds + reverse

*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

Indicative picture for reference only



#### **VB 5176E**

##### **Main technical specifications:**

- Displacement: 2000/2500 cc
- Double overhead camshaft (DOHC)
- Distribution by means of a roller chain
- 4 valves per cylinder
- 6 in-line cylinders
- Gearbox: 5 forward speeds + reverse

*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.*

#### **VB 5170E - VB 5175E - VB 5176E**

##### **Approx. weight and dim.:**

Cm:	140x80x100h
Net Weight:	kg 180
Gross Weight:	kg 265

**VB 5170 - VB 5175 - VB 5176**

## **VB 5178M TOYOTA LEXUS ENGINE 8 V-TYPE CYLINDERS 32 VALVES** (on stand with wheels) - manual

## **VB 5179M TOYOTA LEXUS ENGINE 8 V-TYPE CYLINDERS 32 VALVES + GEARBOX** (on stand with wheels) - manual

### **VB 5178M**

#### **Main technical features:**

- Displacement 3968cc
- 8 V-type cylinders
- 4 valves per cylinder (32 total)
- DOHC (double over-head camshaft)
- Bore and stroke 87,5x82,5
- Compression ratio 1:10
- Multi-point electronic fuel injection
- Electronic ignition
- 12V alternator
- Centrifugal water pump

### **VB 5179M**

Same as VB 5178, provided with AISIN AW automatic gearbox with 4 forward speeds.



Indicative picture for reference only

The engine is operated manually by means of a crank handle.

### **VB 5178M**

#### **Approx. weight and dim.:**

Cm: 100x90x150h  
Net Weight: kg 180  
Gross Weight: kg 270

### **VB 5179M**

#### **Approx. weight and dim.:**

Cm: 140x90x160h  
Net Weight: kg 230  
Gross Weight: kg 340



**VB 5181M** TOYOTA PETROL ENGINE WITH VVT.I INJECTION (on stand with wheels)  
- manual

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**VB 5181E** TOYOTA PETROL ENGINE WITH VVT.I INJECTION (on stand with wheels)  
- electrical

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**VB 5181 - VB 5182**

Indicative picture for reference only



#### Main technical specifications:

- 4 cylinders
- Displacement: 1000-1300 cc
- DOHC - double overhead camshaft
- VVT.I system with electronically controlled intake valves
- 4 valves per cylinder
- Roller chain
- Multi-point electronic injection with throttle
- 12V alternator
- Thermostatic valve

The engine is operated manually by means of a crank handle.

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.

#### Approx. weight and dim.:

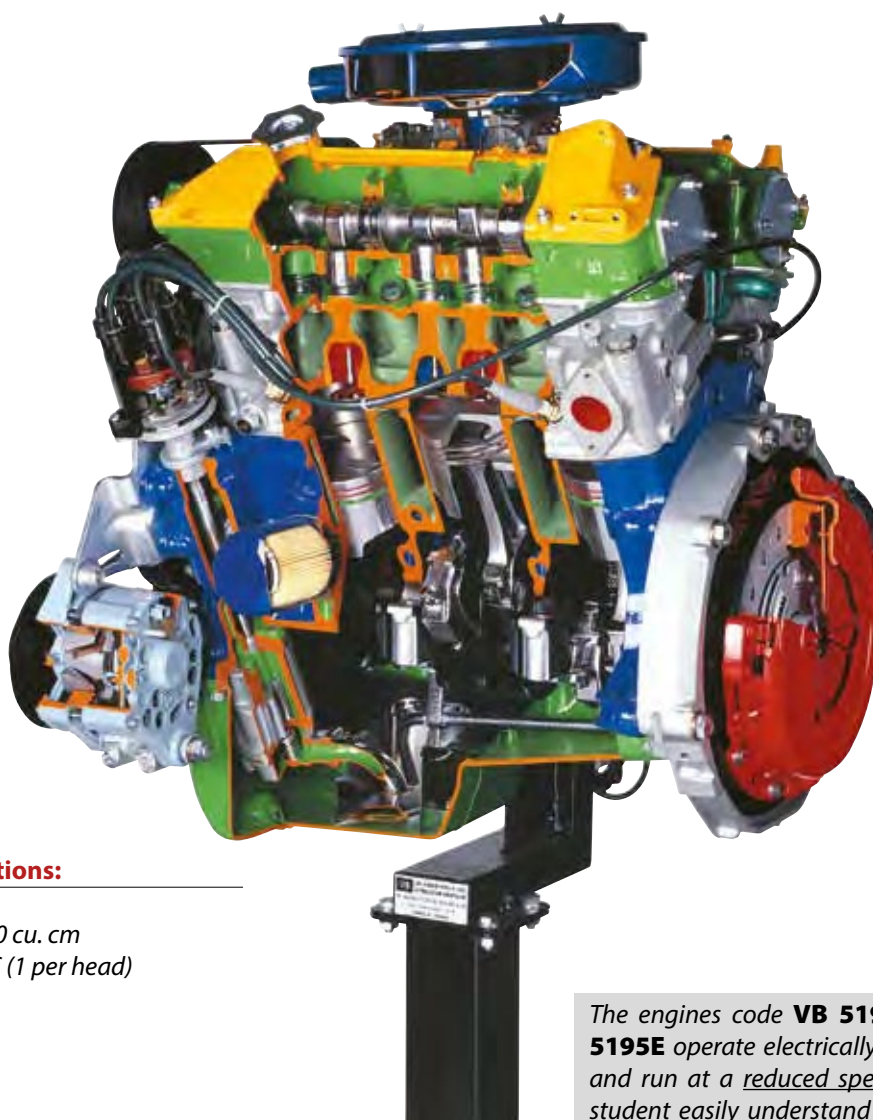
Cm:	70x90x100h
Net Weight:	kg 60
Gross Weight:	kg 110

**VB 5190E** 6 V CYLINDERS PETROL ENGINE **CARBURETTOR** (on stand with wheels) - electrical

**VB 5195E** 6 V CYLINDERS PETROL ENGINE WITH **MULTI-POINT ELECTRONIC INJECTION** (on stand with wheels) - electrical

**VB 5190M** 6 V CYLINDERS PETROL ENGINE **CARBURETTOR** (on stand with wheels) - manual

**VB 5195M** 6 V CYLINDERS PETROL ENGINE WITH **MULTI-POINT ELECTRONIC INJECTION** (on stand with wheels) - manual



Indicative picture for reference only

## VB 5190E

### Main technical specifications:

- 6 V cylinders
- Displacement: 2800/3200 cu. cm
- Overhead camshaft OHC (1 per head)
- Twin-body carburettor
- Centrifugal water pump
- 12 Volt alternator
- Membrane clutch

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.

The engines code **VB 5190E** and **VB 5195E** operate electrically at 220 volts and run at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

## VB 5190M

Same as VB 5190E but operated manually through a crank handle.

## VB 5195E

### Main technical specifications:

- 6 V cylinders
- Displacement: 2000-3000 cc
- DOHC (2 per head)
- Multi-point E.I.
- Centrifugal water pump
- 12V alternator

## VB 5195M

Same as VB 5195E but operated manually through a crank handle

## VB 5190E - VB 5195E - VB 5190M - VB 5195M

### Approx. weight and dim.:

Cm:	120x60x100h
Net Weight:	kg 190
Gross Weight:	kg 260



**VB 5210 CE FIAT PETROL ENGINE CARBURETTOR FEEDING**  
(on stand with wheels) - electrical

**VB 5210 IEE FIAT PETROL ENGINE WITH ELECTRONIC FUEL INJECTION - MONOJETRONIC** (on stand with wheels) - electrical

**VB 5212 IEE FIAT PETROL ENGINE WITH ELECTRONIC FUEL INJECTION - MULTI-POINT** (on stand with wheels) - electrical

#### **VB 5210 CE**

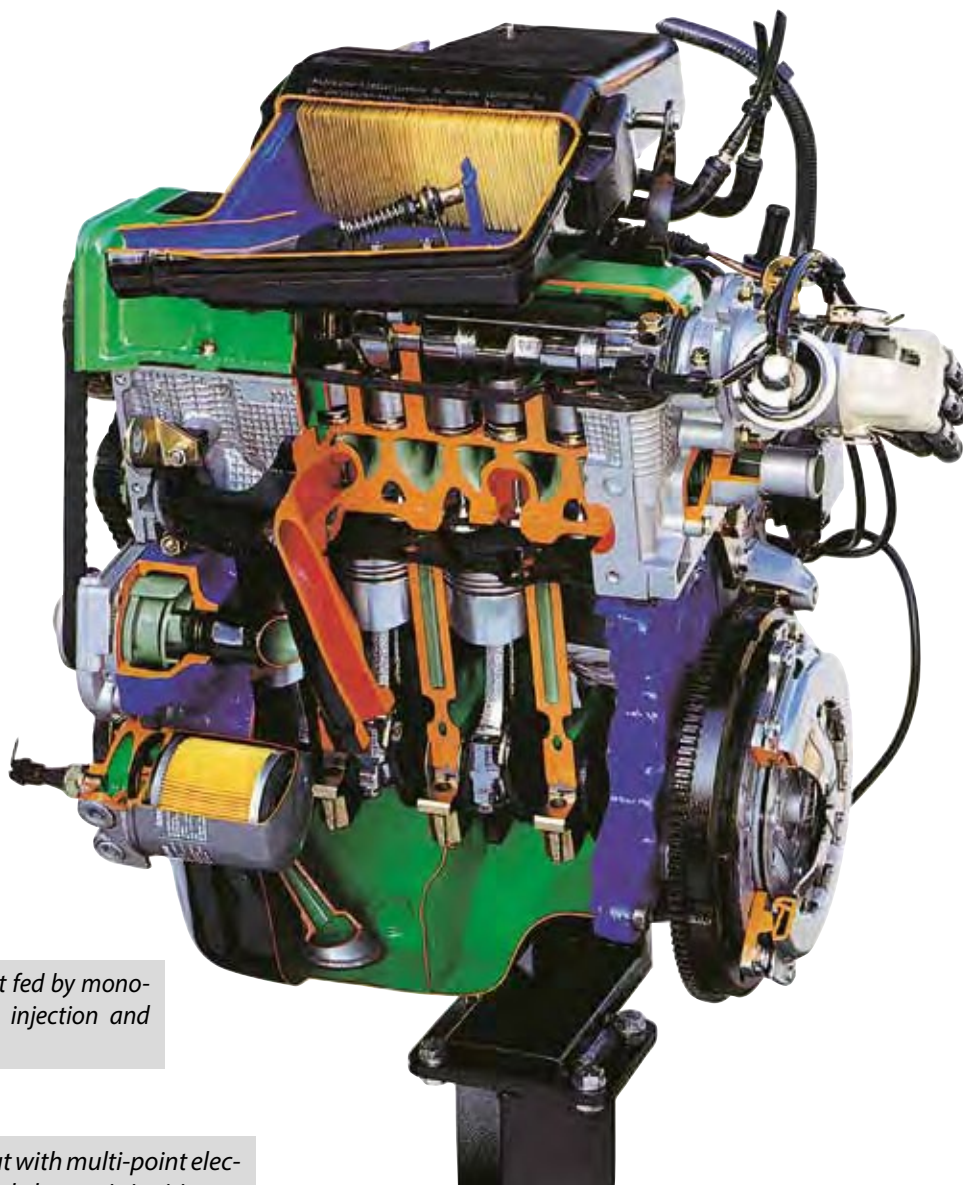
##### **Main technical specifications:**

- 4 in-line cylinders
- Displacement: 1000/1300 cu. cm
- Overhead camshaft - OHC
- Carburettor
- Electronic ignition
- Alternator
- Toothed belt

#### **VB 5210 IEE - VB 5212 IEE**

##### **Main technical specifications:**

- 4 in-line cylinders
- Displacement 1245 cc
- Overhead camshaft -OHC
- Electronic injection
- Electronic ignition
- Toothed belt
- Alternator



#### **VB 5210 IEE**

*Same as VB 5210CE but fed by mono-jetronic electronic fuel injection and electronic ignition.*

#### **VB 5212 IEE**

*Same as VB 5210IEE but with multi-point electronic fuel injection and electronic ignition.*

*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

#### **VB 5210 CE - VB 5210 IEE - VB 5212 IEE** **Approx. weight and dim.:**

Cm:	67x87x85h
Net Weight:	kg 60
Gross Weight:	kg 120

Indicative picture for reference only

**VB 5210 C - VB 5210 IE - VB 5212 IE**

**VB 5210 CM** FIAT PETROL ENGINE **CARBURETTOR** FEEDING (on stand with wheels) - manual

**VB 5210 IEM** FIAT PETROL ENGINE WITH ELECTRONIC FUEL INJECTION - **MONOJETRONIC** (on stand with wheels) - manual

**VB 5212 IEM** FIAT PETROL ENGINE WITH ELECTRONIC FUEL INJECTION - **MULTI-POINT** (on stand with wheels) - manual

## VB 5210 CM

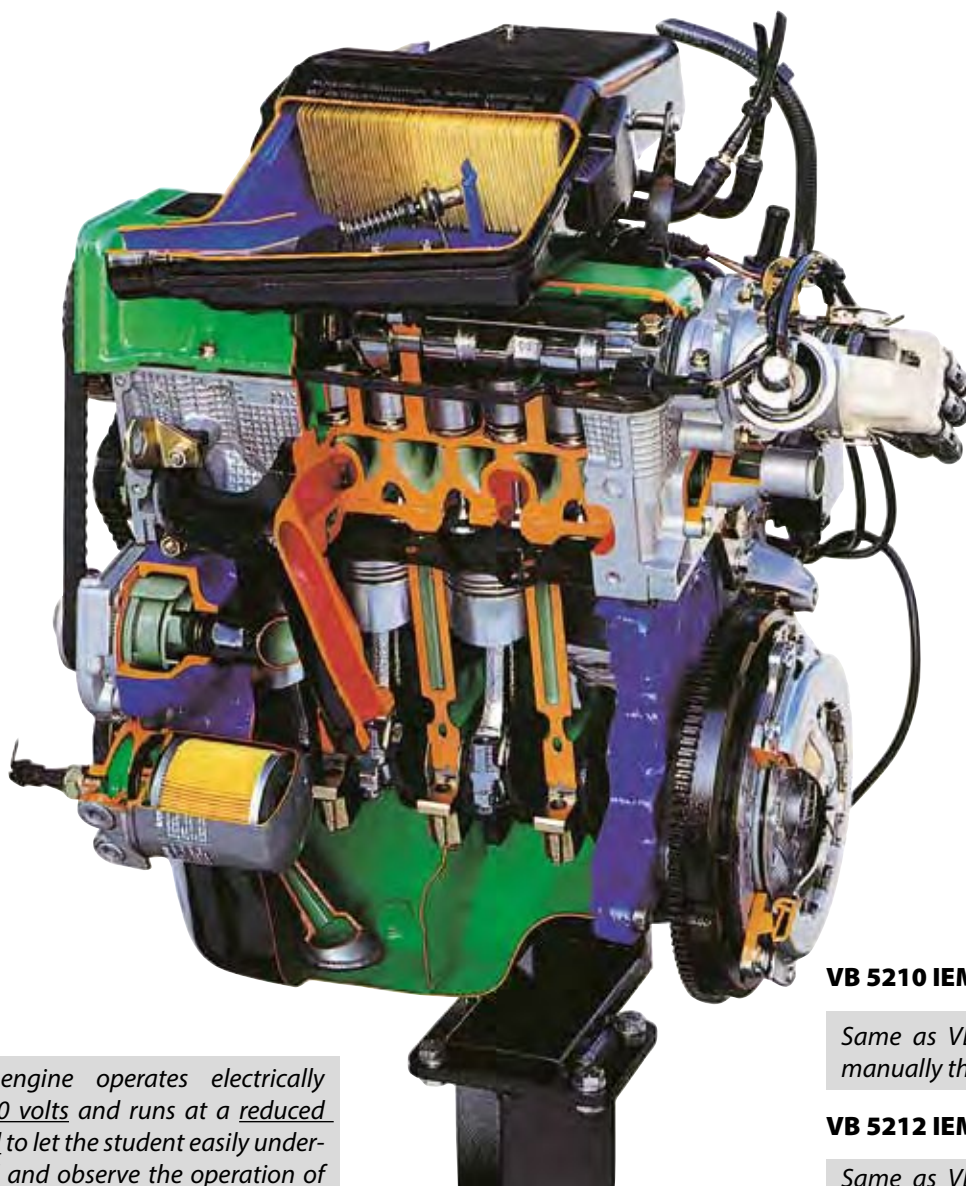
### Main technical specifications:

- 4 in-line cylinders
- Displacement: 1000/1300 cu. cm
- Overhead camshaft - OHC
- Carburettor
- Electronic ignition
- Alternator
- Toothed belt

## VB 5210 IEM - VB 5212 IEM

### Main technical specifications:

- 4 in-line cylinders
- Displacement 1245 cc
- Overhead camshaft - OHC
- Electronic injection
- Electronic ignition
- Toothed belt
- Alternator



The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

## VB 5210 CM

Same as VB 5210CE but operated manually through a crank handle.

## VB 5210 IEM

Same as VB 5210IEE but operated manually through a crank handle.

## VB 5212 IEM

Same as VB 5212IEE but operated manually through a crank handle.

## VB 5210 CM - VB 5210 IEM - VB 5212 IEM

### Approx. weight and dim.:

Cm: 67x87x85h  
 Net Weight: kg 60  
 Gross Weight: kg 120

Indicative picture for reference only

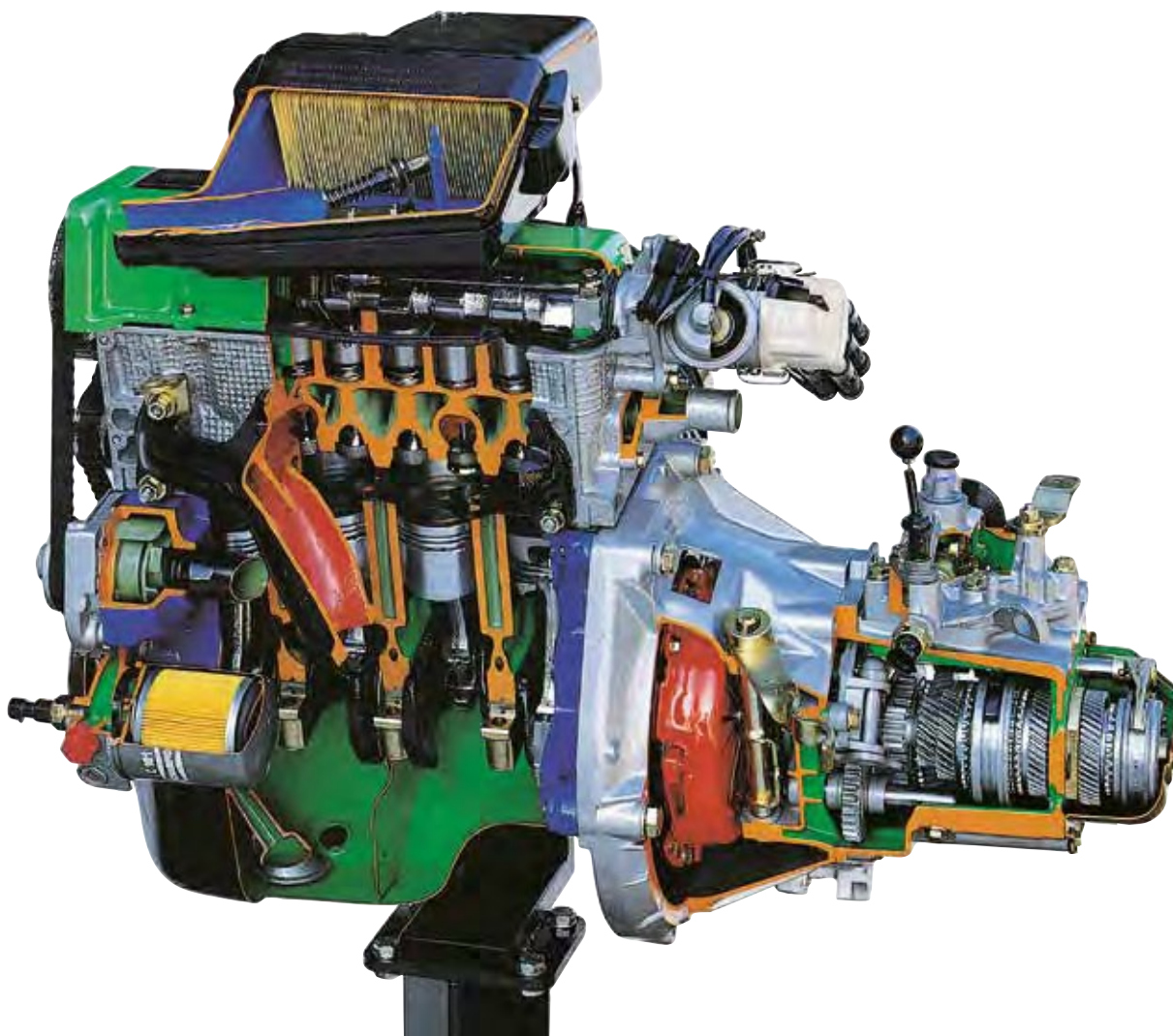


**VB 5220 CE** FIAT PETROL ENGINE WITH **CARBURETTOR** + GEARBOX  
(on stand with wheels) - electrical

**VB 5220 IEE** FIAT PETROL ENGINE WITH ELECTRONIC INJECTION -  
**MONOJETRONIC** + GEARBOX (on stand with wheels) - electrical

**VB 5222 IEE** FIAT PETROL ENGINE WITH **MULTI-POINT** ELECTRONIC INJECTION +  
GEARBOX (on stand with wheels) - electrical

Indicative picture for reference only



**VB 5220 C - VB 5220 IE - VB 5222 IE**

#### **VB 5220 CE**

##### **Main technical specifications:**

- 4 in-line cylinders
- Displacement: 1000/1300 cu. cm
- Overhead camshaft - OHC
- Carburettor
- Electronic ignition
- Timing belt distribution
- Gearbox: 5 forward speeds + reverse with differential

The engine operates electrically at 220 volts and run at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

#### **VB 5222 IEE**

##### **Main technical specifications:**

- 4 in-line cylinders
- Displacement: 1250 cc
- Overhead camshaft - OHC
- Electronic ignition
- Multi-point electronic injection
- Gearbox with 5F + R + differential

#### **VB 5220 IEE**

Same as VB 5220CE but with electronic mono-jetronic fuel injection.

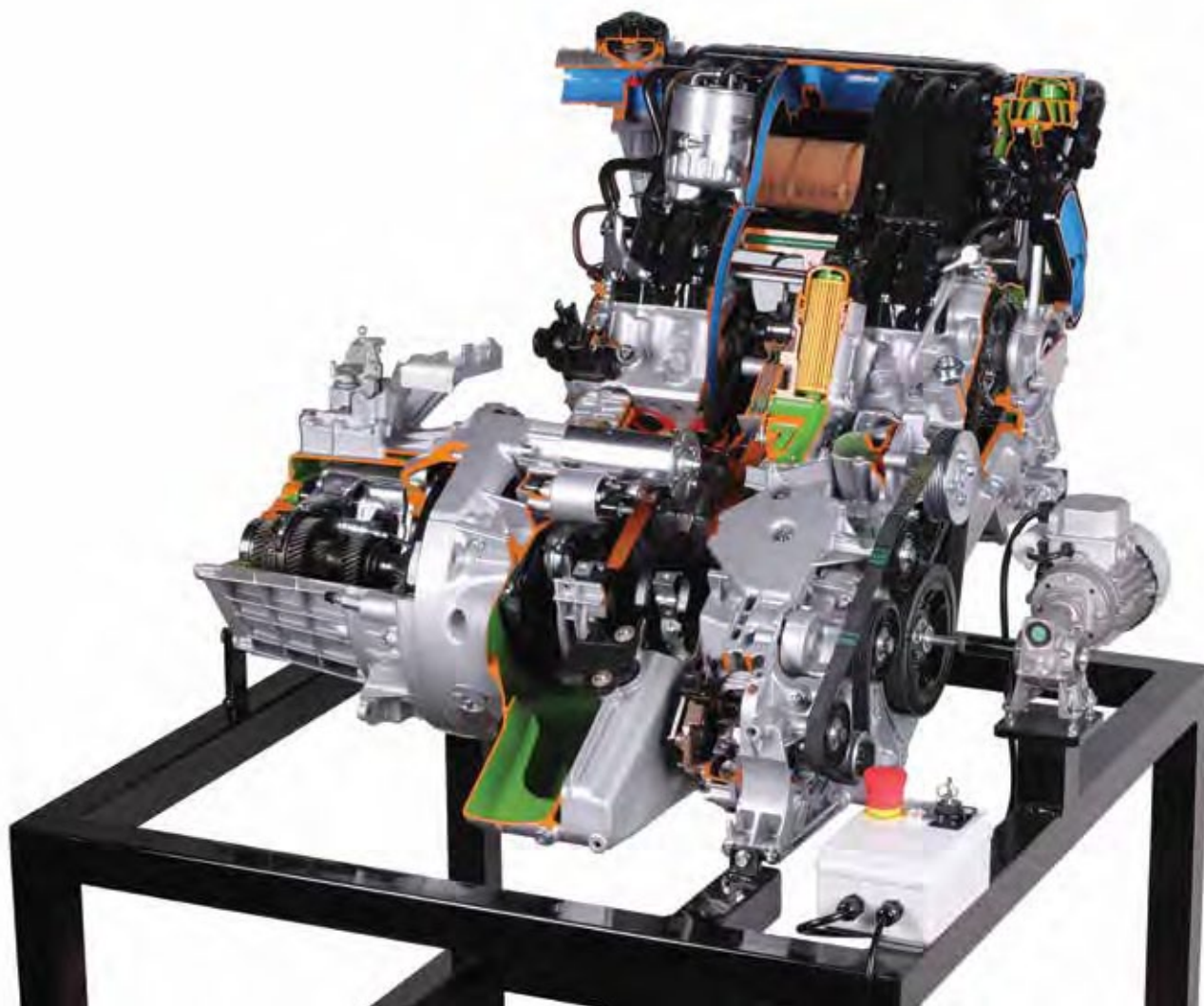
#### **VB 5220 CE - VB 5220 IEE - VB 5222 IEE**

##### **Approx. weight and dim.:**

Cm: 120x70x100h  
Net Weight: kg 90  
Gross Weight: kg 140

**VB 5243E** MERCEDES A CLASS PETROL ENGINE WITH MULTI-POINT ELECTRONIC INJECTION + GEARBOX (on stand with wheels) – electrical

**VB 5243M** MERCEDES A CLASS PETROL ENGINE WITH MULTI-POINT ELECTRONIC INJECTION + GEARBOX (on stand with wheels) - manual



Indicative picture for reference only

### Main technical specifications:

- Mercedes A class petrol engine
- 4 stroke, 4 cylinders
- Displacement: 1600 cc
- Overhead camshaft OHC
- 8 valves
- Multipoint electronic injection
- Oil pump, oil filter
- Air filter, water cooling
- Intake manifold
- Air-mass flow sensor
- Clutch
- Gearbox 5 forward speeds + reverse
- Differential

### Approx. weight and dim.:

Cm:	110x110x150h
Net Weight:	kg 170
Gross Weight:	kg 250

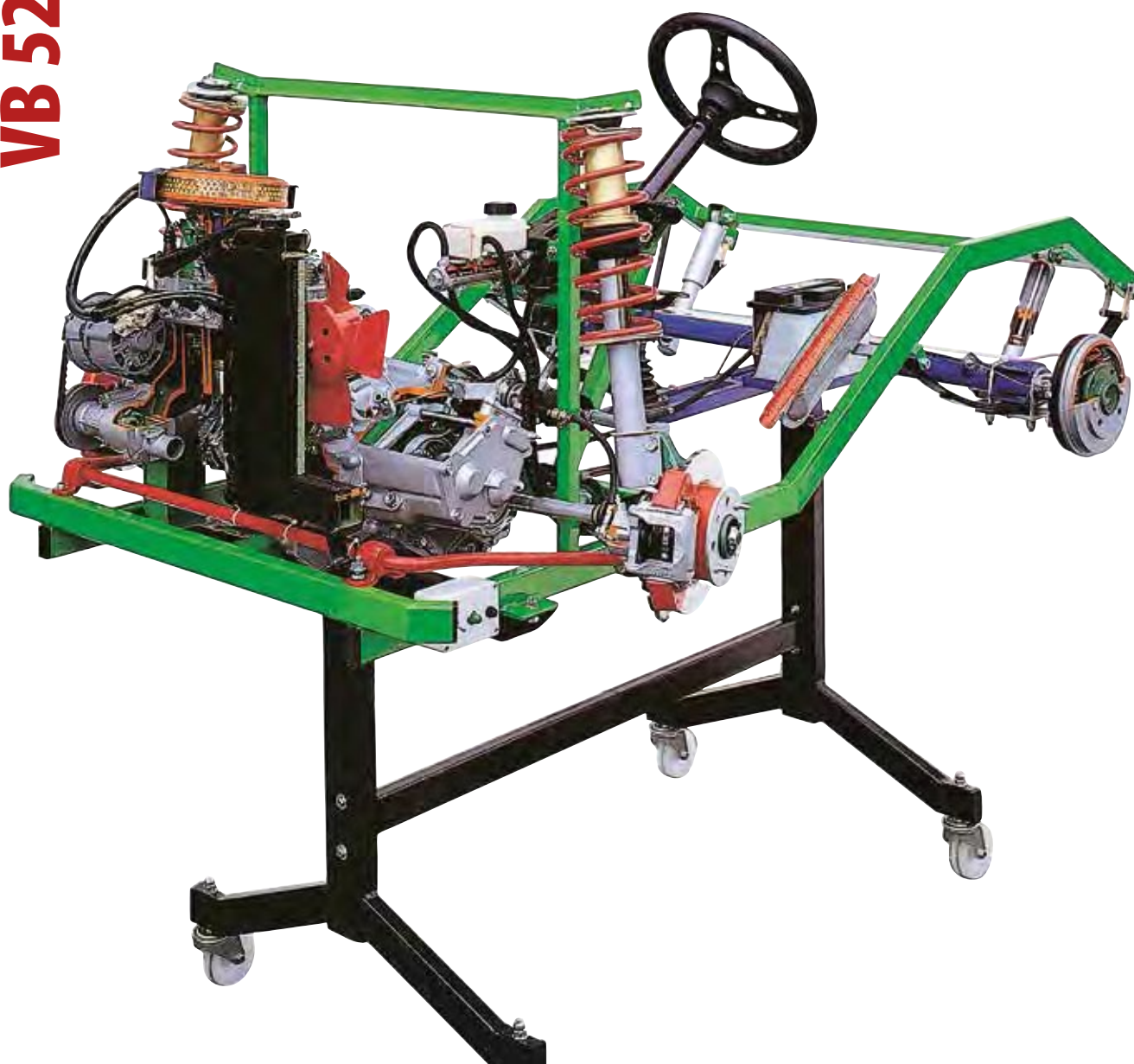






## CARBURETTOR CHASSIS

**VB 5250 PE FRONT DRIVE PETROL ENGINE CHASSIS WITH CARBURETTOR**  
(on stand with wheels) - electrical



Indicative picture for reference only

### Main technical specifications:

- Displacement: 900 cu. cm approx.
- Camshaft in the crankcase
- Single body carburettor
- Coil ignition
- Gearbox: 4 forward speed + reverse, with differential
- Mc Pherson front suspension
- Rear suspensions + leaf spring
- Hydraulic shock absorbers
- Front disc brake/rear drum brake
- Rack steering box

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

**Working light system on request.**

### Approx. weight and dim.

Cm:	140x210x90h
Net Weight:	kg 250
Gross Weight:	kg 350



## INJECTION CHASSIS

**VB 5272E PETROL MULTI-POINT ENGINE CHASSIS WITH ABS AND HYDRAULIC POWER STEERING + WORKING LIGHT SYSTEM (on stand with wheels) - electrical**

**VB 5273E PETROL MULTI-POINT ENGINE CHASSIS WITH ABS AND HYDRAULIC POWER STEERING (on stand with wheels) - electrical**

**VB 5272 - VB 5273**



Indicative picture for reference only

### VB 5272E

#### Main technical specifications:

- Fiat chassis with front drive (transversally mounted engine)
- Petrol engine, 4 cylinders, displacement: 1200 Cu. Cm, complete of all accessories
- Electronic injection MPI (Multipoint) and electronic ignition controlled by a single electronic ECU (engine control unit)
- Catalytic converter with oxygen (Lambda) sensor
- Gearbox: 5 forward speeds+reverse+ differential
- Hydraulic power steering with double-jointed steering column
- Brake system with 4 sensors ABS
- Radiator with electric fan
- Front-disc brake
- Rear-drum or disc brake
- Independent wheels McPherson front suspension with oscillating arms
- Rear independent suspensions with oscillating arms
- Working front and back lighting system controlled by a dashboard

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.

### VB 5273E

Same as VB 5272E, but without light system.

### VB 5272E - VB 5273E

#### Approx. weight and dim.:

Cm:	220x160x115h
Net Weight:	kg 290
Gross Weight:	kg 400

The engine operates electrically 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

## INJECTION CHASSIS

**VB 5274E STANDARD PETROL MULTI-POINT ENGINE CHASSIS WITH WORKING LIGHT SYSTEM (on stand with wheels) - electrical**

**VB 5275E STANDARD PETROL MULTI-POINT ENGINE CHASSIS (on stand with wheels) - electrical**

**VB 5276E PETROL SINGLE-POINT ENGINE CHASSIS WITH WORKING LIGHT SYSTEM (on stand with wheels) - electrical**

**VB 5277E PETROL SINGLE-POINT ENGINE CHASSIS (on stand with wheels) - electrical**

### VB 5274E

#### Main technical specifications:

- Fiat chassis with front drive (transversally mounted engine)
- Petrol engine, 4 cylinders, displacement: 1200 Cu. Cm, complete of all accessories
- Electronic injection MPI (Multi-point) and electronic ignition controlled by a single electronic ECU (engine control unit)
- Catalytic converter with oxygen (Lambda) sensor
- Gearbox: 5 forward speeds+reverse+ differential
- Driving box gauge line with double-jointed steering column
- Radiator with electric fan
- Double circuit brake system with servo brake
- Front-disc brake
- Rear-drum brake
- Working front and rear light system controlled by a dashboard

### VB 5276E

#### Main technical specifications:

- Fiat chassis with front drive (transversally mounted engine)
- Petrol engine, 4 cylinders, displacement: 1100/1200 Cu. Cm, complete of all accessories
- Electronic injection SPI (Single-point) and electronic ignition controlled by a single electronic ECU (engine control unit)
- Gearbox: 5 forward speeds+reverse+ differential
- Driving box gauge line with double-jointed steering column
- Radiator with electric fan
- Double circuit brake system with servo brake
- Front-disc brake
- Rear-drum brake
- Independent wheels McPherson front suspensions with oscillating arms
- Rear independent suspension with coil spring and gas shock absorbers
- Working front and rear light system controlled by a dashboard

### VB 5275E

Same as VB 5274E, but without light system.

The engine operates electrically at 230 Volts/50Hz and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### VB 5277E

Same as VB 5276E, but without light system.

### VB 5274E - VB 5275E - VB5276E - VB 5277E

#### Approx. weight and dim.:

Cm:	220x160x115h
Net Weight:	kg 290
Gross Weight:	kg 400

Indicative picture for reference only



*Indicative picture for reference only*



**VB 5274 - VB 5275 - VB 5276 - VB 5277**

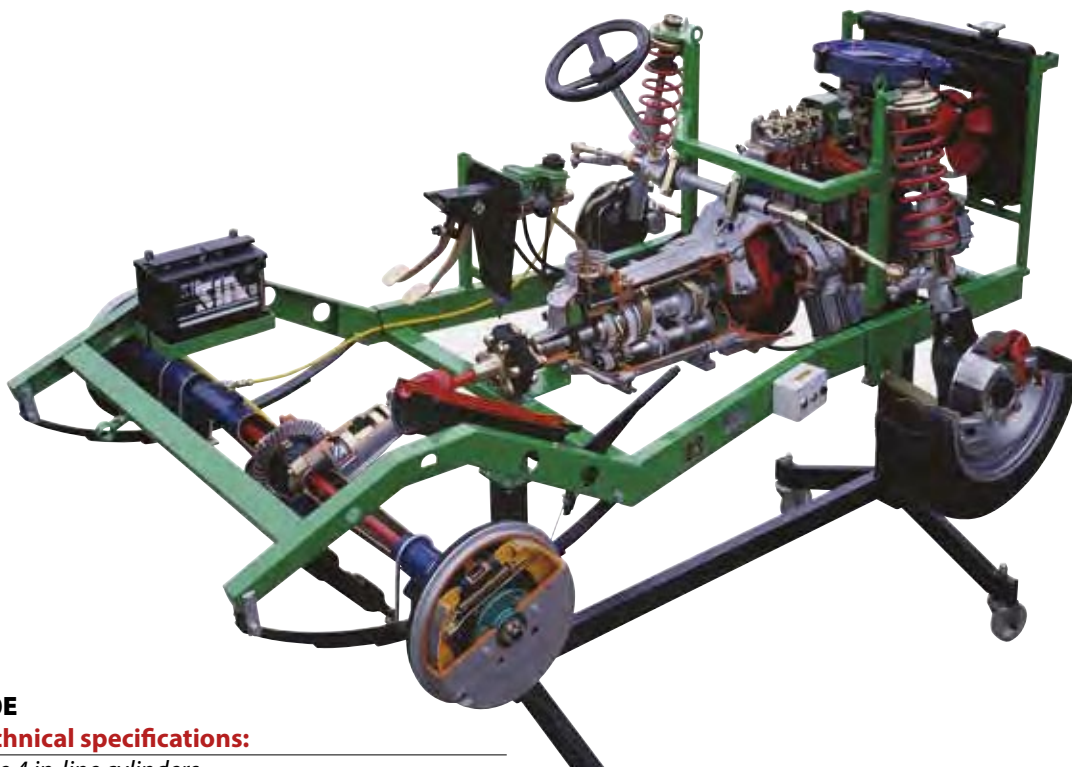
## CARBURETTOR CHASSIS

**VB 5300E** FIAT CAR CHASSIS FRONT ENGINE CARBURETTOR WITH REAR DRIVE (on stand with wheels) - electrical

**VB 5310E** FIAT CAR CHASSIS FRONT ENGINE CARBURETTOR WITH REAR DRIVE WITH SIMULATED IGNITION (on stand with wheels) - electrical

**VB 5320E** FIAT CAR CHASSIS FRONT ENGINE CARBURETTOR WITH REAR DRIVE (on stand with wheels) - manual

**VB 5330E** FIAT CAR CHASSIS FRONT ENGINE CARBURETTOR WITH REAR DRIVE WITH WORKING LIGHT SYSTEM (on stand with wheels) - electrical



Indicative picture for reference only

### VB 5300E

#### Main technical specifications:

- 4-stroke 4 in-line cylinders
- Displacement: 2000 cu. cm
- Gearbox: 4/5 forward speeds + reverse
- Hypoid differential
- Camshaft in the crankcase
- Vertical twin carburettor
- Water cooling
- Spring single plate clutch
- McPherson front suspension
- Front disc brakes and rear drum brakes
- Rack steering box
- Drive shaft with mechanical and flexible joint
- Rear leaf spring suspension

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### VB 5310E

Same as VB 5300E, but with simulated ignition (small bulbs, located on the relevant spark plug, which light up during the combustion phase).

### VB 5320E

Same as VB 5300E, but operated manually through a crank handle (without geared motor and simulated ignition).

### VB 5330E FIAT SINGLE SHAFT CHASSIS WITH LIGHTS

Same as VB 5300E complete with working light system. Complete with regulation lights, rear fog lights, reverse and emergency lights, etc. The electrical controls are assembled on a dashboard complete with warning lights.

### VB 5300E - VB 5310E - VB 5320E - VB 5330E

#### Approx. weight and dim.:

Cm:	145x220x100h
Net Weight:	kg 300
Gross Weight:	kg 420



## INJECTION CHASSIS

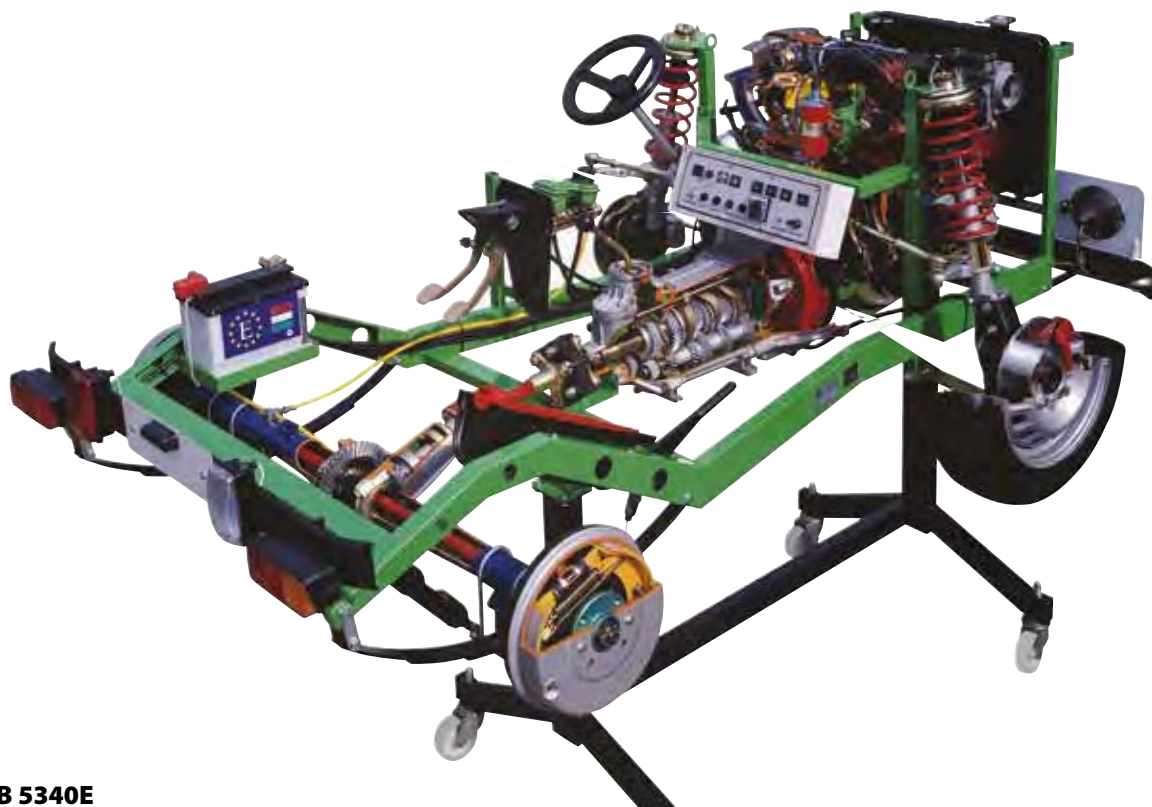
**VB 5340E** FIAT DOUBLE SHAFT (DOHC) WITH MULTI-POINT ELECTRONIC INJECTION WITH LIGHT SYSTEM (on stand with wheels) - electrical

**VB 5350E** FIAT DOUBLE SHAFT (DOHC) WITH MULTI-POINT ELECTRONIC INJECTION (on stand with wheels) - electrical

**VB 5360E** FIAT DOUBLE SHAFT (DOHC) WITH PETROL ENGINE CARBURETTOR (on stand with wheels) - electrical

**VB 5370E** FIAT DOUBLE SHAFT (DOHC) WITH PETROL ENGINE CARBURETTOR WITH WORKING LIGHT SYSTEM (on stand with wheels) - electrical

Indicative picture for reference only



### VB 5340E

#### Main technical specifications:

- 4-stroke petrol engine 4-cylinders
- Displacement: 2000 cu. cm
- Gearbox: 5 forward speeds + reverse
- Differential with hypoid crown wheel and pinion
- Twin overhead camshaft driven by a toothed belt
- Electronic ignition
- Dual braking circuit
- McPherson front suspension
- Front disc brakes and rear drum brakes
- Rack steering box
- Rear leaf spring suspension

#### Working light system

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### VB 5350E

Same as VB 5340, but without working light system.

### VB 5360E

Same as VB 5350, but with petrol engine double shaft (DOHC) carburettor (same engine as of VB 5100)

### VB 5370E

Same as VB 5360E complete with working light system.

### VB 5340E - VB 5350E - VB 5360E - VB 5370E

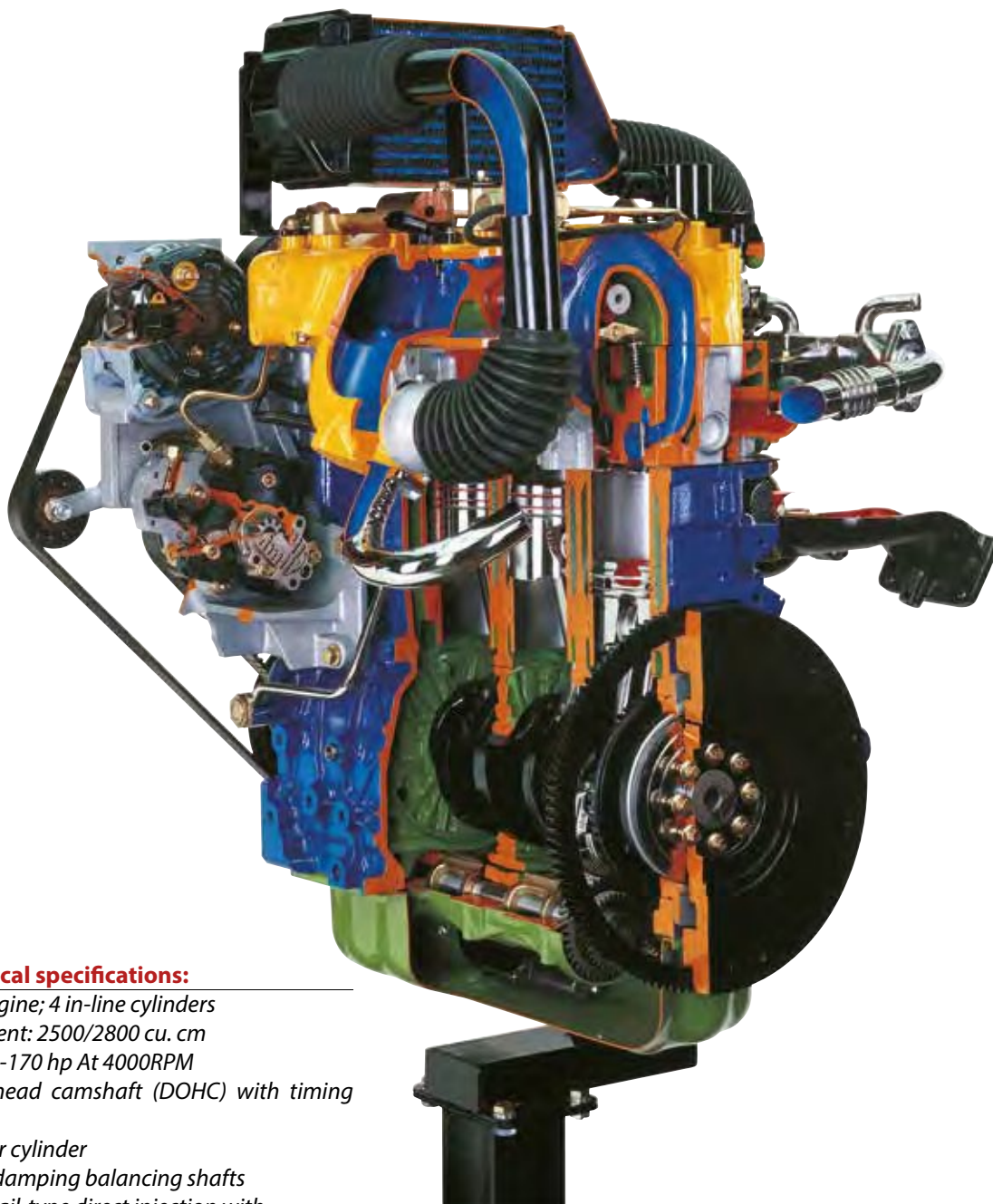
#### Approx. weight and dim.:

Cm:	145x220x100h
Net Weight:	kg 300
Gross Weight:	kg 420

**VB 5340 - VB 5350 - VB 5360 - VB 5370**

**VB 6010E 16 VALVE CHRYSLER TURBO DIESEL ENGINE WITH COMMON-RAIL INTERCOOLER (on stand with wheels) - electrical**

**VB 6010M 16 VALVE CHRYSLER TURBO DIESEL ENGINE WITH COMMON-RAIL INTERCOOLER (on stand with wheels) - manual**



Indicative picture for reference only

## VB 6010E

### Main technical specifications:

- 4 stroke engine; 4 in-line cylinders
- Displacement: 2500/2800 cu. cm
- Power: 150-170 hp At 4000RPM
- Twin overhead camshaft (DOHC) with timing belt
- 4 valves per cylinder
- Vibration-damping balancing shafts
- Common rail-type direct injection with electro-injectors
- Turbo-supercharger with air-air intercooler
- Alternator-oil filter-oil pump

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate among the various parts, cross-sections, lubricating circuits, fuel system, cooling system etc. Many parts have been chromium, plated and galvanized for a longer life.

## VB 6010M

Same as VB 6010E but operated manually through a crank handle.

## VB 6010E - VB 6010M

### Approx. weight and dim.:

Cm:	90x90x120h
Net Weight:	kg 200
Gross Weight:	kg 270



**VB 6015E** FIAT/ALFA ROMEO 8 VALVE ENGINE with TURBO DIESEL COMMN-RAIL (on stand with wheels) –electrical

**VB 6015M** FIAT/ALFA ROMEO 8 VALVE ENGINE with TURBO DIESEL COM-MN-RAIL (on stand with wheels) – manual

**VB 6017E** FIAT/ALFA ROMEO 8 VALVE ENGINE with TURBO DIESEL COMMN-RAIL WITH FRONT DRIVE GEARBOX 5 SPEEDS + REVERSE + DIFFERENTIAL (on stand with wheels) – electrical

**VB 6015 - VB 6017**

Indicative picture for reference only



#### **VB 6015E**

##### **Main technical specifications:**

- 4 stroke engine; 4 in-line cylinders
- Displacement: 1900 cu. cm
- Power: 115 hp. At 4000 RPM
- Overhead camshaft (OHC) with timing belt
- 2 valves per cylinder
- Common rail-type direct injection with electro-injectors
- Turbo-supercharger
- Alternator-oil filter-oil pump

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

#### **VB 6017E**

##### **Main technical specifications:**

- 4 stroke engine; 4 in-line cylinders
- Displacement: 1900 cu. cm
- Power: 115 hp. At 4000 RPM
- Overhead camshaft (OHC) with timing belt
- 2 valves per cylinder
- Common rail-type direct injection with electro-injectors
- Turbo-supercharger
- Alternator-oil filter-oil pump
- Gearbox 5 speeds + reverse
- Differential
- Rear Drive gearbox on request

#### **VB 6015M**

Same as VB 6015E but operated electrically.

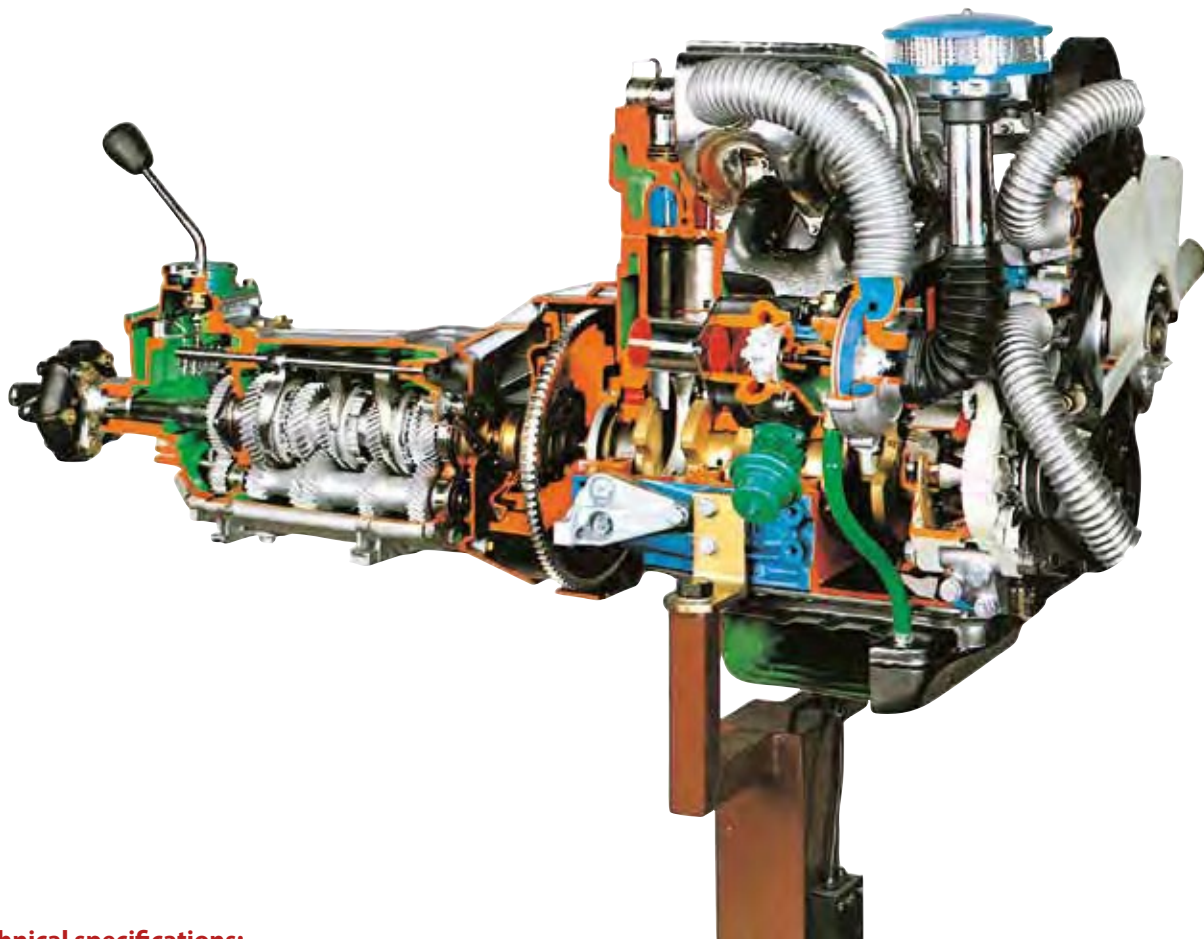
#### **VB 6015E - VB 6015M - VB 6017E**

##### **Approx. weight and dim.:**

Cm: 90x100x120h  
Net Weight: kg 150  
Gross Weight: kg 210

**VB 6020E FIAT TURBO DIESEL ENGINE FOR CAR AND LORRY  
(on stand with wheels) - electrical**

**VB 6040E FIAT DIESEL ENGINE FOR CAR AND LORRY WITHOUT  
TURBOSUPERCHARGER (on stand with wheels) - electrical**



Indicative picture for reference only

#### **Main technical specifications:**

- 4 stroke engine; 4 in-line cylinders
- Displacement: 1900 cu. cm
- Indirect injection
- VE Bosch type rotary injection pump
- Overhead camshaft (OHC)
- Distribution through a toothed belt
- Alternator
- Thermostatic valve
- Gearbox: 5 forward speeds + reverse
- Water cooling

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

#### **Approx. weight and dim.:**

Cm:	85x160x100h
Net Weight:	kg 220
Gross Weight:	kg 280



**VB 6070E REAR DRIVE TURBO DIESEL ENGINE WITH CLUTCH GEARBOX**  
(on stand with wheels) - electrical

**VB 6071E REAR DRIVE DIESEL ENGINE WITH CLUTCH GEARBOX WITHOUT TURBOSUPERCHARGER** (on stand with wheels) - electrical

**VB 6070 - VB 6071**

Indicative picture for reference only



**VB 6070E**

**Main technical specifications:**

- 4 stroke engine; 4 cylinders in line
- Displacement: 1400/1700 cu. cm
- Indirect injection
- Feeding by turbosupercharger
- VE Bosch type rotary injection pump
- Overhead camshaft (OHC)
- Distribution through a toothed belt
- Alternator
- Thermostatic valve
- Gearbox: 4 forward speeds + reverse
- Single-plate clutch with diaphragm
- Water cooling

**VB 6071E**

Same as VB 6070E but *without turbo-supercharger.*

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

**VB 6070E - VB 6071E**

**Approx. weight and dim.:**

Cm:	60x160x100h
Net Weight:	kg 150
Gross Weight:	kg 210



Indicative picture for reference only

## VB 6065E

### Main technical specifications:

- 4 stroke engine; 4 in-line cylinders
- Displacement: 1400-1700 cu. cm
- Indirect injection
- VE Bosch type rotary injection pump
- Overhead camshaft (OHC)
- Distribution through a toothed belt
- Alternator
- Thermostatic valve
- Power: 45 hp.
- Water cooling

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

## VB 6065M

Same as VB 6065E but operated manually through a crank handle.

## VB 6065E - VB 6065M

### Approx. weight and dim.:

Cm:	85x130x100h
Net Weight:	kg 160
Gross Weight:	kg 220

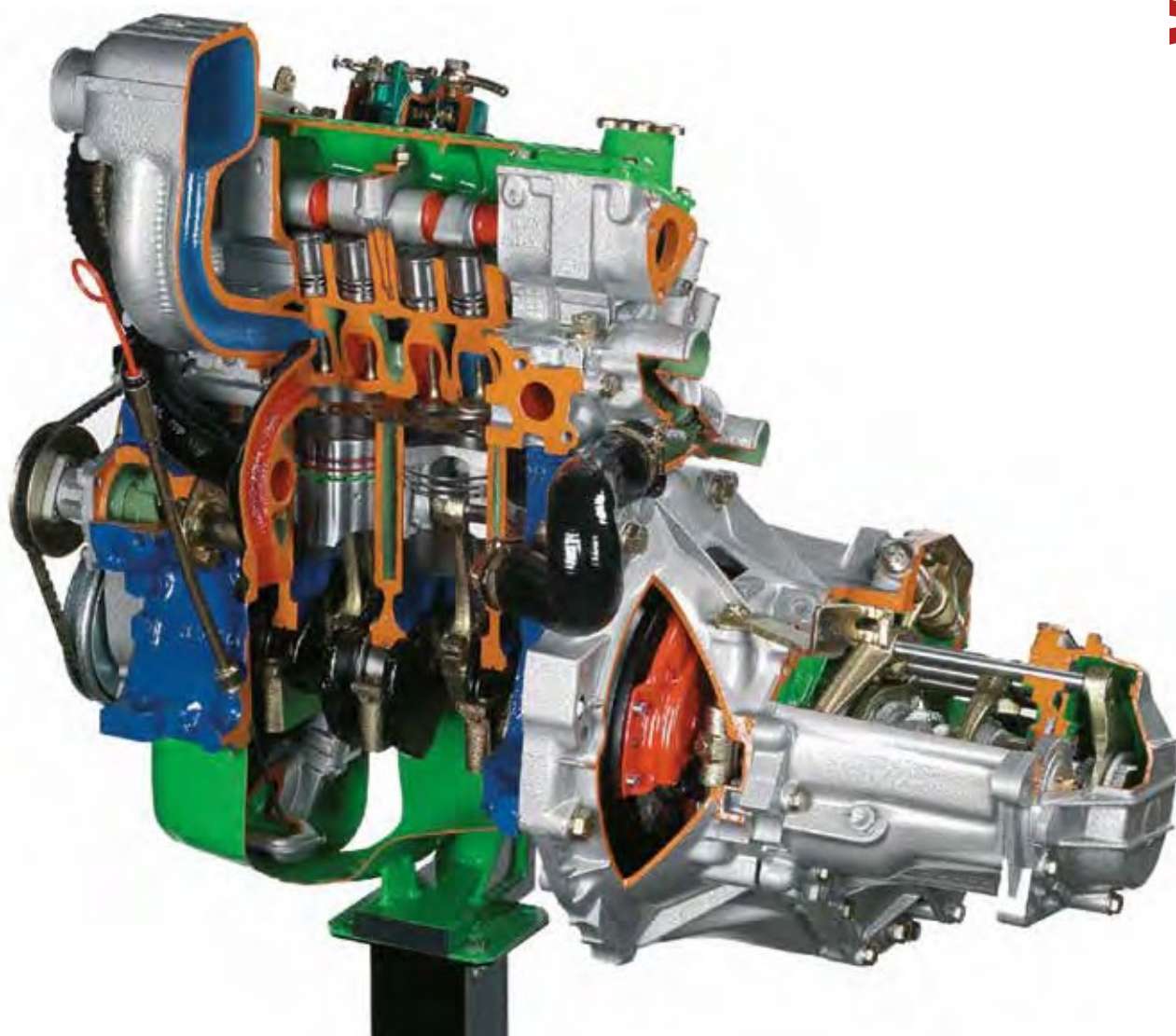


**VB 6068E FRONT DRIVE DIESEL ENGINE WITH CLUTCH-GEARBOX**  
(on stand with wheels) - electrical

**VB 6068M FRONT DRIVE DIESEL ENGINE WITH CLUTCH-GEARBOX**  
(on stand with wheels) - manual

**VB 6068**

Indicative picture for reference only



**VB 6068E**

**Main technical specifications:**

- 4 stroke engine; 4 in-line cylinders
- Displacement: 1400-1700 cu. cm
- Indirect injection
- VE Bosch type rotary injection pump
- Overhead camshaft (OHC)
- Distribution through a toothed belt
- Alternator
- Thermostatic valve
- Power: 45/70 cv
- Gearbox: 5 forward speeds + reverse and differential
- Single-plate clutch with diaphragm

The engine operates electrically at 220volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

**VB 6068M**

Same as VB 6068E but operated manually through a crank handle.

**VB 6068E - VB 6068M**

**Approx. weight and dim.:**

Cm:	130x86x100h
Net Weight:	kg 140
Gross Weight:	kg 200

# VB 6075 - VB 6076

**VB 6075M TURBO DIESEL ENGINE (CAR AND LORRY) WITH DIRECT FUEL INJECTION** (on stand with wheels) - manual

**VB 6076M TURBO DIESEL ENGINE (CAR AND LORRY) WITH INDIRECT FUEL INJECTION** (on stand with wheels) - manual



Indicative picture for reference only

## Main technical specifications:

- 4 stroke engine; 4 in-line cylinders
- Displacement: 2500 cu. cm
- Direct/indirect injection
- Feeding by turbo-supercharger
- VE Bosch type rotary injection pump
- Overhead camshaft (OHC)
- Distribution through a toothed belt
- Alternator
- Thermostatic valve
- Intercooler water-oil
- Water cooling

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.

## Approx. weight and dim.:

Cm:	90x100x120h
Net Weight:	kg 200
Gross Weight:	kg 260



**VB 6077E 4 CYLINDERS DIESEL ENGINE FOR FARM TRACTOR**  
(on stand with wheels) - electrical

**VB 6077**

Indicative picture for reference only



**Main technical specifications:**

- 4 cylinders indirect injection
- OHV camshaft in the crankcase
- Bosch in-line injection pump
- Gear timing
- Water cooling
- Gear oil pump
- Displacement: 1900 cu. cm

*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.*

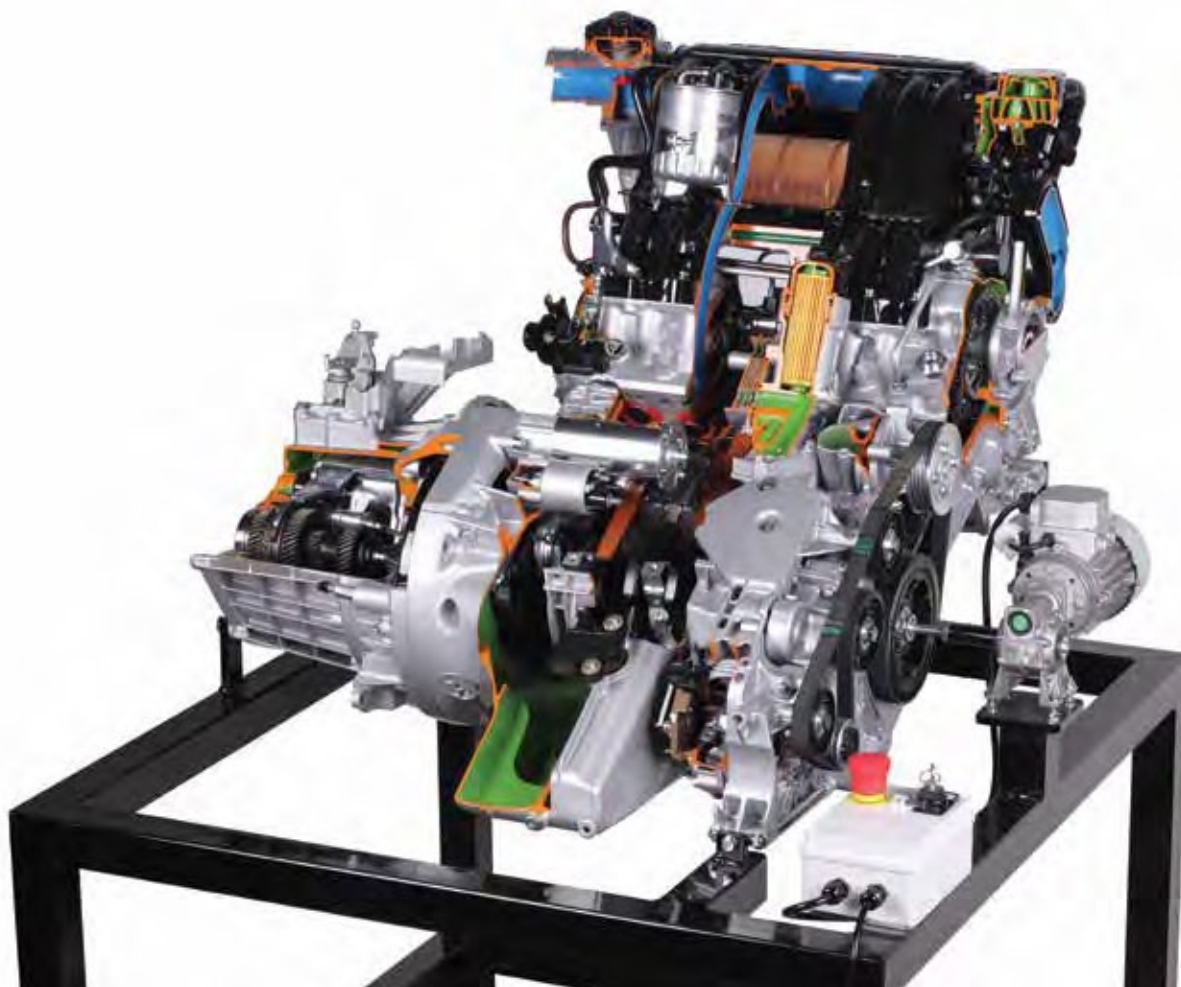
*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

**Approx. weight and dim.:**

Cm: 90x100x100h  
Net Weight: kg 280  
Gross Weight: kg 340

**VB 6078E MERCEDES A CLASS TURBO DIESEL ENGINE 16 VALVES + GEARBOX**  
(on stand with wheels) – electrical

**VB 6078M MERCEDES A CLASS TURBO DIESEL ENGINE 16 VALVES + GEARBOX**  
(on stand with wheels) – manual



Indicative picture for reference only

### Main technical specifications:

- Mercedes A class diesel engine
- Direct injection
- 4 stroke, 4 cylinders
- Displacement: 1700 cc
- Double overhead camshaft (DOHC)
- 16 valves
- Timing chain
- Common rail turbo diesel
- Oil pump, water cooling
- Air filter with box
- Intake manifold, Air mass flow sensor
- Starter motor alternator
- Clutch
- Gearbox 5 forward speeds + reverse
- Differential

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### Approx. weight and dim.:

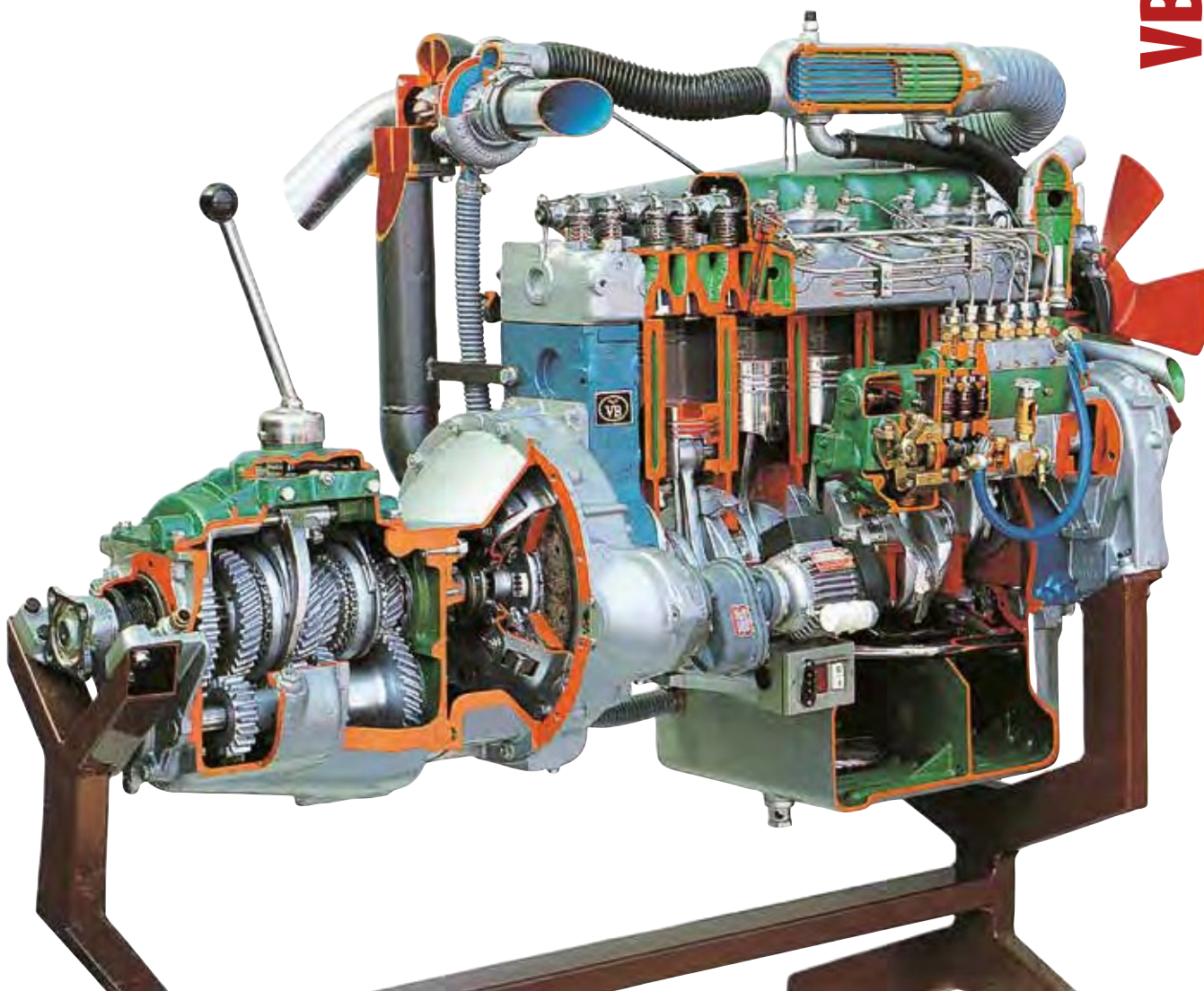
Cm:	110x110x150h
Net Weight:	kg 200
Gross Weight:	kg 280



**VB 6080E 6 CYLINDERS INTERCOOLER TURBO DIESEL ENGINE 5200 CU.CM**  
(for trucks) (on a sturdy stand with wheels) - electrical

**VB 6080**

Indicative picture for reference only



**Main technical specifications:**

- 4 stroke engine; 6 in-line cylinders
- Displacement: 5200 cu. cm
- 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

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

*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.*

**Approx. weight and dim.:**

Cm: 90x180x170h  
Net Weight: kg 450  
Gross Weight: kg 560

## VB 6083E 6 CYLINDERS DIESEL ENGINE TRUCK "IVECO" CURSOR WITH ELECTRONICALLY CONTROLLED PUMP INJECTORS (on a sturdy stand with wheels) - electrical



Indicative picture for reference only

### Main technical specifications:

- Displacement: 7790/10380 cu. Cm. according to what is available
- 4 stroke; 6 in-line cylinders
- 4 valves per cylinder
- Overhead camshaft (OHC)
- Water cooling
- Turbo-compressor
- Pump injectors electronically controlled
- Pre-heating device

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.

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

### Approx. weight and dim.:

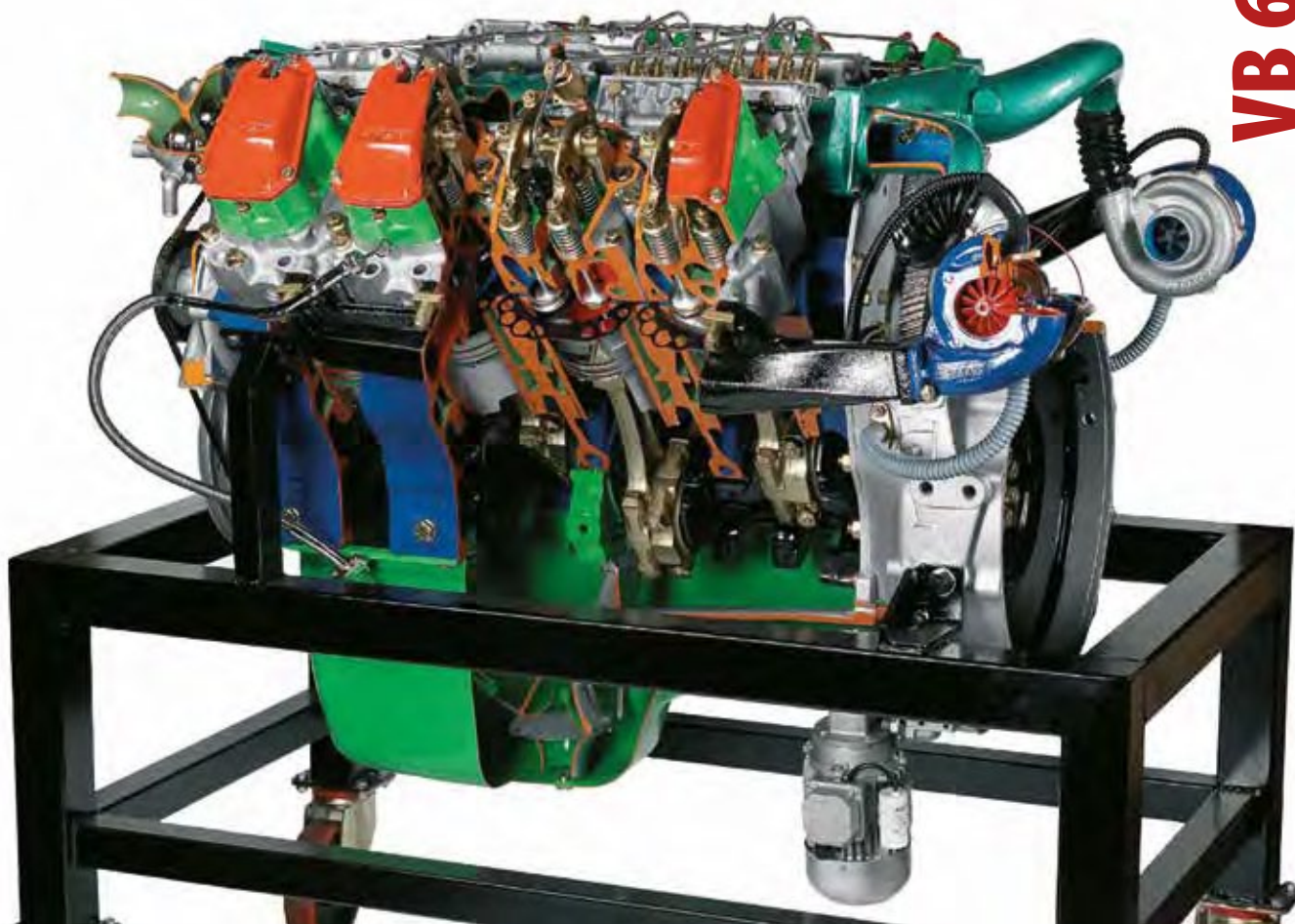
Cm:	200x105x150h
Net Weight:	kg 950
Gross Weight:	kg 1200



**VB 6084E 8 V CYLINDERS TURBO DIESEL ENGINE FOR TRUCK "IVECO TURBOSTAR  
190-38" 17.200 CU.CM (on a sturdy stand with wheels) - electrical**

**VB 6084**

Indicative picture for reference only



**Main technical specifications:**

- 4 strokes, 8 V cylinders
- Displacement: 17.200 cu. cm
- Power: 380 hp
- Direct injection
- Bosch type in-line injection pump with mechanical governor
- Intercooler water-oil
- 4 valves per cylinder
- Camshaft in the crankcase
- 2 turbo-superchargers
- Geared distribution



The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

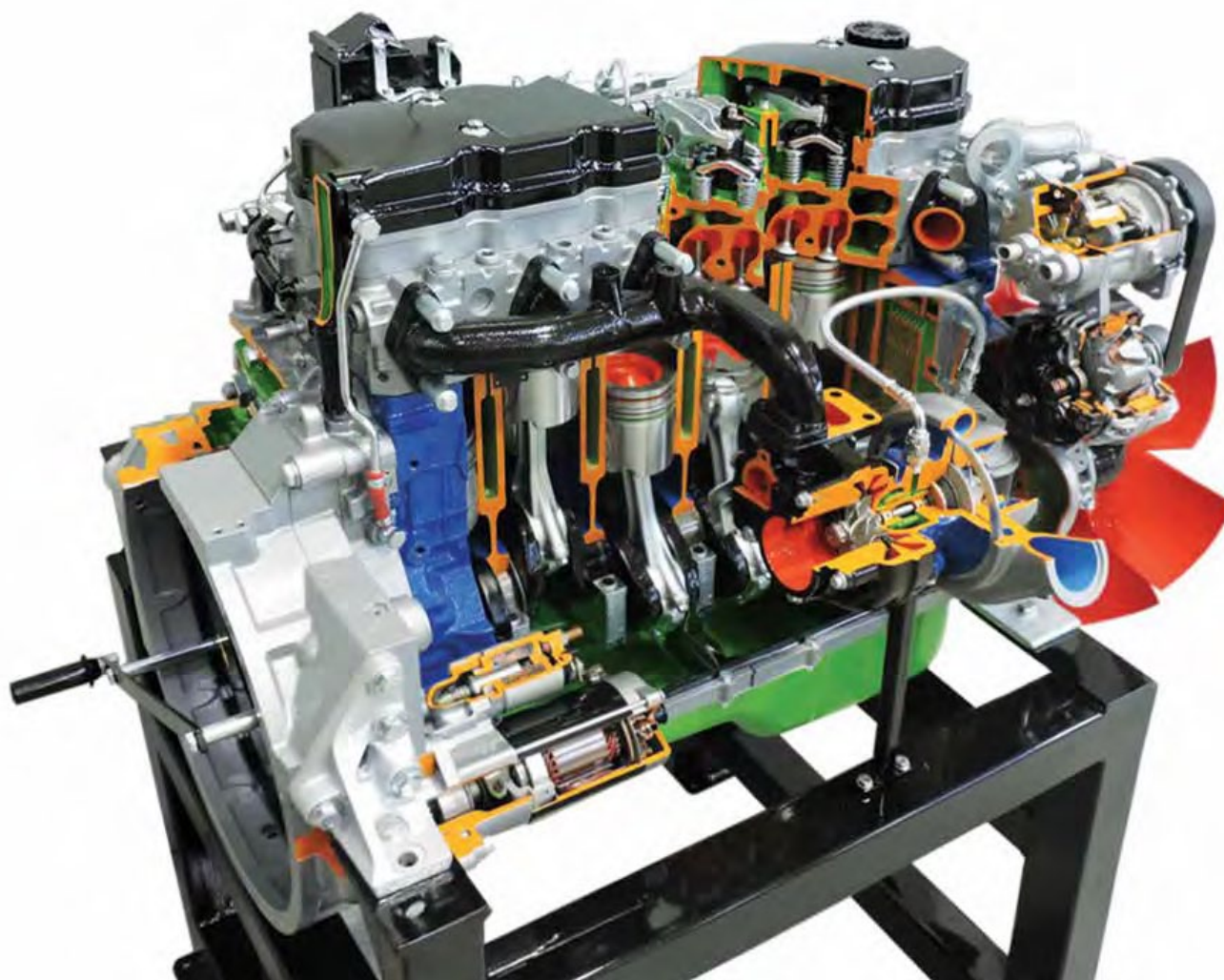
This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts, cross-sections, lubricating circuits, fuel system, cooling system etc. Many parts have been chromium, plated and galvanized for a longer life.

**Approx. weight and dim.:**

Cm:	120x185x150h
Net Weight:	kg 1100
Gross Weight:	kg 1400

**VB 6091E 6 CYLINDERS TURBO DIESEL COMMON RAIL ENGINE FOR IVECO TRUCKS (on stand with wheels) – electrical**

**VB 6091M 6 CYLINDERS TURBO DIESEL COMMON RAIL ENGINE FOR IVECO TRUCKS (on stand with wheels) – manual**



Indicative picture for reference only

### Main technical specifications:

- Displacement: 5900 Cm. cu
- 6 cylinders in-line with direct injection
- Camshaft in the crankcase (OHV)
- Geared timing
- 4 valves per cylinder
- Bosch common-rail injection
- Waste-gate turbocharger
- Alternator
- Air compressor
- Engine oil rotor pump
- Flange power steering pump
- Air conditioning pump
- Cooling fan with viscous joint

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### Approx. weight and dim.:

Cm:	140x100x165h
Net Weight:	kg 510
Gross Weight:	kg 630



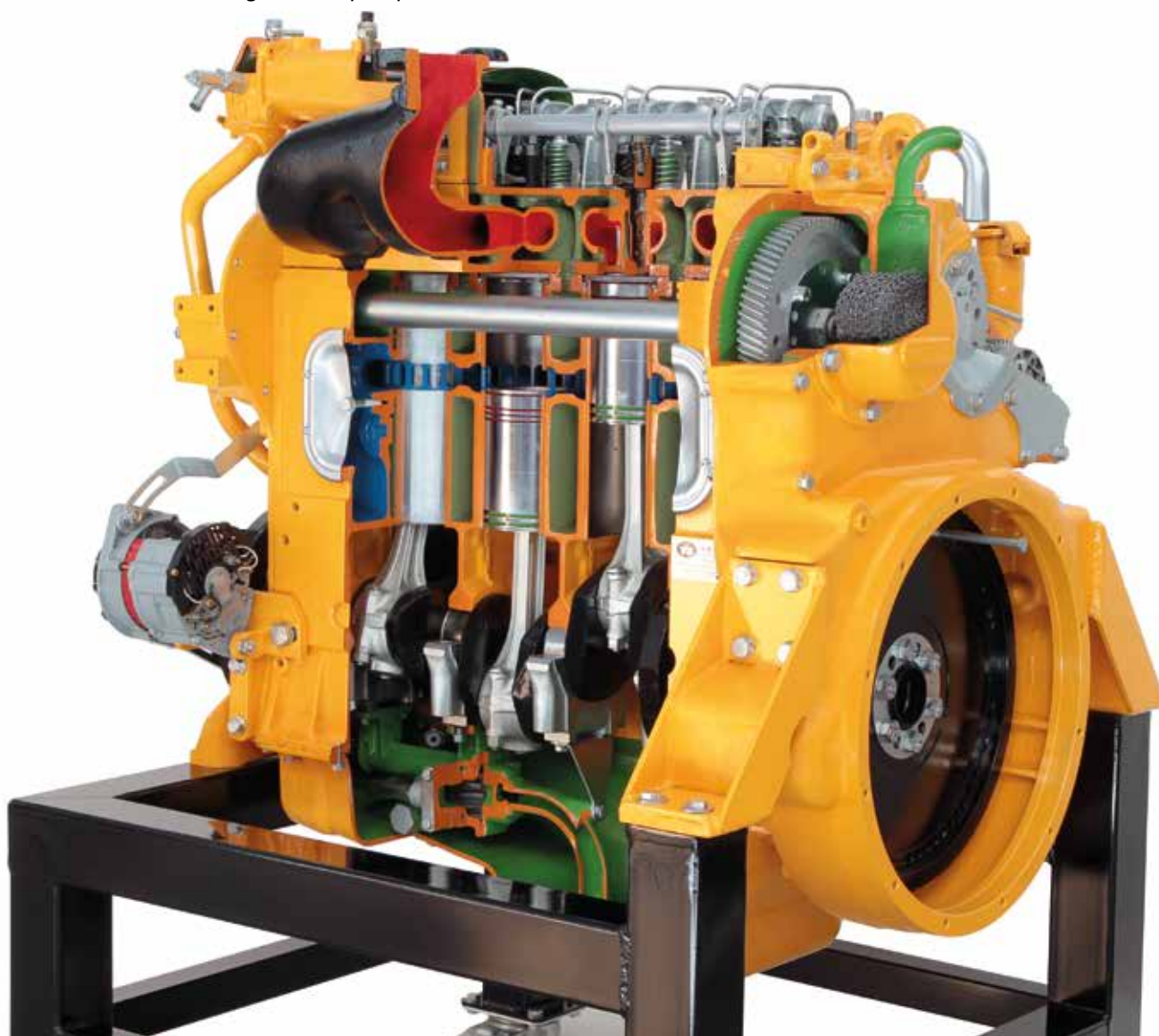
## **VB 6122E 2 STROKE 4 CYLINDERS DETROIT DIESEL ENGINE** **(on stand with wheels) - electrical**

Accurate section of a real industrial engine produced by the American Detroit Diesel; this engine is widely used in industrial and nautical fields.

The following components are clearly shown and highlighted:

- Air intake channels
- Lobe-type volumetric compressor
- Exhaust valves (2 or 4 per cylinder) controlled by camshaft in the monobloc
- Direct injection by means of a pump/injector for each cylinder
- Vibration-damping balancing shafts
- Water cooling with centrifugal pump
- Lubrication circuit with geared oil pump

Indicative picture for reference only



*The engine operates electrically by means of a 220V gear-motor.*

### **Approx. weight and dim.:**

Cm:	110x100x150h
Net Weight:	kg 630
Gross Weight:	kg 780

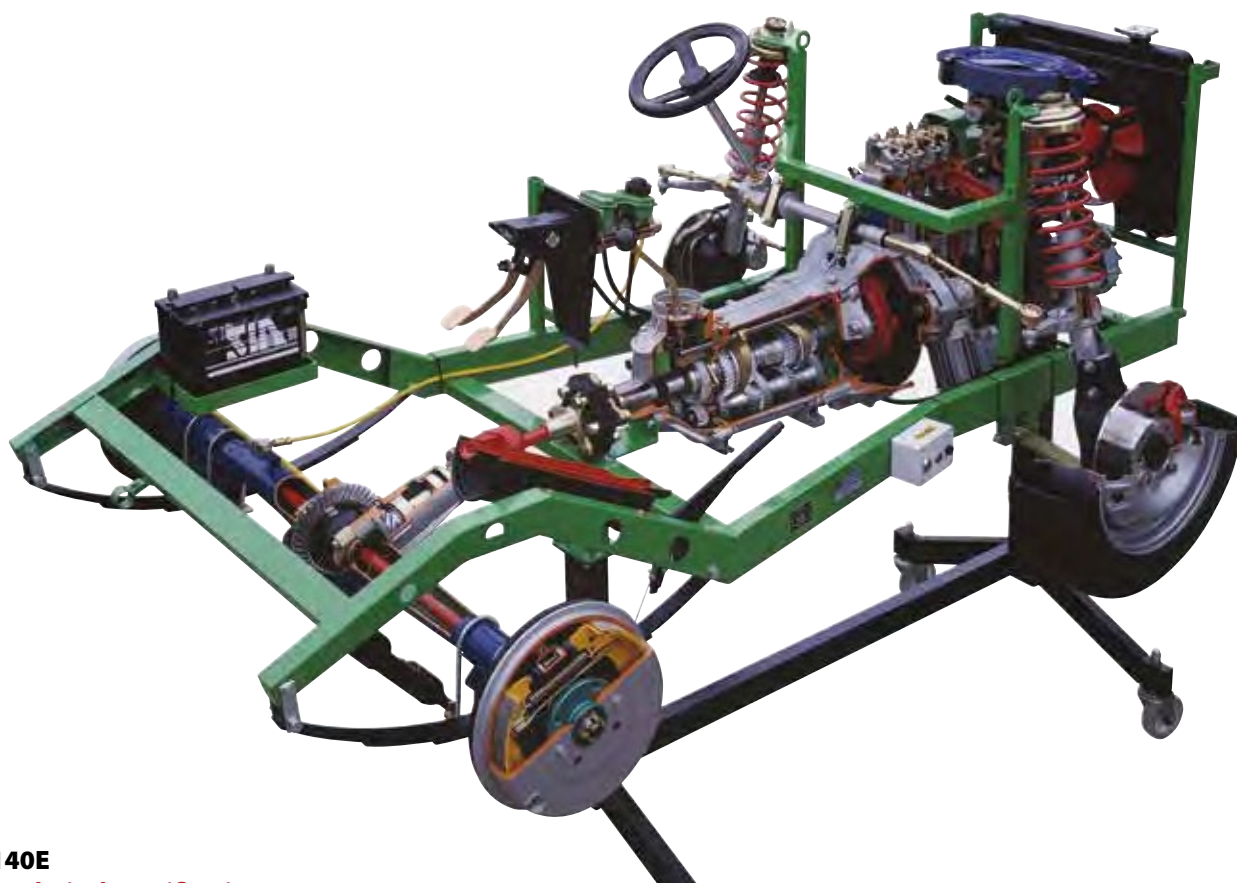


**VB 6140E FIAT TURBO DIESEL REAR DRIVE CHASSIS**  
(on a sturdy stand with wheels) - electrical

**VB 6150E FIAT DIESEL REAR DRIVE CHASSIS WITHOUT TURBOSUPERCHARGER**  
(on a sturdy stand with wheels) - electrical

**VB 6160E FIAT TURBO DIESEL REAR DRIVE CHASSIS WITH WORKING LIGHT SYSTEM** (on a sturdy stand with wheels) - electrical

**VB 6170E FIAT DIESEL REAR DRIVE CHASSIS WITHOUT TURBOSUPERCHARGER + WORKING LIGHT SYSTEM** (on a sturdy stand with wheels) - electrical



Indicative picture for reference only

## VB 6140E

### Main technical specifications:

- 4 stroke engine; 4 in-line cylinders
- Displacement: 2000/2500 cu. cm
- Gearbox: 5 forward speeds+reverse
- Single-plate clutch with diaphragm
- Propeller shaft with mechanical and flexible joint
- Hypoid differential
- Front disc brakes; rear drum brakes with double circuit
- Rear leaf spring suspension
- McPherson suspension front
- Rack steering gear

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

## VB 6150E

Same as VB 6140E without turbo-supercharger.

## VB 6160E

Same as VB 6160E complete with working light system, regulation light, rear fog lights, reverse and emergency lights, etc...

The electrical controls are assembled on a dashboard complete with warning lights.

## VB 6170E

Same as VB 6150E complete with working lighting system, regulation light, rear fog lights, reverse and emergency lights, etc...

The electrical controls are assembled on a dashboard complete with warning lights.

## VB 6140E - VB 6150E - VB 6160E - VB 6170E

### Approx. weight and dim.:

Cm:	145x220x100h
Net Weight:	kg 420
Gross Weight:	kg 560



**VB 6175E FIAT TURBO DIESEL CHASSIS WITH FRONT DRIVE AND WORKING LIGHT SYSTEM (on a sturdy stand with wheels) - electrical**

**VB 6176E FIAT TURBO DIESEL CHASSIS WITH FRONT DRIVE (on a sturdy stand with wheels) - electrical**



Indicative picture for reference only

**VB 6175E**

**Main technical specifications:**

- Fiat chassis with front drive (engine transversally mounted)
- Diesel engine displacement: 1700 cu. Cm.; 4 cylinders
- Indirect injection with pre-chamber
- Bosch VE rotary injection pump
- Turbo-compressor with waste-gate valve
- Gearbox: 5 forward speed+reverse+differential
- Hydraulic power steering with double-jointed steering column
- Radiator with electric fan
- Front disc brake
- Rear drum brake
- Independent wheels McPherson front suspension with oscillating arms
- Rear independent suspension with coil spring and gas shock absorbers
- Front and rear working light system controlled by a dashboard

The engine operates electrically at 230 volts/50Hz and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts. ELECTRICAL SYSTEM IN COMPLIANCE WITH EC STANDARDS

*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.*

**VB 6176E**

*Same as VB 6175E, without light system.*

**Upon Customer's request, it can be provided with ABS**

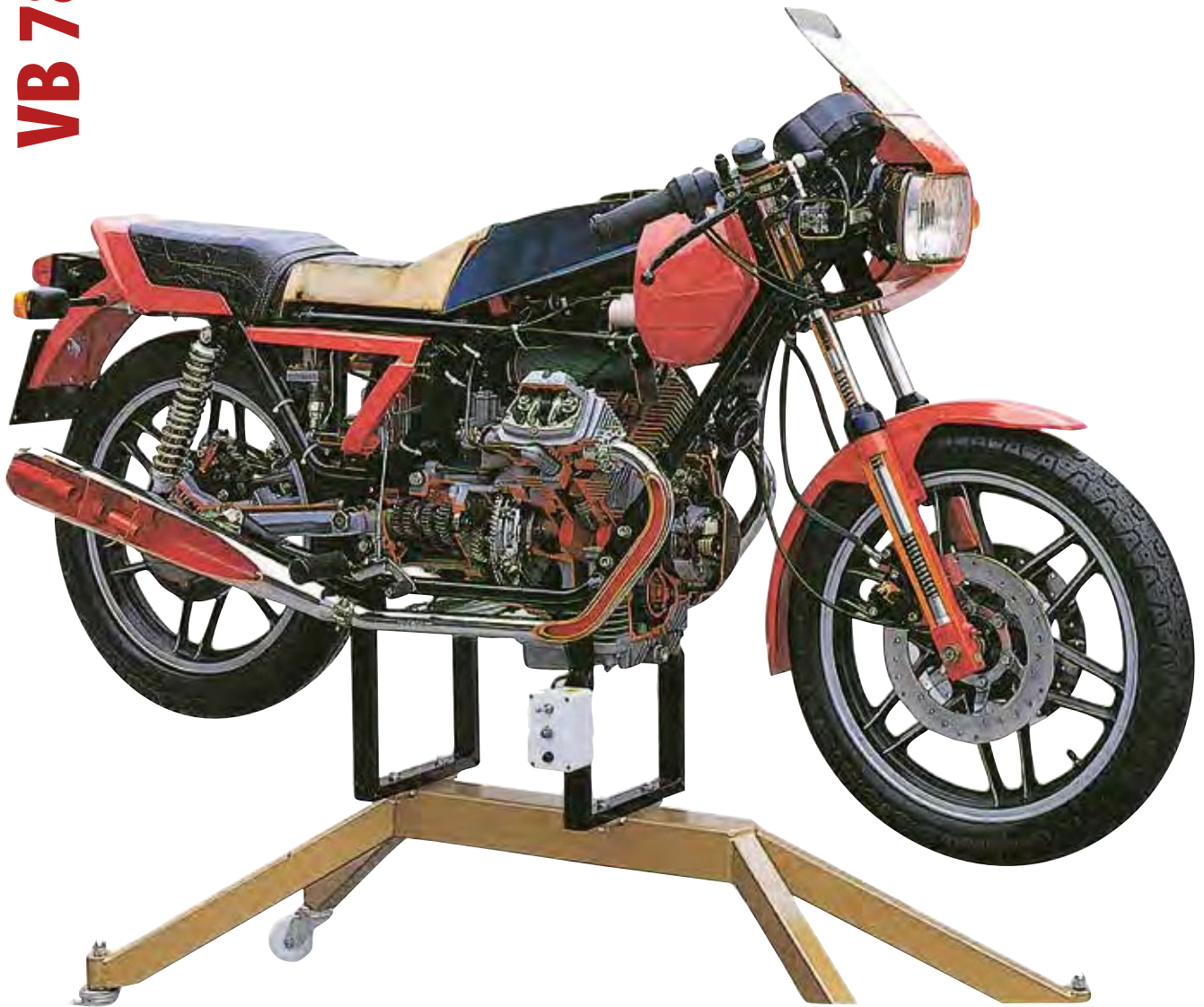
*The electrical controls are assembled on a dashboard complete with warning lights.*

**VB 6175E - VB 6176E**

**Approx. weight and dim.:**

Cm:	220x160x115h
Net Weight:	kg 400
Gross Weight:	kg 545

**VB 6175 - VB 6176**



Indicative picture for reference only

Careful and complete section of the "Guzzi" motorcycle with V-type twin-cylinder 350/500 cu. cm. engine. All internal parts are clearly shown: battery, tank, silencer, suspensions, carburettor, coil, pistons, connecting rods, driving shaft, gearbox, selector, etc.

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

#### Approx. weight and dim.:

Cm:	200x70x130h
Net Weight:	kg 160
Gross Weight:	kg 230



**VB 7850M 2/3/4 CYLINDERS MOTORCYCLE DOHC CHAIN TIMING KAWASAKI**  
**-HONDA-YAMAHA BRAND (on stand with wheels) - manual**

According availability

**Main technical specifications:**

- DOHC engine
- Chain timing
- Electronic ignition

**VB 7850**



Indicative picture for reference only



*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.*

# VB 7820

## VB 7820M "DUCATI" MOTORCYCLE PETROL ENGINE (on table support) - manual

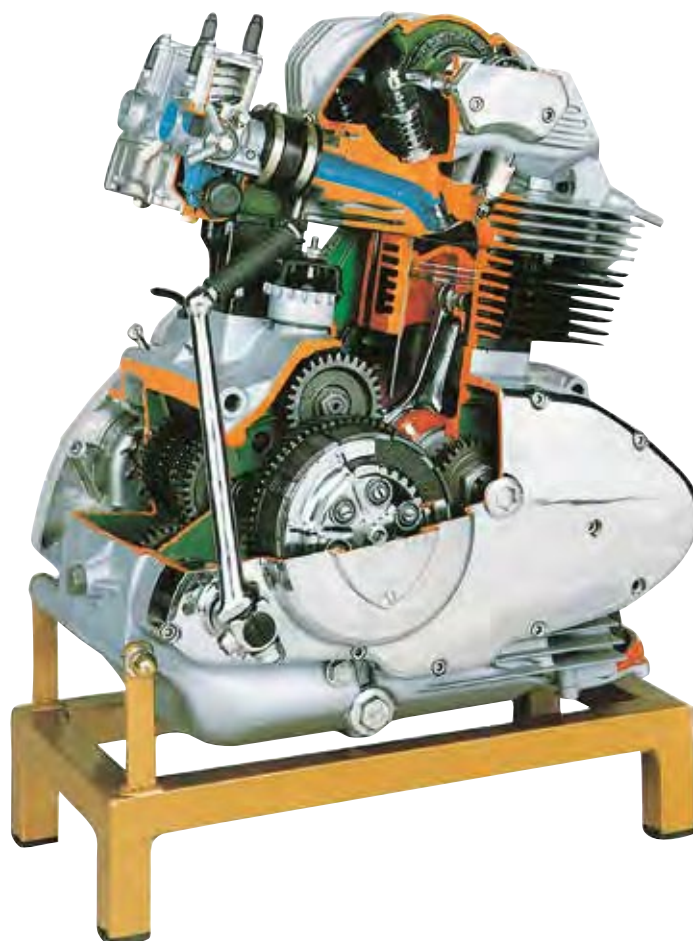
### Main technical specifications:

- 4 stroke engine; 2-cylinders
- Displacement: 350/500 cu. cm
- Gearbox: 5 forward speeds
- Camshaft in the crankcase
- Point ignition
- Alternator;
- Oil bath plate-clutch
- Air cooling

*The engine is operated manually through a crank handle.*

### Approx. weight and dim:

Cm: 50x45x70h  
Net Weight: kg 67  
Gross Weight: kg 80



Indicative picture for reference only

# VB 7840

## VB 7840M "VESPA - PIAGGIO" 2 STROKE ENGINE (on stand with wheels) - manual

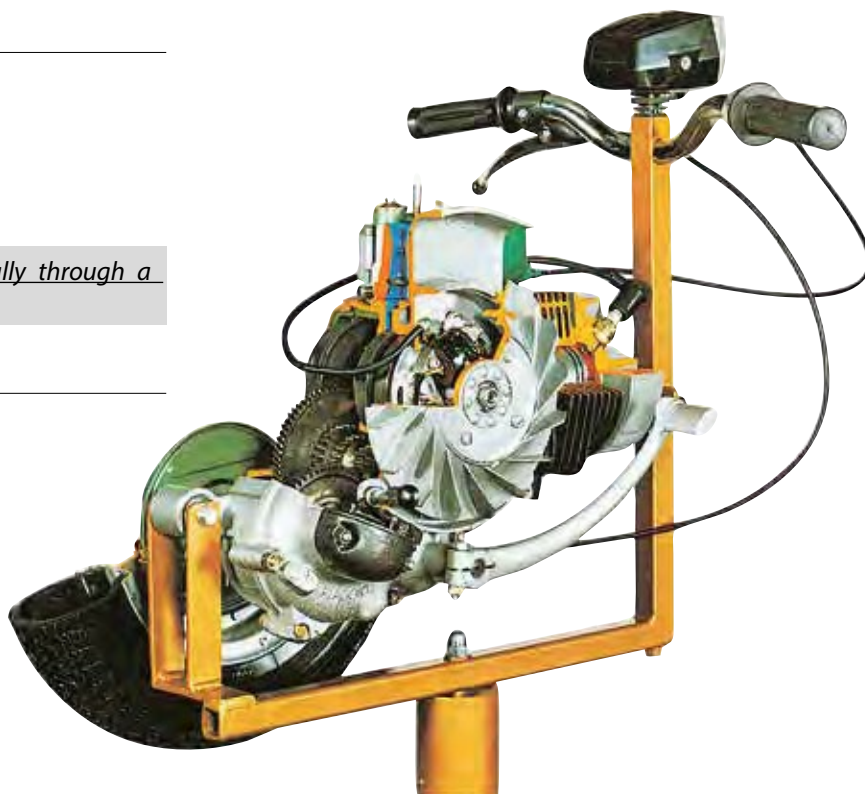
### Main technical specifications:

- Displacement: 125/150 cu. cm
- Multiple-disc clutch
- Distribution by rotary valve
- Carburettor
- Gearbox: 3/4 forward speeds

*The engine is operated manually through a crank handle.*

### Approx. weight and dim:

Cm: 80x80x60h  
Net Weight: kg 30  
Gross Weight: kg 45



*These cutaway models are 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.*



**VB 7810M CVT ENGINE 4 STROKES SINGLE-CYLINDER with CARBURETTOR  
(on stand with wheels)**

**VB 7815M CVT ENGINE 4 STROKES SINGLE-CYLINDER with ELECTRONIC  
INJECTION (on stand with wheels)**

**VB 7830M CVT ENGINE 2 STROKES SINGLE-CYLINDER with CARBURETTOR  
(on stand with wheels)**

**Main technical specifications:**

- Electronic ignition
- Water cooling system
- CVT automatic clutch
- Disc brake
- Silencer
- Manual functioning through crank handle



*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.*

**Approx. weight and dim.:**

Cm:	100x60x80h
Net Weight:	kg 50
Gross Weight:	kg 75

**VB 7831S CVT TRANSMISSION (on stand with wheels) – static**

Static model of a Continuously Variable Transmission used on small motorcycle.

The following components are shown:

- Driving wheels
- Driven pulley
- Centrifugal masses
- Belt



**Approx. weight and dim.:**

Cm:	160x30x40h
Net Weight:	kg 12
Gross Weight:	kg 18

Indicative picture for reference only

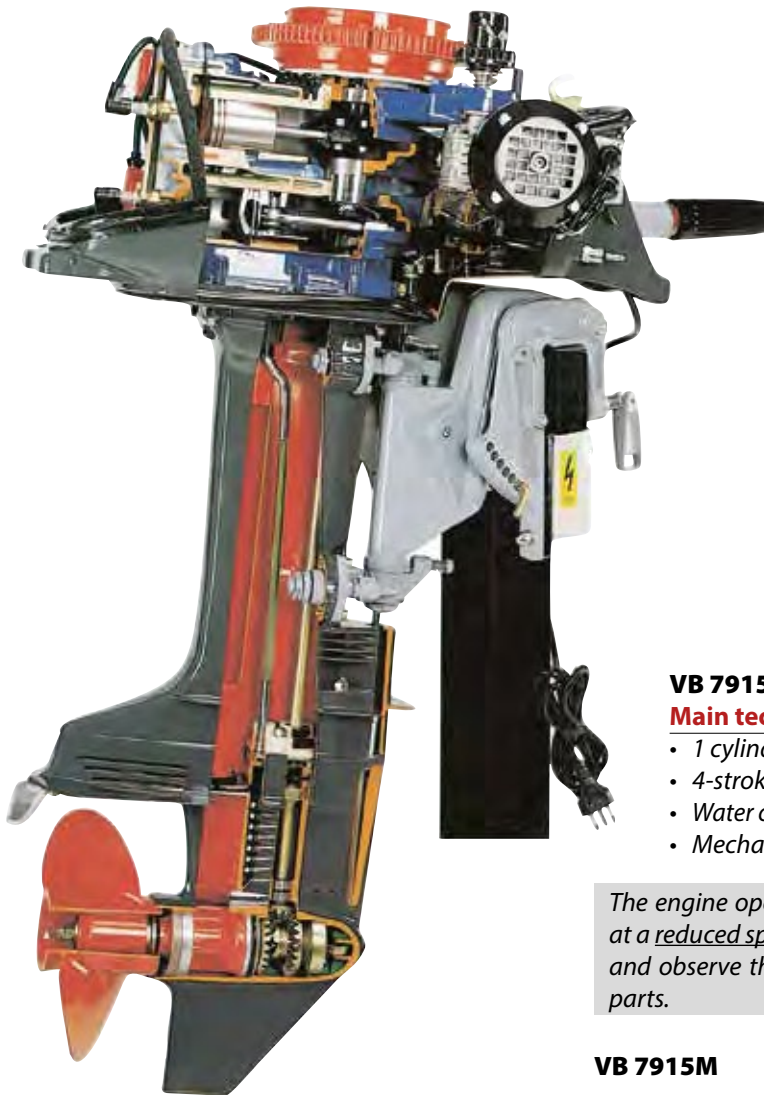
**VB 7810 - VB 7815 - VB 7830**  
**VB 7831**

**VB 7900E MARINE OUTBOARD ENGINE 2 STROKES** (on stand with wheels)  
- electrical

**VB 7900M MARINE OUTBOARD ENGINE 2 STROKES** (on stand with wheels)  
- manual

**VB 7915E MARINE OUTBOARD ENGINE 4 STROKES** (on stand with wheels)  
- electrical

**VB 7915M MARINE OUTBOARD ENGINE 4 STROKES** (on stand with wheels)  
- manual



## VB 7915 E

### Main technical specifications:

- 1 cylinder
- 4-stroke engine
- Water cooling system with centrifugal pump
- Mechanical type converter

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

## VB 7915M

Same as VB7915E but operated manually through a crank handle.

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.

## VB 7900E

### Main technical specifications:

- 2/3 cylinders
- 2-stroke engine
- Water cooling system with centrifugal pump
- Mechanical type converter

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

## VB 7900M

Same as VB 7900 but operated manually through a crank handle.

## VB 7900E - VB 7900M - VB 7915E - VB 7915M

### Approx. weight and dim:

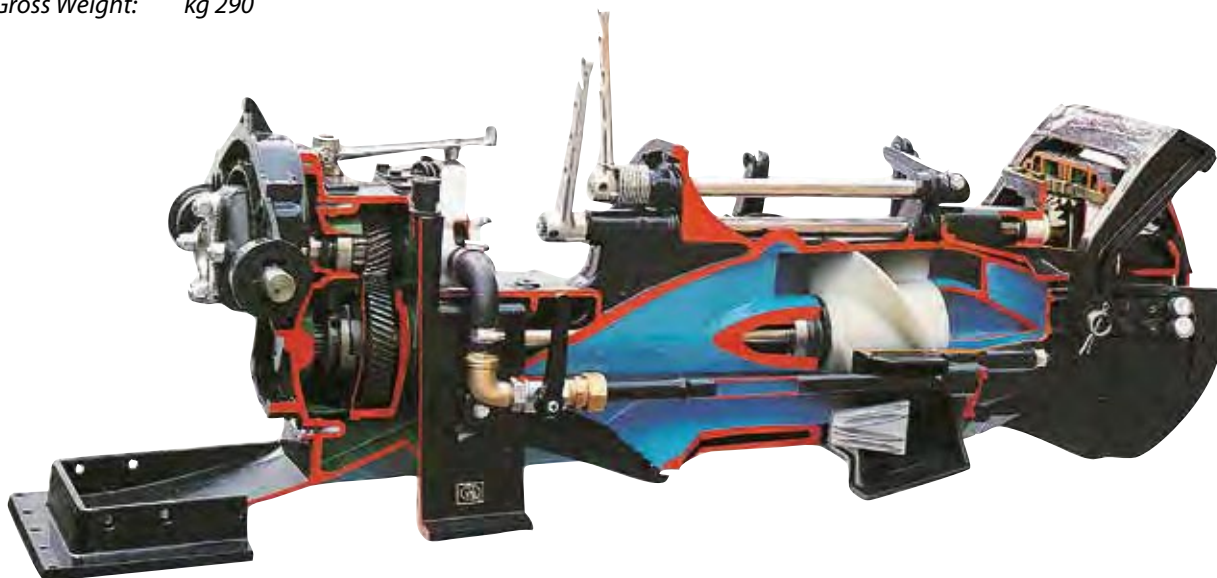
Cm:	80x80x150h
Net Weight:	kg 60
Gross Weight:	kg 100



## VB 7920M HYDROJET (on stand with wheels) - manual

### Approx. weight and dim:

Cm: 200x60x120h  
Net Weight: kg 220  
Gross Weight: kg 290



VB 7920

"Castoldi" jet drive marine propeller. The unit is carefully sectioned to show every detail.

The engine is operated manually through a crank handle.

## VB 7930M OUTBOARD MARINE REVERSER (on base) - manual

Mechanical type reverse, universal type, installed on marine outboard motors.

The engine is operated manually through a crank handle.

### Approx. weight and dim:

Cm: 50x40x75h  
Net Weight: kg 8  
Gross Weight: kg 15



VB 7930

These cutaway models are carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts, cross-sections, lubricating circuits. Many parts have been chromium, plated and galvanized for a longer life.

Indicative picture for reference only



Indicative picture for reference only

## Main technical specifications:

*4 cylinders in line engine or 6 cylinders in line engine according to market availability.  
Complete of accessories and closed circuit.*

*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

*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.*

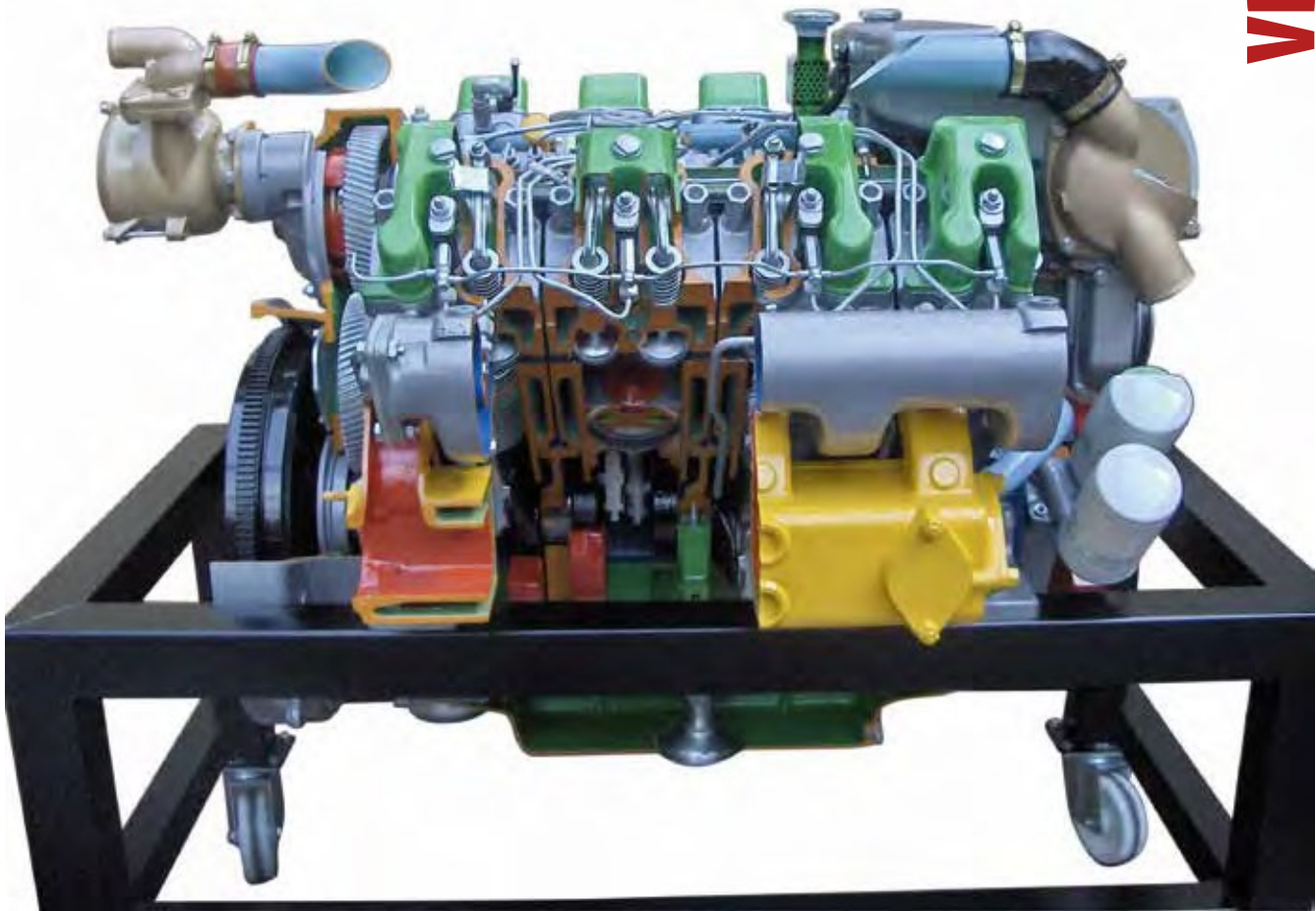
*Packing details are provided upon request according to the engine type (4 or 6 cylinders).*



**VB 7950E MARINE INBOARD DIESEL ENGINE 6/8 V-CYLINDERS WITHOUT  
INVERTER (on stand with wheels) - electrical**

**VB 7950**

Indicative picture for reference only



**Main technical specifications:**

6 V-cylinders engine or 8 V-cylinders engine according to market availability.

Complete of accessories and closed cooling circuit.

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

Packing details are provided upon request according to the engine type (6 or 8 cylinders).



*Indicative picture for reference only*

Accurate section of a small tractor with several interesting technical features for educational purposes.

#### **Main technical specifications:**

- 4-stroke diesel engine 20hp/ 16Kw
- water cooling system
- lubrication of trochoid pump
- in-line injection pump
- dry single-disc clutch
- Gearbox: 6 speeds + 2 reverse with gear reducer
- 2 speed power take-off
- rear differential with mechanical locking
- possibility of disengaging the front drive
- rear drum brakes
- sector steering gear box
- hydraulic lifter

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

#### **Approx. weight and dim.:**

Cm:	190x110x160h
Net Weight:	kg 345
Gross Weight:	kg 500



**VB 8300E "MASSEY-FERGUSON" / "LANDINI" FARM TRACTOR 4 DRIVING WHEELS**  
(on stand with wheels) - electrical

**VB 8300**

Indicative picture for reference only



**Main technical specifications:**

- 4 cylinders Perkins diesel engine
- direct injection
- CAV rotary injection pump
- single-disc clutch
- speed gear with reduction unit
- rear hydraulic lifter with rear differential locking and insertion of the front drive
- PTO

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

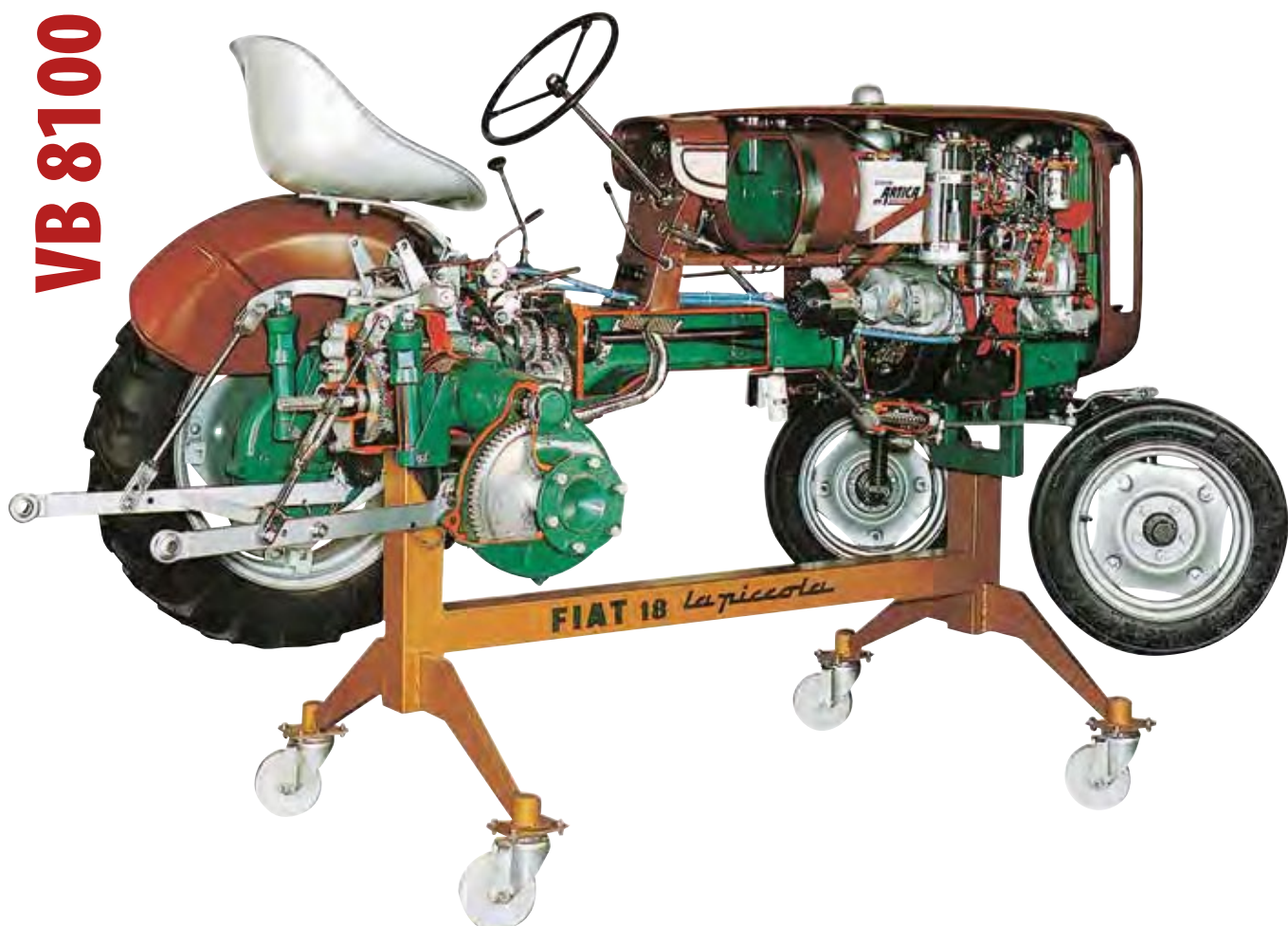
This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts, cross-sections, lubricating circuits, fuel system, cooling system etc. Many parts have been chromium plated and galvanized for a longer life.

**Approx. weight and dim.:**

Cm: 360x185x215h  
Net Weight: kg 2000  
Gross Weight: kg 2470

**VB 8100E** TYRE-WHEELED FARM TRACTOR WITH DIESEL ENGINE - FIAT "La Piccola" (on stand with wheels) - electrical

**VB 8110E** TYRE-WHEELED FARM TRACTOR WITH DIESEL ENGINE - FIAT "La Piccola" + HYDRAULIC HOIST (on stand with wheels) - electrical



Indicative picture for reference only

## VB 8100E

### Main technical specifications:

- 4-stroke – 2 cylinders engine
- Indirect injection
- Water cooling system
- Overhead valves
- In-line injection pump
- Globe-shaped steering box
- Gearbox: 6 forward speeds + 2 reverse

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

## VB 8110E

Same as VB 8100E with hydraulic hoist.

## VB 8100E - VB 8110E

### Approx. weight and dim.:

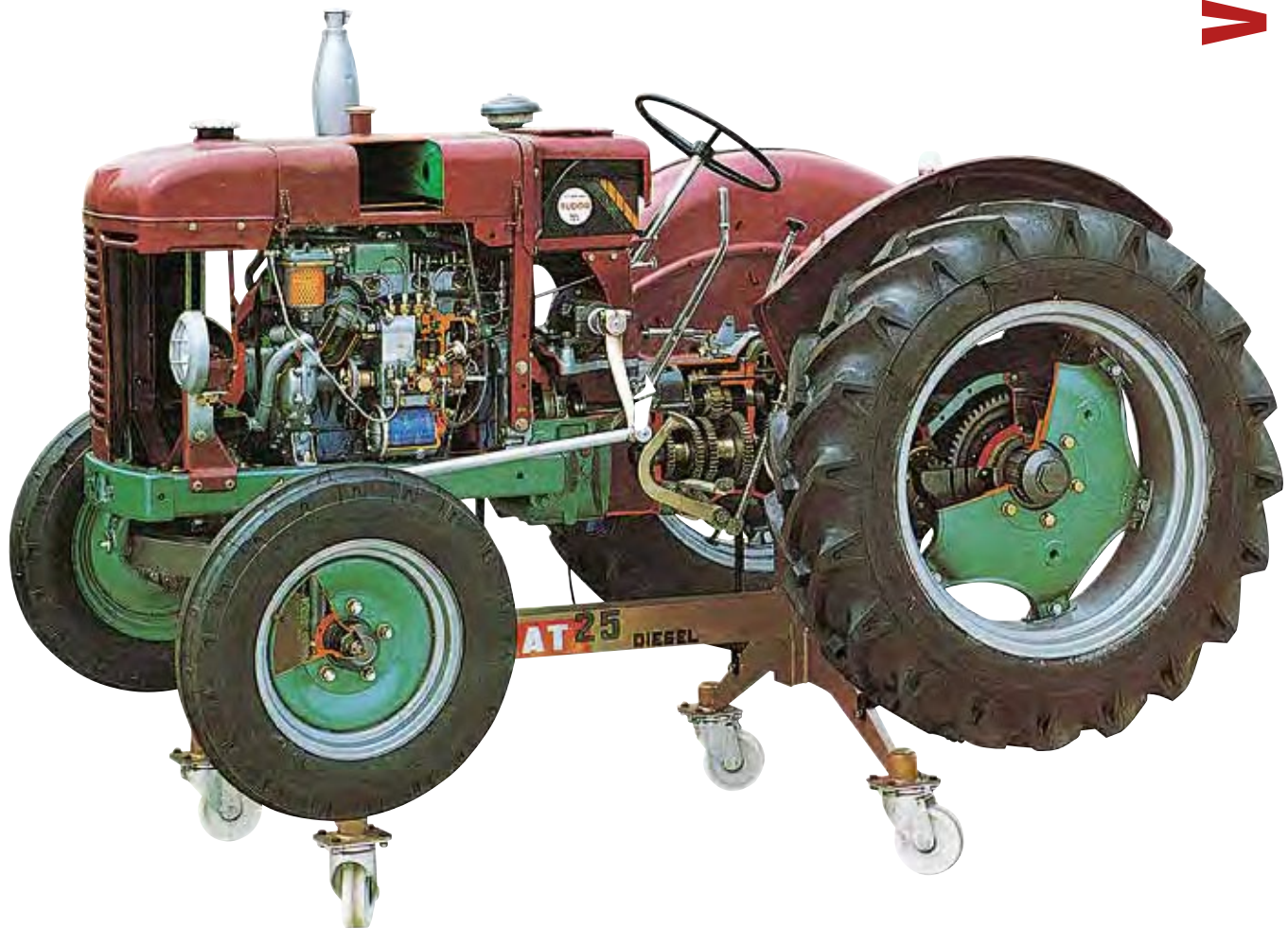
Cm:	265x160x180h
Net Weight:	kg 650
Gross Weight:	kg 830



**VB 8200E TYRE-WHEELED FARM TRACTOR WITH DIESEL ENGINE - FIAT 25R**  
(on stand with wheels) - electrical

**VB 8200**

Indicative picture for reference only



**Main technical specifications:**

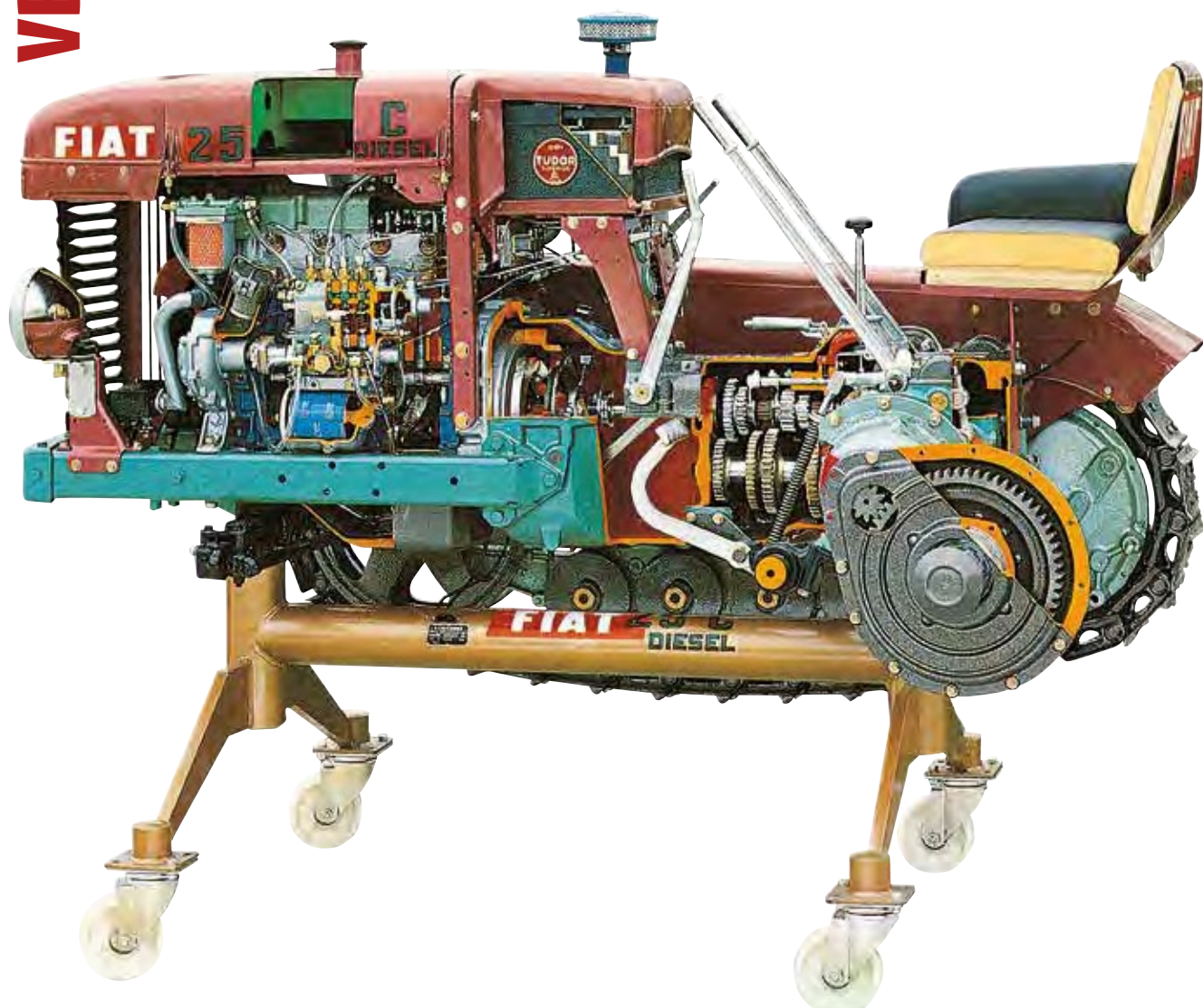
- 4-stroke – 4 cylinders engine
- Displacement: 2000 cu.cm
- Indirect injection
- Water cooling system
- Overhead valves
- In-line injection pump
- Globe-shaped steering box
- Gearbox: 4 forward speeds + reverse

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

**Approx. weight and dim.:**

Cm:	220x172x180h
Net Weight:	kg 1030
Gross Weight:	kg 1250



Indicative picture for reference only

### Main technical specifications:

- 4 stroke-4 cylinders engine
- Displacement: 2000 cu. cm
- Indirect injection
- Water cooling system
- Overhead valves
- In-line injection pump
- Multiple-plate steering clutch
- Gearbox: 4 forward speeds + reverse

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### Approx. weight and dim.:

Cm:	230x132x180h
Net Weight:	kg 910
Gross Weight:	kg 1200

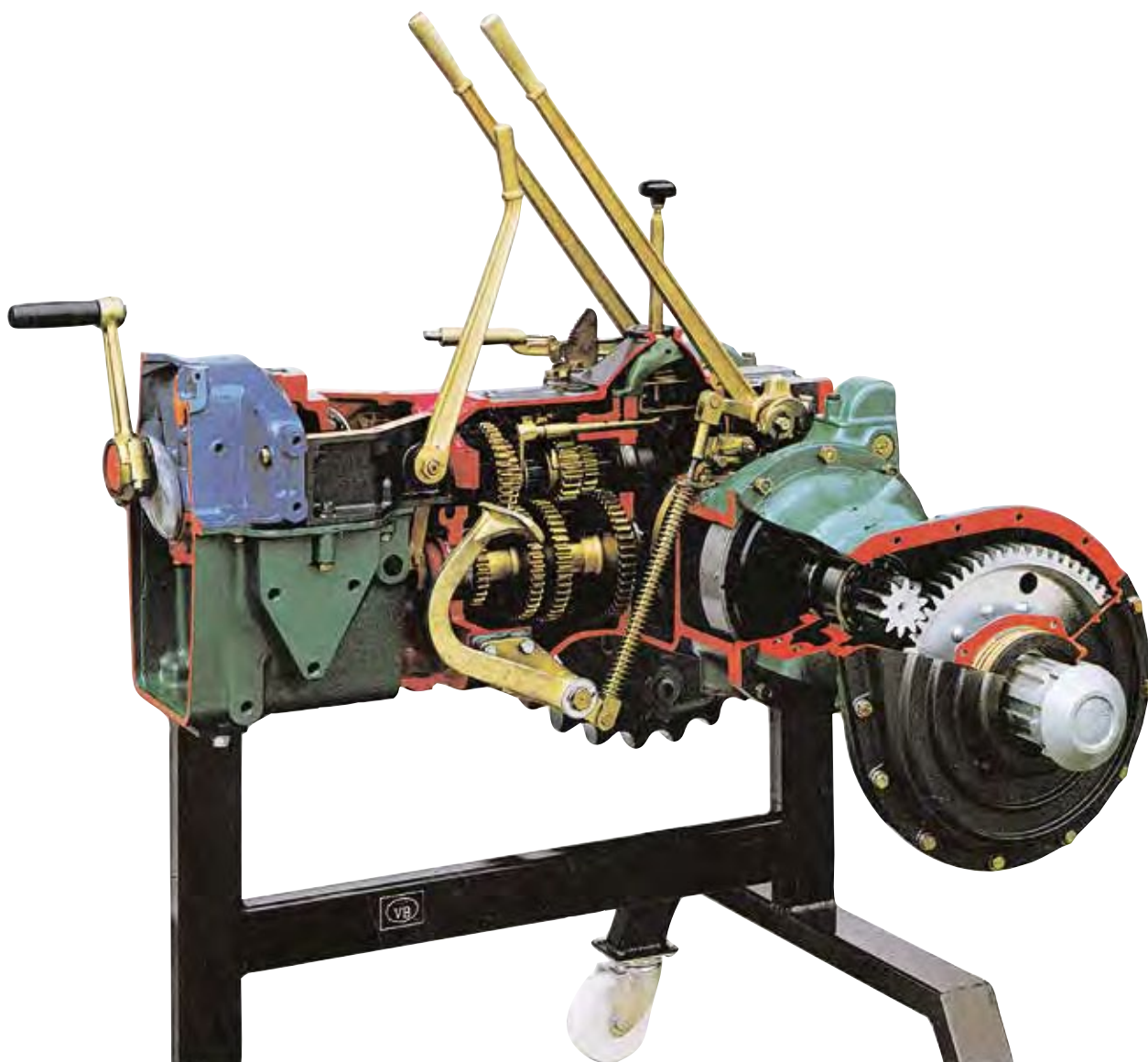


**VB 8360M TRACKED TRACTOR TRANSMISSION (on stand with wheels) - manual**

**VB 8370M WHEELED TRACTOR TRANSMISSION (on stand with wheels) - manual**

**VB 8360 - VB 8370**

Indicative picture for reference only



#### **VB 8360M**

##### **Main technical specifications:**

- Clutch unit
- Gearbox
- Pinion gear – ring gear
- Steering clutch
- Final reducer

The engine is operated manually through a crank handle.

#### **VB 8360M**

##### **Approx. weight and dim.:**

Cm: 140x125x150h  
Net Weight: kg 450  
Gross Weight: kg 610

*This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts, cross-sections, lubricating circuits. Many parts have been chromium, plated and galvanized for a longer life.*

#### **VB 8370M WHEELED TRACTOR TRANSMISSION**

##### **Main technical specifications:**

- Clutch unit
- Gearbox
- Pinion gear – ring gear
- Differential units axle shafts with band brakes
- Final reducer

The engine is operated manually through a crank handle.

#### **VB 8370M**

##### **Approx. weight and dim.:**

Cm: 145x170x120h  
Net Weight: kg 480  
Gross Weight: kg 590

**Main technical features:**

- 2 stroke engine with carburettor
- Centrifugal clutch
- Oil pump for chain lubrication
- Electronic ignition
- Safety system

*Operated manually through a crank handle.*

**Approx. weight and dim.:**

Cm: 90x30x35h  
 Net Weight: kg 5  
 Gross Weight: kg 10

For the transplant of seedlings of vegetables, flowers, tobacco, nursery plants etc. having bare or conical roots, pyramidal or cubic peat rootball.

**Main technical features:**

- Support wheel
- Distributor
- Seat
- Plant cassette
- Ridging and transmission wheel
- Ploughshare
- Coupling for motor-cultivator

**Approx. weights and dim.:**

Cm: 220x87x127h  
 Net Weight: kg 160  
 Gross Weight: kg 300

*Operated at 220V by means of gear-motor.*

*These cutaway items are carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts.  
 Many parts have been chromium, plated and galvanized for a longer life.*



## VB 8600E MOTOR CULTIVATOR (on stand with wheels) - electrical

Accurate section of a modern petrol motor cultivator with single-cylinder engine, air cooling, 6/10 HP approx.

### Main technical features:

- Petrol engine 4 strokes single cylinder
- Power: 6 Kw
- Recoil starter
- Dry clutch with manual control
- Gearbox MTC 3+2
- Reverse command by lever
- PTO
- Handlebars adjustable both in height and width
- Motor-stop safety device

Indicative picture for reference only



The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### Approx. weight and dim.:

Cm:	70x180x110h
Net Weight:	kg 100
Gross Weight:	kg 160

VB 8600



*Indicative picture for reference only*

*Accurate section of a towed universal seeder showing:*

- Seed hopper
- Distributor
- Inlet pipes
- Coulter

*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

*This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts.*

**Approx. weight and dim.:**

Cm:	105x135x145h
Net Weight:	kg 200
Gross Weight:	kg 300



Accurate section of a real agricultural sprayer, used to spray crops with fungicides.

Indicative picture for reference only



**Main technical specification:**

- Radial piston pump
- Fibreglass tank with filter
- Control unit
- Overdrive with fan
- Hydraulic stirrer
- Cardan shaft
- Adjustable nozzles

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts, cross-sections, lubricating circuits. Many parts have been chromium, plated and galvanized for a longer life.

**Approx. weight and dim.:**

Cm:	220x110x130h
Net Weight:	kg 220
Gross Weight:	kg 330

# VB 8640

## VB 8640E MANURE SPREADER (on stand with wheels) - electrical

Accurate section of a pulled manure spreader.

### The following parts are shown:

- Hopper
- Spreader disc with blades
- Bevel gear pair
- Spread control

*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

### Approx. weight and dim.:

Cm: 150x140x160h  
 Net Weight: kg 135  
 Gross Weight: kg 230



# VB 8650

## VB 8650M FERTILIZER - manual

Sectioned unit composed of a fertilizer and two irrigators of different types placed on suitable delivery pipes.

The fertilizer (fully sectioned) is complete with pressure gauge, gate valve, rubber hoses, etc., so that its real working principle is reproduced.



### Approx. weight and dim.:

Cm: 95x70x160h  
 Net Weight: kg 55  
 Gross Weight: kg 90

*These cutaway items are carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts, cross-sections, lubricating circuits. Many parts have been chromium, plated and galvanized for a longer life.*

*Indicative picture for reference only*



Indicative picture for reference only



*This is a model of a wheat harvester machine. This model clearly shows the combine harvester main elements. Moreover, it has been sectioned in order to show the functioning principles of the internal parts.*

**The model shows:**

- Cabin
- Engine compartment
- Wheat tank
- Tailing elevator
- Shaking screen
- Fan
- Threshing drum
- Beater
- Conveyor
- Auger
- Grain auger
- Cutter
- Revolving wheel

*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

*This cutaway model is carefully sectioned for training purposes, professionally painted with different colours to better differentiate the various parts, cross-sections, lubricating circuits. Many parts have been chromium plated and galvanized for a longer life.*

**Approx. weight and dim.:**

Cm: 110x60x60h  
Net Weight: kg 30  
Gross Weight: kg 40

## VB 8661E MODEL OF PICK-UP BALER (on base) - electrical

This is a model of a pick-up baler which is a dragged agricultural machine. It is used for the collection of the forage which is also pressed into balers. The model clearly shows its main elements. Moreover, it has been sectioned in order to show the working principles of the internal parts.

### **This model is composed by 4 main parts:**

- The collecting device
- The woven-wire
- A piston system
- A tying system



*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

### **Approx. weight and dim.:**

Cm:	45x80x30h
Net Weight:	kg 15
Gross Weight:	kg 25

Indicative picture for reference only

## VB 8662E GROUND HANDLING AGRICULTURAL MACHINE STEERING MODEL WITH MULTIPLE DISCS DRY CLUTCHES (on base) - electrical

This is a model of a steering of an agricultural machine for land motion with dry clutches (multiple discs). This model clearly shows the main elements.

### **Main technical specifications:**

- Transversal axle supports
- Dry clutches multiple discs
- Band brake
- Crown
- Engine and conical pinion



*The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.*

### **Approx. weight and dim.:**

Cm:	50x50x30h
Net Weight:	kg 18
Gross Weight:	kg 30



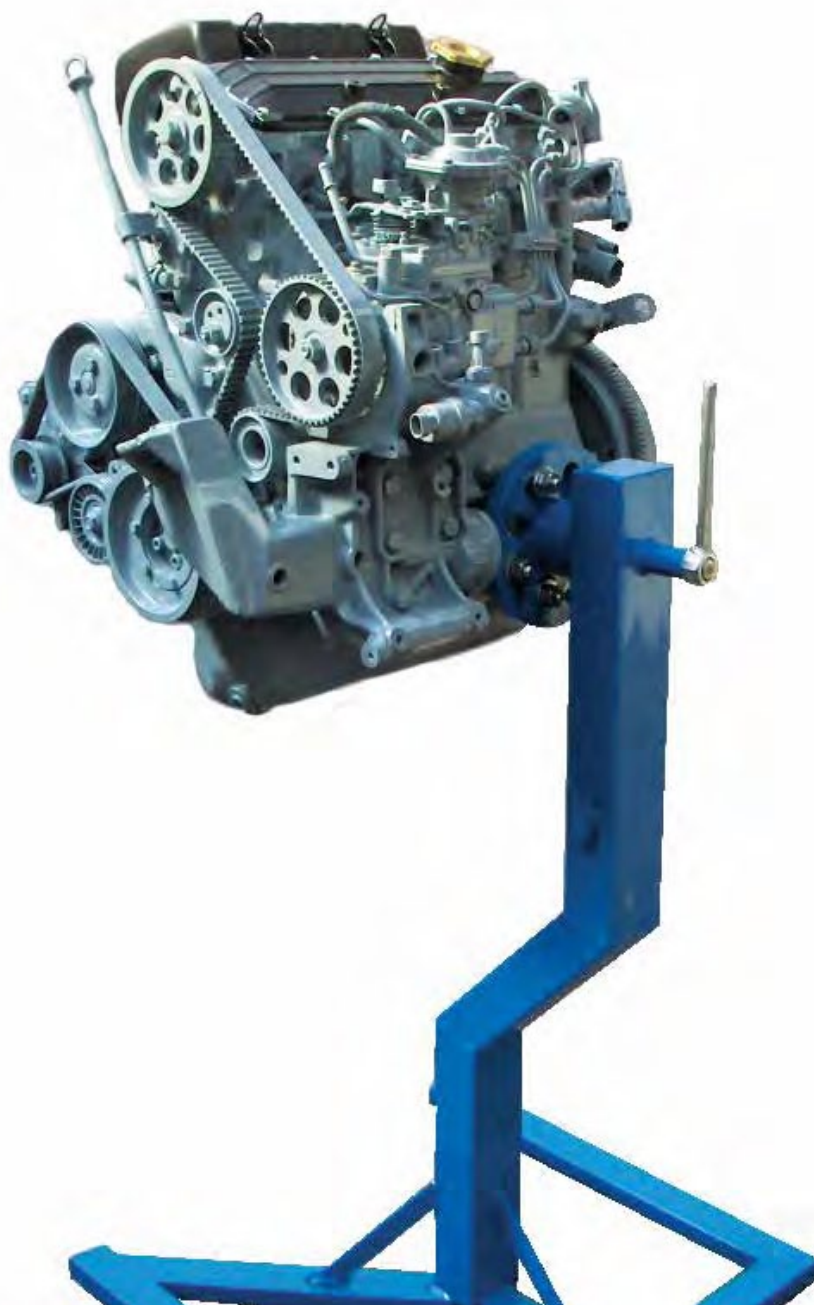
## **VB 9000A PETROL ENGINE FOR ASSEMBLING & DISASSEMBLING OPERATIONS (on rotating workbench)**

Educational training equipment for assembling and disassembling operations on modern petrol engines for cars.

### **Main technical features:**

- *Petrol engine, 4 stroke*
- *Displacement: 1242 cu Cm*
- *4 cylinders in line with overhead camshaft*
- *Two valves per cylinder*
- *Timing system with toothed belt*
- *Electronic ignition with 4 spark plugs*
- *Electronic injection*
- *Alternator*
- *Lubrication system with mechanical oil pump*
- *Oil filter*
- *Flywheel*
- *Clutch-mechanical dry, single disc*

### **DIESEL ENGINE ON DEMAND**



Indicative picture for reference only

### **Approx. weight and dim.:**

Cm:	90x60x120h
Net Weight:	kg 100
Gross Weight:	kg 140

**VB 9000**



Indicative picture for reference only

Engines in working conditions ready to be started, mounted on a strong steel painted stand with anti-vibration rubber caps. Each support is equipped with 4 nylon wheels with brake system.

### **Complete with:**

- Fuel tank
- Fuel filter
- Battery with relevant electric system
- Silencer
- Accelerator command
- Starting key
- Rpm counter
- Water temperature device
- Voltmeter
- Oil pressure indicator
- Alternator charger indicator
- Radiator with fan/electro-fan
- Coolant tank

- Mesh guards
- Diagnostic connector (where provided)
- Instruction manual
- Trouble-shooting device simulating 5 faults (upon request)

### **Showing:**

- no-load operation
- fault simulation on request
- repair demonstrations
- assembly-disassembly

**Perfectly working overhauled engines.**

**FOR DETAILED DESCRIPTIONS, PLEASE SEE NEXT PAGE**



**VB 9001F IAW-MARELLI  
MONOJETRONIC  
ELECTRONIC INJECTION -  
functioning**

- 4 cylinders FIAT engine
- 2 valves per cylinder
- Overhead camshaft (OHC)
- Electronic ignition
- Displacement: 1242 cu. Cm
- Diagnostic connector

**Approx. weight and dim.:**

Cm: 115x120x140h  
Net weight: kg 250  
Gross weight: kg 330

**VB 9002F BOSCH  
MONOMOTRONIC  
ELECTRONIC INJECTION -  
functioning**

- 4 cylinders FIAT/1400 cc engine
- 3 valves per cylinder
- Overhead camshaft (OHC)
- Electronic ignition
- Displacement: 1400 cu. Cm
- Diagnostic connector

**Approx. weight and dim.:**

Cm: 130x140x140h  
Net weight: kg 280  
Gross weight: kg 350

**VB 9005F IAW-MARELLI  
MULTI-POINT  
ELECTRONIC INJECTION -  
functioning**

- 4 cylinders FIAT engine
- 2 valves per cylinder
- Overhead camshaft (OHC)
- Electronic ignition
- Displacement: 1242 cu. Cm
- diagnostic connector *OBD*

**Approx. weight and dim.:**

Cm: 115x120x140h  
Net weight: kg 250  
Gross weight: kg 330

**VB 9007F LU-LE JETRONIC  
BOSCH MULTI-POINT  
ELECTRONIC INJECTION -  
functioning**

- 4 cylinders FIAT engine
- 2 valves per cylinder
- 2 Overhead camshaft (DOHC)
- Electronic ignition
- Displacement: 2000 cu. Cm
- Diagnostic connector

**Approx. weight and dim.:**

Cm: 130x130x140h  
Net weight: kg 300  
Gross weight: kg 400

**VB 9009F BOSCH  
MULTI-POINT MOTRONIC  
ELECTRONIC INJECTION -  
functioning**

- 4 cylinders FIAT engine
- 4 valves per cylinder
- 2 Overhead camshaft (DOHC)
- Electronic ignition
- Displacement: 1300 cu. Cm
- Diagnostic connector *OBD*

**Approx. weight and dim.:**

Cm: 130x130x140h  
Net weight: kg 300  
Gross weight: kg 400

**VB 9011F  
CARBURETTOR -  
functioning**

- 4 cylinders FIAT/SEAT engine
- Overhead camshaft (OHC)
- Electronic ignition
- Displacement: 1000/1500 cu. Cm

**Approx. weight and dim.:**

Cm: 115x120x140h  
Net weight: kg 240  
Gross weight: kg 340

Indicative picture for reference only



Indicative picture for reference only

## **VB 9070F FIAT 1700/2500 CU.CM DIESEL ENGINE (indirect injection) - functioning**

- 4 cylinders, 4 strokes
- Indirect injection
- Overhead camshaft (OHC)
- Rotating injection pump
- Displacement: 1700/2500 cu. Cm

### **Approx. weight and dim.:**

Cm: 140x75x110h  
Net weight: kg 380  
Gross weight: kg 460

## **VB 9080F FIAT 2500 CU.CM TURBO DIESEL ENGINE (direct injection) - functioning**

- 4 cylinders 4 strokes
- Direct injection
- Overhead camshaft (OHC)
- Rotating injection pump
- Displacement: 2500 cu. Cm
- Turbo-supercharger with relief valve

### **Approx. weight and dim.:**

Cm: 140x75x110h  
Net weight: kg 400  
Gross weight: kg 480

## **VB 9095F FIAT COMMON RAIL JTD UNIJET - functioning**

- 4 cylinders FIAT engine
- 2 valves per cylinder
- Overhead camshaft (OHC)
- Turbo-compressor
- Displacement: 1900 cu. Cm
- Diagnostic socket **OBD**
- On request: multi-jet, 1300 cc, DOHC, 4 valves per cylinder

### **Approx. weight and dim.:**

Cm: 120x130x140h  
Net weight: kg 350  
Gross weight: kg 450



## CHASSIS TRAINER IN WORKING CONDITIONS

### Approx. weight and dim.:

Cm:	300x150x140h
Net weight:	kg 450
Gross weight:	kg 730



The chassis trainer is realized from a medium displacement vehicle which is particularly useful for the study of the main components, the repair operations and the diagnostic, by means of the OBD socket (VB 9100 and VB 9110). All the mechanical parts are carefully revised and assembled on a chassis produced by us. This chassis allows an easy display and the possibility of assemble and disassemble each part. Engine, gearbox, clutch, brakes, lubricating circuit, cooling system, injection, ignition, suspensions, electric system, exhaust, etc. ARE COMPLETELY FUNCTIONING.

The chassis is supplied with a stand with wheels in order to move it easily.

Indicative picture for reference only

### **VB 9100F PETROL INJECTION CHASSIS TRAINER - functioning**

- Petrol engine 4 cyl. 4 strokes
- Displacement: 1242 cu.Cm
- Multipoint electronic injection
- Electronic ignition
- Gearbox: 5 speeds + reverse
- Front drive
- Catalytic silencer
- Electric fuel pump
- Depression servo-brake
- Front disc brakes
- Rear drum brakes
- McPherson front suspension
- Independent wheels rear suspension with oscillating arms
- Hand brake
- Tank
- Battery
- Radiator with electric fan
- Dashboard
- Diagnostic socket

### **VB 9105F TURBO DIESEL CHASSIS TRAINER - functioning**

- Turbo diesel engine 4 cyl. 4 strokes
- Displacement: 1700 cu.Cm
- Gearbox: 5 speeds + reverse
- Front drive
- Silencer
- Bosch VE injection pump
- Depression servo-brake
- Front disc brakes
- Rear drum brakes
- McPherson front suspension
- Independent wheels rear suspension with oscillating arms
- Hand brake
- Tank
- Battery
- Radiator with electric fan
- Dashboard

### **VB 9110F COMMON-RAIL CHASSIS TRAINER - functioning**

- Common rail engine 4 cyl. 4 strokes
- Displacement: 1900 cu.Cm
- Direct injection
- Gearbox: 5 speeds + reverse
- Front drive
- Catalytic silencer
- Electric fuel pump
- Depression servo-brake
- Front disc brakes
- Rear drum brakes
- McPherson front suspension
- Independent wheels rear suspension with oscillating arms
- Hand brake
- Tank
- Battery- Radiator with electric fan
- Dashboard
- OBD socket

## INDUSTRIAL FUNCTIONING ENGINES (on metallic table-stand support)

SMALL INDUSTRIAL ENDOTHERMIC ENGINES VARIOUS TYPES.

Perfectly functioning engines on a metallic table-stand support with silent block, support for table fixing.  
Complete with tank, silencer, air filter, recoil and all the accessorizes.

### VB 8900F – SINGLE-CYLINDER 2 STROKE PETROL ENGINE AIR COOLED (on metallic table-stand support)

#### Main technical specifications:

- displacement 46 cc
- power 1 hp at 5000 rpm
- recoil starting system
- consumption Kg 0,380 HPH
- electronic ignition
- forced air cooling system
- carburettor

#### Approx. weight and dim:

Cm: 45x45x50h  
Net Weight: kg 10  
Gross Weight: kg 20



-> For the same item, cutaway see item **VB 7450** at page **A-77**

### VB 8910F – SINGLE-CYLINDER 4 STROKE PETROL ENGINE AIR COOLED (on metallic table-stand support)

#### Main technical specifications:

- displacement 163 cc
- power 5,5 hp at 2500 rpm
- recoil starting system
- TCI transistorized magneto ignition
- forced air cooling system
- camshaft in the crankcase
- overhead valves

#### Approx. weight and dim:

Cm: 48x48x60h  
Net Weight: kg 20  
Gross Weight: kg 40



-> For the same item, cutaway see item **VB 5245** at page **A-73**

### VB 8920F – SINGLE-CYLINDER 4 STROKE DIESEL ENGINE AIR COOLED (on metallic table-stand support)

#### Main technical specifications:

- displacement 211 cc
- direct injection – in-line injection pump
- power 3,8 hp at 3000 rpm
- recoil ignition
- forced air cooling system
- camshaft in the crankcase
- overhead valves

#### Approx. weight and dim:

Cm: 50x50x60h  
Net Weight: kg 30  
Gross Weight: kg 50



-> For the same item, cutaway see item **VB 6120** at page **A-73**

Indicative picture for reference only



## **VB 5245M SINGLE-CYLINDER 4 STROKE PETROL ENGINE AIR COOLED (on base) - manual**

### **Main technical specifications:**

- displacement 160cc
- power 6 hp
- camshaft in the crankcase
- overhead valves
- rpm regulator
- oil pump
- carburettor
- air filter
- silencer
- tank

### **Approx. weight and dim:**

Cm: 48x48x50h  
Net Weight: kg 16  
Gross Weight: kg 25



**VB 5245**

## **VB 6120M SINGLE-CYLINDER 4 STROKE DIESEL ENGINE AIR COOLED (on base) - manual**

### **Main technical specifications:**

- displacement 210cc
- power 4 hp direct injection
- camshaft in the crankcase
- overhead camshafts
- rpm regulator
- toroidal oil pump
- injection pump
- injector
- silencer

### **Approx. weight and dim:**

Cm: 48x48x50h  
Net Weight: kg 25  
Gross Weight: kg 35



**VB 6120**

Indicative picture for reference only

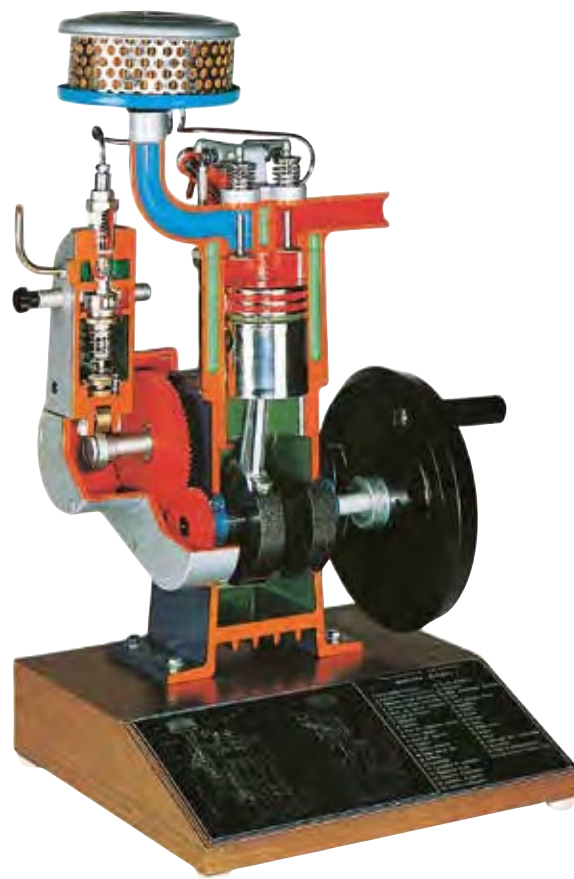
# VB 7000

## VB 7000M INDIRECT INJECTION 4 STROKE DIESEL ENGINE MODEL (on base) - manual

*The most rational training model of a 4-stroke diesel engine sectioned for training purposes. Indirect injection, complete with injection pump, injector, pre-chamber, preheating glow plug, cooling system, distribution circuit, etc. Operated manually through a crank handle. In order to simulate the active stage of the cycle a small bulb lights up during the expansion phase.*

### Approx. weight and dim.:

Cm:	40x40x65h
Net Weight:	kg 10
Gross Weight:	kg 14



Indicative picture for reference only

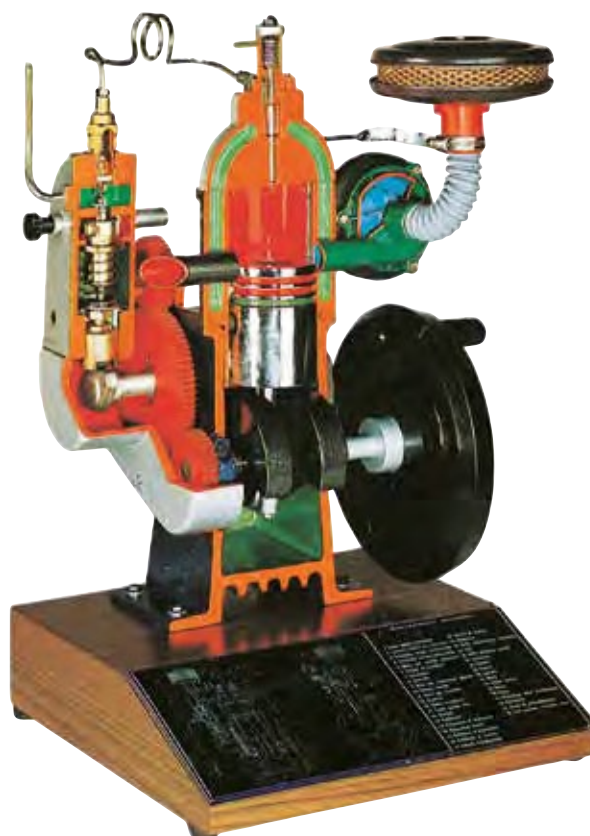
# VB 7100

## VB 7100M DIRECT INJECTION 2 STROKE DIESEL ENGINE MODEL (on base) - manual

*The most rational training model of a 2-stroke diesel engine sectioned for training purposes. Direct injection, complete with injection pump, injector, volumetric compressor, cooling system, etc. Operated manually through a crank handle. In order to simulate the active stage of the cycle a small bulb lights up during the expansion phase.*

### Approx. weight and dim.:

Cm:	40x40x65h
Net Weight:	kg 9
Gross Weight:	kg 13



*These cutaway models are 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.*



## VB 7200M 4 STROKE PETROL ENGINE MODEL (on base) - manual

*The most rational training model of a 4-stroke petrol engine. Complete with sectioned carburettor and coil ignition, cooling system, distribution system, spark coil, etc. During the combustion phase a bulb lights up to simulate the mixture ignition.*

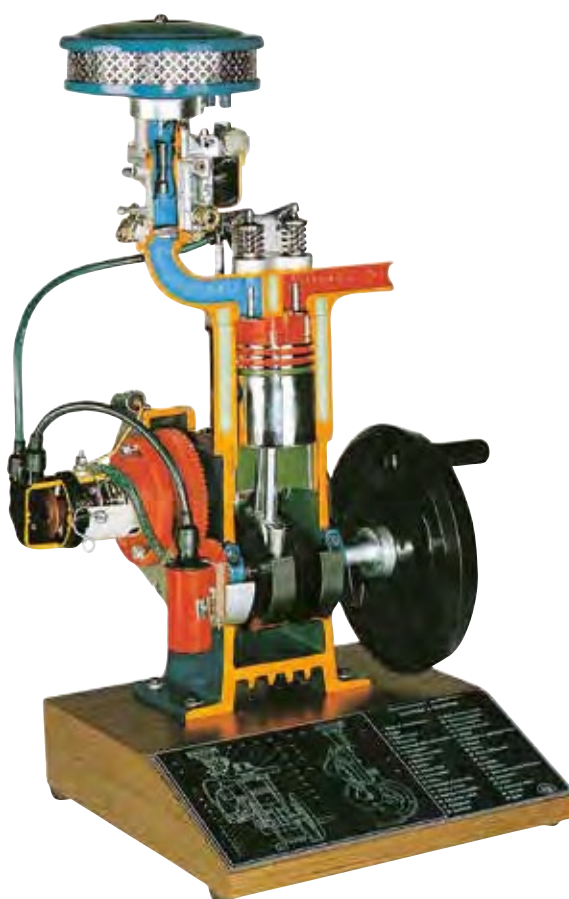
The engine is operated manually through a crank handle.

### Approx. weight and dim.:

Cm: 40x40x70h

Net Weight: kg 10

Gross Weight: kg 14



## VB 7460M 4 STROKE PETROL ENGINE MODEL WITH ELECTRONIC INJECTION MONOJETRONIC (on base) - manual

*The most rational training model of a 4-stroke petrol engine. During the combustion phase a bulb lights up to simulate the mixture ignition.*

### Main technical specifications:

- Mono-jetronic
- Lambda probe
- Coil single ignition
- Sensor

The engine is operated manually through a crank handle.

### Approx. weight and dim.:

Cm: 40x40x70h

Net Weight: kg 10

Gross Weight: kg 14



*These cutaway models are 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.*

VB 7200

VB 7460

Indicative picture for reference only

## VB 7490M MULTI-POINT ELECTRONIC INJECTION I.C. ENGINE MODEL (on a table support) - manual

Built using original parts, this single-cylinder model reunites all the main parts making up a modern petrol engine with multipoint electronic injection and ignition-integrated control unit. Special care has been taken with the cutaway views of the electro-injector, throttle body, control unit and LAMBDA probe.

### Main technical specifications:

- Overhead camshaft (OHC)
- Toothed belt timing
- Cartridge oil filter
- Centrifugal water pump
- Air temperature sensor
- Throttle potentiometer
- Idling adjustment motor
- Ignition coil
- LAMBDA probe

*The engine is operated manually through a crank handle.*



*Indicative picture for reference only*

*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.*

### Approx. weight and dim.:

Cm:	50x45x80h
Net Weight:	kg 21
Gross Weight:	kg 40



## VB 7450M 2 STROKE PETROL ENGINE (on base) - manual

Accurate section of a real 2-Stroke engine, showing every detail, carburettor, ignition, etc.

The suction-exhaust-transfer channels are especially highlighted so as to make it easy to learn the cycle.

### Main technical specifications:

- Piston displacement 46 cu. cm
- Air cooling system
- Electronic ignition
- Box carburettor

The engine is operated manually through a crank handle.



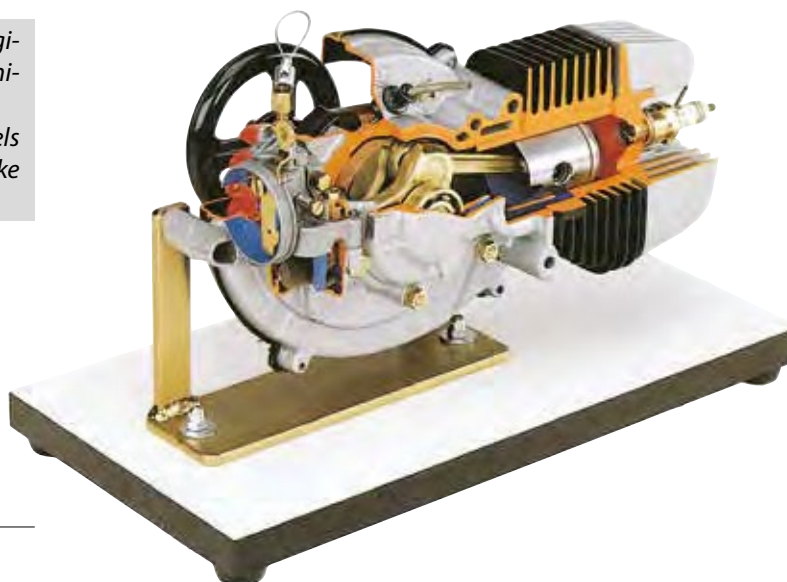
### Approx. weight and dim.:

Cm: 30x30x40h  
Net Weight: kg 8  
Gross Weight: kg 15

## VB 7400M 2 STROKE MOTORCYCLE PETROL ENGINE (on base) - manual

Accurate section of a real 2-Stroke engine, cut in every detail, carburettor, ignition, etc.

The suction-exhaust-transfer channels are especially highlighted so as to make it easy to learn the cycle.



### Main technical specifications:

- Piston displacement 48 cu. cm
- Air cooling
- Plug point and magnet flywheel ignition
- Box carburettor

The engine is operated manually through a crank handle.

### Approx. weight and dim.:

Cm: 24x42x28h  
Net Weight: kg 6  
Gross Weight: kg 10

These cutaway models are 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.

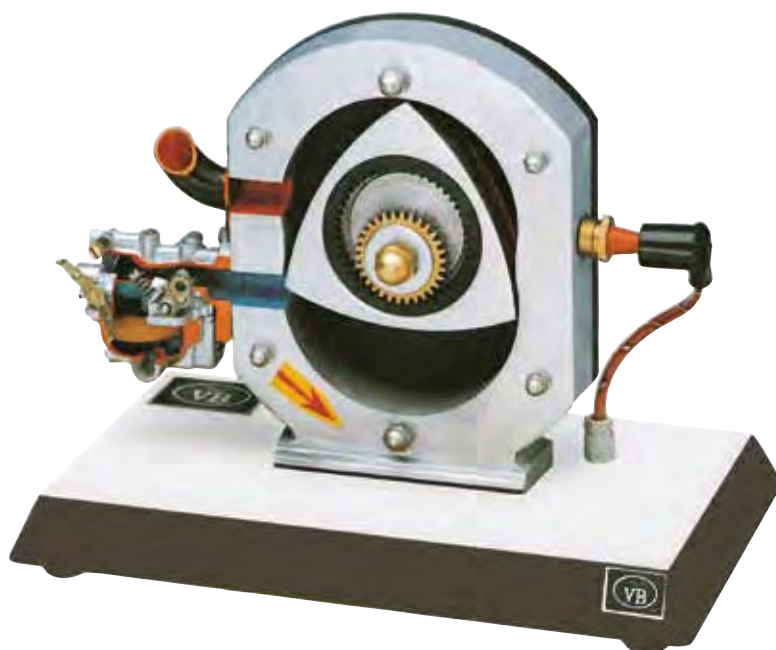
VB 7450

VB 7400

Indicative picture for reference only

# VB 7500

## VB 7500M WANKEL ENGINE MODEL (on base) - manual



Rotating engine model, true to the original and complete with cutaway carburettor. The rotor (triangular piston), operated by the driving shaft, rotates inside the stator thus clearly showing the different phases. During the compression phase a small bulb lights up to simulate the petrol ignition. Light metal construction.

The engine is operated manually through a crank handle.

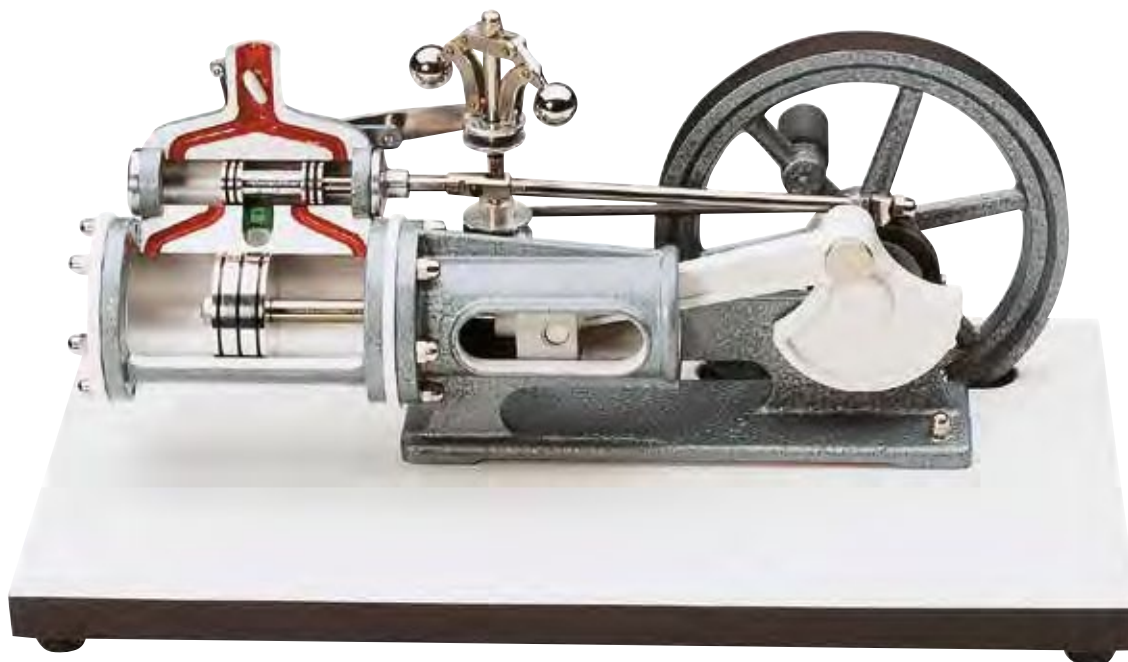
### Approx. weight and dim.:

Cm:	20x40x30h
Net Weight:	kg 6
Gross Weight:	kg 7

Indicative picture for reference only

# VB 9220

## VB 9220M STEAM ENGINE MODEL (on base) - manual



Educational model of a modern horizontal steam engine with piston valve control. The model can be put in motion by turning the flywheel, thus showing the manner of operation of the engine and of the built-on centrifugal governor.

### Approx. weight and dim.:

Cm:	36x22x24h
Net Weight:	kg 3
Gross Weight:	kg 8



## VB 9200E TURBO JET ENGINE MODEL (on base) - electrical

This super-model of a modern two-wave turbine shows in detail the construction and the operating system of such a motor. Low-pressure and high-pressure compressor, low-pressure and high-pressure turbine are readily recognisable, as also are the combustion chambers with the injection nozzles and starting plugs.

These can be readily seen thanks to the section cut housing. The turbines can be set in motion with the built-in electro-motor.

### Approx. weight and dim.:

Cm:	70x28x45h
Net Weight:	kg 13
Gross weight:	Kg 30



## VB 9210E TURBO JET ENGINE MODEL WITH HIGH-PRESSURE COMPRESSOR (on base) - electrical

This super-model of a modern two-wave turbine shows in detail the construction and the operating system of such a motor. High-pressure compressor, high pressure turbine are readily recognisable, as well as the combustion chambers with the injection nozzles and starting plugs. These can be easily seen thanks to the section cut housing. The turbines can be set in motion by means of the built-in electro-motor.

### Approx. weight and dim.:

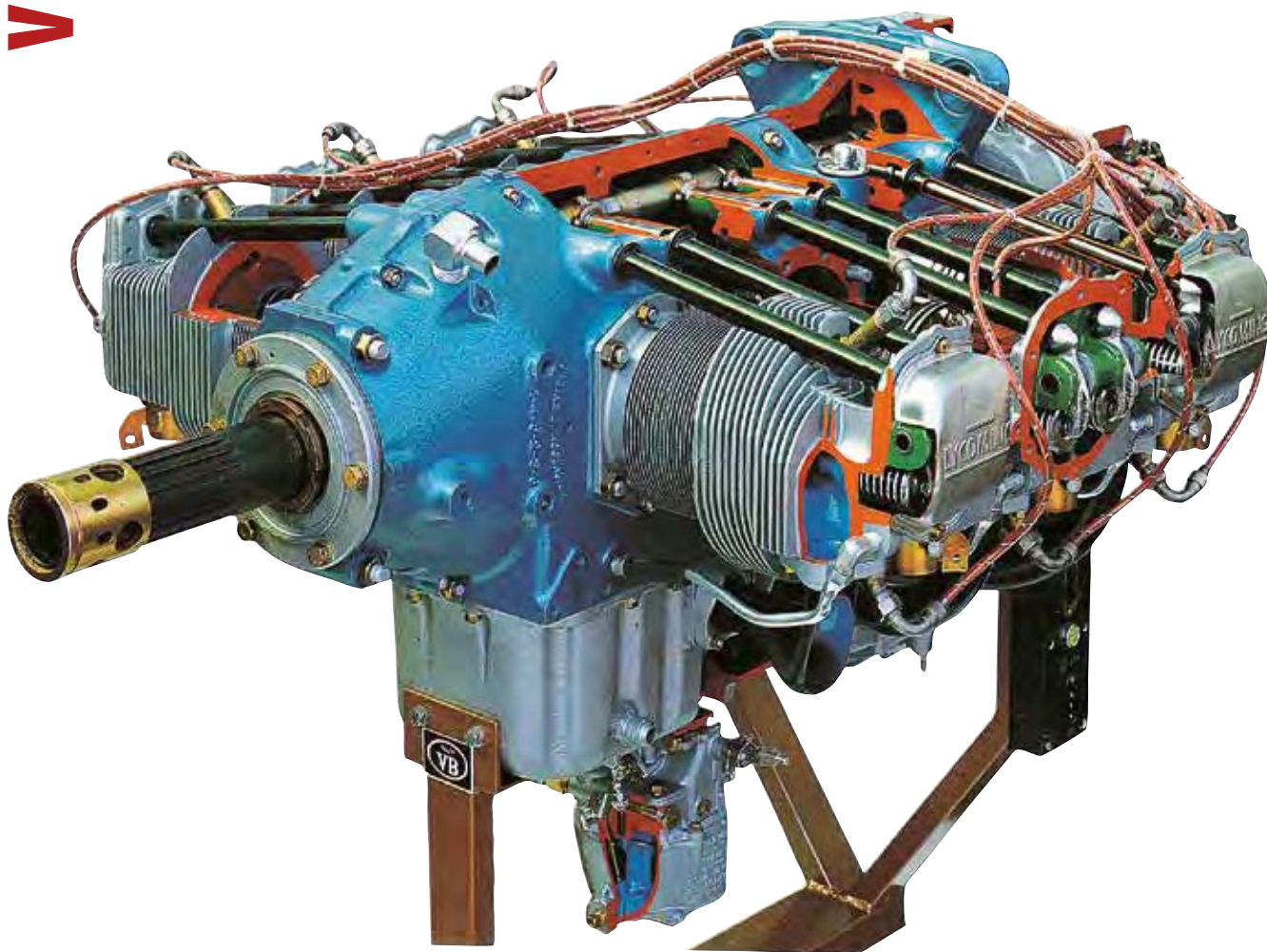
Cm:	60x40x40h
Net weight:	Kg 10
Gross weight:	Kg 20



Indicative picture for reference only

VB 9200

VB 9210



Indicative picture for reference only

### Main technical specifications:

- Lycoming/Piaggio/Continental 4/6-opposed cylinders engine
- Air cooling system
- Gear distribution with camshaft in the crankcase
- Ignition with magneto
- Single-body carburettor

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### Approx. weight and dim.:

Cm:	140x110x150h
Net Weight:	kg 190
Gross Weight:	kg 280



## VB 9280E RADIAL ENGINE (on stand with wheels) - electrical

This kind of engine was largely used in aeronautic before the introduction of reaction engines. As it is mechanically simple and sturdy, it is used for tanks, hovercrafts, etc.

VB 9280

Indicative picture for reference only



### Main technical specifications:

- Driving shaft with integral master rod and moving connection rods
- Air cooling system
- Double ignition (2 spark plugs per cylinder and 2 magnetos)

The engine operates electrically at 220 volts and runs at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.

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.

### Approx. weight and dim.:

Cm:	150x140x180h
Net Weight:	kg 700
Gross Weight:	kg 850



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