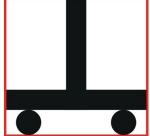


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Electrically Operated





Stand with Wheels



Wall-Mounted



Mounted on Base



Mounted on Table Stand



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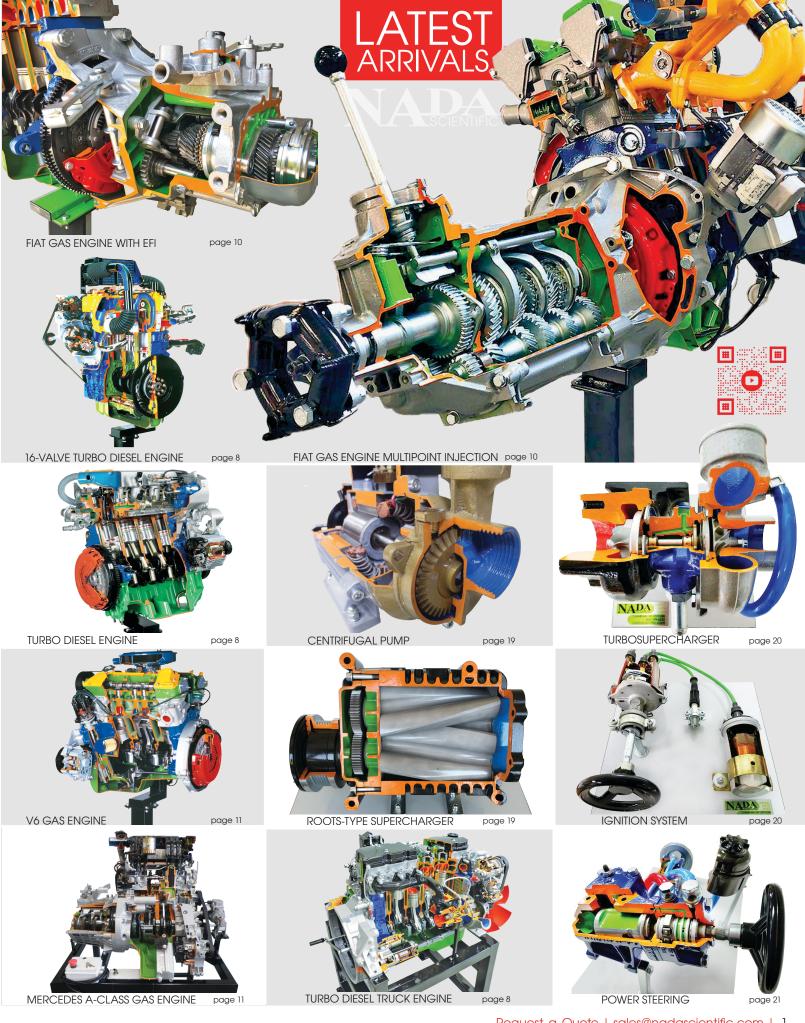


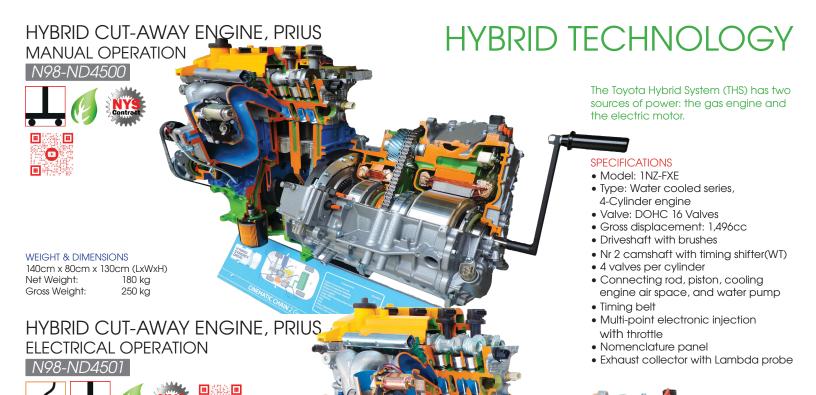
Green Technology



CATALOG CONTENTS

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CINEMATIC CHAIN

SPECIFICATIONS

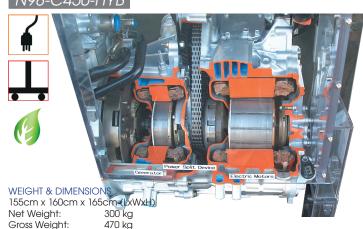
- 4-Cylinder engine
- Displacement: 1,500cc
- Dual Overhead Camshaft (DOHC)
- 4 valves per cylinder
- Roller chain
- VVT-I system (Variable Valve Timing with Intelligence) electronically controlled intake valves
- Multi-point electronic injection with thrott
- Electrical engine
- Epicyclic engine
- Generator
- Transmission belt (CVT)
- Nomenclature panel
- Differential group
- Exhaust manifold with Lambda probe

WEIGHT & DIMENSIONS

130cm x 90cm x 155cm (LxWxH)
Net Weight: 190 kg
Gross Weight: 300 kg

HYBRID CUT-AWAY TRAINER, PRIUS ELECTRICAL OPERATION

N98-C450-HYB



2 | nadascientific.com | 1-800-799-NADA



SPECIFICATIONS

Model: 1NZ-FXE

Type: Water cooled series
4-Cylinder engine
Valve: DOHC 16 valves

Gross displacement: 1,496cc Plexi-Glass Safety Shield Included

ON A A C

3CM AC synchronous motor Permanent magnet synchronous motor

MAX OUTPUT:

Engine: 77PS / 5,000 rpm Motor: 68PS / 1,200 ~ 1,540 rpm MAX TORQUE:

Engine: 11.7kg-m / 4,200 rpm Motor: 40.8 kg-m / 0 ~ 1,200 rpm

' Made in Japan

BIODIESEL RUNNING ENGINE

N98-BIODIESEL-R

WITH MULTIGAS ANALYZER

N98-BIODIESEL-MGA







WEIGHT & DIMENSIONS

155cm x 105cm x 140cm (LxWxH) Net Weight: 330 kg Gross Weight: 456 kg



ENGINE CHARACTERISTICS

- New agricultural engine
- Fuel by pure biodiesel (B100)
- 4-Cylinder Engine, 1,860cc
- Fixed speed motor, 1,550/1,800 rpm
- Indirect injection
- Water cooling
- Naturally aspirated

NEW DIGITAL CONTROL PANEL

MultiGas Analyzer

For emission monitoring of combustion and industrial processes.

GAS/LPG MULTIPOINTS FIAT ENGINE **ELECTRONIC INJECTION**

N98-ND4300







WEIGHT & DIMENSIONS

70cm x 80cm x 95cm (LxWxH) 86 kg 120 kg



- 4-Cylinder engine
- Displacement: 1,245cc
- Overhead camshaft (OHC)
- Electronic injection and ignition **GAS SYSTEM**
- Electro-Injectors
- Throttle Body
- Rail
- Sensors / Phonic Wheel
- Lambda Probe

LPG SYSTEM

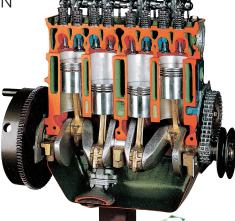
- Genius Reducer
- LPG Electro-valve
- LPG Tank with Float Device
- Charge Socket
- Rail and LPG Electro-Injectors

Net Weight: Gross Weight:

OVERHEAD VALVE ENGINE WITH TIMING CHAIN

N98-ND5450





WEIGHT & DIMENSIONS

N98-ND11206

70cm x 60cm x 80cm (LxWxH) Net Weight: 60 kg Gross Weight:

OVERHEAD CAMSHAFT ENGINE WITH TOOTHED TIMING BELT





SPECIFICATIONS

- 4-Stroke engine, Inline-4 Overhead camshaft
- Toothed timing belt
- Operates manually by hand crank

WEIGHT & DIMENSIONS

70cm x 60cm x 80cm (LxWxH) Net Weight: Gross Weight: 110 kg

FRONT CHASSIS UNIT







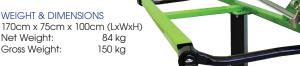
SPECIFICATIONS

- Used on Mercedes Cars
- Spherical/ball joint for each arm

MULTI-LINK SUSPENSION

Net Weight: 84 kg





WEIGHT & DIMENSIONS

100cm x 155cm x 130cm (LxWxH) 80 kg Net Weight: Gross Weight:



TRAINERS

SPECIFICATIONS

- Front chassis with front-wheel drive (transversally mounted engine)
- Gasoline powered 4-Cylinder engine
- Displacement: 1,200cc complete of all accessories
- Electronic Injection MPI (Multi points)
- Catalytic Converter with O2 (Lambda Sensor)
- Manual Transmission: 5 forward speeds + reverse + differential
- Hydraulic power steering with double jointed steering column
- 4 Sensor ABS brake system
- Radiator with electric fan
- Front disc & rear drum brakes
- Independent front wheel McPherson suspension with oscillating arms
- Working front and rear lighting system controlled by a dashboard

ELECTRIC POWER-ASSISTED STEERING WITH SUSPENSION

N98-ND10778







WEIGHT & DIMENSIONS

160cm x 130cm x 150cm (LxWxH) Net Weight: Gross Weight: 270 kg

AUTOMOTIVE A/C SYSTEM





WEIGHT & DIMENSIONS

105cm x 75cm x 130cm (LxWxH) Net Weight: Gross Weight:

WIRING SYSTEM TRAINER **ELECTRONIC IGNITION**

N98-ND9991



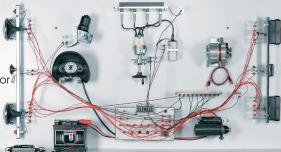
SPECIFICATIONS

- Front and rear lights
- Windshield wiper motor
- Turn indicators Instrument panel
- Battery
- Battery ignition
- Spark Plugs • Fuse Box
- Alternator
- Wires with red and black couplings



ELECTRONIC INJECTION MULTIPOINTS SYSTEM PANEL

N98-ND9900



WEIGHT & DIMENSIONS

195cm x 55cm x 205cm (LxWxH) Net Weight: 100 kg Gross Weight: 210 kg

SPECIFICATIONS

- Fuel electro-pump
- Inlet fuel piping
- Electronic ECU injection-ignition
- Feeding contractor system
- Fuel steams electro-valve
- Protection fuse
- Activated carbon filter
- Diagnostic socket
- Absolute pressure
- Temperature sensor
- Ignition spark plugs

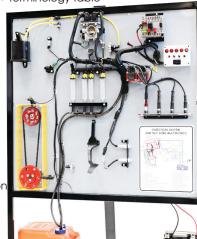
Positioning butterfly valve sensor

SPECIFICATIONS

- Operating McPherson struts, rack and pinion
- Adjustment of the steering effort directly on the rack
- Vehicle speed simulation from 0 to 120 km/h
- Normal/city push-button
- Alternator simulation
- Indicator lamp and voltage/current display
- Body computer with diagnostic socket (with low speed CAN)

SPECIFICATIONS

- Maximum power: 2 kw
- Piston compressor
- Condenser
- Dehydrating filter
- Pressure switch
- Expansion valve
- Evaporation unit
- Resistor
- Thermostat
- Troubleshooting device for simulation of 4 faults
- Terminology table





WEIGHT & DIMENSIONS

140cm x 70cm x 210cm (LxWxH)

Net Weight: 96 kg Gross Weight: 170 kg

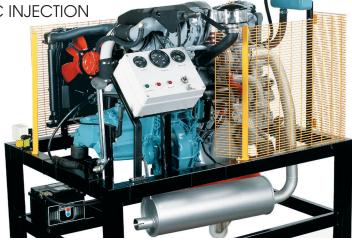
GAS RUNNING ENGINE MULTIPOINT ELECTRONIC INJECTION

N98-ND9005



WEIGHT & DIMENSIONS

115cm x 120cm x 140cm (LxWxH) Net Weight: 250 kg Gross Weight: 330 kg



DIESEL RUNNING ENGINE **COMMON RAIL**

N98-ND9095



WEIGHT & DIMENSIONS

120cm x 130cm x 140cm (LxWxH) Net Weight: 350 kg Gross Weight: 450 kg

HYDRAULIC DOUBLE CIRCUIT **BRAKE SYSTEM SIMULATOR**









120cm x 160cm x 154cm (LxWxH) Net Weight: 270 kg Gross Weight: 400 ka



SPECIFICATIONS

- 4-Cylinder FIAT Engine
- 2 valves per Cylinder
- Overheard camshaft
- Electronic ignition
- Displacement: 1,300cc
- Gearbox: 5 forward speeds + reverse
- Diagnostic connector
- OBD2 socket connection
- Mounted on a stand with wheels
- Includes anti-vibration rubber caps



SPECIFICATIONS

- 4-Cylinder FIAT Engine
- 2 valves per cylinder
- Overheard camshaft
- Turbo-compressor
- Displacement: 1,900cc
- Gearbox: 5 forward speeds + reverse
- Diagnostics socket
- OBD2 socket connection
- On Request: Multi-jet, 1300 cc, DOHC, 4 valves per cylinder
- Mounted on a stand with wheels
- Includes anti-vibration rubber caps

SPECIFICATIONS

- 2 Disk brakes connected to a constant-velocity joint
- 2 Drum brakes connected to axle shafts
- Double circuit hydraulic brake pump with tank
- De-pressure servo brake with pedal
- Hand brake lever connected to rear drums
- Hydraulic diverter to reverse the spin direction
- Hydraulic ECU connected to a hydraulic engine in order to transmit the motion to the wheels
- A range of manometers to measure the various pressures
- A range of taps to simulate circuit interruptions
- Vacuum pump for servo brakes
- Simulate front and rear circuit failures
- Simulate the presence of water in the system
- Electronic three phase 120V engine

ELECTRIC PANEL FOR LIGHTING WITH ALTERNATOR

N98-ND9992



WEIGHT & DIMENSIONS

130cm x 100cm x 206cm (LxWxH) Net Weight: 110 kg Gross Weight: 150 kg



- SPECIFICATIONSDaytime Running Lights
- Low Beams
- High Beams
- Signal Lights
- Rear Fog Lights
- Brake Lights
- Reverse Lights • Work Lights
- Relays
- Dashboard with Lights
- Four Spark Plugs
- High Tension Coil
- Electronic Distributor
- Battery with Isolator
- Functioning Alternator with Variable Speed Electric Engine
- Voltmeter
- Ampere Meter
- Pin Outs for Tension Values of Each Component

DIESEL COMMON RAIL

N98-ND 10300



WEIGHT & DIMENSIONS

60cm x 20cm x 30cm (LxWxH) Net Weight: Gross Weight:



DIESEL

This model offers a detailed cross-section of a manually operated high pressure (1,600 bar) Diesel Common Rail. Examine the radial piston pressure pump, the delivery manifold, and the electro-injector that are all connected with high pressure hoses.

DIESEL ELECTRO-INJECTOR SOLENOID VALVE





WEIGHT & DIMENSIONS 25cm x 10cm x 10cm (LxWxH) Net Weight: Gross Weight:



MERCEDES A-CLASS TURBO DIESEL ENGINE, COMMON RAIL







WEIGHT & DIMENSIONS

119cm x 113cm x 120cm (LxWxH) Net Weight: 150 kg Gross Weight: 230 kg



N98-ND6068





WEIGHT & DIMENSIONS

130cm x 86cm x 100cm (LxWxH) Net Weight: 140 kg Gross Weight:

SPECIFICATIONS

- Daimler-Chrysler A-Class Mercedes Common Rail Turbo Diesel Engine
- 4-Stroke, Inline-4
- Displacement: 1,700cc
- Double overhead camshaft (DOHC) 16 valves
- Timing chain
- Turbo Diesel Common Rail
- Oil pump water cooling
- Air filter with box
- Intake manifold
- Air mass flow sensor
- Starter motor, alternator
- Gearbox 5 speeds + reverse, clutch
- Operates electrically at 120V
- Mounted on a stand with wheels

SPECIFICATIONS

- 4-Stroke engine, Inline-4
- Displacement: 1,300cc
- Indirect injection
- Turbocharged
- VE Bosch type rotary injection pump
- Overhead Camshaft (OHC)
- Distribution through a toothed belt
- Alternator
- Thermostatic valve
- Power 45 HP
- Gearbox: 5 forward speeds + reverse + differential
- Single-plate clutch with diaphragm
- Water coolina
- Operates electrically at 120V
- Mounted on stand with wheels

TURBO DIESEL TRUCK ENGINE, INLINE-4 WITH TURBOSUPERCHARGER

N98-ND6020

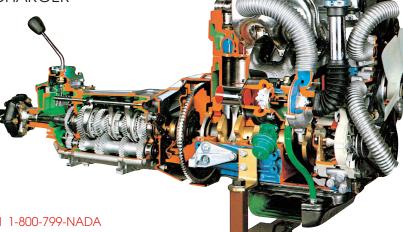






WEIGHT & DIMENSIONS

85cm x 160cm x 100cm (LxWxH) Net Weight: 220 ka Gross Weight: 280 kg



- 4 -Stroke engine, Inline-4
- Displacement: 2,500cc
- 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
- Operates electrically at 120V
- Mounted on stand with wheels

TURBO DIESEL ENGINE, RWD WITH CLUTCH & GEARBOX









WEIGHT & DIMENSIONS

160cm x 60cm x 100cm (LxWxH) Net Weight: 150 kg 210 kg Gross Weight:

TURBO DIESEL TRUCK ENGINE WITH DIRECT FUEL INJECTION

N98-ND6075

TURBO DIESEL TRUCK ENGINE WITH INDIRECT FUEL INJECTION

N98-ND6076





WEIGHT & DIMENSIONS

100cm x 90cm x 120cm (LxWxH) Net Weight: 200 kg Gross Weight: 260 kg

TURBO DIESEL V8 TRUCK ENGINE WITH DIRECT INJECTION









WEIGHT & DIMENSIONS

185cm x 120cm x 150cm (LxWxH) Net Weight: 1100 kg Gross Weight: 1400 kg



- 4-Stroke engine, Inline-4
- Displacement: 1,300/1,700cc
- Indirect injection
- Turbocharged
- 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
- Operates electrically at 120V
- Mounted on stand with wheels

SPECIFICATIONS

- 4-Stroke engine, Inline-4
- Displacement: 2,500cc
- Turbocharged
- VE Bosch type rotary injection pump
- Overhead Camshaft (OHC)
- Distribution through a toothed belt
- Alternator
- Thermostatic valve
- Intercooler water-oil
- Water cooling
- Operates electrically at 120V
- Mounted on stand with wheels

SPECIFICATIONS

- 4-Stroke, V8 Engine
- Displacement: 17,200cc
- Power: 380 hp
- Direct injection
- Water/oil Intercooler
- 4 valves per cylinder
- Camshaft in the crankcase
- 2 Turbochargers
- Geared distribution
- Operates electrically at 120V
- Mounted on stand with wheels

DIESEL TRUCK ENGINE WITH INJECTOR PUMPS, INLINE-6

N98-ND6083











200cm x 105cm x 150cm (LxWxH) 950 kg Net Weight: Gross Weight: 1200 kg



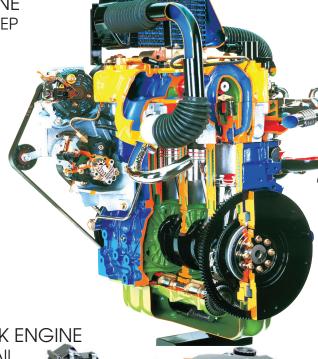
- Displacement: 7,790/10,380cc (based on availability)
- 4-Stroke, Inline-6
- 4 valves per cylinder
- Maximum power 310/450 hp (based on availability)
- Water cooling
- Turbocharger
- Electronically controlled pump injectors
- Preheating device
- Operates electrically at 120V
- Mounted on stand with wheels

TURBO DIESEL ENGINE 16-VALVE CHRYSLER/JEEP

N98-ND6010







DIESEL

SPECIFICATIONS

- Inline-4
- Displacement: 2,500/2,800cc
- Power: 150-170 hp at 4,000 rpm
- Twin overhead camshaft (DOHC) with timing belt
- 4 valves per cylinder
- Torodial oil pump
- Common rail-type direct injection with electronic injectors
- Turbocharger with air-air intercooler
- Alternator, oil filter and oil pump
- Operates electrically at 120V
- Mounted on stand with wheels



WEIGHT & DIMENSIONS

120cm x 90cm x 120cm (LxWxH) Net Weight: 200 kg Gross Weight: 270 kg

TURBO DIESEL TRUCK ENGINE

N98-ND6091E







SPECIFICATIONS

- Displacement: 5,900CC
- Inline-6 with Direct Injection
- Camshaft in Crankcase (OHV)
- Geared Timing
- 4 Valves per Cylinder
- Bosch Common Rail Injection
- Wastegate Turbocharger
- Alternator
- Air Compressor
- Engine Öil Rotor Pump
- Flange Power Steering Pump
- Air Conditioning Pump
- Cooling Fan with Viscous Joint
- Operates electrically at 120V
- Mounted on stand with wheels

WEIGHT & DIMENSIONS

140cm x 100cm x 165cm (LxWxH) Net Weight: 510 kg 630 kg Gross Weight:

FIAT/ALFA ROMEO TURBO DIESEL ENGINE

8-VALVE COMMON RAIL

N98-ND6015E

FIAT/ALFA ROMEO TURBO DIESEL WITH 5 SPEED GEARBOX + REVERSE





SPECIFICATIONS

- Inline-4
- 2 valves per cylinder
- Displacement: 1,900cc
- Power: 115hp at 4,000 RPM
- Overhead Camshaft (OHC) with timing belt
- Common rail type direct injection with electro-injectors
- Turbosupercharger
- Alternator
- Oil pump and filter
- Operates electrically at 120V
- Mounted on stand with wheels

WEIGHT & DIMENSIONS

Size: 90cm x 100cm x 120cm (L x W x H) Net Weight: 150 kg

Gross Weight: 210 kg



WEIGHT & DIMENSIONS

120cm x 60cm x 100cm (LxWxH) Net Weight: 190 ka Gross Weight: 260 kg

- V6 Gas Engine
- Displacement: 2,000-3,000cc
- Double Overhead Camshaft
- Centrifugal water pump
- 12V alternator
- Operates electrically at 120V
- Mounted on a stand with wheels



FIAT 16-VALVE GAS ENGINE MULTIPOINT INJECTION, 5-SPEED,









FIAT GAS ENGINE, MULTIPOINT INJECTION + GEARBOX

N98-ND5222IE



WEIGHT & DIMENSIONS

120cm x 70cm x 100cm (LxWxH) Net Weight: 140 kg Gross Weight:



SPECIFICATIONS

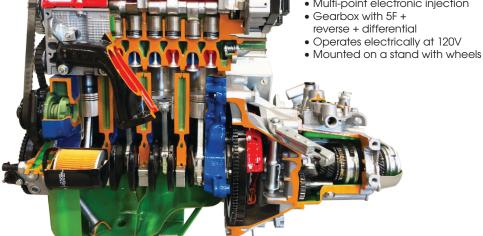
- Inline-4
- Displacement: 1,250cc
- Overhead Camshaft (OHC)
- Multi-point electronic injection
- Electronic ignition
- Gearbox: 5 forward speeds + reverse with differential
- Operates electrically at 120V
- Mounted on stand with wheels



SPECIFICATIONS

- FIAT Engine, 137 HP/101 Kw
- 16-Valve, 4-Cylinder Engine
- Displacement: 1,995 cc
- Double Overheard Camshaft (DOHC)
- Multipoint Electronic Injection with Ignition Integrated Control Unit
- Vibration Damper Balance Shafts • Gearbox: 5 Forward Speeds +
- Reverse
- Water Cooling
- 12V Alternator
- Membrane Clutch
- Operates electrically at 120V
- Mounted on stand with wheels

- Inline-4
- Displacement: 1,250cc
- Overhead camshaft
- Electronic ignition
- Multi-point electronic injection
- Operates electrically at 120V



FIAT 4-CYLINDER ENGINE MULTIPOINT ELECTRONIC INJE

N98-ND4800







GAS ENGINE

SPECIFICATIONS

- Inline-4
- 4 valves per cylinder
- Displacement: 2,000cc
- Double overheard camshaft
- Ignition integrated control unit
- Vibration dampening balancing shafts
- 12 volt alternator
- Membrane clutch
- Operates electrically at 120V
- Mounted on stand with wheels

Request Ducte

WEIGHT & DIMENSIONS

90cm x 120cm x 125cm (LxWxH)

Net Weight: 160 kg

Gross Weight: 210 kg

MERCEDES A-CLASS GAS ENGINE W/MULTIPOINT ELECTRONIC INJECTION









WEIGHT & DIMENSIONS

110cm x 110cm x 150cm (L x W X H) Net Weight: 170kg

Net Weight: 170kg Gross Weight: 250kg



- Displacement 1,600ccDouble overhead camshaft DOHC
- 8 valves
- Multipoint electronic injection

• Mercedes A-Class Gas Engine

- Oil pump, oil filter
- Air filter, water cooling
- Intake manifold

SPECIFICATIONS

- Air mass flow sensor
- Clutch
- Gearbox 5 speeds + reverse
- Differential
- Operates electrical at 120V
- Mounted on a stand with wheels

AUDI/VOLKSWAGEN GAS ENGINE WITH DIRECT INJECTION

N98-ND4600-F

MITSUBISHI GAS ENGINE WITH DIRECT INJECTION

N98-ND4600-G



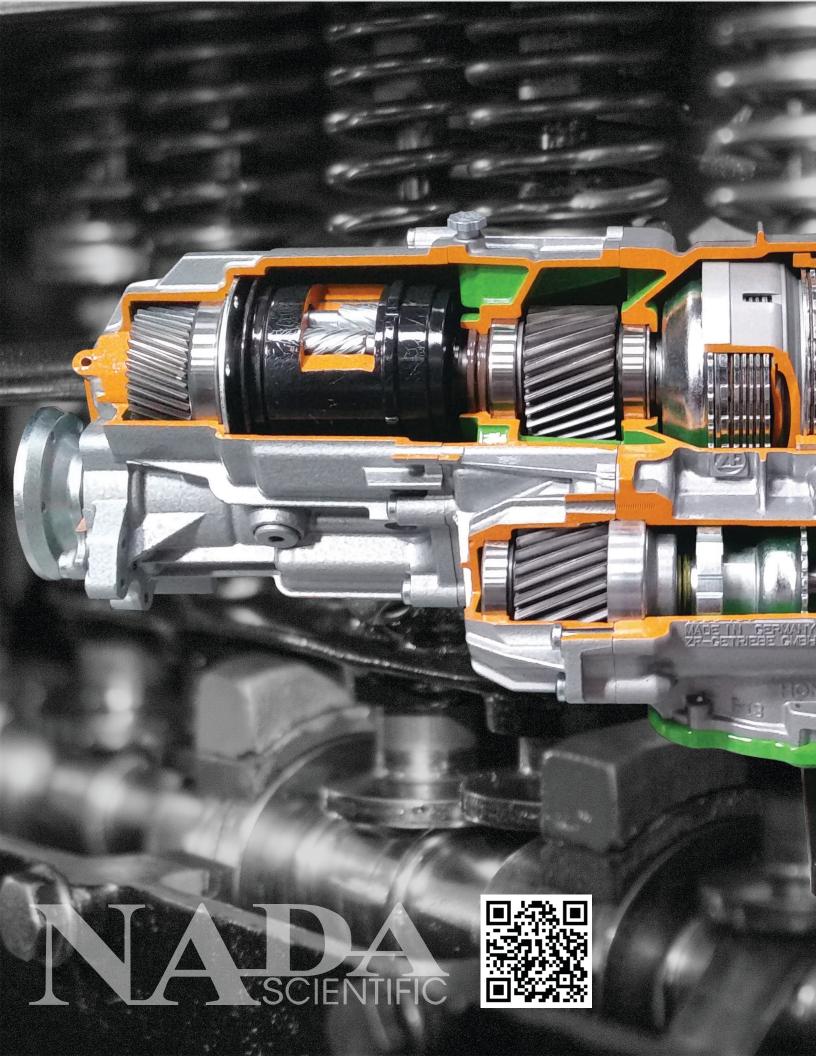


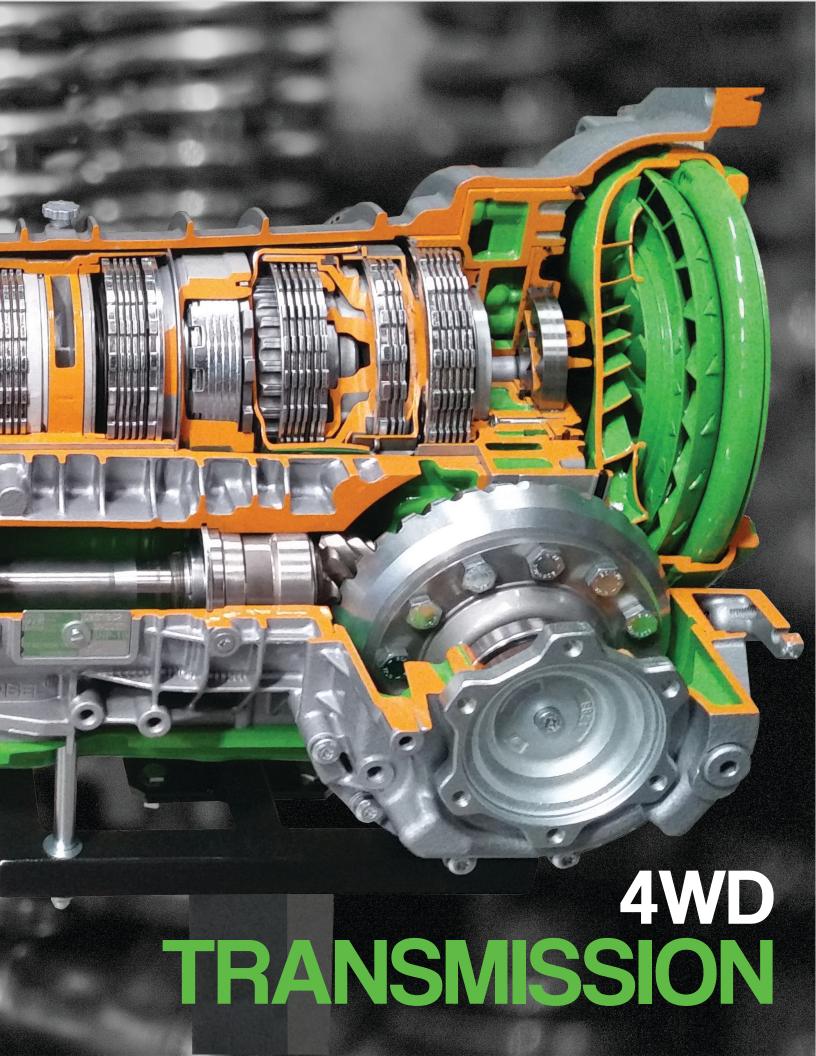
WEIGHT & DIMENSIONS

90cm x 100cm x 125cm (LxWxH)
Net Weight: 150 kg
Gross Weight: 210 kg



- Inline-4
- Displacement: 1,800-2,200cc
- Double overhead camshaft
- Multi-point electronic injection
- 4 valves per cylinder
- Water cooling
- 12 volt alternator
- Operates electrically at 120V
- Mounted on stand with wheels





TRANSMISSION CUT-AWAY 4 SPEED + REVERSE N98-ND 11020





TRANSISSION

- Dry single plate clutch with spring and diaphragm
- •Operates manually by hand crank
- Clutch operates by foot pedal
- Mounted on stand with wheels

WEIGHT & DIMENSIONS

90cm x 60cm x 50cm (LxWxH Net Weight: 45 kg 65 kg Gross Weight:



N98-ND11030



SPECIFICATIONS

- Dry single plate clutch with spring and diaphragm
- Operates manually by hand crank
- Clutch operates by foot pedal
- Mounted on stand with wheels

WEIGHT & DIMENSIONS

95cm x 60cm x 50cm (LxWxH) Net Weight: 50 kg Gross Weight:

TRANSMISSION CUT-AWAY, AUTOMATIC

3 SPEED + REVERSE N98-ND11040







WEIGHT & DIMENSIONS

100cm x 65cm x 70cm (LxWxH) Net Weight: 70 kg Gross Weight: 100 kg





SPECIFICATIONS

- Hydraulic converter
- Epicycloidal gear change with 3 forward speeds + reverse
- Multiple plate clutches
- Control valves
- Operates manually by hand crank applied on the converter
- Mounted on stand with wheels

TRANSMISSION CUT-AWAY, AUTOMATIC

4WD, 5 SPEED + REVERSE



WEIGHT & DIMENSIONS

100cm x 65cm x 70cm (LxWxH) Net Weiaht: 75 kg Gross Weight: 100 kg



- Hydraulic torque converter
- Epicycloidal gear change with 5
- forward speeds + reverse
- Multiple plate clutches
- Control valves
- Operates manually by hand crank applied on the converter
- Mounted on stand with wheels

TRANSMISSION CUT-AWAY
AUTOMATIC, REAR-WHEEL DRIVE
4 SPEED + REVERSE

N98-ND11060



WEIGHT & DIMENSIONS

90cm x 60cm x 100cm (LxWxH)
Net Weight: 60 kg
Gross Weight: 85 kg

TRANSMISSION CUT-AWAY AUTOMATIC, FRONT-WHEEL DRIVE 4 SPEED + REVERSE







WEIGHT & DIMENSIONS

90cm x 60cm x 100cm (LxWxH)
Net Weight: 60 kg
Gross Weight: 85 kg

TRANSAXLE CUT-AWAY DIRECT-SHIFT GEARBOX

N98-ND11064





CVT GEARBOX CUT-AWAY
CONTINUOUSLY VARIABLE TRANSMISSION

N98-ND11068



WEIGHT & DIMENSIONS

60cm x 50cm x 80cm (LxWxH) Net Weight: 45 kg Gross Weight: 75 kg

SPECIFICATIONS

- Rear-Wheel Drive
- 4 forward speeds + reverse
- Casing
- Torque converter
- Oil pump
- Stationary plate clutch
- Rotary Plate clutch
- Planetary gear train
- Hydraulic circuit valve
- Centrifugal regulator
- Mounted on stand with wheels
- Operates manually by hand crank

An exploded/cut-away view of the hydraulic circuit is provided to better show the various ducts and valves.

This automatic cut-away is carefully sectioned for training purposes and professionally painted with different colors to better differentiate among the various parts. Many parts have been chromium plated and galvanized for a longer life.



This is a cut-away of a Direct-Shift Gearbox (also referred to as double-clutch gearbox). It has two main shafts; one for the odd gears and the other for the even gears. Each shaft is inserted into one of the discs of the coaxial clutches. The shafts connected to the clutches can transmit motion mechanically to an auxiliary shaft having the relevant speed-gears.

The Continuously Variable
Transmission (CVT) Gearbox can
change continuously through an
infinite number of effective gear
ratios between maximum and
minimum values.

- Electromagnetic clutch
- Forward and reverse insertion lever
- Primary pulley
- Secondary pulley
- Roller belt
- Final reduction unit
- Hydraulic command unit
- Operates manually by hand crank



HEAVY-DUTY TRANSAXLE CUT-AWAY ECOSPLIT 16 SPEED + 2 REVERSE

N98-ND 11069



WEIGHT & DIMENSIONS

110cm x 90cm x 130cm (LxWxH) Net Weight: 280 ka Gross Weight: 380 kg

HEAVY-DUTY GEARBOX 13 SPEED, FULLER

N98-ND11070



WEIGHT & DIMENSIONS

110cm x 100cm x 130cm (LxWxH) 300 kg Net Weight: Gross Weight: 400 ka

HEAVY-DUTY TRUCK GEARBOX, ZF 5HP





WEIGHT & DIMENSIONS

100cm x 70cm x 85cm (LxWxH) Net Weight: Gross Weight: 350 kg

TRANSMISSION ASSEMBLY, 4X4 CROSS-COUNTRY WITH GEARBOX









WEIGHT & DIMENSION 225cm x 75cm x 105cm (LxWxH) Net Weight: 230 kg

Gross Weight: 300 kg

HEAVY-DUTY

This is a cut-away of a 16 speed manual transmission for heavy-duty vehicles. It is composed of a central box containing 4 forward speed gearings and 2 reverse speed gearings, an epicyclic unit for selecting the speed-gears mounted on the base, and over-gear on top. The over-gear configuration results in the division of each gear into slow or fast obtaining 16 forward gears, which can be inserted and geared down in sequence.

This is a cut-away of a quick change gearbox used in 300/400 hp heavy-duty vehicles with mechanical and pneumatic control. It is a nonsynchronized gearbox, which is divided into 2 parts:

- 1. On the engine side, there are the 1st, 2nd, 3rd, and 4th gears, reverse, and extra low ratio pick-up gears. All these gears are mechanically controlled by the change gear lever.
- On the output shaft side, there are the standard, low ratio, and semi-low ratio gears, pneumatically controlled by the per-selector provided on the gear lever.

This gearbox is comprised of a hydrodynamic torque converter with a lock-up clutch, a hydrodynamic retarder, and a downstream, multi-ratio planetary transmission.

SPECIFICATIONS

- Torque converter with lock-up clutch
- Hydrodynamic retarder
- Rotating multi-disc clutches
- Fixed-position multi-disc brakes • Oil cooler with oil-water exchanger
- Flectrovalves
- Mounted on stand with wheels

Transmission Assembly fitted to most 4x4 cross-country vehicles.

- Gearbox: 5 forward speeds + reverse
- 2 speed reduction gear
- Movement restorer with
- front-wheel drive manual control
- Drive shafts with universal joints
- Self-locking hypoid differentials • Operates manually by hand crank
- Mounted on stand with wheels



HEAVY-DUTY TRUCK REAR AXLE WITH LOCKING DIFFERENTIAL N98-ND11198 WEIGHT & DIMENSIONS 235cm x 95cm x 1050cm (LxWxH) Net Weight: 590 kg

SPECIFICATIONS

- Complete section of the rear axle
- Bevel gear (pinion crown)
- Differential (satellite and planetary) with locking differential
- Axle shafts
- Reducer and planetary on the hub
- Brakes with jaws/drum
- Double air brake element
- Mounted on stand with wheels
- Operates manually by hand crank

Gross Weight: 700 kg

HEAVY-DUTY TRUCK DIFFERENTIAL WITH DOUBLE REDUCER UNIT

N98-ND11295



- Gear reducer with bevel gear
- Differential reducer with
- Mounted on stand with wheels
- Operates manually by hand crank

WEIGHT & DIMENSIONS

90cm x 70cm x 70cm (LxWxH) 185 kg Net Weight: Gross Weight:

HEAVY-DUTY GEARBOX WITH REDUCTION GEAR

N98-ND11080



WEIGHT & DIMENSIONS

80cm x 80cm x 140cm (LxWxH) Net Weight: 150 kg Gross Weight:

SPECIFICATIONS

- cylindrical gear

SPECIFICATIONS

- 4-Speed gearbox
- 2 hand levers controls normal and reduced gears
- Normal gear ratios: 1st = 5.199, 2nd 2.959, 3rd = 1.747, 4th = 1, R.M. = 5.243
- Reduced gear ratios:

1st = 7.013

2nd = 3.991

3rd = 2.357

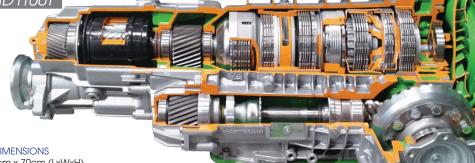
4th = 1.349

R.M. = 7.072

- Operates manually by hand crank
- Mounted on stand with wheels









WEIGHT & DIMENSIONS

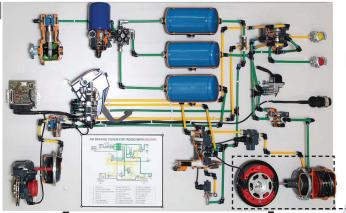
100cm x 65cm x 70cm (LxWxH) Net Weight: 75 kg Gross Weight: 100 kg

- ZF 5HP
- Mounted on stand with wheels
- Operates manually by hand crank

AIR BRAKING SYSTEM FOR TRUCKS WITH ABS/ASR

N98-ND12195





BRAKING SYSTEM

DISC CALIPER & ROTOR CHAMBER



WEIGHT & DIMENSIONS

220cm x 36cm x 140cm Net Weight: 125 ka Gross Weight: 165 kg

BRAKING SYSTEM PANEL, DOUBLE CIRCUIT

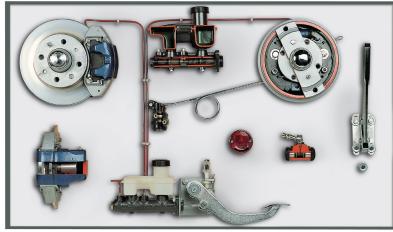






WEIGHT & DIMENSIONS 110cm x 60cm x 40cm (LxWxH)

Net Weight: 35 kg Gross Weight: 65 kg



The double circuit brakes wall panel represents a complete double circuit braking system and features components that have been sectioned to provide a clear view of the system. This trainer is operated by a hydraulic pump connected to the disk brake and the drum brake.

34 kg



COMPRESSED AIR BRAKING SYSTEM PANEL WITH DOUBLE SPRING BRAKES

N98-ND 12170



N98-ND12180



WEIGHT & DIMENSIONS

220cm x 36cm x 140cm (LxWxH) Net Weight: 110 kg Gross Weight:

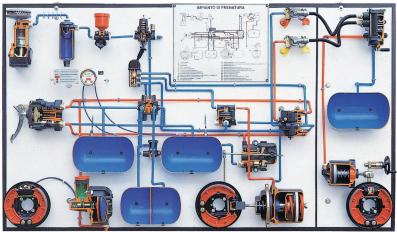
ABS BRAKING SYSTEM PANEL





WEIGHT & DIMENSIONS

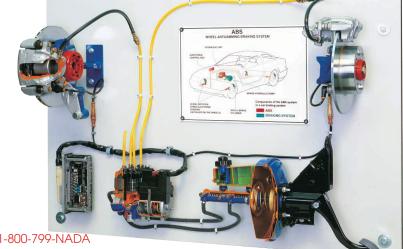
140cm x 50cm x 90cm (LxWxH) Net Weight: 60 kg Gross Weight: 120 ka

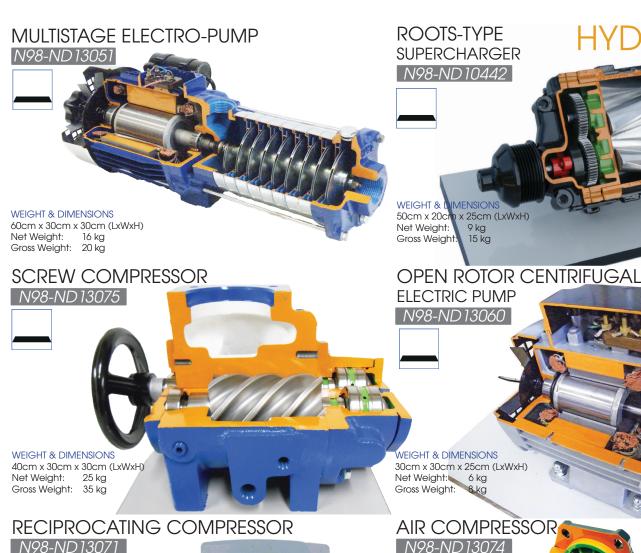


This Turbo Star Compressed Air Braking System panel includes all elements of a compressed air braking system. It is complete with all connection circuit components for braking systems. Students learn the system with the aid of connection pipes that are painted in multiple colors to differentiate the various circuits.

The ABS Brake System Panel is an educational model of a modern ABS braking system for automobiles. All brake parts are provided as detailed cut-away models and are interconnected. **SPECIFICATIONS**

- Self-ventilating disk brake with phonic wheel and sensor
- Rear disk brake with phonic wheel and sensor
- Servo brake with foot control panel and brake pump
- Electronic control unit
- Oil tank







AXIAL ALTERNATIVE COMPRESSOR

WITH DOUBLE EFFECT PISTON

HYDRAULICS



AXIAL ALTERNATIVE COMPRESSOR WITH VARIABLE DISPLACEMENT



Net Weight:



WEIGHT & DIMENSIONS 20cm x 20cm x 20cm (LxWxH) 🤎 Net Weight: 7 kg Gross Weight: 12 kg

Gross Weight:

9 kg

TURBOCHARGER CUT-AWAY VARIABLE GEOMETRY

N98-ND10441





WEIGHT & DIMENSIONS

50cm x 20cm x 35cm (LxWxH) Net Weight: 7 kg Gross Weight: 10 kg

INJECTOR PUMP

N98-ND10110



WEIGHT & DIMENSIONS

40cm x 20cm x 10cm (LxWxH) Net Weight: 3 kg Gross Weight: 4 kg

BOSCH PUMP HIGH PRESSURE, CP4

N98-ND 10108







GAS ENGINE MODEL 4-STROKE

N98-ND7460

Gross Weight: 6 kg









SELF-VENTILATED BRAKE WITH 4 PISTONS

N98-ND 12040





WEIGHT & DIMENSIONS 50cm x 25cm x 45cm (LxWxH) Net Weight: 15 kg Gross Weight: 20 kg

SELF-LOCKING HYPOID DIFFERENTIAL

N98-ND1<u>1260</u>





MODELS

WEIGHT & DIMENSIONS

40cm x 30cm x 40cm (LxWxH) Net Weight: 25 kg Gross Weight: 30 kg

IGNITION SYSTEM CUT-AWAY WITH DISTRIBUTOR

N98-ND 10030



WEIGHT & DIMENSIONS
30cm x 30cm x 17cm (LxWxH)
Net Weight: 3 kg
Gross Weight: 5 kg

TURBOSUPERCHARGER WITH WASTEGATE VALVE

N98-ND 10430



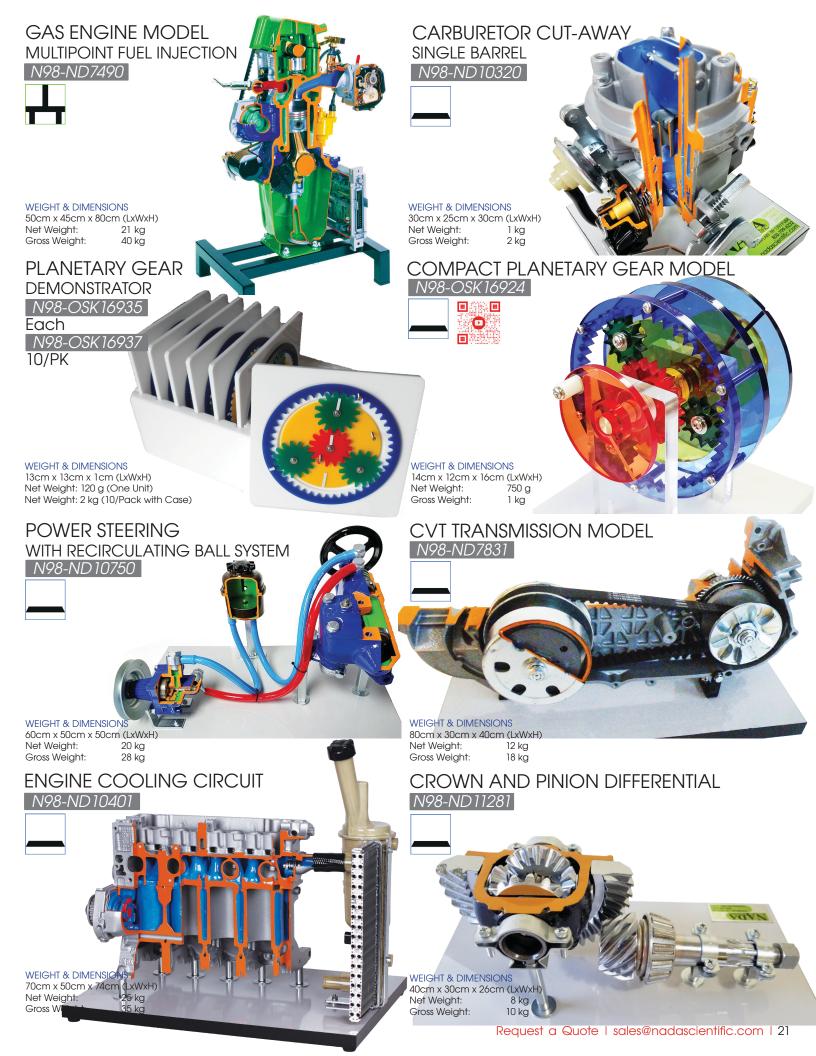


Net Weight: 6 kg Gross Weight: 8 kg



WEIGHT & DIMENSIONS

40cm x 40cm x 70cm (LxWxH) Net Weight: 10 kg Gross Weight: 14 kg



MARINE

6-CYLINDER WITH

N98-ND7940

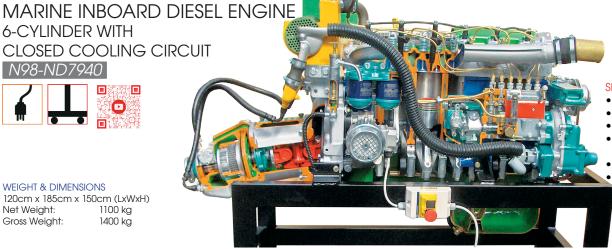






WEIGHT & DIMENSIONS

120cm x 185cm x 150cm (LxWxH) Net Weight: 1100 kg Gross Weight: 1400 kg



SPECIFICATIONS

- Inline-6 diesel engine
- Displacement: 6,000cc
- Compression Ratio: 16:1
- Accessories and closed cooling circuit included
- Operates electrically at 120V
- Mounted on stand with wheels

MARINE INBOARD V8 DIESEL ENGINE

WITH TURBO INTERCOOLER

N98-ND7950HI







120cm x 185cm x 150cm (LxWxH) Net Weight: 1260 kg Gross Weight: 1650 kg



SPECIFICATIONS

- 4-Stroke diesel engine, V8
- Direct Injection
- Aspiration: Turbocharged Interrefridgerated
- Bore x stroke: 130mm x 140mm
- Total displacement: 14,858cc
- Freshwater engine cooling system with seawater heat exchanger
- Freshwater cooled exhaust manifold
- Bronze seawater circulating pump

DIESEL TRACTOR ENGINE **INLINE-4**

N98-ND6077







WEIGHT & DIMENSIONS

90cm x 100cm x 100cm (LxWxH) Net Weight: 280 kg Gross Weight:









WEIGHT & DIMENSIONS

190cm x 110cm x 164cm (LxWxH) 345 kg Net Weight: 500 kg Gross Weight:



AGRICULTURE

SPECIFICATIONS

- 4-Cylinder Diesel Tractor Engine FIAT 25R
- Displacement: 2,000cc
- Indirect injection
- Camshaft in the crankcase (OHV)
- Bosch in-line injection pump
- Timing gears
- Water cooled
- Gear oil pump
- Operates electrically at 120V
- Mounted on stand with wheels

- 4-Stroke diesel engine
- Water cooled
- Lubrication of trochoidal pump
- Inline injection pump
- Dry single-disk clutch
- Gearbox: 6 speeds + 2 reverse with gear reducer
- 2 speed power take-off
- Mechanical locking rear differential
- Rear drum brakes
- Sector steering gear box
- Operates electrically at 120V
- Mounted on stand with wheels

AIRCRAFT ENGINE, RADIAL, SMALL

AERONAUTICS

SPECIFICATIONS

- Drive shaft with integral master rod and moving connection rods
- Air cooling system
- Double ignition (2 spark plugs per cylinder and 2 magnetos)
- Mounted on stand with wheels
- Operates electrically at 120V
- Includes Tool Box (25-Piece Metric Combination Set, 6-32mm)



120cm x 100cm x 140cm (LxWxH) Net Weight: 240 kg Gross Weight: 400 kg











- Drive shaft with integral master rod and moving connection rods
- Air cooling system
- Double ignition (2 spark plugs per cylinder and 2 magnetos)
- Mounted on stand with wheels
- Operates electrically at 120V
- Includes Tool Box (25-Piece Metric Combination Set, 6-32mm)

WEIGHT & DIMENSIONS

150cm x 140cm x 180cm (LxWxH) Net Weight: 700 kg Gross Weight: 850 kg

AIRCRAFT ENGINE, LYCOMING







SPECIFICATIONS

- Lycoming Flat-6 Engine
- Air cooled system
- Ignition with magneto
- Single barrel carburetor
- Mounted on stand with wheels
- Operated electrically at 120V



Size: 140cm x 110cm x 150cm (LxWxH)

Net Weight: 190 kg Gross Weight: 280 kg

Also available: Lycoming Flat-4 Engine



AIRCRAFT ENGINE, FRANKLIN

N98-ND9260-F6





SPECIFICATIONS

- Franklin Flat-6 Engine
- Air cooled system
- Gear distribution with camshaft in the crankcase
- Ignition with magneto
- Single barrel carburetor
- Mounted on stand with wheels
- Operated electrically at 120V

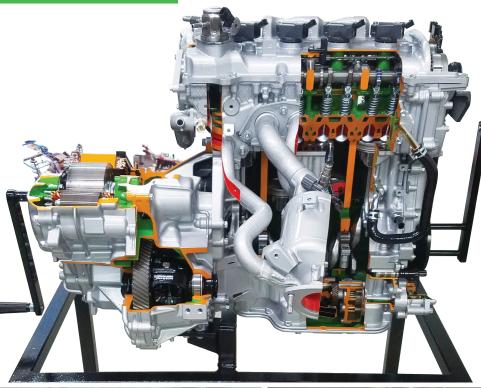
WEIGHT & DIMENSIONS

140cm x 110cm x 150cm (LxWxH) 190 kg Net Weight: Gross Weight:







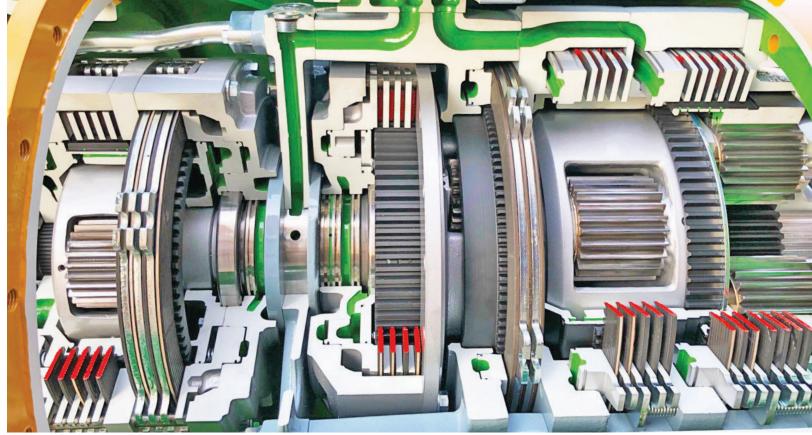








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PROJECTS















