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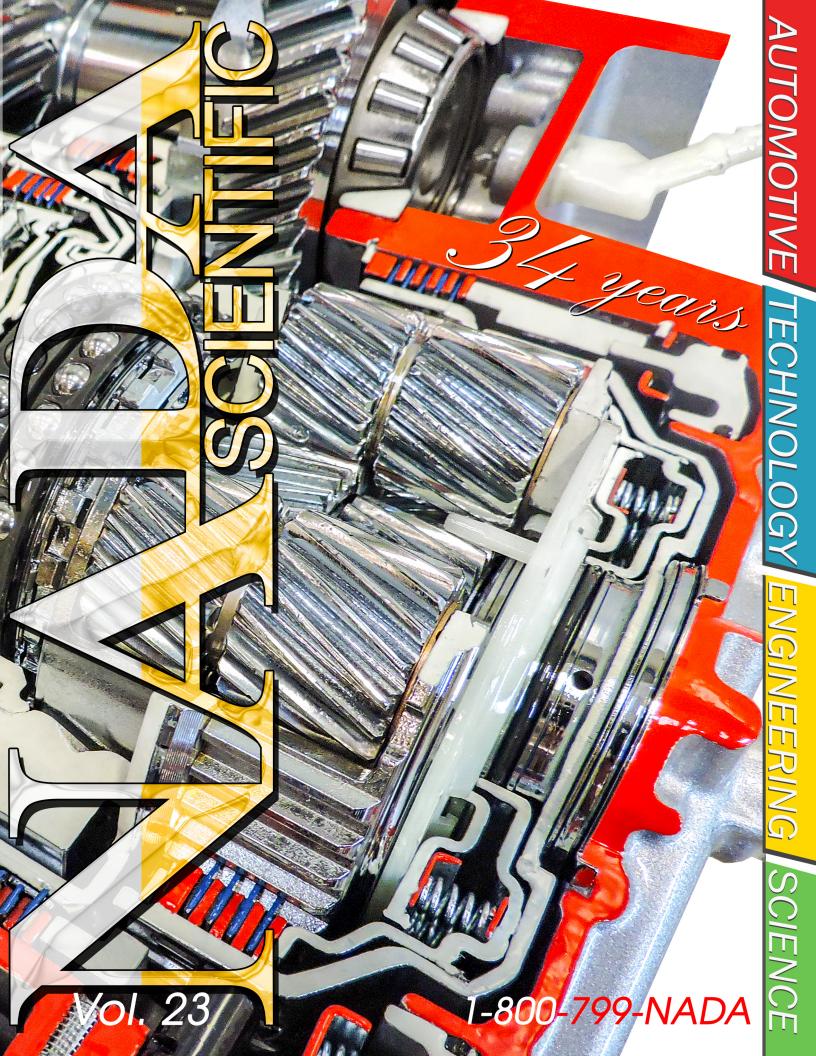
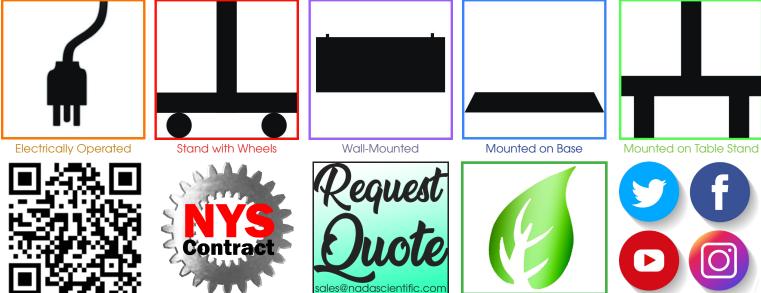


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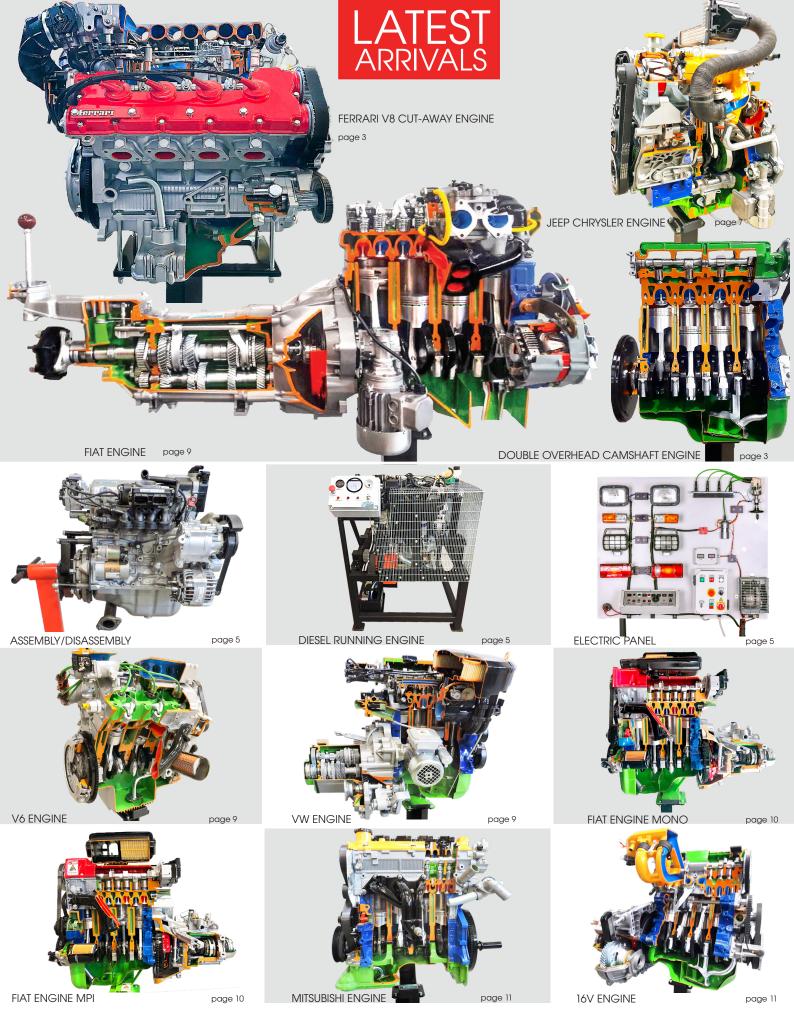


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CATALOG CONTENTS

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HYBRID ENGINE, PRIUS

MANUAL OPERATION

<u>HYBRID TECHNOLOGY</u>

The Toyota Hybrid System (THS) has two sources of power: the gas engine and the electric motor.

SPECIFICATIONSModel: 1NZ-FXE

- Type: Water-cooled series, 4-Cylinder engine
- Valve: DOHC 16 Valves
- Gross displacement: 1,496cc
- Driveshaft with brushes
- Nr 2 camshaft with timing shifter(WT)
- 4 valves per cylinder
- Connecting rod, piston, cooling engine air space, and water pump
- Timing belt
- Multipoint electronic injection with throttle
- Nomenclature panel
- Exhaust collector with Lambda probe
- Mounted on stand with wheels

WEIGHT & DIMENSIONS 104cm x 80cm x 130cm (LxWxH) Net Weight: 180 kg Gross Weight: 250 kg

HYBRID CUT-AWAY ENGINE, PRIUS ELECTRICAL OPERATION



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
- Multipoint electronic injection with throttle
- Electrical engine
- Epicyclic engine
- Generator
- Transmission belt (CVT)
- Nomenclature panel
- Differential group
- Exhaust manifold with Lambda probe
 Mounted on stand with wheels

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

WEIGHT & DIMENSIONS

111cm x 81cm x 163cm (LxWxH) Net Weight: 350 kg Gross Weight: 470 kg 2 | nadascientific.com | 1-800-799-NADA TOYOTA HYBRID SYSTEM TRAINER

SPECIFICATIONS

- Model: 1NZ-FXE
- Type: Water-cooled series 4-Cylinder engine
- Valve: DOHC 16 valves
- Gross displacement: 1,496cc
- Plexiglas Safety Shield Included
- MOTORS:
- 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



WEIGHT & DIMENSIONS 80cm x 100cm x 130cm (LxWxH) Net Weight: 200 Kg Gross Weight: 275 Kg







WEIGHT & DIMENSIONS 70cm x 80cm x 95cm (LxWxH) Net Weight: 86 kg Gross Weight: 120 kg

OVERHEAD VALVE ENGINE



WEIGHT & DIMENSIONS70cm x 60cm x 80cm (LxWxH)Net Weight:60 kgGross Weight:110 kg

DOUBLE OVERHEAD CAMSHAFT ENGINE WITH TOOTHED TIMING BELT N98-ND5445



SPECIFICATIONS

- 4 stroke gas engine
- 4 inline cylinders
- Mounted on stand with wheels

WEIGHT & DIMENSIONS

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



SPECIFICATIONS

- Ferrari Mondial, 308, or Tema Ferrari
- V8, 4 valves per cylinder
- Displacement: 3,000cc
- Double overhead camshaft (DOHC)
- Mechanic injection with electronic governor KE3 jetronic
- Belt distribution
- Oil pumpWater pump
- Alternator
- Operation options: electrical or
- manually by hand crank
- Mounted on stand with wheels

SPECIFICATIONS

- 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 DeviceCharge Socket
- Charge Socket
- Rail and LPG Electro-Injectors
- Electrically operated
- Mounted on stand with wheels

OVERHEAD CAMSHAFT ENGINE WITH TOOTHED TIMING BELT

N98-ND5440



SPECIFICATIONS

- 4-Stroke engine, Inline-4
- Overhead camshaft
- Toothed timing belt
- Operates manually by hand crank
- Mounted on stand with wheels

FRONT CHASSIS UNIT

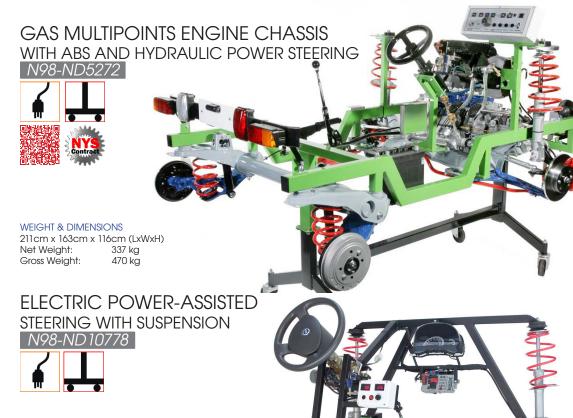
WEIGHT & DIMENSIONS

67cm x 48cm x 95cm (LxWxH) Net Weight: 60 kg Gross Weight: 100 kg



WEIGHT & DIMENSIONS 155cm x 100cm x 130cm (LxWxH) Net Weight: 80 kg Gross Weight: 120 kg

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WEIGHT & DIMENSIONS 160cm x 130cm x 150cm (LxWxH) Net Weight: 170 kg Gross Weight: 270 kg

AUTOMOTIVE A/C SYSTEM





WEIGHT & DIMENSIONS 105cm x 75cm x 130cm (LxWxH) Net Weight: 70 kg Gross Weight: 120 kg

WIRING SYSTEM TRAINER ELECTRONIC IGNITION N98-ND9991



SPECIFICATIONS

- Front and rear lights
- Windshield wiper motor
- Turn indicators
- Instrument panel
- Battery
- Battery ignitionSpark Plugs
- Fuse Box
- Alternator
- Wires with red and black couplings
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WEIGHT & DIMENSIONS 195cm x 55cm x 205cm (LxWxH) Net Weight: 100 kg Gross Weight: 210 kg

N98-ND9900

• Fuel electro-pump

ELECTRONIC INJECTION

MULTIPOINTS SYSTEM PANEL

- 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
- Mounted on stand with wheels

<u>TRAINERS</u>

SPECIFICATIONS

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

SPECIFICATIONS

- Operating MacPherson 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)
- Electrically operated
- Mounted on stand with wheels

- Maximum power: 2 kw
- Cooling liquid 400 gt Freon R134a
- Piston compressor
- Condenser
- Dehydrating filter
- Pressure switch
- Expansion valve
- Evaporation unit
- Resistor
- Thermostat
- Troubleshooting device for simulation of 4 faults
- Terminology table
- Operates electrically at 220V, 3-Phase
- Mounted on stand with wheels



GAS RUNNING ENGINE MULTIPOINT ELECTRONIC INJECTION N98-ND9005



WEIGHT & DIMENSIONS 120cm x 115cm x 140cm (LxWxH) Net Weight: 150 kg Gross Weight: 330 kg

DIESEL RUNNING ENGINE





WEIGHT & DIMENSIONS 135cm x 114cm x 151cm (LxWxH) Net Weight: 348 kg Gross Weight: 468 kg



N98-ND9000

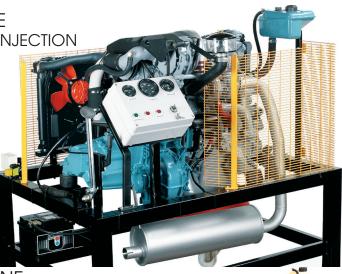


WEIGHT & DIMENSIONS 106cm x 89cm x 136cm (LxWxH) Net Weight: 124 kg Gross Weight: 188 kg

ELECTRIC PANEL FOR LIGHTING WITH ALTERNATOR N98-ND9992



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





SPECIFICATIONS

- 4-Cylinder FIAT Engine
- 2 valves per Cylinder
- Overhead camshaft (OHC)
- Electronic ignition
- Displacement: 1,300cc
- Gearbox: 5 forward speeds + reverse
- Diagnostic connector
- OBD2 socket connection
- Includes 8 Fault Simulations
- Includes anti-vibration rubber caps
- Mounted on stand with wheels

SPECIFICATIONS

- 4-Cylinder FIAT Engine
- 2 valves per cylinder
- Overhead camshaft (OHC)
- Turbo-compressor
- Displacement: 1,900cc
- Gearbox: 5 forward speeds + reverse
- Diagnostics socket
- OBD2 socket connection
- Includes 10 Fault Simulations
- On Request: Multi-jet, 1300 cc, DOHC, 4 valves per cylinder
- Includes anti-vibration rubber caps
- Mounted on stand with wheels

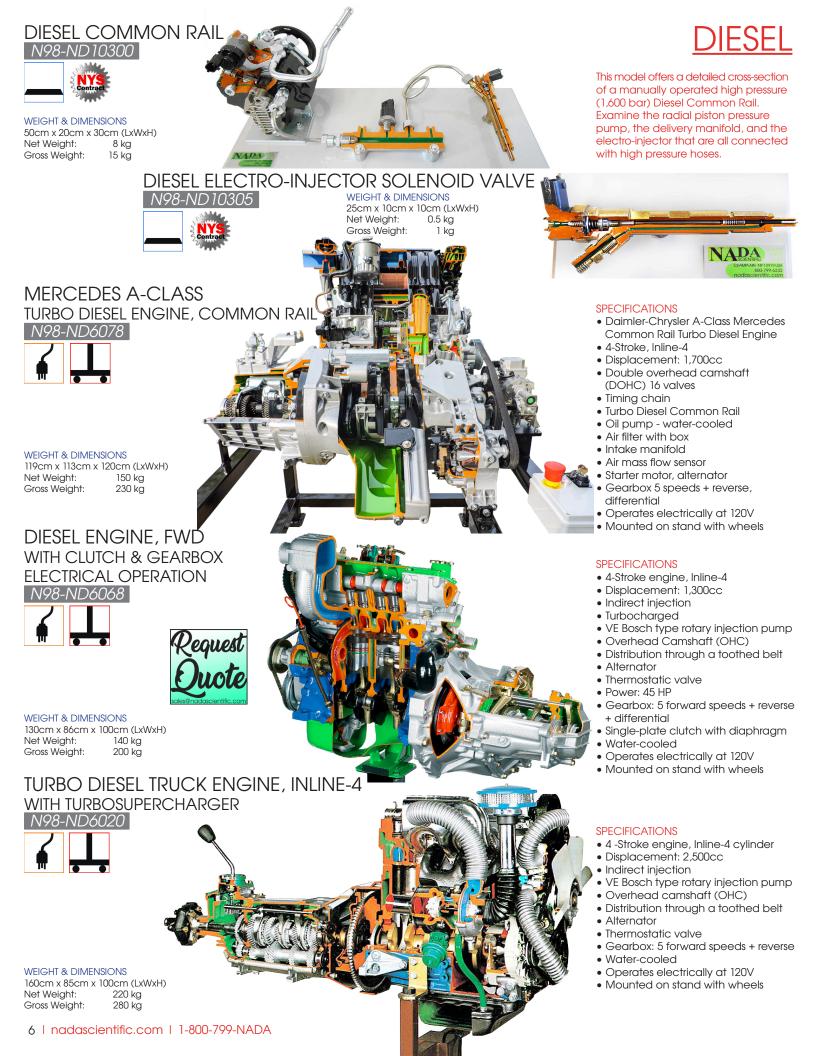
SPECIFICATIONS

- Modern gas engine
- Rotating stand
- Overhauled front-wheel drive engine
 4-Stroke
- Displacement: 1242 cc
- 4-Cylinders in-line with overhead cam shaft, two valves per cylinder
- Timing system, working 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 type
- Optional: 219-Piece Toolbox (extra)

SPECIFICATIONS

- Daytime 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

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TURBO DIESEL ENGINE, RWD WITH CLUTCH & GEARBOX N98-ND6070

WEIGHT & DIMENSIONS 60cm x 160cm x 100cm (LxWxH) Net Weight: 150 kg Gross Weight: 210 ka

TURBO DIESEL TRUCK ENGINE WITH DIRECT FUEL INJECTION N98-ND6075

TURBO DIESEL TRUCK ENGINE WITH INDIRECT FUEL INJECTION N98-ND6076



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

TURBO DIESEL ENGINE **16-VALVE CHRYSLER/JEEP** N98-ND6010



WEIGHT & DIMENSIONS 120cm x 90cm x 120cm (LxWxH) Net Weight: 200 kg Gross Weight: 270 ka

SPECIFICATIONS

- 4 stroke engine, Inline-4 cylinders
- Displacement: 2,500/2,800cc
- Power: 150-170 HP at 4,000 rpm
- Double overhead camshaft (DOHC) with timing belt
- 4 valves per cylinder
- Toroidal 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

TURBO DIESEL V8 TRUCK ENGINE WITH DIRECT INJECTION



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

SPECIFICATIONS • 4-Stroke, V8 Engine

- Displacement: 17,200cc
- Power: 380 HP
 - Direct injection
 - Bosch type inline injection pump with mechanical governor
 - Water/oil intercooler
 - 4 valves per cylinder
 - Camshaft in the crankcase
 - 2 Turbochargers
 - Geared distribution
 - Operates electrically at 120V
 - Mounted on stand with wheels

SPECIFICATIONS

- 4-Stroke engine, Inline-4 cylinders
- 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-cooled
- Operates electrically at 120V
- Mounted on stand with wheels

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

DIESEL TRUCK ENGINE WITH INJECTOR PUMPS, INLINE-6 ELECTRICAL OPERATION N98-ND6083



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

TURBO DIESEL ENGINE TRUCK INLINE-6 COMMON RAIL N98-ND6091E



WEIGHT AND DIMENSIONS

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

DETROIT DIESEL ENGINE ELECTRICAL OPERATION



WEIGHT & DIMENSIONS

 110cm x 100cm x 150cm (LxWxH)

 Net Weight:
 630 kg

 Gross Weight:
 780 kg

FIAT/ALFA ROMEO TURBO DIESEL ENGINE 8-VALVE COMMON RAIL N98-ND6015

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



WEIGHT & DIMENSIONS

100cm x 90cm x 120cm (LxWxH)Net Weight:150 kgGross Weight:210 kg

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 Oil Rotor Pump
- Flange Power Steering Pump
- Air Conditioning Pump
- Cooling Fan with Viscous Joint
- Operates electrically at 120V
- Mounted on stand with wheels

SPECIFICATIONS

 Displacement: 7,790/10,380cc (based on availability)

DIESEL

- Diesel 4-Stroke engine, Inline-6
- 4 valves per cylinder
- Maximum power 310/450 HP (based on availability)
- Water-cooled
- TurbochargerElectronically controlled pump
- injectors
- Preheating device
- Plexiglass cover for protection
 Operates electrically at 120V
- Mounted on stand with wheels



SPECIFICATIONS

- 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-cooled with centrifugal pump
- Lubrication circuit with geared oil pump
- Operates electrically at 120V
- Mounted on stand with wheels

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

FIAT 4-CYLINDER GAS ENGINE GAS ENGINE WITH CARBURETOR & GEARBOX ELECTRICAL OPERATION **SPECIFICATIONS** N98-ND5000 • Displacement: 1,200/2,000cc • Camshaft in the crankcase, belt/ chain drive Overhead valves in-line Coil ignition Mechanical fuel pump • Gearbox: 4 forward speeds + reverse • Dry single-plate clutch • Operates electrically at 120V WEIGHT & DIMENSIONS • Mounted on stand with wheels 155cm x 60cm x 90cm (LxWxH) Net Weight: 140 kg Gross Weight: 217 kg BMW 6-CYLINDER GAS ENGINE WITH MULTIPOINT INJECTION DUAL OVERHEAD CAMSHAFT N98-ND5176 **SPECIFICATIONS**

WEIGHT & DIMENSIONS

Net Weight:

140cm x 80cm x 100cm (LxWxH)

- Displacement: 2,000/2,500cc
- Double overhead camshaft (DOHC)
- Distribution by a roller chain
- 6 inline cylinders
- 4 valves per cylinder
- Gearbox: 5 forward speeds + reverse
- Operates electrically at 120V
- Mounted on a stand with wheels

Gross Weight: 265 kg

180 kg

VW 4-CYLINDER GAS ENGINE MULTIPOINT ELECTRONIC INJECTIOI





WEIGHT & DIMENSIONS 96cm x 81cm x 90cm (LxWxH) 130 kg Net Weight: Gross Weight: 178 kg

V6 GAS ENGINE WITH MULTIPOINT ELECTRONIC INJECTION ELECTRICAL OPERATION



120cm x 60cm x 100cm (LxWxH)

190 kg

260 kg

WEIGHT & DIMENSIONS

Net Weight:

Gross Weight:

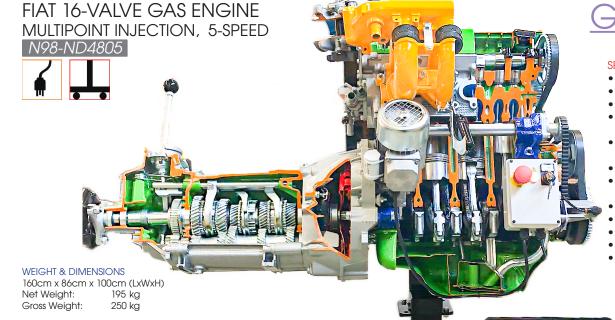
SPECIFICATIONS

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

SPECIFICATIONS

- Displacement: 1,600/1,800/2,000cc
- Overhead Camshaft (OHC)
- Distribution by a toothed belt
- Inline-4 cylinders
- Gearbox: 5 forward speeds + reverse, with integrated differential
- Operates electrically at 120V (also offered as Manual Operation)
- Mounted on stand with wheels

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FIAT GAS ENGINE W/MONO-JETRONIC FUEL INJECTION + GEARBOX



WEIGHT & DIMENSIONS

120cm x 70cm x 100cm (LxWxH) Net Weight: 90 kg Gross Weight: 140 kg

- SPECIFICATIONSInline-4 FIAT gas engine
- Displacement: 1,000/1,300cc
- Overhead Camshaft (OHC)
- Mono-Jetronic Fuel Injection
- Electronic ignition
- Carburetor
 Timing holt distribution
- Timing belt distributionGearbox: 5 forward speeds +
- reverse with differential
- Operates electrically at 120V
- Mounted on stand with wheels

FIAT GAS ENGINE, MULTIPOINT INJECTION + GEARBOX



WEIGHT & DIMENSIONS120cm x 70cm x 100cm (LxWxH)Net Weight:90 kgGross Weight:140 kg

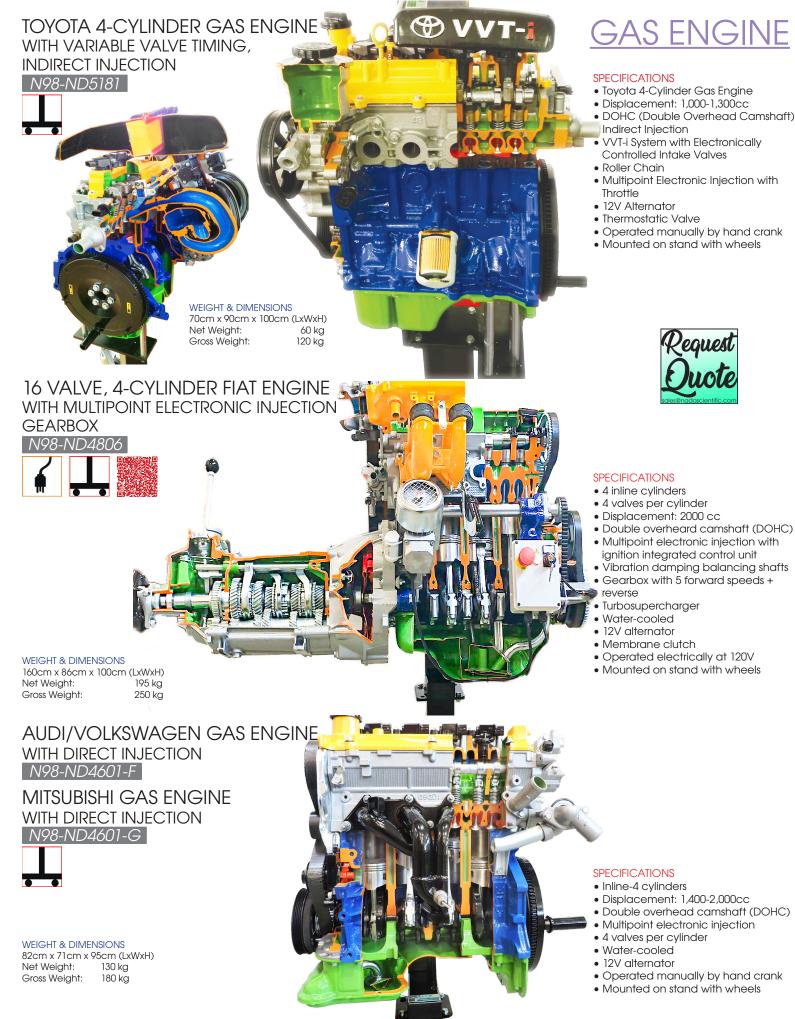
GAS ENGINE

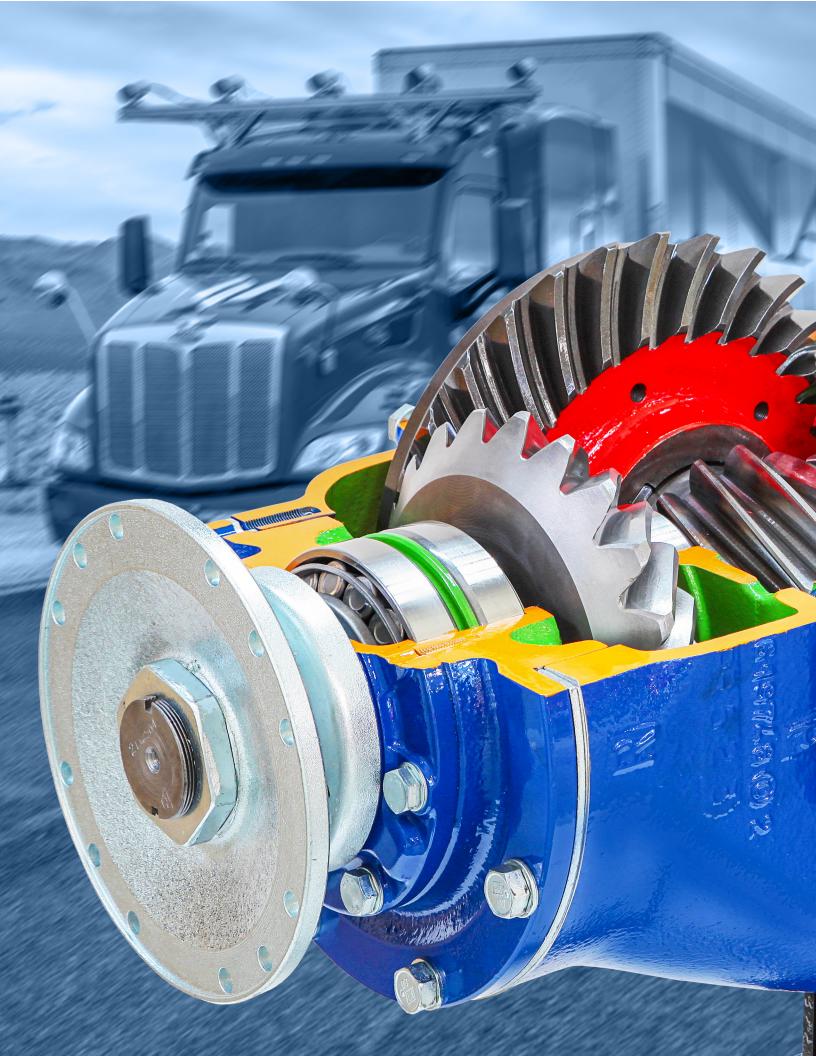
SPECIFICATIONS

- 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-cooled
 - 12V alternator
 - Membrane clutch
 - Operates electrically at 120V
 - Mounted on stand with wheels

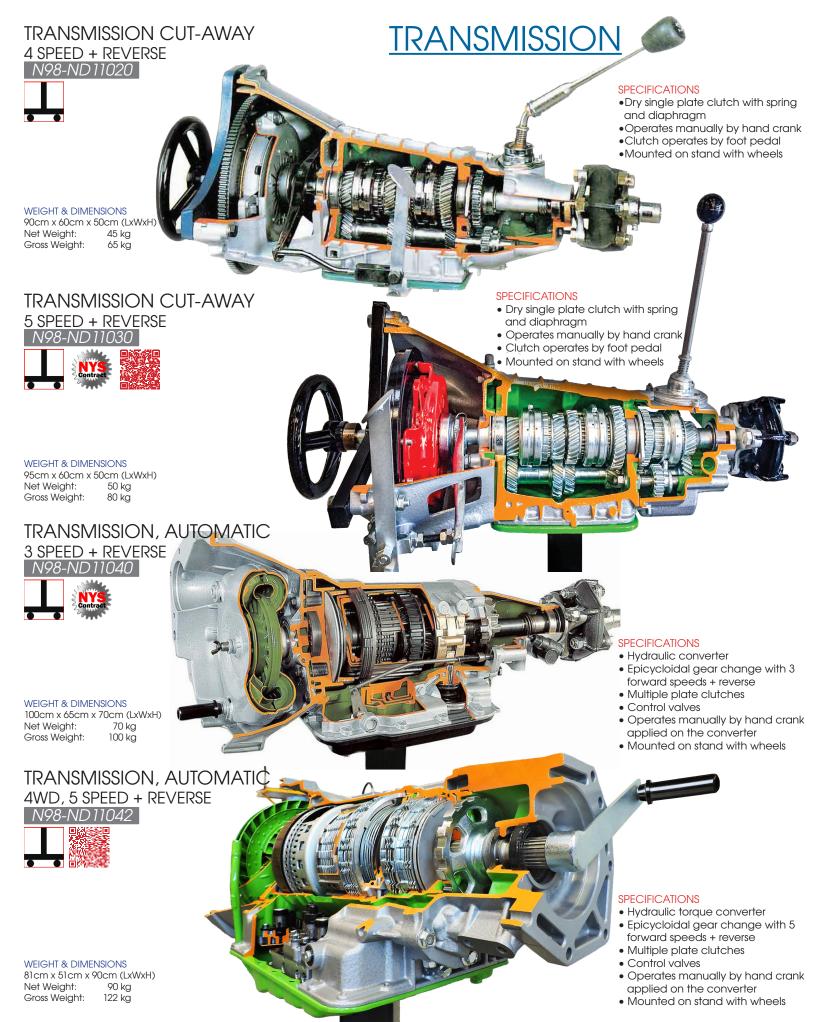
- Inline-4 FIAT gas engine
- Displacement: 1,250cc
- Overhead camshaft (OHC)
- Electronic ignition
- Multipoint electronic injection
- Gearbox with 5 forward speeds + reverse + differential
- Operates electrically at 120V
- Mounted on stand with wheels











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 N98-ND11062



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

TRANSAXLE DIRECT-SHIFT GEARBO

N98-ND11064

WEIGHT & DIMENSIONS 80cm x 40cm x 70cm (LxWxH) Net Weight: 60 kg Gross Weight: 85 kg

CVT GEARBOX CUT-AWAY CONTINUOUSLY VARIABLE TRANSMISSION N98-ND 11068



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

<u>TRANSMISSION</u>

SPECIFICATIONS

- Rear-Wheel Drive
 4 forward speeds + reverse
- Gasing

with numbers

- Torque converter
- Oil pump
- Stationary plate clutch
- Rotary plate clutch
- Planetary gear train
- Hydraulic circuit valve
- Centrifugal regulator
- Operates manually by hand crank
- Mounted on stand with wheels

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
- Mounted on stand with wheels

HEAVY-DUTY TRANSAXLE CUT-AWAY ECOSPLIT 16 SPEED + 2 REVERSE N98-ND11069



WEIGHT & DIMENSIONS 90cm x 110cm x 130cm (LxWxH) Net Weight: 280 ka Gross Weight: 380 ka

HEAVY-DUTY GEARBOX 13 SPEED, FULLER <u>N98-ND11070</u>



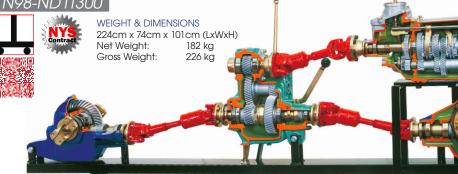
WEIGHT & DIMENSIONS 113cm x 70cm x 128cm (LxWxH) 340 kg Net Weight: Gross Weight: 414 ka

HEAVY-DUTY TRUCK GEARBOX ZF 5HP



WEIGHT & DIMENSIONS 100cm x 70cm x 85cm (LxWxH) Net Weight: 295 kg Gross Weight: 350 kg

TRANSMISSION ASSEMBLY, 4X4 CROSS-COUNTRY WITH GEARBOX 1300



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

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.
- 2. 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
- Electrovalves
- 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 241cm x 103cm x 106cm (LxWxH) Net Weight: 600 kg Gross Weight: 746 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
- Operates manually by hand crank
- Mounted on stand with wheels

HEAVY-DUTY TRUCK DIFFERENTIAL WITH DOUBLE REDUCER UNIT N98-ND11295



SPECIFICATIONS

- Gear reducer with bevel gear
- Differential reducer with cylindrical gear

TRANSMISSION CUT-AWAY, AUTOMATIC 4WD

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

WEIGHT & DIMENSIONS

90cm x 70cm x 70cm (LxWxH) 185 kg Net Weight: Gross Weight: 230 kg

HEAVY-DUTY GEARBOX WITH REDUCTION GEAR N98-ND11080



WEIGHT & DIMENSIONS 97cm x 67cm x 95cm (LxWxH) Net Weight: 141 kg Gross Weight: 183 kg

WEIGHT & DIMENSIONS

Net Weight:

Gross Weight:

100cm x 65cm x 70cm (LxWxH)

75 ka

100 ka

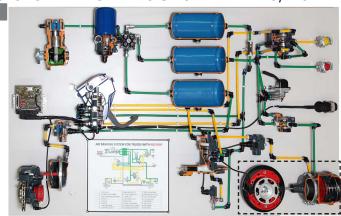
SPECIFICATIONS

- 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

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

AIR BRAKING SYSTEM FOR TRUCKS WITH ABS/ASR

N98-ND12195

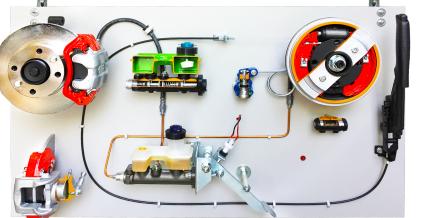




WEIGHT & DIMENSIONS 220cm x 36cm x 140cm Net Weight: 125 kg Gross Weight: 165 kg

BRAKING SYSTEM PANEL, DOUBLE CIRCUIT





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.

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

22 kg

24 kg

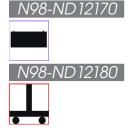
Net Weight:

Gross Weiaht:



WEIGHT & DIMENSIONS 110cm x 60cm x 40cm (LxWxH) Net Weight: 35 kg Gross Weight: 65 kg

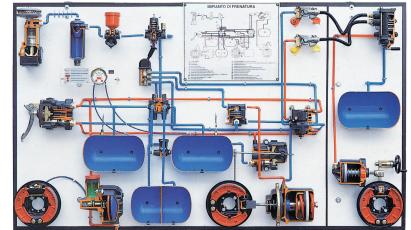
COMPRESSED AIR BRAKING SYSTEM PANEL WITH DOUBLE SPRING BRAKES

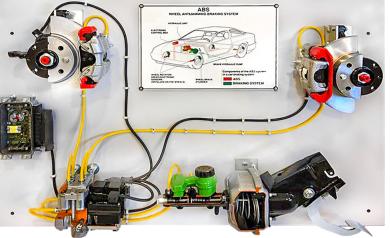


WEIGHT & DIMENSIONS 220cm x 36cm x 140cm (LxWxH) Net Weight: 110 kg Gross Weight: 150 kg



WEIGHT & DIMENSIONS 140cm x 50cm x 90cm (LxWxH) Net Weight: 60 kg Gross Weight: 120 kg





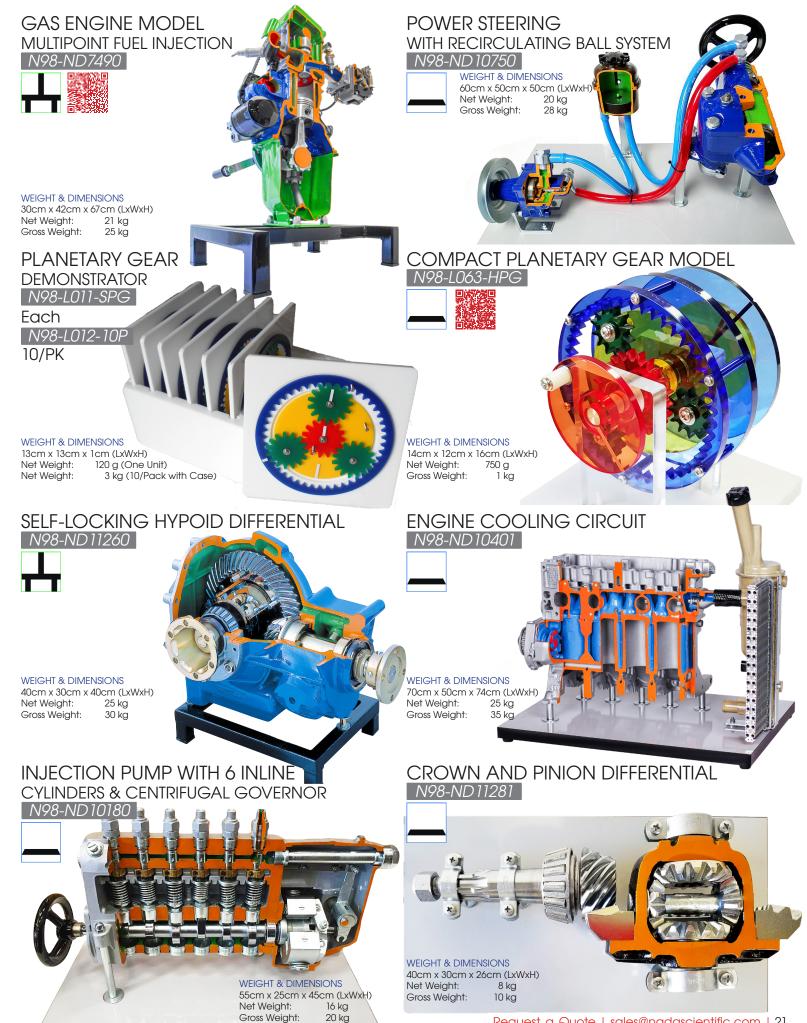
This Turbo Star Compressed Air Braking System panel includes all elements of a compressed air braking system. It is complete with all connection circuit components for braking systems. Students learn the system with the aid of connection pipes that are painted in multiple colors to differentiate the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

- 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
- Mounted on stand with wheels







MARINE INBOARD DIESEL ENGINE 6-CYLINDER WITH CLOSED COOLING CIRCUIT N98-ND7940

Inline-6 diesel engine
Displacement: 6,000cc

SPECIFICATIONS

- Compression Ratio: 16:1
- Accessories and closed cooling circuit included
- Operates electrically at 120V
 Mounted on stand with wheels

WEIGHT & DIMENSIONS

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

MARINE INBOARD V8 DIESEL ENGINE



WEIGHT & DIMENSIONS 185cm x 120cm x 150cm (LxWxH)

Net Weight: 1100 kg Gross Weight: 1400 kg

FARM TRACTOR, KUBOTA 4-STROKE DIESEL ENGINE



- 4-Stroke diesel engine
- Power: 20 HP/16 kW
- 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 root difference difference
- Mechanical locking rear differential
- Rear drum brakes
- Sector steering gear box
 Hydraulia lifter
- Hydraulic lifter
 - Operates electrically at 120V
 - Mounted on stand with wheels

DIESEL TRACTOR ENGINE

345 kg

500 kg



WEIGHT & DIMENSIONS

Net Weight:

Gross Weight:

190cm x 110cm x 164cm (LxWxH)

WEIGHT & DIMENSIONS100cm x 90cm x 100cm (LxWxH)Net Weight:180 kgGross Weight:260 kg

SPECIFICATIONS

- 4-Stroke diesel engine, V8
- Direct Injection
- Aspiration: Turbocharged -Interrefridgerated
- Bore x stroke: 130mm x 140mm

MARINE

- Total displacement: 14,858cc
 Freshwater engine cooling system with seawater heat exchanger
- Freshwater cooled exhaust manifold
- Bronze seawater circulating pump
- Operates electrically at 120V
- Mounted on stand with wheels

AGRICULTURE

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

AIRCRAFT ENGINE, RADIAL, SMALL



SPECIFICATIONS

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

AIRCRAFT ENGINE, RADIAL, LARGE N98-ND9280-L



SPECIFICATIONS

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

N98-ND9260-F6

• Mounted on stand with wheels

AIRCRAFT ENGINE, FRANKLIN



WEIGHT & DIMENSIONS 158cm x 158cm x 188cm (LxWxH) Net Weight: 584 kg Gross Weight: 775 kg

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

AIRCRAFT ENGINE, LYCOMING N98-ND9260



SPECIFICATIONS

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

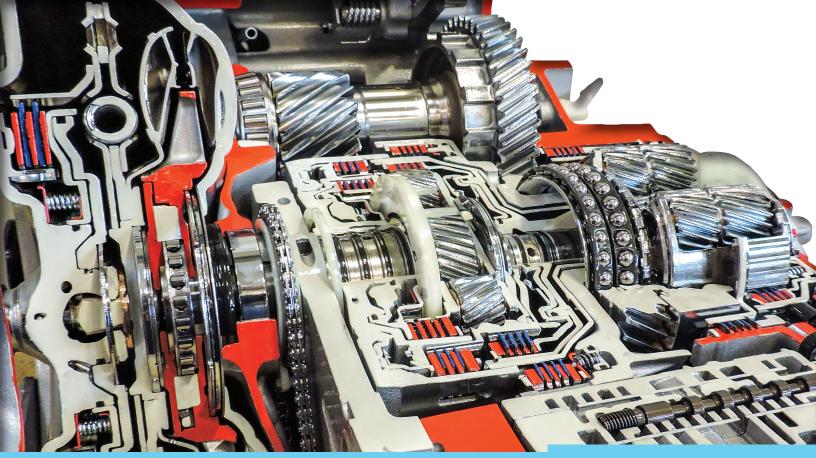
WEIGHT & DIMENSIONS 140cm x 110cm x 150cm (LxWxH) Net Weight: 190 kg

Net Weight:190 kgGross Weight:280 kg

<u>AERONAUTICS</u>

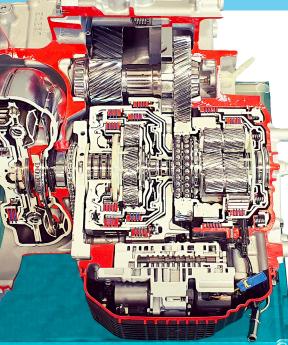
WEIGHT & DIMENSIONS 120cm x 100cm x 140cm (LxWxH) Net Weight: 240 kg Gross Weight: 400 kg

WEIGHT & DIMENSIONS140cm x 110cm x 150cm (LxWxH)Net Weight:190 kgGross Weight:280 kg

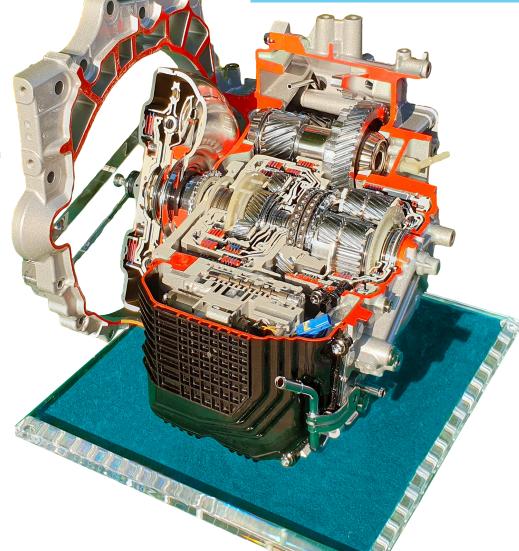


8-SPEED TRANSMISSION

CUSTOM-BUILT







PROJECTS ELECTRIC SUV ENGINE Contact our technical representative at sales@nadascientific.com or <u>1-800-</u>799-NADA to review, discuss, and evaluate your specific need.