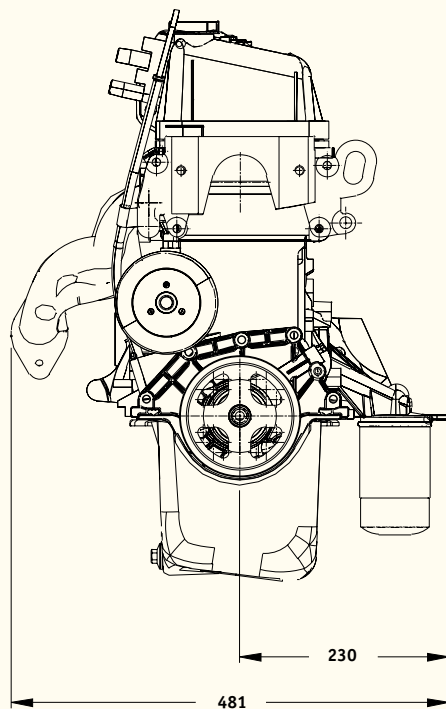
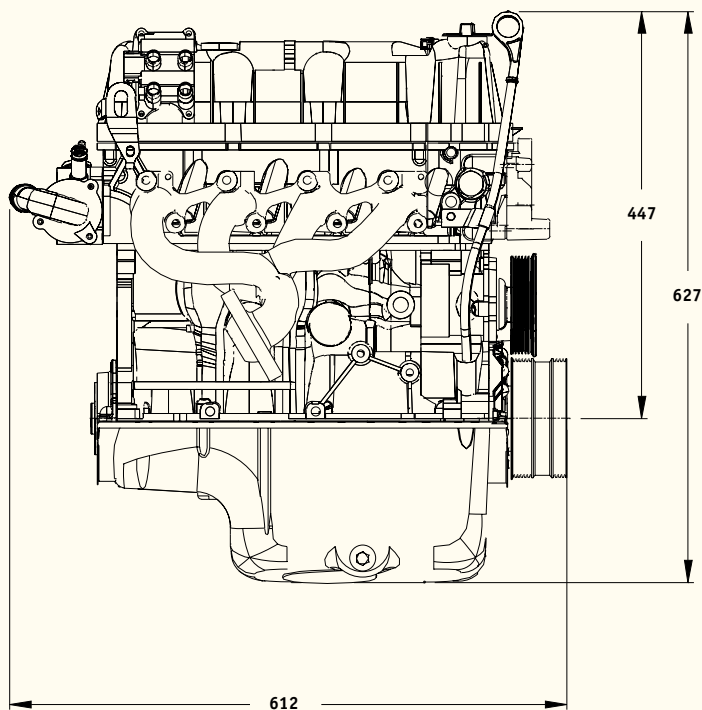


Installation Drawings

Front End View



Right Side View



Measurements	mm
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Ford Power Products
 15700 Lundy Parkway Drive
 Suite 200
 Dearborn, Michigan 48126
 Phone: 1-800-833-4773
 Fax: 1-313-619-2600

Ford Power Products
 Trafford House, Station Way
 Basildon, Essex SS16 5XX, England
 Phone: 44 (0)1268 704181
 Fax: 44 (0)1268 702121

Corporate Web Site: www.fordpowerproducts.com

Contact Ford Power Products or your local FPP distributor for additional information.

TSG-416

Base Industrial
Engine EFI

1.6-Litre
4-Cylinder



Powerful
Performance
from one
source.



TSG-416

Base Industrial Engine EFI

1.6-Litre 4-Cylinder



Options

Flywheel Housing

- SAE #5M with feet and side pads

Flywheels

- Flat face
- SAE 7.5" O/C

Aluminum Intake Manifold

Engine-Mounted Cooling Fans

- 14.9" (380 mm) diameter suction
- 14.9" (380 mm) diameter pusher

Front Engine Supports (without Radiator)

- Single Foot
- Dual Foot

90 Amp Generator

LH and RH Mounted Starters

- Parts conform to SAE J1171 (marine) specifications

Electronic Control Modules (refer to FPP-192-583)

- Ignition Control Module (ICM)
- Engine Performance Module (EPM)

Wiring Harnesses

- ICM application
- EPM application

Electronic Throttle Control

Discrete Speed Switch

Variable Speed Foot Pedal

Variable Speed Hand Control

Gaseous (LPG, NG, LPG/NG) Fuel Delivery System

Gasoline Fuel Injection (EFI/Sequential Port) System

Exhaust Pipe with Rain Cap

Three-Way Catalyst (available 2003)

Emissions Information

California Air Resources Board (CARB) emissions certified packages available. (Gasoline only, LPG only, NG only, LPG/NG dry fuel, Gasoline/LPG bi-fuel, and Gasoline/NG bi-fuel)

Warranty

EFI Engine: 3 years/2,000 hours, whichever occurs first, on complete package (base engine and ancillary parts)

Gen-Set: 5 years/3,000 hours, whichever occurs first, on base engine and 2 years, regardless of hours, on ancillary parts

Electronic Controls: 5 years/3,500 hours, whichever occurs first, on EPM, actuator and main engine harness; 2 years/2,000 hours, whichever occurs first, on ICM



Specifications

Engine Type.....	2V, SOHC, I-4
Bore and Stroke.....	3.23 in x 2.97 in (82.1 mm x 75.5 mm)
Displacement.....	1.6 Litre (97.4 CID)
Compression Ratio.....	9.5:1
Oil Capacity.....	4.4 Qts (4.2 litres)
Net Weight.....	200 Lbs (90.7 Kgs)
Dimensions.....	L 24.1" x W 18.9" x H 24.7" (612 mm x 481 mm x 627 mm)

Gasoline (corrected per SAE J1995)

Fuel Specification.....	87 A.K.I.
Rated Power @ 3600 RPM.....	Intermittent: 63 HP (47 kW) Continuous: 53 HP (40 kW)
Peak Torque @ 3200 RPM.....	Intermittent: 93 Ft. Lbs. (126 Nm) Continuous: 79 Ft. Lbs. (107 Nm)
Power @ 1800 RPM.....	Intermittent: 29 HP (22 kW) Continuous: 24 HP (18 kW)

Natural Gas (corrected per SAE J1995)

Fuel Specification.....	1050 BTU/FT3
Rated Power @ 3600 RPM.....	Intermittent: 52 HP (39 kW) Continuous: 44 HP (33 kW)
Peak Torque @ 3200 RPM.....	Intermittent: 78 Ft. Lbs. (106 Nm) Continuous: 66 Ft. Lbs. (89 Nm)
Power @ 1800 RPM.....	Intermittent: 26 HP (19 kW) Continuous: 22 HP (16 kW)

Liquefied Petroleum Gas (corrected per SAE J1995)

Fuel Specification.....	ASI Grade HD-5
Rated Power @ 3600 RPM.....	Intermittent: 57 HP (43 kW) Continuous: 48 HP (36 kW)
Peak Torque @ 2800 RPM.....	Intermittent: 86 Ft. Lbs. (117 Nm) Continuous: 73 Ft. Lbs. (99 Nm)
Power @ 1800 RPM.....	Intermittent: 26 HP (20 kW) Continuous: 22 HP (17 kW)

Standard Features/Benefits

Single Overhead Camshaft (SOHC) Featuring Single, Sleeve Type, Chain Driven Camshaft with Hydraulic Tensioning System for reduced engine noise and friction, increased performance, durability and service free chain tensioning

Low Friction Roller Finger Follower Valve Train for minimal friction, improved reliability and increased torque

Low Pressure Die Cast Aluminum Cylinder Head for improved durability and decreased weight

Alternate-Fuel-Ready Valve Train Components for alternate fuel operation

Cast Iron High Compression Swirl (HCS) Cylinder Block for reduced emissions and improved combustion efficiency

Piston Cooling Jets for increased performance and durability

Integrated Knock Sensor for improved engine protection and increased engine durability

Nodular, Graphite Cast Iron Crankshaft with Five Main Bearings for increased strength and durability

Cast Iron Exhaust Manifolds for Off-Highway Market for increased engine performance and durability

Polyamid Plastic Camshaft Cover for corrosion resistance and reduced noise

Coil Assembly Electronic Ignition System with Cam and Crank Shaft Position Sensors for reliable and effective spark delivery

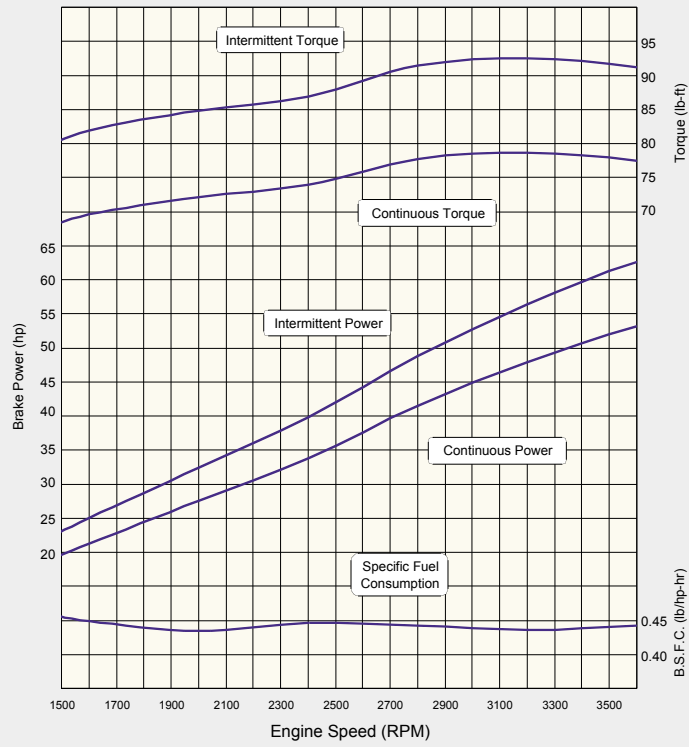
Gasoline Sequential Port Fuel Injection ensures controlled fuel delivery throughout the various engine speeds, providing increased performance and reducing emissions

Closed-Loop Fuel Control for improved emissions control

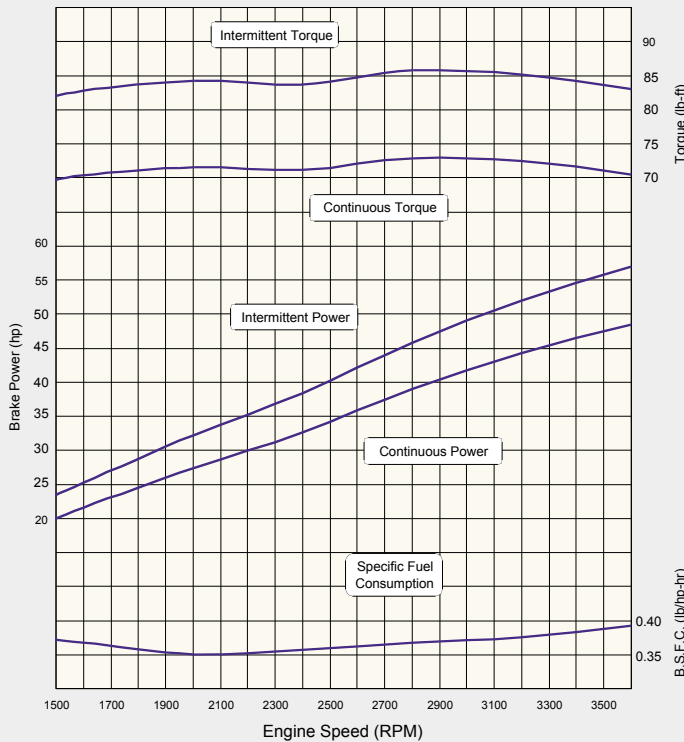
Next Generation Governing Using the Latest DC, Stepper-Motor Technology for accurate, dependable and reliable speed control

Power Curves (corrected per SAE J1995)

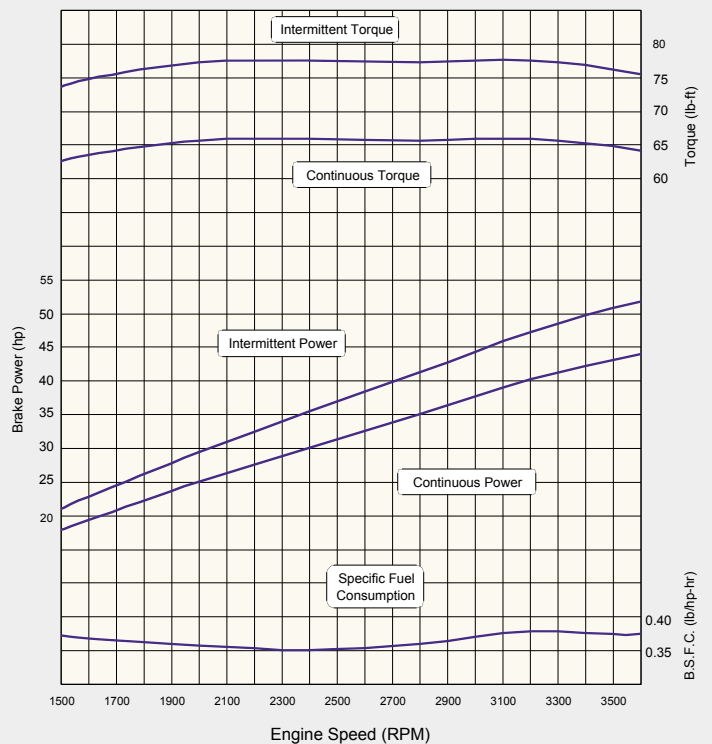
Gas



Propane



Natural Gas



Specifications are subject to change without notice.
 Some Ford engines are produced for Ford by other companies.
 Above power curves utilized the Ford Power Products EPM and emissions certified package.