CATERPILLAR® **3412 E**

466 bkW / 625 bhp

1400 rpm

Oilfield: Land Mechanical (Elec.)

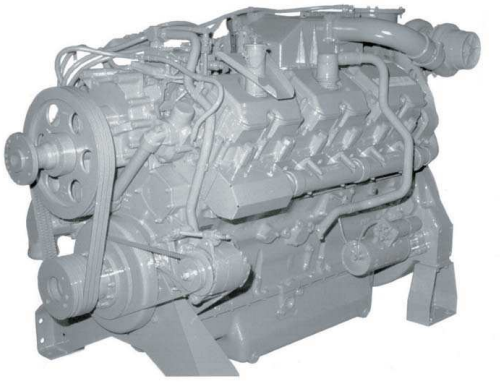


Image shown may not reflect actual engine

CATERPILLAR ENGINE SPECIFICATIONS

V12, 4-Stroke-Cycle Diesel

Bore	137.2 mm (5.4 in)
Stroke	152.4 mm (6.0 in)
Displacement	27.03 L (1,649.47 in³)
Aspiration	Turbocharged / Aftercooled
Compression Ratio	15.5:1
Rotation (from flywheel end)	Counterclockwise
Capacity for Liquids	
Cooling System	67.0 L (17.7 gal)
Lube Oil System (refill)	139.0 L (36.7 gal)
Engine Weight, Net Dry (approximate)	2,141 kg (4,720 lb)

FEATURES

Emissions

2002 US EPA and Carb Certified

Worldwide Supplier Capability

Caterpillar
- Casts engine blocks, heads, cylinder liners, and flywheel housings
- Machines critical components
- Assembles complete engine
- Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities

Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.

Testing

Prototype testing on every model:
- proves computer design
- verifies system torsional stability
- functionality tests every model

Every Caterpillar engine is dynamometer tested under full load to ensure proper engine performance.

Full Range of Attachments

Wide range of bolt-on system expansion attachments, factory designed and tested.

Unmatched Product Support Offered Through Worldwide Caterpillar Dealer Network

More than 1,800 dealer outlets
Caterpillar factory-trained dealer technicians service every aspect of your industrial engine
99.7% of parts orders filled within 24 hours worldwide
Caterpillar parts and labor warranty
Preventive maintenance agreements available for repair before failure options

Scheduled Oil Sampling program matches your oil sample against Caterpillar set standards to determine:
- internal engine component condition
- presence of unwanted fluids
- presence of combustion by-products

Web Site

For additional information on all your petroleum power requirements, visit www.cat-oilandgas.com.

STANDARD ENGINE EQUIPMENT

Cooling System

Thermostats and housing, Jacket water pump, gear driven, centrifugal, RH

Exhaust System

Exhaust manifold, dry. Exhaust elbow, dry 250.95 mm (9.88 in) round flanged outlet. Exhaust fittings, flexible, 203 mm (8 in). Exhaust flange, weldable, 203 mm (8 in). Exhaust heat shield

Flywheels & Flywheel Housings

Flywheel, SAE No. 0, 136 teeth
Flywheel housing, SAE No. 0, SAE standard rotation.

Fuel System

Fuel filter, primary, RH
Fuel filter, RH
Fuel transfer pump
Fuel priming pump
Flexible fuel lines, shipped loose

Instrumentation

Instrument panel, LH
Engine oil pressure gauge
Fuel pressure gauge
Jacket water temperature gauge
Engine oil temperature, tachometer
Hourmeter, start switch, stop button
Diagnostic and warning lamp
Speed raise/lower switch

Lube System

Crankcase breather, top mounted. Oil cooler, RH. Oil filter in valve cover and dipstick, both LH. Oil filter, LH. Rear sump oil pump.

Mounting System

Supports

Protection System

ECM controlled, provides shutdown and alarm strategies to protect against adverse operating conditions. Selected parameters are customer programmable.

Starting System

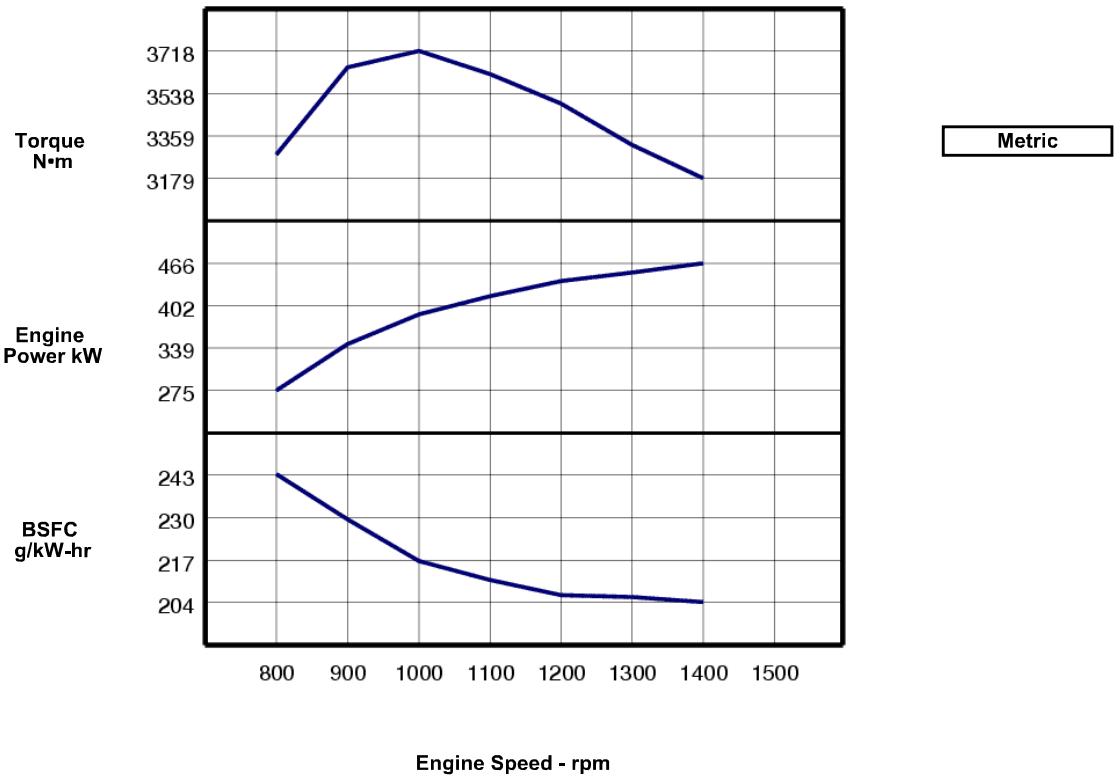
Air Starting motor, LH

General

Paint, Caterpillar yellow
Vibration damper and guard
Lifting eyes

PERFORMANCE CURVES

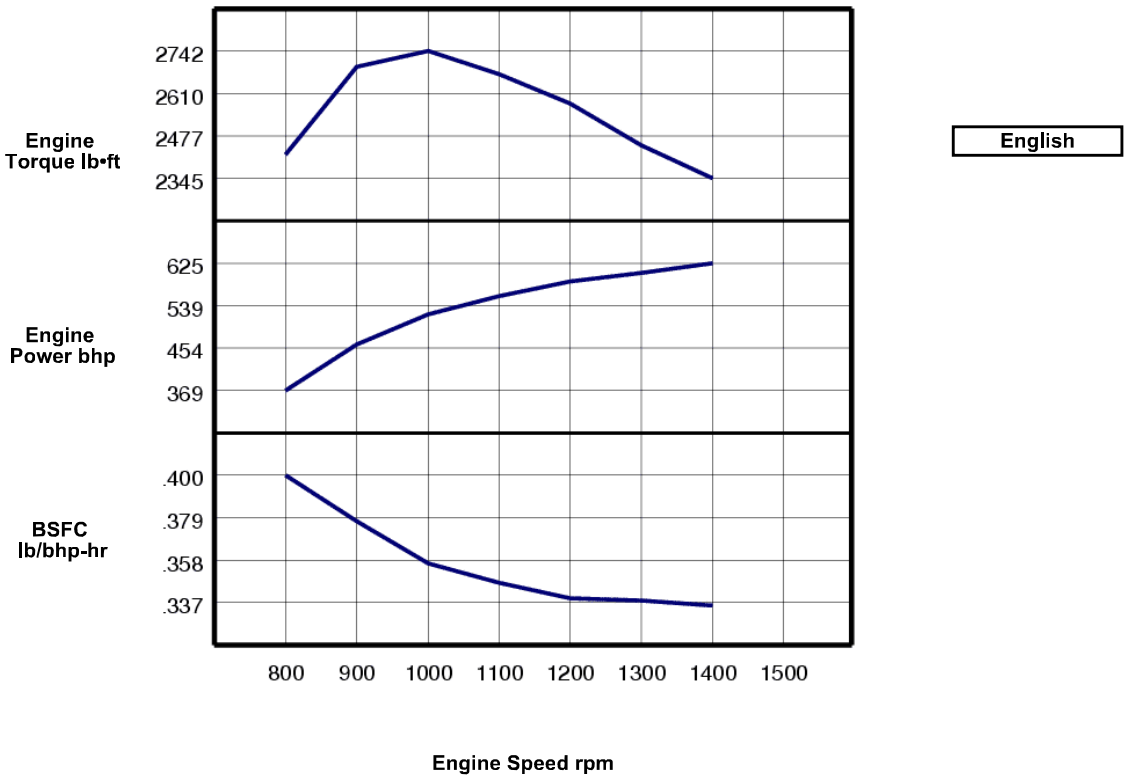
IND - B - DM4018-00



Engine Speed rpm	Engine Power kW	Torque N•m	BSFC g/kW-hr	Fuel Rate L/hr
1400	466	3179	204.1	113.4
1300	452	3320	205.6	110.8
1200	439	3495	206.2	107.9
1100	417	3620	210.9	104.9
1000	389	3718	216.8	100.6
900	344	3650	229.5	94.1
800	275	3280	243.3	79.7

PERFORMANCE CURVES

IND - B - DM4018-00



Engine Speed rpm	Engine Power bhp	Engine Torque lb•ft	BSFC lb/bhp-hr	Fuel Rate gal/hr
1400	625	2345	.336	30.0
1300	606	2449	.338	29.3
1200	589	2578	.339	28.5
1100	559	2670	.347	27.7
1000	522	2742	.356	26.6
900	461	2692	.377	24.9
800	369	2419	.400	21.1

CATERPILLAR®

3412 E

Petroleum Engine

466 bkW (625 bhp)

RATINGS AND CONDITIONS

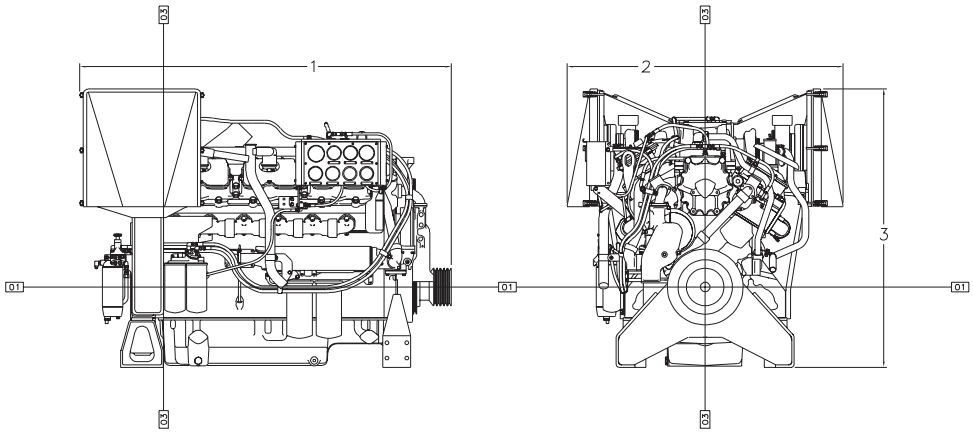
IND - B For service where power and/or speed are cyclic. Time at full load is not to exceed 80% of the duty cycle. Typical service examples are: irrigation where normal pump demand is 85% of engine power, oil field mechanical pumping/drilling, stationary plant air compressors.

CSA Certification Available

Engine Performance Engine performance is corrected to inlet air standard conditions of 99 KPA (29.31 IN HG) dry barometer and 25 deg C (77 deg F) temperature. These values correspond to the standard atmospheric pressure and temperature as shown in SAE J1995.

Performance measured using a standard fuel with fuel gravity of 35 degrees API having a lower heating value of 42,780 KJ/KG (18,390 BTU/LB) when used at 29 DEG (84.2 DEG F) where the density is 838.9 G/L (7.001 LB/US GAL).

The corrected performance values shown for Caterpillar engines will approximate the values obtained when the observed performance data is corrected to SAE J1995, ISO 3046-2 and 8665 and 2288 and 9249 and 1585, EEC 80/1269 and DIN 70020 standard reference conditions.



Engine Dimensions	
(1) Length	1995.3 mm (78.55 in)
(2) Width	1483.4 mm (58.4 in)
(3) Height	1496.1 mm (58.9 in)

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 1588862).

Performance Number: DM4018-00

Feature Code: 412DP00

Materials and specifications are subject to change without notice.

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The International System of Units (SI) is used in this publication.