



C18 ACERT™
Industrial Engine
Tier 3/Stage IIIA
522 bkW/700 bhp @ 2100 rpm

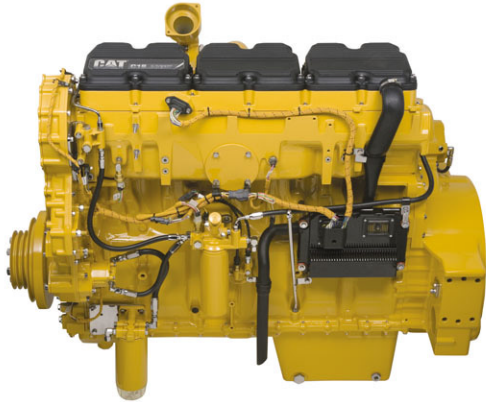


Image shown may not reflect actual engine

CAT® ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

Bore.....	145.0 mm (5.71 in)
Stroke.....	183.0 mm (7.2 in)
Displacement.....	18.1 L (1,104.53 in ³)
Aspiration.....	Turbocharged Aftercooled
Compression Ratio.....	16.3:1
Rotation (from flywheel end).....	Counterclockwise
Weight, Net Dry (approximate).....	1769 kg (3900 lb)

FEATURES

Emissions & Regulations

Meets U.S. EPA Tier 3, EU Stage IIIA and China Stage II emissions requirements.

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 all your industrial power requirements, visit www.cat-industrial.com.



C18 ACERT™ Industrial Engine

Tier 3/Stage IIIA

522 bkW/700 bhp @ 2100 rpm

STANDARD ENGINE EQUIPMENT

Air Inlet System

Turbocharged Aftercooled -- 429-470 bkW (575-630 bhp)
Twin Turbocharged Aftercooled -- 522-597 bkW (700-800 bhp)
ATAAC

Charging System

Charging alternator 24 volt, 50 amp

Control System

Electronic governing
PTO speed control
Programmable ratings
Cold mode start strategy
Automatic altitude compensation
Power compensation for fuel temperature
Programmable low and high idle and total engine limit
Electronic diagnostics and fault logging
Engine monitoring system
J1939 Broadcast (diagnostic and engine status)
ADEM™ A4

Cooling System

Thermostats and housing, vertical outlet
Jacket water pump, centrifugal
Water pump, inlet

Exhaust System

Exhaust manifold, dry
Optional exhaust outlet

Flywheels and Flywheel Housing

SAE No. 1 Flywheel housing

Fuel System

MEUI injection
Fuel filter, secondary (2 micron high performance)
Fuel transfer pump
Fuel priming pump
ACERT™ Technology

Lube System

Crankcase breather
Oil cooler
Oil filler
Oil filter
Oil pan front sump
Oil dipstick
Oil pump (gear driven)

General

Paint, Caterpillar Yellow
Vibration damper
Lifting eyes



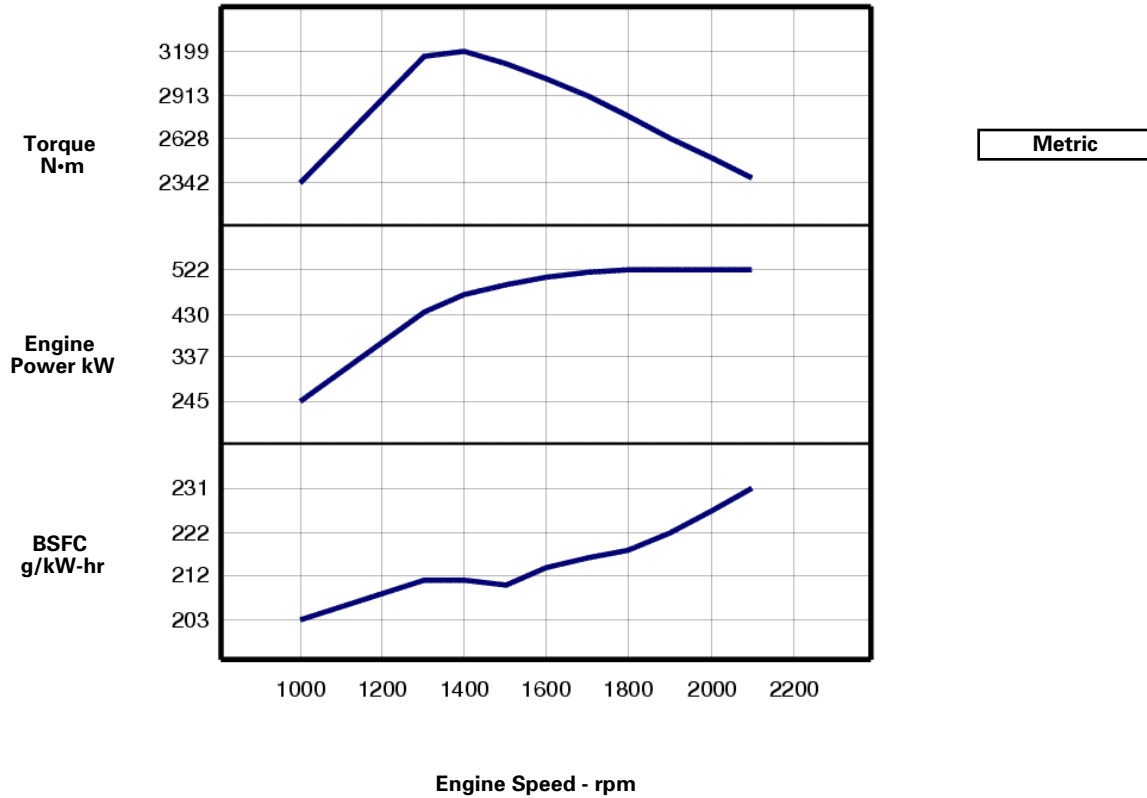
**C18 ACERT™
Industrial Engine**

Tier 3/Stage IIIA

522 bkW/700 bhp @ 2100 rpm

PERFORMANCE CURVES

IND - C (Intermittent) - DM9661-00



Engine Speed rpm	Engine Power kW	Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
2100	522	2374	230.7	143.6
2000	522	2493	226	140.6
1900	522	2624	221.2	137.7
1800	522	2769	217.6	135.4
1700	516	2899	216	132.8
1600	505	3014	213.9	128.8
1500	490	3120	210.2	122.8
1400	469	3199	211.5	118.2
1300	430	3159	211.7	108.5
1000	245	2342	203.3	59.4



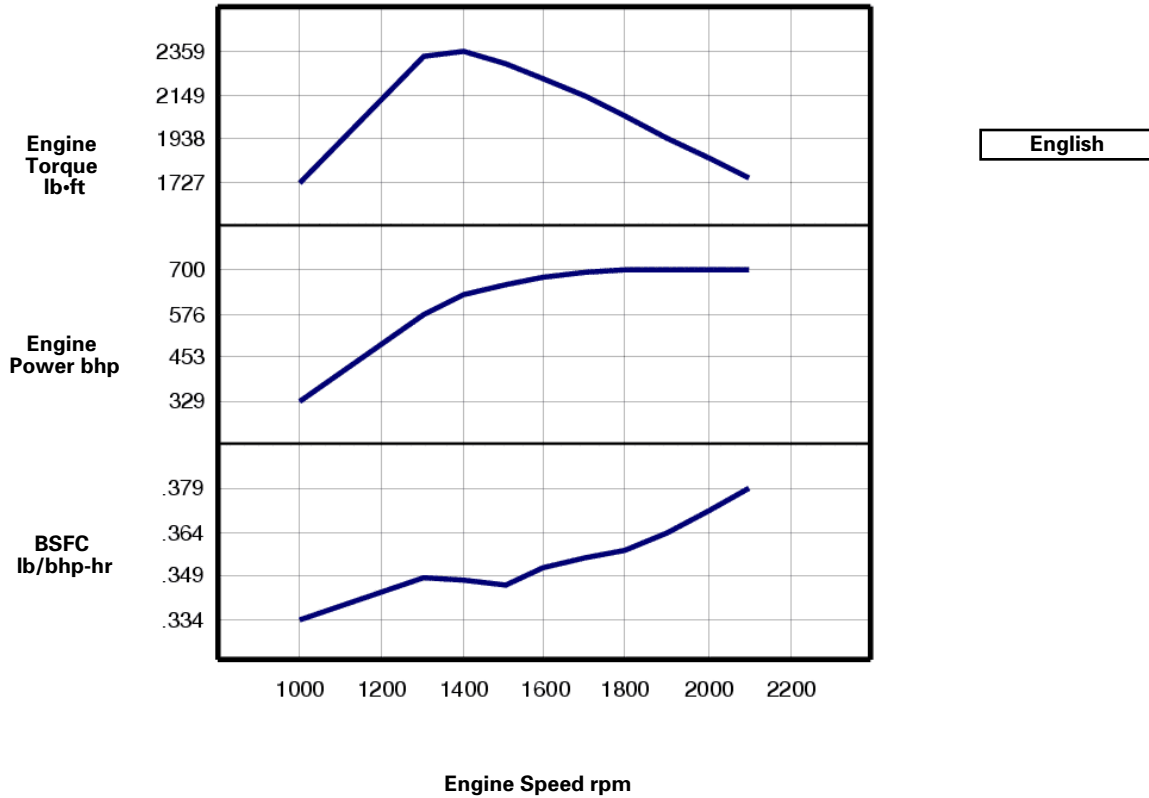
**C18 ACERT™
Industrial Engine**

Tier 3/Stage IIIA

522 bkW/700 bhp @ 2100 rpm

PERFORMANCE CURVES

IND - C (Intermittent) - DM9661-00



Engine Speed rpm	Engine Power bhp	Engine Torque lb-ft	BSFC lb/bhp-hr	Fuel Rate gal/hr
2100	700	1751	.379	37.9
2000	700	1839	.372	37.1
1900	700	1935	.364	36.4
1800	700	2042	.358	35.8
1700	692	2138	.355	35.1
1600	677	2223	.352	34.0
1500	657	2301	.346	32.4
1400	629	2359	.348	31.2
1300	577	2330	.348	28.7
1000	329	1727	.334	15.7



C18 ACERT™ Industrial Engine

Tier 3/Stage IIIA

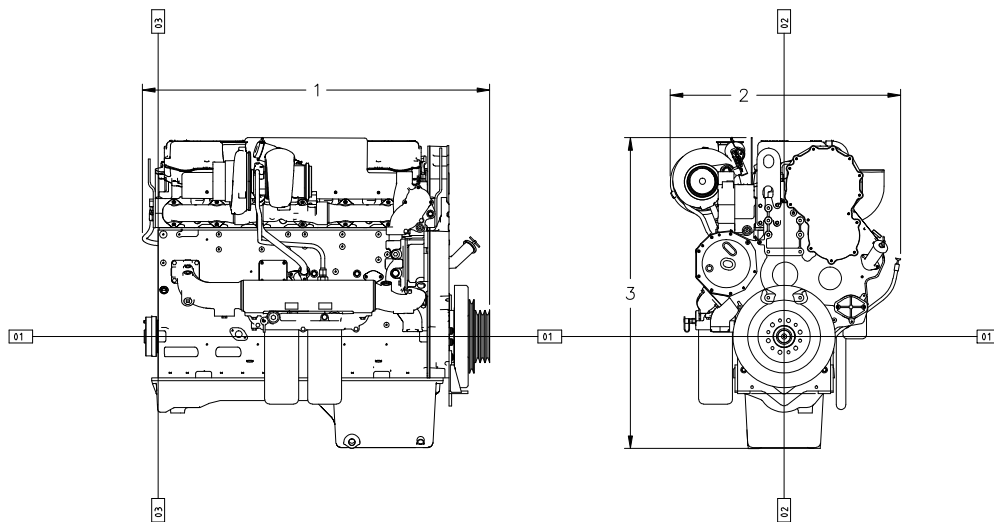
522 bkW/700 bhp @ 2100 rpm

RATINGS AND CONDITIONS

IND - C (Intermittent) Intermittent service where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

Engine Performance Diesel Engines — 7 liter and higher

All rating conditions are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in. Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42,780 kJ/kg (18,390 btu/lb) when used at 29° C (84.2° F) with a density of 838.9 g/L.



Engine Dimensions

(1) Length	1413.1 mm (55.63 in)
(2) Width	976.2 mm (38.43 in)
(3) Height	1251.2 mm (49.26 in)

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 2621427).

Performance Number: DM9661-00

Feature Code: C18DI02 Arr. Number: 2410021

Materials and specifications are subject to change without notice.

16303702

© 2012 Caterpillar

All rights reserved.

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

CAT, CATERPILLAR, their respective logos, "Caterpillar Yellow," the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.