



C18 ACERT™ Petroleum Engine

Tier 4 Interim/Stage IIIB
447-522 kW/600-700 bhp @ 1800-1900 rpm

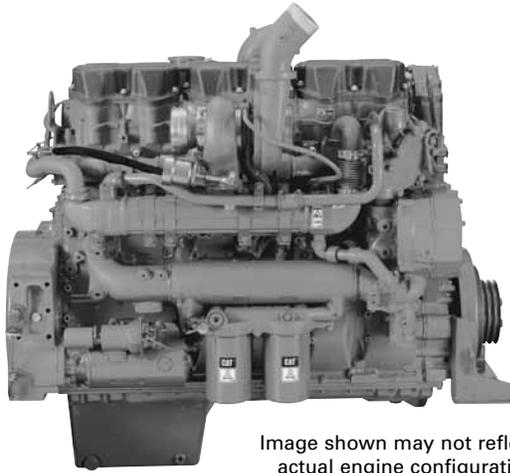


Image shown may not reflect actual engine configuration

CAT® ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

Emissions.....	U.S. EPA Tier 4 Interim, EU Stage IIIB
Peak Torque at Speed.....	3279 N•m (2419 lb-ft) @ 1300 rpm*
Bore	145 mm (5.7 in)
Stroke	183 mm (7.2 in)
Displacement	18.1 L (1104.5 in ³)
Aspiration	Turbocharged-Aftercooled
Governor and Protection	Electronic ADEM™ A4
Engine Weight, Net Dry (approximate)	1580 kg (3482 lbs)
Capacity for Liquids	
Lube Oil System (refill)	40-74 L (42.3-78 U.S. qts)
Cooling System.....	26.9 L (28.4 U.S. qts)
Oil Change Interval	250-500 hours
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE No. 0 or SAE No. 1
Flywheel Teeth	136 (SAE 0), 113 (SAE 1)

*C-rating

FEATURES

Emissions

- Designed to meet 2011 U.S. EPA Tier 4 Interim and EU Stage IIIB emissions requirements.
- On-engine NOx reduction system with optimized piston, ring, liner, and fuel system configuration to reduce NOx while minimizing in-cylinder sooting
- Aftertreatment features Cat® Clean Emissions Module, including: diesel oxidation catalyst, diesel particulate filter

Engine Design

- Proven reliability and durability
- Broad operating speed range
- High power density
- PTO drive options provide flexible access to auxiliary power for pumps and other needs

Low Total Cost of Ownership

- Optimized fuel consumption
- Minimum 5000-hour diesel particulate filter ash service interval and 250- to 500-hour oil change intervals enable low maintenance costs

Advanced Digital Engine Management

ADEM A4 control system providing integrated ignition, speed governing, protection, and controls, including detonation-sensitive variable ignition timing. ADEM A4 has improved: user interface, display system, shutdown controls, and system diagnostics.

Power Units

Engine available with factory packaged features including:

- Aftertreatment
- Base
- Radiator
- Transmission

Custom Packaging

For any petroleum application, trust Caterpillar to meet your exact needs with a factory custom package. Cat engines, generators, enclosures, controls, radiators, transmissions, aftertreatment solutions — anything your project requires — can be custom designed and matched to create a one-of-a-kind solution. Custom packages are globally supported and are covered by a one-year warranty after startup.

Fuel & Oil

Requires Ultra Low Sulfur Diesel (ULSD) containing a maximum of 15 ppm sulfur, and new oil formulations to support the new technology. Designed to accommodate B20 biofuel.

Transmissions

- Caterpillar has a full line of engine-transmission packages that can be fully integrated with your axle, hydraulics, and operator interface.
- C18 ACERT™ Caterpillar optimized transmission matches: CX35-P800

Product Support Offered Through Global Cat Dealer Network

- More than 2,200 dealer outlets
- Cat factory-trained dealer technicians service every aspect of your petroleum engine
- Cat parts and labor warranty

Preventive maintenance agreements available for repair-before-failure options

S•O•S™ program matches your oil and coolant samples against Caterpillar set standards to determine:

- Internal engine component condition
- Presence of unwanted fluids
- Presence of combustion by-products
- Site-specific oil change interval

Over 80 Years of Engine Manufacturing Experience

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

- Cast engine blocks, heads, cylinder liners, and flywheel housings
- Machine critical components
- Assemble complete engine

Web Site

For all your petroleum power requirements, visit www.catoilandgas.cat.com.

STANDARD ENGINE EQUIPMENT

Air Inlet System

Turbocharged Aftercooled

Control System

Electronic control system, over-foam wiring harness, automatic altitude compensation, power compensated for fuel temperature, configurable software features, engine monitoring system SAE J1939 broadcast and control, integrated Electronic Control Unit (ECU) remote fan control

Cooling System

Vertical outlet thermostat housing, centrifugal water pump, guidance on cooling system design available to ensure machine reliability

Exhaust System

Clean Emissions Module (CEM) that includes Diesel Particulate Filter (DPF), Diesel Oxidation Catalyst (DOC), and Cat Regeneration System, optional exhaust outlet

Flywheels and Flywheel Housing

SAE 0 and SAE 1 flywheel housing

Fuel System

MEUI injection; primary fuel filter, secondary fuel filters, fuel transfer pump, electronic fuel priming

Lube System

Open crankcase ventilation system, oil cooler, oil filler, oil filter, oil dipstick, oil pump (gear driven), choice of sumps (front, rear, and center)

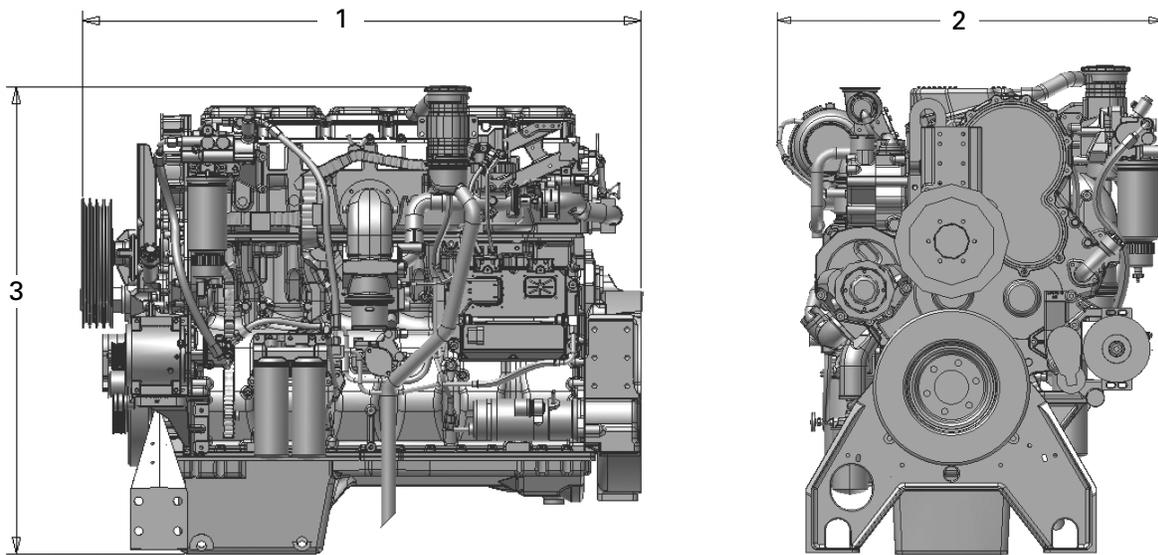
Power Take Off

SAE B and SAE C drives available, engine power can also be taken from the front of the engine on some applications

General

Paint: Cat yellow; vibration damper; lifting eyes

DIMENSIONS



(1) Length — 1530.3 mm (60.2 in) (2) Width — 960.5 mm (37.8 in) (3) Height — 1281.9 mm (50.5 in)

Note: Final dimensions dependent on selected options

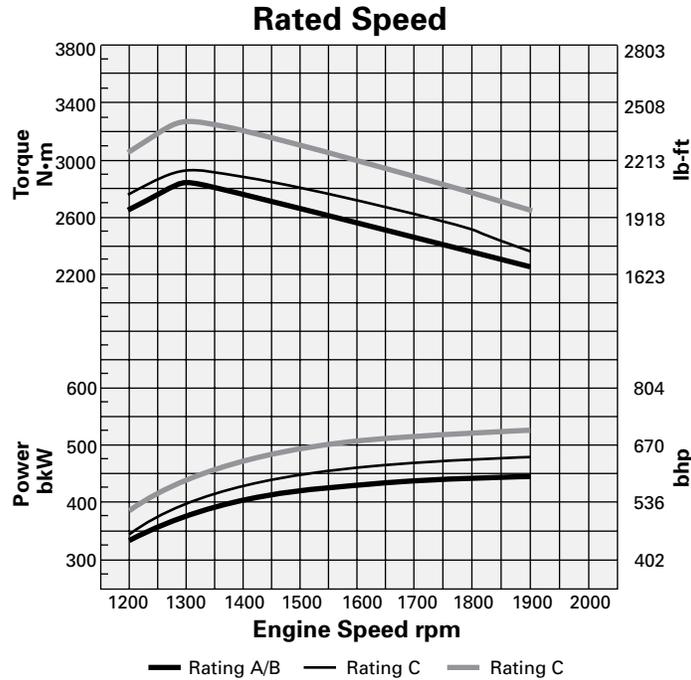


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PERFORMANCE DATA — PRELIMINARY

Turbocharged-Aftercooled — 1800-1900 rpm



Peak Power

Peak Torque

Rating	Speed rpm	Peak Power kW	Peak Power bhp	Speed rpm	Peak Torque N·m	Peak Torque lb-ft
A*	1900	447	600	1300	2811	2073
B	1900	447	600	1300	2811	2073
C	1900	470	630	1300	2951	2177
C	1900	522	700	1300	3279	2419

*Altitude-limited

RATING DEFINITIONS AND CONDITIONS

A Rating (Continuous) for heavy-duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling.

B Rating for service where power and/or speed are cyclic (time at full load not to exceed 80%).

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

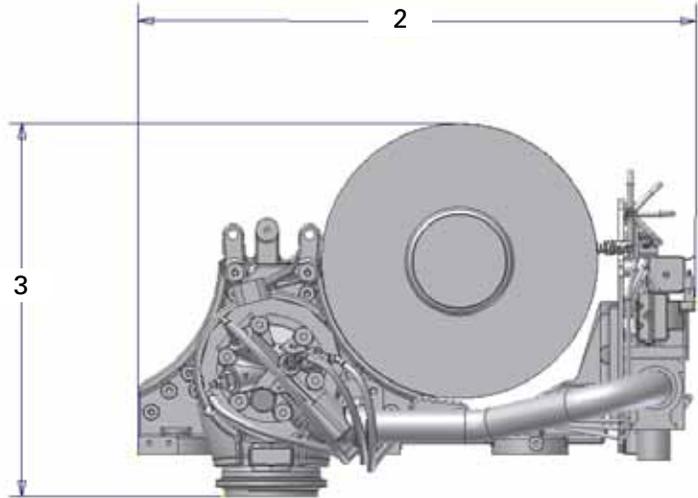
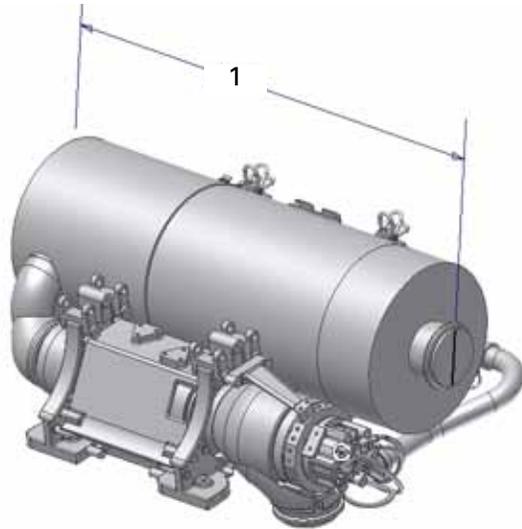
Engine Performance Diesel Engines — 7 liter and higher are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42 780 kJ/kg (18,390 btu/lb) when used at 29°C (84.2°F) with a density of 838.9 g/L.



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CAT CLEAN EMISSIONS MODULE AFTERTREATMENT CONFIGURATION



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BASE CONFIGURATION SHOWN

Approximate Size and Weight

- (1) Length — 1053 mm (41.5 in)
- (2) Width — 779 mm (30.7 in)
- (3) Height — 451 mm (17.8 in)
- Weight — 180 kg (397 lbs)

CEM Options

Base configuration includes DPF, DOC, and supporting structure (shown)

AFTERTREATMENT FEATURES

Regeneration: Cat Regeneration System maximizes fuel efficiency during regeneration

Transparent Regeneration: Regeneration system optimized for petroleum applications for minimal impact to operation

Flexibility: Flexible regen options maximize uptime

Flex pipe connection kit with 90° rotatable elbows to attach to Cat Regeneration System Inlet

Mounting: Remote installation options provide OEM flexibility for many applications, including horizontal and vertical mounting, with and without muffler

Service: Minimum 5000-hour diesel particulate filter ash service interval
Available in 12V or 24V systems

STANDARD EMISSIONS CONTROL EQUIPMENT

Cat Regeneration System

CEM: Clean Emissions Module

DOC: Diesel Oxidation Catalyst

DPF: Diesel Particulate Filter

NRS: NOx Reduction System

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ACERT, S•O•S, "Caterpillar Yellow" and 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.