



# C9.3 ACERT™ Petroleum Engine Tier 4 Interim/Stage IIIB 224-261 kW (300-350 bhp) @ 1800-2200 rpm

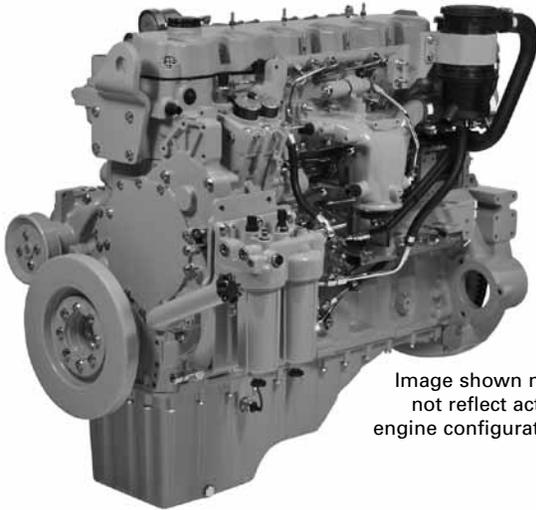


Image shown may not reflect actual engine configuration

## CAT® ENGINE SPECIFICATIONS

### I-6, 4-Stroke-Cycle Diesel

Emissions.....	U.S. EPA Tier 4 Interim, EU Stage IIIB
Peak Torque at Speed .....	1597 N•m (1178 lb-ft) at 1400 rpm*
Bore.....	115 mm (4.53 in)
Stroke .....	149 mm (5.87 in)
Displacement.....	9.3 L (567.5 in <sup>3</sup> )
Aspiration .....	Turbocharged-Aftercooled
Governor & Protection .....	Electronic (ADEM™ A4)
Engine Weight, Net Dry (approximate) .....	885 kg (1950 lb)
Capacity for Liquids	
Lube System (refill) .....	30 L (31.7 U.S. qts)
Cooling System.....	22.2 L (23.5 U.S. qts)
Oil Change Interval .....	250-500 hours
Rotation (from flywheel end) .....	Counterclockwise
Flywheel & Flywheel Housing .....	SAE No. 1, SAE No. 2
Flywheel Teeth .....	113

\*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 Clean Emissions Module, including: diesel oxidation catalyst and diesel particulate filter
- Future Tier 4 Final technology solution designed to fit into current standard aftertreatment envelope, eliminating the need to redesign your installation

### Engine Design

- Proven reliability and durability of engine and aftertreatment
- 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
- Radiator
- Base
- 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.

### Optional Attachments

- **Engine-Mounted Transmission Oil Cooler** — integration with engine cooling system allows ease of installation and a tighter overall engine package
- **Engine Brakes** — braking capabilities for mobile applications

### Transmissions

- Caterpillar has a full line of engine-transmission packages that can be fully integrated with your axle, hydraulics, and operator interface.
- C9 ACERT™ Cat optimized transmission matches: TH35-E61, CX31-P600

### 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<sup>SM</sup> 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](http://www.catoilandgas.cat.com).



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## STANDARD ENGINE EQUIPMENT

### Air Inlet System

Turbocharged Air-to-Air 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 No. 1 and SAE No. 2 flywheel housing

### Fuel System

High pressure common rail, 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, shallow)

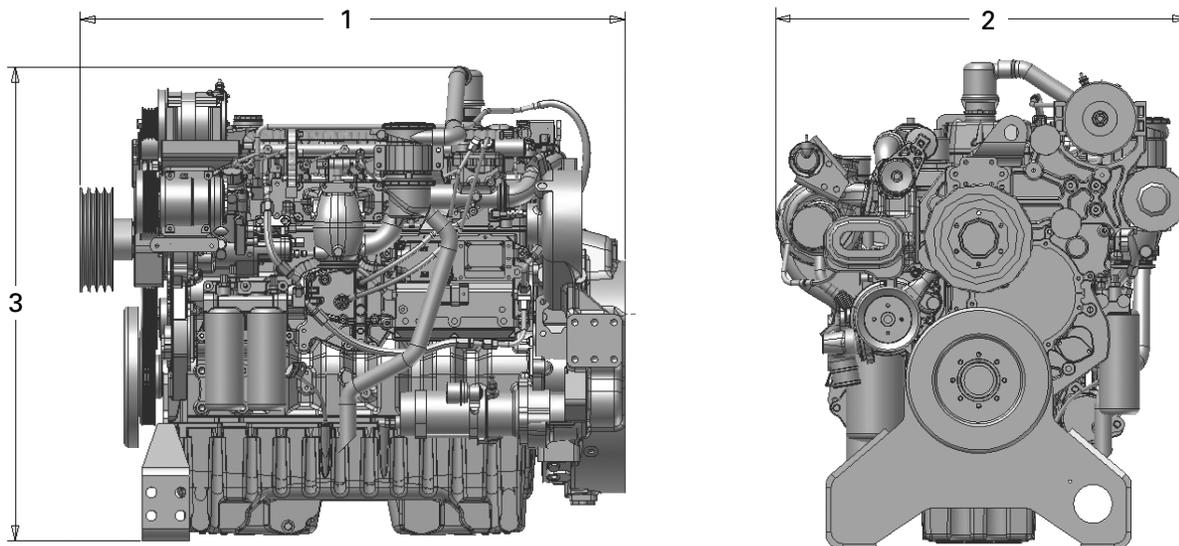
### Power Take Off

SAE A, 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 — 1150 mm (45.3 in)    (2) Width — 827 mm (32.6 in)    (3) Height — 1123 mm (44.21 in)

**Note:** Final dimensions dependent on selected options

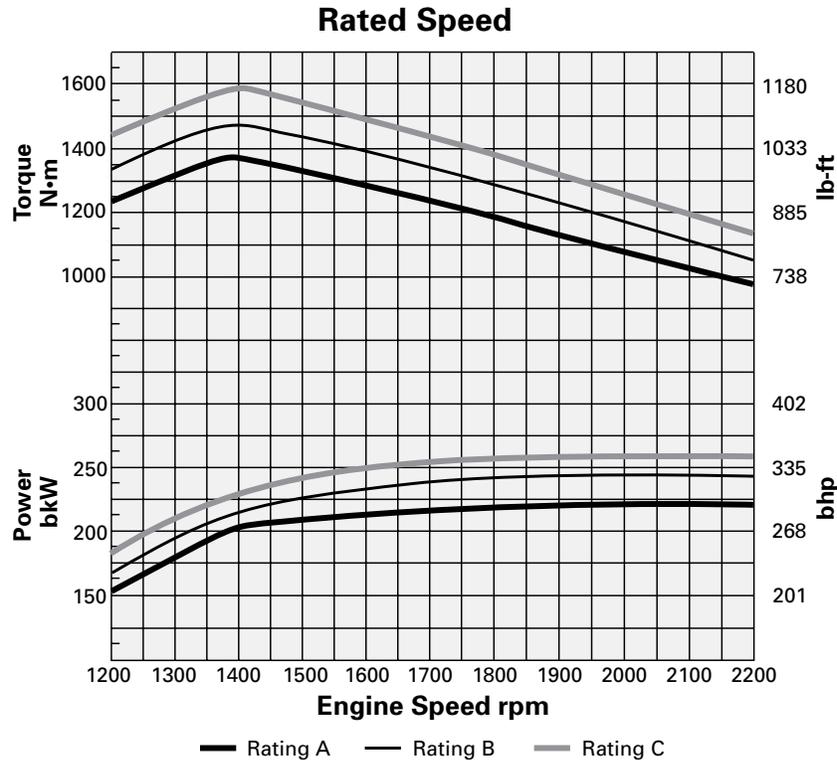


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## PERFORMANCE DATA — PRELIMINARY

Turbocharged-Aftercooled — 1800-2200 rpm



### Peak Power

### Peak Torque

Rating	Speed rpm	Peak Power bkW	Peak Power bhp	Speed rpm	Peak Torque N·m	Peak Torque lb-ft
A	2200	224	300	1400	1369	1010
B	2200	242	325	1400	1483	1094
C	2200	261	350	1400	1597	1178

## 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)** is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

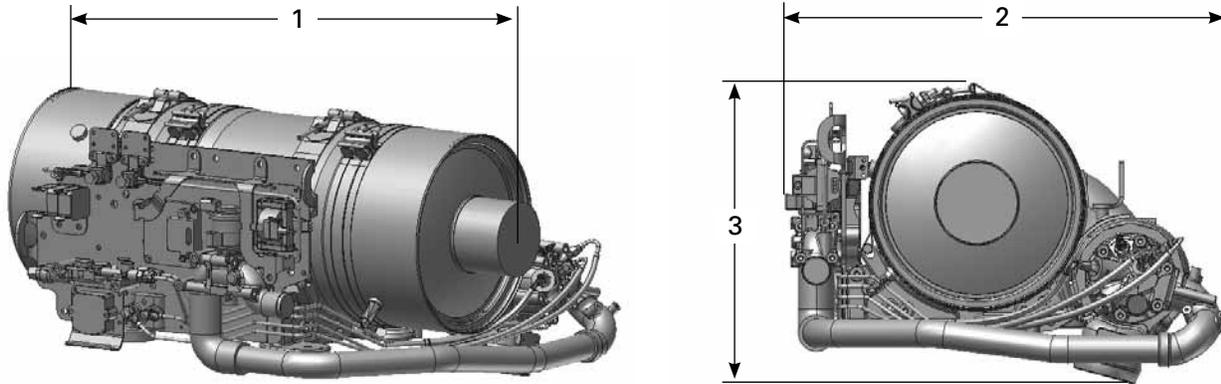
**Engine Performance Diesel Engines — 7 liter and higher** are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42 780 kJ/kg (18,390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



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## CLEAN EMISSIONS MODULE AFTERTREATMENT CONFIGURATION



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### 12" DIAMETER BASE CONFIGURATION SHOWN

#### Approximate Size and Weight

(1) Length — 925 mm (36.4 in)

(2) Width — 714 mm (28.1 in)

(3) Height — 392 mm (15.4 in)

Weight — 130 kg (287 lbs)

#### STANDARD CONFIGURATION

##### Approximate Size

Length — 875 mm (34.4 in)

Width — 865 mm (34.1 in)

Height — 538 mm (21.2 in)

Multiple configuration options available.

### CEM Options

Base configuration includes DPF, DOC, and supporting structure

Standard configuration includes DPF, DOC, muffler, and supporting structure. This configuration is designed to claim the same amount of space as the Tier 4 final aftertreatment.

## 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.