C13 ACERT™ Petroleum Engine

Tier 4 Interim/Stage IIIB

287-388 bkW/385-520 bhp @ 1800-2100 rpm

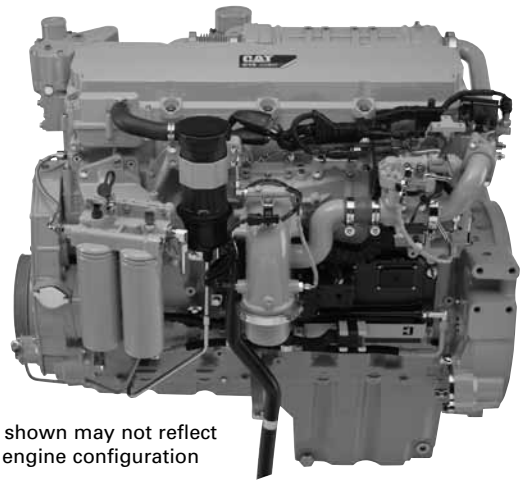


Image shown may not reflect actual engine configuration

CAT® ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

Emissions	U.S. EPA Tier 4 Interim, EU Stage IIIB
Peak Torque at Speed	2380 N•m (1756 lb-ft) @ 1400 rpm*
Bore	130 mm (5.1 in)
Stroke	157 mm (6.2 in)
Displacement	12.5 L (762.8 in^3)
Aspiration	Turbocharged-Aftercooled
Governor and Protection	Electronic ADEM™ A4
Engine Weight, Net Dry (approximate)	1350 kg (2976 lbs)
Capacity for Liquids	
Lube System (refill)	34 L (35.9 U.S. qts)
Cooling System	18.7 L (19.8 U.S. qts)
Oil Change Interval	250-500 hours
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE No. 1
Flywheel Teeth	113

*E-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, 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
- 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.

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.
- C13 ACERT™ Cat optimized transmission matches: TH35-E81, 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℠ 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 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 flywheel housing

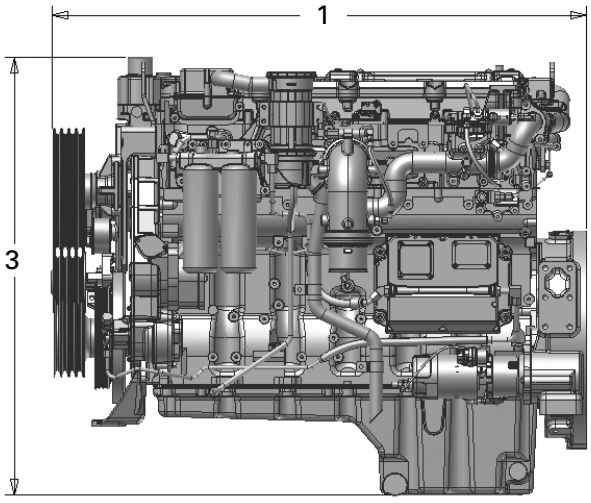
Fuel System
MEUI injection; primary fuel filter, secondary fuel filters, fuel transfer pump, electronic fuel priming

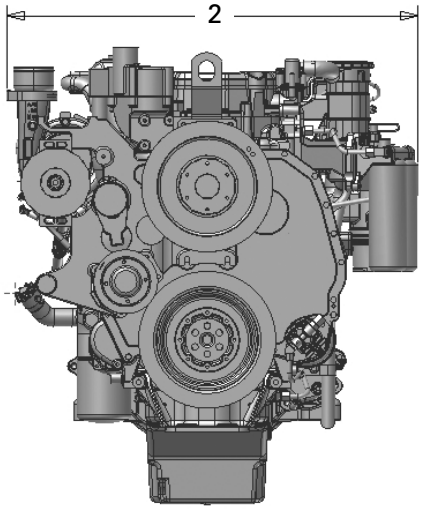
Lube System
Open crankcase ventilation system, oil cooler, oil filler, oil filter, oil dipstick, oil pump (gear driven), choice of sumps (front, rear, deep front, deep rear, shallow)

Power Take Off
SAE A, SAE B, 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



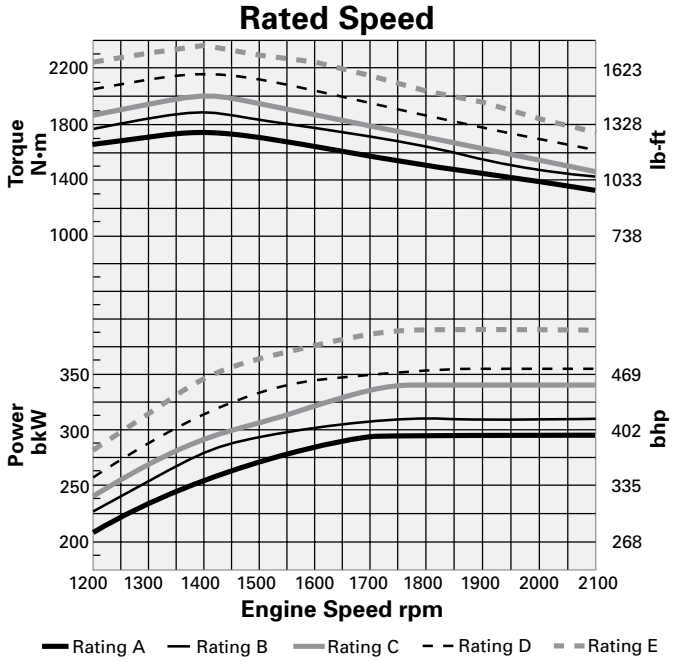


(1) Length —1203 mm (47.4 in) (2) Width — 933.14 mm (36.74 in) (3) Height — 1186 mm (46.7 in)

Note: Final dimensions dependent on selected options

PERFORMANCE DATA — PRELIMINARY

Turbocharged-Aftercooled — 1800-2100 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	2100	287	385	1400	1762	1300
B	2100	309	415	1400	1900	1401
C	2100	328	440	1400	2014	1486
D	2100	354	475	1400	2174	1604
E	2100	388	520	1400	2380	1756

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%).

D Rating for service where maximum power is required for periodic overloads (time at full load not to exceed 10% of the duty cycle).

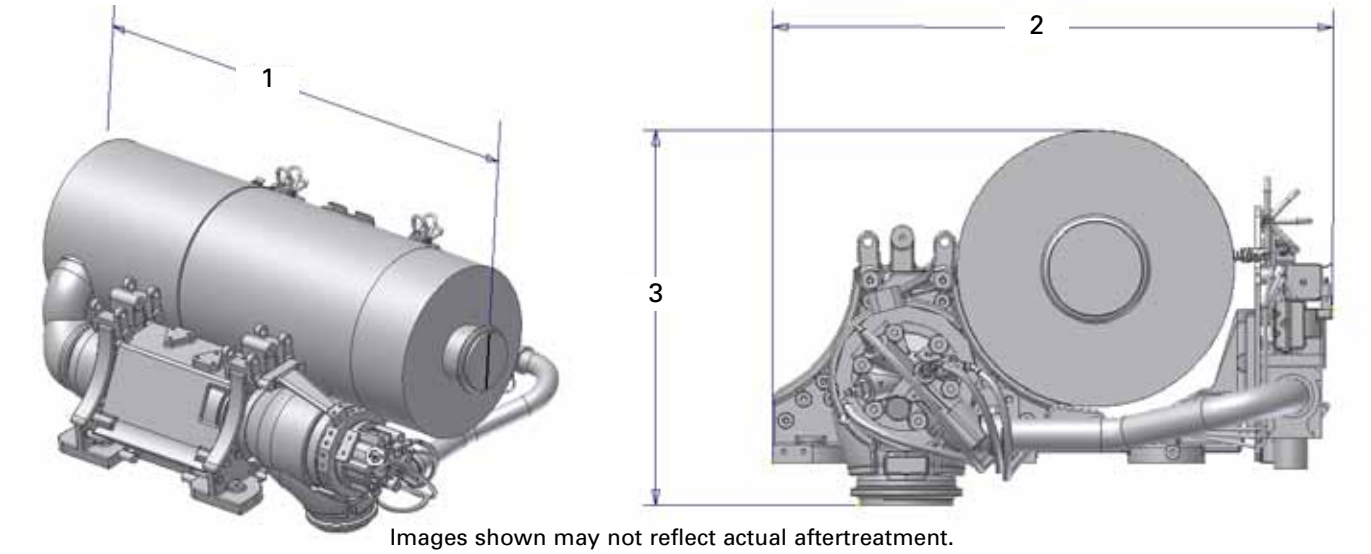
E Rating for service where maximum power is required for a short time for initial starting or sudden overload. For emergency service where standard power is unavailable (time at full load not to exceed 5% of the duty cycle).

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.

C13 ACERT™ Petroleum Engine

Tier 4 Interim/Stage IIIB
287-388 bkW/385-520 bhp @ 1800-2100 rpm

CLEAN EMISSIONS MODULE AFTERTREATMENT CONFIGURATION



Images shown may not reflect actual aftertreatment.

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)

STANDARD CONFIGURATION
Approximate Size
Length — 1052 mm (41.4 in)
Width — 1075 mm (42.3 in)
Height — 505 mm (19.9 in)

Multiple configuration options available.

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

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

LEHW0096-02 (12-10)