



C27 ACERT™ Petroleum Engine

Tier 4 Final

597, 652, 708 kW/800, 875, 950 bhp @ 1800 rpm

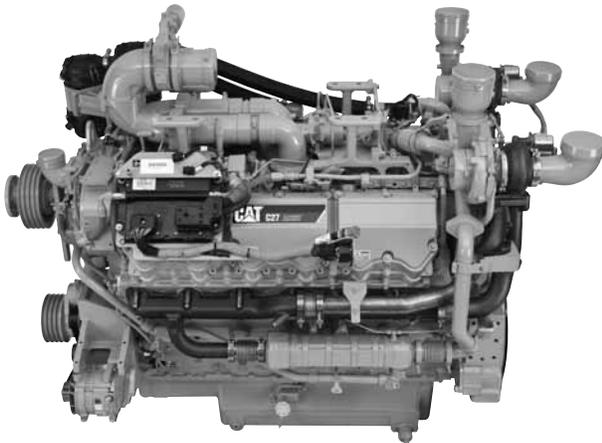


Image shown may not reflect actual engine configuration

CAT® ENGINE SPECIFICATIONS

V-12, 4-Stroke-Cycle Diesel

Emissions.....	U.S. EPA Tier 4 Final
Peak Torque at Speed.....	3661 N•m (2700 lb-ft) @ 1200 rpm
	4004 N•m (2953 lb-ft) @ 1200 rpm
	4347 N•m (3206 lb-ft) @ 1200 rpm
Bore.....	137.7 mm (5.4 in)
Stroke.....	152.4 mm (6 in)
Displacement.....	27 L (1648 in ³)
Aspiration.....	Turbocharged
Governor and Protection.....	Electronic ADEM™ A4
Engine Weight, Net Dry (approximate).....	2790 kg (6151 lbs)
Capacity for Liquids	
Lube System (refill).....	70 L (74 U.S. qts)
Cooling System.....	60 L (63 U.S. qts)
Oil Change Interval.....	250 hours
Rotation (from flywheel end).....	Counterclockwise
Flywheel and Flywheel Housing.....	SAE No. 0
Flywheel Teeth.....	136

FEATURES

Emissions

- Designed to meet U.S. EPA Tier 4 Final 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 diesel oxidation catalyst
- Meets Tier 4 Final emissions requirements four years early, achieving environmental benefits earlier than required.

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
- Maintenance-free aftertreatment

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.

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.

Transmissions

- Caterpillar has a full line of engine-transmission packages that can be fully integrated with your axle, hydraulics, and operator interface.
- Please contact Application Support Center for details.

Testing

Every engine is full-load tested to ensure proper engine performance.

Product Support Offered Through Global Cat Dealer Network

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

Preventive maintenance agreements available for repair-before-failure options

S•O•SSM 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.catoilandgasinfo.com.



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STANDARD ENGINE EQUIPMENT

Air Inlet System

Twin rear-mounted turbochargers, ATAAC

Control System

Automatic altitude compensation; power compensation for fuel temperature; electronic diagnostics and fault logging; engine monitoring and protection system (speeds, temperature, pressure); J1939 Broadcast (diagnostic, engine status and control); ADEM A4 electronic control

Cooling System

Thermostats and housing; jacket water pump, gear-driven, centrifugal, RH

Exhaust System

Exhaust dry manifold, 127 mm (5 in) slip fit connection, diesel oxidation catalyst

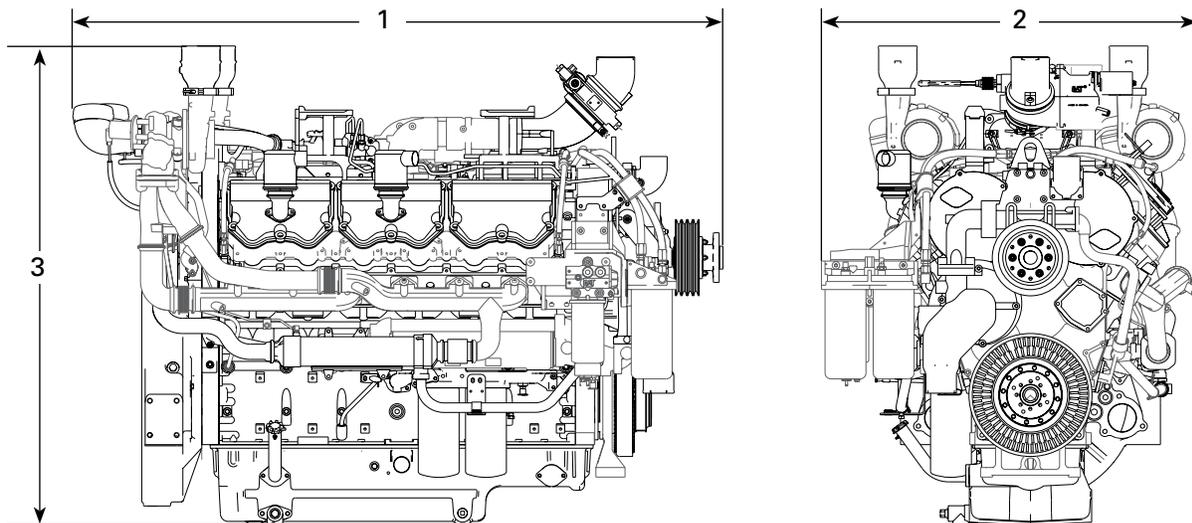
Fuel System

Mechanical Electronic Unit Injection (MEUI™) system; primary, secondary, and tertiary fuel filter; electronic fuel priming pump-integrated with primary fuel filter base; fuel transfer pump

Lube System

Remote-mounted oil filters and RH-side block-mounted filters are available; crankcase fumes disposal system, RH mounted; oil cooler — RH; oil filler — RH; oil level gauge — RH; shallow rear sump oil pan — 250-hour

DIMENSIONS



(1) Length — 2159 mm (85 in)

(2) Width — 1253 mm 49 in

(3) Height — 1594 mm (63 in)

Note: Final dimensions dependent on selected options



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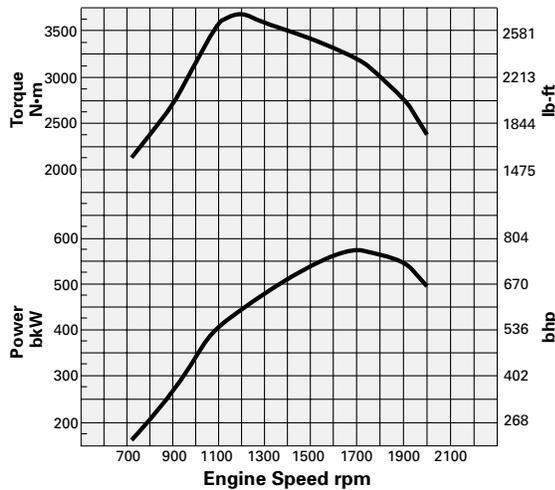
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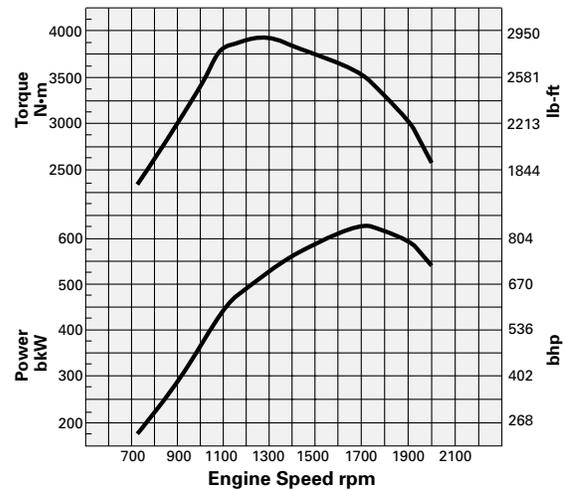
PERFORMANCE DATA

Turbocharged — 1800 rpm

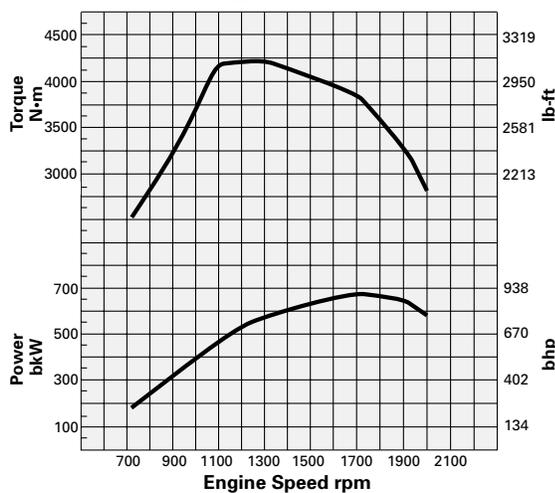
A Rating – Rated Speed



B Rating – Rated Speed



C Rating – Rated Speed



Peak Power

Peak Torque

Rating	Speed rpm	Peak Power bkW	Peak Power bhp	Speed rpm	Peak Torque N-m	Peak Torque lb-ft
A	1800	597	800	1200	3661	2700
B	1800	652	875	1200	4004	2953
C	1800	708	950	1200	4347	3206

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%).

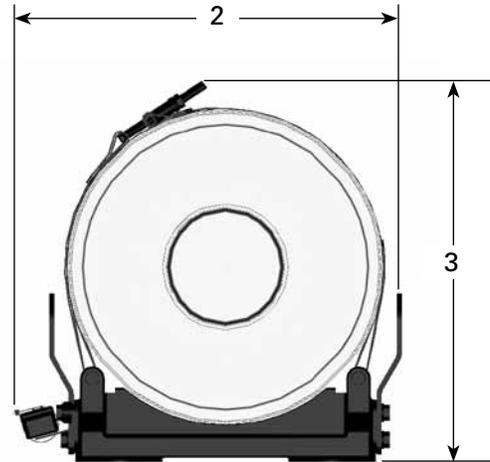
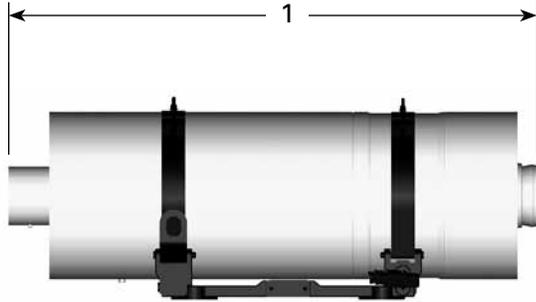
Engine Performance Diesel Engines — 7 liter and higher are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42 780 kJ/kg (18,390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



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CLEAN EMISSIONS MODULE AFTERTREATMENT CONFIGURATION



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AFTERTREATMENT DIMENSIONS*

Approximate Size and Weight

(1) Length — 1120 mm (44 in)

(2) Width — 400 mm (15.7 in)

(3) Height — 440 mm (17.3 in)

Weight — 66 kg (145 lbs)

*Dimensions and image are for individual canister. Two canisters are required. They can be shipped loose for customizable mounting options.

AFTERTREATMENT FEATURES

Mounting: Remote installation options provide OEM flexibility for many applications

Each canister features a single diesel oxidation catalyst. Two canisters required for compliance.

STANDARD EMISSIONS CONTROL EQUIPMENT

DOC: Diesel Oxidation Catalyst

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, ADEM, MEUI, 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.