C9 ACERT™ Petroleum Engine

254 bkW (340 bhp)
2200 rpm

Water-Cooled Manifold
Hazardous Location

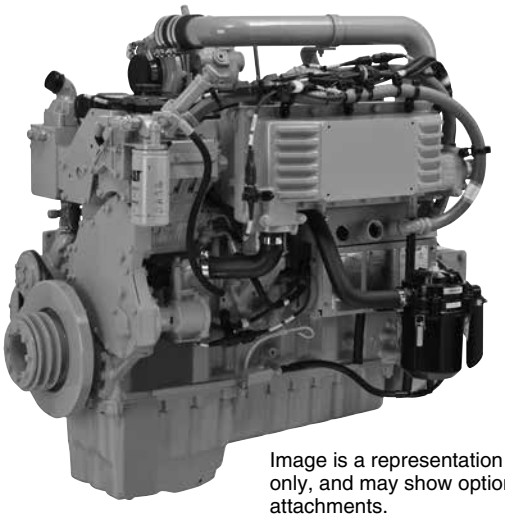


Image is a representation only, and may show optional attachments.

CAT® ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions	EPA and CARB Non-Road Tier 3, EU Stage IIIA, EPA Marine Tier 2, IMO Tier II
Peak Torque at Speed	812 lb-ft
Rated Speed	2200 rpm
Bore	112 mm (4.4 in)
Stroke	149 mm (5.9 in)
Displacement	8.82 L (537.96 cu. in)
Aspiration	Turbocharged-Aftercooled
Governor and Protection	Electronic (ADEM™ A4)
Engine Weight, net dry (approx)	1007 kg (2219 lb)
Capacity for Liquids	
Lube Oil System (refill)	30.3 L (8 gal)
Cooling System	13.9 L (3.7 gal)
Oil Change Interval	250 hours
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE 1 or 2
Flywheel Teeth	113 (SAE 1), 134 (SAE 2)

FEATURES

Engine Design
- Proven reliability and durability
- 45°C ambient capability*
- Robust diesel strength design prolongs life and lowers owning an operating costs
- Broad operating speed range
- PTO drive options provide flexible access to auxiliary power for pumps and other needs

Cat® Hazardous Location Engine
Cat Petroleum Hazardous Location Engines are third-party certified from Caterpillar
- Class I Division 2 (NEC 500),
- Class I Zone 2 (NEC 505), and
- ATEX Directive (94/9/EC) Group II, 3G environments (Zone 2) with Gas Group IIA, Electrical IIC, and Temperature Class T3**

Technology
- Electrical harness containing point-to-point wiring without splices in any power/signal wires
- Electrical harnesses and connectors are overmolded and are routed through urethane tube for protection against impact and vertical flame propagation.
- To meet safety requirements, connectors require the use of a special tool to be disconnected and bear the “do not disconnect while energized” warning.
- Optional ATEX and NEC certified 25-foot customer harness
- ECU is certified as part of the engine to restricted breathing per EN 60079-15. ECU is protected with a stainless steel guard.
- Fuel injector connections at valve cover bases are protected with stainless steel guards

Advanced Digital Engine Management
ADEM A4 engine management system integrates speed control, air/fuel ratio control and ignition/detonation controls into a complete engine management system. control system with integrated digital ignition, engine protection and monitoring

Air System
- Remote aftercooler (REMAC, air-to-air) and separate circuit (water-to-air) aftercooler options available to match any application requirement.
- Water-cooled exhaust manifold and turbo maintain ATEX-compliant skin temperature during operation

Improved Serviceability
- Front, right and rear dipsticks
- Remote oil and fuel filters

Custom Packaging
Trust a Cat factory custom package to meet your exact petroleum application needs. Cat engines, generators, enclosures, controls, radiators, transmissions — 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.

Full Range of Attachments
Large variety of factory installed engine attachments reduces packaging time

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

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

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.

*See TMI for altitude and ambient capability

**ATEX compliant with exceptions — packager responsible to ensure ATEX compliant installation

STANDARD EQUIPMENT

Air Inlet System
Turbocharger, separate circuit (SCAC) or remote (REMAC) aftercooler
Single, right-side, center-mounted turbo with water-cooled turbine housing
Air inlet 101.6 mm (4 in) connection type

Control System
Electronic governing, PTO speed control
Programmable ratings
Cold mode start strategy
Automatic altitude compensation
Fuel cooled ECU
Power compensation for fuel temperature
Programmable low and high idle
Electronic diagnostics and fault logging
Programmable monitoring system (engine speed, temperature, pressure)
J1939 broadcast (diagnostic and engine status)
Certified electrical control system (hazardous environment only)
Derated engine: automatic ambient temperature compensation

Cooling System
Thermostats and housing, RH forward-facing outlet — 51 mm (2.01 in) connection
Jacket water pump — belt-driven, centrifugal
Water pump — inlet RH facing downward 63 mm (2.48 in)

Exhaust System
Exhaust manifold — wet
Single, right-side, center-mounted turbo with water-cooled turbine housing
Rear facing turbo exhaust 81.8 mm (3.22 in.) connection, non V-band clamp

Flywheels and Flywheel Housing
Mandatory selection of:
SAE No. 1 or SAE No. 2 flywheel and housing
SAE standard rotation

Fuel System
HEUI fuel system
Fuel filter — secondary, LH (2-micron high performance)
Fuel transfer pump — left front
Fuel priming pump — left front

Lube System
Crankcase breather — LH
Crankcase fumes disposal — with integrated service indicator, LH
Oil cooler — RH
Oil filter — RH
Oil pan — front sump
Oil filler — top mounted
Oil level gauge — LH side
Oil pump — gear-driven
Oil valve sampling
Preservation of turbocharger, flywheel, and crankcase

Power Take-Offs
Crankshaft drive pulley — 2 grooves, 190 mm (7.5 in) diameter, 22.3 mm (7/8 in) wide

General
Vibration damper
Lifting eyes
Automatic variable timing — electronic
Literature

Mandatory Options
Flywheel housing and flywheel
Primary filter/water separator
Turbo orientation

OPTIONAL ATTACHMENTS

Air Inlet System
Air inlet elbow

Cooling System
Water outlet elbow
Coolant conditioner

Flywheels and Flywheel Housing
Crankshaft seal

Instrumentation
Hazardous location certified messenger display
Interconnect harness

Lube System
Oil pans
Drain and cover
Remote oil filters
Lubricating oils

Mounting System
Structural steel base
Engine support — front and rear

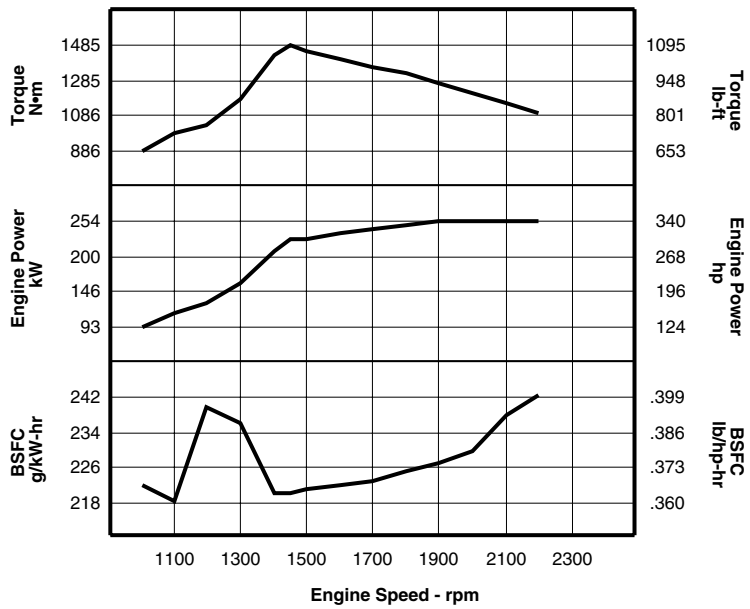
Power Take-Offs
Hydraulic pump drives
Hydraulic gear pumps
Crankshaft pulleys

Transmission Arrangement
Transmission cooler

General
Tool set

PERFORMANCE CURVES

Turbocharged
D Rating — 254 bkW (340 bhp) @ 2200 rpm*
EM0001-00 and EM0134-00 — REMAC and EM0133-00 — SCAC



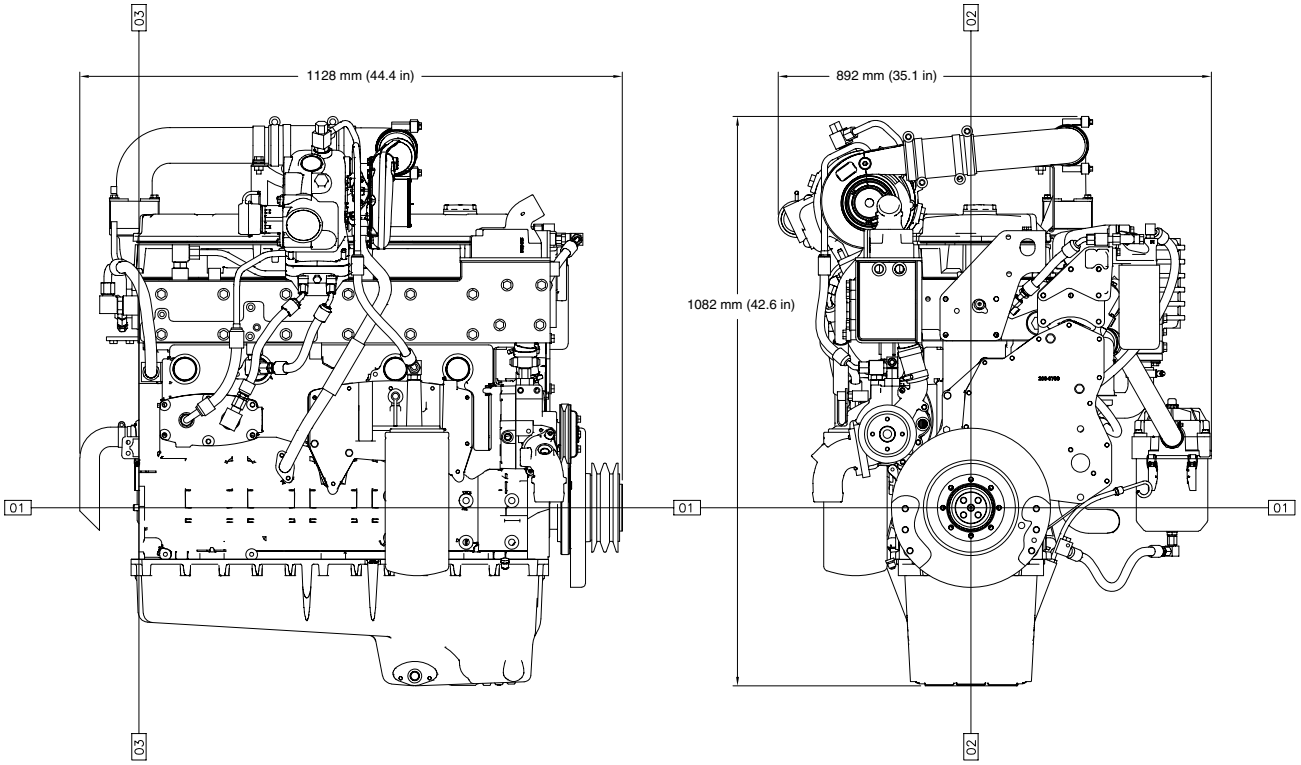
Heat Rejection Data										
Engine Speed	Engine Power		Rej to JW		Rej to Atmos		Rej to Exh		From Aft Clr	
rpm	kW	hp	kW	Btu/min	kW	Btu/min	kW	Btu/min	kW	Btu/min
2200	253.9	340.5	211	12000	47	2656	213	12113	53.4	3036.9
2000	253.8	340.4	197	11203	42	2371	200	11374	46.3	2633.1
1800	249.0	333.9	187	10635	36	2053	187	10635	40.8	2320.3
1600	235.2	315.4	178	10123	41	2320	178	10123	35.1	1996.1
1450	225.4	302.3	173	9838	37	2081	167	9497	29.9	1700.4
1300	160.1	214.7	138	7848	37	2076	126	7166	15.5	881.5
1100	113.7	152.5	96	5460	32	1826	68	3867	3.7	210.4

***Other engine ratings are available. Please contact dealer for performance data.**

C9 ACERT™ PETROLEUM ENGINE HAZARDOUS LOCATION

254 bkW (340 bhp)

PETROLEUM ENGINE



Right Side View **Front View**

Engine Dimensions		
Length	1128 mm	44.4 in
Width	892 mm	35.1 in
Height	1082 mm	42.6 in
Engine Weight (dry)	1007 kg	2219 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #346-4963). Weights and dimensions are approximate.

RATING DEFINITIONS AND CONDITIONS

Engine Performance is corrected to inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. These values correspond to the standard atmospheric pressure and temperature as shown in SAE J1995.

Performance measured using a standard fuel with fuel gravity of 35 degrees API having a lower heating value of 42,780 kJ/kg (18,390 BTU/lb) when used at 29°C (84.2°F) where the density is 838.9 g/L (7.001 lb/U.S. gal).

The corrected performance values shown for Cat engines will approximate the values obtained when the observed performance data is corrected to SAE J1995, ISO 3046-2, ISO 8665, ISO 2288, ISO 9249, ISO 1585, EEC 80/1269, and DIN 70020 standard reference conditions.

IND-D
For service where maximum power is required for periodic overloads.

Performance Numbers: EM0001-00, EM0133-00, EM0134-00
LEHW0014-04 (1-13)