C9 ACERT™ Petroleum Engine

205-280 bkW (275-375 bhp) 2200 rpm

Dry Manifold

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, IMO Tier II
Peak Torque at Speed	895 lbs-ft
Rated Speed	2200 rpm
Bore	112 mm (4.41 in)
Stroke	149 mm (5.87 in)
Displacement	8.8 L (538 cu. in)
Aspiration	Turbocharged-Aftercooled
Governor and Protection	Electronic (ADEM™ A3)
Engine Weight, net dry (approx)	716 kg (1578 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
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Broad operating speed range
- High power density — lightweight engine for weight sensitive applications
- PTO drive options provide flexible access to auxiliary power for pumps and other needs
- Optional 12V and 24V air shut-offs — provides an integrated shutoff feature; required safety feature for petroleum operators

Transmissions

Caterpillar has a full line of engine/transmission packages that can be fully integrated with your axle, hydraulics, and operator interface. Cat® transmissions deliver continuous operation under full load, smooth shifting at any speed, and maximum up time, with unmatched durability and easy maintenance.

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 — 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 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 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)
Electronic installation kit (connectors, PINS, sockets) (non-hazardous environment only)
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 — water-cooled
Single, center right-side 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 Housings
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
Throttle position sensor and/or throttle control (non-hazardous environment only)
Primary filter/water separator
Turbo orientation

OPTIONAL EQUIPMENT

Air Compressor
Air compressor governor

Air Inlet System
Air cleaners
Precleaner
Air inlet elbow
Air shutoffs

Charging Systems
Charging alternators
Alternator mountings and pulleys
Alternator belt tensioner

Cooling System
Radiators
Fan drive and pulley — f/u/w radiator packages
Fans f/u/w radiator packages
Coolant level sensor
Fan drive mountings, adapters, pulleys
Vee belts for customer-supplied radiators
Suction fans and blower fans
Water inlet elbows
Dry charge coolant conditioners

Emissions Certification
IMO Certification

Exhaust System
Flexible fitting
Turbocharger exhaust outlet adapters
Elbows, flange, pipes, clamp
Rain caps
Manifolds
Mufflers

Flywheels and Flywheel Housings
Crankshaft seal

Fuel System
Flexible fuel lines
Water separator and fuel filters
Fuel cooler

Instrumentation
Gauges and instrument panels
Interconnect harnesses
Voltmeters
Gauge mounting
Ammeter

Lube System
Oil pan
Drain and cover
Oil level gauges
Remote oil filter
Oil fillers
Lubricating oil
Fumes disposal
Fumes disposal mounting

Mounting System
Structural steel base
Front and rear engine supports

Power Take-Offs
Enclosed clutch
Clutch supports
Flywheel stub shaft
Hydraulic pump drives
Hydraulic gear pumps
Pulley

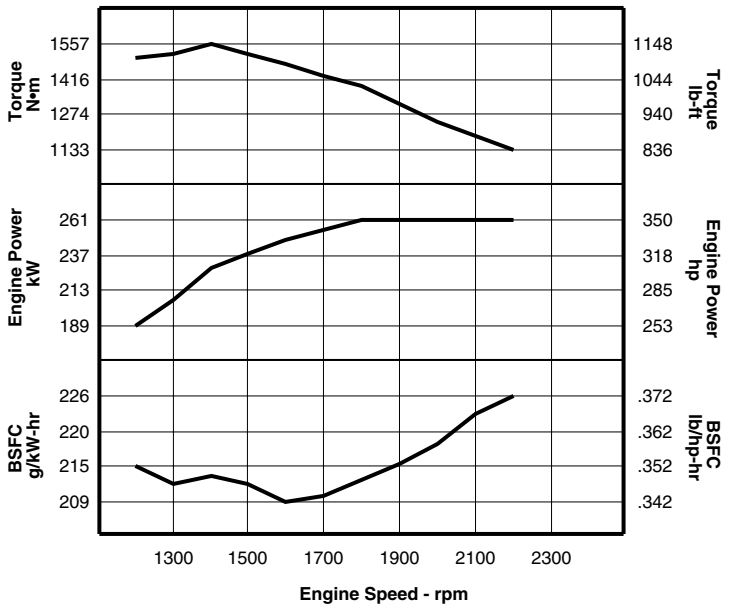
Starting System
Starting aids
Electric starting motors — 12V and 24V
Battery sets — 12V and 24V (dry)
Battery cable

Transmission Arrangement
Transmission cooler

General
Tool set

PERFORMANCE CURVES

Turbocharged-Aftercooled
C Rating (Intermittent) — 254 bkW (340 bhp) @ 2200 rpm*
DM8119-02



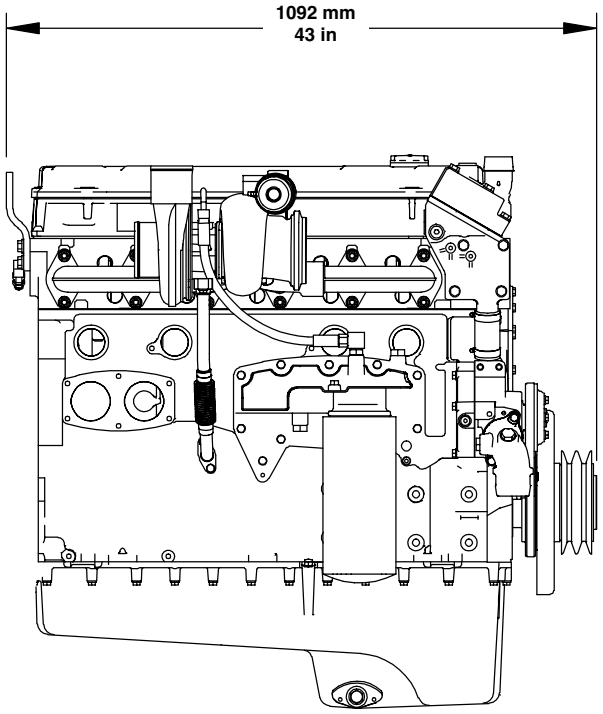
Heat Rejection Data										
Engine Speed	Engine Power		Rej to JW		Rej to Atmos		Rej to Exh		From Aft Clr	
rpm	kW	hp	kW	Btu/min	kW	Btu/min	kW	Btu/min	kW	Btu/min
2200	261.0	350.0	110	6256	51	2878	266	15127	61.6	3503.2
2100	261.0	350.0	108	6142	50	2838	261	14843	58.5	3326.9
2000	261.0	350.0	106	6028	52	2940	255	14502	55.4	3150.6
1900	261.0	350.0	108	6142	49	2781	251	14274	53.5	3042.5
1800	261.0	350.0	109	6199	48	2735	247	14047	50.4	2866.2
1700	254.2	340.9	104	5914	46	2616	234	13308	44.0	2502.3
1600	246.9	331.1	101	5744	45	2565	227	12909	38.3	2178.1
1500	237.7	318.8	99	5630	45	2559	224	12739	36.9	2098.5
1400	228.2	306.0	98	5573	45	2542	215	12227	35.2	2001.8
1300	206.5	276.9	95	5403	37	2076	190	10805	32.4	1842.6
1200	188.6	252.9	93	5289	38	2155	175	9952	28.6	1626.5

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

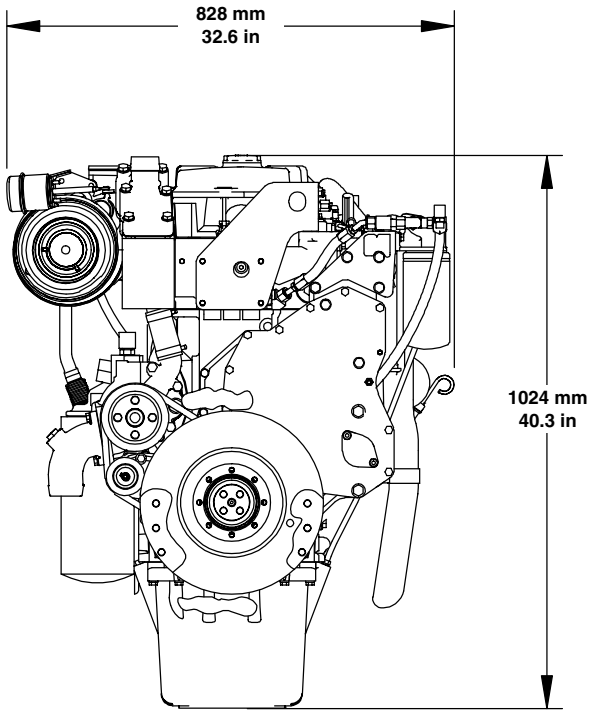
C9 ACERT™ PETROLEUM ENGINE DRY MANIFOLD

205-280 bkW (275-375 bhp)

PETROLEUM ENGINE



Right Side View



Front View

Engine Dimensions		
Length	1092 mm	43 in
Width	828 mm	32.6 in
Height	1024 mm	40.3 in
Engine Weight (dry)	716 kg	1578 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #317-6064).

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

Performance Number: DM8119-02
LEHW0047-01 (11-10)