



The Cat® C13 ACERT™ Industrial Diesel Engine is offered in ratings ranging from 287-388 kW (385-520 bhp) @ 1800-2100 rpm. Industries and applications powered by C13 ACERT engines include: Agriculture, Ag Tractors, Aircraft Ground Support, Bore/Drill Rigs, Chippers/Grinders, Combines/Harvesters, Compactors/Rollers, Compressors, Construction, Cranes, Crushers, Dredgers, Forestry, General Industrial, Hydraulic Power Units, Irrigation Equipment, Loaders/Forwarders, Material Handling, Mining, Mobile Earthmoving Equipment, Paving Equipment, Pumps, Shovels/Draglines, Specialty Ag Equipment, Surface Hauling Equipment, Trenchers and Underground Mining Equipment.

Specifications

Power Rating		
Minimum Power	287 kW	385 bhp
Maximum Power	388 kW	520 bhp
Rated Speed	1800-2100 rpm	

Emission Standards	
Emissions	U.S. EPA Tier 4 Final Nonroad, EU Stage IV Nonroad, U.S. EPA Tier 4 Interim Nonroad Equivalent (Not Currently EPA Certified) and EU Stage IIIB Nonroad Equivalent (Non-Current for EU) Emission Standards. Designed to meet proposed EU Stage V Nonroad Emission Standards

General	
Engine Configuration	In-Line 6, 4-Stroke-Cycle Diesel
Bore	130 mm (5.1 in)
Stroke	157 mm (6.2 in)
Displacement	12.5 L (762.8 in ³)
Aspiration	Turbocharged-Aftercooled (TA)
Compression Ratio	17.0:1
Combustion System	Direct Injection
Rotation (from flywheel end)	Counterclockwise
Cooling System Capacity	18.7 L (19.8 qt)
Lube System (refill)	34 L (35.9 qt)

Engine Dimensions (Approximate. Final dimensions dependent on selected options)	
Length	1203-1272 mm (47.2-50.1 in)
Width	933-996 mm (36.74-39.2 in)
Height	1132-1186 mm (44.6-46.7 in)

Weight - Net Dry (Basic Operating Engine Without Optional Attachments)	1143-1350 kg (2520-2976 lb)
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Cat Regeneration System Aftertreatment Dimensions (Approximate. Final dimensions dependent on selected options)

Length	1053-1077 mm (41.5-42.4 in)
Width	779.8-1069 mm (30.7-42.1 in)
Height	451.3-654 mm (17.8-25.7 in)
Weight	248-259 kg (547-571 lb)
Diameter	330.2 mm (13 in)

Passive Regeneration System Aftertreatment Dimensions (Approximate. Final dimensions dependent on selected options)

Length	974.8 mm (38.4 in)
Width	958.3 mm (37.7 in)
Height	547.2 mm (21.5 in)
Weight	140 kg (308.6 lb)

PETU Dimensions (Tier 4 Final, Stage IV Only)

Length	854 mm (33.6 in)
Width	287 mm (11.3 in)
Volume Capacity	48.4 L (51.1 qt)
Weight	19.42 kg (42.8 lb)
Height	551 mm (21.7 in)

Benefits and Features

Emissions

Meets U.S. EPA Tier 4 Final, EU Stage IV emission standards. Designed to meet proposed EU Stage V emission standards (As of publishing date, Stage V regulations have not been finalized). U.S. EPA Tier 4 Interim, EU Stage IIIB configurations are also available using EPA or EU Flex Provisions.

Reliable, Quiet and Durable Power

World-class manufacturing capability and processes coupled with proven core engine designs assure reliability, quiet operation, and many hours of productive life.

High Performance

Simple and efficient turbocharger with balance valve provides optimal air management and improved fuel efficiency.

Fuel Efficiency

Fuel consumption optimized to match operating cycles of a wide range of equipment and applications while maintaining low operating costs.

Fuel & Oil

Tier 4 Interim or Tier 4 Final, Stage IIIB or Stage IV engines require Ultra Low Sulfur Diesel (ULSD) fuel containing a maximum of 10 ppm sulfur (EU) and 15 ppm sulfur (U.S.), and new oil formulations to support the new technology. Cat® engines are designed to accommodate B20 biofuel. Your Cat dealer can provide more information regarding fuel and oil.

Broad Application Range

Industry leading range of factory configurable ratings and options for agricultural, material handling, construction, mining, aircraft ground support, and other industrial applications.

Package Size

Exceptional power density enables standardization across numerous applications. Multiple installation options minimize total package size. Ideal for equipment with narrow engine compartments.

Low Cost Maintenance

Worldwide service delivers ease of maintenance and simplifies the servicing routine. If applicable, minimum 5000-hour diesel particulate filter (DPF) ash service interval enables low-cost maintenance. Capable of optimal oil change intervals of up to 500-hours, depending on rating, application, operating conditions, and maintenance practices. Engine B10 life up to 10000 hours for Tier 4 Final, Stage IV. The S-O-SSM program is available from your Cat dealer to determine oil change intervals and provide optimal performance.

Quality

Every Cat engine is manufactured to stringent quality standards in order to assure customer satisfaction.

World-class Product Support Offered Through Global Cat Dealer Network

- Scheduled maintenance, including SOSSM sample
- Customer Support Agreements (CSA)
- Caterpillar Extended Service Coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat Industrial Service Distributor (ISD) program

Tier 4 Interim, Stage IIIB Aftertreatment Features

Regeneration. Cat Regeneration System maximizes fuel efficiency during regeneration. Flexible regeneration options maximize uptime. **Mounting.** Remote installation options provide OEM flexibility for many applications, including horizontal and vertical mounting, with and without muffler. **Service.** Minimum 5000 hour DPF ash service interval.

Tier 4 Final, Stage IV Aftertreatment Features

Regeneration. Cat Regeneration System maximizes fuel efficiency during regeneration. Transparent regeneration maximizes uptime. Aftertreatment life is twice as long as engine rebuild. Option available utilizing Passive Regeneration not requiring Cat Regeneration System - please speak with your Dealer to determine which option is most suitable for your application. **Mounting.** Industrial power units have standard horizontal mounting. **Service.** Minimum 5000-hour diesel particulate filter ash service interval. PETU filter service is 5000 hours.

Standard Equipment

Air Inlet System

- Turbocharged
- Air-to-Air Aftercooled
- Mid-mount turbocharged system with front and rear exhaust configurations (Tier 4 Final, Stage IV)



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 or RH thermostat outlet
- Centrifugal water pump
- Guidance on cooling system design available through your dealer to ensure equipment reliability

Flywheels and Flywheel Housing

- SAE No. 1 flywheel housing
- Available SAE No. 1 power take off with optional SAE A, SAE B or SAE C power take off drives. Engine power can also be taken from the front of the engine with optional attachments. (Tier 4 Final, Stage IV).

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
- Lube oil filter
- Oil dipstick
- Gear driven oil pump
- Choice of front, rear or center sumps
- Open crankcase ventilation system with fumes disposal (optional OCV filter system) (Tier 4 Final, Stage IV)

Power Take Off (PTO)

- SAE A, SAE B or SAE C power take off (PTO) drives. Engine power can also be taken from the front of the engine on some applications.

General

- Paint: Caterpillar yellow, with optional colors available at request

U.S. EPA Tier 4 Interim, EU Stage IIIB Aftertreatment / Clean Emissions Control Equipment



- Cat Regeneration System
- Clean Emissions Module (CEM), consisting of Diesel Particulate Filter (DPF) and Diesel Oxidation Catalyst (DOC)
- NOx Reduction System (NRS)
- Flex pipe connection kit with 90° rotatable elbows to attach to Cat Regeneration System Inlet
- Available in 12 volt or 24 volt systems

U.S. EPA Tier 4 Final, EU Stage IV Aftertreatment

- Cat Regeneration System
- Clean Emissions Module (CEM), consisting of Diesel Particulate Filter (DPF) and Diesel Oxidation Catalyst (DOC)
- Aftertreatment Electronic Control Unit (ECU)
- NOx Reduction System (NRS)
- Pump Electronic Control Unit (PETU)
- Selective Catalytic Reduction (SCR)
- Available in 12V or 24V systems

The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ADEM, EUI, 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.

Rating Type: IND-C (INTERMITTENT) RATING

Emissions: EU Stage IIIB Nonroad Equivalent Emission Standards (Non-Current for EU)

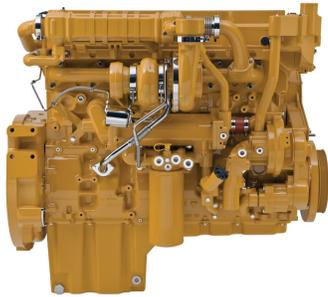


Image shown may not reflect actual configuration

C13 ACERT

DITA

328 bkW (440 bhp) @ 2100 rpm

Metric

English

General Engine		
Power Rating	328 kW	440 hp
Number of Cylinders	6	
Bore	130 mm	5.1 in
Stroke	157 mm	6.2 in
Displacement	12.5 L	763.0 cu in.
Compression Ratio	17.0 : 1	

RATING DEFINITIONS AND CONDITIONS

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

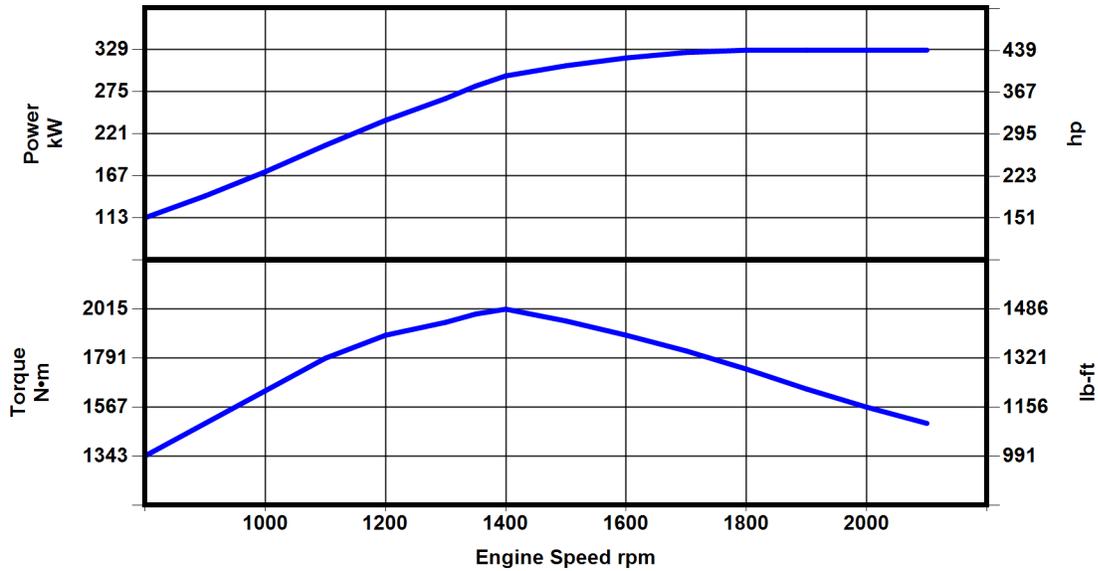
Diesel Engines — up to 7.1 liter All rating conditions are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (.295 in Hg), and 25°C (77°F). Performance measured using fuel to EPA specifications in 40 CFR Part 1065 and EU specifications in Directive 97/68/EC with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).

Diesel Engines — greater than 7.1 liter All rating conditions 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.



Rating Type: IND-C (INTERMITTENT) RATING

Emissions: EU Stage IIIB Nonroad Equivalent Emission Standards (Non-Current for EU)



Engine Speed rpm	Engine Power bkW	Engine Power bhp	Torque N*m	Torque lb-ft
2100	328	440	1492	1100
2000	328	440	1566	1155
1900	328	440	1649	1216
1800	328	440	1740	1283
1700	325	435	1823	1345
1600	318	426	1895	1398
1500	308	413	1960	1446
1400	295	396	2014	1485
1350	282	378	1992	1469
1300	266	357	1954	1441
1200	238	319	1895	1398
1100	206	277	1790	1320
1000	172	230	1641	1210
900	141	189	1492	1100
800	113	151	1343	991

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