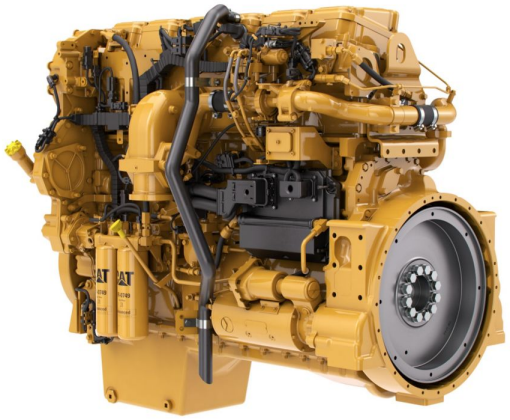
Cat® C15 ACERT™ Diesel Engine

Industrial



On construction sites and mining operations, in agriculture and forestry, and in a wide range of industries, Cat® C15 ACERT™ Industrial Diesel Engines deliver the power, performance and durability to take on the biggest challenges. More importantly, they're backed by the world-class Cat dealer network ready to service and support every Cat® industrial engine. Industries and applications powered by C15 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, Surface Hauling Equipment and Trenchers.

Specifications

Power Rating		
Minimum Power	354 bkW	475 bhp
Maximum Power	433 bkW	580 bhp
Rated Speed		1800-2100 rpm

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

General	
Engine Configuration	In-Line 6, 4-Stroke-Cycle Diesel
Bore	137 mm (5.4 in)
Stroke	171 mm (6.73 in)
Displacement	15.2 L (927.6 in³)
Aspiration	Turbocharged-Aftercooled (TA)
Compression Ratio	17.0:1
Combustion System	Direct Injection
Rotation (from flywheel end)	Counterclockwise
Cooling System Capacity	26.9 L (28.4 qt)
Lube System (refill)	38-72 L (40-76 qt)

Engine Dimensions (Approximate. Final dimensions dependent on selected options)

MSS-IND-18375173-008.pdf © 2017 Caterpillar All Rights Reserved

Length	1438 mm (56.6 in)
Width	943-969 mm (37.1-38.1 in)
Height	1239-1248 mm (48.8-49.1 in)
Weight - Net Dry (Basic Operating Engine Without Optional Attachments)	1542-1666 kg (3395.5-3673 lb)

Aftertreatment Dimensions (Approximate. Final dimensions dependent on selected options)	
Length	1053-1153 mm (41.5-45.4 in)
Width	779.8-1112 mm (30.7-43.8 in)
Height	451.3-654 mm (17.8-25.7)
Weight	258-272 kg (569-600 lb)
Diameter	330.2-355.6 mm (13-14 in)

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, Stage IV or Stage V 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

© 2017 Caterpillar All Rights Reserved

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 SOS℠ 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

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

- Thermostats and housing, vertical outlet
- Centrifugal water pump
- Guidance on cooling system design available through your dealer to ensure equipment reliability

Flywheels and Flywheel Housing

- Choice of SAE No. 0 or SAE No. 1 flywheel housing

© 2017 Caterpillar All Rights Reserved

• 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

© 2017 Caterpillar All Rights Reserved

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.

© 2017 Caterpillar All Rights Reserved

Rating Type: IND-B RATING

Emissions: U.S. EPA Tier 4 Interim Nonroad Equivalent Emission Standards (Not Currently EPA Certified)



Image shown may not reflect actual configuration

C15 ACERT

DITA

354 bkW (475 bhp) @ 2100 rpm

	Metric	English
General Engine		
Power Rating	354 kW	475 hp
Number of Cylinders	6	
Bore	137 mm	5.4 in
Stroke	171 mm	6.7 in
Displacement	15.2 L	928.0 cu in.
Compression Ratio	17.0 : 1	

RATING DEFINITIONS AND CONDITIONS

IND-B RATING: For service where power and/or speed are cyclic (time at full load not to exceed 80%).

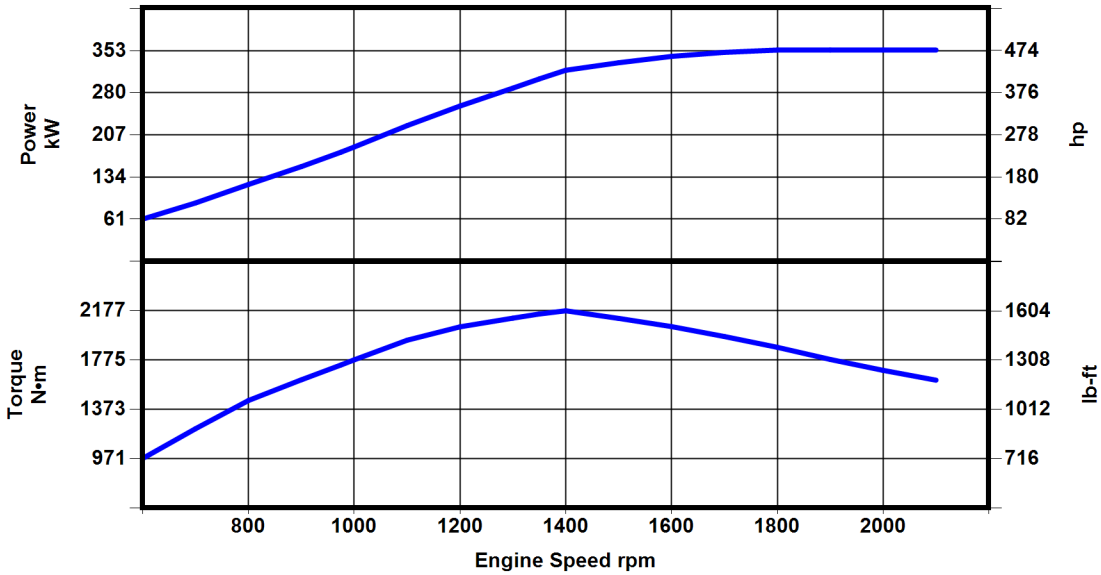
Diesel Engines — up to 7.1 liter All rating conditions are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (.295 in Hg), and 25°C (77°F). Performance measured using fuel to EPA specifications in 40 CFR Part 1065 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.

© 2016 Caterpillar All Rights Reserved

Rating Type: IND-B RATING

Emissions: U.S. EPA Tier 4 Interim Nonroad Equivalent Emission Standards (Not Currently EPA Certified)



Engine Speed rpm	Engine Power bkW	Engine Power bhp	Torque N*m	Torque lb-ft
2100	354	475	1610	1187
2000	354	475	1690	1247
1900	354	475	1779	1312
1800	354	475	1878	1385
1700	350	469	1966	1450
1600	343	460	2047	1510
1500	332	445	2114	1559
1400	319	428	2176	1605
1350	304	408	2150	1586
1300	288	386	2116	1560
1200	257	345	2045	1508
1100	223	299	1936	1428
1000	186	249	1776	1310
975	177	237	1734	1279
900	152	204	1613	1190
800	121	162	1444	1065
700	89	119	1214	895
600	61	82	971	716

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.

© 2016 Caterpillar All Rights Reserved