C18 ACERT™
Industrial Power Unit
Tier 4 Interim/Stage IIIB
447-470 bkW/600-630 bhp @ 1800-1900 rpm

FEATURES

Emissions
Designed to meet 2011 EPA (U.S.) Tier 4 Interim and EU Stage IIIB emissions requirements. Also expected to meet Japanese MLIT emissions requirements once available.

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
Equipped with simple and efficient turbocharger or series turbocharger for high power applications.

Fuel Efficiency
Fuel consumption optimized to match operating cycles of a wide range of equipment and applications.

Fuel & Oil
Tier 4 Interim/Stage IIIB engines require Ultra Low Sulfur Diesel (ULSD) fuel containing a maximum of 15 ppm sulfur, 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, materials-handling, construction, mining, forestry, waste, and other industrial applications.

Web Site: For additional information on all your power requirements, visit www.cat-industrial.com.

CAT® ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore</td>
<td>145 mm (5.71 in)</td>
</tr>
<tr>
<td>Stroke</td>
<td>183 mm (7.20 in)</td>
</tr>
<tr>
<td>Displacement</td>
<td>18.1 L (1104.5 in³)</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Turbocharged Aftercooled</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>16.0:1</td>
</tr>
<tr>
<td>Combustion System</td>
<td>Direct Injection</td>
</tr>
<tr>
<td>Rotation (from flywheel end)</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Capacity for Liquids</td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>26.9 L (28.4 U.S. qts)</td>
</tr>
<tr>
<td>Lube System</td>
<td>(initial fill)*</td>
</tr>
<tr>
<td></td>
<td>40-74 L (42.3-78.1 U.S. qts)</td>
</tr>
<tr>
<td>Engine Weight, Net Dry (Single Turbo)</td>
<td>(approximate) 2113 kg (4658 lbs)</td>
</tr>
</tbody>
</table>

*Capable of up to 500-hour oil change interval, dependent on oil pan size, rating, application, operating conditions, and maintenance practices.

Package
Exceptional power density enables standardization across numerous applications. Available factory-installed configurations: full package, including radiator and Clean Emissions Module (CEM); package with CEM, but no radiator; and package with radiator, but no CEM.

Low-Cost Maintenance
Worldwide service delivers ease of maintenance and simplifies the servicing routine. Minimum 5000-hour diesel particulate filter 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. 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 standards in order to assure customer satisfaction.

World-class Product Support Offered Through Global Cat Dealer Network

- Scheduled maintenance, including S•O•SSM sample
- Customer Support Agreements (CSA)
- Cat Extended Service Coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat Industrial Service Distributor (ISD) program
STANDARD ENGINE EQUIPMENT

Air Inlet System
Turbocharged Aftercooled

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)

Cooling System
Vertical outlet thermostat housing, centrifugal water pump, guidance on cooling system design available to ensure machine reliability

Exhaust System
CEM that includes Diesel Particulate Filter (DPF), Diesel Oxidation Catalyst (DOC), and Cat Regeneration System

Flywheels and Flywheel Housing
SAE 0 and SAE 1 flywheel housing

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, oil filter, oil dipstick, oil pump (gear driven), choice of sumps (front, rear, and center)

Power Take Off
SAE A, SAE B, SAE C drives available, engine power can also be taken from the front of the engine on some applications

General
Paint: Cat yellow; vibration damper; lifting eyes

DIMENSIONS

(1) Length — 2172 mm (85.5 in)  (2) Width — 1180 mm (46.5 in)  (3) Height — 1912 mm (75.3 in)

Note: Final dimensions dependent on selected options
PERFORMANCE DATA — PRELIMINARY

Turbocharged Aftercooled — 1800-1900 rpm

**Turbocharged Aftercooled — 1800-1900 rpm**

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**PERFORMANCE DATA — PRELIMINARY**

**Turbocharged Aftercooled — 1800-1900 rpm**

**Rated Speed**

![Graph showing engine speed in rpm against torque and power output](image)

**Speed Range**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Speed rpm</th>
<th>Peak Power bkW</th>
<th>Peak Power bhp</th>
<th>Speed rpm</th>
<th>Peak Torque N·m</th>
<th>Peak Torque lb-ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>A*</td>
<td>1900</td>
<td>447</td>
<td>600</td>
<td>1300</td>
<td>2811</td>
<td>2073</td>
</tr>
<tr>
<td>B</td>
<td>1900</td>
<td>447</td>
<td>600</td>
<td>1300</td>
<td>2811</td>
<td>2073</td>
</tr>
<tr>
<td>C</td>
<td>1900</td>
<td>470</td>
<td>630</td>
<td>1300</td>
<td>2951</td>
<td>2177</td>
</tr>
</tbody>
</table>

*Altitude-limited

**RATING DEFINITIONS AND CONDITIONS**

**IND-A (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.

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

**IND-C (Intermittent)** is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

**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.
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AFERTREATMENT CONFIGURATION

Images shown may not reflect actual aftertreatment.

BASE CONFIGURATION SHOWN
Approximate Size and Weight
(1) Length — 1097 mm (43 in)
(2) Width — 762 mm (30 in)
(3) Height — 468 mm (18 in)
Weight — 180 kg (397 lbs)

CEM Options
Base configuration includes DPF, DOC, and supporting structure

AFERTREATMENT FEATURES
Regeneration: Cat Regeneration System maximizes fuel efficiency during regeneration
Flexibility: Flexible regen options maximize uptime

Service: Minimum 5000-hour diesel particulate filter ash service interval
Available in 12V or 24V systems

STANDARD EMISSIONS CONTROL EQUIPMENT
Cat Regeneration System
CEM: Clean Emissions Module
DOC: Diesel Oxidation Catalyst
DPF: Diesel Particulate Filter
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, 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. ©2010 Caterpillar
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