CAT® ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

Emissions.................. U.S. EPA Tier 4 Interim, EU Stage IIIB
Peak Torque at Speed .................. 3279 N•m (2419 lb-ft)
@ 1300 rpm*

Bore ........................................ 145 mm (5.7 in)
Stroke .................................... 183 mm (7.2 in)
Displacement .............................. 18.1 L (1104.5 in³)
Aspiration ............................ Turbocharged-Aftercooled
Governor and Protection ............... Electronic ADEM™ A4

Engine Weight, Net Dry
(approximate) .......................... 1580 kg (3482 lbs)

Capacity for Liquids
- Lube Oil System (refill) ............. 40-74 L (42.3-78 U.S. qts)
- Cooling System ....................... 26.9 L (28.4 U.S. qts)
- Oil Change Interval ................... 250-500 hours
- Rotation (from flywheel end) .......... Counterclockwise

Flywheel and Flywheel Housing ...... SAE No. 0 or SAE No. 1
Flywheel Teeth ...................... 136 (SAE 0), 113 (SAE 1)

* C-rating

FEATURES

Emissions
- Designed to meet 2011 U.S. EPA Tier 4 Interim and EU Stage IIIB emissions requirements.
- On-engine NOx reduction system with optimized piston, ring, liner, and fuel system configuration to reduce NOx while minimizing in-cylinder sooting
- Aftertreatment features Cat® Clean Emissions Module, including: diesel oxidation catalyst, diesel particulate filter

Engine Design
- Proven reliability and durability
- Broad operating speed range
- High power density
- PTO drive options provide flexible access to auxiliary power for pumps and other needs

Low Total Cost of Ownership
- Optimized fuel consumption
- Minimum 5000-hour diesel particulate filter ash service interval and 250- to 500-hour oil change intervals enable low maintenance costs

Advanced Digital Engine Management
ADEM A4 control system providing integrated ignition, speed governing, protection, and controls, including detonation-sensitive variable ignition timing. ADEM A4 has improved: user interface, display system, shutdown controls, and system diagnostics.

Power Units
Engine available with factory packaged features including:
- Aftertreatment
- Base
- Radiator
- Transmission

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, aftertreatment solutions — 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.

Fuel & Oil
Requires Ultra Low Sulfur Diesel (ULSD) containing a maximum of 15 ppm sulfur, and new oil formulations to support the new technology. Designed to accommodate B20 biofuel.

Transmissions
- Caterpillar has a full line of engine-transmission packages that can be fully integrated with your axle, hydraulics, and operator interface.
- C18 ACERT™ Caterpillar optimized transmission matches: CX35-P800

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 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) remote fan control

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

**Exhaust System**
Clean Emissions Module (CEM) that includes Diesel Particulate Filter (DPF), Diesel Oxidation Catalyst (DOC), and Cat Regeneration System, optional exhaust outlet

**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 B and 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

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**DIMENSIONS**

(1) Length — 1530.3 mm (60.2 in)  
(2) Width — 960.5 mm (37.8 in)  
(3) Height — 1281.9 mm (50.5 in)

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

Turbocharged-Aftercooled — 1800-1900 rpm

<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>
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<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>
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<tr>
<td>C</td>
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<td>470</td>
<td>630</td>
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<td>1900</td>
<td>522</td>
<td>700</td>
<td>1300</td>
<td>3279</td>
<td>2419</td>
</tr>
</tbody>
</table>

*Altitude-limited

RATING DEFINITIONS AND CONDITIONS

A Rating (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.

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

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

Engine Performance Diesel Engines — 7 liter and higher 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 35º 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.
**C18 ACERT™ Petroleum Engine**
Tier 4 Interim/Stage IIIB
447-522 bkW/600-700 bhp @ 1800-1900 rpm

**CAT CLEAN EMISSIONS MODULE AFTERTREATMENT CONFIGURATION**

**BASE CONFIGURATION SHOWN**

**Approximate Size and Weight**
(1) Length — 1053 mm (41.5 in)
(2) Width — 779 mm (30.7 in)
(3) Height — 451 mm (17.8 in)
Weight — 180 kg (397 lbs)

**CEM Options**
Base configuration includes DPF, DOC, and supporting structure (shown)

**AFTERTREATMENT FEATURES**

**Regeneration:** Cat Regeneration System maximizes fuel efficiency during regeneration

**Transparent Regeneration:** Regeneration system optimized for petroleum applications for minimal impact to operation

**Flexibility:** Flexible regen options maximize uptime

Flex pipe connection kit with 90° rotatable elbows to attach to Cat Regeneration System Inlet

**Mounting:** Remote installation options provide OEM flexibility for many applications, including horizontal and vertical mounting, with and without muffler

**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

Images shown may not reflect actual aftertreatment.

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.

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