**CAT® ENGINE SPECIFICATIONS**

V-8, 4-Stroke-Cycle Diesel

- Bore: 170.0 mm (6.69 in)
- Stroke: 190.0 mm (7.48 in)
- Displacement: 34.53 L (2,107.15 in³)
- Aspiration: Turbocharged / Aftercooled
- Compression Ratio: 13.0:1
- Rotation (from flywheel end): Counterclockwise

Capacity for Liquids
- Cooling System: 102.7 L (27.1 gal)
- Lube Oil System: 424.0 L (112.0 gal)

Engine Weight, Net Dry (approximate): 4,611 kg (10,166 lb)

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**FEATURES**

**EMISSIONS**
Non-certified rating.

**SINGLE SOURCE SUPPLIER**
Caterpillar
- Casts engine blocks, heads, cylinder liners, and flywheel housings
- Machines critical components
- Assembles complete engine

Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.

Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities.

**TESTING**
Prototype testing on every model
- proves computer design
- verifies system torsional stability
- functionality tests every model

Every Caterpillar engine is dynamometer tested under full load to ensure proper engine performance.

**FULL RANGE OF ATTACHMENTS**
Wide range of bolt-on system expansion attachments, factory designed and tested

**UNMATCHED PRODUCT SUPPORT OFFERED THROUGH WORLDWIDE CATERPILLAR DEALER NETWORK**
More than 1,500 dealer outlets.
Caterpillar factory-trained dealer technicians service every aspect of your industrial engine.
99.7% of parts orders filled within 24 hours worldwide.
Caterpillar parts and labor warranty.
Preventive maintenance agreements available for repair before failure options.
Scheduled Oil Sampling program matches your oil sample against Caterpillar set standards to determine:
- internal engine component condition
- presence of unwanted fluids
- presence of combustion by-products

**WEB SITE**
For all your industrial power requirements, visit www.cat-industrial.com.
## STANDARD ENGINE EQUIPMENT

### Air Inlet System
Aftercooler core, corrosion resistant coated (air side), Air cleaner, regular duty with service indicators, Turbocharger, rear mounted, jacket water aftercooled

### Control System
Governor, RH, 3161 with self contained synthetic oil sump, air-fuel ratio control, mechanical speed control, without torque control, Governor control, positive locking

### Cooling System
Thermostats and housing for conventional core radiator, Jacket water pump, gear driven, centrifugal

### Exhaust System
Exhaust manifold, dry

### Flywheels and Flywheel Housings
Flywheel, SAE No. 0, 151 teeth, Flywheel housing, SAE No. 0, SAE standard rotation

### Fuel System
Fuel filter, with service indicators, cartridge type with RH service, Fuel transfer pump

### Instrumentation
Instrument Panel, RH, Engine oil pressure gauge, Fuel pressure gauge, Oil filter differential gauge, Jacket water temperature gauge, Service meter, electric, Tachometer

### Lube System
Crankcase breather, top mounted, Oil cooler, Oil filler and dipstick, RH, Oil pump, Oil filter, cartridge type with RH service, Shallow oil pan, Fumes disposal (not installed)

### Mounting System
Rails, mounting, engine length, 254 mm (10 in), industrial-type, C-channel. Included on selected top level engines.

### Power Take-Offs
Accessory drive, upper RH, Front housing, single sided

### Protection System
Junction box, Manual shutoff, RH, Safety shutoff protection, energized to shutdown, Low oil pressure, low idle 69 kPa (10 psi); high idle 207 kPa (30 psi), Water temperature, Overspeed, 3161 governor solenoid energized to shutdown

### Starting System
Starting switch

### General
Paint, Caterpillar Yellow, Vibration damper and guard, Lifting eyes
### Performance Curves

**IND - A (Continuous) - TM3149-09**

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (kW)</th>
<th>Torque (N-m)</th>
<th>BSFC (g/kW-hr)</th>
<th>Fuel Rate (L/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800</td>
<td>638</td>
<td>3382</td>
<td>214.3</td>
<td>162.9</td>
</tr>
<tr>
<td>1700</td>
<td>613</td>
<td>3444</td>
<td>212.5</td>
<td>155.2</td>
</tr>
<tr>
<td>1600</td>
<td>587</td>
<td>3501</td>
<td>211.1</td>
<td>147.6</td>
</tr>
<tr>
<td>1500</td>
<td>558</td>
<td>3555</td>
<td>210.7</td>
<td>140.0</td>
</tr>
<tr>
<td>1400</td>
<td>526</td>
<td>3585</td>
<td>212.5</td>
<td>132.7</td>
</tr>
<tr>
<td>1300</td>
<td>486</td>
<td>3567</td>
<td>217.6</td>
<td>126.0</td>
</tr>
</tbody>
</table>

**Engine Speed - rpm**

**Torque N-m**

**Engine Power kW**

**BSFC g/kW-hr**

**Fuel Rate L/hr**

**Metric**
IND - A (Continuous) - TM3149-09

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (bhp)</th>
<th>Engine Torque (lb•ft)</th>
<th>BSFC (lb/bhp-hr)</th>
<th>Fuel Rate (gal/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800</td>
<td>855</td>
<td>2494</td>
<td>.352</td>
<td>43.0</td>
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<tr>
<td>1700</td>
<td>822</td>
<td>2540</td>
<td>.349</td>
<td>41.0</td>
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<tr>
<td>1600</td>
<td>787</td>
<td>2582</td>
<td>.347</td>
<td>39.0</td>
</tr>
<tr>
<td>1500</td>
<td>749</td>
<td>2622</td>
<td>.346</td>
<td>37.0</td>
</tr>
<tr>
<td>1400</td>
<td>705</td>
<td>2644</td>
<td>.349</td>
<td>35.1</td>
</tr>
<tr>
<td>1300</td>
<td>651</td>
<td>2631</td>
<td>.358</td>
<td>33.3</td>
</tr>
</tbody>
</table>
IND - A (Continuous) Continuous heavy duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling. Time at full load can be up to 100% of the duty cycle. Typical service examples are: pumping, ventilation, customer specs.

**Engine Performance**

Engine performance is corrected to inlet air standard conditions of 99 KPA (29.31 IN HG) dry barometer and 25 deg C (77 deg 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 DEG (84.2 DEG F) where the density is 838.9 G/L (7.001 LB/US GAL).

The corrected performance values shown for Caterpillar engines will approximate the values obtained when the observed performance data is corrected to SAE J1995, ISO 3046-2 and 8665 and 2288 and 9249 and 1585, EEC 80/1269 and DIN 70020 standard reference conditions.

**Engine Dimensions**

<table>
<thead>
<tr>
<th>(1) Length</th>
<th>2135.8 mm (84.09 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Width</td>
<td>1703.0 mm (67.05 in)</td>
</tr>
<tr>
<td>(3) Height</td>
<td>1719.6 mm (67.7 in)</td>
</tr>
</tbody>
</table>

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 7W5874).

Performance Number: TM3149-09
Feature Code: 508DI02 Arr. Number: 4W0280
Materials and specifications are subject to change without notice.

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