CAT® ENGINE SPECIFICATIONS

V-8, 4-Stroke-Cycle-Diesel

Emissions............. Non-Current 2000 EPA and CARB Tier 1 Non-Road Emissions Certified

Peak Torque at Speed......................... 3939 lb-ft
Bore.................. 170 mm (6.7 in.)
Stroke.................. 190 mm (7.5 in.)
Displacement.................. 34.5 L (2105 cu. in.)
Aspiration.................. Turbocharged-Aftercooled

Governor and Protection............. Electronic ADEM™ A3

Engine Weight, net dry (approx) ........... 4309 kg (9500 lb.)

Capacity for Liquids
Lube Oil System (refill) ............ 18 L (4.8 U.S. gal.)
Cooling System (engine only) ........ 103 L (27 U.S. gal.)
Cooling System (radiator) ........... 206 L (54 U.S. gal.)

Oil Change Interval.......................... 500 hours
Rotation (from flywheel end) ........... Counterclockwise

Flywheel and Flywheel Housing ........... SAE No. 00
Flywheel Teeth ......................... 151

FEATURES

Engine Design
- Proven reliability and durability
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Market-leading power density
- Designed to perform in oilfield conditions, including high ambient high altitude applications
- Long overhaul life proven in oilfield applications
- Core engine components designed for reconditioning and reuse at overhaul
- Broad torque curve optimized for petroleum mechanical drive application

Improved Serviceability
Large inspection openings allow convenient access to core engine internals

Control System
- ADEM A3
- E-stop pushbutton on instrument panel
- Air shutoff and explosion relief valves
- Configurable alarm and shutdown features
- Extra alarm switches available for customer-supplied panel
- Instrument panel — LH analog display of key package operation parameters

Reduction of Owning and Operating Costs
- Long filter change intervals, aligned with service intervals
- Excellent fuel economy — direct injection electronic unit injectors precisely meter fuel
- Torsional vibration analysis available from factory to maximize component life

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 — 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.

Full Range of Attachments
Large variety of factory installed engine attachments reduces packaging time

Testing
Every engine is full-load tested to ensure proper engine performance.

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•SS 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 EQUIPMENT

Air Inlet System
Aftercooler core — corrosion resistant
Air cleaner — regular duty with soot filter
Service indicators

Control System
Caterpillar ADEM A3 ECU — LH
Includes adjustable speed droop capability
Pneumatic speed control, 10-100 psi

Cooling System
Radiator cooled land based
Outlet controlled thermostat and housing
Jacket water pump — gear-driven
Dual outlet
Aftercooler fresh water cooling pump (SCAC) — gear-driven, centrifugal

Exhaust System
Exhaust flexible fitting, adapter, flange

Flywheels and Flywheel Housings
Flywheel — SAE No. 00 and housing

Fuel System
Fuel filter — LH, priming pump — LH
Fuel transfer pump
Flexible fuel lines
Electronically controlled unit injectors

Instrumentation
Electronic instrument panel — LH
Analog gauges with digital display data for: engine oil pressure gauge, engine water temperature gauge, fuel pressure gauge, system DC voltage gauge, air inlet restriction gauge, exhaust temperature gauge, fuel filter differential pressure gauge, oil filter differential pressure gauge, service meter, tachometer, instantaneous fuel consumption, total fuel consumed, engine start-stop (off, auto start, manual start, cooldown timer)

Lube System
Crankcase breather
Oil cooler
Oil filter, LH
Oil pan drain valve, 2” NPT female connection

Mounting System
Rails — mounting, floor type, 254 mm (10 in)

Power Take-Offs
Accessory drive
Lower LH front (available for PTO usage)
Front housing — two-sided

Protection System
ADEM A3 ECU monitoring system provides engine protection strategies to protect against adverse operating conditions. Selected parameters are customer programmable.

Starting System
Air starting motor — RH, 620 to 1034 kPa (90 to 150 psi), LH control
Air silencer

General
Paint — Cat yellow
Vibration damper and guard
Lifting eyes

OPTIONAL EQUIPMENT

Air Compressor
Air Inlet System
Air cleaners
Remote air inlet adapters

Charging Systems
Battery chargers and charging alternators

Control System
Load sharing modules
Local speed throttle control
Governor conversion
2301A load sharing governors and actuator
Throttle position sensors

Cooling Systems
High gloss black folded core radiators and conventional core radiators
Belt guard
Blower fan
Fan drive and fan pulley
Radiator cover
Water level switch gauge
Coolant level sensors
Air separator

Exhaust System
Flexible fitting
Elbows
Flange and exhaust expanders
Mufflers

Flywheel and Flywheel Housing
Fuel System
Fuel priming pumps, flexible fuel lines
Fuel filter
Fuel cooler, fuel level switch

Instrumentation
Remote panel display, remote cylinder temperature display
Gauges and instrument panels

Lube System
Fumes disposal
Oil filters
Prelube pumps, sump pumps

Mounting System

Power Take-Offs
Flexible couplings, coupling hubs
Front accessory drives
Auxiliary drive shafts and pulleys
Front stub shaft and flywheel stub shaft
Pulleys

Protection System
Shutoffs
Switches and contactors
Explosion relief valves
Oil pressure monitor

Starting System
Starting motors — air, gas, electric
Air pressure regulators, controls and silencer
Air controls — manual, electric
Redundant start systems
Start switch
Starting aids (JW heater and ether injection)
Battery sets — 24 volts with rack

General
Special paint
Flywheel guard
Cat data link wire
Tool set
PERFORMANCE CURVES*

Turbocharged-Aftercooled
P/D MECH Rating — 671 bkW (900 bhp) @ 1200 rpm
DM4680-05

Heat Rejection Data

<table>
<thead>
<tr>
<th>Engine Speed rpm</th>
<th>Engine Power</th>
<th>Rej to JW</th>
<th>Rej to Atmos</th>
<th>Rej to Exh</th>
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<tr>
<td></td>
<td>bkW</td>
<td>bhp</td>
<td>bkW</td>
<td>Btu/min</td>
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Approximate Power (bhp) as function of Altitude and Inlet Manifold Temperature for DM4680-05

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*Other ratings and performance data available
3508B LAND MECHANICAL ENGINE
566-671 bkW (760-900 bhp)

LAND MECHANICAL ENGINE

**Engine Dimensions**

<p>| | | |</p>
<table>
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<tr>
<td><strong>Length</strong></td>
<td>2136.14 mm</td>
<td>84.1 in.</td>
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<tr>
<td><strong>Width</strong></td>
<td>1701.8 mm</td>
<td>67.0 in.</td>
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<tr>
<td><strong>Height</strong></td>
<td>2024.38 mm</td>
<td>79.7 in.</td>
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<tr>
<td><strong>Engine Weight (dry)</strong></td>
<td>4309 kg</td>
<td>9500 lb.</td>
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</table>

**Note:** Do not use for installation design. See general dimension drawings for detail. (Drawing #195-7946)

**RATING DEFINITIONS AND CONDITIONS**

**Ratings** are based on SAE J1995 standard conditions of 100 kPa (29.61 in Hg) and 25°C (77°F). These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions of 100 kPa (29.61 in Hg), 27°C (81°F), and 60% relative humidity. Ratings are valid for air cleaner inlet temperatures up to and including 50°C (122°F).

**Fuel consumption** has a tolerance of +5% and is based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18 390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal). Fuel consumption shown with all oil, fuel, and water pumps, engine driven.