C27 ACERT®
Petroleum
Engine

CAT® ENGINE SPECIFICATIONS
V-12, 4-Stroke-Cycle-Diesel
Emissions............. 2006 EPA and CARB Tier 2, and EC Stage II Non-Road emissions certified
Peak Torque at Speed...................... 2626 lbs-ft
Bore ................................ 137.7 mm (5.4 in.)
Stroke.............................. 152.4 mm (6.0 in.)
Displacement...................... 27.2 L (1658 cu. in.)
Aspiration.................... Turbocharged-Aftercooled
Governor.and.Protection........ Electronic (ADEM™ A3)
Engine.Weight,.net.dry.(approx) ........ 2895 kg (6382 lb)
Capacity.for.Liquids
Lube Oil System (refill)................ 68.1 L (18 gal)
Cooling System...................... 54.9 L (14.5 gal)
Oil Change Interval.................. 250 hours
Rotation.(from.flywheel.end) ........... Counterclockwise
Flywheel.and.Flywheel Housing................ SAE No. 0 or SAE No. 1
Flywheel Teeth ...... 136 (SAE No. 0), 113 (SAE No. 1)

FEATURES
Engine Design
- Proven reliability and durability
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Broad operating speed range
- High power density — lightweight engine for weight-sensitive applications
- PTO drive options provide flexible access to auxiliary power for pumps and other needs

Advanced Digital Engine Management
ADEM A3 control system providing integrated ignition, speed governing, protection, and controls, including detonation-sensitive variable ignition timing. ADEM A3 has improved: user interface, display system, shutdown controls, and system diagnostics.

Optional Attachments
Optional Turbo Configurations — provides flexibility in air intake and exhaust installations

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.

Transmissions
Caterpillar has a full line of engine-transmission packages that can be fully integrated with your axle, hydraulics, and operator interface. Cat transmissions deliver continuous operation under full load, smooth shifting at any speed, and maximum up time, with unmatched durability and easy maintenance.

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•SSM™ 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**
- Dual turbochargers side or rear mounted — inlet
  152.4 mm (6 in.) hose connection

**Control System**
- Electronic governing, PTO speed control
- Programmable ratings
- Cold mode start strategy
- Automatic altitude compensation
- Power compensation for fuel temperature
- Programmable low and high idle and TEL
- Electronic diagnostics and fault logging
- Engine monitoring and protection system (speed, temperature, pressure)
- J1939 Broadcast (diagnostic, engine status, and control)

**Cooling System**
- Thermostats and housing — outlet LH vertical orientation
- Jacket water pump — gear-driven, centrifugal RH

**Exhaust System**
- Exhaust manifold — dry, heat shields
- Dual turbo — rear turbo exhaust, full marmon connection
  127 mm (5 in.), maximum load 10 kg for direct connection to turbo
- Water-cooled center sections

**Flywheels and Flywheel Housings**
- SAE No. 0 or SAE No. 1
- SAE standard rotation

**Fuel System**
- MEUI system
- Fuel filter, RH (.2 micron high performance)
- Fuel transfer pump
- Fuel priming pump (optional electric priming pump)

**Lube System**
- Crankcase breather — rear mounted
- Oil cooler — RH
- Side turbo — oil filler in RH front gear case
- Rear turbo — oil filler in RH valve cover
- Oil level gauge — RH
- Oil filter — RH
- Oil pan rear sump

**Mounting System**
- Front support — narrow

**Power Take-Offs**
- Crankshaft pulley — 203.2 mm (8 in), 5 grooves
  15.9 mm (.63 in) wide; 292.1 mm (11.5 in.) 1 groove
  15.9 mm (.63 in) wide

**General**
- Vibration damper
- Paint — Cat yellow
- Lifting eyes
- Automatic variable timing, electronic
- Electronic installation kit 70-pin connector (connectors, pins, sockets)

OPTIONAL ATTACHMENTS

**Air Inlet System**
- Air lines
- Air cleaners
- Precleaners

**Charging System**
- Battery chargers
- Charging alternators
- Alternator mountings

**Circuit Breakers**
- Circuit breaker mounting

**Cooling System**
- Blower fans
- Suction fans
- Radiators

**Exhaust System**
- Muffler

**Flywheel and Flywheel Housings**

**Fuel Systems**
- Electric fuel priming pump

**Instrumentation**
- Gauges and instrument panels

**Lube System**
- Lubricating oil
- Oil pan
- Oil filter

**Mounting System**
- Engine supports

**Power Take-Offs**
- Hydraulic pump drives
- Pulley
- Auxiliary drive

**Starting System**
- Electric starting motor
- Battery sets — 24V
- Battery cable
- Battery rack
- Starting aids

**Packaging**
- Overseas preservation
- Storage preservation
- Export packaging
PERFORMANCE CURVES

Turbocharged-Aftercooled
D Rating — 783 bkW (1050 bhp) @ 2100 rpm*
DM9035-00

**Heat Rejection Data**

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<th>Engine Speed rpm</th>
<th>Engine Power bkW</th>
<th>Engine Power bhp</th>
<th>Rej to JW bkW</th>
<th>Rej to Atmos bkW</th>
<th>Rej to Exh bkW</th>
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*Other engine ratings are available. Please contact dealer for performance data.
### Engine Dimensions

<table>
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<tr>
<th>Dimension</th>
<th>Value</th>
<th>Conversions</th>
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<tr>
<td>Length</td>
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<td>Width</td>
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<tr>
<td>Height</td>
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<td>52 in</td>
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<tr>
<td>Engine Weight</td>
<td>2895 kg</td>
<td>6382 lb</td>
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</table>

**Note:** Do not use for installation design. See general dimension drawings for detail (Drawing #282-3892).

### RATING DEFINITIONS AND CONDITIONS

**Engine Performance** is corrected to inlet air standard conditions of 99 kPa (29.31 in. Hg) dry barometer and 25°C (77°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°C (84.2°F) where the density is 838.9 g/L (7.001 lb/U.S. gal).

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

**IND-D**

For service where maximum power is required for periodic overloads.