

CATERPILLAR®

Diesel Truck Engine

C-15

435 to 550 hp
2100 rpm



Shown with
Optional Equipment

STANDARD EQUIPMENT

- Crankcase breather, valve cover mounted
- Electronic control module (ECM)
- Electronic data link, ATA/SAE
- Electronically controlled unit injector fuel system (EUI)
- Fan drive mounting bracket
- Fuel — spin-on filter, transfer pump
- Gear-driven jacket water pump
- Governor — full-range electronically controlled
- Lifting eyes
- Lubricating — cooler, right hand filler, full flow filter, gear-driven pump, front or rear sump pan
- SAE No. 1 flywheel housing
- Turbocharger
- Vibration damper

CATERPILLAR® ENGINE SPECIFICATIONS

Bore — in (mm)..... 5.4 (137)
Stroke — in (mm)..... 6.5 (165)
Displacement — cu in (L)..... 893 (14.6)
Aspiration Turbocharged for ATAAC¹
Rotation (from flywheel end) .. Counterclockwise
AMA Rating for USA tax purposes — hp ... 70.0
Cooling System² — gal (L) 5.5 (20.8)
Lube Oil System (refill) — gal (L) 10.0 (38.8)
Weight, Net Dry (approx) — lb (kg)
 with standard equipment 2695 (1225)

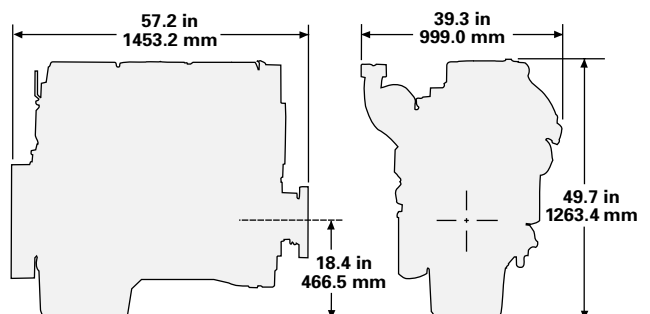
¹ Air-to-Air AfterCooling

² Engine only. Capacity will vary with radiator size and use of cab heater.

ACCESSORY EQUIPMENT

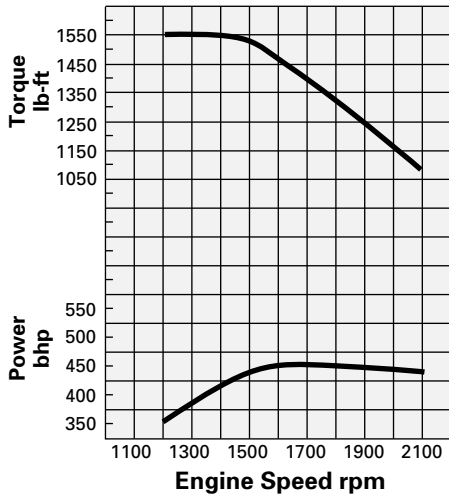
- Air compressor, gear driven 13.2, 16.5, or 31 cfm
- Air inlet elbows
- Alternator (12 Volt-65 Amp, 24 Volt-45 Amp or 60 Amp)
- Auxiliary pulleys and drives
- BrakeSaver (hydraulic retarder) — front or rear sump
- Coolant conditioner, dry-charge
- Exhaust couplings
- Fan and fan accessories
- Fan drive, adjustable
- Flywheels
- Front support
- Fuel priming pump
- Hydraulic steering pump drive, SAE A
- Jacobs® engine brake Model 340B
- Primary fuel filter
- Refrigerant compressor mounting
- Sound suppression panels — block
- Starter, 12 or 24 Volt
- Transmission mountings

DIMENSIONS

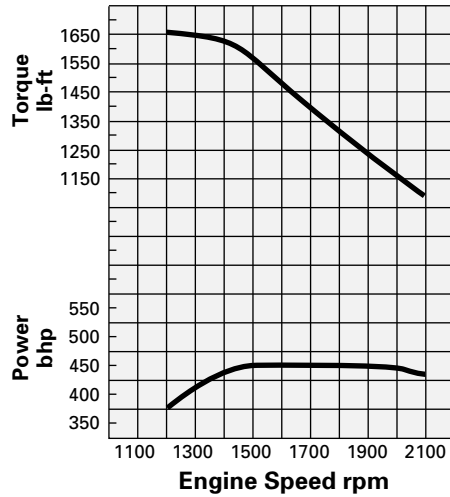


PERFORMANCE CURVES

435 hp (325 kW) DM4908



435 hp (325 kW) DM4910



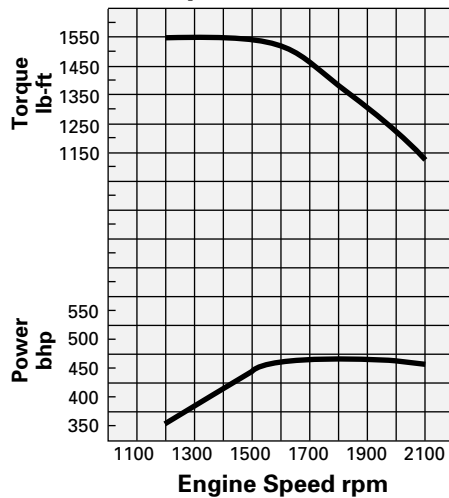
PERFORMANCE DATA

Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm 2100
 Advertised hp (kW) 435 (325)
 Max hp @ 1600 rpm (kW) 450 (336)
Peak Torque — lb-ft (N·m)..... 1550 (2108)
 Peak Torque — rpm..... 1200
 Torque rise (%)..... 42
 Altitude Capability — ft (m) 7500 (2288)

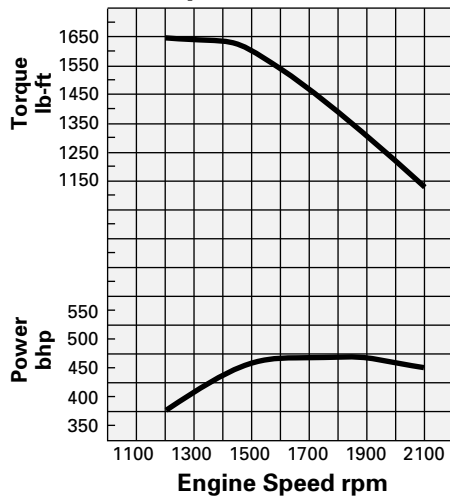
Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm..... 2100
 Advertised hp (kW) 435 (325)
 Max hp @ 1600 rpm (kW) 450 (336)
Peak Torque — lb-ft (N·m)..... 1650 (2244)
 Peak Torque — rpm..... 1200
 Torque rise (%)..... 52
 Altitude Capability — ft (m) 7500 (2288)

PERFORMANCE CURVES

455 hp (339 kW) DM4912



455 hp (339 kW) DM4914



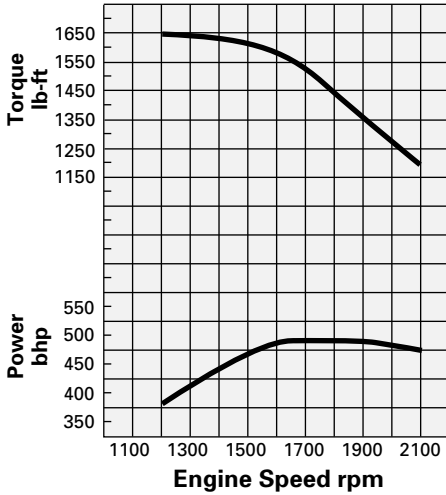
PERFORMANCE DATA

Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm 2100
 Advertised hp (kW) 455 (339)
 Max hp @ 1600 rpm (kW) 470 (351)
Peak Torque — lb-ft (N·m)..... 1550 (2108)
 Peak Torque — rpm..... 1200
 Torque rise (%)..... 36
 Altitude Capability — ft (m) 7500 (2288)

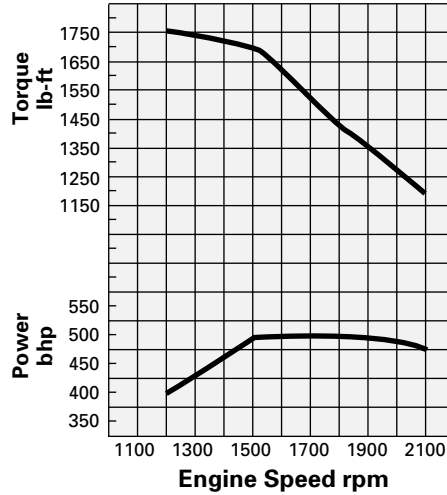
Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm 2100
 Advertised hp (kW) 455 (339)
 Max hp @ 1600 rpm (kW) 470 (351)
Peak Torque — lb-ft (N·m)..... 1650 (2244)
 Peak Torque — rpm..... 1200
 Torque rise (%)..... 45
 Altitude Capability — ft (m) 7500 (2288)

PERFORMANCE CURVES

475 hp (354 kW) DM4917



475 hp (354 kW) DM4919



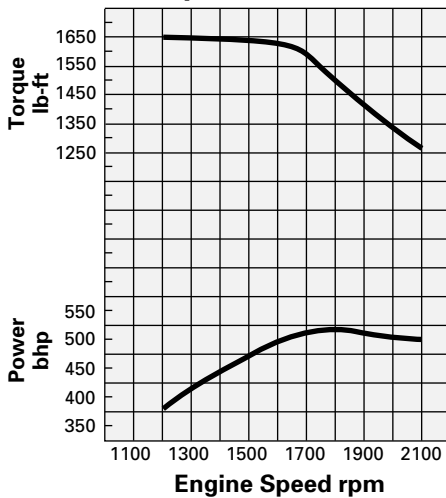
PERFORMANCE DATA

Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm **2100**
 Advertised hp (kW) 475 (354)
 Max hp @ 1600 rpm (kW) 490 (366)
Peak Torque — lb-ft (N·m) **1650 (2244)**
 Peak Torque — rpm 1200
 Torque rise (%) 39
 Altitude Capability — ft (m) 7500 (2288)

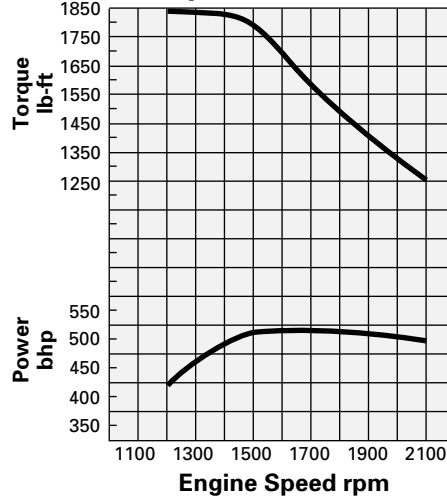
Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm **2100**
 Advertised hp (kW) 475 (354)
 Max hp @ 1600 rpm (kW) 490 (366)
Peak Torque — lb-ft (N·m) **1750 (2380)**
 Peak Torque — rpm 1200
 Torque rise (%) 47
 Altitude Capability — ft (m) 7500 (2288)

PERFORMANCE CURVES

500 hp (373 kW) DM4922



500 hp (373 kW) DM4925

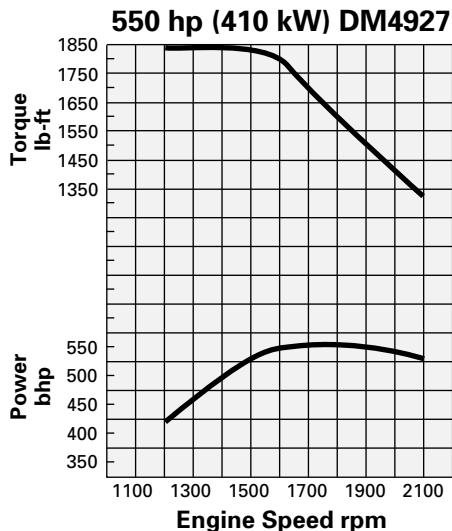


PERFORMANCE DATA

Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm **2100**
 Advertised hp (kW) 500 (373)
 Max hp @ 1800 rpm (kW) 515 (384)
Peak Torque — lb-ft (N·m) **1650 (2244)**
 Peak Torque — rpm 1200
 Torque rise (%) 32
 Altitude Capability — ft (m) 7500 (2288)

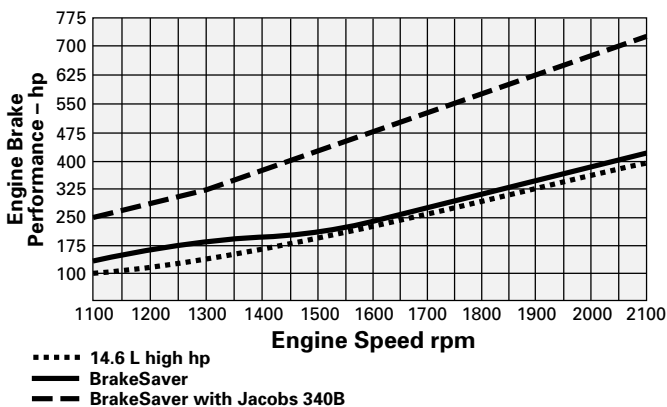
Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm **2100**
 Advertised hp (kW) 500 (373)
 Max hp @ 1600 rpm (kW) 515 (384)
Peak Torque — lb-ft (N·m) **1850 (2516)**
 Peak Torque — rpm 1200
 Torque rise (%) 48
 Altitude Capability — ft (m) 7500 (2288)

PERFORMANCE CURVES



Operating Range (rpm) (1200–2100) 900
 Maximum Engine rpm 2120
Governed Speed — rpm 2100
 Advertised hp (kW) 550 (410)
 Max hp @ 1600 rpm (kW) 550 (410)
Peak Torque — lb-ft (N·m) 1850 (2516)
 Peak Torque — rpm 1200
 Torque rise (%) 40
 Altitude Capability — ft (m) 7500 (2288)

ENGINE RETARDATION



RATING DEFINITIONS AND CONDITIONS

Performance is based on SAE J1995 standard conditions of 29.61 in. Hg (100 kPa) and 77° F (25° C).

Fuel consumption is based on fuel oil having an LHV of 18 390 Btu/lb (42 780 kJ/kg) and weighing 7.001 lb/U.S. gal (839 g/liter).

The curves shown are for a standard engine without fan, but equipped with air compressor and fuel, lubricating oil and jacket water pumps.

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

TMI Reference No.: DM4908, DM4910, DM4912, DM4914, DM4917, DM4919, DM4922, DM4925, DM4927

Materials and specifications are subject to change without notice.

LEHT9324 (8-99)
 Supersedes LEHT9060

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The International System of Units (SI) is used in this publication.

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ELECTRONIC FEATURES

- **ADEM 2000: Year 2000 compliant**
- **Electronic self-diagnostics**
- **Passive sensors — increased reliability**
- **Electronically tabulated total fuel consumption, hours, idle time, and miles**
- **User-selectable, reprogrammable vehicle operating parameters — vehicle speed limiting, engine speed limiting, cruise control, intermediate gears and low gear rpm limits, geardown protection, and a full range of programmable PTO features.**
- **J1939 Data Link for full range of operational programs for vehicle, driver, driveline, and brake control.**

GEARING CONSIDERATIONS

Caterpillar® C-15 Truck Engines offer a wide operating range and high torque rise which promotes the use of transmissions with fewer gears. Even with this built-in feature, heavy/specialty haulers must remember their trucks should be geared to achieve the appropriate compromise between startability and desired road speed. Typical loads of 80 000 lb or less are less affected by improper drive train specing than are heavy haulers. In general, either application shares one similar recommendation — gear fast/run slow is essential for good fuel consumption.

If any of the following conditions are present, special attention should be given to proper transmission and axle specifications. A complete Caterpillar Truck Engine Pro (TEP) analysis is available from your local Caterpillar or truck dealer.

1. Poor road surface
2. Adverse grades — 8% plus
3. GVW in excess of 80 000 lb

For best balance between fuel economy and performance requirements on linehaul vehicles with 80 000 lb or less use the following guidelines:

For 9, 10, or 15 speed single overdrive transmissions, gear to cruise at:

1550 rpm @ 65 mph for 410 hp and below
 1500 rpm @ 65 mph for 435 hp and above

For 13 or 18 speed dual overdrive transmissions, gear to cruise at:

1450 rpm @ 65 mph

Maximum recommended engine speed at cruise — 1550 rpm