



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



# Diesel Truck Multi-Torque Ratings Engine

# C-15

## 2100 rpm

- 435/500 hp MT-T4
- 455 hp MT-T4
- 475/500 hp MT-T2
- 500 hp MT-T2

### 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 ATAAC <sup>1</sup>
Rotation (from flywheel end) ..	Counterclockwise
AMA Rating for USA tax purposes — hp . . .	70.0
Cooling System <sup>2</sup> — gal (L) .....	5.5 (20.8)
Lube Oil System (refill) — gal (L) .....	9.0 (34.1)
Weight, Net Dry (approx) — lb (kg)	
with standard equipment .....	2695 (1225)

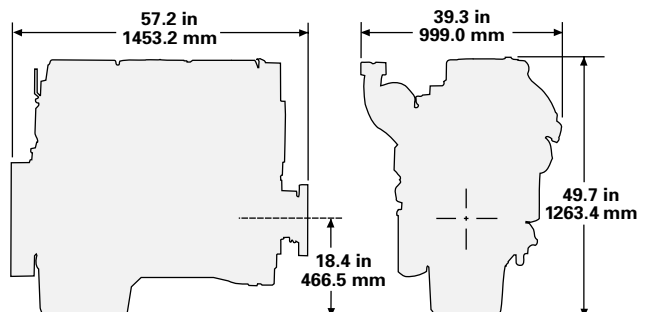
<sup>1</sup> Air-to-Air AfterCooling

<sup>2</sup> 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



**MULTI-TORQUE (MT) OPERATION**

The electronics in the ECM continuously monitor a ratio of engine rpm/vehicle mph. For example: 1400 rpm divided by 19.5 mph = 71.5 factor. When the factor is 71.5 or below, the ECM automatically operates on the higher horsepower/torque performance curve.

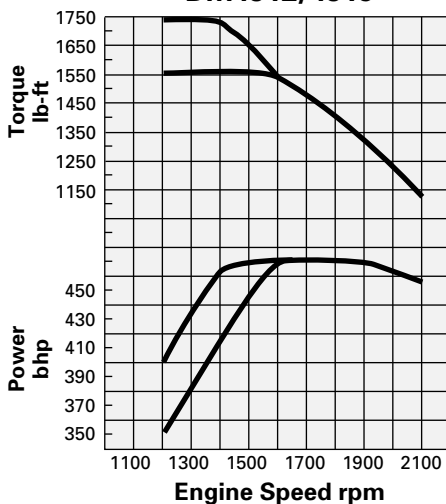
This extra horsepower/torque capability can be provided in the top gears of the transmission. As an example:

- Top 1 gear: ratio is 27.9 and below (MT-T1)
- Top 2 gears: ratio is 37.6 and below (MT-T2)\*
- Top 4 gears: ratio is 71.5 and below (MT-T4)

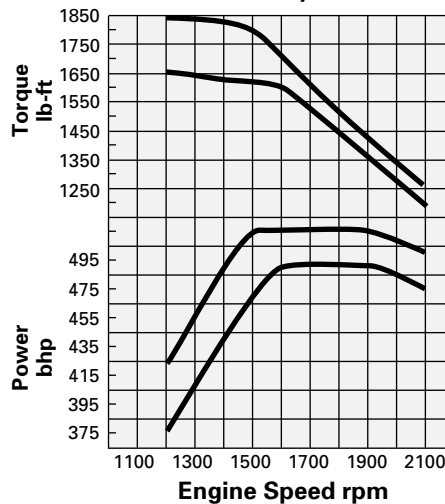
\* T2 ratings can be used with Eaton Top 2 transmissions with torque ratings of 100 lb-ft. or less.

**PERFORMANCE CURVES**

**455 hp MT-T4 (339 kW)  
DM4912/4915**



**475/500 hp MT-T2 (354/373 kW)  
DM4917/4920**



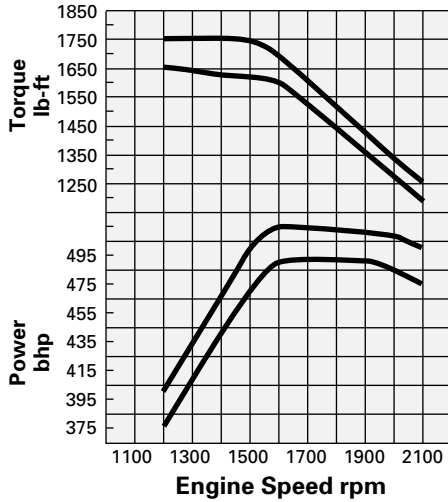
**PERFORMANCE DATA**

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)/1750 (2380)**  
 Peak Torque — rpm . . . . . 1200  
 Torque rise (%) . . . . . 36/54  
 Altitude Capability — ft (m) . . . . . 7500 (2288)

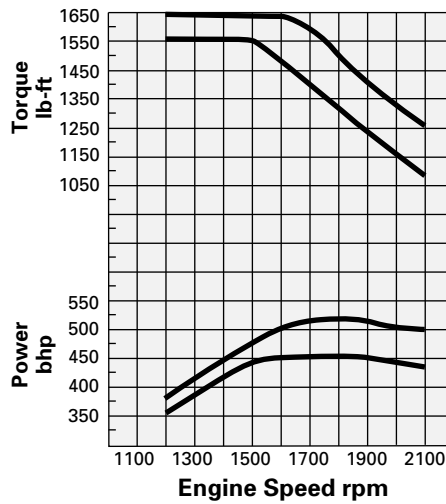
Operating Range (rpm) . . . . . (1200–2100) 900  
 Maximum Engine rpm . . . . . 2120  
**Governed Speed — rpm . . . . . 2100**  
 Advertised hp (kW) . . . . . 475 (354)/500 (373)  
 Max hp @ 1600 rpm (kW) . . . . . 490 (366)/515 (384)  
**Peak Torque —**  
**lb-ft (N·m) . . . . . 1650 (2244)/1850 (2516)**  
 Peak Torque — rpm . . . . . 1200  
 Torque rise (%) . . . . . 39/48  
 Altitude Capability — ft (m) . . . . . 7500 (2288)

## PERFORMANCE CURVES

**475/500 hp MT-T2 (354/373 kW)  
DM4917/4921**



**435/500 hp MT-T4 (325/373 kW)  
DM4908/4911**



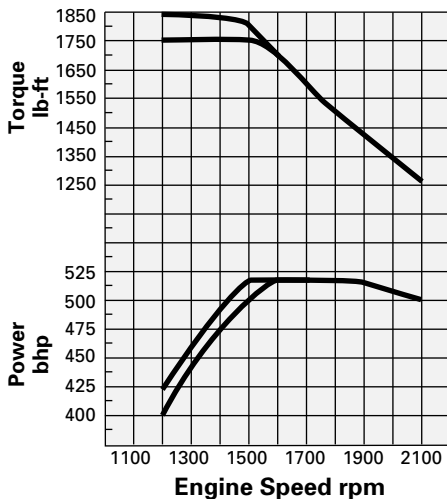
## PERFORMANCE DATA

Operating Range (rpm) ..... (1200–2100) 900  
 Maximum Engine rpm ..... 2120  
**Governed Speed — rpm..... 2100**  
 Advertised hp (kW) ..... 475 (354)/500 (373)  
 Max hp @ 1700 rpm (kW) ..... 490 (366)/515 (384)  
**Peak Torque —**  
**lb-ft (N·m)..... 1650 (2244)/1750 (2380)**  
 Peak Torque — rpm..... 1200  
 Torque rise (%) ..... 39/40  
 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)/500 (373)  
 Max hp @ 1700 rpm (kW) ..... 450 (336)/515 (384)  
**Peak Torque —**  
**lb-ft (N·m)..... 1550 (2108)/1650 (2244)**  
 Peak Torque — rpm..... 1200  
 Torque rise (%) ..... 42/32  
 Altitude Capability — ft (m)..... 7500 (2288)

## PERFORMANCE CURVES

**500 hp MT-T2 (373 kW)  
DM4923/4926**



## PERFORMANCE DATA

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)..... 1750 (2380)/1850 (2516)**  
 Peak Torque — rpm..... 1200  
 Torque rise (%) ..... 40/48  
 Altitude Capability — ft (m)..... 7500 (2288)

### 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:**

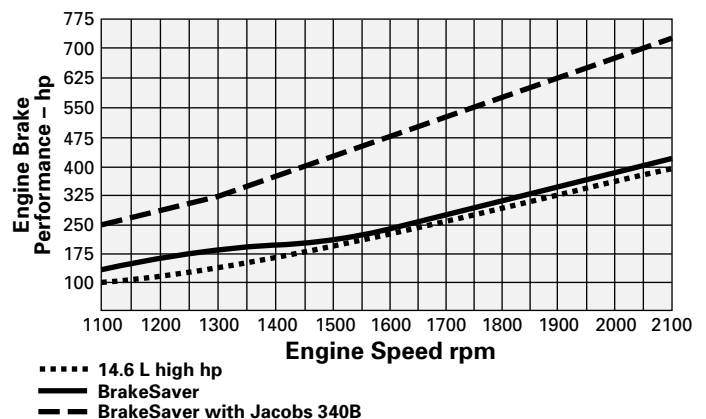
1450 rpm @ 65 mph

Maximum recommended engine speed at cruise — 1550 rpm

### 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.

### ENGINE RETARDATION



Data provided by Jacobs® Vehicle Systems for Model 340B.

### 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.