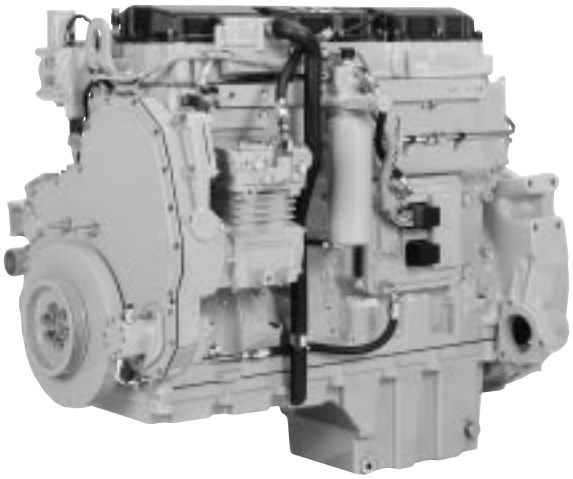
CATERPILLAR®

Diesel Truck Engine

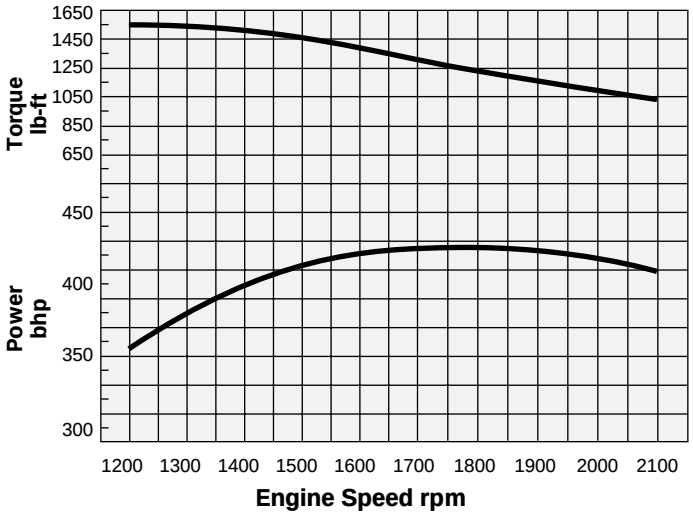
C-12 410 hp

1550 lb-ft @ 1200 rpm Peak Torque



Shown with Optional Equipment

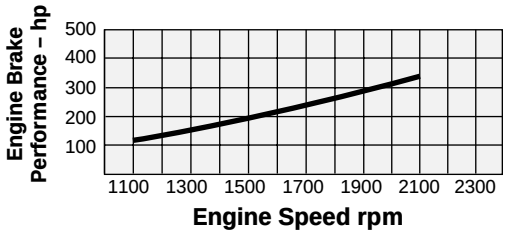
PERFORMANCE CURVES



CATERPILLAR® ENGINE SPECIFICATIONS

Bore—in (mm)	5.1 (130)
Stroke—in (mm)	5.9 (150)
Displacement—cu in (L)	732 (12.0)
Aspiration	Turbocharged for ATAAC[1]
Rotation (from flywheel end)	Counterclockwise
Cooling System[2]—gal (L)	2.7 (10.2)
Lube Oil System (refill)—gal (L)	9.4 (36)
Weight, Net Dry (approx)—lb (kg) with standard equipment	2070 (940)

ENGINE RETARDATION

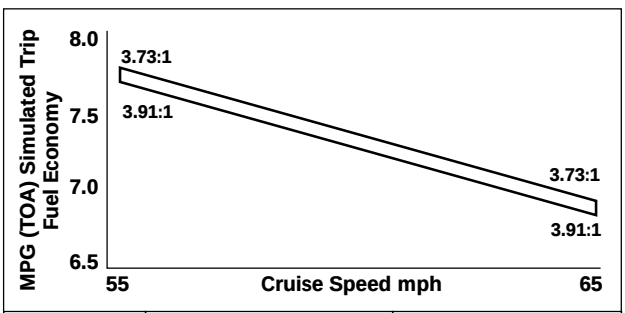


Data provided by Jacobs® Vehicle Systems for Model 312A.

PERFORMANCE DATA

Operating Range (rpm)	1200-2100
Maximum Engine rpm	2100
Advertised hp (kW)	410 (306)
Governed Speed — rpm	**2100**
Max hp @ 1600 rpm (kW)	425 (317)
Peak Torque — lb-ft (N•m)	1550 (2102)
Peak Torque — rpm	1200
Torque rise (%)	51
Altitude Capability — ft (m)	7500 (2288)

SIMULATED VEHICLE PERFORMANCE



Simulated Truck Spec C-12 410 hp	**Transmission: 10 Speed (0.74 O.D.) Rear Axle Ratios: 3.91:1 — Performance 3.73:1 — Balanced**	**Semi-Van 8.0' x 13.5' Full Aero Package 275/80R 22.5 LP GVW: 78 000 lbs**

CATERPILLAR FACILITIES ISO 9001 CERTIFIED

[1] Air-to-Air AfterCooling
[2] Engine only. Capacity will vary with radiator size and use of cab heater.
[3] @ 65 mph "balanced"

CATERPILLAR®

C-12 DIESEL TRUCK ENGINE – 410 hp

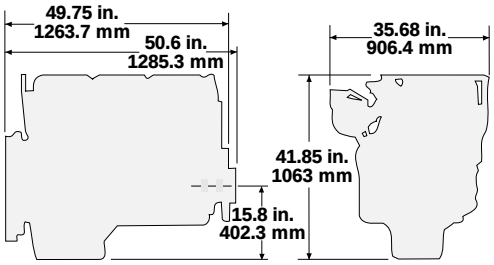
STANDARD EQUIPMENT

Crankcase breather
Electronic control module
Electronic data link, ATA/SAE
Electronically controlled unit injector fuel system
Fuel – spin-on filter, priming and transfer pumps
Gear driven jacket water pump
Governor – full-range electronically controlled
Hydraulic steering pump drive, SAE A
Lifting eyes
Lubricating – cooler, right hand filler, full flow filter, gear-driven pump, front or rear sump pan
Turbocharger

ACCESSORY EQUIPMENT

Air compressor, gear driven, 13, 13.2, 16.5, or 31 cfm
Alternator, 12 Volt, 105 Ampere
Dry charge coolant conditioner
Fan drive mounting bracket
Flywheel and SAE No. 1 housing
Front engine supports
Jacobs engine brake Model 312A
Lubricating oil filter, bypass spin-on or centrifugal type
Rear power takeoff (1.31:1)
SAE J1939 data link
Starting, 12 Volt electric motor, ether starting aid

DIMENSIONS



RATING DEFINITIONS AND CONDITIONS

Performance is based on SAE J1349 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/L).

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.

ELECTRONIC FEATURES

- **Electronic self-diagnostics**
- **Electronically tabulated total fuel consumption, hours and miles**
- **Electronically tabulated total idle time**
- **Battery backup**
- **Real time clock**
- **Quick stop recorder**
- **Fleet information software (FIS) capability**
- **User-selectable, reprogrammable vehicle operating parameters – vehicle mph speed limiting, engine rpm speed limiting, cruise control, intermediate gears and low gear limits, geardown protection, PTO vehicle mph speed limit, PTO engine rpm speed limit, programmable idle rpm speed, idle shutdown timer, PTO ramp rate, top engine rpm limit, ambient temperature idle control**

GEARING CONSIDERATIONS

Caterpillar® C-12 Air-to-Air Aftercooled (ATAAC) 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 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 the best balance of performance and fuel economy on the C-12, spec axle ratios and tire sizes to obtain:

1475 rpm @ 60 mph

Subject to the following:

Maximum recommended engine speed at cruise – **1700 rpm**

Minimum recommended engine speed at 55 mph cruise speed – **1400 rpm**

Materials and specifications are subject to change without notice.

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

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