3508
Industrial Engine

638 bkW/855 bhp @ 1800 rpm

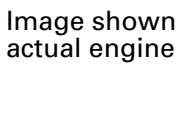

Image shown may not reflect actual engine

CAT® ENGINE SPECIFICATIONS

V-8, 4-Stroke-Cycle Diesel

Bore.....170.0 mm (6.69 in)
Stroke.....190.0 mm (7.48 in)
Displacement..... 34.53 L (2,107.15 in^3)
Aspiration.....Turbocharged / Aftercooled
Compression Ratio.....13.0:1
Rotation (from flywheel end)..... Counterclockwise
Capacity for Liquids
  Cooling System..... 102.7 L (27.1 gal)
  Lube Oil System..... 424.0 L (112.0 gal)
Engine Weight, Net Dry (approximate) 4,611 kg (10,166 lb)

FEATURES

EMISSIONS

Non-certified rating.

SINGLE SOURCE SUPPLIER

Caterpillar
- Casts engine blocks, heads, cylinder liners, and flywheel housings
- Machines critical components
- Assembles complete engine

Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.

Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities.

TESTING

Prototype testing on every model
- proves computer design
- verifies system torsional stability
- functionality tests every model

Every Caterpillar engine is dynamometer tested under full load to ensure proper engine performance.

FULL RANGE OF ATTACHMENTS

Wide range of bolt-on system expansion attachments, factory designed and tested

UNMATCHED PRODUCT SUPPORT OFFERED THROUGH WORLDWIDE CATERPILLAR DEALER NETWORK

More than 1,500 dealer outlets.
Caterpillar factory-trained dealer technicians service every aspect of your industrial engine.
99.7% of parts orders filled within 24 hours worldwide.
Caterpillar parts and labor warranty.
Preventive maintenance agreements available for repair before failure options.
Scheduled Oil Sampling program matches your oil sample against Caterpillar set standards to determine:
- internal engine component condition
- presence of unwanted fluids
- presence of combustion by-products

WEB SITE

For all your industrial power requirements, visit www.cat-industrial.com.

STANDARD ENGINE EQUIPMENT

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Air Inlet System

Aftercooler core, corrosion resistant coated (air side), Air cleaner, regular duty with service indicators, Turbocharger, rear mounted, jacket water aftercooled

Control System

Governor, RH, 3161 with self contained synthetic oil sump, air-fuel ratio control, mechanical speed control, without torque control, Governor control, positive locking

Cooling System

Thermostats and housing for conventional core radiator, Jacket water pump, gear driven, centrifugal

Exhaust System

Exhaust manifold, dry

Flywheels and Flywheel Housings

Flywheel , SAE No. 0, 151 teeth, Flywheel housing, SAE No. 0, SAE standard rotation

Fuel System

Fuel filter, with service indicators, cartridge type with RH service, Fuel transfer pump

Instrumentation

Instrument Panel, RH, Engine oil pressure gauge, Fuel pressure gauge, Oil filter differential gauge, Jacket water temperature gauge, Service meter, electric, Tachometer

Lube System

Crankcase breather, top mounted, Oil cooler, Oil filler and dipstick, RH, Oil pump, Oil filter, cartridge type with RH service, Shallow oil pan, Fumes disposal (not installed)

Mounting System

Rails, mounting, engine length, 254 mm (10 in), industrial-type, C-channel. Included on selected top level engines.

Power Take-Offs

Accessory drive, upper RH, Front housing, single sided

Protection System

Junction box, Manual shutoff, RH, Safety shutoff protection, energized to shutdown, Low oil pressure, low idle 69 kPa (10 psi); high idle 207 kPa (30 psi), Water temperature, Overspeed, 3161 governor solenoid energized to shutdown

Starting System

Starting switch

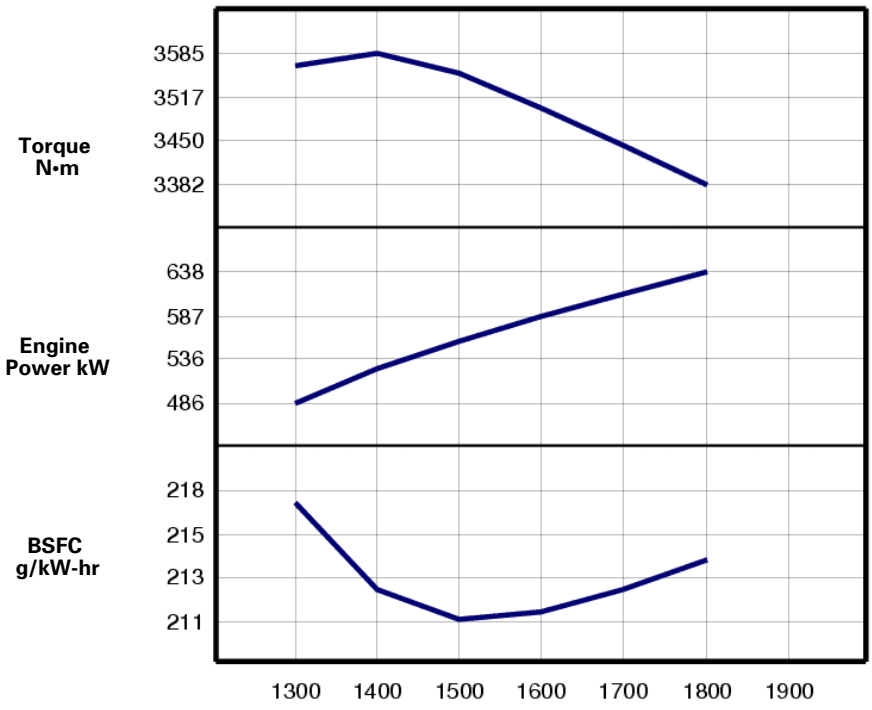
General

Paint, Caterpillar Yellow,
Vibration damper and guard,
Lifting eyes

PERFORMANCE CURVES

638 bkW/855 bhp @ 1800 rpm

IND - A (Continuous) - TM3149-09



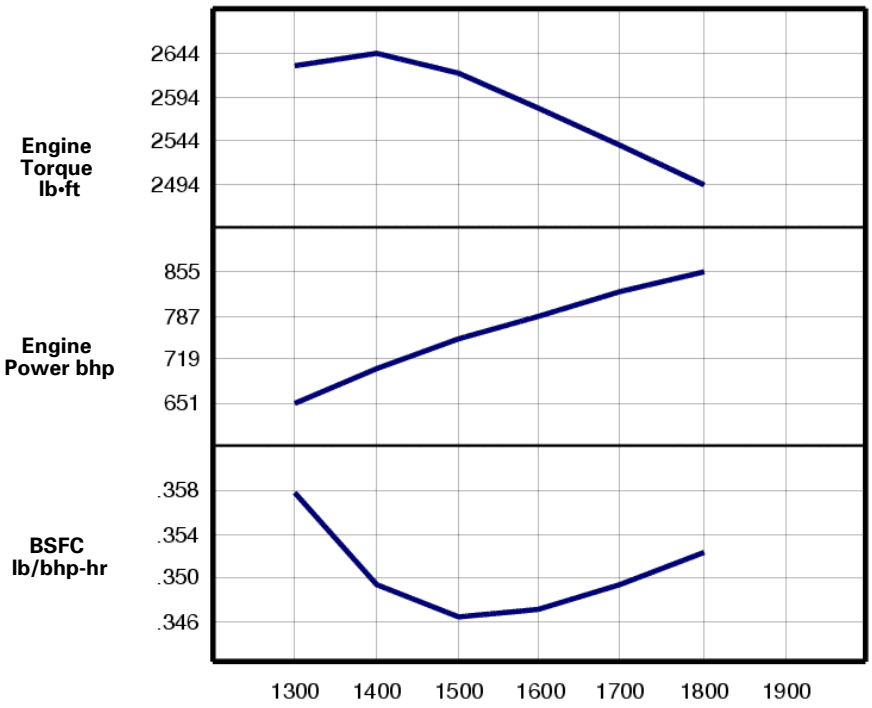
Metric

Engine Speed rpm	Engine Power kW	Torque N•m	BSFC g/kW-hr	Fuel Rate L/hr
1800	638	3382	214.3	162.9
1700	613	3444	212.5	155.2
1600	587	3501	211.1	147.6
1500	558	3555	210.7	140.0
1400	526	3585	212.5	132.7
1300	486	3567	217.6	126.0

PERFORMANCE CURVES

638 bkW/855 bhp @ 1800 rpm

IND - A (Continuous) - TM3149-09



English

Engine Speed rpm	Engine Power bhp	Engine Torque lb•ft	BSFC lb/bhp-hr	Fuel Rate gal/hr
1800	855	2494	.352	43.0
1700	822	2540	.349	41.0
1600	787	2582	.347	39.0
1500	749	2622	.346	37.0
1400	705	2644	.349	35.1
1300	651	2631	.358	33.3

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RATINGS AND CONDITIONS

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IND - A (Continuous) Continuous heavy duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling. Time at full load can be up to 100% of the duty cycle. Typical service examples are: pumping, ventilation, customer specs.

Engine Performance Engine performance is corrected to inlet air standard conditions of 99 KPA (29.31 IN HG) dry barometer and 25 deg C (77 deg 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 DEG (84.2 DEG F) where the density is 838.9 G/L (7.001 LB/US GAL).

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

Engine Dimensions	
(1) Length	2135.8 mm (84.09 in)
(2) Width	1703.0 mm (67.05 in)
(3) Height	1719.6 mm (67.7 in)

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 7W5874).

Performance Number: TM3149-09

Feature Code: 508DI02 Arr. Number: 4W0280

Materials and specifications are subject to change without notice.

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