



# 3508 B Industrial Engine

746 bkW/1000 bhp @ 1800 rpm

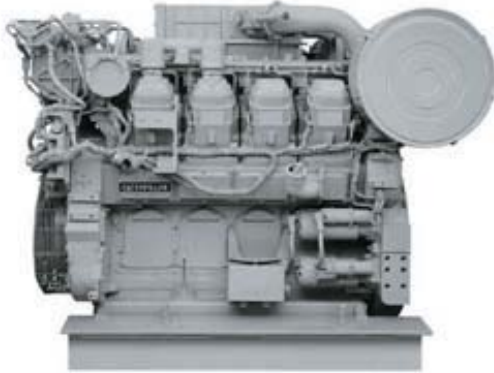


Image shown may not reflect actual engine

## 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 <sup>3</sup> )
Aspiration.....	Turbocharged / SCAC
Compression Ratio.....	14.0:1
Rotation (from flywheel end).....	Counterclockwise
Capacity for Liquids	
Cooling System.....	102.7 L (27.1 gal)
Lube Oil System (refill).....	102.0 L (26.9 gal)
Engine Weight, Net Dry (approximate).....	4,271 kg (9,416 lb)

## FEATURES

### EMISSIONS

Meets Tier 1 emission requirements. Tier 1 refers to EPA (U.S.) non-road standards.

### SINGLE SOURCE SUPPLIER

Caterpillar:

- Casts engine blocks, heads, cylinder liners, and flywheel housings
- 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](http://www.cat-industrial.com).



## **STANDARD ENGINE EQUIPMENT**

**746 bkW/1000 bhp @ 1800 rpm**

### **Air Inlet System**

Separate circuit aftercooler core, corrosion resistant coated (air side), air cleaner (dual element with service indicator), Dual rear mounted turbochargers

### **Control System**

Caterpillar ADEM™ II Electronic Engine Control, RH, with electronic unit injector fuel system (10 amp DC power required to drive electronic engine control module)

### **Cooling System**

Thermostats and housing, Jacket water pump, gear driven, centrifugal, Connections for radiator cooling

### **Exhaust System**

Exhaust manifold, dry,  
Dual turbochargers with watercooled bearings,  
Exhaust outlet 203 mm (8 in) round flange

### **Flywheels & Flywheel Housings**

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

### **Fuel System**

Fuel filter, LH spin-on type,  
Fuel transfer pump,  
Electronically controlled unit injectors

### **Instrumentation**

No standard instrumentation, Optional, remote instrumentation available

### **Lube System**

Crankcase breather, top mounted.  
Oil cooler, Oil filler and dipstick, RH.  
Oil pump, Oil filter, LH, spin-on type.  
Front sump oil pan, 250 hour change interval.

### **Mounting System**

Trunnion front support

### **Power Take-Offs**

Accessory drive, lower LH, Front housing, two sided

### **Protection System**

ADEM™ II monitoring system to provide customer programmable engine.  
De-rate strategies to protect against adverse operating condition.  
Emergency stop logic inputs provided at 40-pin customer interface connection.

### **General**

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

### **Note**

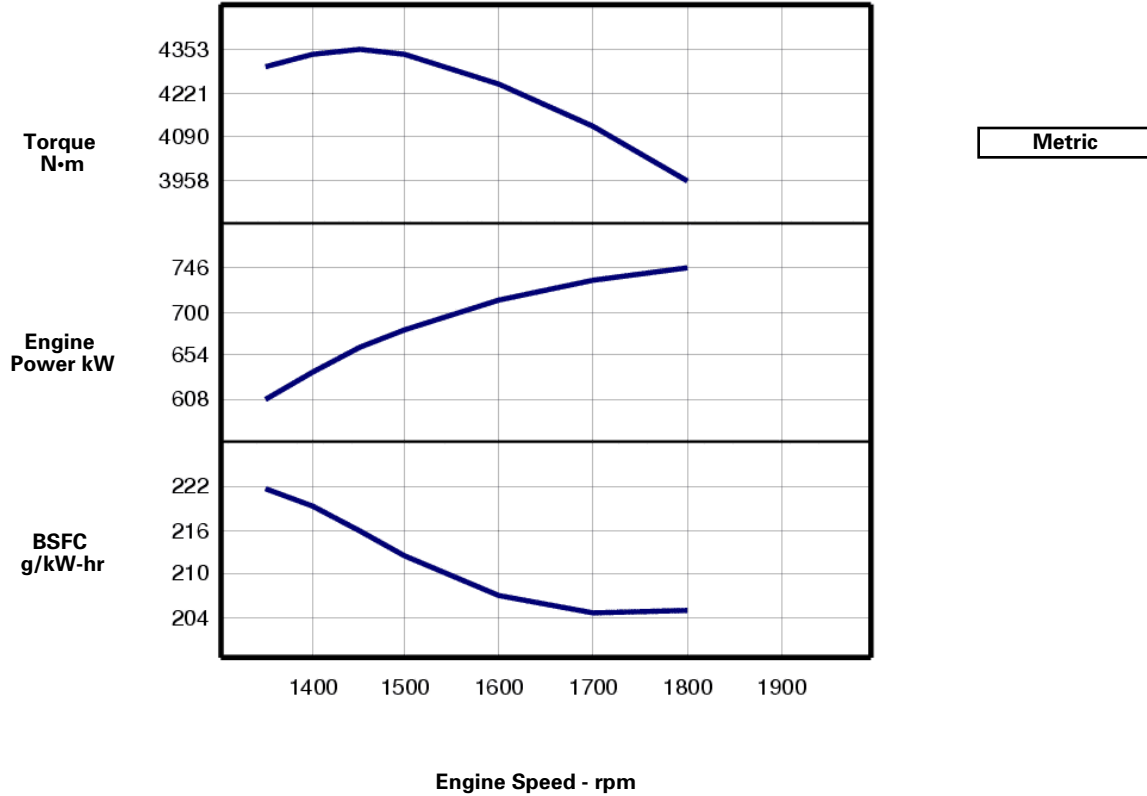
These engines are not configured properly for application in hydraulic excavators or front shovels. To obtain proper rating and configuration for excavators and shovels, please contact your Area/District Industrial Sales Representative or the 3500 Product Group.



PERFORMANCE CURVES

746 bkW/1000 bhp @ 1800 rpm

IND - A (Continuous) - DM4634-01



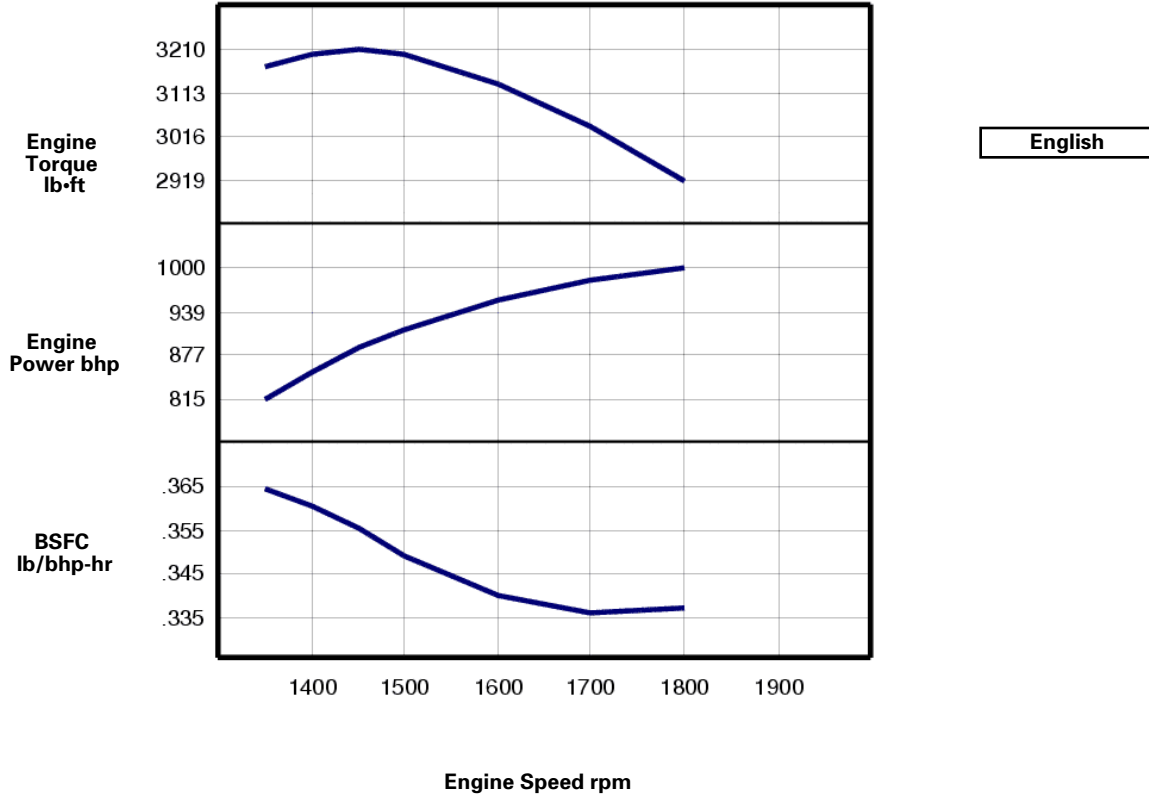
Engine Speed rpm	Engine Power kW	Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
1800	746	3958	205.1	182.4
1700	733	4120	204.5	178.7
1600	712	4249	206.9	175.6
1500	681	4338	212.5	172.6
1450	661	4353	216	170.2
1400	636	4337	219.3	166.2
1350	608	4302	221.8	160.8



PERFORMANCE CURVES

746 bkW/1000 bhp @ 1800 rpm

IND - A (Continuous) - DM4634-01



Engine Speed rpm	Engine Power bhp	Engine Torque lb-ft	BSFC lb/bhp-hr	Fuel Rate gal/hr
1800	1000	2919	.337	48.2
1700	984	3039	.336	47.2
1600	955	3134	.340	46.4
1500	914	3200	.349	45.6
1450	886	3211	.355	45.0
1400	853	3199	.361	43.9
1350	815	3173	.365	42.5



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## RATINGS AND CONDITIONS

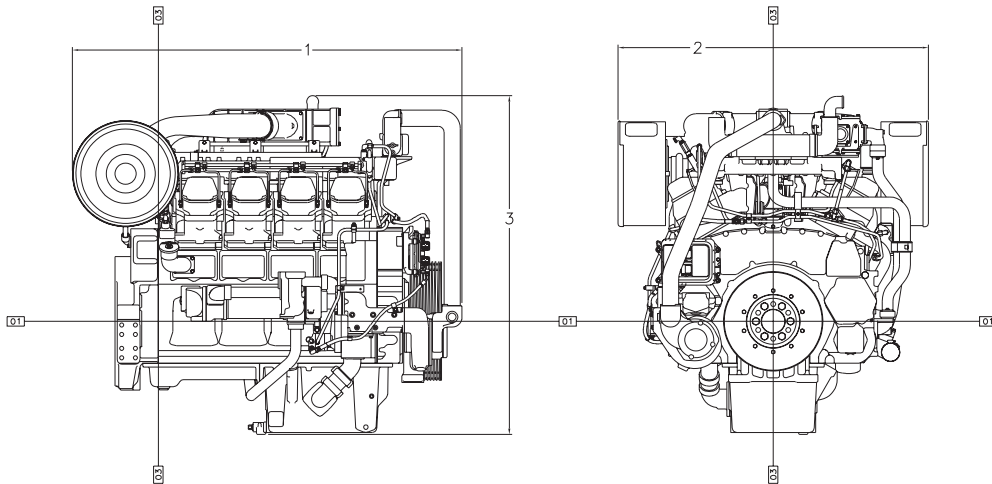
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**IND - A (Continuous)** Continuous heavy duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling. Time at full load can be up to 100% of the duty cycle. Typical service examples 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	2136.5 mm (84.11 in)
(2) Width	1703.0 mm (67.05 in)
(3) Height	1858.4 mm (73.17 in)

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 2002730).

Performance Number: DM4634-01

Feature Code: 508DO02 Arr. Number: 1918408

Materials and specifications are subject to change without notice.

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