



**C18 ACERT™**  
**Industrial Engine**  
Tier 3/Stage IIIA  
429 bkW/575 bhp @ 2100 rpm

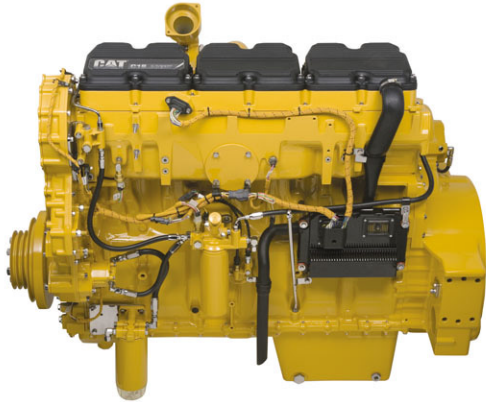


Image shown may not reflect actual engine

**CAT® ENGINE SPECIFICATIONS**

**I-6, 4-Stroke-Cycle Diesel**

Bore.....	145.0 mm (5.71 in)
Stroke.....	183.0 mm (7.2 in)
Displacement.....	18.1 L (1,104.53 in <sup>3</sup> )
Aspiration.....	Turbocharged Aftercooled
Compression Ratio.....	16.3:1
Rotation (from flywheel end).....	Counterclockwise
Weight, Net Dry (approximate).....	1769 kg (3900 lb)

**FEATURES**

**Emissions & Regulations**

Meets U.S. EPA Tier 3, EU Stage IIIA and China Stage II emissions requirements.

**Worldwide Supplier Capability**

Caterpillar  
- Casts engine blocks, heads, cylinder liners, and flywheel housings  
- Machines critical components  
- Assembles complete engine  
- Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities  
Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.

**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 1,800 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).



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## STANDARD ENGINE EQUIPMENT

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### Air Inlet System

Turbocharged Aftercooled -- 429-470 bkW (575-630 bhp)  
Twin Turbocharged Aftercooled -- 522-597 bkW (700-800 bhp)  
ATAAC

### Charging System

Charging alternator 24 volt, 50 amp

### Control System

Electronic governing  
PTO speed control  
Programmable ratings  
Cold mode start strategy  
Automatic altitude compensation  
Power compensation for fuel temperature  
Programmable low and high idle and total engine limit  
Electronic diagnostics and fault logging  
Engine monitoring system  
J1939 Broadcast (diagnostic and engine status)  
ADEM™ A4

### Cooling System

Thermostats and housing, vertical outlet  
Jacket water pump, centrifugal  
Water pump, inlet

### Exhaust System

Exhaust manifold, dry  
Optional exhaust outlet

### Flywheels and Flywheel Housing

SAE No. 1 Flywheel housing

### Fuel System

MEUI injection  
Fuel filter, secondary (2 micron high performance)  
Fuel transfer pump  
Fuel priming pump  
ACERT™ Technology

### Lube System

Crankcase breather  
Oil cooler  
Oil filler  
Oil filter  
Oil pan front sump  
Oil dipstick  
Oil pump (gear driven)

### General

Paint, Caterpillar Yellow  
Vibration damper  
Lifting eyes



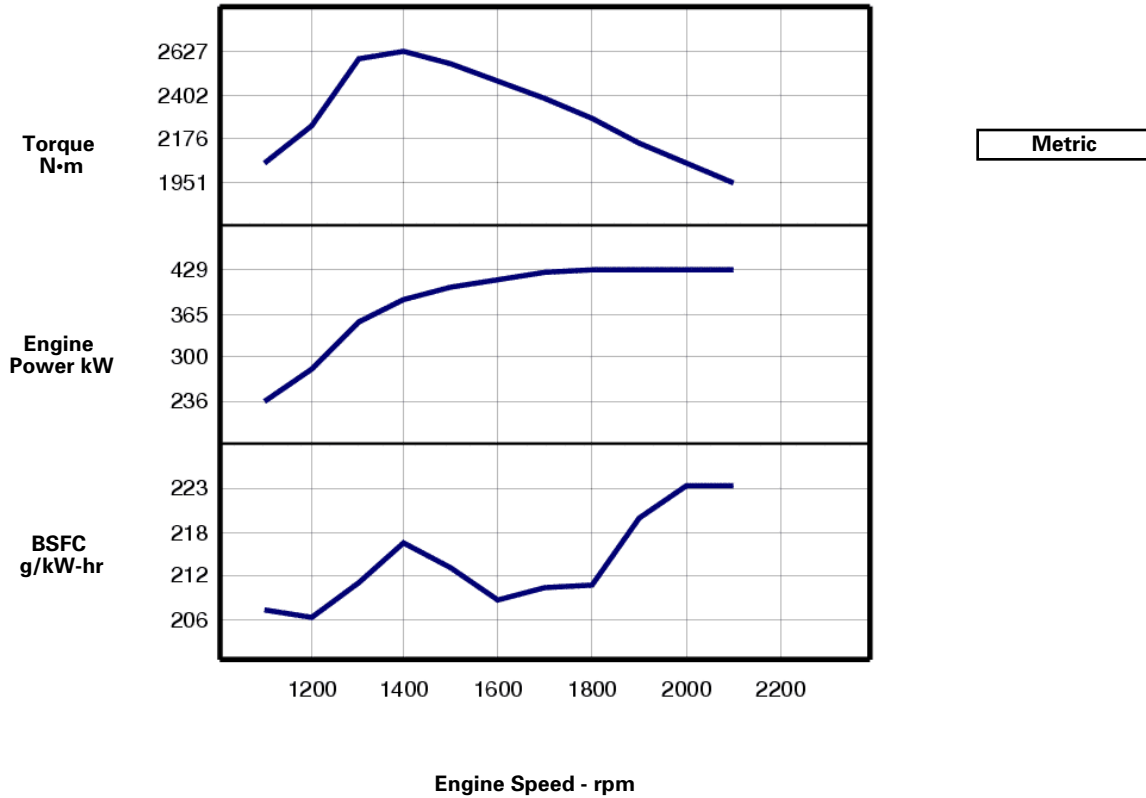
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**PERFORMANCE CURVES**

**IND - A (Continuous) - DM7698-01**



Engine Speed rpm	Engine Power kW	Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
2100	429	1951	223	114.0
2000	429	2048	222.9	114.0
1900	429	2156	218.9	112.0
1800	429	2276	210.6	107.7
1700	424	2382	210.2	106.2
1600	415	2477	208.7	103.2
1500	402	2562	212.9	102.1
1400	385	2627	215.7	99.0
1300	353	2594	210.9	88.8
1200	282	2242	206.5	69.3
1100	236	2047	207.7	58.4



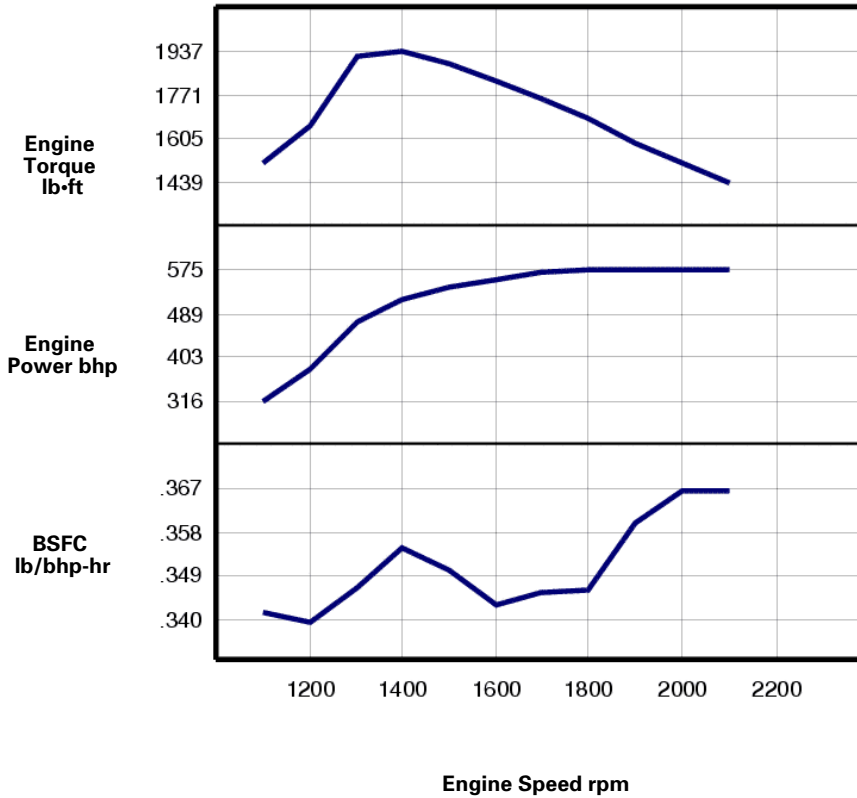
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**PERFORMANCE CURVES**

**IND - A (Continuous) - DM7698-01**



English

Engine Speed rpm	Engine Power bhp	Engine Torque lb-ft	BSFC lb/bhp-hr	Fuel Rate gal/hr
2100	575	1439	.367	30.1
2000	575	1511	.366	30.1
1900	575	1590	.360	29.6
1800	575	1679	.346	28.5
1700	569	1757	.346	28.1
1600	557	1827	.343	27.3
1500	540	1890	.350	27.0
1400	516	1938	.355	26.2
1300	474	1913	.347	23.5
1200	378	1654	.339	18.3
1100	316	1510	.341	15.4

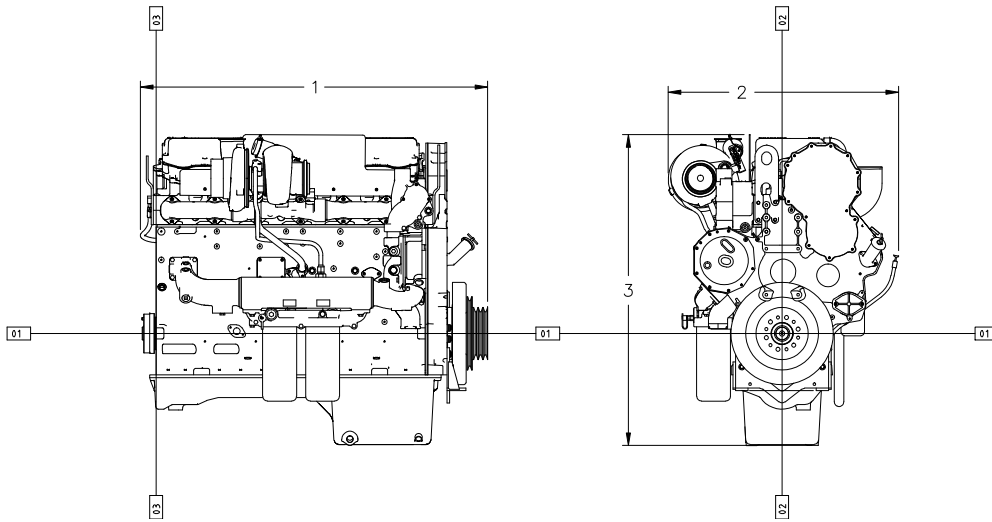


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**RATINGS AND CONDITIONS**

**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.

**Engine Performance Diesel Engines — 7 liter and higher**  
All rating conditions are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in. Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42,780 kJ/kg (18,390 btu/lb) when used at 29° C (84.2° F) with a density of 838.9 g/L.



<b>Engine Dimensions</b>	
(1) Length	1388.2 mm (54.65 in)
(2) Width	920.7 mm (36.25 in)
(3) Height	1242.8 mm (48.93 in)

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 2588747 ).

Performance Number: DM7698-01  
Feature Code: C18DI00 Arr. Number: 2371955  
Materials and specifications are subject to change without notice.  
16287228

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