



**C27 ACERT™**  
**Industrial Engine**  
Tier 2  
653 bkW/875 bhp @ 2100 rpm

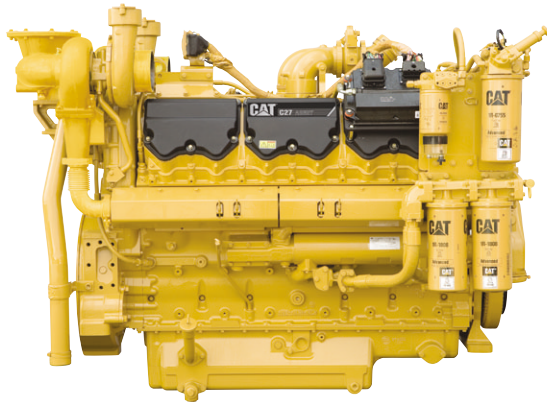


Image shown may not reflect actual engine

**CAT® ENGINE SPECIFICATIONS**

**Vee 12 Cylinder, 4-Stroke-Cycle Diesel**

|   |                                     |
|---|-------------------------------------|
| Bore.....                                 | 137.2 mm (5.4 in)                   |
| Stroke.....                               | 152.4 mm (6.0 in)                   |
| Displacement.....                         | 27.03 L (1,649.47 in <sup>3</sup> ) |
| Aspiration.....                           | Turbocharged Aftercooled            |
| Compression Ratio.....                    | 16.5:1                              |
| Rotation (from flywheel end).....         | Counterclockwise                    |
| Weight, Net Dry (approximate kg. lb)..... | 2946 kg (6495 lb)                   |

**FEATURES**

**Emissions**

Meets U.S. EPA Tier 2 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).



## STANDARD ENGINE EQUIPMENT

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### **Air Inlet System**

Turbocharged Air to Air Aftercooled

### **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)

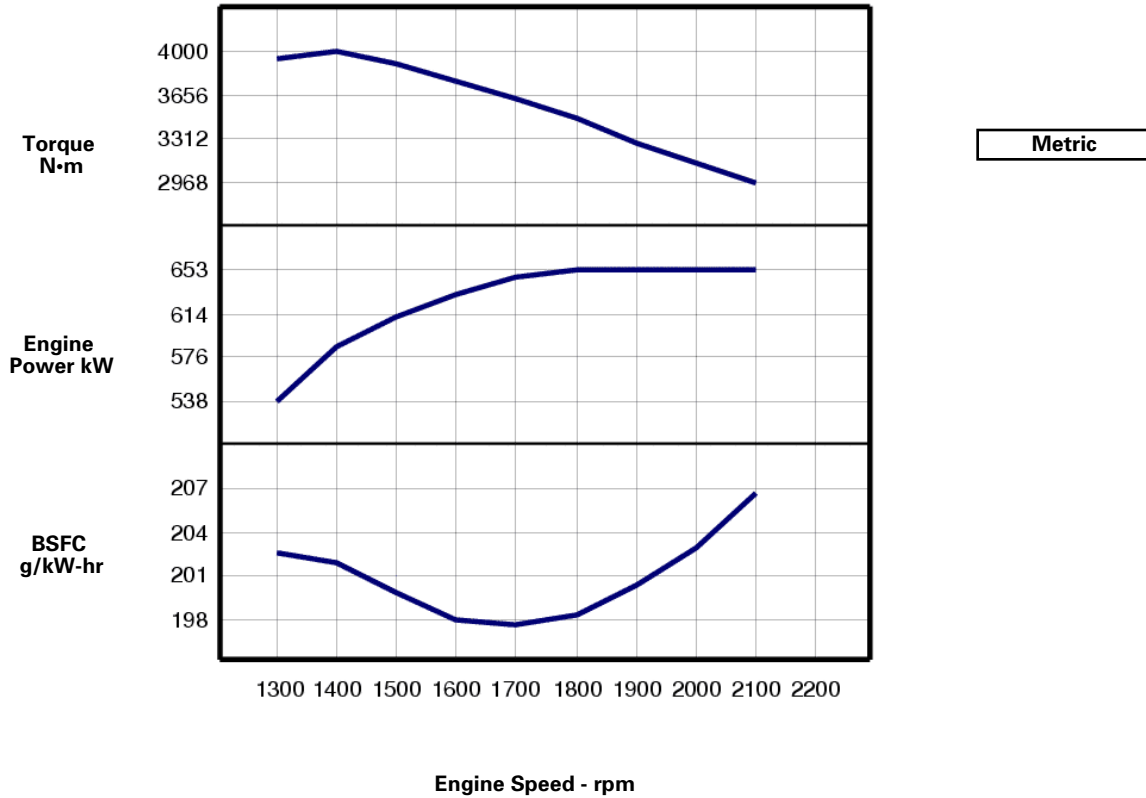
### **General**

Paint, Caterpillar Yellow  
Vibration damper  
Lifting eyes



**PERFORMANCE CURVES**

**IND - B - DM9038-00**

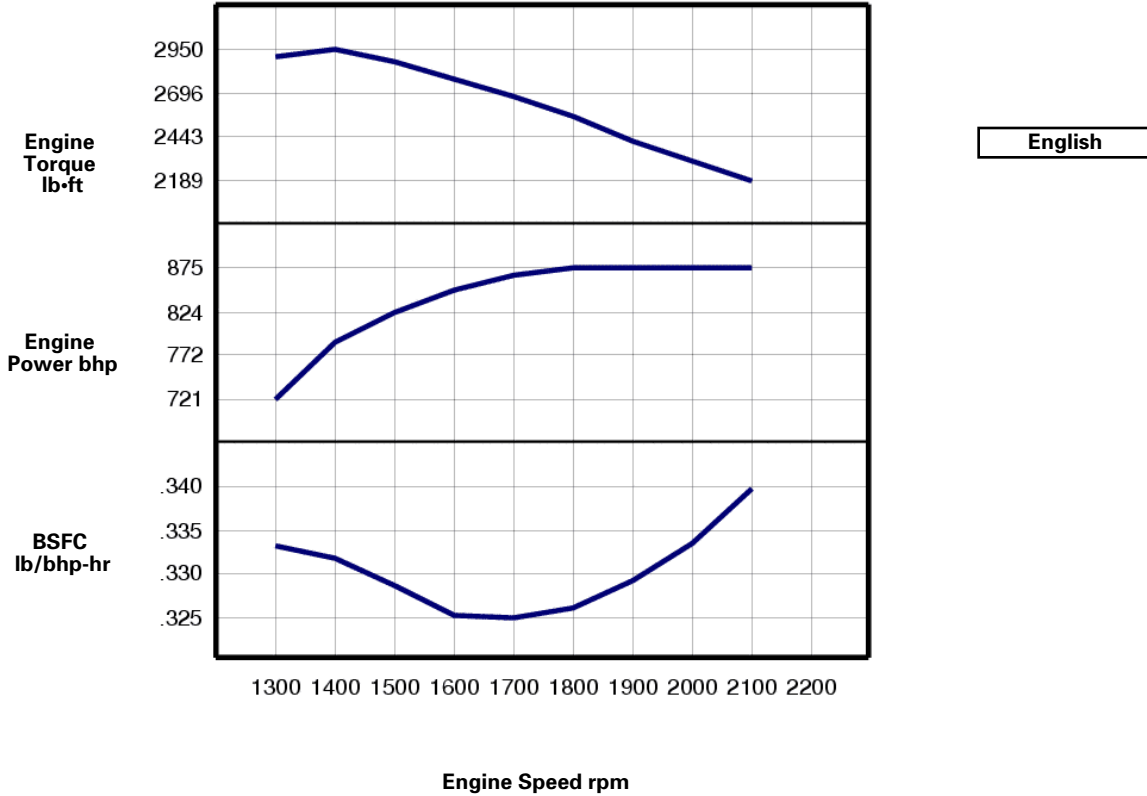


| Engine Speed rpm | Engine Power kW | Torque N·m | BSFC g/kW-hr | Fuel Rate L/hr |
|------------------|-----------------|------------|--------------|----------------|
| 2100             | 653             | 2968       | 206.6        | 160.8          |
| 2000             | 653             | 3117       | 202.9        | 157.8          |
| 1900             | 653             | 3281       | 200.3        | 155.8          |
| 1800             | 653             | 3463       | 198.3        | 154.3          |
| 1700             | 646             | 3628       | 197.7        | 152.2          |
| 1600             | 632             | 3771       | 197.9        | 149.1          |
| 1500             | 613             | 3900       | 199.9        | 146.0          |
| 1400             | 586             | 4000       | 201.8        | 141.1          |
| 1300             | 538             | 3949       | 202.6        | 129.8          |



**PERFORMANCE CURVES**

**IND - B - DM9038-00**



| Engine Speed rpm | Engine Power bhp | Engine Torque lb-ft | BSFC lb/bhp-hr | Fuel Rate gal/hr |
|------------------|------------------|---------------------|----------------|------------------|
| 2100             | 875              | 2189                | .340           | 42.5             |
| 2000             | 875              | 2299                | .334           | 41.7             |
| 1900             | 875              | 2420                | .329           | 41.2             |
| 1800             | 875              | 2554                | .326           | 40.8             |
| 1700             | 866              | 2676                | .325           | 40.2             |
| 1600             | 847              | 2781                | .325           | 39.4             |
| 1500             | 822              | 2876                | .329           | 38.6             |
| 1400             | 786              | 2950                | .332           | 37.3             |
| 1300             | 721              | 2913                | .333           | 34.3             |

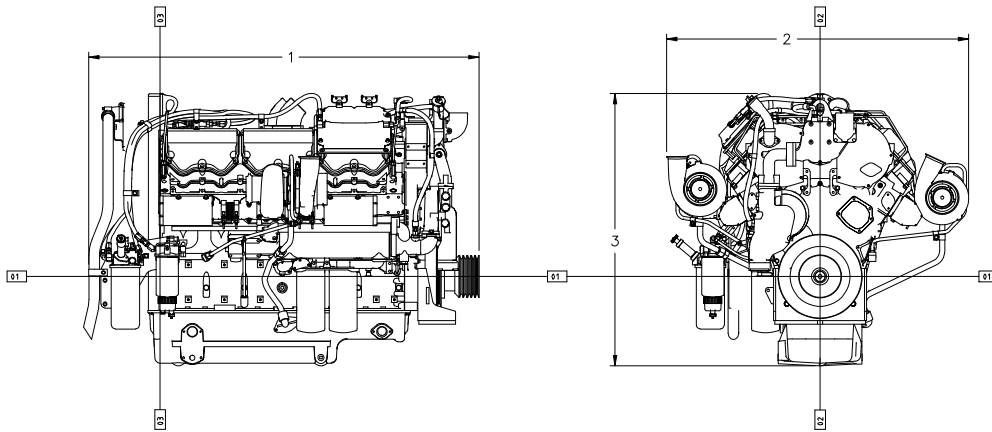


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**RATINGS AND CONDITIONS**

**IND - B** For service where power and/or speed are cyclic (time at full load not to exceed 80%).

**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.



| Engine Dimensions |  |
|-------------------|--|
| (1) Length        | See page Specifications for Dimensions |
| (2) Width         |  |
| (3) Height        |  |

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

Performance Number: DM9038-00  
Feature Code: C27DI08 Arr. Number: 3505502  
Materials and specifications are subject to change without notice.  
16301391

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