

The new electronic Cat® C2.2 Industrial Diesel Engines, with common rail fuel system, deliver impressive performance throughout a wide speed range with exceptional power density. Ultracompact package size and extensive options make them ideal for agriculture, aerial lifts, compressors, construction, general industrial, irrigation equipment, material handling, mobile earthmoving equipment, mobile light towers, turf and landscaping, underground mining equipment, and welders.

## Specifications

Power Rating		
Minimum Power	36.4 bkW	48.8 bhp
Maximum Power	50 bkW	67.1 bhp
Rated Speed	2800 rpm	

Emission Standards	
Emissions	U.S. EPA Tier 4 Final, EU Stage IIIB

General	
Engine Configuration	In-Line 4, 4-Stroke-Cycle Diesel
Bore	84 mm (3.3 in)
Stroke	100 mm (3.9 in)
Displacement	2.2 L (135 in <sup>3</sup> )
Aspiration	Turbocharged (T) or Turbocharged-Aftercooled (TA)
Compression Ratio	18:1
Combustion System	Direct Injection
Rotation (from flywheel end)	Counterclockwise
Cooling System Capacity	4.3 L (4.5 qt)
Lube System (refill)	9.3 L (9.8 qt)

Engine Dimensions (Approximate. Final dimensions dependent on selected options)	
Length	764 mm (30.07 in)
Width	545 mm (21.5 in)
Height	736 mm (28.9 in)



Weight - Net Dry (Basic Operating Engine Without Optional Attachments)	230 kg (507 lbs)
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**Aftertreatment Dimensions (Approximate. Final dimensions dependent on selected options)**

Length	408.4 mm (16.07 in)
Weight	5.8 kg (12.79 lb)
Diameter	155 mm (6.1 in)

## Benefits And Features

### Emissions

Meets U.S. EPA Tier 4 Final, EU Stage IIIB emission standards.

### Reliable, Quiet and Durable Power

World-class manufacturing capability and processes coupled with proven core engine designs assure reliability, quiet operation, and many hours of productive life.

### High Performance

Substantial torque rise delivers impressive performance throughout a wide speed range while maintaining low operating costs.

### Fuel Efficiency

Fuel consumption optimized to match operating cycles of a wide range of equipment and applications while maintaining low operating costs.

### Broad Application Range

Industry leading ratings and options for compact construction equipment, material handling, and other industrial applications. The engine is designed to require no special training or operation, which makes it particularly suitable for machines that are used in rental fleets.

### Package Size

Ultra-compact package size and high power density ensures ease of installation. It also allows machine manufacturers to develop smaller machines, with low weight for transport, tight turning circles for productivity, and good sight lines for safety.

### Low Cost Maintenance

Single-side servicing improves ease of maintenance and simplifies the servicing routine. Standard 500 hour service intervals.

### Quality

Every Cat engine is manufactured to stringent quality standards in order to assure customer satisfaction.



#### World-class Product Support Offered Through Global Cat Dealer Network

- Scheduled maintenance, including S•O•S<sup>SM</sup> sample
- Customer Support Agreements (CSA)
- Caterpillar Extended Service Coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat Industrial Service Distributor (ISD) program

#### Tier 4 Final, Stage IIIB Aftertreatment Features

**Regeneration Free.** The Diesel Oxidation Catalyst (DOC) technology provides customers with an aftertreatment solution that is as compact as possible. The aftertreatment is regeneration-free, providing a seamless operation throughout the work cycle. **Mounting.** Mounted on-engine, as standard. This will provide the simplest installation and the lowest total cost for the equipment manufacturer. An off-engine option will be offered for some equipment.

## Standard Equipment

### Control System

- Alternator 12 volt 85 amp
- Starter motor 12 volt
- Glow plug starting aid, delivers heat directly to cylinder for best starting performance in cold weather
- Electronic control unit - chassis mounted
- Flexible and configurable software features and well supported SAE J1939 CAN bus enables highly integrated machines
- Wiring harness connectors and sensors are waterproof and designed to withstand harsh off-highway environments

### Flywheels and Flywheel Housing

- SAE No. 4 standard flywheel housing
- Choice of flywheel weight and bolting pattern to accommodate a range of industry-standard hydraulic pumps and transmissions

### Fuel System

- 2000 bar high-pressure common rail system
- Proprietary fuel filters to ensure engine protection through correct service procedures, along with water-in-fuel detection, ensures maximum machine up-time for the operator

### Lube System

- Alternative oil fillers
- Spin-on lube oil filter

### Power Take Off (PTO)

- SAE A PTO drive

### General

- Cast iron engine block
- Cast iron exhaust manifold
- Gradeability 35° continuous
- Paint: Cat yellow

### U.S. EPA Tier 4 Final, EU Stage IIIB Aftertreatment/Clean Emissions Control Equipment

- Diesel Oxidation Catalyst (DOC)

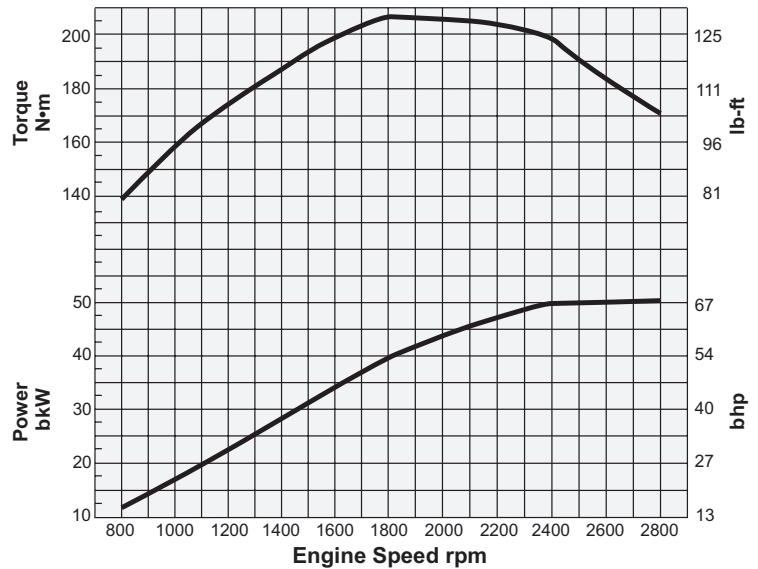
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## Performance Data – Preliminary

Turbocharged Aftercooled – 2800 rpm  
50 bkW/67.1 bhp

Speed rpm	Peak Rating bkW	Peak Power bhp	Peak Torque N•m	Peak Torque lb-ft
1800	39.2	52.5	208	153

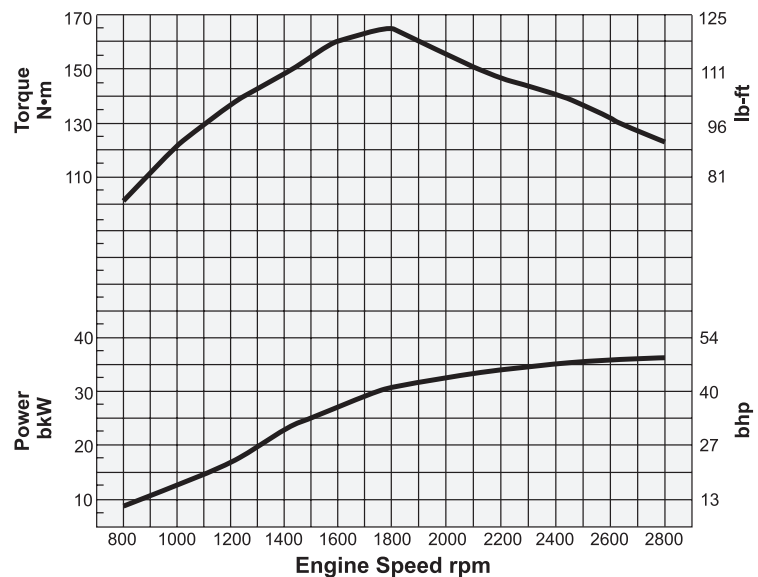
Rated Speed @ 2800 rpm



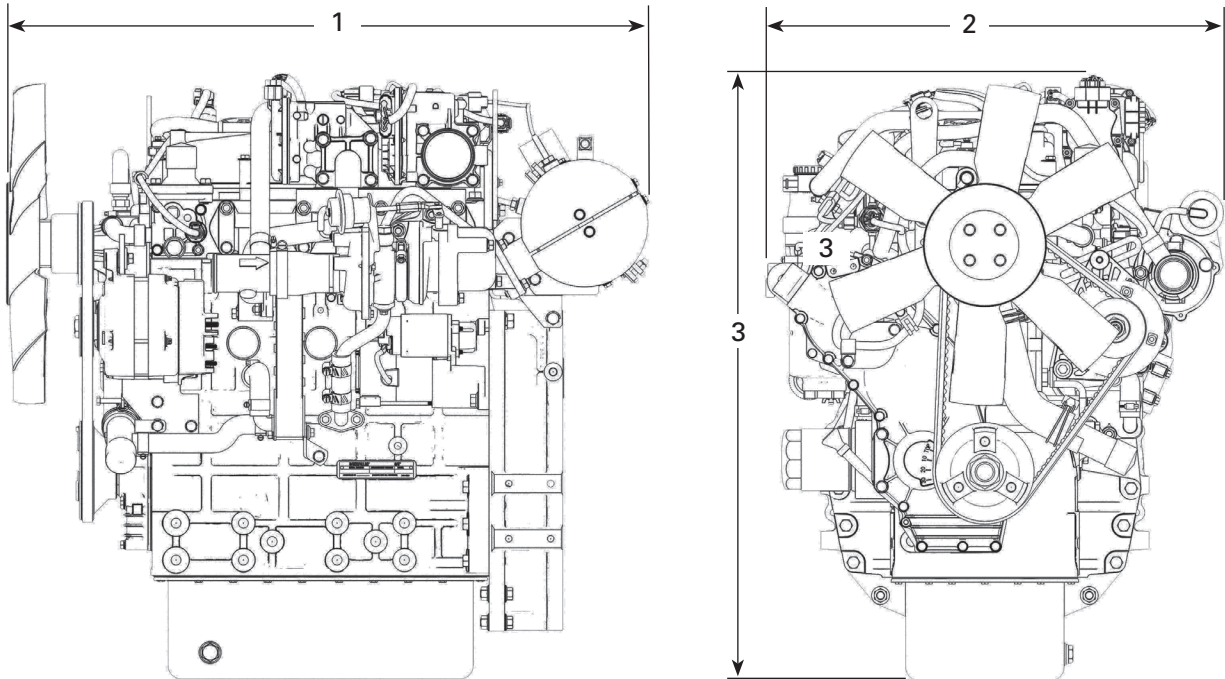
Turbocharged – 2800 rpm  
36.4 bkW/48.8 bhp

Speed rpm	Peak Rating bkW	Peak Power bhp	Peak Torque N•m	Peak Torque lb-ft
1800	31.1	41.7	165.0	122

Rated Speed @ 2800 rpm



## Dimension Art



(1) Length — 764 mm (30.1 in)      (2) Width — 545 mm (21.5 in)      (3) Height — 736 mm (28.9 in)

**Note:** Final dimensions dependent on selected options

## Rating Definitions and Conditions – Preliminary

**IND-C (Intermittent)** is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

Additional ratings are available for specific customer requirements. Consult your Cat dealer.

**Rating Conditions for Diesel Engines — up to 7.1 liter** are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (.295 in Hg), and 25°C (77°F). Performance is measured using fuel to specification U.S. EPA 2D 89.330-96 with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).

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