# Cat® C13B Diesel Engine
# Industrial

Image shown may not reflect actual configuration

The Cat® C13B Industrial Diesel Engine is offered in ratings ranging from 340-430 bkW (456-577 bhp) @ 1800-2100 rpm. These ratings will meet EU Stage V, U.S. EPA Tier 4 Final, Japan 2014, and Korea Tier 4 Final emission standards.

The C13B engines are ideal choices to power applications in agriculture, aircraft ground support, construction, forestry, general industrial, material handling, and mining.

## Specifications

| Power Rating | | |
|---|---|---|
| Minimum Power | 340 bkW | 456 bhp |
| Maximum Power | 430 bkW | 577 bhp |
| Rated Speed | | 1800-2100 rpm |

| Emission Standards | |
|---|---|
| Emissions | EU Stage V, U.S. EPA Tier 4 Final, Japan 2014, and Korea Tier 4 Final emission standards. |
| Performance | UN R120 for measurement of net power and specific fuel consumption |

| Engine Specifications | | |
|---|---|---|
| Engine Configuration | In-Line 6, 4-Stroke-Cycle Diesel | |
| Bore | 130 mm | 5.1 in |
| Stroke | 157 mm | 6.2 in |
| Displacement | 12.5 L | 762.8 in³ |
| Aspiration | Turbocharged-Aftercooled (TA) | |
| Compression Ratio | 15.8:1 | |
| Combustion System | Direct Injection | |
| Rotation (from flywheel end) | Counterclockwise | |
| Cooling System Capacity (engine) | 18.7 L | 19.8 qts |
| Lube System (refill)* | 34-41 L | 35.9-43.3 qts |

*Varies based on sump/oil pan selection

| Engine Dimensions (Approximate. Final dimensions dependent on selected options.) | | |
|---|---|---|
| Length | 1274 mm | 50 in |
| Width | 994 mm | 39 in |
| Height | 1134 mm | 45 in |
| Weight – Net Dry (Basic Operating Engine Without Optional Attachments) | 1125 kg | 2480 lb |

| Aftertreatment Dimensions (Approximate. Final dimensions dependent on selected options.) | | |
|---|---|---|
| Length | 896 mm | 35.3 in |
| Width | 807 mm | 31.8 in |
| Height | 460 mm | 18.1 in |
| Weight | 100 kg | 220 lb |

# Benefits & Features

### High Power Density

High power density. With peak power increased up to 20%, you can look to downsize the displacement of the engine currently powering your application without impacting performance.

### Reliable, Quiet and Durable Power

World-class manufacturing capability and processes coupled with proven core engine designs – over 109 million off-highway field hours – assure reliability, quiet operation, and many hours of productive life.

### Fluid Efficiency

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

### Installation

- Exceptional power density enables you to use a smaller displacement engine than previously, and optimize the installation in your application.
- Fully configurable engine and compact aftertreatment minimize package size. Ideal for equipment with narrow engine compartments.
- Aftertreatment installation flexibility to meet all applications – including remote mount and engine-mounted from the factory.
- Industrial power unit (IPU) available from factory to avoid significant design, validation, and manufacturing costs.
- Low heat rejection levels allow for optimized cooling package at equivalent power.
- The C13B will be available in single label certification for EU Stage V, U.S. EPA Tier 4 Final, Japan 2014, and Korea Tier 4 Final providing global customers a single source solution that streamlines design, installation, and service processes.

### Low Cost Maintenance

- Worldwide service delivers ease of maintenance and simplifies the servicing routine.
- 5000-hour diesel particulate filter (DPF) ash service interval enables low-cost maintenance.
- Standard service intervals of 500 hours under normal operating conditions.
- The S•O•S℠ program is available from your Cat dealer to optimize oil change intervals.
- Ideal for high-hour applications over 10,000 hours.
- Remote mount options for serviceable items such as oil and fuel filters.

### Quality

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

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

- Scheduled maintenance, including S•O•S sample
- Customer support agreements (CSA)
- Extended service coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat industrial service distributor (ISD) program

## Benefits & Features (continued)

**Tier 4 Final, Stage V Aftertreatment Features**

- Clean emissions module (CEM) consisting of diesel oxidation catalyst (DOC) and combined diesel particulate filter (DPF) and high-efficiency selective catalytic reduction (SCR)
- Maximum uptime with transparent aftertreatment regeneration, without operator distraction or impact to machine performance
- PETU DEF capacity up to 93.7 liters (24.7 U.S. gallons)
- Minimum 5000 hour service interval for DPF/PETU filters

**Enhanced Electronics**

- The C13B is equipped for the future with the latest technology from a single on-engine ECM.
- 12V and 24V available

## Standard Equipment

**Air Inlet System**

- Turbocharged
- Air-to-Air Aftercooled
- Front or rear exhaust configurations available

**Control System**

- Electronic control system
- Over-foam wiring harness
- Automatic altitude compensation
- Configurable software features
- Engine monitoring system SAE J1939 broadcast and control
- Integrated Electronic Control Unit (ECU)
- Remote fan control

**Cooling System**

- Vertical or RH thermostat outlet
- Centrifugal water pump
- Guidance on cooling system design available through your dealer to ensure equipment reliability

**Flywheels and Flywheel Housing**

- Available SAE No. 1 power take-off with optional SAE B or SAE C power take-off drives. Engine power can also be taken from the front of the engine with optional attachments.

**Fuel System**

- Mechanical Electronic Unit Injector fuel system (MEUI-C)
- Primary fuel filter
- Secondary and tertiary fuel filters
- Fuel transfer pump
- Electronic fuel priming

## Standard Equipment (continued)

**Lube System**

- Oil cooler
- Oil filler
- Lube oil filter
- Oil dipstick
- Gear-driven oil pump
- Choice of front, rear or center sumps
- Open crankcase ventilation system with fumes disposal (OCV filter system required for EU Stage V certification engines)

**Power Take-off (PTO)**

- SAE B or SAE C power take-off (PTO) drives. Engine power can also be taken from the front of the engine on some applications.

**General**

- Caterpillar Yellow paint, with optional colors available
- Vibration damper
- Lifting eyes

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**Emissions: EU Stage V, U.S. EPA Tier 4 Final, Japan 2014, and Korea Tier 4 Final Emission Standards**

**C13B**

**340-430 bkW/456-577 bhp**
**1800-2100 rpm**

| | Metric | English |
|---|---|---|
| **General Engine** | | |
| Number of Cylinders | 6 | |
| Bore | 130 mm | 5.1 in |
| Stroke | 157 mm | 6.2 in |
| Displacement | 12.5 L | 762.8 $in^3$ |
| Compression Ratio | 15.8:1 | |

## RATING DEFINITIONS AND CONDITIONS

**IND-A (Continuous)** for heavy duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling.

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

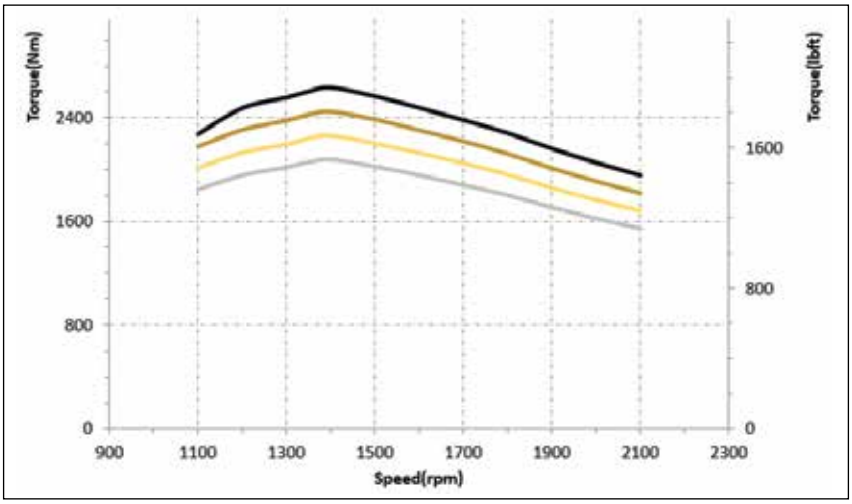
**IND-C (Intermittent)** is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

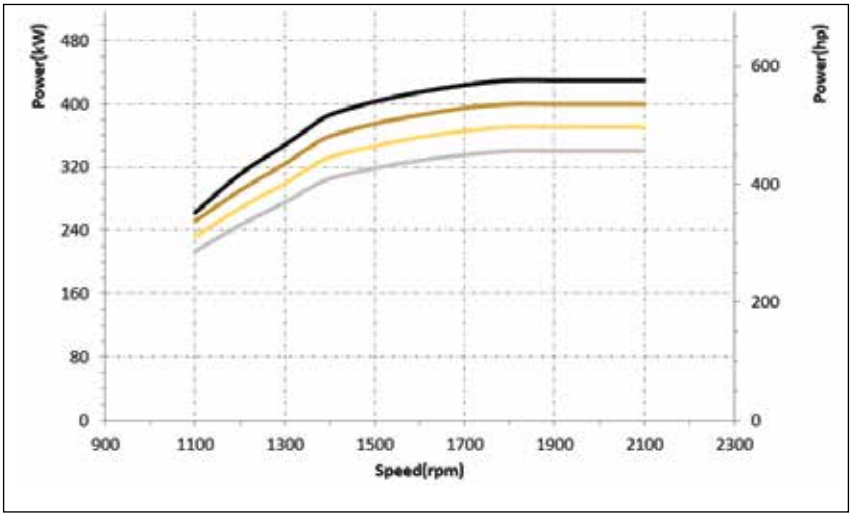
**IND-D** for service where maximum power is required for periodic overloads (time at full load not to exceed 10% of the duty cycle).

**Diesel Engines –** greater than 7.1 liter. 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.

**Emissions: EU Stage V, U.S. EPA Tier 4 Final, Japan 2014, and Korea Tier 4 Final Emission Standards**

## Performance Data




| Rating | Aspiration | Rated Speed rpm | Rated Power bkW | Rated Power bhp | Peak Torque N•m | Peak Torque lb-ft | Speed rpm |
|---|---|---|---|---|---|---|---|
| A | TA | 1800-2100 | 340 | 456 | 2082 | 1536 | 1400 |
| B | TA | 1800-2100 | 370 | 496 | 2266 | 1671 | 1400 |
| C | TA | 1800-2100 | 400 | 536 | 2450 | 1807 | 1400 |
| D | TA | 1800-2100 | 430 | 577 | 2634 | 1943 | 1400 |