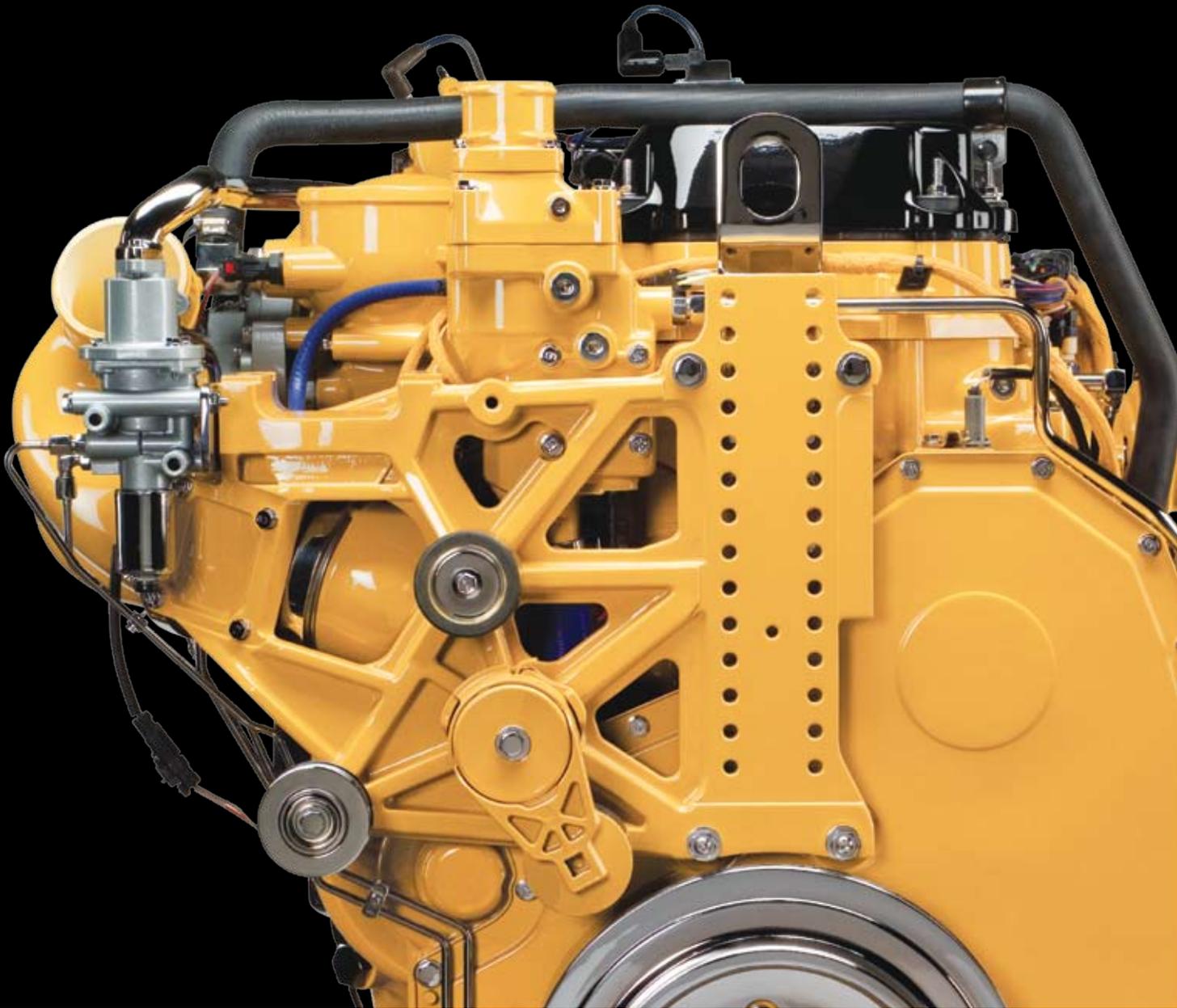


# Cat<sup>®</sup> C13 for Payload-Pulling Profitability

ACERT™ Technology for 2007



**CATERPILLAR<sup>®</sup>**

# 305-525 Horsepower

## Reliability

Dealer Repair Frequency statistics show Caterpillar® heavy duty engines offer outstanding reliability based on initial quality and customer surveys.

## Durability

Laboratory tests and engine disassembly analyses indicate Cat® C13 engines are expected to have a B50 life of one million miles with Cat's recommended maintenance.

## Fuel Economy

2007 compliant Cat® C13 engines are engineered to offer the same fuel economy as EPA 2004 compliant engines.

## Total Owning/Operating Costs

2007 compliant Cat engines are engineered to offer the same reliability, durability, fuel economy and similar maintenance costs as EPA 2004 compliant engines for outstanding overall value.

## Dealer Support

Caterpillar sets the industry standard for support with 2,500 authorized North American service locations and a 24/7 call center.



**Cylinders:** In-line 6

**Bore/Stroke:** 5.12 x 6.18 (130 mm x 157 mm)

**Displacement:** 12.5 L (763 cu in)

**Weight:** 2610 lb (1184 kg)

**Vocational Truck and Bus Ratings:** 305-370 hp @ 2100 rpm

**Line Haul Truck and Bus Ratings:** 380-470 @ 2100 rpm

**Fire Truck Ratings:** 485-525 hp @ 2100 rpm

**RV Ratings:** 525 hp @ 2100 rpm

**Torque:** 1150-1750 lb-ft @ 1200 rpm

# Choose from two Cat® C13

**The Cat® C13 is the heavy duty engine built for versatility. In line haul or vocational applications, it delivers a solid combination of rugged reliability, million-mile durability, low operating costs and excellent fuel economy.**

**ADEM™ A4 enhanced electronics** — Three times the memory, five times the processing speed of ADEM 2000 technology

**One-piece steel piston four-bolt connecting rod and high efficiency water pump** — Heavy duty components deliver the reliability, durability and resale value you expect from Caterpillar

**Million-mile durability** — Thanks to increased displacement, one million miles to overhaul is easily within reach

**Cross-flow cylinder head** — Improves the engine's ability to breathe to increase responsiveness

**Large displacement** — Allows more cool, clean air into the combustion chamber to reduce emissions and enables "Gear Fast, Run Super Slow" driving techniques to optimize fuel economy

**"Leak-free" technology** — Significantly reduces leaks to cut downtime and improve reliability

**Cat compression brake** — 400 retarding horsepower now available



# Configurations for Line Haul

**How do Cat® engines with ACERT™ Technology meet tougher 2007 emissions standards while maintaining top performance and excellent fuel economy? With refinements to the same innovative approach proven successful over millions of miles: using more cool, clean air for more efficient combustion.**

## Still a Systems Solution

The systems solution of ACERT Technology, a proven success, hasn't changed for 2007. Its four basic systems of *Air Management*, *Precision Combustion*, *Advanced Electronics* and *Effective Aftertreatment* are still the building blocks for reduced emissions, powerful performance and outstanding fuel economy.

### Precision Combustion

Cat Designed Injection Technology  
Clean Gas Induction

### Air Management

Variable Valve Actuation  
Series Turbocharging



### Advanced Electronics

Electronic Control Module  
System Integration

### Effective Aftertreatment

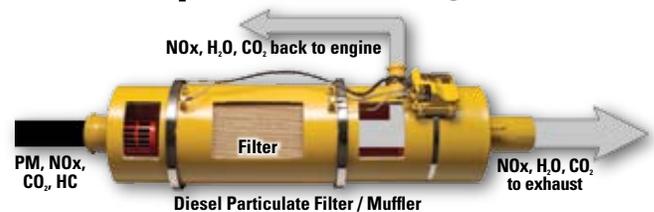
Diesel Particulate Filter  
Cat Regeneration System

But 2007 emissions regulations require diesels to emit lower levels of oxides of nitrogen (NOx) and particulates. That's why Cat has added two new enhancements: Clean Gas Induction and a Cat Diesel Particulate Filter featuring its own Cat Regeneration System (CRS).

## New Clean Gas Induction

Clean Gas Induction (CGI) is a proprietary ACERT Technology process that draws off a small amount of non-combustible gas after it has passed through the engine's aftertreatment system. The gas is then cooled, blended with more incoming cool, clean air and returned to the combustion chamber. Since it has passed through the diesel particulate filter, most contaminants have been removed before the gas re-enters the intake system.

## The CGI process through the DPF



*The CGI process filters and cools exhaust before re-routing it to the engine.*

The CGI advantage is clear. It recycles cool, clean air, which is key to good fuel economy, reliability and durability.

## New Diesel Particulate Filter

For 2007, all engines require a diesel particulate filter (DPF) to further reduce emissions of hydrocarbons and other contaminants. But the Cat manufactured DPF is designed for self-regeneration under all conditions. When the electronic control module detects soot buildup, the Cat Regeneration System (CRS) activates. CRS works automatically, using only the precise amount of fuel necessary to oxidize soot. With CRS, no driver action is required for regeneration. Ash that collects in the Cat DPF can be cleared with a special removal tool.

# or Vocational Applications.

## Most Horsepower Ratings in its Class (80,000 lb GCW or less)

<b>Cat C13 2007 Compliant EPA Ratings</b>			
<b>Advertised Horsepower</b>	<b>Maximum Horsepower</b>	<b>Peak Torque lb-ft</b>	<b>Governed Speed RPM</b>
305	320	1150	2100
335	350	1250	2100
350	365	1350	2100
350	365	1450	2100
350	420	1550	2100
370	385	1350	2100
370	385	1450	2100
380	395	1450	2100
410	425	1450	2100
410	425	1550	2100
430	445	1550	2100
430	445	1650	2100
470	485	1550	2100
470	485	1650	2100
<b>Multi-Torque Options*</b>			
410 MT	425	1450/1550	2100
410 MT	425	1450/1650	2100
430 MT(a)	445	1550/1750	2100
470 MT	485	1550/1750	2100
485*	485	1650	2100
525**	525	1750	2100

(a) Gear Fast, Run Super Slow Option (GFRSS) – available for use with the Eaton Fuller RTLOC-16909A or RTLOC-16909A-T2.

\* Fire Truck rating only.

\*\* RV and Fire Truck rating only.

## Gearing Considerations

The C13 engine offers a wide operating range and high torque rise for compatibility with a wide range of transmissions. For best performance, trucks should be geared to achieve the appropriate balance between startability and desired road speed, and drivers should follow “Gear Fast, Run Super Slow” techniques.

For the **best balance of performance and economy**, spec axle ratios and tire sizes according to the following:

<b>80,000 lb GCW or less</b>
Less than 1750 lb-ft: 1400 rpm @ 65 mph (105 km/h)
1750 lb-ft and above: 1325 rpm @ 65 mph (105 km/h)

Maximum recommended engine speed at cruise is 1500 rpm.

To optimize your truck’s performance characteristics, the minimum startability requirements are 10% for pickup and delivery, 14% for line haul, 20% for on/off-highway and 25% for off-highway.

At peak torque rpm in top gear, the recommended gradeability is 1.8% (1.5% minimum). At cruise speed in top gear, 1.0% is the ideal gradeability.

A computerized spec’ing tool called Design Pro 2.0, offered by your Caterpillar® dealer or authorized truck dealer, calculates the effects that various driveline components such as transmissions, axles and tires have on engine operation. This analysis allows you to test various driveline specifications to find the one best suited for your application and fuel economy requirements.

# Genuine Network. Genuine Value.



## 24-Hour Coast-to-Coast Support

Count on the Cat® dealer and truck dealer network of more than 2,500 authorized locations for convenient access to genuine Cat parts and service across North America. Our industry-leading support even includes the Caterpillar On-Highway Engine Call Center, where technicians are available 24 hours a day, seven days a week to answer technical questions, direct you to a dealer or help arrange on-the-road assistance. Just dial 1-800-447-4986 or send an email to [Call\\_CAT@cat.com](mailto:Call_CAT@cat.com).

## Peace of Mind Mile After Mile

The standard warranty\* for Cat C13 on-highway engines is 24 months.

Extended Service Coverage (ESC)\* is an optional repair cost protection plan for owners of all on-highway trucks powered by Cat truck engines including engines with ACERT Technology. The coverage pays 100% of parts and labor charges for any covered failures caused by defects in materials or workmanship under normal use and service.

*\*See your dealer for full details and conditions.*

## Delivering Excellence

Caterpillar has earned the J.D. Power and Associates award for "Highest in Customer Satisfaction with Vocational Heavy Duty Diesel Engines" six times. No other engine manufacturer has ever received this satisfaction award — not even once.

Caterpillar C-12 received the highest numerical score in the proprietary J.D. Power and Associates 2000-2003, 2005-2006 Heavy Duty Truck Engine/Transmission Customer Satisfaction Study.<sup>SM</sup> 2006 study based on 2,529 total telephone interviews measuring opinions of principal maintainers (owner/operators and fleet managers) of Class 8 heavy duty trucks. Proprietary study results are based on experiences and perceptions of principal maintainers surveyed in April-June 2006. Your experiences may vary. Visit [jdpower.com](http://jdpower.com)

