

## OPERATING CAT ENGINES WITH ACERT™ TECHNOLOGY

The following operating recommendations are designed to optimize the fuel economy, performance and engine life of Cat engines with ACERT™ Technology. In order to get the utmost from your Cat engine, however, it is also critical for your truck to be properly spec'd.

To achieve this, your Caterpillar dealer offers a computerized spec'ing tool called Design Pro. It automatically calculates the effects of various driveline variables such as transmissions, axles and tires on engine operation. This computer analysis allows you to verify that your truck's driveline specifications are best suited to your application.

Contact your Cat dealer for further information on Design Pro and other recommended spec'ing requirements.

### Special Driver Education Programs

Cat engines with ACERT Technology sound different, feel different, and should be driven differently than previous engines for ultimate performance. So we're there for you with special driver education programs that help you get the best possible performance and fuel economy every mile of the way. Like ACERT Technology, Cat service and support is a difference that comes only from the industry leader. For additional driving tips, go to <http://ohe.cat.com/drivingtips>.



### Delivering Excellence

Caterpillar has earned the 2007 J.D. Power and Associates award for "Highest in Customer Satisfaction with Pickup & Delivery Heavy Duty Diesel Engines." This is the seventh time Caterpillar has received an award for heavy duty truck engine customer satisfaction.

Caterpillar received the highest numerical score among pickup & delivery heavy duty diesel engines in the proprietary J.D. Power and Associates 2007 Heavy Duty Truck Engine Customer Satisfaction Study.™ Study based on 2,677 primary maintainers of two-year-old heavy duty trucks (Class 8) with day cabs that are used in on-road applications such as general freight, construction and petroleum distribution. Proprietary study results are based on experiences and perceptions of principal maintainers surveyed in March-June of 2007. Your experiences may vary. Visit [jdpower.com](http://jdpower.com).

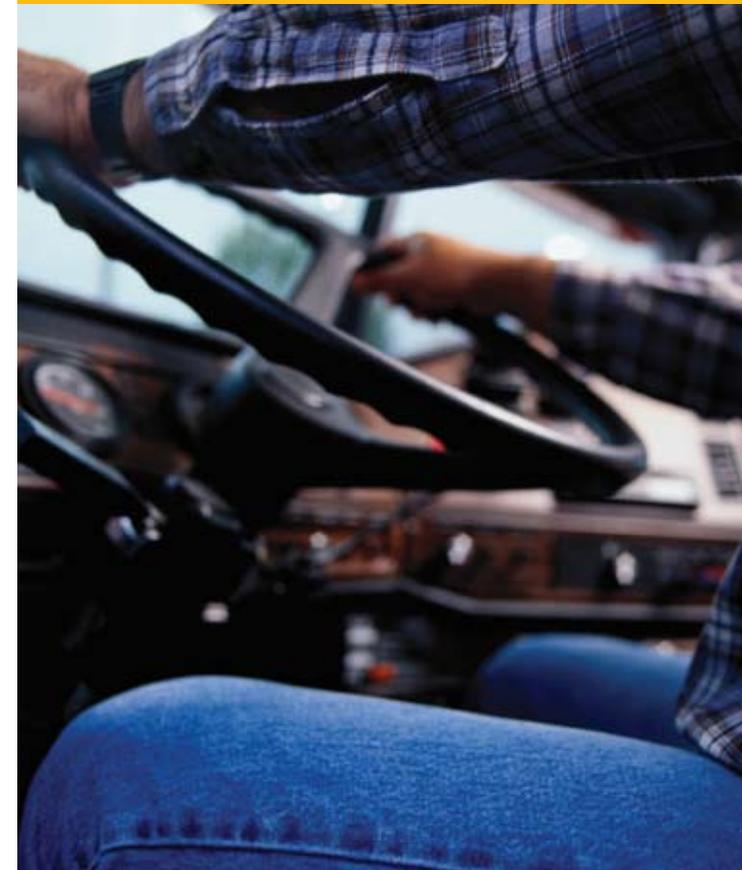
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TODAY'S WORK. TOMORROW'S WORLD.™

# DRIVING TIPS FOR POWER AND PERFORMANCE



CATERPILLAR®  
ON-HIGHWAY ENGINES



**CATERPILLAR®**

## TRIP PREPARATION

- **Check Tire Pressure**

Improperly inflated tires can reduce fuel economy. For example, tires that are 10 psi too low can decrease fuel economy by 0.5%. Low inflation also diminishes tire life expectancy.

- **Reduce Trailer Gap**

Minimizing trailer gap enhances truck aerodynamics, which improves fuel economy. Conversely, every 12" increase in trailer gap results in a 1% decrease in fuel economy.

- **Limit "Warm-Up" Time**

Excessive idling wastes fuel, adds contaminants to the oil, and adds carbons to the combustion chamber. Allow the engine to warm up during the normal walk-around inspection. The engine will approach operating temperature while driving at low rpm and low power as you begin your trip.

- **Avoid Rapid Starts**

Rapid starts burn excessive fuel because the engine is winding to high rpm. Instead, utilize the progressive shifting technique (see Cruise in Top Gear section).

## WHILE DRIVING

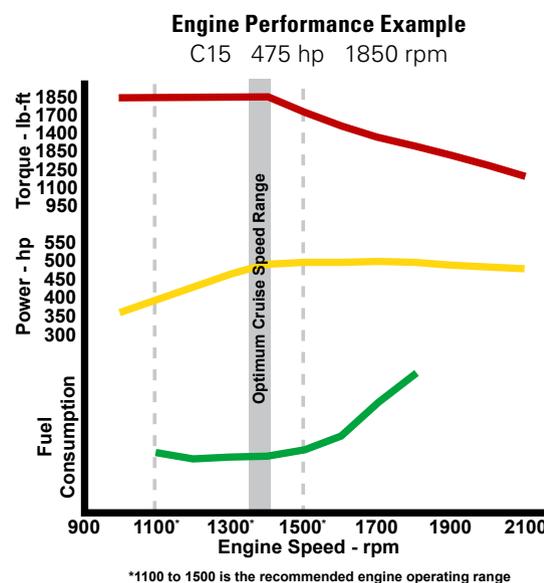
- **Keep Vehicle Speed Down**

Fuel economy drops by about one-tenth of a mile per gallon for every mph over 55 mph.

- **Cruise in Top Gear**

For maximum fuel economy, utilize the following shifting parameters:

- Operate highest gear possible / do not run one gear down
- Keep the engine below 1500 rpm
- Downshift around 1100-1200 rpm
- Use progressive shifting techniques
  - > Upshift around 1400-1500 rpm in upper gears
  - > Upshift around 1100-1300 rpm in lower gears



- **For 2007 engines, leave the regen switch in the automatic position and just drive**

- **All trucks with 2007 engines are required to use Ultra Low Sulfur Diesel fuel.**

- **Use Cruise Control Whenever Possible**

Using cruise control helps maintain average speed and good fuel economy.

- **Avoid Downshifting Too Early When Climbing Grades<sup>1</sup>**

Caterpillar engines allow you to "lug the engine" (i.e., operate at 1000-1200 rpm), as long as the engine maintains road speed while climbing a grade in the 1000-1200 rpm range. In this situation, there is no need to downshift.

- **Don't Run with "Fan On" While Driving, Unless Required**

The fan draws horsepower (60 to 80 hp) and reduces fuel economy. Under normal operating conditions, leave the fan switch in the automatic mode, which allows the fan to activate only when needed.

- **Stay Alert to Changing Road Conditions**

Anticipate possible slow-downs and stops, and coast **in gear** as long as possible to improve overall fuel economy.

- **Eliminate Idle Time**

Caterpillar engines with ACERT Technology do not require long cool down periods. Therefore, do not idle for long periods of time.

- If the vehicle is to be parked for more than 5 minutes, shut it down
- If idling for heating or cooling, idle between 800-1000 rpm

Please note that a reduction in idle time from 50% to 25% can improve fuel economy up to 4%.

<sup>1</sup>For heavy haul application (GVW above 80,000 lbs/36.3 metric tons) may require slightly higher shift points.