

Fuel Economy 101

by Empire Truck Sales, LLC Fuel Economy Specialists

Please call for scheduling and competitive pricing

Charge Air Cooler – CAC leaks

A loss of boost pressure has a major effect on the air / fuel ratio, resulting in an inefficient burn (low power, poor economy).

Air Filter

Checking should be part of the daily routine, FilterMinder is the easiest product on the market to get a visual on the condition of the filter.

Tune Up – Overhead Adjustment

DDC & MBE recommend adjusting at the first 60k miles and then every 100k miles. Provides proper exhaust and intake valve clearance to ensure correct fresh air and exhaust gas flow.

Replace Injectors in Sets

Single cylinder failure at high mileage is an indicator of the condition of the remaining injectors. Replacing sets ensures optimum performance of ALL cylinders.

Proper PM Maintenance

A or B PM procedures should include all items taken for granted throughout a normal oil change cycle. ETS guidelines require the tech to check all components and systems and report issues found.

Parameter Settings

Let us print off all your parameters and trip data (in just one truck), see where you are today. We will study the data, make recommendations on parameters and come up with an operation recommendation strategy that makes sense.

Road Speed

Road speed could possibly net the fastest return of all parameters. As of 4/21/08 one of the larger trucking companies in our area has requested we turn the road speed down to 60 MPH on any unit that hits our yard.

Caterpillar claims you give up 0.1 MPG for every mile an hour over 55.

Progressive Shift

This is designed to limit the PRM in specific gears, at or about peak torque. For example: We may have an engine that's governed at 1800 RPM, but has a peak torque of 1550 RPM. When shifting up in the lower gears once the peak torque is reached everything above that is wasted fuel. Some drivers love to run each gear up to the governed RPM when all the 'work' is done by peak torque.

Idle Shutdown

Limits the amount of time a truck can idle.

As one of our best customers always says: "Any performance issues, with ANY THING will cost you fuel economy!"

Fuel Incentive

Allows a customized program to be built that will allow drivers to increase their road speed if they are meeting economical standards set by the user.

Rev Calculations

Ensure calculations for Tire Revs Per Mile, Trans Top Gear Ratio are set correctly.

Regular Download Evaluation

We can download trip data and help you understand the information.

Idle Reduction**Nite Systems (No-Idle Thermal Environment)**

Supplemental Battery Powered A/C system; Quiet (no engine); Clean (electrical); Fast Return on Investment; Body Shop Installation.

Consumption @ Idle Calculator (Ask one of our specialists)

DDC Publication; approximate fuel consumption at idle data; usage and potential savings.

Drivers Education

Fuel Bonus Program

Reduce 'Warm Up' time to equal 'walk-around' inspection time

Use Progressive Shift Technique - know your peak torque

Utilize Cruise Control

Do not run with the Engine Fan "On"

Lug your engine more in the 1100 – 1200 range

REDUCE IDLE TIME!

Theft Prevention**Anti-Siphoning Insert**

Placed within the neck of a fuel tank; this low cost device prevents putting a hose into the tank.

Trip Data

One advantage to pulling this data on a regular basis - it will verify total miles, fuel usage, idle time, etc.

Tires

Proper inflation is a key element in fuel economy and tire life. All inflation specs are printed on the side of the tire, simple yet critical. Rolling resistance also plays a role in fuel economy - higher resistance/lower economy. As a tire wears the resistance actually decreases, but attention to keeping matched sets and DOT regs (4/32" tread depth at the lowest point, steer & 2/32" pull) are also best practice.

Alignment

Aligning all axles together is always better than a front axle alignment. A solid alignment ensures proper tire life, thus fuel economy. Suggested intervals are the first 12,500 miles then every 60,000 miles or at new tire installation.

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Fuel Basics

Blends

The term 'Blends' refers to a diesel fuel that has been mixed with Bio-Fuel. B5, B10, B20 is a reference to 'how much' Bio-Fuel has been blended in, (example, B5 = 5% Bio-Fuel). In our warm climate the only real concern is the same as any diesel fuel - product quality.

DDC recommends no higher than a B5, not derived from animal fat or used cooking oil, which meets the ASTM D 6751 specification and was produced by a BQ-9000 accredited producer. What does all this mean? Customers should be careful when purchasing fuel as warranties could be voided if DDC could tie a failure to a non-approved fuel.

15 ppm (ULSD) vs. 500 ppm (LSD)

500 ppm = Low Sulfur Diesel – Five hundred parts of sulfur per million.

15 ppm = Ultra Low Sulfur Diesel – Fifteen parts of sulfur per million.

(All 07 EGR products require 15 ppm ULSD).

Since January 2007, 80% of diesel fuel sold for 'On-Highway' use must be ULSD fuel (15ppm). Until the complete phase-in of ULSD fuel in 2011, dispensing pumps must be identified with the sulfur level of the fuel being sold. If operating EPA07 compliant engines or older engines with API CJ-4 oils, it is highly recommended that only ULSD fuel be used. Fuels with sulfur content above 15 ppm are not recommended for these engines due to poisoning of aftertreatment devices and the corrosion of EGR components. Engines, particularly EGR-equipped engines, operated on 500 ppm sulfur fuel and API CJ-4 oils will require a reduction in oil drain intervals. What does all this mean? Customers need to know what they are buying, look for the sticker on the pump!

Other Body Modifications

Fairings, wings, cab extenders all have shown to increase fuel mileage in the proper application. Removing any of these devices or operating them with damage is not recommended. Call our Body Shop personnel for suggestions on adding or repairing this type of equipment.

Fuel Economy Calculator

Tool to highlight expected return with increased MPG. Insert current Price per gallon, current MPG, and amount purchased, (insert data in white fields only), total cost and cost per mile is calculated. Then insert expected increased average MPG and a comparison calculation is shown with a net increase.

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