Driving for Maximum Fuel Economy

In today's economic environment, it is critical that we keep our costs to a minimum and fuel is our largest single cost of operation.

For this reason it is imperative that you understand the proper driving techniques to be able to get the maximum fuel economy possible.

Today's engines are so different than engines built just a few years ago. Engines today are designed to be operated at lower RPM's than ever before. The power curves of these engines start so much lower they are actually past peak torque about the time engines of the past were just getting to their peak torque range.

Regardless of how a truck is spec'd and the programmable features that are set into the engine's ECM, You the driver are the single biggest factor in the fuel economy the unit will achieve. Below are the facts and tips about proper driving that will help you maximize your trucks fuel economy.

*Speed

The maximum speed in your truck is preset as per the company's policy. But, remember it takes fuel to get up to and maintain your speed. You should always drive safely and operate your truck within the set speed limits of where you are driving at all times. Excessive speed also means obeying the posted speed limit. Speeding at any time is unsafe and wastes fuel.

*Idling

Idling is an automatic 0 MPG return. The motto is "Idling get's you nowhere" There is NO Required warm up or cool down time with today's engines, unless you are in extreme climates, cold or hot. If the ambient temperature us between 30 to 100 degrees there is no need to let the truck run to warm up or cool down. You are ready to go as soon as your air pressure has built up, or can shut the engine off as soon as you are safely parked with the brakes set.

*Cruise Control

By using Cruise Control affectively you can increase your fuel economy by as much as 6%. You should use cruise as much as you possibly can. Once you have reached your desired speed for the posted limit you are operating in and have a clear travel path to be able to use cruise set it accordingly even if only for a few miles. Your goal should be to use your cruise at least 85% of the time the truck is moving. The higher % you use cruise the better fuel economy you will achieve.

*Road Management

This covers a range of items.

1. Proper trip planning

A. Try to combine your stops as much as possible. Every time you stop and restart the truck consumes additional fuel required to get the truck moving again and back up to speed.

B. Use the shortest route possible to reduce miles required

2. Drive carefully and try and anticipate the need to slow down for traffic or for getting off the road at an exit. Every time you have to use the brakes suddenly or harder than normal that is power in reverse or wasted power, meaning wasted fuel used to get to or maintain that speed and then hard braking is required to slow down or stop.
3. Avoid fast take offs. Always accelerate slowly using progressive shifting techniques.
4. Coast to a stop with the truck in gear, clutch out and your foot off of the throttle. As long as you do not have your foot on the throttle and the truck is in gear, there is NO Fuel being put into the engine. Leave the truck in the highest gear possible and coast to the stop. Down shifting coming to a stop actually wastes fuel.

*RPM Control

This also covers a range of items.

1. Progressive Shifting – This means shifting at the lowest possible RPM in order to get into the next gear. This will vary depending on if you are loaded or empty and the grade. When you are empty you can upshift at a lower RPM than when you are loaded due to not needing as much torque to increase your speed and get into the next gear. So the main rule of thumb is always upshift at as low of an RPM as possible to get into the next gear. Additionally, there is no reason to go over 1400 RPM when on the low side of the transmission, and no more than 1500 RPM on the high side of the transmission. Any time you are turning the engine more than 1500 RPM you are just throwing money out the window. 1500 is the top side of the power curve and the torque actually drops off rapidly past 1500 RPM.
2. Down Shifting – This is a huge MPG killer if not done correctly which will not allow the engine to perform at its maximum potential. The less RPM's used the better your fuel economy will be. The goal is to stay in top gear as much as possible. The bottom end of the power curve is slightly different between the Detroit DD15 and the current ISX engine, they are both listed below:

A. Detroit DD15 – The DD15 engine's sweet spot is slightly larger than that of the Cummins engine. The power curve or sweet spot on the DD15 is from 1,000 to 1,500 RPM. This means you should let the DD15 engine pull all the way down to 1,000

RPM's before down shifting. Let the engine keep pulling in the highest gear possible all the way down to 1,000 RPM.

B. Cummins ISX 15.0L – The ISX engine power curve or sweet spot is from 1,100 to 1,450 RPM's. This means you should let the current (our 2012 and 2013 model year trucks) ISX engine pull all the way down to 1,100 RPM's before down shifting. Let the engine keep pulling in the highest gear possible all the way down to 1,100 RPM. On the 2013 emission Cummins engines that will be coming out in Calendar year 2013, in the 2014 model year trucks, they can be pulled down to the 1,000 RPM's like the current DD15's due to the power curve being lowered from where they are today.
C. Try to maintain a steady momentum, use the torque of the engine not horse power. Good steady throttle control verses erratic quick throttle movements is crucial. Full throttle accelerations waste fuel, but full throttle use in pulling and about to crest a grade makes sense rather than dropping a gear which increase RPM and fuel usage.

The above are the driving tips to help you achieve Maximum Fuel Economy, now we will touch on the other items that also can assist you in this goal.

*Proper Pre-trip

Always make sure you do a proper Pre-Trip Inspection of your unit to make sure your truck will operate as it should. The better the truck runs the better fuel economy can be achieved.

Check your tire pressures. Incorrect tire pressures, especially under inflated tires greatly affect fuel economy and causes premature or irregular wear. Set your steer tire pressures to 110 psi and the drive tires to 100 psi. Improper tire inflation is also the single biggest cause of tire failures and over the road break downs.

Before actually starting the truck, turn on the ignition and allow the gauges to sweep and all of the warning light pretests to finish, this will take a few seconds. Once the testing mode is finished then start the truck engine. This will prevent any false trouble shooting codes to appear.

*Pay attention to the amount of time the engine fan runs. If the fan runs more than required, fuel is being wasted. Remember if the air conditioner is running (including in defrost mode) the fan will come on as required to keep the A/C condenser cool regardless of the engine temperature. If the air conditioner/defroster is not being used the engine fan should not come on till approximately 225 degrees on the DD15 engines, or approximately 217 degrees on the

Cummins ISX engines. If the engine fan is running excessively, let the shop know so that the problem can be corrected.

*Safe Driving – Not enough can be said about how safe, steady, alert driving can not only help improve fuel economy, but will keep you and the motoring public safe and healthy. Always keep a safe following distance, obey the speed limit, wear your seat belt and drive defensively.

Please following these tips and you will see your fuel economy increase. With the new trucks in our fleet we should be seeing an average of at least 7 MPG. We are a long way from that goal. Set a goal for yourself and let us help you achieve it. 8 MPG is attainable, see if **you** can get there!

We appreciate what you do each and every day. And we want you to know we are here for you.

Thanks for all you do.