

Cummins Seminar Speaker Notes (March 15, 2011)

Presentation posted at:

http://cumminsengines.com/every/applications/motorhome/fmca_presentation.page?

Engine Maintenance & Operating Tips:

Engine Oil ... use good brand multi-grade, consult Owner's manual for specs. Synthetic oil OK but should not be used to extend oil change interval.

Don't under-estimate the value of good filters.

Do not overlook cooling system requirements (SCA , Anti-freeze, and water quality).

Chassis manufacturers provide coolant ... follow their recommendations. Some do not require SCA maintenance.

Fleetguard test strips available to monitor SCA, Anti-freeze and water quality ... may not be compatible with some OEM coolants. Can extend coolant life

Fleetguard info. (filters, coolants, test strips):

<http://cumminsfiltration.com/> or

800-22FILTER (800-223-4583)

1-Page Maintenance Quick Reference Guides available for each Cummins engine.

Engine idling not needed at start-up ... operate at light throttle until coolant temp reaches 150 deg F.

Cool-down (3-5mins) only necessary immediately following high power operation (stopping at the top of a mountain)

Fluids:

The Diesel engines produced since of 1/1/07 use a Diesel Particulate Filter (DPF) aftertreatment device and require Ultra Low Sulfur Diesel Fuel (ULSD).

CJ-4 oil released for EPA07 engines and required for EPA 2010 engines. Backward compatible with pre-'07 engines using ULSD.

Cummins Fuel Policy: Additives not required. Biocide treatment for fungal growth will not hurt engine. Buy fuel from well respected truck stops.

ULSD backward compatible with pre-'07 engines. No performance or MPG affect. No additives required ... manufacturers adding lubricity additive

Biodiesel is a blend of petrodiesel and 100% (B100) biodiesel: B20 = 80% petro + 20% biodiesel.

Cummins approves B5 in all engines and B20 in most currently produced engines. Additional details:

http://cumminsengines.com/every/customer/biodiesel_fa
q.page? & <http://www.bq-9000.org/>

Biodiesel fuels are **manufactured** ... **not** raw, straight, refined, or filtered cooking oils.

Challenges: Biodiesel does not have a long shelf life which means it can lead to filter plugging. Low temperature performance ... waxes at 20-32 Deg F. Not compatible with some older hoses and seals.

Fuel Economy:

Driver influences: engine operating speed and vehicle speed. Cummins engines most efficient at lower RPMs. Let engine lug-back ... use Allison Economy mode ... limit high RPM usage.

The more power used, the more fuel required.

Power demand = aerodynamic (air drag) + rolling resistance (tire, surface) + Accessory Losses (fan).

Aerodynamic (air drag) biggest power demand ...
2x speed increase = 8x hp increase.

MPH the #1 factor affecting MPG ... Rule of Thumb:
1 mpg per 10 mph speed increase above 55 mph.

Maintain manufacturer's recommend tire pressure ...
1% mpg loss per 5-10 psi pressure drop

Avoid excessive manual fan usage (20-40 hp draw)

Additional MPG details at:

http://cumminsengines.com/assets/pdf/MPG_Secrets_Whittepaper.pdf

DEF (Diesel Exhaust Fluid) ... 2010 EPA Engines

Effective 1/1/2010 Cummins engines utilize a SCR system and Diesel Exhaust Fluid (DEF)

Operating with DEF as simple as maintaining windshield washer solution ... driver get low level warning 350-700 miles before empty ... DEF available at all major truck stops ... no special tools/clothing needed ... DEF user friendly (non-toxic, non-flammable, non-polluting)

10-13 gal DEF tank on motorhome ... 2 gal DEF per 100 gal diesel ... 2800-3150 miles per tank ... 2-4 fills per year (less than 30 gal DEF) for typical motorhome application.

High Exhaust Temp (HEST) dash light is just an alert not a call to action by driver.

DPF (diesel particulate filter) dash light reports status of filter loading.

Motorhomes with EPA 2010 engines will have a 'low DEF fluid level' warning ... 350-700 miles warning