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Dynamometer Testing Wednesday 10-31-12

## Summary

Fuel Type (s)

#1 Biodiesel with algae component (10%) / ULSD (90%)

#2 Biodiesel with algae component/ULSD (with additive (20 oz/15 gal) and VBE encoding)

Vehicle type

2008 GMC Duramax diesel w/Allison 6 speed transmission

Testing

Baseline was established using #1 fuel type with vehicle strapped on a computerized dynamometer (free-wheeling)

15 gallons of the #2 fuel type was pumped into the test vehicle on top of approximately 3 gallons of remaining #1 fuel type

Truck was removed from dyno and driven approximately 20 miles (city and freeway) to be sure the #2 fuel type was fully integrated in the fuel system before returning to the dyno test facility

The dyno test using the #2 fuel type (w/additive and encoding) showed an increase of 10 foot pounds of torque compared to the established baseline

A second run was made to ensure consistent duplicate results

Testing was performed at Brauns's in Lomita, California, a high end custom restoration and speed shop

Both the dyno operator (Frank, trained expert) and the shop owner (Chris 3rd generation) with in excess of 20 years of testing experience expressed surprise in the significant results. Chris said "most additives don't show a blip on the dyno computer!"

Upon our return from Lomita to Laguna Hills (30 freeway miles) the truck owner commented several times about how much "peppier" the truck felt

I noticed, while pumping a sample gallon, that the fuel foamed considerably more than typical diesel and/or biodiesel blends. I attribute this to an increase of oxygen

Dick O'Rourke