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A Description of our **Statistical Analysis Protocols** used to accurately prove both **Emissions** reductions and improvement in **Fuel Economy** using the **EnerBurn® Diesel Fuel Catalyst**

Proving changes, both positive and negative in fuel usage in any type of engine is not easy. We have devised a methodology in conjunction with an independent Propulsion System Testing company, Janelle Engineering, Inc. (http://jeipower.com/) using statistical analysis of historical data compared to the data collected during the EnerBurn® evaluation process. In most instances this is referred to as Baseline and Benchmark comparisons. The same methodology is employed when we use Emisstar (www.emisstar.com) as our independent analysis group.

EnerBurn® is safe to use, having recorded hundreds of thousands of hours of use with no instances of engine problems, has passed the "Fit for use" test administered by ESDC of Quebec, Canada, is a preferred catalyst for use with Mann-Hummel diesel particulate filters (DPF's) and is in use currently by companies in the mining, heavy construction, inland marine, ocean going marine, railroad and trucking industries.

Since EnerBurn® is a catalyst and **NOT AN ADDITIVE**, (although our delivery method to the engine is via the diesel fuel) a period of time is required for the catalytic effect to build up. Due to the time required for the catalyst to properly condition the engine, we refer to that period as the "Conditioning Period". The time involved will vary for each type of engine application.

Different diesel engine applications require slightly different protocols. Each measured unit is base-lined prior to treatment with the EnerBurn® Diesel Fuel Catalyst, treated for the required period of time and then benchmark tests are performed when the evaluation period is over. Benchmark results are then compared with the baseline numbers to determine the performance effect the EnerBurn® catalyst produced. The variability of the baseline data should be low so as to ensure valid test results. Wide dispersions in baseline data will make performing a scientifically valid test all but impossible. Where possible, if we can run a test on a sister piece of equipment, we will use the other piece as a control unit. It is important to note that RUNNING EVALUATIONS ON YOUR OWN EQUIPMENT IN THE FIELD UNDER NORMAL OPERATING CONDITIONS IS FAR SUPERIOR TO ANY LAB TESTS.

Outlined below are the methods used for each application type.

Diesel Marine Engines

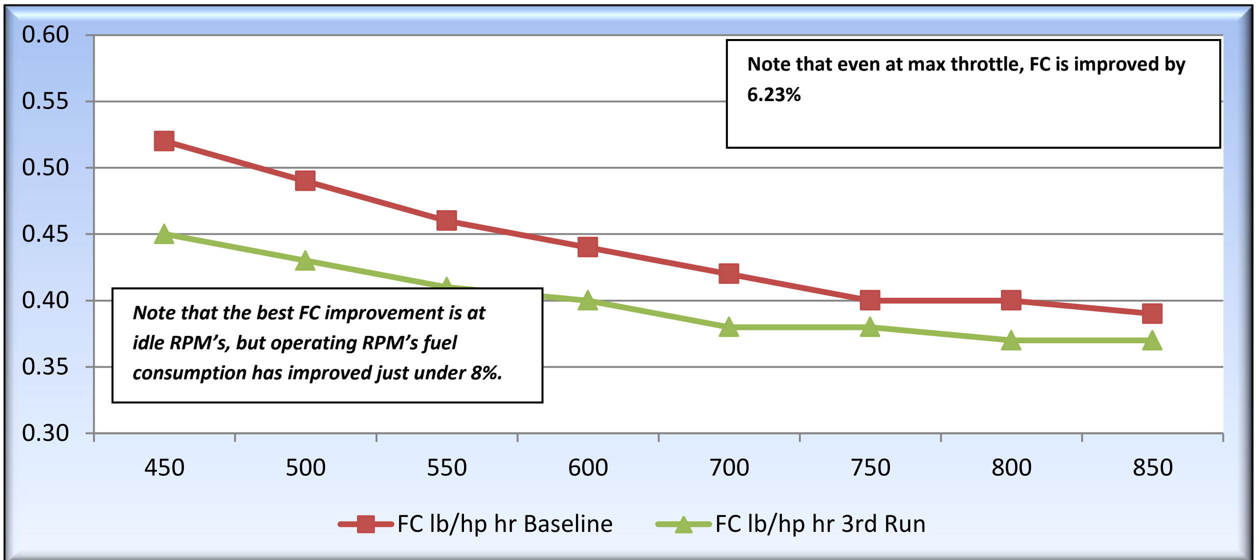
Baseline statistics are measured at 4-5 different SHP (shaft horsepower) levels. For each SHP level we run 3-4 tests and record RPM necessary to achieve the given SHP, the shaft torque for that given level and the fuel usage measured in gallons per hour. Initial conditions at baseline MUST be replicated at benchmark. This means weather, equipment condition, crew, fuel etc. A statistically valid test CAN ONLY be true if the conditions present at both the baseline and benchmark measurements are the same. (If conditions warrant, dock push method is also used) Equipment CANNOT have any fluid replacement or engine work done during the evaluation period as these things change the performance of the engine and make the initial conditions impossible to replicate. A sample baseline report for a set of Blackstone 1200hp diesel engines is shown below.

Notice the beige section has comparable RPM, but in the grey area Port is always much lower

	RPM	SHP	STorque	Fuel			RPM	SHP	STorque	Fuel
P225-1	497	231	12068	0.97		S225-1	498	230	11976	0.95
P225-2	495	228	11986	0.95		S225-2	497	226	11834	0.92
P225-3	495	229	12011	0.93		S225-3	497	225	11765	0.9
P450-1	615	447	18902	1.67		S450-1	627	436	18050	1.62
P450-2	616	457	19283	1.71		S450-2	626	428	17740	1.6
P450-3	616	455	19173	1.68		S450-3	638	449	18318	1.67
P675-1	715	696	25292	2.55		S675-1	732	692	24592	2.48
P675-2	715	697	25333	2.59		S675-2	733	694	24614	2.5
P675-3	716	696	25256	2.56		S675-3	733	696	24706	2.5
P900-1	738	744	26204	2.67		S900-1	800	891	28933	3.23
P900-2	738	732	25770	2.62		S900-2	803	898	29082	3.28
P900-3	738	726	25585	2.61		S900-3	804	894	28890	3.27
P WOT	790	907	29837			S WOT	828	903	30896	

A slight mismatch in prop geometry or a fouled prop on one side is common on vessels with large propellers and will determine the engine RPMs at which they will produce a given SHP. We adjust the throttles to create a specific horsepower regardless of the condition of the propellers when we perform the baseline calculations. When we return to benchmark the results, we will again adjust the throttles to create the same specific horsepower without having to account for any changes in propeller configuration.

Upon completion of the evaluation period, the benchmark tests are run to determine product effectiveness. The chart below outlines the results of a test on an ocean going towboat equipped with three 2150hp EMD diesel engines. The chart displays the average FC of the 3 engines at each RPM level. The red line is the baseline reading and the green line is the benchmark reading. The evaluation period for this program was approximately 6 months giving the engines enough hours of run time to be properly conditioned with the EnerBurn® catalyst.



Idle range RPM's		Normal Operating RPM's					Max RPM
450	500	550	600	700	750	800	850
0.52	0.49	0.46	0.44	0.42	0.40	0.40	0.39
0.45	0.43	0.41	0.40	0.38	0.38	0.37	0.37
14.33%	12.14%	9.57%	8.96%	8.04%	7.12%	6.55%	6.23%

FC = Fuel Consumption

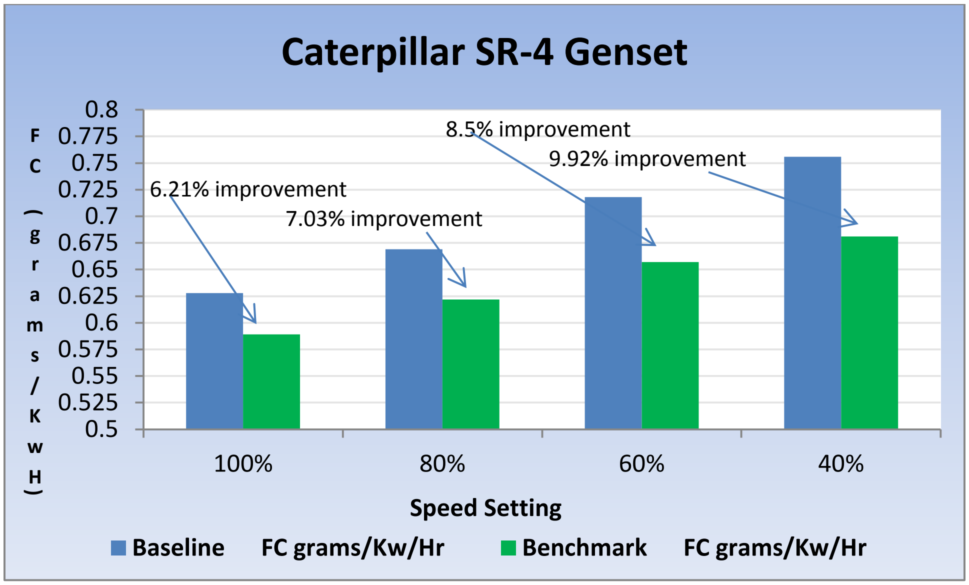
Table 1: Change in Fuel Consumption (gals/hr) 2150hp EMD

Gensets

Baseline statistics are measured at 4 power settings, generally 100%, 80%, 60% and 40%. We establish the FC (fuel consumption) at each speed setting. Measurements for NOx and particulate emissions can be taken at baseline as well to prove the emissions improvements. For Gensets running 24/7 the evaluation period is approximately 3-4 months giving the equipment enough time for the catalyst to properly condition the engine. Benchmark results are then taken with initial conditions as close to the baseline as possible to ensure test validity. The table below outlines results from the testing of a Caterpillar SR-4 Genset with the benchmark being recorded after a 4 month evaluation period. This unit is currently running at a 12% plus improvement in FC and a 17% improvement in NOx output as of August 1, 2010.

Settings	Baseline FC grams/Kw/Hr	Benchmark FC grams/Kw/Hr	Percent Improvement in Fuel Consumption
100%	0.628	0.589	6.21%
80%	0.669	0.622	7.03%
60%	0.718	0.657	8.50%
40%	0.756	0.681	9.92%

Table 2: Caterpillar SR-4 Genset EnerBurn® Performance data



Trucking

Fleet modeling

The most important facet of running the fleet model is the test group's historical data. If the dataset has a wide dispersion, meaning the 3 month moving average of their fleet MPG is well outside the 5% confidence interval bands, then proving anything is practically impossible with any degree of scientific validity. For those situations we would run a Hydro-Dyno evaluation whereby the equipment is run on a mechanical dynamometer for the 600 or so hours necessary to complete the test.

Application of Hydro-Dyno

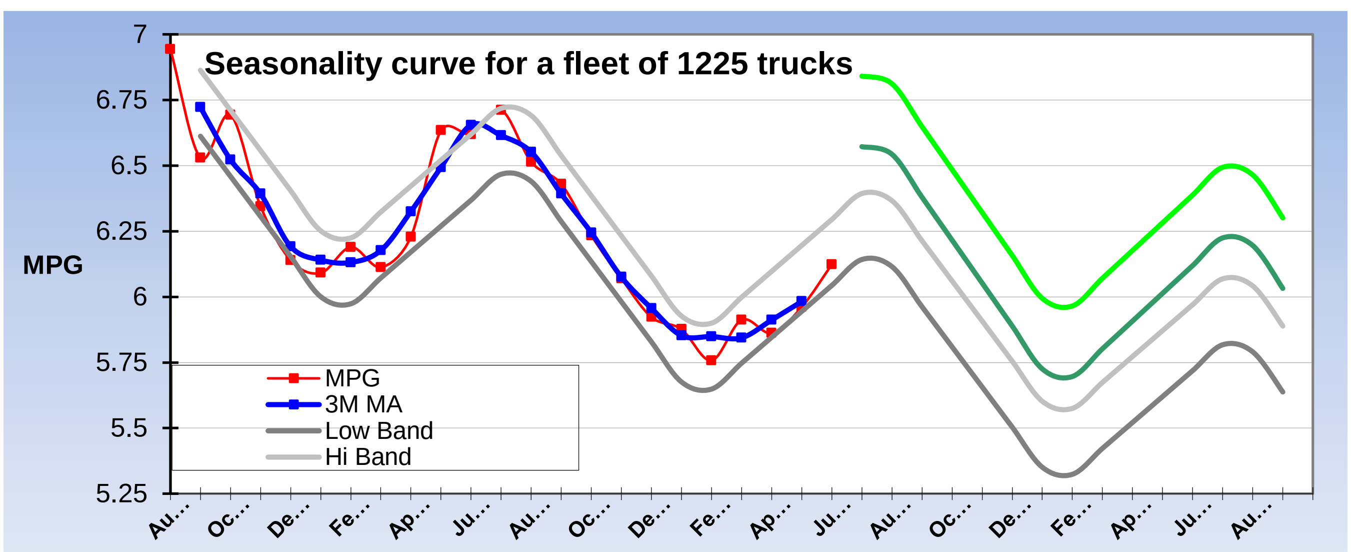
Hydraulic dynamometers are used as loading units in engine test rigs. They cover a wide range of dynamometer power and torque values, and are therefore well suited for:

- Testing of passenger car and commercial vehicle Diesel Engines
- Testing of large railway and marine engines
- Testing of heavy duty generators

Working principles of Hydro-Dyno

The dynamometer is driven by the test specimen, e.g. a combustion engine. Water, which is used both as working and as cooling medium, is supplied through a controlled water inlet.
The water flow is proportional to the required load, and serves for braking the test specimen
The rotating movement causes the water to be accelerated by the rotor, and decelerated by the stator of the dynamometer. This continuous process of acceleration and deceleration generates the required energy for braking the combustion engine. The kinetic energy is converted into heat in the water; the heated water flows back into the circuit and can be cooled down and fed back to the water inlet

As you can see in the chart below, this fleet's own historical data is very good, having almost every data point within the 5% confidence bands. Once EnerBurn® is introduced to this fleet the 3 month moving average of MPG will start to move into the newly projected confidence bands (Green lines) adjusted for the expected EnerBurn® effect of improving fuel economy by 7%



In the chart below, (an evaluation that completed in late 2012 on a fleet of municipal trucks) notice how the EnerBurn® effect has begun to evince itself by propelling the fuel efficiency (red and blue lines) higher into the 10% improvement bands (green banded channel).

EnerBurn® treatment began in June, 2011.