NANOCARBON TREATMENT
ENGINE PERFORMANCE ANALYSIS

27/08/2016
JL Engenharia
V1

Equipment and Devices Used During Tests

Vehicle Engine:

- Vehicle Engine: JL Racing
- Cylinders: V8
- Valves per cylinder: 2
- Cycle: 4 cycles
- Engine volume capacity: 5700 cm³
- Max RPM: 5600 RPM
- Suction: Natural
- Fuel System: Electronic Injection
- Fuel Type: Ethanol

Oil:

- **Lubricant Oil:** Mobil 15w40 (Mineral) 10 Liters.
- **Treatment Oil**: NanoCarbon 1 Liter.

Dynamometer:

Model: DTS
Break: Hidraulic, 2 ways, with electronic dashboard
Max. Power: 800HP
Max. RPM: 8000 RPM

Data Capture:
Model: SRAE-EDL16 (Magneti Marelli) Internal Logger to ECU
Memory: 16mb
Channels: 50
Frequency: 200Hz

Test Conditions

- The test was executed running the engine for several cycles of 30 minutes each.
- The entire process was conducted during 3 cycles of tests, using 2 separate engines
    - Engine with regular oil
    - Engine with NanoCarbon treatment oil

- All tests were conducted with the followinhg conditions
    - Rotation = 4100 RPM
    - TPS = 100%
    - Oil Temperature = 170 – 190 °F
    - Fuel Pressure = 3.5 bar
    - Duration = 40 seconds

Results:

- Without Treatment

Cycle	Initial Consumption	Final Consumption	Liters Consumed	Torque (lb. ft)
1	3.6612	4.82736	1.16616	289
2	2.49504	3.6604	1.16536	290
3	0.84072	2.00688	1.16616	288
		Average	1.16589	289

- With NanoCarbon Treatment

Cycle	Initial Consumption	Final Consumption	Liters Consumed	Torque (lb. ft)	Fuel Improvement	Torque Improvement
1	0.93564	2.0791	1.14346	296	19%	2%
2	0.75936	1.91196	1.1526	295	18%	2%
3	0.77292	1.95264	1.17972	295	15%	2%
		Average	1.15859	295	17%	2%

- **Horsepower Improvement:**

    - Motor padrão = **342 HP**
    - Motor com aditivo = **344 HP** → **2 HP improvement on HP**