

## // DYNAMOMETER TEST AT TROLLHÄTTAN 170620-170721

Vehicle: Mercedes CLA 200 2015

Exhaust class: Euro 6B

Fuel: BF95 E5

### Introduction:

To gather more information regarding the effect Euro Ad has on an engine it was decided to initiate a series of tests locally on a chassis dynamometer.

Autotech in Trollhättan was chosen as the place to test due to its good reputation on the market.

### Layout:

After the initial determination of cycles was made, the test phase started by filling up the fuel tank to a level we could see in the fuel pipe.

The fuel was weighed in with a scale with 2 gr accuracy.

The same fuel was used in both phase 1 and 3.

Baseline was performed by running the car at 4 different speeds 50, 70, 90 and 110 km/h and at 4 different loads that simulates from straight road to steep up-hill.

Tire pressure was checked and adjusted to 2,5 bars.

Opus measuring of emissions in the flue gas was performed 7 min 30 sec into every cycle. Information regarding CO, CO<sub>2</sub>, O<sub>2</sub>, HC and Lambda was logged.

The onboard car computer was checked prior every test cycle.

The information from the onboard fuel consumption computer was also logged. This information must be valued as "good to know" because we know that the accuracy is not high on this type of equipment.

Even that, we anticipate that even if the onboard fuel consumption is not exactly correct it should measure with the same "fault" at every time. So, it should be possible to use it as an indication when comparing 2 runs.

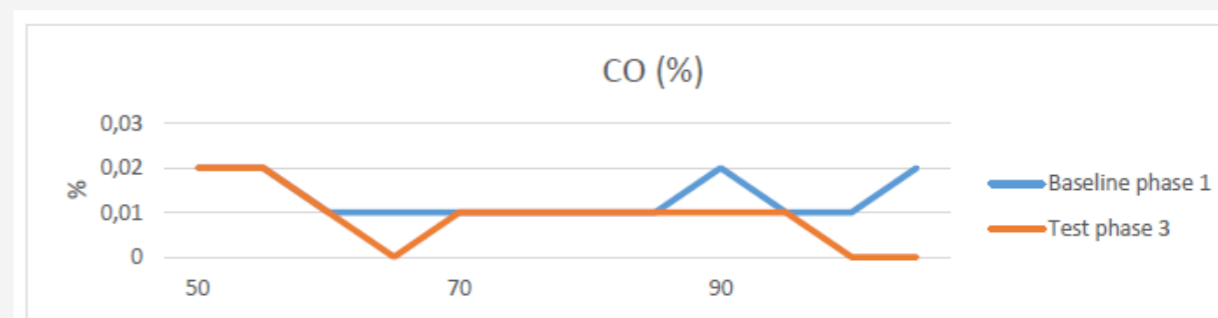
After the complete testing (all cycles) the fuel tank was filled again to exact the same level. The fuel was weighed.

Phase 2 was driving in normal traffic for the engine to get adapted to the fuel for a period of 4 weeks. The car used approx 150 liters of fuel during that time.

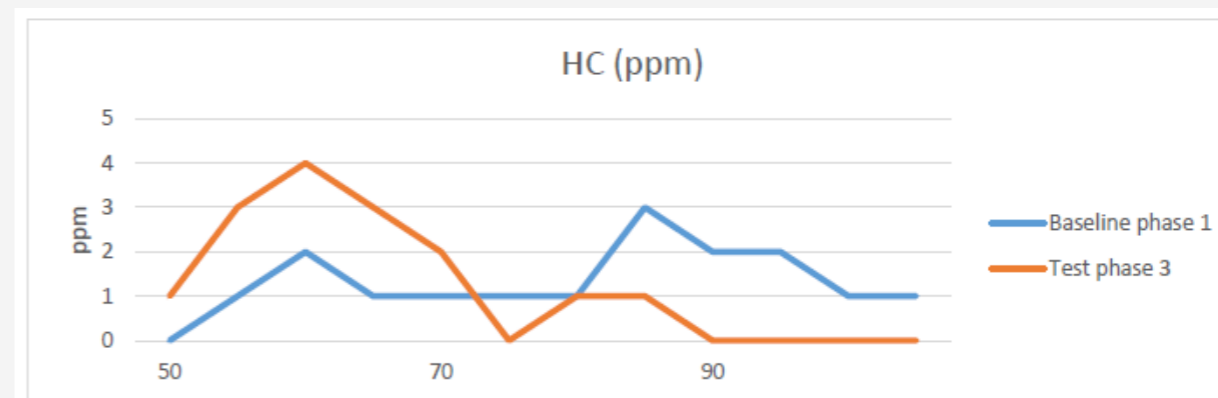
Phase 3 was performed exactly in the same way as phase 1, and all numbers was compared with phase 1.

### RESULT

Emissions: CO decrease by 31.25%



HC decrease by 6,02%



The improvement in the emissions is significant. It is very clear that the engine has responded to the additive in a positive way and can focus to lower the fuel consumption and even more despite the engine is new with already low emissions, lower the emissions to an extremely low level.

All results from the emission testing shows much more stable numbers, showing that the engine runs smother, cleaner and with less misfires.

The weighed decrease in fuel combustion by weight is 5,78% to compare with the online computer that shows 5,31% which is within the margins.

### Conclusion:

The test was performed well with good conclusions.

The emission reduction was very good. The increase of performance from the engine was also much improved.

During phase 3 the fuel consumption was continuously decreasing during the cycles. This shows that the engine "learns" that it can improve its performance during the cycles.



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