

Perplexing Dyno Results

Posted by afonseca - 04 Aug 2015 16:03

As a follow-up to my [WSC experience post](#), I thought I'd share my dyno sheets with the group for a couple of reasons. One, for transparency to support my previous statements on the numbers I observed this past weekend and two, in case anyone has insight on what this might mean as I'm at a loss.

In the dropbox location linked below, I am sharing dyno results from MCE as follows:

Within 944 spec limits:

May 17, 2015 - Auto Club Speedway

July 31, 2015 - Laguna Seca

No changes were made to the car between July 31 - August 2nd.

Outside 944 spec limits:

August 2, 2015 - Laguna Seca

August 2, 2015 - Laguna Seca #2

There's also a comparison between the Friday run and the first Sunday run:

August 2, 2015 - Laguna Seca Friday vs Sunday

www.dropbox.com/sh/z491lky94gj6rv5/AADrc...twZiKix2dNUIjua?dl=0

If there are any dyno guru's out there that can help shed some light on the above I'd appreciate it as I'm starting from ground 0 in terms of dyno knowledge here. The only uninformed observation I'm able to make is, the runs that look "squigglier" result in lower power vs the smoother looking runs. I also observed the same when seeing Dan's runs where he produced similar numbers just in the opposite order (high on Friday, low on Sunday).

Re: Perplexing Dyno Results

Posted by cbuzzetti - 05 Aug 2015 12:39

According to dyno jet there is no calibration required.

I have never seen a variance as big as yours but I have personally experienced a 10 hp variation over a weekend.

Re: Perplexing Dyno Results

Posted by afonseca - 05 Aug 2015 12:41

Sterling Doc wrote:

I understand your car was low, and Tim had some suggestions to tune it up. Did you dyno after the tune up?

My initial dyno on Friday was under the cap and matched up with the dyno done a few months back at Auto Club Speedway (that dyno sheet is included in those files). **We did not do any tuning on the car the entire weekend.**

We actually don't know how to tune up or down. If the car had dyno'd over the cap on Friday we would have asked for help from the group to tune down because our expectation coming from Auto Club was we had plenty of margin to make the cap without any adjustment needed.

I look forward to your thoughts on the data because I'm at a loss as to any explanation.

Re: Perplexing Dyno Results

Posted by danl4444 - 05 Aug 2015 14:14

My $(HP+TQ)/2$ was 7 lower on Sunday than we tuned it to on Saturday morning.

Re: Perplexing Dyno Results

Posted by jivenjim - 05 Aug 2015 17:30

I enjoyed seeing you on and off track Alberto. You seem like a good guy. I am not aware of anyone that thinks your are purposefully trying to skirt rules.

Here's my thoughts. First in 2014 I had dyno readings that swung from way high like 148 to 120 on same dyno over 3 days last year. I spend 450\$ in tuning and was so mad cause I was detuned and was so slow compared to other cars. So my first conclusion is that dyno can be off different each day! they can also read a few points higher or lower depending on how the car is placed and strapped. This is why a retest is sometimes done.

This year I put in a 52 mm restrictor plate on low compression engine that made 139.4 ave at Autoclub. just to be safe and not have issues. I did not dyno but figured I was minus a few points.

Dan and Simon also were running restrictor plates. I think Dan went to 50mm restrictor after dyno fail on Friday.

Now for your numbers I must say they were unexplainable because they were low Friday. Your driving was very good but I and others would probably say, your engine was the fastest one there. Same at Autoclub. I believe part is your high compression engines (88's) make more power mid range compare to other years.

my conclusions: All engines are not equal from the builders. Different cam and heads and valves and piston CRs. So unfortunately (cause I hate it) the dyno is best to check for equal-ish compliance and not tearing down/testing engines, like other groups. Test early and/or aim for 136 ave rather than 140 or you are gambling. And no, that does not explain why dyno number went up...?

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Re: Perplexing Dyno Results

Posted by Sterling Doc - 05 Aug 2015 19:51

Alberto - it looks to me like your 944 may not have been very well warmed up on the test runs. Each dyno pull gained quite a bit of power (>2HP, and climbing) - indicating it was getting stronger as it ran more. When you see this in testing, you can't assume the motor has reached its potential. We use thick oil, and the gearboxes also sap more power when cold. This is why the rules are written to allow pulls until the motor's output stabilizes. This may take a while, and we have seen 944's in particular gain power as they get hot over the years of testing. It is important to match the tests to post race conditions as much as possible. The compliance runs after the event show much more consistency run to run, and were not rising with subsequent runs- indicating that the engine was reaching its potential.

I am sorry this caught you out, but you have a motor capable of quite a bit of power. It's a good example of how important it is to follow the dyno rules when testing. I understand it can be hard when time is limited, but it is important for accuracy.

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