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...twZiKix2dNUljua?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).

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Re: Perplexing Dyno Results

Posted by tcomeau - 10 Aug 2015 06:47

I'm not sure the dyno operator would allow 7 or so pulls in order to stabilize readings?

I would love to have them stick the sniffer in the tailpipe to check AND DISPLAY the air fuel ratio, but they charge extra for that, I'm told.

What other resources can we involve to find the unknowns here? I'd like to cut the head off this dragon because it's been the low point of the last two WC Championships in an otherwise stellar showing of comraderie, teamwork and clean, hard racing by the 944 Spec class.

Eric, you seem to have the most experience with the dyno's.

If temp is the biggest factor, we can do something like jack up the rear end of the car and run it at 3,000 rpm for x amount of time in 4th gear just prior to the dyno? It's not a true load, but?

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Re: Perplexing Dyno Results

Posted by Sterling Doc - 10 Aug 2015 07:26

The dyno operators love turnover for business, but I think this is part of the problem. I think we have to insist on getting good data. 3 runs have to be good ones. I think if we make it a point to have them just run it for a whiel to get the gear temps up, then less actual pulls would be required. I'd agree the A/F is nice if you don't have a display. Alberto's first dyno runs were definitly more rough.

I've never tried putting the car on jack stands before the dyno run. I'm going to put a trans temp gauge in my ST car, I'll see how long it takes to build temps.

I think we've pulled this apart as much as we can for now. We'll follow this with the ECC, and can then have a broader discussion after that. We've been at this a few years, it will be time to review.

Tim I do appreciate the efforts you made to get the cars checked well - check temps, pressures etc.

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Re: Perplexing Dyno Results

Posted by AgRacer - 10 Aug 2015 07:37

I've been running a trans temp gauge in my car for over a year now. Its the right most gauge on my dash so you can watch it build temps through the session. Its a dumb sensor in the drain port on the trans so I cant run data to my traqmate for logging, unfortunately, like I can with my wideband. One VIR event I annotated the gauge reading throughout the session in the video.

youtu.be/rhOVv-Hn_mM

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Re: Perplexing Dyno Results

Posted by Sterling Doc - 10 Aug 2015 09:28

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First I'm glad I'm not racing against you at VIR - nice work!

It looks like it takes a lap and 1/2 or so to get some temp in it (>150), but it keeps building temp through 7 laps to about 210. This is in pretty cool conditions.I'm not sure where the bell curve lies inpower production with regard to temps, but it will be interesting to put your car on the dyno at the ECC, and correlate temps.

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Re: Perplexing Dyno Results

Posted by afonseca - 10 Aug 2015 18:55

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Sterling Doc wrote:

The dyno operators love turnover for business, but I think this is part of the problem. I think we have to insist on getting good data. 3 runs have to be good ones. I think if we make it a point to have them just run it for a whiel to get the gear temps up, then less actual pulls would be required.

I'm not sure how many dyno's are available at the ECC but at Laguna Seca there were only 2, and I believe 1 of them was designated the NASA compliance dyno? As such, when I drove up the hill to the dyno I was placed at the back of a long queue of cars and the whole process probably took a couple of hours. This is why I sat in my car idling/fast idling both on Friday and Sunday to keep the temps up. So this may be more of a NASA concern but the long lines might make it a challenge to warm up the cars on the dyno while everyone waits.

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