Late and 88 DME Difference

Posted by AgRacer - 07 May 2016 08:38

Thought I would post up my dyno runs testing a late (86/87) DME with an 88 DME. I have a true 1988 High Compression engine. This was done in compliance testing during our March event at Road Atlanta. The car came straight off track and to the dyno where the late DME was used first. Then the 88 DME was swapped in with the car still on the dyno. Two immediate things to note are the increase in rev limit (~100 RPMs) and overall increase in power.

Next time Ill do the opposite, though maybe not in compliance testing because I would be illegal with the 88 DME in my current configuration.

Both DMEs have been opened and verified stock.

The PCA scrutineer manual lists all 944 NA DMEs as having a 6500 RPM rev limit, except the 88 DME, which has a 6600 RPM rev limit. I think the way the graph gets reproduced on paper can sometimes shift where it looks like the rev limit is about 50 RPM either way.

==========

Re: Late and 88 DME Difference

Posted by ChuckS - 09 May 2016 09:18

Jason,

Great Info!

I do have a question as I have been looking into the Dyno test subject a lot due to the WIDE variation in numbers we see out west.

If you look at the five sequential runs on the 88 DME you see that the numbers have plateaued, indicating that you have reached full power. When you look at the earlier DME, you have done only 3 runs and the power is still climbing (sequence 1 going to 3), indicating a possibility that the car has possibly not reached full operating temperature and therefore not full power.

When you repeat the test, continue the pulls until power stops increasing and/or declines. We have seen in excess of a 10 HP variation in the same car at the same event. I even had my old, tired motor Dynoed at one event and there were a lot of pulls done. The power varied from 126 to 139. An expert who looked at the chart asked how long the car had been sitting before the first pull. It had been 30+ minutes. He said that the longer it has been from coming off the track, the lower the initial HP reading will be. They need to reach saturation of heat before the highest reading will be achieved. By following

many Dyno runs since, this has proved true. Even a 10 minute wait can take 3 or 4 runs to reach maximum.

If you ran the 87 first and then did an immediate swap (car still on Dyno with no chassis mount changes) then ran with the 88, you were likely then reaching saturation.

Great idea and the data is useful. Just next time, continue the pulls until you reach saturation.

Chuck

==========

Re: Late and 88 DME Difference

Posted by AgRacer - 09 May 2016 10:44

_____

I noticed the same thing which is why I would like to perform the test again, but also do it in reverse. Luckily we have the same dyno at every event, so I should get another opportunity and on the same dyno.

In this instance, my car was one of the last to go on the dyno after some SE30s and other 944s so it did sit for a while. It was also at the end of a long day since we were the last race so I was tired, and my fun meter was pegged so I was ready to be done with the process, otherwise i would have swapped DMEs again.

I have a very large oil cooler on the car (Lindsey 3x) so the oil temps are very well behaved on track, and cool quickly off track so it takes a while for the power to plateau. Having my car for 4 years now, all dyno runs have been in the 132-142 HP range. Ive only gotten readings over 140 on two occasions: once in this instance with an 88 DME and at the 2015 Eastern Champs at VIR when I installed the Hanksville Y pipe with turn down exhaust that dumps under the car at the torsion tube carrier.

==========

Re: Late and 88 DME Difference

Posted by dpRacing Dan - 11 May 2016 13:47

_____

Yeah I'd be curious to see the results after running the same test backwards- the biggest consistent pattern I've seen among all cars has been they keep making power as they warm up. I agree w the previous comment that its important to try and run it til it starts to average out and not continue climbing. Interesting about the added RPM though.

==========

Re: Late and 88 DME Difference

Posted by Manuel_M - 13 May 2016 17:55

As always thanks for the information. I need to buy a spare, I know they like to go at the worst times. Quick question, I can't ever find a straight answer, what part numbers are associated with the 88 DME?

==========

Re: Late and 88 DME Difference

Posted by Robbie - 23 May 2016 09:13

What position was the FQS in for both ECU's?

==========