

AFM adjustment ?

Posted by Kerry Chadderton - 17 Mar 2015 15:33

First off, I've searched here, Rennlist, Google & Pelican. I have a specific area I want to change and wonder if there is a way.

I have a mostly stock engine 84 N/A set up for the track based on the 944Spec rules. I rarely drive it on the street other than testing or driving to the track. The car is very well sorted. The only modifications to the engine are:

Catless exhaust to a Flowmaster

1986 AFM & DME

4 degree cam key

Aftermarket throttle cam

Wide band AFR (Zeitronix)

Seriously, that's it! Everything else in the engine compartment is "as delivered";

The entire fuel system has been removed, tested and/or replaced. New injectors, fuel pump, fuel filter, FPR, Throttle body rebuilt, new DME temp sensor, new DME relay.

I want to change one operating parameter: WOT AFR

The engine runs very well. AFR is normal throughout the warm up time period, and during operating temperature under normal driving. However, at WOT near the top of the RPM range (5200 to 6200) the AFR gets into the 12:1 to 11:1 range consistently. This happens with the original 1984 AFM/DME as well. The engine power goes flat at the same time. I can't help but think there would be more power available if the AFR was closer to 13:1 or 14:1. The car is absolutely going flat at the end of each gear.

Is there a way to adjust this? Are you racers seeing the same AFRs?

Re: AFM adjustment ?

Posted by AgRacer - 17 Mar 2015 16:43

Here's a race video with my wideband data displayed in a graphic overlay.

You can see me accelerate from 3rd to 5th down the back straight of Road Atlanta to get an idea of how the AFR changes with load/speed/gearing. The point the AFR goes below 13 is about 5700 but varies a little bit between 3rd and 4th.

From what little I've messed with the AFM adjustment wheel on the dyno, all it does is move the line up and down vertically on the chart meaning you can't flatten it out at 13:1, only pick where in the RPM band the AFR goes from rich to lean. Others on here may have more experience on the dyno playing with the wheel. I only tried it for a few runs before East Nats last year while I was checking to make sure I had legal power.

Re: AFM adjustment ?

Posted by cbuzzetti - 23 Mar 2015 06:38

Great video Staley, love the foot cam!

I don't monitor the AFR in my car but dyno readings show it does flatten up at high RPM.

Before making adjustments be sure to mark original position. You can also try moving DME switch. Be sure to note original position on that as well.

Re: AFM adjustment ?

Posted by Kerry Chadderton - 23 Mar 2015 15:06

Thanks so much for the input! I'm seeing the same "fattening" at the same point in the RPM range. Since posting I've adjusted the FQS settings and it's about one point better. That part I'm happy about. I'm also glad to see that your cars are doing the same. Good enough for me.

The power dropping off radically is apparently not merely the AFR. I believe the 4 degree cam key is too much. I don't have enough time to swap back by this weekend. I'll suffer through and short shift it.

Thanks for taking your time to respond. I appreciate it. -Kerry

Re: AFM adjustment ?

Posted by Sterling Doc - 23 Mar 2015 20:48

Good thread on AFM adjustment here: <http://www.944spec.org/944SPEC/forum/general/11260-tuning-afm?limit=6&start=>

Re: AFM adjustment ?

Posted by Kerry Chadderton - 29 Mar 2015 03:56

Well #2 position on the FQS switch, short-shifting at 5400-5500 and Hoosier R6's got me a 1:32.57 at SPR on Friday. This is with 140K on the engine and most of the interior in place, so I am very happy. I love the car and I'm still lurking here with hopes of racing with you guys. While I save money for the jump to Spec I'll continue with getting seat time.

Thanks again for the help. You guys have fun and be safe. -Kerry
