

KEEPING TRACK MEANS **GOING FASTER**

By Sasha Anis

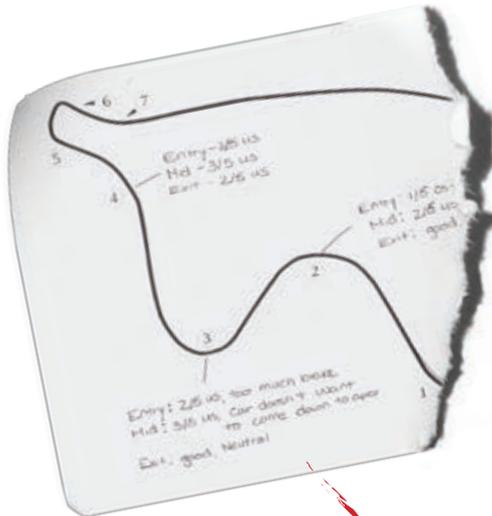
Many of the articles I write for PRN Ignition talk about ways to make you faster on the race track. Mastering race tracks, tweaking the setup, optimizing your engine, using data to improve the car and driver and so-forth. Now, let's talk about the importance of tracking the progress and changes you make, a habit that will pay dividends in the future.

We are all human – a few months down the road when it's hard to remember exactly what springs you had when you set that lap record, you'll wish you kept notes. You don't have to be a superstar pro racer to log setups and the car's evolution – it will benefit even the simplest of cars on the most basic of tracks.

When I started racing, I changed parts on the car that I thought would improve the car, and ran a number of different suspension and aerodynamic configurations all while at the same time changing the engine power and learning as a driver. Looking back, one of my biggest mistakes while I was so fresh and learning so much, was my lack of notes. All I can do now is look back and try to remember how the car was configured for each specific event, and how the damn thing felt, which is nearly impossible, especially for a guy with a bad memory.

We're often in a hurry at the track. Things are happening fast and we are in attack mode. There is no time to digest information and plan out how we can improve the car. But, our memory of exactly how the car feels is sharpest right off the track. Taking notes then allows you time to go over your data, your notes, video and your car setup at night when you have had some time to unwind. Having these notes, in addition to video and data, gives you the full picture of what the car was doing, and may reveal huge opportunities we might not pick up on when in "attack mode" at the track.

So, where do you start? The first thing to do is to have a setup sheet for



each session you run, which outlines the settings of all of the adjustable goodies your car has to play with. Things like pressures, spring rates, clicky damper knobs, anti-roll bar settings, brake pad compounds and fuel level would all be on your setup sheet. More advanced cars would also record wing angles, gear ratios, ride heights and the like. This is your input data. This is how the car will start the session.

Once you run the session, you need to record the results – both quantitative (hot tire pressures, temperatures and, of course, lap times) as well as qualitative (notes about how the car felt in general and through each particular corner). These results are your output data. Once you build some experience you will start to see patterns and develop a confidence for what works and what doesn't. You will be able to see trends like how temperatures affect lap times, how the balance of the car changes over the course of a long run as well as any ongoing issues the car seems to have everywhere.

You post-session notes are the most important thing to keep track of and take your time with. Print out a full-size track map and rate the magnitude of the under/oversteer condition of the car through the entry, middle and exit of

each corner on the track. Look at the image for an example. You may write something along these lines:

Corner 3:

Entry: Loose 3/5 – loose on turn-in, unstable.

Mid: Understeer 3/5 – washes out as it takes a set, cannot get the car down to the apex.

Exit: Understeer 1/5 – pretty decent under acceleration, small push, floaty.

The above example is how I rate a fairly stock Nissan GT-R at Mosport's Corner 3. You can see the above data is far more detailed than simply stating "understeer in corner 3." The detail allows you to look at it and say: "Okay, the car likely needs more front brake bias, and more rear bar or spring and a little bit more damper stiffness all around"

In addition to corner notes, you may want to have some generic notes that do not necessarily have to relate to the balance of the car. You might write that you were tired, hung over, the seat wasn't comfortable, the track seemed "off," the engine was missing, the transmission wasn't going into gear very well – anything that might affect your lap times should be kept track of so that when you look back on it in the future, you will have a full picture of that session.

To make the whole process of keeping track of setups and track-notes easier I have developed an iPad app called Laptimizer to keep track of these things digitally. It allows you to configure a car for your specific setup variables and configure a new setup for each session you run. You can also duplicate setup sheets, so if you make one small change you need not re-enter an entire setup sheet worth of data. You can even export complete session reports as a pdf. Feel free to check it out at Laptimizer.com. There is not yet the ability to add corner notes, but that is coming in the near future.

The point is, when you keep track of both the input data [the setup of the car and the weather] and the output data [how the car felt as a result of the setup, weather, etc.], you close the loop and get a full picture of the session. Even years down the road you'll be able to look at your notes and remember the session as if it had just happened. I cannot stress enough how powerful this is! It always seems the best ideas on how to improve the car come late at night when looking through data and notes, not at the track while you've got a million things on your mind. 