



# The Panic Slip



## Only two races remaining...

We've had a great summer but as the weather turns cooler we're left with the realization that we have only two races in the season. Registration is still available through links on our web page: [www.greatfallsracing.com](http://www.greatfallsracing.com) . See you there!

## 2013 Race Schedule

Date	Event
[REDACTED]	[REDACTED]
10/6	Expo Park
10/13	Expo Park

## September Meeting Minutes

Our complete September meeting minutes will be reviewed and finalized at our next monthly meeting on October 24th. The highlights of our September meeting were:

- An extensive re-write of our by-laws and competition rules has been proposed. Most changes eliminate redundancy between our regional requirements and the national rules. The current by-laws and competition rules are available for download on our website [www.greatfallsracing.com](http://www.greatfallsracing.com) .
- Discussion of position openings for next year and details of officer elections (see our web site and Facebook page for details)
- Malmstrom racing package with a five-year facility use contract is awaiting final signature from the wing commander. We'll be back racing on the base in next season's schedule!



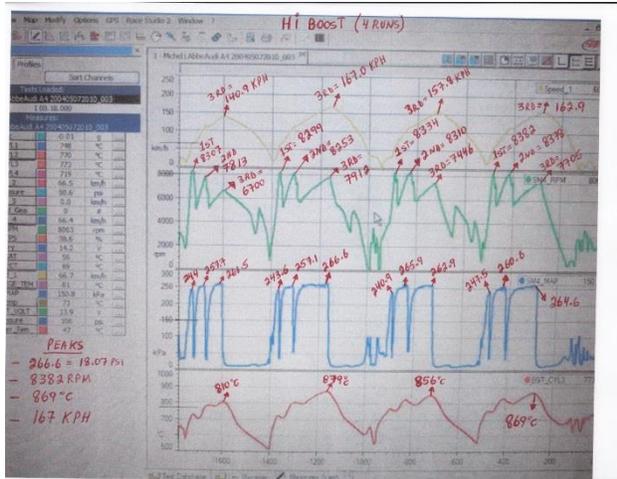
*A few of the competitors at the Coneheads race, Helena Emergency Services Facility*

## Tips from the Grid

We learn more about racing every time we do a run; however, we often rely on our memory in order to improve our performance from run to run or from race to race. Performance improvements become increasingly hard to find as your skills

improve and the smallest increment can make the difference in getting a win (I once missed first in my class at Top Gun by .003 seconds!). This month, we'll discuss data logging and how it can help improve your performance for as little as \$1.76 for the season.

Data logging, in the racing world, refers to recording information about the track conditions and car/driver performance for future reference and use. On the upper end of SCCA club racing, track cars routinely run data logging systems costing thousands of dollars and tracking 40 or more data channels just from the car such as throttle position, lateral g-forces, shock pressures, etc. For autocrossing our data requirements are thankfully much more affordable, typically less than 10 data points.



*Data logging and performance analysis in a race car using 22 "internal" data points*

The first data points you'll want to record are the track location, surface type (asphalt, concrete), the track direction (mostly clockwise, mostly counterclockwise), the time of day, and the weather (temperature, cloud cover, etc.). This data establishes the "external" factors which can affect your car's performance. You might also record track and air temperatures for each run if you have the means.

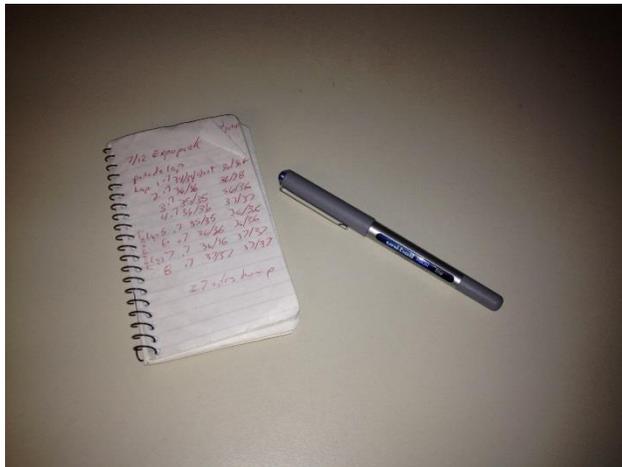


*Capturing track temperatures is important at all levels of racing*

The remaining data points are "internal" to your car or your driver performance. One of the most basic data points yet one of the most critical is tire pressure before and after each run. Proper tire inflation is the single greatest factor that can make or break your race; if you aren't maximizing your traction, you can't apply your skills or your car's capabilities. Make sure you record pressures for each tire separately – a track with primarily a clockwise rotation (i.e. – mostly right-hand corners) will often heat the left-side tires more than the right. Heating the tires raises the air pressure; too much air pressure causes your tire to lose traction.

The basic "internal" driver data point is your run time for each run. Although we normally see increases throughout the day as we become more familiar with the course, a radical jump up or down in run times can often be traced to one of the other data points (track temp, tire pressure, etc.) and corrected to help better your times. Besides your run time, it's important to capture very briefly a description of what you did right or wrong on each run. Brief statements like "Great launch" or "too much speed in corner 3" can provide valuable clues to unexpected changes in your run times as well as making changes to improve your times even more.

Those are the basics of data logging – a racer can record as much or as little as they feel they can use but generally speaking the more information you have, the more you can increase your performance. I started out this article with a “teaser” that you can improve your performance for a little as \$1.76 a season. You do this by purchasing the most basic yet most essential data logging tool – a small, spiral notebook and a pen!



*Member at Large – Jeff Thill*

Contact number: (406)788-8808

E-mail: [thillagency@yahoo.com](mailto:thillagency@yahoo.com)

*Your committee leaders:*

*Safety Steward – Bob Stevenson*

Contact number: (406)781-2647

E-mail: [bobcetera@bresnan.net](mailto:bobcetera@bresnan.net)

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Send Panic Slip submissions and suggestions to our Panic Slip Editor, David Sherman, at [Region105PanicSlip@gmail.com](mailto:Region105PanicSlip@gmail.com)

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*Your 2013 Region 105 Officers:*

*Regional Executive – Kip Anderson*

Contact number: (406)453-3494

E-mail: [kip@pacific-steel.com](mailto:kip@pacific-steel.com)

*Assistant Regional Exec – Dustin Ostberg*

Contact number: (406)788-2623

E-mail: [dustin.ostberg@gmail.com](mailto:dustin.ostberg@gmail.com)

*Treasurer – Stan Howard*

Contact number: (406)788-1735

E-mail: [stanndel@gmail.com](mailto:stanndel@gmail.com)

*Secretary – David Sherman*

Contact number: (406)868-8060

E-mail: [region105panicslip@gmail.com](mailto:region105panicslip@gmail.com)

*Competition Chair – Nathan Church*

Contact number: (406)761-2750

E-mail: [nathan@406racing.com](mailto:nathan@406racing.com)