



# The —Black —Crack —Report



The addiction you don't want to fight

Issue 32, October 2011

## Upcoming 10/10ths Events

Only 2 events left this year

- **October 22<sup>nd</sup> & 23<sup>rd</sup> @ Putnam Park**
  - 3 Group HPDE with 2.5 hours track time per Day
  - The last 10/10ths Motorsports Event at Putnam this year, Don't miss it !!!
  - **Craig from US RaceGear will be at this event with his safety equipment trailer.**
- **November 5<sup>th</sup> & 6<sup>th</sup> @ Carolina MotorSports Park**
  - Our first time at this great track.
  - Sign up now so we can keep coming back to CMP



**Registration is open for both events on the 10/10ths website:**  
[www.1010thsmotorsports.com](http://www.1010thsmotorsports.com)

## Tech Reminder

If you have been running water in your radiator all summer, now is the time to put the Anti-Freeze back in.



## Track Day Insurance

If you have not seen it on our website, you can now get track day insurance for 10/10ths events at:  
<http://ontrackinsurance.com/index.aspx>

## Car for Sale

One of our very own 10/10ths Drivers is selling his 2008 Corvette. This car has recently been gone over with a fine tooth comb for maintenance and upgrades and is track/street ready.



See the attached pdf giving all the specs and contact information on this car.



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## 10/10ths Tech Corner

### Trail Braking

(From the Physics of Racing Series)

Trail-braking is a subtle driving technique that allows for later braking and increased corner entry speed. The classical technique is to complete braking before turn-in. This is a safer, easier technique for the driver because it separates traction management into two phases, braking and cornering, so the driver doesn't have to chew gum and walk at the same time, as it were. With the trail-braking technique, the driver carries braking into the corner, gradually trailing off the brakes while winding in the steering. Since braking continues in the corner, it's possible to delay its onset in the preceding straight braking zone. Since it eliminates the sub-optimal moments between the ramp-down from braking and the ramp-up to limit cornering by *overlapping* them, entry speeds can be higher. The combination of these two effects means that the advantage of later braking is carried through the first part of the corner. In many ways, this is the flip side to corner exit, where any speed advantage due to superior technique gets carried all the way down the ensuing straight. ***The magnitude of the trail-braking effect is much smaller than a great corner exit, perhaps a car length or two for a typical corner. Done consistently, though, it can accumulate a whole second or more over a course.***

When students are taught to drive as Novices, not all the fast drivers used trail braking and instructors usually gave it at most a passing mention as an optional, advanced technique. The reason was probably a risk-benefit analysis:

- It's a small effect compared to the big-picture basics, like carrying speed *out* of a corner, that everyone must learn early on
- It's difficult to learn, so why burden new students with it?
- **Mistakes with it are ugly**

As you progress in this sport, the general level of driving skill will increase to the point where it's no longer optional, unless you're content with not gaining additional speed.

As with most driving skills, it's difficult to get a feel for the limits without exceeding them from time to time.

***However, exceeding the limits at trail braking has some of the worst consequences one can invite on a race track, typically worse than those from mistakes at corner exit.*** It's definitely a big risk for a small effect, justified only because it accumulates. Blowing it results in *too high an entry speed*. You get:

- Inappropriate angular attitude in the corner
- Immediate probing of the understeer or oversteer characteristics of the car
- Surprise, pop quiz on the driver's car-control skills
- Missed apex and track-out points
- A looming penalty cone, gravel trap, tire barrier, concrete wall, tree, etc.
- When you bounce back from *that* impact, you can hit other cars, spectators, corner workers, etc.
- Anything else that can go wrong in a blown corner

That's one of the reasons you may not, target this skill for your personal driver-development work - it's hard to do at all and harder to do it consistently and may not seem worth it.

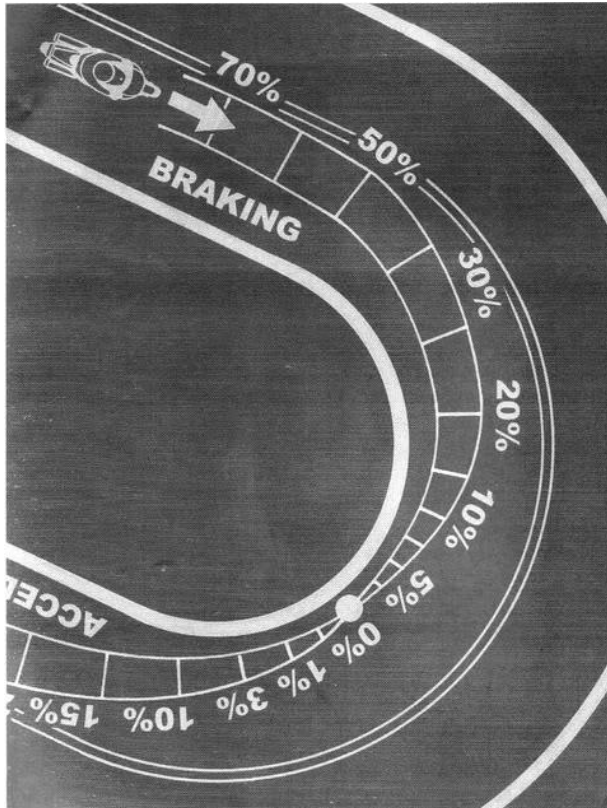


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So why take the risk of learning to trail brake.



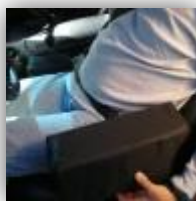
Go wheel-to-wheel on the track with equal cars, and the issue becomes instantly and **visually obvious**. You may be just as fast *in* the corner, coming *out* of the corner, *down* the straight. You may have perfect threshold braking. You may have perfect turn-in, apex and track out points. But that little extra later braking and entry speed will allow the trail-braker to take away several feet every corner. Corner after corner, lap after lap, he will gobble you up.

For those of us that want to push our skills to the limit, trail braking should be on your agenda of skills to perfect. Don't try to master it in one weekend or even one season, this is one of those things that must be crept up on and done so in a manner that keeps you safe. You must develop the needed confidence in yourself and your car in order to achieve the results you want. It is NOT for the Novice driver.

In order to be properly performed, the driver must have excellent sense of the vehicle's behavior and be able to keep the braking effort within very tight limits. Excessive braking effort may result in the vehicle heavily understeering, or - if the brake bias is set to nearly neutral - in the rear wheels locking, effectively causing the vehicle to spin as in a handbrake turn.

## AngelWings Tech

10/10ths Motorsports is a distributor for the new AngelWings Tech C5/C6 Corvette Track Day Bar and AngelWings Seat Pad. The Seat pads are a great way to get that race car seat feel and fit when using stock seats. The Track Day Bar provides you the needed protection so you can put your convertible on track.



I will have a set of the AngelWings Tech Seat Pads at the October Putnam Park Event if anyone would like to give them a test run.

See the 10/10ths website for details and purchasing.



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## Did You Know

**10/10ths Motorsports, LLC is a Hawk Brake Distributor.** I can get you some great brakes at a great price. With your 10/10ths driver discount, I can almost always provide you with the best pricing. They can be shipped to your house or brought to the track at our events. Email me or call if you have questions or need to order. Thanks !!!!! Your support will no doubt help 10/10ths Motorsports in providing track days for all our drivers.

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