

Watching pro level sports, you can't help but think about the years of preparation and training that brought each athlete to the pinnacle of performance. Improving your performance as a driver is no different. It requires preparation and practice. With a wide variety of track events available to warm your fluids, we'd like to help with the preparation.

Open track events, known as High Performance Driving Events or Education (HPDE) have been increasing in national popularity over the last few years. The proliferation of well-organized car clubs, improving car technology and friendly sanctioning bodies that recognize the non-racer enthusiast, are some of what is making it easier to get involved. These days there are hundreds of opportunities across the US every year to put your car on the track for some fun and learning.

### Participate

You've considered participating but you have reservations. Don't be shy, give it a try! By the end of your first day you will be exhausted mentally and physically and will have learned much about yourself and your car. You will be a better driver I am certain. I'm guessing you will love it so much you might even have the giggles. It's that much fun.

I find myself attempting to explain how exciting an open track event can be to other enthusiasts and casual drivers. It's hard to convey the adrenaline rush that comes from preparing and driving your own car in a performance setting and finding limits. The mental focus required as you try to hit the right braking and turn-in points, the freedom to accelerate without fear of Barney Fife, and the unexpected physical demands as you become more comfortable with vehicle dynamics and your own capabilities are very rewarding. When I encourage other drivers to do an HPDE, I am often surprised at the negative

responses I get. Things like "I'm not interested in racing or driving fast on a track." Or "I don't want to ruin or crash my car." I get it. But let's be clear, these are NOT races. They are not even time trials. It is not a contest. There are no winners or losers. There is no score and no one will force you to drive beyond your level of comfort. No pressure. Just fun. If you enjoy driving, trust me, you will love an open track event. Plus, there will be lots of new friends that want to help, answer questions, provide instruction and contaminate you with our sickness!



*FR500s Mustangs jockeying for position at Utah Motorsports Park, outside of Salt Lake City*

### What does he know?

I've been a car enthusiast since I was a kid. My parents tell the story of me swiping the keys to my dad's Bonneville when I was three and backing it into the neighbor's yard. I like to lament that my car habit is a disease that can't be cured, only treated for temporary relief...with more cars. This love compelled me to race motorcycles, go-karts and cars in many different settings and build many of each over the years. I've drag raced and succeeded in national events, participated in many HPDE's and driven in the Optima Batteries Street Car Invitational Final in Vegas.



*Gateway Classic Mustang's '68 development car at the Optima Street Car Invitational, Pahrump, NV*

We did well in our '68 Mustang race car I had never driven before, scoring a top ten lap time. I've also done some autocross and had the pleasure of enjoying professional driver training over several days at Utah Motorsports Park, just outside of Salt Lake City, Utah.

Using some of what I've learned building and driving, I'd like to share some simple insights in the hopes it will encourage and inform you to better prepare yourself and your ride, even if you don't participate in a HPDE.

### Classes

All HPDE's separate the cars and drivers by capability or experience. These are classes or run groups. The desire here by the organizer is to maximize the benefits for each level of experience while minimizing risk to all. The lady in the full-on caged race car set up for an SCCA or NASA event with slicks and a competition license that's out for some practice does not want to wait on a novice who has never been on a track before. When registering yourself for an event, be honest with yourself when discussing which run group to sign into. I've witnessed too many people that *THINK* they know how to drive well on a track and are allowed to sign into the intermediate group. The result is many qualified drivers getting caught behind a slow car waiting for the passing zone. Be honest with yourself and the officials. There are no awards or shame in your selection.

Every sanctioning body has their own rules around class or group assignments. What I've outlined here is a general guide to demonstrate the class differences and help you decide where you should land.

### Novice

This class is for first time enthusiasts, those with no or limited track experience, street cars that are not necessarily "performance" cars, or for individuals that are concerned with pushing their cars too hard for fear of tire wear, brake wear or other factors. This is a great group for learning the racing line, honing your braking and turn-in points, learning how to heel-toe shift and getting comfortable at cornering speeds well beyond those on the street.

### Intermediate

No first timers here. You've done several HPDE's, and hopefully had some formal training. Your car is well prepared and capable. You're confident that you need more practice and experience and want to improve your car control skills. You are honing your racing line and car control often pushing the car to its limits. Tires and brakes suffer as a result. A 5 point harness is helpful but not mandatory.



*Note the Honda S2000 holding up two Boss 302s and a Roush in an intermediate run group at Atlanta Motorsports Park. The Honda was out of place in the group causing many to wait during that day. The driver may have been capable, but the car was not.*

### Experienced or Advanced

You've graduated from a driving school, got lots of track experience or have a NASA, SCCA or other license that attests to your abilities. Your ride is capable, prepped for the track with high performance tires or slicks, and an aggressive suspension and brake set-up. You've got a roll bar and harness and have car control skills that demonstrate you and the car as one unit.

### Race Prepared

Likely came on a trailer. Licensed, inspected. Well prepared. Typically cages, slicks, 5 or 6 point harnesses. Lots of experience in HPDE, racing or a combination of both. Its practice for those people and their cars that want to run at the limit and get comfortable operating there.

### Insurance



*Safe Passing at a HPDE.*

A couple years back, a good friend of mine and I had our Boss 302's at a racetrack competing in time trials. He crashed his 2012 into the wall on the back stretch coming out of the Chicane at about 70mph. He didn't buy track insurance beforehand. It was a \$28,000 mistake and three months without his car. While incidents are very rare, it can happen. In rare cases, some insurance companies will maintain your coverage during HPDE's but don't assume anything. If your policy does exclude HPDE's, no worries: there is a solution.

Because of the proliferation of events and the fact that most of us don't have a dedicated track car, the insurance industry responded with specialty lines of coverage. These policies can be structured to cover your back for a day or two or an entire season at the track. And the best news is, they are cost effective. I've seen some for as little as \$160 for an agreed value of \$20,000.

We've listed a few of many options below. As you shop, look carefully for exclusions and terms that fit your risk tolerance, the event.

<https://locktonmotorsports.com/product/hpde-insurance>

<https://ontrackinsurance.com/>

<https://www.motorsportreg.com/index.cfm/event/hpdeinsurance>

<https://www.rlicorp.com/hpde-insurance>



### Technical Preparation

Anytime you bring a car to participate in a HPDE, the organizers will require varying degrees of proof that your car is in track worthy condition (*their definition, not yours*). Your registration package will contain a copy of the actual tech sheet that will be used to inspect your car. This basic checklist will be used as documentation, for the general condition of your car for the

event. They don't want to turn anyone away, but will, to keep everyone safe. Run through the list yourself with your car prior to the event preferably a few days ahead of time. This will give you time to correct any discrepancies.



*Learning young; prepare carefully!*

The forces, and temperatures your car will experience during a HPDE are unusual. The repeated acceleration and hard braking generate more heat than normal. Most street cars, even some high performance street cars are not prepared for HPDE's. Even the 2012-2013 Boss 302's which were developed on and designed for tracks, were not delivered track ready. Additional cooling and set-up changes were needed to be most effective. The good news is, if all the systems and fluids are up to speed, your ride will easily survive in the novice or even the intermediate run group. An experienced driver in the intermediate group will stress the car. I would not recommend a street car run in the advanced group unless it has been specially prepared.

To help you prepare your ride for the track with more in depth technical information than we see on a check list, we hope to help you create a safer, better experience and minimize wear and damage to your car. It's just more fun when you are confident your ride is prepared.

Generally, the things to keep in mind as you are preparing your car for a weekend of hard driving is safety and reliability. You want to maximize the ability of your car to shed heat while responding reliably to your driving inputs, consistently. Everything we are going to review has these goals in mind. A well prepared car will survive a track event without mechanical incident or unusual wear and tear (beyond brakes and tires) barring any mistakes by the driver. HPDEs are not about horsepower or who is the fastest. Reliability, consistency and safety are much more important as you learn and practice.

### Oil

With higher than normal temperatures generated as you demand more from the engine, fresh oil is best. Oil is not only a lubricant but also a coolant. Synthetic oils are proven to withstand higher heats and maintain their lubrication properties more reliably than conventional oil. Regardless of your stance on oil, come to the track with a fresh oil change.

High cornering G loads can push oil to one side or another in the pan. In addition, maintaining high rpms will pull high volumes of oil out of the pan up into the engine. These two factors can cause oil starvation at the pick-up in extreme cases or if the oil level is not right. The fix? Make sure your oil level is topped off. I have known some to overfill the crankcase with as much as an additional quart of oil once reaching the track for extreme conditions and as insurance. To be clear, I'm not recommending this. I have used ½ quart additional in cars that didn't have baffled oil pans (like the Boss). Obviously your owner's manual will discourage this as it may harm your engine. I'll bet that same manual also discourages you from putting the car on the track!



## Coolant

Antifreeze. That slippery green or pink substance commonly referred to as antifreeze or ethyl-glycol that is lethal when ingested. It ages over time and miles, and must be changed.

Did you know, ethyl-glycol is not as good a conductor of heat as plain old H<sub>2</sub>O? Why is it used then, most often in a 50/50 mix with water? It lubricates the cooling system, increases the boiling point (based on the ratio to water) and decreases the freezing point of your cooling system.

At sea level, water boils at 212 degrees. At 5,000 feet it boils at a mere 205 degrees. 100% Ethyl glycol on the other hand boils at 387 degrees at sea level.

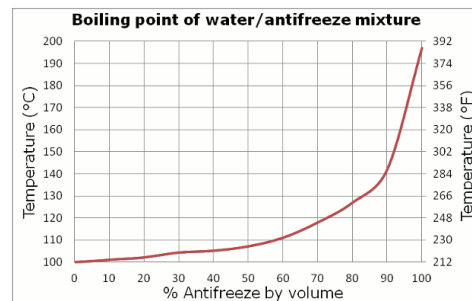
TABLE #2			
TEMPERATURE		PRESSURE	
deg. F	deg. C	PSIG	kPa
260	127	16	110
254	123	14	96
248	120	12	82
242	117	10	69
236	113	8	55
230	110	6	41
224	107	4	28
218	103	2	14
212	100	water begins to boil @ sea level	
211	99	0	0

Table 2 – The effect of pressure on the boiling point of water

Table 2 is a great demonstration of how pressure affects the boiling point of water. As you recall from high school physics, the weight of air or pressure at sea level is more than that at 5,000 feet elevation. This lower pressure on the water allows it to vaporize or boil at a lower temperature. Conversely, a higher pressure than sea level atmosphere increases the boiling point of water. Translated to cars, our cooling systems are designed to be pressurized at atmosphere plus between 12 and 18 psi (your radiator cap is the pressure release valve) to raise the boiling point of the fluid in your system.



Water boiling at 5,000 feet and 204 degrees.



Looking back at Table 2 and then at the graph of the boiling point of a mixture with anti-freeze, you can see that to get a significant increase in the boiling point you need very high concentrations of ethyl glycol. The reason your car doesn't boil over in traffic when it reaches 230 degrees is a result of the increased pressure in the system provided by your well maintained closed system and a good radiator cap. Not the ethyl glycol. It's proven to shed heat slower than water. Check that radiator cap!



Seeping thermostat housing on a 4.6L. This is a cooling system compromise. Fix it.

So what happens if your system has a small leak? It will not build pressure making it more prone to boil the coolant. Boiling coolant will not effectively transfer engine heat. I think you know what happens next.

I like to reduce the ethyl glycol in my system to about 25% from 50%. This keeps my boiling point, at atmosphere (if the system was open, no radiator cap, not under pressure) at 220 degrees. For reference a 50/50 mix has a boiling point of 225 degrees. One more thing, use distilled or deionized water. The chlorine in city water is corrosive to your cooling system.

Another harmful side effect of leaking coolant is a slippery race track. This will ruin the day for someone else. Get your cooling system in top shape before the track day. Make sure your catch-can or overflow tank is in place and properly filled when both warm and cold.

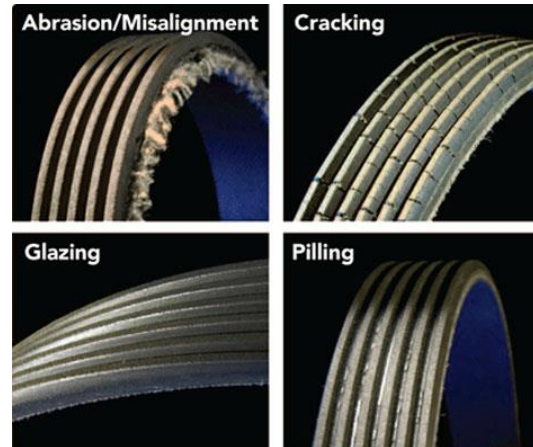


*If your hoses are bulging, its time to replace them.*

### Belts & Hoses

Your belts should be free from cracking and signs of wear (twist upside down and look at the ribs). The pulleys should all be in alignment. No squeaking or squealing or other noises. The idler pulleys on modern cars often start to become noisy indicating a bearing is defective. Most have several of these \$25 parts, it's an easy fix to

replace them. Check all the hoses: coolant, vacuum and pcv lines for cracks leaks and proper routing. Replace any chaffed or cut hoses. Check your clamps to ensure they are snug. Don't just look at them, put a tool on them! You might be surprised what you find.



### Fluids

Other than oil and coolant, there can be several other fluids to check and or change. Brake fluid, power steering fluid, transmission fluids, gear lube. If it's been a while since they were changed, do it before the track day.

Some cars today use the power steering system as a brake booster. This is commonly referred to as hydroboost system. Instead of relying on the engine vacuum to assist (along with a spring) in a traditional brake booster, the power of hydraulics is harnessed.



*Hydroboost set-up*

On the hydroboost cars it's imperative to check your power steering fluid often for leaks and discoloration. After about 10 years or 100k miles I change it. I like to use a turkey baster to draw out all the fluid I can from the reservoir and replace it with new. Do this a couple times and you have very fresh fluids. A power steering failure in these cars will significantly increase the pressure needed to apply the brakes and turn your wheels. Unsafe at best.

### Leaks

Any leak is your sign that something needs attention. Just fix it and save the inspection team the judgement call. This includes the rear end and transmission. I've seen many cars from the 90's through the 2011's leak at the rear housing cover or pinion seal. This happens slowly over time. With no way to check the fluid and being out of sight and mind, the fluid drains slowly unnoticed. Once the rear is low enough on fluid, it will burn up the bearings and weld itself together... at the worst possible time. If you see evidence of a leak, get it fixed and refilled with fluid.



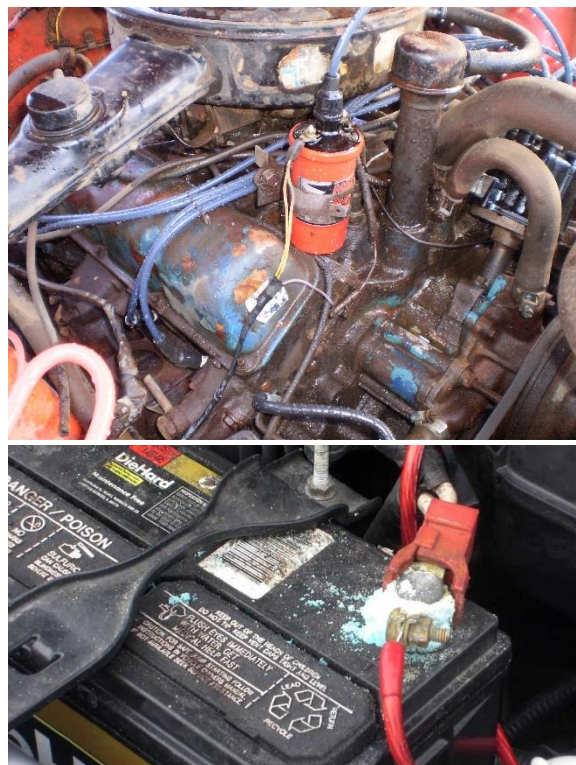
*8.8 pinion seal leak*

At the track, your transmission and rear end will take a large load and generate more heat than normal so make sure they are not leaking fluid and are topped off. On my street cars, I like to change my rear gear lube at about 100K miles. A differential cover gasket is \$5 and 2 quarts of

gear oil are less than \$40, so change it. Automatic transmissions should get a fluid and filter change, and manuals a fluid change at around 100k miles. It's cheap insurance.

### Appearance

Does your car / engine compartment look like it is a series of poorly thought out decisions? Or is it clean, tidy and free from questionable modifications? If you are in the former group, expect to endure more scrutiny during the inspection.



*Not what the inspection team wants to see.*

Does your accelerator occasionally produce unintended acceleration? Get those throttle return springs fixed! On carbureted cars you need at least 2 to pass tech. Check your gas cap. It should fit well and close properly. We don't want spilled fuel. Speaking of fuel, come with a full tank. You will use more than normal. I like to come with premium even if the car doesn't



require it. Why? Higher octane fuel alone does not make more horsepower. It merely resists detonation better than its lower octane counterpart. When engine heat rises as a result of higher demands or stresses, compression increases making it more susceptible to detonation. In modern cars you will never know this because the computer is constantly looking at the knock sensor and when it senses detonation, it retards the ignition timing to stop it. Running high octane fuel will ensure optimum performance from your engine by allowing it to use its most aggressive timing curve.

### Electrical

The inspection at the track will include determining if your battery is properly tied down and connected well among other things. The sulfuric acid in a battery is extremely corrosive. If it breaks loose on a corner or bump it can move causing the terminals to short out (think large explosion) or hit one of your fans cutting it open and spewing acid everywhere. Make sure the battery is tied down well and the terminals and wires are in great shape and properly connected. Oh, and make sure you have functioning brake lights...all of them. The guy behind you will appreciate it!

### Body

Inspect your car for loose trim, bumpers lights etc. Fix them properly or remove them. We don't want parts being shed on the track like trophy trucks at a dirt track. Are you worried about rock chips? Put a coat of wax on the area you are worried about, don't wipe it off. Then apply some blue painters tape. You can cover the lights, bumpers, rocker panels etc. Just don't cover any openings on the front that would impede air flow to the radiator or front suspension or the windshield. You don't need the aero help, you will not be going 200mph!

Focus on keeping the car cool. You can also splurge on one of those clear custom fit paint protectors if blue tape is not your style.

### Tires, Brakes, Suspension

Tires are your connection to the track. Just like the palms of your hands allow you to connect with the world around you and get feedback, tires are your cars connection.

Street tires, performance street tires and racing tires are all designed to function very differently. The rubber compounds, side wall construction, heat shedding abilities and traction attributes are all very distinctive to the intended use and manufacturer. Regardless of the type of tire you bring to the track and setting aside the need for adequate tread (required), air pressure is one of the most important things to affect your tires connection to the road. Many people ask what tire pressure they should run at the track. Unfortunately there is not a one size fits all answer. Even with street tires, the answer will depend on the tire, the track conditions, your alignment settings and driving style.

Tires are rated for everything from tread wear to traction and temperature resistance. In these ratings "A" is better than a "C" of course. A lower numeric rating on the tread wear indicates a softer or stickier (wears faster) rubber compound. Every tire sold in the US must meet a temperature grade of at least "C" indicating it can shed enough heat at a sustained 85 mph so as to not fail....when new. Performance tires also have a speed rating. This is the maximum speed the vehicle should be operated at with the selected tire. Speed ratings are based on laboratory tests where the tire is pressed against a large diameter metal drum to reflect its appropriate load, and run at ever increasing speeds (in 6.2 mph steps in 10 minute increments) until the tire's required speed has been met.



It is important to note that speed ratings only apply to tires that have not been damaged, altered, under-inflated or overloaded. Additionally, most tire manufacturers maintain that a tire that has been cut or punctured no longer retains the tire manufacturer's original speed rating, even after being repaired because the tire manufacturer can't control the quality of the repair.

L	75 mph	120 km/h	Off-Road & Light Truck Tires
M	81 mph	130 km/h	Temporary Spare Tires
N	87 mph	140km/h	
P	93 mph	150 km/h	
Q	99 mph	160 km/h	Studless & Studdable Winter Tires
R	106 mph	170 km/h	H.D. Light Truck Tires
S	112 mph	180 km/h	Family Sedans & Vans
T	118 mph	190 km/h	Family Sedans & Vans
U	124 mph	200 km/h	
H	130 mph	210 km/h	Sport Sedans & Coupes
V	149 mph	240 km/h	Sport Sedans, Coupes & Sports Cars
W	168 mph	270 km/h	Exotic Sports Cars
Y	186 mph	300 km/h	Exotic Sports Cars

As for tire pressure, the best place to start is the recommended “cold” pressure for your vehicle. That is measured first thing in the morning when the tire is at ambient temperature. As you drive and the day wears on, for every 10 degrees of temperature change, your tire pressure will change 1 psi. During the day or following a long drive on a warm day, you may see as much as 6 or 8 psi increases in your tire pressure. So if you are checking your tire pressure mid-day after driving 10 miles and set it to the “cold” pressure, it will be low! (tire stores do this all the time) So how do you tell if you have the proper pressure once you are driving at the track? A good place to start is by filling your tires to the recommended cold pressure first thing in the morning. Then check your tire pressure after driving a few miles on a day similar to what you expect on your day at the track. Make a note of

it. It might be as much as 40 psi if your cold starting temp was 32 psi. When you get to the track, plan on this being your target starting pressure. Then, with white shoe polish, mark the tread and some of the sidewall of your tire before your run. If the pressure is too low for your driving and conditions, your tire will fold over and rub the sidewall on the pavement during hard cornering as evidenced by the white polish. If it does fold over, increase the air pressure modestly until you no longer have fold over. Yes, this condition will change over time as you build heat in the tires on your runs. Keep an eye on the pressures before and after each run making notes. What about performance tires? Low sidewall tires are not as susceptible to fold over but still must be checked. Again, start with the recommended “cold” pressures first thing in the morning and inspect your tires after each run. Be sensitive to how the car handles and adjust from there.

## Suspension

I recently replaced the shocks, struts, springs and all the bushings on my 2005 GT with new parts. While the car rode and handled seemingly well before, the new parts really made a difference. Rubber deteriorates over time and use. Check all your bushings looking for cracks in the rubber. Replace if necessary. Perform the bounce test at each of the corners of your car to test the shocks and struts. Bounce the car using your body weight then let go. If your shocks and struts are functioning well, the car will immediately stop bouncing. Said another way, if you let go of the car on the “down” bounce, it should not move any more than just to come back up to ride height. With no noises. Anything other than this behavior is a signal your suspension components are worn. Also part of the suspension is the wheel bearings or hubs. On a jack or lift, each wheel should roll easily and quietly. Grab the

wheel/tire with two hands and try to move it side to side, up and down. It should be tight with no slop in the bearings or associated steering components such as tie rod ends, ball joints etc.

Check your alignment. 1/16 to 1/8 toe-out makes for quicker turn-in. Too much makes the car want to wander. Toe-in is good for the street but makes the steering feel lazy at the track.

ok



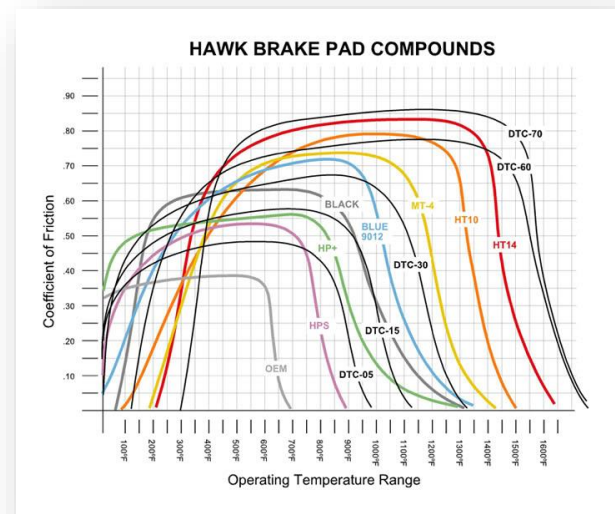
## Brakes

We could take a whole book to cover this topic so I'll try to keep it brief. But this is where races can be won. With the brakes.

Brake fluid by design is hygroscopic. That means it naturally absorbs moisture. Moisture in brake fluid promotes corrosion inside the steel lines and at the same time lowers the boiling point of the fluid. Here we go again with temperature and pressure! Since your brake fluid is the mechanism by which your brake caliper is moved, transferring force from your foot, through the master cylinder to the caliper. And since your caliper is in contact with your brake pads, the fluid warms as your brakes warm. So what? Well, if your brake fluid boils, you will lose the ability to apply brake pressure. You will feel a spongy pedal which indicates air in the system.

Spongy pedal equals longer unpredictable stopping distances. What's the solution? For street cars, bleed your brakes every couple years, replacing the old fluid with clear, new fluid, from a newly opened container. For cars used on the track, depending on the track, the car, the pads and the driver, some bleed brakes as often as between sessions to keep it fresh.

As for pads, the choices for are endless. Yes, Margaret, there are huge differences in pads, even between street pads. In short, the differences are in the composition of the pad material, how long it wears, how aggressive it bites and its ability to...here we go again... to shed heat. Street pads are designed to bite hard when cold. As they warm up, that bite goes away until they barely bite at all.



This chart from Hawk is a great visual for comparisons between pad material and how it reacts to temperature related to its coefficient of friction (Cf) or its ability to stop the car. Find the "OEM" line on the graph. As you will see, the Cf for the OEM pad is almost flat from 0 to 500 degrees. Then it falls off rapidly until at 700 degrees it goes away entirely! Not good for the track where you will have repeated reductions in

speed with little time for cooling. My experience with street cars and bedding in brakes has revealed that after about 4 aggressive reductions in speed from 60 to 10 mph, the brakes will begin to smoke and start to fade. Looking again at the Hawk graphic, notice the line for their DTC 70 product. Below 300 degrees these brakes will provide very little braking. But at 300 degrees they bite over twice as hard as the OEMs until they reach 1,600 degrees. By the way, two quick facts: 1) over-the-counter DOT 4 brake fluid boils at 450 degrees when new (called dry) and after 2 years in service (called wet) it boils at about 300 degrees and 2) about 80% of your braking is done by the front brakes.

Better brakes allow you to drive deeper into the corner before you begin to brake, improving your lap time (*braking should be done before a corner, not in a corner*). This is one way races are won. If you can brake 20 feet later than the next guy, you can pass at the end of the straight just before the turn. Having done a direct comparison between the stock pads that came on my Boss and Carbotech racing pads, the difference was astounding. Cold, the pads worked almost as well as stock, but as soon as you got some heat into them they reduced the stopping distance from 60mph by over 25 feet. That was about 20% shorter distance. There are drawbacks however. The rotors get worn much more aggressively and when they are cold on the street, they are crazy loud. They squealed like the UPS truck.

There are compromises that offer a hard bite when cold but sustain that longer as the heat rises. These are offered by companies like Performance Friction, EBC, Hawk and others. They are more costly but generally are worth the expense for the improved performance. If you could reduce your panic stopping distance by

even 5 feet by spending \$20 more on pads, why wouldn't you want that extra insurance? If your pads are worn or even in question, replace them before a track event and bleed the system.

In short, for your track day, your pads should have a significant amount of material remaining when you get to the track. They will experience meaningful wear over the course of the day and get very hot.

While we're talking brakes and suspension, your lug nuts should be mentioned. Get a good quality torque wrench and check them, after you get home from the tire store, before the track event and before each session. Hitting them with an air gun set on "stun" is not the correct way to tighten them. Torque specifications are dictated by the size of the stud and the lug nut. Over-tightening them stretches them and makes them weak. It can even warp your rotors. Ever seen a wheel come off at speed? I have and the results are not pretty. One size does not fit all. Learn your specs and keep an eye on them.

Finally, if your car is sporting hub caps, beauty rings or other wheel adornments, remove those or the forces during cornering will remove them for you!

One more thought about brakes at the track. Don't set the emergency or parking brake when you come in from a session. The extreme heat in your pads can cause your rotors to warp or for the pads to stick to the rotors. Bring wheel chocks as an alternative.

### Interior

When I was in Vegas for the Optima Batteries Street Car Invitational, I was asked to operate one of the TV cameras in a Corvette Z06 chase car. (The event was filmed for TV)





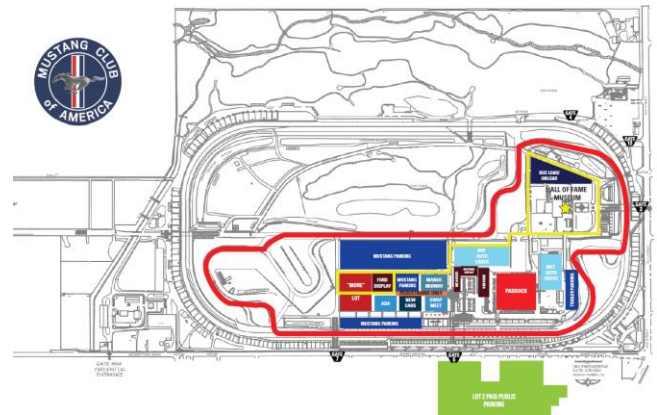
As my run was scheduled for later in the day I thought this was a great chance to learn the track from a pro. The guy driving the Vette is a semi-pro who runs some of the SCCA and NASA circuits out west, so I trusted he had everything in order before our run. I was wrong. On about turn three of the 2.8 mile course, just as we began to get on the binders from a little over 100 mph, his helmet bag came flying out of the back into his cockpit. He missed his braking points and turn-in from the distraction. As I was gathering up the helmet bag, he was getting the Vette under control as we were now in the marbles. A four wheel drift to the edge of the track was interesting at this speed with us both scrambling. Jim, the driver, said some choice words and we were safely on our way. But now we were juiced up with adrenaline and off the pace. I tell you this story because prepping the interior of distractions and potential missiles is really important. That garage door opener clipped to the visor will come loose. I promise. That floor mat will wad itself up under your feet and the box of tissues will miraculously find its way from the rear floor to the dash. Guaranteed. Get anything not tied down or bolted securely to the car out of it! Check your seat bolts, inspect for wear and chaffing. Clean the inside of all your windows until they are free from smudges and haze. I like to use most anything other than paper towels. They seem to always streak. If you are going to run a camera, make certain, beyond a shadow of a doubt, that it is secure. A mechanical mount is always better than a suction cup. You will need all your focus for the track and car control not worrying about what's

flying around inside the car. You learn every lap. As for the interface between the seat and the steering wheel...you, get to bed early the night before. But before that, I like to put a track kit together and pack my lunch the day before.

Here are some ideas for what to include:

- ✓ A proper helmet – check the rules
- ✓ Folding chairs
- ✓ Tool kit with essentials: wrenches, sockets, screwdrivers, multi-meter etc.
- ✓ Tire pressure gauge
- ✓ Battery powered compressor
- ✓ Torque wrench
- ✓ Window cleaner and rags
- ✓ Quart of oil
- ✓ Tarp (to lay on) and car cover
- ✓ Sun screen
- ✓ Lunch and drinks (leave the malted beverages at home)

I also recommend learning the track and its lines as best you can before you go by watching YouTube videos. Learn the layout, elevation changes, turns, speeds and other attributes.



*The Indy road course: 2.6 miles.*

Try to learn it well enough that you memorize each turn and can see them with your eyes closed driving your imaginary car.

At the track, the organizers will have a drivers meeting to establish the rules for the day and depending on the event, some brief instruction for what to expect at the track and how to navigate the hazards.



At a minimum there will be one or several parade laps giving you a sense for things like where the apex's are, the right line to take and so on. Some courses I have been on allow you to walk key sections as hazards are pointed out and instructions are passed along. This is valuable time because once you are on the track you will be overloaded with sensory inputs, anxiety and anticipation. It becomes challenging to focus and concentrate. The more you can learn ahead of time, the more fun things will be for you.



*Utah Motorsports Park, Formerly Miller Motorsports Park in Utah.*

Driving on a track is completely different than street driving. There is so much more to be aware of, and because you are beginning to push yourself and your car, you will notice mistakes which causes more pressure. Don't succumb to it. Focus on where you want to put your car, the apex, the exit, the end of the straight, not what you want to avoid.



*Spring Mountain Park, just outside of Vegas. Site of the Optima Battery event. A complex and challenging track.*

I learned a lesson from my time in training at Miller Motorsports Park. An exciting lap is a slow lap and a boring lap is a fast lap. Why? A boring lap has fewer mistakes and less drama. Any pro will tell you they never have a perfect lap. Every lap could have had some element improved. So don't expect to hit the track and be a hero your first time out. Prepare yourself and your ride, learn the track, listen to the officials and other drivers, and enjoy the experience. A safe and uneventful event is an enjoyable one.

My post track adrenaline rush typically lasts a couple days. If you are as lucky as I am yours will too. And then, you will be back for more! We hope to see you on a track soon! Keep it where it's mowed (on the pavement) and drive safe.