

## **GTS Winter Update VI – Getting through traffic**

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Greetings,

As promised a month (or so) ago, I'd like to spend a little time today talking about how to get through traffic under racing conditions.

To be clear, although I will be talking about passing, which applies to all parts of racing, generally I consider "traffic" to mean "cars that aren't competitive with you." That could be a car from a different class that is inherently slower (think GTS3 passing GTS1) or it might be cars that should be as fast as you are but just aren't, for whatever reason. That might be because the car is less well prepared, the driver is less skilled, he or she is fighting a mechanical issue, or whatever. Traffic is cars you need to get past which are not really able to run at the same speeds you are.

What I'm not (exactly) talking about today is passing a close competitor. While a lot of what goes into getting through traffic applies to passing a close competitor, there are additional skills needed when the cars (and/or drivers) are very even. I'll talk about that another day.

### **Traffic: The Great Equalizer**

So, how are you in traffic? If you've done much racing, you have probably been in situations where you were running nose-to-tail with a close competitor, biting at his heels, looking for a way past, when the two of you came upon a clump of traffic—maybe only a few cars—and suddenly the other guy was just *gone*.

While you got stuck behind a [insert the frustrating racing class of your choice] car for two turns, got cut off at the apex, got blocked under braking, your lucky-dog competitor drove up to and around them like they weren't even there. If you didn't know better, you'd think the traffic *let* him through and intentionally held you up.

You were *so close*, and yet now there's very little hope of catching up. It can be incredibly frustrating.

Or, maybe you've been the guy in front. Maybe you were the one who got through while your competitor became miserably mired in Miata muck.

It can go both ways. Traffic can hold you up, or it can vastly improve your situation depending both on your traffic skills and, to a lesser extent, the cooperation you get from those being passed. But make no mistake about it, on a busy track, drivers who make quick work of traffic can keep up with and often pass faster cars whose drivers are less skilled in The Art of Getting Through.

### **What it takes to get through cleanly**

There are several factors which play into your ability to make it through traffic. Not all are necessary all the time but each of these is needed at least some of the time. In no particular order:

1. Visibility
2. Established expectations
3. Vision and anticipation
4. Momentum
5. Cojones

Let's look at each of these in some detail:

## Visibility

I am a big believer in the value of being instantly recognizable in the mirrors of the cars I am passing. In fairness, not everyone agrees with me on this. Some people think it's better to have a car which blends in, or which looks a lot like other cars in the group. The thought there goes along the lines of, "I may be able to sneak up on my closest competitors without them realizing it's me who's catching them."

OK, sure, maybe.

My philosophy goes more along the lines of wanting the drivers I am passing to be able to know as early as possible that it's me who's coming. I don't want there to be any doubt, even if they have nothing but wobbly, shaky, convex mirrors to try to pick me out of, that it's *me* who is coming up fast from behind.

And I want them to see me early; as far back as possible.

In my early days of racing I ran a Ralt SuperVee in SCCA's Formula Atlantic class. Formula cars of all kinds have notoriously tiny, shaky mirrors. It's hard enough to be able to tell there is anybody behind you, let alone trying to figure out who it is. My solution? Obnoxious paint.

While the car itself was white (center body) and dark blue (side pods), the front and rear wings were orange (sometimes pink, depending on what was available). And, not just any orange, they were bright, gaudy, unmistakable *fluorescent* orange. In any lighting short of the dead of night there was no missing that car in the mirrors. To this day, I can remember a competitor telling me after a race, "I saw those big orange wings coming and just got out of the way...."

Perfect.

Today, my car is painted a slightly-less-obnoxious blue color that almost nobody else has. That is not by accident. You don't have to be able to read my class designation to know it's me in the mirror. Humorously, when I chose this color there was one other car who sometimes raced with us that had a very similar hue, Bill Comat in his GTS1 944 (Bill was the 2008 GTS1 National Champ, by the way).

After a particularly busy track session shortly after I'd introduced my new blue color, Bill came up to me and said, "I really love your new color. It's so close to mine that some of the guys see me coming and think I'm you...and just let me past before they realize their mistake!"

These days, in addition to the (nearly) unique blue color, my car also sports a big obnoxious green arrow on the nose so I'm really, really, *really* easy to spot.

## Established expectations

The reason I prefer to be easily visible in others' mirrors, and the reason I want them to know it's me who's coming, is that I want the people I'm passing to know exactly what to expect. Which, in this case, is that if there is any opening, any room, any tiny gap I can use, I am going to pass them.

Period.

The way they know this to be the case is I have already demonstrated that fact to them during practice sessions. While practice is a time for you to work out the kinks in your driving and to tweak the setup of your car, it's also the perfect time to start establishing expectations for those with whom you will be sharing the track. One of the things I like to establish during practice is that I Will Pass You. To get it into the other drivers' heads both early and often.

To make it a foregone conclusion.

To that end, I will often go for more-difficult passes in less-expected passing zones. At Mid-Ohio, for instance, there are three places pretty much everybody expects you to be making passes: (1) Down the

front straight and under braking into turn 1; (2) up the hill under power and under braking on the way into the Keyhole; and (3) under power down the back straight and under braking at the far end.

Those are the standard places to pass. You get no extra points for passing there.

I try to make passes during practice at Mid-Ohio in less-expected areas, too. For instance:

1. Anywhere in turn 1, but especially around the outside.
2. Around the outside in the Keyhole.
3. Around the outside and down the hill in Madness.
4. Through the twisty left-right turns as you come under the Honda bridge and up over the hill into the chute before Thunder Valley.
5. IN the chute before Thunder Valley, one of my all-time favorite Mid-Ohio passing spots.
6. On the outside around the Carousel.

Do you see a pattern here? Hopefully, reading this list there is at least one place where you said to yourself, "There? I wouldn't try to pass *there*." That is exactly what I like to get into other drivers' heads as early as possible: That I will pass them *anywhere* and that, in the long run, they're better off just letting me go and getting back to whatever battle it is they're fighting.

That idea, if you can get it planted in people's heads and combined with a car that can be quickly, easily, and unmistakably identified as *you* can influence other drivers—which is to say, traffic—to get the hell out of the way and just let you through.

A beautiful thing, really.

### **Vision and anticipation**

But it's one thing to establish an expectation among the cows in the herd that they are inevitably headed to slaughter. You still have to make it happen. And, that won't—can't—happen unless you are working out a plan *ahead of time*.

I don't mean "before you go on track." There are absolutely things you can work out before you hit the track, things you can anticipate which will help your eventual results. I've written about this before. No, what I'm talking about is looking ahead, seeing the growing opportunities, knowing what traffic is doing, and anticipating your next move (or moves) *as far in advance as possible*.

One of the greatest examples of vision and anticipation I've ever seen is Scott Berkowitz's *Start from the back* video (that's my name for it) from Mid-Ohio a couple years ago. I'm sure you've seen this before. Heck, I've posted it at least once and probably twice in my Winter Update letters. But even if you've seen it before, do me a favor and before you read any further here, watch just the first straight, the first 43 seconds or so, one more time: <http://www.vimeo.com/1574679>

Go ahead. I'll wait.

If you're like most of us (except my wife, apparently, who knows nothing about any of this and who simply smiled and said, "that's pretty cute" when she saw it), your first reaction to watching this video is probably along the lines of "holy shit" or, perhaps, "oh my god."

Make no mistake about it, this is awesome driving by an equally-awesome driver. Do not let anything I say below diminish that thought. It is spectacular, amazing stuff.

But. I'm betting you didn't see what he did. Well, OK, sure, you saw what he *did*, but did you see how he did it? Because there is a tremendous lesson about driving through traffic in that twenty or so seconds of video.

You just watched it. You saw what he had to do to fight his way through that unbelievable gaggle of GTS cars, zig-zagging his way down the track like a crazy man, cars whizzing down both sides of his flying M3, driving like his hair was on fire.

In fairness, Scott had to start at the back of a full GTS field and was driving a very fast GTS3 car. In a straight line, his car was a lot faster than many (but not all) of those he was passing (the passed cars included at least one GTS4 and one GTS5 car, so it wasn't all easy-pickins). But, by my definition anyway, most of what he passed was traffic: *Cars that aren't competitive with you.*

You just saw the video. So tell me: How many moves did he have to make from the start of the straight until he got to the other end? No fair watching it again. He passed, by my count, 11 cars before the first turn. How many moves—that is left- or rightward shifts across the track—did he have to make to get through that much traffic, that closely packed together, in such a short distance? Don't go back and look yet, just pick your number. How many moves?

And, while you're speculating, how many risky passes did he make? Pick a number for that, too, again without looking.

My bet is the actual numbers for both of these are a lot lower than you think they are.

I've spent a pretty fair chunk of time watching this little bit of video and what quickly becomes apparent is that in the whole amazing run through these cars he really only makes one pass I would consider risky and even that is just *kinda* risky. A six or seven on a scale of 10. Ironically, the risky one is the very first pass in the series, the first dive between the pair of 944s. Pretty clearly, even before the green flag fell, Scott had decided he was going to make that move but I don't think either of those drivers were really ready for it. But short of that hole just totally closing up on him, that pass was a *fait accompli* before he first put the pedal to the floor. He was going.

End of story.

But after that? After that first squeeze through the hole he did two things absolutely, completely, and totally right. First, he stayed on the gas. Play it again and listen to the motor and you will see that he never, ever, not even slightly, lets off the gas until it is time to brake. So, while some of the others in the scrum may have been feathering the pedal slightly, trying to stay out of early trouble, waiting to see what transpired ahead of them, Scott was busy piling on the coal and turning his speed advantage into *position*.

The other thing he did so completely right, which was as important—probably *more* important—is he was looking down the track, *way* down the track, watching and anticipating the movement of the cars he was catching. When you watched that little bit of video a few minutes ago, you were probably fixated on the cars Berkowitz was passing, and possibly on how little room he had, or how crowded it was, or how much he was having to move around to force it to happen.

But watch it again now and, instead of watching where he *is*, watch where he's *going*.

If you ride along looking well down the track, as he was, you'll see the same things he saw; you'll see the movement of the traffic around him and how easy—once he was past the first two cars—it was for him to anticipate where the holes were going to be even before they were actually there. You'll see that, in fact, he never made any abrupt movements to make any of his passes (OK, maybe a little bit with the first one). In fact, it is almost as if he is driving in slow motion, as if everybody is just letting him through. His path through all that traffic was gentle and essentially non-disruptive. Maybe most surprising of all, he only makes three moves during the whole thing.

Three.

Move One is to the right to go between the first two 944s. From there, it's straight down the center between the next two cars before making Move Two and easing over to the left to pass the next four around the outside. Move Three, is just one big long diagonal run back to the right, across the middle and over to the inside for, ultimately, braking and passing a few more around the inside of the turn at the end of the straight.

Three moves and, in the grand scheme of things, not even particularly risky moves. Truly, a thing of beauty.

But the only way that was possible was Scott's vision—his ability to concentrate on where he was *going to be* instead of where he was—and his anticipation of what the traffic around him was going to do. The funny thing is, the farther ahead he looked, the easier it was to properly anticipate what others would do, so it's a bit of a double-whammy in his favor.

## **Momentum**

Here's the short version of the momentum story: If we're going the same speed, you're a lot harder to pass than if I'm going faster than you.

Here's the slightly longer version: Starting your pass with a drag race is the hard way to get it done. Even worse is if the car ahead gets a slight advantage early, even if you have a much-faster car.

Here's the long version.

You are driving a 2010 Porsche 911 GT3, you lucky dog. 435 hp, 3075 lbs, 7.1 lbs/hp and able to go from 60-100 mph in just 4.6 seconds. Nice ride, dude.

The car you're about to pass is a 2010 Ford Mustang GT. No slouch of a car either but, from the numbers there's no real comparison. He has 315 hp, 3590 lbs, 11.4 lbs/hp and takes 7.4 seconds to make the same 60 to 100 mph run.

Therefore: An easy pass.

You catch him on the way up the hill into the Keyhole at Mid-Ohio and follow him around the turn. You both come through the Keyhole at exactly 60 mph (after all, you're stuck behind and have to go his speed) with the Mustang in front by a few car-lengths. Because he was already in front, even if both of you started accelerating at the exact same place on the track—at the apex of the turn, for instance—he would get a small early advantage by virtue of having arrived at that point a second or so sooner than you.

But no problem; you, after all, are riding a rocket.

However, the Mustang driver (a GTS wannabee) had read his *GTS Winter Updates* and has been working on getting on the gas a little earlier than usual onto the straights. In this case, he hit the gas one second *before* the apex. You, on the other hand, waited until the apex to begin accelerating, a small disadvantage but no big deal. After all you have enough power to easily blow past the Mustang on the 3,000 foot Mid-Ohio back straight.

What's interesting here is the math regarding the relative time and distance covered by your cars. For the purpose of this calculation, I'll assume the Mustang started accelerating from 60 mph two seconds before you and your GT3.

Surprisingly, even though you have a 60% better power to weight ratio and can go from 60 to 100 mph in three seconds less than the poseur in the Mustang, his initial two second advantage off the corner means you won't manage to pull alongside until you are nearly halfway down the straight, a full ten seconds after the Mustang started accelerating. Of course, at that point, you'll have a 10 mph speed advantage and can easily get by.

Or can you?

## The advantage of the jump

Because you're going a lot faster at the other end of the straight, you brake 150 feet earlier than the Mustang, relative to the turn. At the moment you begin braking, you're going 150 mph (220 feet per second) while the redneck in the Mustang is doing a mere 135 mph (198 feet per second).

With a 3,000 foot back straight, let's assume you braked at 2,500 ft, and the Mustang at 2,650. From the point on the track where the two of you were even with one another, your cars covered the remaining 1,100 feet to your GT3's braking point at average speeds of 135 mph (Porsche) and 122 mph (Mustang). 135 mph is 198 feet per second so your 911 took 5.5 seconds to cover that 1,100 feet.

(Yes, I recognize that the math isn't really quite this simple and that cars don't accelerate evenly and all that. It's close enough. Go with me on this.)

The Mustang, averaging 179 feet/second over that same 5.5 seconds, covered only 985 feet, 115 less than you in the 911. Assuming a 500 foot braking zone for the 911 (which means 350 for the Mustang) and a terminal speed of 60 mph into the right-hander at the end of it, your 911 would have averaged 105 mph through the braking zone, or 154 feet per second. Your total braking would have required 3.2 seconds.

So, from dead even midway down the back straight to the end of the braking zone, your rocket-fast 911 GT3 required 8.7 seconds to get to the turn-in point.

The Mustang, on the other hand, required 5.5 seconds (to the point in time where you began braking), plus an additional 1.3 seconds to make it to his own braking point, plus 2.4 seconds to brake from 135 to 60 in his 350-foot braking area. That's a total of 9.2 seconds, just half a second less than the Porsche.

So, thanks to his small initial acceleration advantage, over the entirety of the Mid-Ohio back straight you in your German supercar managed to open up only a half-second advantage over a much slower car. Half a second at your 60 mph turn-in speed is just 44 feet.

Less than 3 car-lengths.

Not much.

And if the nutbag in the Mustang had the bit between his teeth and moved over to the inside under braking, it's entirely possible you might have given him a little room, figuring safe was better than sorry, and he might have actually gotten back past, totally squandering your incredible power advantage. You'd have followed him through Madness thinking to yourself, "That must be one of those 500 hp Shelbys. Damn, that thing is fast!" completely ignorant of the fact it was the driving and not the car that actually made the difference.

So why did this happen? Why couldn't you get past (or why did you just barely stay in front if you manned up and held him back in the braking zone)?

It happened because the Mustang had the early momentum. Those first two seconds, when he was on the gas and you weren't, translated into extra speed he was able to carry the entire length of the straight. Because of that small initial advantage, he was fully six seconds into his run before you even managed to stop *losing* ground. Then you still needed to make up the distance you'd lost over those six seconds *plus* the original distance between you going through the Keyhole before you could finally, eventually, pull alongside.

His early move to the gas took a really substantial chunk out of the distance that *should* have been between the two of you at the other end of the straight.

Now, if things had been different and it was *you* who had been the one to the gas earliest, if you had started accelerating just a single second before he did, well, the game would have been over before it had even started. In that first second, you would have gone from 60 to 71 mph while he was still doing 60. In the next second he would have accelerated to 66 mph but you would already have hit 82.

Six seconds in—at the point where you finally stopped losing ground in the first scenario—you would already be 160 feet ahead and widening the gap by more than 20 feet per second. Instead of worrying about his Banzai braking move at the end of the straight, you would have had a football field's advantage, give or take, when you got to the other end. Game over.

### **What's my point?**

OK, that was a really long example. So, what's my point?

My point is, I have watched video after video from guys who have complained loudly about how tough it was to get through traffic. In many cases, these were guys running in the same races I was, where I had finished with no real sense of having had traffic problems.

Invariably, what I see in those videos is these guys coming screaming up on a slower car only to have to slam on the brakes and follow the other guy through the turn at his same (often too slow) speed. Because the slow guy is in the way, and because our hero can't start accelerating until the guy in front does, it turns into a drag race like the example above. If the slow guy is a late-braker, or if our guy is just a little bit tentative getting to the gas, it's a pattern that can last for many corners before the faster car finally, eventually, manages to eek his way past. It's painful to watch.

You may have had the same experience yourself, but I'm here to tell you it doesn't have to be that way.

### **Getting through the easy way**

To get through traffic easily, you need to have momentum.

You need a head of steam.

You need a run.

You're not trying to make a race out of it. In fact, the last thing on Earth you want to do is make a race out of it. This is traffic. You just want to get past. To do that, you need the advantage.

Watch the first moments of the Berkowitz video again and you'll see he had a little roll on the guys at the back before the flag fell. Not a lot, but a little. Enough of a roll to give himself an early edge.

Yes, sure, of course, those were GTS1 cars and Berkowitz's was a GTS3. His car was a lot faster. A *lot*. But even so, if it had been them with the jump it would have taken him much longer to get past. In all likelihood, if he hadn't had that little roll he may not have made it half as far forward as he ultimately did.

He had momentum. An advantage.

Here's another start to a different race, again at Mid-Ohio: <http://www.vimeo.com/6178584>

This is from my car (GTS2). Immediately in front of me is the same Mr. Berkowitz (still GTS3). Like with the GTS1 cars in the earlier example, his car is a lot faster than mine except this time it was me who got the jump. I didn't have a roll on him before the flag but I was ever so slightly quicker to the gas at the green.

That fraction of a second of hesitation on his part, that tiny advantage for me, changed the equation so that it was fully four seconds before he stopped losing ground and started opening the gap. Watch the first few seconds and see how long it takes for him to overcome what is probably no more than an initial half-second advantage on my part.

So, clearly, even a little advantage in speed can be a big advantage.

So far I've only shown you starts because starts are a microcosm of racing traffic. But let's look at real traffic now, the kind you actually have to deal with. Skip ahead to about 12:30 in this video: <http://www.vimeo.com/11887111>

As background, this is Putnam Park early last year. It had been raining up until about 30 minutes before the race but most of us, myself included, went out on slicks assuming the track would be drying. We were right but it took its merry old time doing so.

Like Berkowitz in the previous video, I'd had to start at the back of the field. Up until about this point in the race we were mostly having a parade, mostly trying to keep from going off-track. At this 12:30 point it was just starting to be possible to get close to the standard racing line but it was still pretty slippery. I'd been following the Firebird for many laps (he was on rain tires) and shortly after this point in the video the pass-fest would begin.

But first I had to get past the Firebird.

In a drag race, our cars were pretty even but his was a little faster. On a dry track, my car was *much* faster in the turns and could brake much deeper, but this wasn't exactly a dry track. *Drying*, yes, but not yet dry.

In these conditions, what little advantage I had was under braking and in the turns but if I couldn't stay close on the straights there was no way I was going to be able to use that advantage to actually get past. Therefore, the first thing I needed to do was to get the momentum advantage.

Although the track at this point was still pretty slippery and we were still feeling around for traction, you can see that I was trying always to brake less than him. Going into Turn 5 (around 13:16), for instance, you can see that I was balancing the need to slow down with the desire to *slow down less* than him, trying to come out of the turn just that little bit faster. After all, any advantage, however small, is still an advantage.

Out of 7, the tight right-hander, I tried the wet line while he went to the inside and managed to get on the gas a teench sooner than I did. Advantage Firebird. That resulted in a much-too-even drag race in which I had nothing for him.

But watch the exit of the next turn, 8 (starting about 13:39). Even though we were still struggling for traction, I started trying the gas early, really early, and was all the way back on it first even though he was in front, further up the track. That gave me a momentum advantage, completely closing the gap. His superior acceleration let him open up a few feet on the run up to the next turn but my initial advantage out of the turn made his gain mostly trivial.

But here's where it gets interesting.

At this point we were entering the 9-10 complex which ultimately leads onto the long front straight. Although I'd spent several laps following this same car as the track dried, conditions had gotten good enough that he was holding me up slightly. I needed by and the upcoming front straight was the best place to do it.

But, as I've said, he was faster down the straights. If we entered the straight at the same speed it was going to be a drag race—a race I couldn't win. Therefore, I needed an advantage.

I needed momentum.

At 13:53 in the video, we are braking into turn 9. I'm right on his tail and could stay there, stay really close, not letting him get away, but I don't. At first, it looks like I've made a mistake. In fact, what I've done is give myself enough room to start a run. I've opened up a small gap with the intention of getting a roll on him on the way down the hill so that I'm going a little bit faster as we come onto the straight.

And, while the actual move is not as beautiful as I'd like it to have been, that's exactly what happens. I have to modulate the throttle some (meaning I started my run too soon), but when we hit the straightaway I have a small roll. Probably no more than a couple of miles per hour, but it's an advantage.

From there, it *is* a drag race, but my small initial advantage combined with him blocking some of my wind conspire to keep me gaining on him until well past half track. Toward the end he finally begins to pull away but I'm still pretty close and I know I have the advantage in braking and cornering. On this still-slippery track, the outside line, where I am, is the one with (slightly) more traction, which also plays in my favor.

Going into turn 1 (at 14:16) I do a couple of things right. First, although we both start braking at pretty much the same moment, I brake less and let my speed carry me alongside and then slightly in front. Then, immediately, I start pushing over to the right. This both compromises his line and gives me more track to work with. Then, I get back on the gas early to make sure the pass sticks. By the time I get halfway to turn two the Firebird is history and my concentration is already on the three cars ahead.

### **Shifting between modes**

A critical bit of racecraft that a lot of newer racers often forget is that you need to run fast laps whenever you can. Well, of course, you *do* know that but a lot of drivers forget it in the heat of battle. During a race, there are four modes you have to switch between more or less all the time:

1. Racing
2. Passing
3. Preparing to pass
4. Defending

The last of these, *defending*, is a topic for another day, but the other three are completely germane to today's conversation.

*Racing*, in my mind, is what you're doing all the time you're not doing any of the other three. It is the time when you are trying to put down perfect laps using all of the track and your smoothest-possible lines. When your only concern is carrying every bit of speed and hitting your marks.

*Passing* is pretty much what this article is about, and it is whenever you are *actively in the process of passing another car*. In the prior example, I was passing the Firebird until about halfway through turn 1 and then I was back to racing.

*Preparing to pass* is something that happens during the time you're engaged in any (and all) of the other three. Preparing to pass is what Berkowitz was doing all the way down that opening straight in the first video, at the same time as he was passing. He was looking ahead and planning his next move while executing the one he was in the middle of. This is not linear thinking, it's parallel, and parallel thinking is critical to winning races.

Preparing to pass is all about vision and anticipation, as we have already discussed. While you're doing that, however, and as soon as you are not passing, you need to go right back—immediately—to the full racing line, even if it's only for one turn. You want to gain speed and position everywhere you can. Everywhere.

In my video, note that although I'm still taking a modified rain line through turn 2 in deference to the sketchy traction (14:24), I move all the way to the left in preparation for turn three then turn in early and start my pass on the Factory Five really, really early. Although I don't get alongside until halfway around turn 4 (at 14:40), you know what I'm planning to do as early as 14:35 and maybe earlier. This pass wasn't a last-minute decision, it was planned move that started before my initial turn-in.

As soon as I get alongside the Factory Five, I don't give him much room. In fact, I'm probably crowding him a little bit. I keep him to the left, giving him fewer options and compromising his line while giving myself more options and a better line. In a drag race, a Factory Five is faster than my car, so I don't want a drag race.

I don't *ever* want a drag race.

Through the next couple of turns Jamie Frauenberg (GTS3) and I pass two more cars before settling into a bit of a run together. Note a couple of things here. First, (at 14:50) I get stymied by the Viper Comp Coupe going into 5. Now, in fairness to him, it was still mighty slippery and his horsepower was no advantage. More to the point, I kept a little bit of a roll going and got on the gas early so I could sneak past as soon as he cleared the hole. Maintain your momentum.

Also, as soon as we cleared the second Factory Five, both Jamie and I went back to full racing lines. Immediately. No waiting for another turn or two to get back to it. Get back to it *right now*.

With Jamie's car being significantly faster in a straight line than mine, my only chances of gaining an advantage were (1) under braking, (2) in the middle of the turns, and (3) getting on the gas earlier.

Coming through turns 9 and 10 and onto the front straight I did the same thing I'd done a lap earlier with the Firebird. Namely, laid back for the first half and then built up a run on him during the second. As we came onto the front straight (15:35) I had a nice roll going. That, combined with drafting as best I could, kept me close enough to take a shot at him at the exit of 1 after using my superior braking and cornering speeds to get alongside.

An apology is due Jamie here as my "superior cornering speed" went all to hell in the middle of turn 2 when I got onto the goop on the inside of the turn. I slid mostly out of control across the track, forcing Jamie into the grass. No damage to either of us, fortunately, but that's not really how you want your passes to end and certainly wasn't how the plan had looked in my head when I'd started the move. Sorry dude.

As soon as I got (very sloppily) past, it was back to the full racing line (modified slightly in the slipperier turns). Whenever possible, use maximum speed (for the conditions).

If you are bored enough to watch the rest of this video you'll see quite a few more passes, often of faster cars (it's still slippery). What you will also see is that the pattern described above continues. First, none of the passes really look like surprises or last-minute decisions. There's no jabbing of the brakes or jerking the wheel. It looks, if I may say so, mostly like I'd planned it that way all along. And, for the most part, I did.

When I catch a car in a place where I can't immediately pass it, I leave room and try to get a roll rather than climbing up on his bumper and starting a drag race. When there are multiple cars, I'm planning ahead—past the guy I'm passing at the moment—so I'm ready for the next one.

There's a nice sequence of passes beginning around 19:07 in which I go past four cars over the course of three turns, moving from fourth to second in class at the same time. From there, it's a full-on race with Paul Milligan and his 318(ish) for the win which ended when he hit traffic (literally) but it was shaping up to be a spectacular finish.

Throughout it all, the overriding lesson is the value of having a momentum advantage, even if it's only by a little bit. If you watch your own racing videos and keep finding yourself stuck behind slower cars you ought to be passing, it's time to re-think your approach. Consider what might have happened if you'd given yourself just a little more room so that you could have gotten an earlier run. Think how that might have improved your ability to get past.

## **Cojones**

The final piece of being good through traffic is the piece that, frankly, can make you either a hero or a chump: Cojones.

Balls.

Guts.

Driving fast through traffic cannot be done without taking some risks. Sometimes you just have to stick your nose in there and hope. And, at times, that can go badly.

So, it's about thoughtful risks, if there is such a thing. The more you take advantage of all the other elements mentioned here—visibility, established expectations, vision and anticipation, and, of course, momentum—the less risky most of your moves will be. But there is risk nonetheless.

You need to weigh the risks as you're planning and/or making your move. Are there things you can do to make it less risky? Can you position the car to improve your chances of success? Is there something else you can do to reduce the risk? For example, my car is really loud. When I'm diving down into a braking area next to somebody I think may not have seen me coming, I like to give the throttle a couple of big (loud) blips...kind of a "Hey! I'm here!" statement. Maybe they'll hear me even if they didn't see me.

Obviously it helps if your victim sees you coming. I like to come up from straight behind whenever possible to increase the chance he knows I'm coming. It helps if he knows it's *you* and that you're going to go—hence the visibility and established expectations. Obviously, it helps a lot if you have the momentum.

Ultimately, though, as the overtaking car it is your responsibility not to have contact, so it is your responsibility to weigh the risks appropriately. Sometimes you just can't get past. In that case, back off, give yourself a little room, get another run and try it again. Live to play another day.

## **Summary**

Hopefully you have picked up a few useful nuggets from this overly-long diatribe.

My apologies for spending so much time discussing my own video...I knew where to find it and it was easier than trying to find somebody else's which demonstrated the same things. Having said that, I highly recommend you now go watch a few more videos from other fast drivers. I think you'll see that what I do, what Scott Berkowitz does, is what they do, too.

Getting through traffic is not (usually) hard to do if you do it right but, like with pretty much everything, there are a few tricks which can make the whole process a lot easier and your passes a lot higher-percentage risks.

Good luck out there.