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BRAKING

When the first ACRs were introduced in 1994, their competent braking system was a pleasant surprise to the racers who bought them. At that time, I was racing two different Hondas, but my first few laps in the prototype ACR Chrysler had provided me with these two observations. The first was that this new SOHC 2-liter motor had great torque under 5,000 rpm. The second was how quickly I could bring this 2,300-lb car to a stop. I wasn't expecting great braking, since the Hondas I had been racing weighed less than 1,900 lbs. But I was so comfortable and impressed with the handling and braking of the ACR that I chose my first race in the car to be North Carolina's dangerous Chimney Rock Hillclimb. That level of confidence in a car and its braking system can really help you get the extra few tenths of a second required to put a driver on the podium. Since then, I have raced many other cars, a few with better brakes, but most with systems that required much tweaking in order to give you the level of confidence necessary to master threshold braking.

My favorite braking story takes me back to the 2000 Weatherly Hillclimb. I wasn't planning to go (too many broken racecars – too little time for repairs), but I received a call informing me that if I came, the promoter would have a car waiting for me. I gathered up my racing gear and was on the road less than 30 minutes after the call, thanks to a very tolerant wife. When I arrived, I found a Shelby Cobra in the pits waiting for me. For those who are not familiar with the



Generating a high degree of friction between your pad and rotor will stop your car faster. The tire's contact patch must also generate friction with the asphalt. A racing pad may generate more friction between the pad and rotor than the tire can between the contact patch and the road, making your tires the weak link in your braking system. This could cause your brakes to lock up and your car to slide under braking, so choose the compound pad best suited for your tires and your racing venue. (Jim Weslager)

venue, hillclimbs are high-speed SCCA Solo I events that require the same level of preparation as road racing, but the danger is inherently greater. On average, nearly 5 percent of the cars that enter on Saturday morning end up wrecked by Sunday afternoon.

So there I was, sitting in the Cobra at the starting line staring at turn one, which is a blind 70+ mph sweeper. When the green light came on, I was on the throttle with a vengeance, spinning the rear wheels, and pitching the car

sideways as I accelerated up the $\frac{1}{8}$ -mile straight. Did I mention that the asphalt was wet from a morning rain? Second gear produced even more torque than I anticipated, and the car again pitched to the side. I was told later that the owner of the car, having seen that, asked the promoter: "Are you sure Ancas knows what he is doing?" But as I got closer to turn one, knowing that I had to rely on 40-year-old braking technology (the car was running in a vintage class – no mods allowed), I thought to myself: "Let's

Braking



High-performance and racing brake pads, like these from Hawk, can be a good upgrade, depending on what type of racing you're doing. However, they'll probably generate more brake dust and wear out your stock rotors faster than stock replacement pads.

see, this car is worth \$200,000, and right now I have \$200 in my checking account, so I'd better get on the brakes

early." It's a good thing I did, as I ended up having to use both feet to slow down the car just enough to slide it through the turn. By the end of the day, I had a better feel for the brakes, but still had to use both feet. My times were good enough to beat all of the vintage drivers that had raced on that hill for the past 30 years. But the next time I went to Weatherly with a high-horsepower car (turbocharged 1996 2-door Neon ACR), I was over seven seconds faster on this one-mile long, six-turn hill! The Speednation Neon didn't have more horsepower than the Cobra, but what it did have was great brakes, and that made all the difference.

Even when a Neon's horsepower is increased by 50 to 100 percent, the stock brakes still work great. I still use stock brake pads and rotors, despite the fact that brake manufacturers are always trying to send me free brake components. However, there are several situations that dictate when you should upgrade your brake system listed below. If you

decide to do so, the aftermarket brake market is filled with great items that will not only look great on your car, but will stop it even faster. On the other hand, just because there are fancy brake parts available, it doesn't mean that you have to buy them.

If you have a budget for your project, then some of the modifications mentioned in this book other than braking should take precedence in terms of both your time and money. We're certainly not advocating that the brake system should be ignored; on the contrary. You should check your fluid level often, and your entire system should be flushed every two to three years to avoid moisture buildup. Moisture in your brake lines can increase your stopping distance and lead to corrosion on the inside of your brake components and lines. Calipers and pads need to be checked yearly, and rotors should be cut whenever new pads are installed or replaced if they are too worn or warped. But beyond this routine maintenance schedule, you should consider



Modern braking systems will consistently outperform the brakes on vintage cars. After racing Neons and Hondas, when I got behind the wheel of this SVRA Vintage legal Cobra and tried to stop, I almost pushed my foot through the firewall. For street applications, a Neon's modern braking system is more than adequate. No upgrades are necessary. (Photo courtesy Jim Mistick)