

These two racing drivers swapped race cars; here's what they learned



Enlarge / On the left, the Acura NSX GT3 Evo. On the right, the Acura ARX-05.

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Thanks to COVID-19, the 2020 Rolex 24 at Daytona could be the only International Motor Sports Association (IMSA) race of the year to take place outside of iRacing. Like many other professions, “race car driver” is not considered an essential occupation, so young hot shoes like Ricky Taylor (who races for Acura Team Penske) and Trent Hindman (who competes with Meyer Shank Racing) are stuck at home.

One of the last opportunities for track time for either of

them was in early February at a test session at Florida's Sebring Raceway, a bumpy WWII bomber base turned race course that hosts a difficult 12-hour race each March. Unusually for drivers who race for different teams and in quite different classes, they were fortunate enough to get a little time in each other's cars—an Acura ARX-05, and an Acura NSX GT3 Evo. We caught up with them a few days ago to learn more, and we got some interesting insights into what it's like to be behind the wheel of each of these race cars.

About those cars

And they are two very different race cars. The ARX-05 is a lightweight (2,050lb/930kg) carbon-fiber prototype, purpose-built to race in IMSA's DPi category. Its wings produce a ton of downforce—actually, about a ton and a half, or 3,000lbs (1,360kg) at 150mph (241km/h). And it tops out at about 175mph (281km/h) thanks to a 600hp (447kW) 3.5L twin-turbo 60-degree V6 that's a modified version of the engine you might find in an Acura SUV.

The NSX GT3 Evo, on the other hand, started on the Acura NSX road car production line before being diverted for racing and races in IMSA's GTD category. This one tips the scales at a much heftier 2,822lbs (1,280kg), and it creates much less aerodynamic downforce at speed—just 1,900lbs (861kg) at 150mph.

Its engine is a racing version of the hand-built 75-degree, 3.5L twin-turbo V6 found in the NSX road car, which gives the NSX GT3 car about 550hp in race trim, although it has to do without the road car's clever three-motor hybrid system. More weight and less power means the NSX is also slower than the prototype—it tops out at 160mph (258km/h) and is about 14 seconds slower around a lap of Sebring.

Ricky Taylor on the GT3 car

As you might expect, the cars drive quite differently. In addition to the technical specs above, the other important thing to note about the GT3 car is that it has much more in the way of driver aids, since it's meant for pro-am categories. That means it's allowed anti-lock brakes (ABS), something most race cars are prohibited from using. It also has to use heavier steel brake rotors than the ARX-05's carbon brakes.

"The brake is our best tool as a driver to manipulate the balance of the car, and if it's doing one thing, how do you change that with the brake?" Ricky Taylor told me. Driving a race car with ABS was certainly a new sensation for a driver used to being much more delicate on the slow pedal. But as he explained, the nuances show up later in the brake zone.

"The initial hit of the brake, ABS doesn't provide a lot of support—you're not going to lock up anyway. But the main area where it's really awesome is in the last 20 percent of the brake zone, where the car is unloaded, which is when it's most susceptible to locking up. And it just balances the car so well that you're able to maximize that corner entry. You're actually able to hold the brake a lot harder and a lot longer into the corner, where, in the prototype, we're trailing off," Taylor said.

You still need some finesse, he explained. "You can't overdo it because then it's going to kick back and you'll miss the corner. But for me, it was really interesting to see how balanced the car was and how it affected the brake bias. I think the driver can still make a huge difference in how they use [the ABS brakes] because I just tried to mash it a couple of times, and that doesn't help you either, so there's still some modulation that you need to do. But it does a really good job of just balancing the car and giving you confidence

getting to the corner,” Taylor said.

Overall, he found the car much more precise than he was expecting. “Coming from a prototype, you think everything’s going to be happening in slow motion, and you’re going to be really fighting the thing just to keep it on the track,” Taylor told me. “When you transfer over to the GT3 car, you use all the tools really, really well, so coming in to the corner, you brake at a very similar point, and because it’s so heavy, you think, ‘I’m going to need to be slower on my turn in and not transfer the weight too quickly, and really light on the brake not to lock up to the inside front.’ But you don’t need to go through all those steps. You can really muscle the car and use the brake and trust the ABS. And even though it’s all loaded up, it does a really good job of maintaining front grip,” Taylor said.

Trent Hindman drives his first DPi prototype

“I was expecting the ARX-05 to be, in the most basic terms, a complete monster: difficult to drive, lots of power—just hard to manage, hard to handle,” Hindman said. “But the really incredible thing that I noticed about the ARX-05 was the fact that a guy like me, who is so heavily GT-based for such a large portion of my career now, was able to hop in that car, and it made me feel comfortable right away. So to be able to get in a car like that, and then to be comfortable relatively quickly was something that I totally was not expecting,” Hindman explained.

Perhaps surprisingly, both cars were braking at similar points on track for each corner. “Obviously, the one thing you’ve got to keep in mind is that the DPi is approaching each one of these corners—let’s say like turn seven at Sebring—sometimes 10, 15, 20 miles an hour quicker. For the most part, that feeling of deceleration between the two cars, judging through

the seat of your pants, is actually very similar; equally impressive across platforms,” Hindman told Ars.

If clever ABS was the most novel thing to Taylor, it was the lack of mass of the prototype, combined with the high level of downforce, that did it for Hindman, who last drove a lightweight carbon-fiber race car during the 2012 USF2000 championship.

“And so that made high-speed cornering just really, really unbelievable. The way it jumps off the corner is just wild, and I think it’s because it’s a significantly lighter car than what we’re used to with the GT3. Once you get to the midrange and top end of each gear... the first time that I went full-throttle with the thing, it damn near took my breath away. It really did. And I think a lot of that just has to do with how lightweight it is,” Hindman said.

“Where that ARX-05 is really phenomenal is not just the downforce but the car’s ability to accelerate but also change direction at extremely high speed. At least in terms of steering and braking and throttle, it can really handle quite an aggressive driving style,” Hindman told me. “I think that just comes down to the support that you have in the trust of the car. My feel for it certainly isn’t as good as Ricky’s, but it’s a lot more controlled than a big, heavy GT car. So being able to get aggressive with inputs in medium- and high-speed corners like that, to be able to kind of rely on it to be able to carry a lot of mid-corner momentum was really the eye-opening part of all this.”

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