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My Spin in the HydroGen3

By Stephen Skojec
GM Consultant

Editor's note: Stephen is a consultant for GM who recently had a chance to try out the HydroGen3. Here's what he had to say.



Let me get something out of the way: I'm a geek. I love technology, I'm a huge sci-fi fan, and I always love being ahead of the curve on my gadget knowledge. I'm no engineer, but I understand the technology I use at a functional level. For me, it's about the cool factor. So when I found out about an opportunity to sign up for a hydrogen fuel cell ride-and-drive event right here in Arlington, Va., there was no way I was going to let the opportunity pass me by.

On an unusually warm November morning, GM's HydroGen3 fuel cell vehicle – a heavily modified Opel Zafira minivan – showed up literally at my office doorstep. When my turn arrived to take it for a spin, I headed downstairs and met with Sergio Ramos, a passionate project engineer for GM's Hydrogen fleet. Sergio introduced himself and immediately got down to business, popping the HydroGen3's hood.

“As you can see,” he began, “there's no engine. No transmission.” Sergio went over the pieces and parts, pointing to the fuel cell stack, describing the process of hydrogen ionization, showing me the injectors that recycle the fuel until it's completely consumed, and all the while, he never missed a beat. As I said, I'm a geek but not a gearhead, and it wasn't long before I was getting behind. I caught enough to realize that I was looking at something I had never seen before, and that was good enough for me.

“So,” Sergio said with a smile, “you want to take it for a drive?”

“Let's do it.” I replied.

This was the part where I found myself realizing that in a very small way, I was becoming a part of history (Ok, so I may have a penchant for being dramatic, but, hey, this is pretty revolutionary) – being among a number of civilians to first drive an advanced propulsion prototype in a real world environment. And this was a technology that too many skeptics think is still decades away. But here I was, staring it square in the instrument panel, getting behind the wheel. Sergio told me to turn the key and wait several seconds. I did so, and the car came to life with a whine.

“That sound you hear is the compressor.” Sergio said. “In our newest hydrogen vehicles, we've made it much quieter. So quiet that people are complaining they don't even know the car is on.” He smiled. Clearly this was

the kind of problem he liked to have. A car can always be made less quiet. He pointed to a high-resolution display screen on the dashboard and explained the animated diagram of the hydrogen electrolysis process. In the bottom left corner was a visual representation of the drive train. My wheels weren't moving, a fact I wanted to remedy if I could only figure out how to get the thing into gear. Sergio motioned a couple of buttons on the center console.

"There's no transmission," he repeated. "It's all electronic." I punched the button to put it into reverse and took my foot off of the brake. Nothing happened. Of course, I thought. With an electric motor, there was no torque from just putting it into gear. I actually had to hit the accelerator pedal (note to self: don't call it "gas pedal") to get it to move, a tricky thing considering I had no idea how touchy it was and it was parallel parked. I managed it, however, and once I nosed out into the busy street, it became a normal car. Soon, I was driving it like I would my own minivan, if a bit more cautiously; prototypes aren't cheap, after all. I cruised down a couple of blocks and turned around in the parking lot behind my favorite coffee shop.

"You like espresso, Sergio? Because this place has the best coffee in D.C." We chatted about our love for the nectar of the caffeine god while Sergio punched up a different display screen, showing me my torque. I asked if I ever had to worry about RPMs in a car like this as I sped up down a straightaway and the pitch of the compressor whine grew higher. Sergio told me I didn't since HydroGen3 has no transmission; it's like shifting gears in an automatic car. The car does it for you. (When I later e-mailed Sergio for additional clarification, he sent me a mathematical explanation of torque-speed ratios. Way over my head. I'm glad the future of the automobile is resting on capable minds like his.)

We breezed through a shopping district, garnering attention at stoplights with the information about our propulsion system emblazoned on the outside. When I returned to the curb in front of my office, I was impressed. If anything, the driving experience was a little underwhelming – it was like driving any four-cylinder small minivan. There was very little about the feel of the car to tell me that I was driving a vehicle powered by technology that's still several years away from the mass market.

But it was real, and I drove it. Just an average guy, taking a space-age vehicle through its paces down the streets of Arlington. This will be one story to tell to the kids and grandkids, who will be so used to hydrogen fuel cells by the time I do that they'll laugh at me and tell me I might as well be pining about the early days of the "horseless carriage."

That's fine with me. At least I can say I was there when it happened.

Posted by Editor on December 7, 2006 04:55 PM

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Hey, Steve, wonderful article! And I'm not just saying that because I'm your third cousin twice-removed, or whatever. You did an excellent job of putting the reader into your experience, and I am now totally hyped about H3's and can't wait to get my hands on one!

Best Always,
Bob

Posted by: Bob Emmons on December 11, 2006 10:43 PM

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