

THE WALL STREET JOURNAL.

2012-02-04

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Mazda3 Really Moves the Needle (Not the Gas One)

BY DAN NEIL

Climb inside my head a moment: The scene is a drive in the country in the new Mazda3 with something called "SkyActiv," a suite of fuel-saving technologies with an apparent aversion to the letter "e." The fuel-gauge needle rests just past "Full" when I start (why are fuel gauges still so imprecise, I wonder?) and it stays there, heeled over like the mast of a beached sailboat, for 30 minutes, then 40 minutes, now an hour. That's weird. What's wrong with this thing?

At this point, I'm driving as inefficiently as possible, hammering the little car along two-lane roads, chirping the tires out of corners and wanging the engine until the fuel cutoff intercedes in nearly every gear. Finally, way out where the revenuers don't go, a little space opens up between the needle and the "Full" hash mark. The arithmetic indicates this car, with a 14.5-gallon tank, would have a range of about 600 miles.

This pleases me immensely, but what is the nature of my pleasure? In other words, why is fuel economy fun?

Aristotle would have considered it a matter of intellectual virtue, combining practical wisdom (I'm saving money) with theoretical wisdom (I'm saving the planet). You have to respect the toga. Neuroscientists would frame it in terms of mu-opioid receptors, which is to say, the brain's bliss triggers. And yet, there's nothing particularly hedonic about economizing on gas you just sit there doing division in your head. From a neurological point of view, saving gas only codes for pleasure.

Look, I'm way out in the country. I've got time to think about these things.

In the case of the Mazda3 with SkyActiv and I hereby declare a fatwa on that cheesy bit of marketing the pleasures are threefold: First, the car utterly exceeds expectations, insofar as

it actually approaches in the real world the fuel-economy numbers ginned up by the Environmental Protection Agency test cycle. The car is rated at 28/40 miles per gallon, city/highway, and I'm getting 32 mpg in mixed and spirited driving. While the EPA's numbers are useful only for comparison, the difference between real-world and test-cycle fuel economy is a source of unending aggravation for car buyers and, in the case of the Honda Civic Hybrid, a cause of action in a lawsuit brought by owners.

In his book "The Three Faces of Desires," philosopher Tim Schroeder argues that pleasure ("net intrinsic desire-satisfaction") is fundamentally a function of expectation. I note it here only to bolster my far-fetched fuel-economy-as-pleasure argument.

The Mazda3's second satisfaction runs something like: Forty is the new 30. It was not too long ago a 40-mpg car looked like the Geo Metro miserable, scandalous, slow, a broken promise of a car. Today there are at least a dozen great automobiles on the market, not including hybrids, that get 40 mpg or better. If you, Mr. Car Maker, want to compete with the Hyundais, Fords and GMs of the world, you had better be able to clear the 40-mpg bar. It pleases me, a car guy, to see the species evolve so fast and so far.

As for those who predicted higher CAFE standards would be the end of the automotive life as we know it, I say, in the words of General McAuliffe, nuts.

The third pleasure excitation of the mu-opioid receptors, if you like is that the Mazda3 drives so dead sweet. Now, of course, everything is relative, and my test car is a 2.0-liter, front-drive compact with an automatic transmission on all-season meats, so it's not remotely a sports car.

But for what it is, the Mazda3 simply rips. No other compact economy car outside of a Mini Cooper offers as much stick-and-rudder fun as the 3: The steer-

ing (hydraulic, with an electric pump) is tack-sharp and precise, with almost no torque steer and a gratifying heft that gathers as you turn the wheel. The 3's suspension with a proper multilink geometry in the back as compared with a torsion-beam rear axle remains composed under hard braking and cornering, and manages to quell big whoops from the road that would send other compacts into oscillating fits. Mazda's development engineers have achieved something elusive in the car business: They have arrived at a signature feel for their cars, in much the same way BMW's ride-and-handling boffins have dialed in a gestalt for their cars.

Actually, I miscounted. For car guys, there's a fourth source of bliss, and that's the engineering.

SkyActiv, Mazda's big push for fuel economy, will include lightweighting of vehicle chassis, improved aerodynamics and new powertrain technologies. For now, the Mazda3 gets the SkyActiv-G engine and transmissions (six-speed manual or automatic) as an option. On the test car, a Mazda3 i Grand Touring sedan (\$24,495), the SkyActiv with automatic is standard. A top-to-bottom SkyActiv makeover is pending with the next-generation 3, at which point, I hope, they'll do something about that imbecilic grille. The car looks like a hill-billy on nitrous oxide.

This engine is a piece of work: a direct-injection, 2.0-liter four running at a Ferrari-like 12:1 compression ratio while using 87 octane. That's a good trick of engine-management right there. The SkyActiv program also includes lightening of the reciprocating parts (forged steel pistons, rods, crank), as well as reducing frictional losses (roller-rocker valvetrain) and parasitic losses. The SkyActiv ticker gets a variable-rate oil pump and a more efficient water pump. The only thing that worried me was an ornery, transient bleat when I started the car on cold mornings.

It's a hot and torquey little engine that manages to shove the 2,800-pound car around much harder than its nominal figures would suggest (155 horsepower at 6,500 rpm and 148 pound-feet of torque at 4,100 rpm). The six-speed automatic likewise exceeds expectations, performing almost like a dual-clutch transmission. Mazda says the SkyActiv automatic's torque converter is active only under 5 mph; most of the time the tranny's lockup clutches are engaged to improve fuel economy and throttle response. Mazda gets extra racing cred for putting the upshift gate rearward, and the downshift gate forward, which is naturally where your hand wants to go if you are braking for a corner and downshifting. Maserati does this too, God love them. With a touch of rollout, my test car was getting to 60 mph in 9 flat. Interestingly, when the engine revs reached the fuel-cutoff point, the engine didn't stumble as it would in other cars. The SkyActiv programming simply leaned out the gas.