

MILE PINCHER \$

FOR DRIVERS OF HYBRID CARS, TRYING TO CONSERVE FUEL TO GET THE OPTIMUM MILES PER GALLON IS A REAL GAS

BY NANCY NALL DERRINGER // PHOTOGRAPHS BY ROY RITCHIE

Richard Krueger can tell you what sort of mileage his Ford Escape Hybrid got on his last tank (33.1 mpg), the one before that (32), and for the life of the vehicle (33.4). He can compare it to his last car, a 1995 Ford Explorer, and to other Escape Hybrids. He can translate the mileage to fuel costs and plot the savings against the increased cost of his vehicle over non-hybrid Escapes.

It should not surprise you to learn that, tank for tank, he nearly always gets better mileage than the EPA's estimate (31). This is one reason he keeps records.



> TANKS A LOT To save fuel, hypermiler Richard Krueger uses his cruise control in city driving and tries to catch the lights on green.

Krueger is a hypermiler, a subset of drivers, mostly hybrid drivers, who seek to maximize fuel economy. On the continuum from casual to obsessive, he estimates he falls right in the middle. Or, as he puts it:

"There are three stages of hypermiling. The first is, 'Hey, cool; I've got a hybrid. Let's see how well I can do.' You start to develop the driving techniques, like coasting and the double-tap." [It's a braking maneuver; more on this later.] The second stage is when you go above and beyond — "You'll notice I removed the roof rack on my Escape. Some people start over-inflating their tires to cut down on friction."

And the third stage?

All of the above, plus, "You fold in the mirrors, select lighter passengers, and ignore the traffic around you," which means driving well below the speed of other traffic on the freeway. Some hypermilers at this stage might practice drafting, the old stock-car racing trick of tucking in close behind a larger vehicle — frequently an 18-wheeler — to lessen wind resistance. Krueger disapproves of this dangerous practice, even as he marvels, "But it really improves your mileage."

Hypermilers all along the continuum are chatty souls, eager to compare their Excel spreadsheets with others, advise novices, and swap tips on some yet unmentioned trick to lengthening time between fill-ups. Their meeting place is the usual for enthusiasts of obscure pursuits worldwide — the Internet. Online, Krueger is known as Pravus Prime and

posts on both *greenhybrid.com*, where he wrote the Ford Escape Hybrid FAQ on improving mileage, and *cleanmpg.com*, a similar site. He also visits *hybrid-cars.com*, where hybrid owners and shoppers discuss their dreams of taking over the world's highways.

While many in the hybrid community believe they are early adopters of the car of the future, Krueger, a 27-year-old fencing instructor in Warren, knows it'll be a bit later coming to Detroit. This is not California, and even in the Motor City, he's used to being asked spectacularly ignorant questions about his car. Where does he plug it in? (he doesn't). Or, how many pedals does it have? (two, like any other automatic-transmission car). Does he have trouble finding hydrogen filling stations? (it runs on plain old unleaded). When he participated in a Sierra Club-sponsored hybrid unit in the Woodward Dream Cruise, the group was met with boos. And finally, the fact remains that in a city where the domestic-to-import ratio on local roads is almost the opposite of what it is in the rest of the country, the Big Three are not leading the way in hybrid sales. That distinction belongs to models made by Toyota and Honda.

But Krueger is a Ford man, with an A-plan discount through his grandfather, and likes Detroit iron. Lugging around foils and fencing masks, he wanted the cargo space of an SUV. He wasn't even looking for a hybrid when he went new-car shopping in 2005, but there was one in the showroom, and he loved

the test drive. The \$4,000 price difference between it and the gas-only Escape seemed to be something he could make up over the 10 years he expects to own it. He placed an order and took delivery of one of the first 2006 models.

It wasn't long before hypermiling sucked him in. Driving a hybrid isn't really different from driving any other car, except for one significant detail — the dashboard display.

All hybrids on the road today carry some version of the one in Krueger's Escape, which provides a constantly changing, real-time digital readout on its gas mileage. Gas-electric hybrids are technologically more sophisticated than gas-only models, and get superior fuel economy from a system that switches seamlessly back and forth between a gas engine, an electric motor, and a beefed-up battery assist. Change your driving techniques to make the car more fuel-efficient and you're immediately rewarded with a higher number; drive like a lead-foot and the number goes down.

It can be distracting; hybrid vets joke that the first month is when novices are most likely to have accidents, so enraptured are they with the display. But over time, "the car teaches you how to drive it," says Bradley Berman, editor of *HybridCars.com*. It encourages the development of a whole new set of driving skills.

They take time to learn, but eventually become

second nature, says Krueger. He frequently shifts his automatic transmission in and out of low, drive, and neutral, in search of "the L gear advantage," a software change that shifts the gas engine off sooner in low-speed situations. He uses his cruise control constantly in city driving, and knows the optimum speed, on his most-traveled routes, to catch the lights on green. He coasts. He "double taps" the brakes, a trick to shut the gas engine down sooner on a long coast. He isn't intimidated by impatient drivers roaring up on his bumper as he glides toward a red light. He's used to being passed. It is, as much as the display, feedback on how efficiently he's driving. But he isn't a slowpoke. Drive with him for a while, and you'll notice how often he rolls up behind the people who blew past him a moment ago and then were caught at the light. He drives the way your driver's-ed teacher taught you, or tried to — moderately, safely, *sensibly*.

All the while, the display is telling him how he's doing. A line graph shows his fuel economy, peaks, and valleys, but each peak a little higher than the last; this is his reward.

And this is the seduction of hypermiling. It becomes a game. While a hybrid will easily keep up with freeway traffic at 65 miles per hour, it'll get better mileage at 55. If this angers others — and the hybrid message boards are full of stories about being flipped off by furious, hurrying fellow motorists — so what?

The third stage of hypermiling uses extreme techniques to extend fuel economy. Krueger doesn't employ these, and neither does John Jannone, a 34-year-old engineer from Saginaw. Jannone boasts a lifetime fuel economy of 53.2 mpg and a best-tank-ever of 59.7 on his Honda Civic Hybrid, but balks at the more extreme techniques of extending fuel economy. He'll coast and glide, but he tries not to annoy other drivers in the bargain. He uses hybrid-enthusiast Web sites as an education resource, but he's not into putting numbers on the board, so to speak.

"For me, it's more like, you have this car with these extra capabilities; you owe it to yourself to explore all it's capable of," says Jannone. There's a saying in the community: "Hybrid drivers are techies, greenies, and cheapies. Choose two." Jannone chooses all three. As an engineer, he finds the technology elegant; as an environmentalist, he likes the idea of treading more lightly on the earth; and as a practical matter, he enjoys spending less money on gas. It just seems stupid, he says, to keep an engine running, burning gas, and polluting at stoplights and while braking.

Jannone says what he's really waiting for is an all-electric car. When General Motors had its EV-1 program, the one described in the film *Who Killed the Electric Car?*, Jannone filed an application to lease one of the vehicles, even though they were available only in California. "I wanted them to know there were people interested in them," he says. He still keeps

the rejection letter from GM.

For now, he and Krueger have the compensations of hypermiling in their hybrids. And both feel time is on their side. Last summer, Krueger attended the first-ever Hybridfest in Madison, Wis., where he attended lectures and presentations, test-drove other models and met Wayne Gerdes, an Illinois engineer known throughout the community as "America's greatest hypermiler." He met people he'd been corresponding with online and spent two days feeling less lonely in his devotion to his car: "It was like a big family reunion." (He got 33.2 mpg on the trip to Wisconsin, and 38.3 coming home.)

Shortly after he told this story, he coasted to a light on Hall Road in Macomb County and stopped next to a Ford Excursion, the now-discontinued behemoth SUV nicknamed the "Ford Valdez." Its driver took no notice that he was part of an alpha-omega display of the company's range of fuel-economy options, but Krueger did. He looked at the hulking vehicle to his left and sniffed: "They should have called that the Extinction."

When the light changed, the Excursion rolled out smartly, while Krueger accelerated more judiciously. He was behind, but in his mind, he was already far, far ahead. ■

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