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THE TRIBUNE'S ONLINE AUTO GUIDE

LED headlights, mag wheels, neon and more are finding a home on Segways



Karl Sagal of Wilmington, Mass., has outfitted his Segway E-167 with a rearview camera and monitor, horn and headlights among other accessories.

## Take that, tuners

By Chuck Green  
Special to the Tribune

What do you get when you cross a "tinkerer" with a Segway Personal Transporter?

A customized Segway, of course.

Stanley Dobrowski couldn't resist personalizing his machine shortly after he bought it in 2003, the first vehicle he has tinkered with.

"When I first got it, I was like, 'I'm not going to touch it. I'm going to polish and wax it every day and take care of it.' That lasted about three months then I start-

ed fiddling with it. I'm a tinkerer by nature, so I think it was inevitable."

A network administrator from New Jersey, Dobrowski began by attaching homemade headlight systems.

"I used Segway's for a while, but the bulb burned out and they were expensive, so I decided to make my own out of LEDs."

Dobrowski then added a trailer hitch he built and an Amish-made trailer he found on the Internet.

Why a trailer? "Why do people

PLEASE SEE SEGWAY, PAGE 5

## leagues



Jim Mateja

After being the small kid in the Hyundai lineup for six years, the compact Santa Fe sport-utility has grown up.

Tucson will hold down the compact segment as the 2007 Santa Fe moves into the midsize segment.

And in March, after a January debut at the Detroit Auto Show, the Vera Cruz goes on sale. It's slightly longer than Santa Fe and will be built in South Korea to give Hyundai a trio of sport-utes.

Santa Fe is the first Hyundai vehicle designed at its studio in Irvine, Calif. It is built alongside the midsize Sonata sedan at Hyundai's U.S. assembly plant in Alabama.

With Santa Fe and Sonata, Hyundai's goal is to produce in the U.S. at least half of the vehicles it sells here. Hyundai will sell about 400,000 vehicles in the U.S. this year, and Alabama can assemble about 300,000.

Santa Fe is offered in base GLS, SE and Limited versions with a choice of front-wheel- or optional (\$2,000) all-wheel-drive. We tested the top-of-the-line Limited with FWD.

Santa Fe borrows the front-end treatment from the HCD9 Talus concept on this year's auto-show circuit. With the remake, Santa Fe has grown bolder—and by 7 inches in length, 2 inches in width and 1 inch in height.

That allows Hyundai to offer an optional third-row seat for the first time. Our test vehicle had only two.

However, you get lots of cargo room behind the second-row seat or a third seat and just a little space in back. The choice is yours—add \$1,200 for the seat.

Inside, there's lots of space to flail arms and head in the front or second row, but second-row knee room is a tad confined unless you recline the seat backs. That takes the knees back away from the front seats.

The front seats are soft, but side bolsters designed to keep you in place in sharp corners or turns are nearly invisible. So ease off the pedal in such maneuvers.

Engines separate the Santa Fe trio. The GLS comes with the same 2.7-liter V-6 from the previous version, but with variable valve timing to deliver 185 horsepower, up from 170. It also offers better mileage, 21 m.p.g. city/26 m.p.g. highway, up from 19/25.

The SE and Limited offer a new 3.3-liter, 242-h.p. V-6 to replace the old 3.5-liter, 197-h.p. V-6. Vera Cruz will get an even larger 3.8-liter V-6.

The 2.7 comes with a 5-speed manual or 4-speed automatic, the 3.3 with a 5-speed automatic with Shiftronic for manual mode shifting.

The 3.3 is rated at 19/24, up from 17/23 for the 3.5-liter despite producing 42 more h.p.

The larger Santa Fe isn't a speedster, but it's far more lively off the line and into the passing lane than its predecessor.

In addition to different engines, the SE and Limited sit

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### THE STICKER

\$24,945 Base

\$100 Rear cargo screen  
\$90 Carpeted floor mats

\*Add \$580 for freight

### THE NUMBERS

WHEELBASE: 106.3 inches  
LENGTH: 184.1 inches  
ENGINE: 3.3-liter, 242-h.p. V-6  
TRANSMISSION: 5-speed automatic

M.P.G.

19  
CITY

M.P.G.

24  
HIGHWAY

### PLUSSES

Bigger, quieter, peppier.  
Optional three rows of seats.

### MINUSES

Knee room in second row.

## SEGWAY:

# Some are speedy others serviceable

CONTINUED FROM PAGE 1

climb mountains?" he laughed.

Mountains aside, his decision had more to do with the fact that he often uses the Segway to work—a 6½-mile round trip needed space for supplies. "I take it to work when I don't have errands and the weather cooperates."

Though he doesn't use the trailer much, there are times he has to carry things that don't fit in his backpack, "like my computer and case."

Carla Vallone, communications manager for Segway Inc., said that through September, 23,500 of the personal transporters had been sold. About 20 percent are sold to the police and first-responder sector, who customize them with lights, bags, sirens and logos. Other than that, it's difficult to gauge how personalization goes on.

Headlights and trailers are not all that owners add, said Steve Steinberg, a partner with California-based Segway of Oakland, a full-service Segway IT dealer that produces a number of specialized accessories. Tire rims are another example.

"People found out tire size could affect the speed of the Segway and (may) travel several miles an hour faster. It's like a car. If you change the tire size, the speedometer isn't accurate anymore. With a taller tire, the same r.p.m., but you cover more distance."

An unmodified Segway has a top speed of 18.6 m.p.h. The Segway i2 model rides on 19-inch tires and the x2 used 21-inchers. "We do not recommend that customers modify the tires on their Segway PTs," Vallone said.

Wilmington, Mass., resident Karl Sagal is more practical. He used his expertise as a mechanical engineer to integrate his controls into an E-167. He added wiring for a rearview camera and monitor, lights and a horn.

"All the original models have a control panel that goes into the front, where there's a plastic control on the handle bar with circuitry inside the hard plastic shell," he said.

Sagal, who also owns an i2 model, broke through the plastic shell and added seven microswitches with "some push buttons to all the controls. I put my lights and different horns on my E-167 inside the Segway as opposed to exposing them on the outside. It's a cleaner look and more like the original look of the machine."

Sagal said his handiwork is safe but probably would void the factory warranty, which already expired on his E-167.

On the i2, he added lights controlled through his own wiring and chrome spinners. "I put chrome spinners on a \$5,000 device, and people talk about them more than anything else."

However, he won't spin out of control. "Part of my objective is to not have it obvious that they're modified. I want to avoid the 'bolted-on' look."

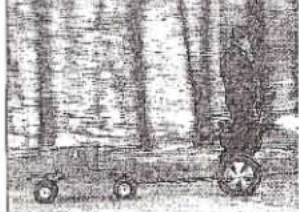
Dobrowski takes a similar view. "I believe in Segway's minimalist approach, where you add more. So my modifications don't impact the look and feel of the machine much. I want it to look as close to factory as possible."

He did, however, add undercarriage lights, which draw the most attention. "When I'm riding down street at night and the lights shine from the bottom of this thing like a hot rod car, people can see it from quite a ways off. It gives me more visibility at night because I'm right on the shoulder of road and I figure more chances of seeing me the better."

Dobrowski also plans a new paint job, though he's at a loss on color. "I'm going to bring my daughter, who has good eye for color, to the paint store and see what she suggests. I'm leaning toward orange or blue. I'm a good driver, but I don't have a good eye for color."

At the same time, he's improving the computer. "I'm putting wheel sensors on the wheels, so I'll be able to sense with a little computer module the r.p.m. of each wheel as well as the m.p.h. of each of the two wheels."

Why? "No real reason."



Karl Sagal of Wilmington, Mass., affixes a sensor to his Segway to make it more of a workhorse.