



One Mile at a

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SAE hopes April brings 'em in

Organizers bet on mild weather, more activities to boost attendance

Changing times in the industry call for a new approach by the Society of Automotive Engineers to its annual world congress in Detroit. So the organization moved this year's event to April 11-14 from the traditional mid-March slot, hoping for better weather and higher attendance. [Sub](#)
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The annual Society of Automotive Engineers World Congress will feature more than 30 seminars on engineering technology at Detroit's Cobo Center. Here is a rundown of events at the technology theater. [Sub](#)
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Honeywell has high expectations for diesels



Honeywell Turbo Technologies, manufacturer of the Garrett brand of turbochargers, says its turbocharger business is booming because of the popularity of diesel engines in Europe.

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Lutz: GM outgrew engineering structure



This month General Motors created a global committee to revamp the way it develops platforms and produces vehicles for sale around the world. Robert Lutz, GM's vice chairman of product development, discussed the changes with Product Editor Rick Kranz at the Geneva auto show this month. [Sub](#)

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GM's use of outside research boosts fuel cells

General Motors is bullish on hydrogen's role in the future of the auto industry. GM's hydrogen-powered Sequel concept, shown at the Detroit auto show in January, was designed to run using compressed hydrogen stored in three tanks. The tanks are housed in the lower portion of the vehicle, sometimes referred to as the skateboard. [Sub](#)

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SAE conference explores Sweden's attraction

While many automotive minds are focused on business opportunities in China, the U.S. government is offering advice on how suppliers can get into the market in Sweden. Sweden? Yes, Keith Curtis says emphatically. [Sub](#)

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Who's getting juiced about plug-in hybrids?

They use less fuel than regular hybrids, but don't get much respect

Automakers are trying to educate consumers about the gasoline-electric hybrid vehicles that are coming to the market. One thing automakers repeatedly say: You don't plug hybrids into an electrical outlet. Maybe they should drop that message. The reason: Someday the industry may need to re-educate consumers about the benefits of hybrid cars or trucks that you do plug in.

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Who's getting juiced about plug-in hybrids? They use less fuel than regular hybrids, but don't get much respect

By [Harry Stoffer](#)

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Automakers are trying to educate consumers about the gasoline-electric hybrid vehicles that are coming to the market. One thing automakers repeatedly say: You don't plug hybrids into an electrical outlet.

Maybe they should drop that message.

The reason: Someday the industry may need to re-educate consumers about the benefits of hybrid cars or trucks that you do plug in.

The biggest selling point: For the average driver, plug-in hybrids would be twice as fuel-efficient as regular hybrids, some of which get about 60 mpg, a small but rabid group of advocates says.

A plug-in hybrid would combine a small gasoline engine with electric drive, just like the hybrids on the road now, but it would have a bigger battery pack. The batteries would be recharged, rarely while driving but mostly while parked - and plugged in.

Oddly, the plug-in hybrid concept has enjoyed little of the limelight that has been shining on other advanced technologies, including regular hybrids, modern diesels and fuel cells. The phrase "plug-in hybrid" has never even appeared in Automotive News until now.

The bad reputation left by all-electric vehicles, generally viewed as costing too much and having too little range, seems to have tarnished anything with a plug.

But the plug-in hybrid's day is coming, says Felix Kramer, founder of the California Cars Initiative, a nonprofit group promoting the technology.

"All of a sudden it is in people's consciousness," he says.

Kramer credits regular hybrids for paving the way, mainly by overcoming resistance to the idea that a car or truck should be built with two power systems on board.

Here are some signs that things could be changing:

- Some enthusiasts are modifying production vehicles, such as the Toyota Prius, so that they sometimes can be plugged in.
- A group of national security organizations in January unveiled a plan for American energy independence and included development of plug-in hybrids as a key component.
- Renault SA has developed a hybrid version of its small Kangoo plug-in electric van.
- DaimlerChrysler AG is preparing to test plug-in hybrid technology in some commercial vans.

Plug-in Pluses

3 advantages to a plug-in hybrid vehicle over a regular hybrid

1. Runs longer in all-electric mode
2. Less pollution
3. lower operating costs

Main advantage

The main advantage of a plug-in hybrid is that it runs much longer than regular hybrids in all-electric mode, which means longer with zero emissions from the tailpipe, advocates say.

It also has far lower operating costs because power from an outlet is much cheaper than energy from a gas pump, the advocates say.

Plug-in hybrids with just 40 miles of range on batteries could handle in all-electric mode 60 percent of Americans' driving needs, the advocates say.

Much of the known research on plug-in hybrids has been conducted at the University of California at Davis. A big backer is the Electric Power Research Institute, an arm of the utility industry. Some automakers and suppliers also have contributed.

Nevertheless, automakers mainly tout their efforts to develop regular hybrids and modern diesels and eventually fuel cell-powered vehicles. They generally pooh-poo the potential for plug-in hybrids.



Some enthusiasts are modifying production vehicles, such as the Toyota Prius, so the cars sometimes can be plugged in.

communications.

While the company is noncommittal about whether it will ever use the technology in a production vehicle, Cappa says the main goal of the Sprinter conversions is to learn more about batteries and hybrid powertrains.

Some of the lessons, he says, are likely to be used in the next-generation gasoline-electric hybrids DaimlerChrysler is developing with General Motors. They are to remain unplugged.

Clean-car activists who tout plug-in hybrids, such as Kramer, believe many automakers have developed plug-in hybrid prototypes secretly and will produce the technology if they become convinced of public demand.

Some cite as evidence a button on the instrument panel of European and Asian versions of the Prius. The button can be used to keep the car in all-electric mode temporarily. The feature is not in U.S. models.

A manual switch likely would be part of a plug-in hybrid, the activists say. People would choose to use electric power most of the time but could switch to gasoline for longer, higher speed drives or if the batteries ran low. Regular production hybrids use sophisticated electronics to switch between gasoline and electric power.

Toyota's view

Cindy Knight, environmental communications administrator for Toyota Motor Sales U.S.A. Inc., scoffs at the suggestion that the Prius instrument panel button is proof that her company plans plug-in hybrids.

She says Prius drivers in more crowded European and Asian neighborhoods have more need to move their cars short distances quietly. So they are given the option of manually staying in all-electric power for brief periods. Americans tend to get in and drive.

Toyota believes customers should not have to think whether their Priuses should be using electricity or gasoline at any given moment, Knight says.

Action at DaimlerChrysler

DaimlerChrysler is an exception - to a degree.

In Mannheim, Germany, the company is building a few dozen Sprinter commercial vans with small gasoline or diesel engines and plug-in electrical systems. An unspecified number are to be tested in California beginning in May.

But even DaimlerChrysler downplays the potential for the work.

"It's just an idea program," says Nick Cappa, the company's manager of advanced technology

"Maybe that's why they are so popular," she says.

At the same time, Knight would not comment specifically on whether the company is doing testing and development work on plug-in hybrids.

"We're exploring every avenue" for reducing reliance on petroleum, she says.

Toyota officials do make one definite point on the subject: They oppose the conversion of Priuses to plug-in capability.

Martha Voss, spokeswoman for Toyota Motor North America Inc. in Washington, says such changes void the vehicle warranty and damage the electronic controls in the "elegantly engineered" vehicle.

She also suggests this about plug-in users: "What they plug into (for electricity) may be a very dirty source" of energy.