

JUST FOR MEN WHO WHEEL!



ELECTRIC AVENUE

> > > *PERHAPS SPURRED ON BY HOLLYWOOD ENDORSEMENTS, THE HYBRID CAR CATEGORY IS FINALLY GOING MAINSTREAM.* BY BRIAN J. O'MALLEY

THE TECHNOLOGY BEHIND THE 2004 HYBRID CAR LINEUP TRANSFORMS THE SOCIAL CONSCIOUSNESS OF FUEL ECONOMY INTO MAINSTREAM COOL. AS THE PRICE OF GASOLINE CREEPS EVER UPWARD, THESE VEHICLES OFFER PERFORMANCE WITH A NEW DIMENSION OF DRIVING PLEASURE—A NEARLY STATIC GAS GAUGE. HYBRIDS USE A GASOLINE ENGINE COMBINED WITH A BATTERY-POWERED ELECTRIC MOTOR. THE ENGINE CHARGES A NICKEL-HYDRIDE BATTERY WITH THE HELP OF REGENERATIVE BRAKES THAT DOUBLE AS GENERATORS WHEN COASTING OR BRAKING. EXTERNAL POWER SOURCES ARE NOT NECESSARY.



The design of the Toyota Prius reduces interior noise.

>> **TOYOTA PRIUS**

The pioneer of mass-produced hybrids marks its second production generation with the new Hybrid Synergy Drive, producing a combined 110-horsepower engine capable of accelerating zero to 60 miles per hour in 10 seconds. That's more than enough power to squeeze into rush hour traffic or to pass other cars with ease, and it still manages to squeeze out 60 mpg in the city and 51 on the highway.

The cabin is roomy, comfortable and quiet. The 96.2 cubic feet of interior space compares favorably with the Camry and others in its upgraded mid-size class. The "monoform" design has a distinctive look—although some argue it's more futuristic than attractive—that reduces interior noise and improves mileage.

It's hard to resist a car with a dash-mounted starter button and a color energy-distribution display. The Prius may not be able to snap your neck with vigorous acceleration, but the transition to high



The dashboard on the Prius features something not seen on ordinary cars—a power button, inset.

speed is made smoother than silk by a continuously variable transmission that doesn't rely on fixed-gear ratios.

Currently, this is the only full hybrid, which means it can run on its electric motor alone. Below 15 mph, the silent electric drive is the only means of propulsion. When coming to a stop at a traffic light, the gasoline motor shudders slightly as it shuts off, but it starts right back up again with a push of the by-wire accelerator. It's a little unnerving, but passengers are fascinated by it.

The only negative aspects are the brakes, which are sometimes a little grabby, and there's a millisecond delay for the electric motor to start up from a full stop. Both are easy to get accustomed to though.

Prius has enjoyed the fastest sales start in Toyota's history, and it's easy to see why. Pre-orders sold a third of its planned 2004 production, and despite an 11,000-unit production increase, hybrid fans still wait up to six months to drive. It's worth the wait.

>> HONDA CIVIC HYBRID

Prius calls attention to its hybrid status, but the Civic Hybrid does the opposite by putting the technology into one of the most popular production vehicles of all time.



The Honda Civic Hybrid never runs fully on electric power.

It's hard to tell the difference between a Civic Hybrid and a traditional one. The Civic does little to monitor the electric drive and battery charge status beyond minor

changes to the instrumentation package.

Honda's Integrated Motor Assist starts the electric motor to augment output from its 85-horsepower, 1.4-liter engine and boost gas mileage. It never runs fully on electric power, which makes it a mild hybrid, but the standard-transmission model shuts the engine off when stopped in neutral with the air conditioning off. That conditional hybrid performance may be less sexy, but with gas mileage figures of 46 in the city and 51 on the highway, it's difficult to care.

The Civic harnesses the inertia principle to ratchet up Environmental Protection Agency figures. High-horsepower vehicles rarely use more than 30 to 40 horsepower during normal driving, and

freeway driving requires less than that. Honda's engine shuts down up to three of four cylinders during low power consumption, and it's completely unnoticeable.

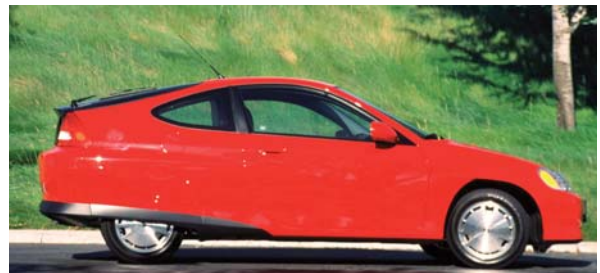
The 13-horsepower electric motor kicks in seamlessly, too, but it's perceptibly underpowered during rapid acceleration. Compensation in the manual transmission model is done by winding out the tachometer in third and fourth gears and hoping that fifth will take you home. It will—but don't cut it too close.

Still, this is a Civic in every sense of the word. The cabin is designed well enough to offer ample headroom and legroom. Standard features like power accessories, anti-lock brakes, CD players and front- and side-passenger air bags are among the many advantages packed inside the hybrid model.

New styling solidifies Civic's relationship with the trendier Accord. A sweeping front grill wraps neatly into a nested set of headlights with the subtle grace of a European car. It has effectively shed its economy car look.

This is a nice car—hybrid or otherwise. It's said hybrids do not offset their additional cost in fuel savings, but that could change during the lifetime of the vehicle. If gasoline prices continue to rise during the full warranty period of eight years or 100,000 miles, it may turn out to be a great investment.

>> HONDA INSIGHT



The Honda Insight gets 66 mpg on the highway.

The Honda Insight has the look and feel of an experimental car and, like most experiments, it has limited appeal beyond future implementation.

One gets the sense that Honda engineers built the Insight's aluminum body inside a wind tunnel. Everything about it, including stylish rear-fender skirts, contributes to lower drag, which raises mileage to 60 in the city and 66 on the highway.

A steeply raked windshield and tapered body contribute to a sense of airiness that almost distracts from the capsule-like 47.4 cubic feet of interior space. It's an admirable accomplishment in space management that is comfortable enough, but not luxurious. The responsive steering and snug fit combine to connect driver to machine in a way that makes it a truly fun car for sporting around town.

The 995 cc, three-cylinder engine puts out only 67 horsepower, and the 14-horsepower electric motor does little to help. This car is not for power enthusiasts by any means, but it makes a great city car that's easy to park and peppy enough for weekend getaways.

It's hard not to like this car only because it breaks new engineering ground that will undoubtedly find its way into future cars. Hybrid technology has come of age, and the timing couldn't be better. ■