Honda INSIGHTS

THE NEWSLETTER OF ADVANCED AUTOMOTIVE TECHNOLOGY

Applying Advanced Technology to Environmental Goals

It was a sign of things to come, as surely as hot and smoggy weather was a sign signaling the arrival of summer in the Los Angeles basin. Honda's 1975 Civic CVCC, powered by an innovative Compound Vortex Controlled Combustion (CVCC) four-cylinder engine, became the first vehicle to meet tough new federal Clean Air Act emissions standards through the use of advanced engine technology, without the use of an exhaust aftertreatment system.

At 66 mpg, the Insight, with its integrated full hybrid system, has earned the EPA's highest fuel economy rating for the fifth consecutive year.

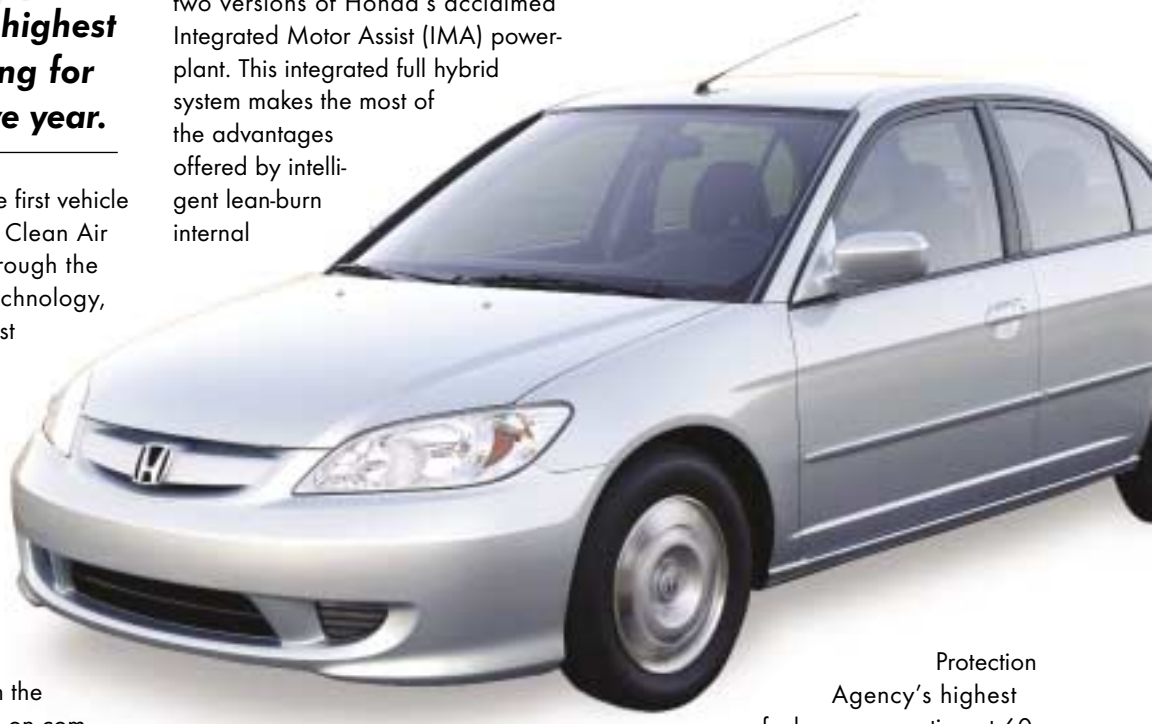
This early example of Honda's technology leadership illustrates an important trend that continues to this day. Whether gasoline engines that achieve Advanced Technology Partial Zero Emission Vehicle (AT-PZEV) levels – the most stringent in the nation – or engines that run on compressed natural gas or gasoline-electric hybrid power, Honda is at the forefront of automotive technology. The goal: Design and engineer vehicles that are both environmentally conscious and fun to drive.

High-profile examples of this technology leadership are in Honda showrooms now. They range from near-zero emission vehicles like the gasoline-fueled Honda Accord EX, gasoline-electric Civic Hybrid and natural gas Civic GX, to the Insight hybrid and an array of Ultra Low Emission Vehicle (ULEV) models in the Honda stable.

The Civic Hybrid and Insight, the first gasoline-electric hybrid vehicle sold in the United States, are powered by two versions of Honda's acclaimed Integrated Motor Assist (IMA) powerplant. This integrated full hybrid system makes the most of the advantages offered by intelligent lean-burn internal combustion engine technology and an energy-efficient electric motor. The Civic Hybrid is powered by an extremely efficient 1.3-liter four-cylinder *i*-VTEC engine and an integrated 13 hp electric motor, while the Insight uses a 1.0-liter three-cylinder *i*-VTEC engine and the same electric motor for assist as needed.

the *CHALLENGE*

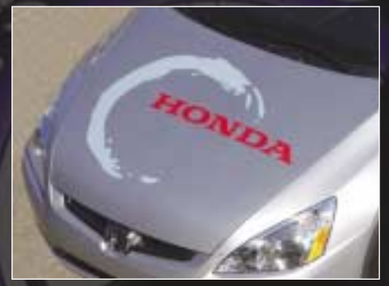
Just how good are these advanced vehicles? For the fifth consecutive year, the Insight has earned the Environmental Protection Agency's highest fuel economy rating at 60 city and 66 highway mpg, while the Civic Hybrid achieves an impressive 46 city and 51 highway mpg. The benchmark for Honda's coming generation of gasoline-electric hybrid vehicles has been set.

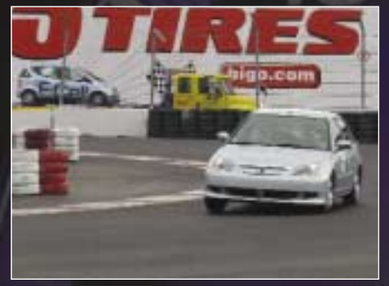


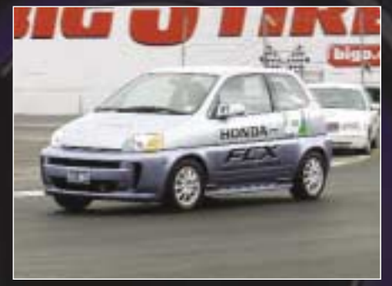
SPECIAL ADVERTISING SECTION

DRIVEN TO LEAD

Why Honda Production Models Won the Most Awards at Challenge Bibendum







A popular saying in the glory days of high performance, "Race on Sunday, sell on Monday," alludes to the importance of proving technology on the racetrack. Clearly, those teams demonstrating leadership at the track have historically found a growing and eager market for their cars at the showroom, and for good reason.

the *TEST*

Advanced technology brings with it an edge. In the case of race-bred technology, that would be acceleration, speed, and often brute force. All things being equal, consumers tend to prefer going with the demonstrated leaders who can bring their favored technologies du jour to bear quickly, effectively, and at reasonable cost.

These days, there's still that need-for-speed at the track, as Indy Car and Formula One prove with gusto. But the definitions and measure of technology prowess are changing, in some cases expanding to include environmental performance.

Nowhere is this more apparent than at the Challenge Bibendum, the nation's largest and most significant environmental vehicle competition. This event first came to the U.S. in 2001 after running two years in Europe, then returned again recently, moving its focus from California Speedway in Southern California to Infineon Raceway in Northern California. Here at this latest venue, Honda fielded a team of seven production vehicles amid more than 100 entries from 10 automakers and other automotive interests.

The result? Honda walked away (or should that be drove away?) with more awards than any other competitor. At the end of three intensive days of competition at Infineon, Team Honda vehicles – the Honda Accord EX, Civic GX, Civic Hybrid, Element, FCX, Insight, and Acura MDX – earned 11 gold and 20 silver performance awards, five more performance awards than were earned during Honda's strong showing at the previous Challenge Bibendum.

Along with environmental performance, more traditional performance was also measured since even environmentally-inclined cars, trucks, and sport utility vehicles must offer the kind of driving experience we typically expect of our vehicles. At the Challenge Bibendum, vehicles were put through acceleration, braking, and slalom testing, along with fuel economy testing over 50 laps on the Infineon track. The Environmental Protection Agency (EPA) additionally monitored real-world emissions through the use of on-vehicle testing equipment secured to each competition vehicle for several laps of the track testing.

Over half of the gold awards Honda earned were in the emissions category, an area in which Honda vehicles stand out. In fact, Honda's entire team of seven entries won gold for emissions. All six of the internal combustion and hybrid Honda models competing were additionally tapped to participate in the event's EPA emissions runoff on the final day of competition, amid a field of 12 extremely low emission vehicles selected from the more than 100 vehicles participating. Honda's seventh entrant, the hydrogen fuel cell FCX, wasn't involved in the runoff since it already achieves zero emissions.

Such solid, consistent performance is significant, especially when you consider that Honda's production vehicles – the very vehicles that can be bought at the showroom today – proved their environmental credentials readily in such a strong field of competitors, many of them developmental and prototype vehicles. This speaks to Honda's imperative of bringing the most technologically advanced and environmentally sound vehicles to new car showrooms now, a move that exemplifies the philosophy of Soichiro Honda, the company's founder, who felt strongly that progress is best achieved when ideas are put into action immediately.

Honda excelled in the Challenge Bibendum because environmental performance is built into the models that Honda sells today. Many of Honda's 2004 model vehicles are certified to Ultra Low Emission Vehicle (ULEV) standards in all 50 states, with some models achieving the stringent Super Ultra Low Emission Vehicle (SULEV) standard. The Civic GX and Civic Hybrid are additionally recognized by the State of California as Advanced Technology Partial Zero Emission Vehicles (AT-PZEVs), while the Accord EX is certified as a Partial Zero Emission Vehicle (PZEV), achieving emissions some 90 percent lower than the average new vehicle. Additionally, all Honda models sold nationwide are certified as Low Emission Vehicles (LEV) or better.

It isn't coincidence that Honda has the highest Corporate Average Fuel Economy (CAFE) rating of any full line automaker and holds four of the top five positions in the EPA 2004 fuel economy guide, as well as the first and only fuel cell vehicle to appear in the EPA's fuel economy ratings. It's by design...the same design that finds Honda a standout among its peers when put to the environmental test.

A CLEAN GETAWAY TO CARMEL

California's Central Coast Beckons a Near-Zero Emission Accord

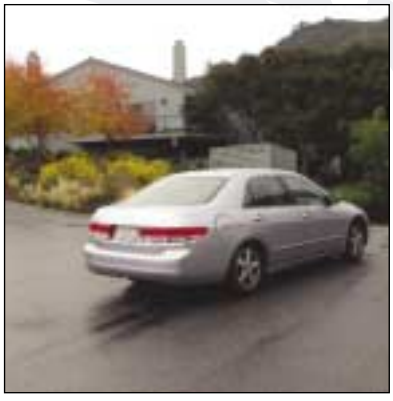
the **ROAD TRIP**

Heading north on California's Highway 101 from Southern California, you're treated to some pretty diverse scenery ranging from crowded cityscapes to rolling hills and wide-open spaces. It's when you reach Ventura that things begin to markedly change. This is where, for a time, your vista to the west gives way to brilliant blue Pacific Ocean and the Channel Islands, signaling a welcome transition that finds you leaving city life behind for the more relaxed lifestyle of the Central Coast.

The next 275 miles are quite scenic with such jewels as Santa Barbara, the Riviera of the Pacific; San Luis Obispo, a wonderful mission town with its circa-1772 Mission San Luis Obispo de Tolusa; and the bucolic Paso Robles, a short drive after cresting the Cuesta Grade.

We're driving this route on our way to the picturesque Monterey Peninsula, home of historic Monterey with its Fisherman's Wharf and Cannery Row of Steinbeck lore, charming Carmel-by-the Sea, and laid-back Carmel Valley. Our destination is Carmel Valley Ranch Resort, a wondrous place surrounded by the Santa Lucia Mountains that draws us every year to enjoy a spacious suite and appreciate our inevitable greeting by deer and perhaps even wild turkeys.

As the miles roll by, it isn't lost on us that the crisp, clean air of the surrounding environs is the very thing that drives us to be behind the wheel of the 2003 Accord EX we're piloting. This car, still bearing the Team Honda markings of its recent experience at the Challenge Bibendum environmental competition, promotes the clean air we're breathing through its near-zero emission operation, an attribute certified by the California Air Resources Board with this car's PZEV – Partial Zero Emission Vehicle – status. Its transition from competition environment to civilian duty was straightforward since, except for the decals, this is an Accord EX PZEV like any other sold in California and four Northeastern states, and nearly the same as the Accord SULEV (Super Ultra Low Emission Vehicle) models sold in all other states.



Driving is a pleasure, smooth and sure as you'd expect from a Honda Accord, with 160 horsepower at the ready courtesy of its 2.4-liter, four-cylinder *i*-VTEC engine and five-speed automatic transmission. It's a combination that's providing us a satisfying 33 mpg average during our freeway time and about 24 mpg while tooling about on Monterey's picturesque 17 Mile Drive, heading toward such must-see Monterey attractions as the circa-1771 Carmel Mission, the Maritime Museum of Monterey, and the Monterey Bay Aquarium. The car's cabin is spacious, our family of four tucked comfortably inside with room for another, and all the gear for our five day trip stowed in this Honda's accommodating trunk.

As we reach the front gate of The Ranch and begin looking for the deer we know will appear, it occurs to us that the remarkable thing about driving clean in this Honda is that the experience is actually quite unremarkable. We're not doing anything special to lessen our environmental impact, we're just driving... and that's as good as it gets.