

ARIZONA DRIVER

THE ENTHUSIAST'S GUIDE TO LIFE BEHIND THE WHEEL

VOLUME 8 NUMBER 4
JULY-AUGUST 2009

2010 Mercedes-Benz E-Class launch

- THE E-CLASS ABSORBS THE CLK
- SEDAN AND COUPE MODELS
- E350 V6 AND E550 V8 MODELS
- SPORT AND LUXURY MODELS

PLUS... 2010 LEXUS IS 250C AND 350C CONVERTIBLES
2010 LEXUS HS 250h HYBRID SEDAN
2010 FORD FUSION HYBRID: 41 MPG
FOUR 2010 ROLLS-ROYCE PHANTOMS
FIRE AND RESCUE DRIVER TRAINING • SCION xB
RED BULL AIR RACE WORLD CHAMPIONSHIPS SAN DIEGO
PLANES OF FAME AIR MUSEUM
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COVER: The 2010 Mercedes-Benz E-Class sedan outside Las Vegas, part of an expanded E-Class lineup of Sport and Luxury V6 and V8 coupes and sedans. **Photo: Joe Sage**

We always enjoy traveling (even when it gets a little old, though not when we get stuck at DFW for eight hours, as we did on one of this issue's trips, with a new cellphone that gobbles battery juice like water on an August afternoon). We love a good road trip, but an airline flight often takes us to a behind-the-wheel experience, as well. This issue, we fly to Las Vegas to be among the first to test-drive Mercedes-Benz's new E-Class Coupe and Sedan, and to Little Rock for the launch of the Lexus HS 250h hybrid sedan and the Lexus IS 250C and 350C hardtop convertibles.

Closer to home, we spend a day with not one but four Rolls-Royce Phantom models, and though we may not be able to afford any of them, they're worth saving up for. And we spend a week with the Scion xB, an iconic little box that's gained some competition and also some size, which positions it among its competitors a little differently than before. We also got our hands on the new Ford Fusion Hybrid, a highly-anticipated mainstream sedan with a great trick up its sleeve (which has set many records already).

When correspondent Larry Edsall covered the Copperstate 1000 this year (our May/June cover story), he stumbled upon the Planes of Fame Air Museum in northern Arizona, and he went back up to learn more about it for us. While he was there, we were winging it to San Diego to see how Arizona's ace pilot Kirby Chambliss would do in the US round of the Red Bull Air Race World Championship.

JP Molnar, meanwhile, spent some time at Firebird International Raceway, where members of the Phoenix Fire Department learn the challenging ins and outs of handling their big rigs in extenuating circumstances, one of which is the presence of us civilians on their same roads. Learn how to cooperate.

Enjoy the ride.



Joe Sage
Publisher/ Executive Editor

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BONDURANT LAUNCHES CHAMPIONSHIP RACE SERIES WITH NEW FORMULA MAZDA ROTARY CARS

The Bob Bondurant School of High Performance Driving has announced a new Bondurant Championship Race Series, beginning this September and including 18 races over nine weekends utilizing three different tracks at Firebird International Raceway.

Drivers will compete in one of Bondurant's newly acquired, purpose-built Formula Mazda race cars each weekend, participating in Friday testing rounds, followed by qualifying and racing on Saturday and Sunday. The race cars are powered by 13B Mazda rotary engines and equipped with Goodyear racing slicks and 4-speed Hewland gearboxes. Bondurant's Formula Mazdas offer a true racecar experience in a series open to anyone 15 years or older who is a driver of "good standing" with the Bondurant School of High Performance Driving.

"The Bondurant Championship Race Series is designed for anyone from the young aspiring driver who wants to take it to the next level, to graduates of the Bondurant School who are looking for the next life-CEO Bob Bondurant. "Participants can simply 'arrive and drive' at our facility and secure a good deal of track time—eight or nine driving sessions each weekend! Our new race series is a great, inexpensive way to race and earn points toward a championship."

Schedule: Sept 25-27 West Track, Oct 31-1 East Track, Nov 27-29 Main Track, Dec 12 West Track (tentative), January-May 2010 dates t.b.d.

Cost to participate in the Championship Race Series is \$3,495 per event, which includes car rental, instruction and maintenance of the vehicle. Participants bring their own safety equipment, including suits, gloves, head and neck restraints.

The Bob Bondurant School of High Performance Driving is one of the largest driving schools in North America, featuring a 15-turn, 1.6-mile road course, an 8-acre asphalt pad for advanced training, and more than 200 race-prepared vehicles. On the Gila River Indian Community off I-10 south of Phoenix, the purpose-built facility is adjacent to Firebird International Raceway with its three additional race tracks, lake and three skid pads. Founder Bob Bondurant is an internationally recognized leader in advanced driving training. Bondurant SuperKart School offers two state-of-the-art karting tracks and training. Bondurant Trackside is the premier leader in OEM events, showcasing manufacturers' vehicles. For more information or to book, call 800-842-RACE (7223) or visit www.bondurant.com.



GOODGUYS KICKS OFF 2010 SEASON IN SCOTTSDALE: HOSTED BY ARIZONA CAR CLUB, SEASON WILL NOW OPEN AND FINISH IN ARIZONA

The 2010 Goodguys event season will kick off at WestWorld in Scottsdale next March 12-14 with a brand new event: the Goodguys 1st Spring Nationals. The 1st Spring Nationals will be a three-day event welcoming rods, customs, classics and muscle cars up to 1972 vintage. Vendor exhibits, a swap meet and cars-for-sale corral, Street Challenge Autocross, model car show and other popular event activities will be included. The Arizona-based Over the Hill Gang car club will serve as the event's host club.

The 2010 Goodguys event season now officially begins and closes in Scottsdale at WestWorld. "We're excited to be returning to WestWorld to kick off our 2010 event season" Goodguys President Marc Meadors said. "We've enjoyed a great run at WestWorld for over 12 years, and are excited about the opportunity to hold two annual events in the Southwest—truly a hotbed of hot rodding. The Southwest Nationals held each November has established itself as a major event on the annual calendar, and we're hoping the Spring Nationals will be equally as enjoyable for everyone."

Early bird event registration forms are available at www.good-guys.com. Vendors who place a \$100 deposit by November 1 will also get first choice of booth space. Call the Goodguys at 925-218-9151.



GOODGUYS 2009 HOT ROD OF THE YEAR

A Hemi-powered 1930 Model A Ford Coupe by Bill Steele of Oakdale PA was named Goodguys 2009 Hot Rod of the Year at the 21st Hot Rod Nationals at O'Reilly Raceway Park in Indianapolis. Steele notes that this was his first whole-hearted attempt at designing a hot rod. The car came to Indy with only 25 miles on it, but the award criteria calls for a lap around the famed Indy Brickyard, a 100-mile roundtrip run up to Sharpville, Indiana, then back to O'Reilly Raceway Park for a 1/8-mile time trial on the drag strip. Steele's A Bomb passed all tests with flying colors.



MECUM ORIGINAL SPRING CLASSIC AUCTION APPROACHES \$40 MILLION IN SALES COMPANY'S LARGEST AUCTION EVER

Hundreds of collector cars left the Indianapolis State Fairgrounds with new owners during the 22nd Annual Mecum Original Spring Classic Auction, May 13-17, in Indianapolis. The five-day auction boasted total gross sales (including buyer's premium) approaching \$40 million. Mecum offered more than 1,000 high-quality collector cars and 350 vintage neon signs—which have exploded in popularity and value during the past few years—to registered bidders, reporting a 70% sold rate for the Indy auction.

"I think the economy is tough right now, but we're taking the position that we're going to exist above it," said Mecum Auction Company President Dana Mecum. He notes that three years ago, during peak times, the outfit sold a then-record of \$30 million.

The \$40 million figure includes anticipated sales through their post-auction program: when cars don't sell on the block at a reserve auction, Mecum continues to market them through its program The Bid Goes On, which has successfully sold 35 cars for \$2.5 million in sales from the Indy event with additional deals pending.

More than 14,000 buyers, sellers and general car enthusiasts attended the event. Mecum has specialized in the sale of collector cars, muscle cars and Corvettes for more than 20 years. Visit www.mecum.com.



THE BONDURANT SHELBY DAYTONA COUPE

The legendary 1965 Shelby Daytona Cobra Coupe that was raced to victory by Bob Bondurant over 40 years ago (see May/June issue) did not meet its reserve on the auction block, but continues to be marketed in their program The Bid Goes On. The centerpiece for the Indy Spring Classic, the Shelby Daytona brought great energy and many new customers to the auction. "In its first race, the Shelby Daytona Cobra did not finish but went on to win the world championship. While it did not sell over the weekend, it will certainly finish in record form again," said auction President Dana Mecum.

gobeyondordinary

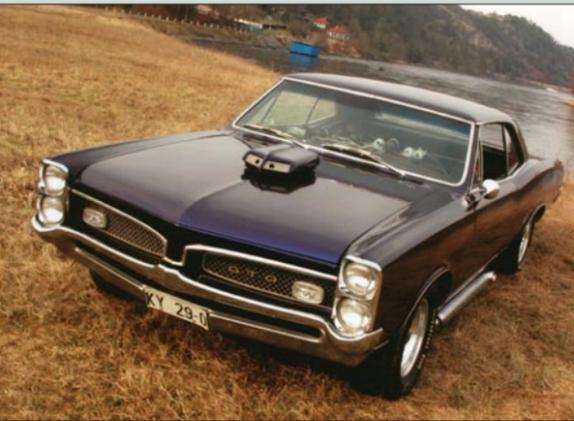


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PREMIERE PROPS AUCTIONS BRINGS HOT CARS AND COLLECTOR MOVIE PROPS TO EL SEGUNDO: "THE CAR CULTURE CAPITAL OF THE WORLD"

E.P. INDUSTRIES : SATURDAY, AUGUST 1

E.P. Industries
2305 Utah Avenue, El Segundo CA 90245
Saturday, August 1: preview 9-11am, auction 11am

Premiere Props will be auctioning off over 500 iconic props and cars the first weekend in August, with a three camera LIVE show online. In partnership with E.P. Industries, Premiere Props will auction off unique cars and collector movie props on Saturday, August 1 at 11am, after a preview from 9-11am at E.P. Industries' warehouse in El Segundo CA. As a special treat for car aficionados, Eddie Paul, CEO of E.P. Industries and the creator of cult cars for Hollywood movies such as *The Fast And The Furious* and *Too Fast Too Furious* will be on site to inform bidders about details of the exclusive cars and items up for bid.

The auction will feature exclusive cars, motorcycles and movie props from feature films including *Triple X*, *Mask*, *Leatherheads*, *Gone in 60 Seconds*, *Streets of Fire*, *Secret Weapon*, *The Fast and The Furious* and even a signed Akira motorcycle from Kanye West's music video *Stronger*. Specifics include:

- A 1967 GTO built for *Triple X* w/ new big block Chevy, four wheel discs, a ground up restoration for the film
- Akira motorcycle signed by Kanye West, built for Kanye's music video *Stronger*
- 2 Eddie Paul motorcycles built for *Leatherheads*
- Cher's jacket and Turk's cutaways jackets from *Mask*
- Original script from the original *Gone In 60 Seconds*
- 2 Travis Pastrona helmets
- Cousteau new Prototype helmet
- Sign from *Monster House* on *Friday*
- 502 Chevy motorcycles with 2 superchargers
- Production book, cars of *The Fast and the Furious*
- Slides: *The Fast and the Furious* original set shots
- Crosses from "The Fast and The Furious"
- Shark head mechanics
- 1972 fastback custom Mustang
- An army bike which was featured in Eddie Paul's guide to building the Ultimate Chopper
- Scripts from dozens of feature films and many, many more items and cars up for bid

PICTURE CAR WAREHOUSE : SAT, AUGUST 8

Premiere Props
128 Sierra Street, El Segundo CA 90245
Saturday, August 8: preview 9-11am, auction 11am

Premiere Props and Ted Moser of Picture Car Warehouse have partnered to auction off over 100 cars featured in Hollywood movies and television shows, as well as hot rods and classic cars from the Picture Car Warehouse collection. The auction will be held on Saturday, August 8 at Premiere Props' warehouse in El Segundo. The auction is scheduled to open at 11am after a preview from 9-11am.

Premiere Props and Picture Car Warehouse will auction off one-of-a-kind automobiles from box office hit films including *Bucket List*, *Numb3rs*, *Indiana Jones*, *Bruce Almighty*, *Knight Rider*, *Little Miss Sunshine*, *Soul Men*, *Beers for my Horses*, *Dragon Ball*, *Rush Hour 3*, *No Country for Old Men*, *The Fast and The Furious* and many more! Additionally, hot rods and classic cars from Picture Car Warehouse's collection will also be auctioned off.

The one-day car auction will feature collectible movie automobiles including:

- 1969 Ford Mustang Mach 1 from *Knight Rider* (2008)
- 1979 Ford Bronco from *No Country for Old Men*
- 1978 VW Bus from *Little Miss Sunshine*
- 1995 Ford F-350 from *Beers for my Horses*
- 1971 Cadillac Eldorado Convertible from *Soul Men*
- 1985 Chevrolet Blazer from *Bruce Almighty*
- 1970 Ford Galaxie from a Fox NFL commercial
- 1970 Dodge Challenger from *Bucket List*
- 1931 Roadster from *Indiana Jones* (2008)
- 2003 Nissan 350Z built for *The Fast and The Furious*
- 2005 Cadillac DeVille from the show *Numb3rs*
- 1933 Ford Victoria from *Rush Hour 3*
- 1996 Ford Mustang GT featured in a UK commercial
- 2007 Dodge Charger from *Dragon Ball*
- 2005 Hummer H2 from *Dragon Ball*
- And many, many more to be announced!!

Live bids online: www.icollector.com
More information: www.premiereprops.com
310-322-PROP - 888-761-PROP

RM AUCTIONS 'ICONS OF SPEED & STYLE' ALL-AMERICAN AUCTION AT PETERSEN AUTOMOTIVE MUSEUM

SATURDAY, SEPTEMBER 26

Petersen Automotive Museum
6060 Wilshire Blvd., Los Angeles CA 90036
Saturday, Sept. 26: Viewing from 9am, auction 11am-6pm

Of the millions of automobiles produced in the last century, none have been more influential in popular culture than the American hot rod and its street and racing brethren. Today, these icons of speed and style continue to inspire collectors and enthusiasts alike, with their innovative designs, radical engineering and memorable sounds. RM Auctions has been chosen to represent an unprecedented private collection of these historic all-Americans with a single-day auction event billed as Icons of Speed & Style on September 26 at the Petersen Automotive Museum in LA.

Approximately 80 vehicles and several lots of period hot rod and "kustom kulture" memorabilia will be offered with no reserve. The eclectic collection represents the owner's enthusiasm for and lifelong love of cars, and its offering will be a once-in-a-lifetime buying opportunity for collectors. Each comes with a fascinating provenance and photographic documentation of its role in popular culture and heritage.

Legendary cars such as the famous Dodge "Little Red Wagon" Drag Truck, the dominating Ray Allen LS6 Chevelle Convertible, "Big John" Mazmanian's Corvette gasser, the original "Road Agent" show car by Ed "Big Daddy" Roth, as well as famous customs from the Ayala Brothers, Sonny Mazza, the Alexander Brothers, George Barris, Daryl Starbird and Boyd Coddington will be on offer.

RM Auctions: 519-437-3052 - fax 519-351-1337
www.rmauctions.com

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AUDI FOUR-SEAT CABRIOLET

Rather than using a hardtop for its new four-seat luxury convertible like most of its competitors, Audi has opted to use a lighter weight and more traditional cloth top. The A5 version comes with a 211-hp turbocharged four-cylinder or 265-hp V-6 with various transmission configurations. The S5 gets Audi's new 333-hp 3.0-liter supercharged V-6 with seven-speed dual-clutch transmission and quattro all-wheel drive. Rear seat room is quite spacious for a four-seat convertible, and the top takes only 15-seconds to make the transition, plus it can be done with the car moving. Audi says the acoustic roof is as quiet as a closed car. The S5 arrives at dealerships in October with an estimated price tag in the \$56,000 range. The A5 arrives a month later. ▼



2010 Ford Escape



NEW FORD ESCAPE SAFETY TECH

▲ The 2010 Ford Escape and Escape Hybrid get several new technologies to make them even safer. In showrooms this summer, the 2010 Escape will have standard MyKey™ teen-safety technology (on the XLT and above models) and Integrated Spotter Mirrors. MyKey allows owners to program a key used by a teenager to limit the vehicle's top speed and audio volume, along with activating other safety warnings. The Spotter mirrors have a second convex mirror on the outside upper corner that shows when traffic enters the driver's blind spot on either side. Optional additions to the 2010 model include a rear-view camera system, Active Park Assist and an expanded version of SYNC. Active Park Assist uses an ultrasonic sensing system and Electric Power Assisted Steering to position the vehicle for parallel parking, calculate the optimal steering angle and quickly steer the vehicle into a parking spot. The enhanced SYNC offers real-time information on traffic, directions and information including business listings, news, sports, and weather.

WORLD'S FIRST INTERNET CAR RADIO

Anyone who has discovered the magic of Internet radio will want a new Blaupunkt radio with miRoamer technology. Internet radio allows the listener to select from

AM/FM stations or Internet radio's thousands of music, entertainment, news and talk stations from around the world. Normally this is done on a computer with an Internet connection, but now access can come at the push of a button on these specially-equipped Blaupunkt car radios. Australian-based miRoamer pioneered the technology, now built into certain Blaupunkt car radios. In addition to the thousands of existing channels built into the system, it allows the listener to add more by simply inputting a station's URL address and adding it their favorites. The system connects to the Internet using Bluetooth technology and a 3G phone as a modem. The radios will be available during the second half of 2009 and will retail for about \$300 to \$400.

BMW'S ULTIMATE SEDAN

Following the introduction of the very impressive 750, BMW has introduced its ultimate sedan, the 760Li. Powered by an all-new 544-hp V-12 engine with a new eight-speed automatic transmission, the big sedan accelerates from 0 to 60 mph in under 4.5 seconds. The engine is a new state-of-the-art 6.0-liter all-aluminum engine with twin turbochargers, direct injection and BMW's double-VANOS camshaft adjustment system. With features like self-leveling air suspension in the rear, available Integral Active (four-wheel) Steering and cruise control with an auto-

matic brake function, the flagship sedan easily lives up to the brand's "Ultimate Driving Machine" slogan.

CAFE STANDARDS UP FOR 2011

National Highway Traffic Safety Administration regulations will require all light vehicles to reach a CAFE (Corporate Average Fuel Economy) average of 27.3 mpg for the 2011 model year and are based on the new system that sets standards for individual models based on their size. Cars will be required to reach an average 30.2 mpg, up from the current 27.5 mpg, and light trucks will increase from 23.1 to 24.1 mpg. The new requirements are the first to come from the Obama administration and stem from a US energy law enacted in December 2007 to raise the standards to a fleetwide average of at least 35 mpg by 2020.

NASCAR RACERS GUIDE

Whether it is looking up one of the top drivers in this Sunday's NASCAR race or confirming Richard Petty's record in a racing debate, Ben White's new paperback book, *NASCAR Racers: Today's Top Drivers*, is a valuable chair-side reference book for racing fans. In 256 pages of a convenient 6.5-by-8.25-inch format are brief biographies of today's top drivers and the legends. Photographer Nigel

KEEP RIGHT >>



Segway-GM P.U.M.A.



2010 Bentley Continental Supersports

Kinrade contributes hundreds of color photos to put the names with faces. The \$19.99 paperback is published by Motorbooks, a division of Quayside Publishing Group. For information or to purchase, go to www.motorbooks.com.

SEGWAY-GM TWO-WHEEL CONCEPT

▲ General Motors and Segway, the company that builds the two-wheel standup scooter, have developed a new two-passenger model for urban transportation. The P.U.M.A. (Personal Urban Mobility and Accessibility), first shown at the New York Auto Show, carries two passengers side-by-side, in a vehicle that resembles a chariot with two seats and a windshield, but no horses. Using the same balancing technology as the Segway scooter, the electric-powered P.U.M.A. zips around balanced on two wheels at speeds up to 35 mph, with a range up to 35 miles between charges. No production plans or prices have been released.

VW RABBIT/GOLF/RABBIT/GOLF

The entry-level Volkswagen Rabbit is likely to develop a complex, or at least have an identity crisis over its name. Volkswagen used the Rabbit name when the car was first brought to the US in 1975. Then in 1984 the name was changed to Golf, the name used for the car in most of the world. In 2006 the name was

changed back to Rabbit, but the sixth generation of the car will once again be called the Golf when it debuts in the fall of 2009. The Golf is VW's bestselling car, with more than 26 million sold in over 120 countries.

FAST, EXPENSIVE... AND GREEN

▲ The new \$250,000 "green" Bentley has been seen testing at the famous Nürburgring in Germany. The 2010 Continental Supersports is the first biofuel-compatible Bentley, and it just happens to be the most powerful and fastest car built by the Volkswagen subsidiary. Powered by a 621-hp twin-turbocharged W-12 engine, the sleek coupe is capable of 204 mph on the track. Acceleration times are listed at a blazing 3.7 seconds from 0 to 60 mph—not bad for a car that weighs just under 5,000 pounds. The Supersports is due in Europe this fall and in the US next summer pending regulatory approvals.

"PREDICTIVE CRUISE" FOR BIG TRUCKS

Daimler Trucks of North America, the maker of Freightliner trucks, has introduced a "Predictive Cruise Control" (PCC) system that uses 3D maps and satellite-based route previews to save fuel. While normal cruise controls maintain a set speed, the PCC looks ahead and adjusts engine output to maximize efficiency going up and down hills. A computer cal-

culates optimum speeds to take advantage of inertia. Average speeds are maintained, because speed lost going uphill is offset by gains going downhill. The systems will be available on select models starting in July 2009.

UPCOMING LEXUS SAFETY TECH

Toyota is adding two new safety technologies to Japanese Toyotas, and these innovations may find their way into upcoming US Lexus models. The first is a front and rear side pre-crash system that uses radar to detect objects moving into the vehicle's path. When the system identifies that a crash is imminent, the pre-crash system activates counter-maneuvers by braking, retracting motor-powered seat belts or deploying airbags. The second system senses a probable rear-end collision and automatically raises the front seatbacks to an upright position, in tandem with motor-powered seat belts, which tighten before the crash, while the headrests move forward to help prevent whiplash.

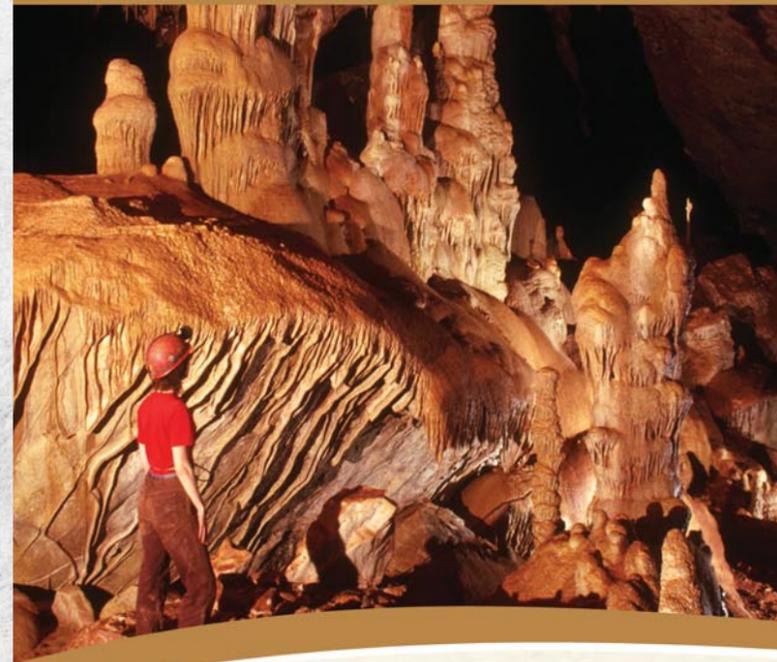
LED LIGHTS ON ESCALADE PLATINUM

The 2009 Cadillac Escalade Platinum Edition is the first SUV to use light-emitting diode elements for nearly all outside lighting including low beams, high beams, daylight running lights, side

KEEP RIGHT >>

Explore *Nature's* Mysteries

Wander Through the *Past*



From the earthly secrets of
Kartchner Cavern's underground kingdom
to the Native American pottery
collection at the Arizona State Museum,
Southern Arizona is rich with ancient wonders.

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METROPOLITAN TUCSON CONVENTION & VISITORS BUREAU

Tesla S sedan



Acura ZDX prototype



markers and turn signals. The system, designed by Hella, produces daylight color, rather than the bluish tinge of xenon lights, or the yellow tone of halogen. LED headlights use substantially less power than other lights, requiring less fuel to power the electrical system.

TESLA TAKING SEDAN RESERVATIONS

▲ The company that created the first electric roadster has launched the Model S sedan, which they claim will carry up to seven people and travel up to 300 miles per charge. Planned for production late in 2011, Tesla claims the Model S will accelerate from 0 to 60 mph in 5.6 seconds and have a top speed of 130 mph. One interesting feature is a 17-inch touch screen with in-car 3G connectivity, allowing the car to tune in to Internet radio stations, consult online maps or check the state of the car's charge remotely on an iPhone. The Model S is expected to have

a base price of \$49,900 after a federal tax credit of \$7,500. Three battery pack choices will provide a range of 160, 230 or 300 miles per charge, but prices for the battery options were not disclosed. Tesla plans to open stores in Seattle, Chicago, New York, Miami, Washington DC, London and Munich this year.

ACURA INTERPRETS 4-DOOR COUPE

▲ Acura showed their vision of the luxurious four-door sports coupe at this spring's New York Auto Show. With clean flowing lines, a sharply raked roofline and bold fender flares, the coupe-like styling of the prototype ZDX is distinctive within the Acura lineup and unique among the growing number of competitors. Interesting appointments include concealed rear door handles, an all-glass tailgate and highly functional cargo space with under-floor storage. Inside are a hand-stitched leather dash and instrument panel in a

dual cockpit layout and a black monochromatic center stack. A panoramic glass roof runs the entire length of the vehicle. A powerful V-6 engine with new six-speed automatic transmission with paddle shifters drives Acura's exclusive Super Handling All-Wheel Drive™ system. The ZDX is about the same size as the first four-door coupe, the Mercedes-Benz CLS. The production ZDX is slated to arrive at dealerships this fall.

PORSCHE CAYENNE S HYBRID

Porsche is well on its way to producing its first hybrid version of the Cayenne SUV. Power comes from a 3.0-liter supercharged V-6 and new eight-speed automatic transmission with a 52-hp three-phase synchronous electric motor fitted between them. The electric motor produces 221 lb-ft of torque and acts as an alternator. Electric power comes from a 154-pound no-maintenance 38KW nickel metal hydride battery mounted in the spare tire well. The heart of the hybrid is a sophisticated computer that operates in three classic hybrid modes: engine only, motor only and a combination of the two. It can run up to 1.2 miles on electric power alone. Engineers have modified the transmission to work in all modes, with most of the propulsion done in gears one through six. Gears seven and eight are used to enhance fuel economy. The eighth gear enables the driver to "coast" without the combustion engine at speeds up to 86 mph. The Porsche hybrid will give four-cylinder efficiency with V-8 performance, including a 0-to-62-mph time of 6.8 seconds. The hybrid is expected to add about \$7,000 to the price of a Cayenne S.

TOYOTA PLANS SMALLER HYBRID

Watch for Toyota to bring out a lower priced hybrid than the Prius, based on the entry-level Toyota Yaris. According to chief engineer Akihiko Otsuka, they are developing the low-priced hybrid to compete with vehicles like the Honda Insight. It could be available as early as 2011, according to information from Japan's Nikkei business newspaper. Toyota is also developing its own lithium ion batteries. Currently, the Prius uses nickel-metal hydride batteries produced in a joint venture with Panasonic, but the trend is

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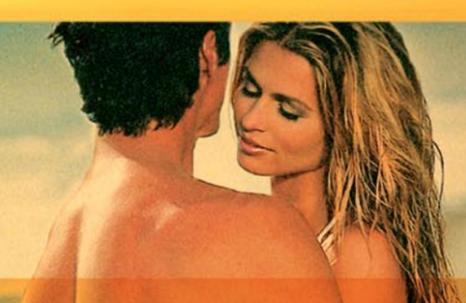


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toward the lithium ion batteries because they are lighter and more powerful.

NEXT-GEN JEEP GRAND CHEROKEE

▲ Totally redesigned for 2011, including a more aerodynamically efficient body style with larger door openings and new independent front and rear suspension, the next-generation Jeep Grand Cherokee has made major advances in comfort, interior appointments and off-road prowess. Starting with a 146 percent stiffer body, the flagship Jeep is longer and more spacious. Optional features include a dual-pane panoramic sunroof, park assist system, adaptive cruise control and forward-collision warning system. Off-road ability is improved with an available Quadra-Lift air suspension and Select-Terrain drivetrain system. The adjustable air suspension includes five settings, with one providing 11.1 inches of ground clearance for tough off-road excursions. The Select-Terrain system allows up to 12 different powertrain, braking and suspension settings to tackle sand, mud, snow, rocks or the open road. Engines will include a 280-hp, 3.6-liter flex-fuel V-6, and optional 360-hp Hemi V-8. If things go according to schedule, the new Jeep goes on sale early in 2010 following an abbreviated 2010 model year for the current Grand Cherokee.

ALCOA: LIGHTER ALUMINUM WHEELS

Alcoa, the world's largest aluminum supplier, says their Alcoa Wheel & Transpor-

tation Products division has created a modified 17-inch forged aluminum wheel designed by GM for their Chevy Volt, that is 30 percent lighter than normal aluminum wheels. Alcoa says new aluminum alloy wheels can make a significant reduction in unsprung weight, cutting 7.8 pounds out of a 35.5-pound standard wheel, for a 1.5 percent improvement in fuel economy. A new aircraft-quality aluminum allows wheels to be 20 percent stronger, with spokes hollowed out while maintaining the wheel's strength.

LOTUS-HARMAN NOISE CONTROL

It may not be necessary to turn up your stereo to mask unwanted sounds in your car in the future. Lotus, famous for sports cars and innovative automotive engineering, and Harman Becker, the German audio specialist, have joined forces to produce a sound system that can reduce noises in a car or even simulate sounds. Using technology similar to the noise canceling headphones used by airplane passengers, the system analyzes interior sounds and then generates sound waves to cancel the noise without affecting music. The system can also generate sounds, so the driver could make a little four-cylinder engine sound like a big V-8. Exterior sound generation could be especially useful for the silent hybrids or electric cars that can be dangerous for pedestrians because they are too quiet. Harman Becker will be manufacturing the system for sale to automakers as original equip-

ment on new vehicles initially, but aftermarket systems will be available later.

BMW 5 SERIES GRAND TURISMO

BMW is showing a Gran Turismo (GT) concept that should arrive at dealerships by the end of the year. The sloped-roof 5 Series is essentially a five-door hatchback, which bridges the gap between crossovers and station wagons. The door on the GT cargo area is split, allowing it to be opened like a regular trunk lid or as a larger liftgate with better access to the cargo area. Features of the concept included an elevated rear seating position, available four-wheel drive, optional panoramic glass roof, and power-operated reclining rear seats for two with a full-length center console. With the rear seats moved all the way back, the rear seat has as much legroom as the 7 Series and still has 15 cubic feet of trunk space. With the rear seats folded, the usable space grows to 58 cubic feet. Engine choices are expected to include two twin-turbos, the 300-hp in-line six-cylinder and 400-hp V-8 each with an automatic transmission. A slightly sportier 3 Series GT is also in the works.

HURST/HEMI DODGE CHALLENGER

As if the Dodge Challenger SRT8 weren't enough, Hurst is doing a little aftermarket modifying that puts the nostalgic performance coupe in an even loftier bracket. After the Challenger SRT8 rolls off the assembly line in Brampton, Ontario, it's shipped to Hurst Performance Vehicles in California. The 425-hp Hemi gets a supercharger, boosting the horsepower to 572 (484 at the rear wheels). It's fitted with huge 20-inch Hurst wheels and BF Goodrich performance tires, a Hurst "Hard-Drive" shifter along with suspension, exhaust and cosmetic upgrades. The net result is a car that runs 11-second quarter mile times, and from 0 to 60 mph in about 3.6 seconds. Sounds great, although the \$27,350 Hurst package price and a gas guzzler tax combine to drive the price to just over \$70,000—but that's for world class muscle car performance. The Hurst/Hemi Challenger Series 4 SRT8 is available at Dodge dealers now. ■

Auto News Update is compiled from a variety of industry sources for *Arizona Driver Magazine* by **BILL & BARBARA SCHAFFER** of *Auto Digest*.

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So you're driving down Camelback during rush hour. It's tight, slow and oh yeah, hot as Hell since it's August in the "City of Dry Death". Your mind is thinking of that cool beverage waiting at home, as your cell phone buzzes with tantalizing offers of being "anywhere but here." Like everyone else in this worker bee world, you're doing your best to carve a path to the hive, when your stupor is disrupted by the sounds and sights of a bellowing beast looming large in your rear view mirror.

The piercing sound of its siren wail, the earth-rumbling reverberation of belching air horns and angry dances of flashing red lights signal that its time to make way, because somebody somewhere is in a world of hurt. You scurry to the edge of the road, lurch to a stop as the big, red blur rumbles by, and think aloud how you hope that's the last fire truck you see behind you today.

This scenario happens dozens of times a day in our Valley and every motorist out there probably doesn't want to be the one to have to get out of the way. But, think of the Engineer driving that 39,000-pound truck through heavy traffic. While the fire truck may be the only one you see that day, the Engineer will have to literally deal with hundreds, if not thousands of motorists just like you every time they head down the road to a call. Add distracted and confused drivers, traffic, weather, pedestrians and the sheer size of a fire truck or rescue rig, and things get downright challenging. This doesn't even begin to account for the many other things that are running through the Engineer's mind such as the type of call they are responding to, the best route, operating the fire apparatus within

policy and the responsibility for the safety of many other personnel on the rig. So, as a fire agency working in the fifth largest city in the United States, how do you take new firefighters who are used to driving small economy cars, and train them to be proficient in operating a rescue rig carrying paramedics and injured patients, an 80,000-lb. ladder truck, or a tanker carrying 5000 gallons of water?

In order to find out, we spent an afternoon with Wes Patterson and Marc Santa Cruz at Phoenix Fire Department's new driver training facility in south Phoenix. At the time of our interview, Patterson was the Division Chief overseeing driver training, and Santa Cruz the Captain and Driver Training Officer at the facility.

The Phoenix Fire Department is unique in the Valley, in that all of the training is conducted in-house, and all of the fire and rescue rigs are owned and operated by the agency. By contrast, other cities in the Valley typically own their fire apparatus, but contract out their ambulance service. Because of this, Phoenix Fire has developed a new driver training facility that features more than 27 acres of concrete and asphalt to drive on. All new firefighters are

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SITTING IN THE HOT SEAT

DRIVER TRAINING WITH THE PHOENIX FIRE DEPARTMENT

Story and photos by JP Molnar

Thanks to Division Chief Wes Patterson, Captain Marc Santa Cruz and Engineer Mitch Finley for their time and assistance in making this story possible.

Engineer Mitch Finley (left) of the Phoenix Fire Department demonstrates driving exercises taught during departmental training.





required to attend driver training as part of their academy training. Patterson says that this starts with experience in the rescue rig (ambulance) over a period of 20 hours. It begins with a four hour classroom session that covers department policy and Code-3 driving (lights and siren). The cadet then spends four hours with a driver training instructor on a 1:1 instructor/student ratio, conducting a series of EVOC (Emergency Vehicle Operations Course) exercises. All of these are performed in a department rescue rig which is typically based on a heavy-duty pickup truck chassis.

According to Santa Cruz, the first exercise is the Serpentine, which teaches the cadet how a vehicle the size, weight and height of an ambulance handles. Many of their cadets are used to driving small vehicles, so climbing behind the wheel of an ambulance with its limited visibility and larger size can be eye-opening. The Serpentine allows them to get used to the "feel" of the truck and work on proper

Safety begins with the training personnel receive at the academy, but it continues with your role as a driver on the same streets they travel. You don't have to be a mathematician to know that an 80,000-pound fire truck is going to need a lot of room to stop and won't turn on a dime

hand placement, while beginning to push vehicle limits in a controlled environment.

Once the new firefighter becomes more comfortable with the rescue rig, they move on to the Evasive Exercise. Here, the driver negotiates a coned course where they are required to evade a simulated hazard by using the steering wheel only. This shows that drivers can avoid collisions through steering rather than braking. Different scenarios are introduced that allow drivers to see they can maintain control under a variety of conditions.

The Controlled Braking Exercise follows, where drivers learn how to apply maximum braking and evasive steering to avoid a collision. Santa Cruz says this really "opens the eyes" of cadets because they

start to realize that even a larger vehicle can avoid collisions if proper steering and braking are applied.

Skid Control on a polished concrete surface is next. This shows the drivers just how much these trucks weigh and how important it is to adjust speed for prevailing conditions. Patterson says this exercise really points out the importance of knowing how heavy a vehicle they are driving. The rescue rigs weigh between 10-20,000 lb, with pumper trucks tipping the scales at about 39,000 lb. Tankers and ladder trucks weigh much more, so it's critical that cadets learn these concepts with the rescue rigs, as they will see them again if they decide to become Engineers for the department.

A Backing Course in a serpentine manner is also included. Rescue rigs and fire trucks have a lot of blind spots, and many in-service crashes for fire agencies occur while backing. Patterson says that, as a rule, spotters are always used when backing any fire rig, but the new driver must get proficient

with mirrors and positioning in reverse.

Once the new driver completes the closed-course training, they continue with a minimum of 12 hours of in-field training with an instructor. Non-emergency and Code-3 driving is evaluated, with the goal being as many Code-3 calls as possible with an instructor in the rig. Safety checks and regular maintenance protocols are also taught.

Once graduating from the academy and driver training, a new firefighter will be certified by the department to drive a rescue rig. If the firefighter wants to move up in vehicles, they can attend a special academy to become certified as an Engineer. A 40-hour Engineer course includes classroom and practical exercises, plus over-the-road observation on public roads. This

includes the above EVOC exercises, but in the new, larger apparatus. Those Engineers who want to get trained on the "big dog" ladder trucks attend an additional 24 hours of training for those. In total, an Engineer becoming certified to drive all of the department's trucks will have completed a minimum of 100 hours of training.

Patterson says that the department's driving course was adapted from GM Proving Ground training regimens and police departments. The department self-certifies their drivers and Patterson says that Phoenix Fire exceeds minimum standards of the National Fire Protection Association (NFPA) for driver training. The agency also recently introduced driving simulators, which allow for Code-3 practice and hazardous situations in a controlled environment. Captain Santa Cruz is in the process of developing scenarios that accurately reflect the typical driving environments that fire personnel will encounter while running Code-3 to a call.

So it's clear that when it comes to driver training, the Phoenix Fire Department is serious about making sure that their personnel get to calls safely. It begins with the training they receive at the academy, but it continues with your role as a driver on the same streets they travel. You don't have to be a mathematician to know that an 80,000-lb. fire truck is going to need a lot of room to stop, and it won't turn on a dime like that little sports car in your garage. The Engineers in these rigs have a lot on their minds, most of all the safety of their personnel and the motoring public. Arizona law requires that vehicles yield to the right for emergency vehicles approaching from behind with lights and siren activated. But let's think of it in more practical terms: if YOU were that person waiting for that fire truck or rescue rig to show up, wouldn't you want every motorist to be aware and get out of the way so that help could arrive in time? Think about it. In the meantime, watch that rear view mirror, and do your part to help our heroes from the Phoenix Fire Department and other agencies do their job safely. ■

JP MOLNAR has over 20 years' experience in magazine editorial, performance driver training, racing instruction and racing, including several driver championships. He has been a test driver, performance course designer, instructor and project leader for many major automotive companies, private clients and law enforcement academies. He has an MA in Adult Education and Training and a BA in International Relations. JP has had hundreds of articles and photos in numerous national magazines in the last two decades. He currently directs curriculum development and design for an advanced, simulation-based driver training company in Scottsdale.

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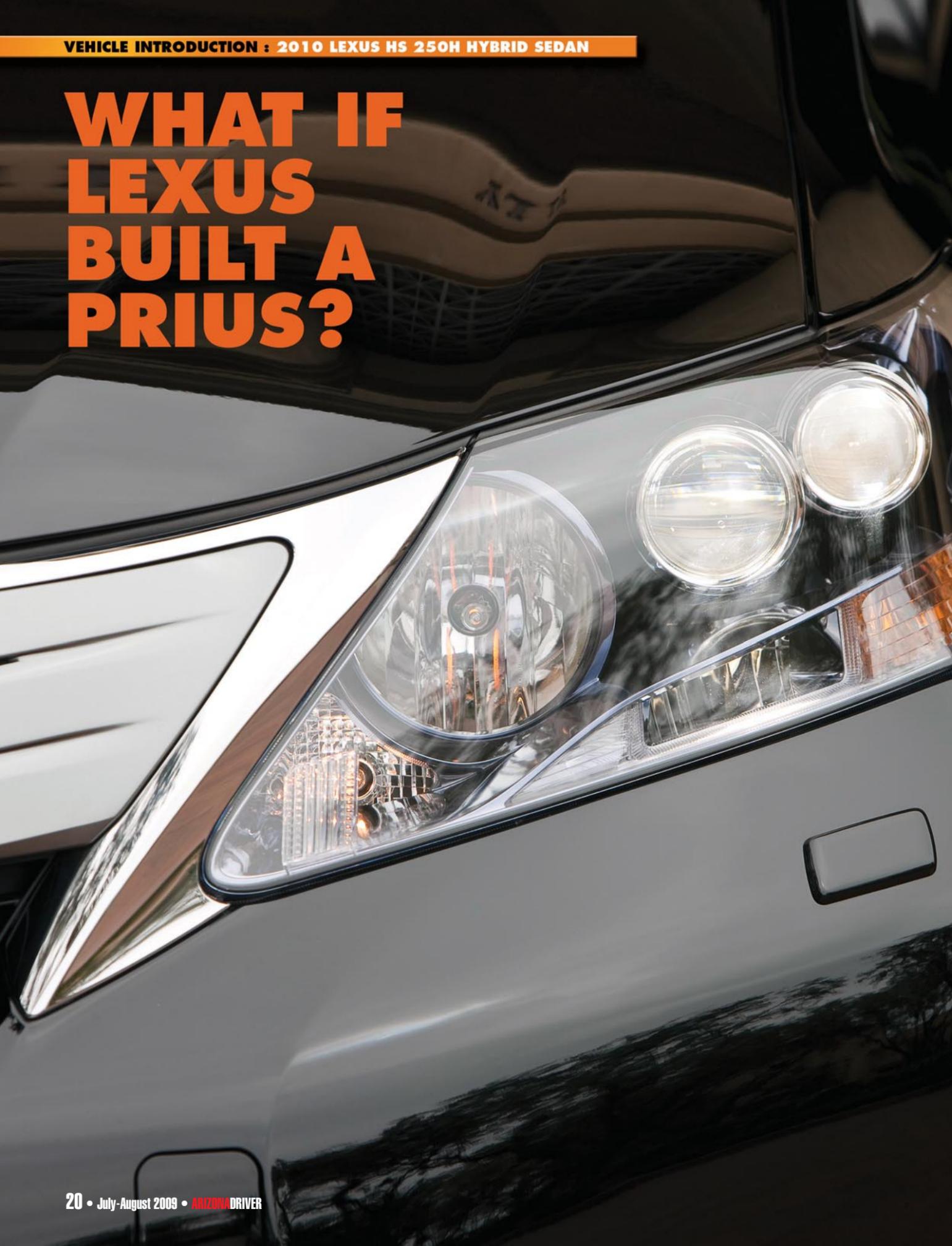
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WHAT IF LEXUS BUILT A PRIUS?



Entry-lux dedicated hybrid

Thus defined, it's the world's first, though the fourth Lexus hybrid to date
 We drive the Lexus HS 250h from Little Rock to Lake Hamilton, Arkansas

Lexus is no stranger to the hybrid market. For one thing, they're first cousins to the über-hybrid, the Toyota Prius. For another, they've consistently added hybrids to their lineup: the RX 400h in 2005, the GS 450h in 2006, the LS 600h and LS 600hL in 2007 ... and now their mildly-lux version of the mainstream hybrid sedan: the alpha-numeric-alpha HS 250h. Despite being their fourth hybrid, Lexus bills this as their first "dedicated luxury hybrid."

An Atkinson-cycle engine is used for high efficiency and compatibility with hybrid operation. This twin-cam powerplant uses four valves per cylinder and Variable Valve Timing with Intelligence (VVT-i) on the intake side. The engine is undersquare, with an 88.5-mm bore diameter and 96 mm stroke and has a relatively high compression ratio of 12.5:1. Peak output is 147 hp; in combination with the hybrid drive motor, the HS produces 187 hp total. It meets California SULEV and federal Tier 2 Bin 3 emission standards, 70 percent lower than conventional vehicles; it also has a new system that reduces evaporative emissions to near zero.

An electronically-controlled continuous-

ly variable transmission (CVT) and motor speed-reduction planetary gear unit provide high power output in a small package. The HS 250h uses a shift-by-wire system to eliminate shift cables, saving space and weight while allowing design freedom in placement of the shift lever.

An electric transmission oil pump eliminates another source of what's called parasitic energy. Electronic operation invokes the oil pump only when needed, and since the oil also flows over the drive motor, overall efficiency of the motor and transmission are improved.

At the vehicle's media introduction in Little Rock, Lexus VP of Sales and Dealer Development Brian Smith explained that the HS 250h targets fuel efficiency and other eco-goals not just through the hybrid drive system, but also through glass, lighting, aerodynamics and many more engineering details, including an interior and trunk made of 30% "ecological" materials. Even the factory is especially "green," featuring natural materials, careful climate control, and air locks to ironically ensure that this "natural" environment is carefully isolated from the one outside.

A car as tech-based as this will surely

Welcome to Markham Street, downtown Little Rock.

The cabin of the Lexus HS 250h takes an evolutionary leap, combining some of the newer and less conventional positions and controls of a high-tech hybrid with familiar luxury and style. Not quite knob, not quite joystick, the console interface controller feels a bit like a loose tooth at first (resist the impulse to wiggle it with your tongue).

have a healthy share of electronics, and the HS 250h boasts fully three driver displays: the instrument panel, of course, plus MID interface and heads-up information. Controls displayed thereupon include dash, stalk, foot and steering-wheel inputs, for driving, entertainment, information and other purposes.

Safety features include a strong-but-light structure and 10 airbags, plus again a full complement of electronics, including lane and distance features that either comfortingly or disturbingly mean "the car is watching you," as Smith says.

With economy a longstanding byword in the hybrid market, it might seem natural that the luxury market would be slow in adopting the technology. However, Smith points out that 60% of entry-luxury buyers surveyed indicate they would have at least considered a hybrid model. Additionally, 54 percent of current hybrid buyers have a household income of \$100,000 or more, and 16 percent of cur-

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rent hybrid owners also have a luxury vehicle. Put it all together, and the luxury hybrid market niche becomes glaringly apparent. And signs of its growth abound.

Gut reactions to last year's soaring fuel prices aside, hybrid buyers are known as early adopters or forward thinkers, who not only like their vehicle to be a social statement, but want to be "closer to tomorrow, today." To reach this demographic, Lexus is expanding its presence on Facebook and other social media, with a "Power of H" campaign.

The Lexus entry-luxury sedan segment includes the ES, IS and now the HS. Lexus hopes to sell 100,000 HS sedans in the first year. They've sold 170,000 hybrids so far and intend to keep introducing a new luxury hybrid model each year.

Charles Hubbard, Senior Product Education Administrator for the University of Toyota with Lexus, reaffirms that the HS falls between the ES and IS models (with the GS and LS at the upper end).

Hubbard draws attention to the twin air intakes on the car's face—the upper for hybrid cooling and the lower for gasoline engine cooling. Such single-grille makes as Audi or the Chrysler 300C aside, most vehicles have intakes above and below the bumper area, but usually not with such purpose. This dedicated approach, as with all the details on the HS, provides focused function that adds to overall ener-

gy efficiency. While introducing the car's front-end design, Hubbard mentions that the daylight running lights (DRLs) can be turned on and off, and that in fact a great many details and features of this car can be customized and/or automated.

As Smith had already pointed out the three separate display systems of the car, Hubbard stated that the interior has a human-machine interface comprising three zones: the three displays, all in the upper/visual area, operations at hand level, including steering wheel switches, instrument panel controls and such, and of course the foot-operated pedals.

The driver can select among three drive modes: Power, Normal and Eco. Each switch position changes the rate of throttle opening for a given throttle-pedal angle. Normal mode has an essentially linear throttle action that gives naturally progressive power. In Eco mode, throttle actuation is reduced to emphasize fuel economy; it's worth noting that the Eco mode alters operation of such things as air conditioning, so this option may not always be ideal in an Arizona summer. Power mode can be selected for a more responsive feel. As with the Prius (see May/June issue), a new driver-selectable EV mode can allow the vehicle to be driven short distances using only the electric motors. On our drive from downtown Little Rock, on a combination of city streets, interstates, two-lane

highways and the local roads around Hot Springs, we were able to dabble in each, though it would take more long-term time to appreciate the relatively subtle user experiences.

Aerodynamics of the HS 250h body design were considered from the outset, though while a low-drag form and compact package were givens, the Lexus team sought a decent level of attractiveness and spaciousness. Their work yielded a 0.27 coefficient of drag (Cd). Interestingly, the new Prius has a Cd of 0.25, despite its more pronounced slippery-prioritized shape. (When the new Honda Insight and highly updated Prius were introduced recently, the similarity of their shapes was noted by many, but generally explained as the necessary outcome of maximized wind-tunnel time. Nonetheless, the Cd of the HS 250h has managed to come very close to the others, but with a more conventional shape. But fuel mileage is noticeably less than that of the Prius, for a handful of reasons; whether that was a reason to forego another 0.02 Cd or might have been a reason to try even harder for it, that's apparently a design, i.e. engineering/styling, tradeoff.)

Over the years, changes to body structural requirements for safety have made it difficult to keep A-pillars slender, affecting

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the driver's field of vision. But HS 250h designers were able to create a relatively slim A-pillar structure that improves visibility without degrading structural integrity. A somewhat taller profile and more forward A-pillar allow a higher seating position for both front and rear passengers, providing improved passenger vision and easier ingress/egress, while also creating a better location for the batteries. The battery components, including high-voltage battery pack, auxiliary battery and battery-connected devices, were carefully packaged to take advantage of this layout, resulting in a spacious cabin and surprisingly large trunk space, capacious enough for four golf bags.

Double-wishbone rear suspension balances performance and comfort. Its compact design uses low-mount coil springs that also help improve cargo space. As in the front suspension, rebound springs are used to aid both handling and ride, and all mountings and bushings are optimized for ride, handling and low noise.

An optional Pre-Collision System (PCS) with Dynamic Radar Cruise Control and Driver Monitor uses millimeter-wave radar to measure and maintain a pre-set distance from a vehicle ahead. A computer measuring speed, steering angle and yaw-rate inputs helps to determine whether a collision is highly possible. PCS alerts the driver with audible and visual warnings, preemptively retracts front seat belts and pre-initializes Brake Assist so that increased braking will be applied the instant the driver depresses the pedal.

Lexus has developed another new system for the HS 250h called Lane Keep Assist (LKA) that is designed to help drivers stay within their chosen lane. LKA combines lane-departure warning (LDW), which smoothly increases steering torque

a small amount, with the detection of lane markers by an on-board camera. LKA is intended for use basically on well-marked roads. Hubbard points out that these features are *not* an auto-pilot; PCS assists the driver who *does* apply the brakes, and LKA *does help* to steer you back into your lane, but only if you have your hands on the wheel.

The HS 250h with available navigation comes with a rear-view camera and adds an available Wide-view Front Monitor to see in the traditionally blind areas around the front of the vehicle. The front camera has a maximum 190-degree lateral and 83-degree vertical field of view, so the driver can see as close as about 23.5 inches in front of the car (up to 7 mph). We found it takes a bit to get oriented to the multiple views, though full-time use probably makes it more intuitive.

The list of available electronics and features for the HS is extensive. It's the first Lexus to offer the all-new telematics system: Lexus Enform™ with Safety Connect™, available by subscription. Safety Connect, the cornerstone of the services, available on both the non-navigation and nav-equipped HS 250h, offers four features: Automatic Collision Notification, Stolen Vehicle Location, Emergency Assistance Button (SOS), and enhanced Roadside Assistance, which adds GPS data to the already-included warranty-based Lexus roadside service.

Lexus Enform includes all the Safety Connect features and adds Destination Assist and eDestination. Destination Assist agents are available via on-board cellular to help drivers find a specific address, a business by name, or a type of business (e.g. gas station, movie theater, even Zagat-rated restaurants), then send the coordinates to the nav system. With

eDestination, drivers can go online at Lexus.com to save and sort destinations in up to 20 folders holding as many as 10 destinations each—all personalized by the driver. This information—up to 200 at a time—is sent by the owner to his or her vehicle, for download into the navigation system. Online, drivers can create personalized location names and list notes about their saved locations. This is reminiscent of some of the handiest iPhone apps, but integrated onboard and linked to your nav system and vehicle display

Launching with Lexus Enform is Lexus Insider, a free opt-in service available without subscription on the nav-equipped HS. This offers in-vehicle audio casts with useful vehicle tips and event information, and info on other owner benefits. Those who opt into this service can elect whether or not to receive notification of new messages at vehicle startup. One-year trial subscriptions of Enform and Safety Connect are included.

As with our Toyota Prius test drive up Mt. Lemmon a couple of months prior, our drive in the HS 250h was noteworthy for not being noteworthy, in the sense that—despite a technical tour de force underlying it all—for practical purposes, this is simply a nicely outfitted sedan that operates much like any car. We gave it a good spin, from Little Rock to Lake Hamilton (near Hot Springs, Arkansas, Bill Clinton's boyhood home), including city streets, Interstate highways, beautiful two-lane roads, downtown/tourist-town traffic, and some briefly winding roads around the lake. The fact that you're saving fuel and reducing your carbon footprint are just the icing on the cake.

The HS 250h should be at dealers by mid-August. Pricing had not been announced by press time. ■

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Lexus 3-fighter pops its top and broadens its base

The "entry luxury" IS continues to expand—
with standard, performance and now hardtop convertible versions

We drive the Lexus IS 350 C from Lake Hamilton, Arkansas, back to Little Rock



There are a great many people who see the Lexus IS as the maker's competitor to the hugely popular BMW 3 Series (inhabiting a market niche somewhat oxymoronically known as entry level luxury). And, as the 3 Series has expanded to include a variety of engine and performance levels, a convertible and a coupe, so has the Lexus IS lineup. The latest addition is this pair of convertibles.

The first US version of the IS debuted in 2000 as a 2001 model. Whereas the Lexus ES was already established as a "comfort luxury" offering, the IS was presented as a "performance luxury" model. A completely redesigned and reengineered IS appeared in 2005 as a 2006 model, with 2.5- and 3.0-liter engine options, as the IS 250 and IS 350, respectively, and with an all-wheel-drive option for the IS 250 (the others are rear-drivers). In 2007, Lexus launched the IS F sedan, a high-performance version basically akin to the BMW M cars or Audi S/RS cars. The IS F (see *Arizona Driver*, March/April 2008) debuted with a 416-hp 5.0-liter V8, a 0-to-60 time of 4.3 sec-

onds, and a base price north of the \$50,000 mark.

Nonetheless, Lexus still lacked a coupe and a convertible in this category, missing the mark for a third of BMW's 3 Series buyers. Lexus has opted to fill both niches with one car: the IS 250C and IS 350C are retractable hardtop convertibles. (BMW, meanwhile, has gone to a hardtop convertible, as well, but also has a dedicated 3 Series coupe.)

A key goal of the IS convertible development team was to ensure that the space, performance and even driving experiences were shared to some degree even by a passenger. The interior maintains luxury points associated with the IS sport sedans, while new comfort and entertainment features provide a consistent atmosphere with the top up or down. Special attention was given to providing an attractive interior design when the top-down car is seen from outside. Door and side trim flow from front to back. The four seats provide each passenger with his or her own space, and a rear console

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Vince Bodiford prepares his Lexus IS video segment for TheWeekendDrive.com at Lake Hamilton, Arkansas.



provides cup holders and storage. Rear headrests are retractable for improved visibility, with a control accessible from the rear console or from the driver's seat. Rear seat position can be shifted inboard for additional headroom. Enhanced safety features include side impact protection to mitigate the convertible structure.

Eight-way adjustable power front seats with power lumbar support are standard, and the available heated/ventilated functions extend heating range to the shoulders and increase airflow in ventilation mode (a feature that was very popular in our test fleet). The gauge cluster has higher contrast than the sedan and dial-color change for its multi-information LCD, plus decreased surface-glass transmittance, all enhancing visibility with the top down. Audio options include a Mark Levinson system that includes an effective equalizer for quality sound with an

open top. Climate control is also engineered to be effective with the top down, though of course a Phoenix summer will exceed the limits of such a system.

The interior has recycled materials in 13 areas including door and side trim. There are three interior color options, including two new one: in addition to black leather interior, a new alabaster (near-white) color is joined by an alabaster/blue combo. Our test vehicle had the latter, but we couldn't warm up to it.

The electric top mechanism is extremely quiet, and it's quite quick for a hardtop: where as soft tops are commonly in the 15-second range for raising or lowering, and hardtop convertibles often take 30 seconds or more to perform their mission, the complexities of the Lexus IS C top are accomplished and stowed in just 20 seconds. This is a big plus.

This is the world's fastest three-piece

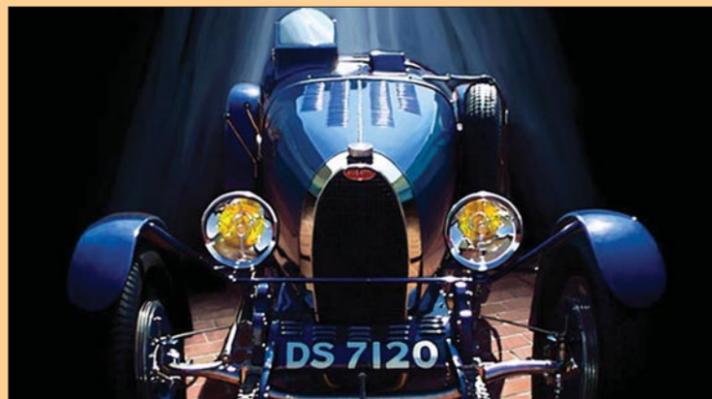
metal folding top, and it even includes, on cars with available Intuitive Park Assist (IPA), sonar sensors in the rear bumper to stop movement if luggage or other obstacles are about to interfere, plus a visual warning on the instrument panel to apprise the driver of this scenario.

The space required for these feats creates body styling in the rear that features a somewhat narrow roof and rear window and noticeably wide flanks above the rear quarter panels. For better or worse, this makes the car look exactly like what it is: a hardtop convertible. Body panels, in fact, are all completely different for the convertible from the IS sedan, with the exception of the hood. (The car features new suspension and wheels, as well.)

The marketers' key theme for the IS C is "open," as in open top, open road and a spacious, open interior. Ironically, we did much of our test drive with the top up, for the sake of checking out instrumentation, road noise, audio and a/c. We chose the 250C so we could enjoy the 6-speed manual transmission. The 350C comes only with a 6-speed automatic (which is also available on the 250C).

Despite the "open" approach to styling and design, market research has revealed a darker side to the convertible owner: when interviewed, owners and prospective buyers had some fairly wild ideas of what they could accomplish when in possession of a drop-top, what Lexus marketing identifies as a darker side. This has led to an advertising campaign featuring edgier lifestyle imagery, along with the slogan, "Live a little... a lot!"

The IS 250C and 350C will have a complement of F-Sport performance accessories available (which will also be offered for the AWD IS sedan). Asked whether there may be a full-blown-performance IS-F-C, Lexus reps grinned and simply said, "hopefully!"... depending upon response and demand. Prices were forecast to start at \$38,490 for the IS 250C and \$43,940 for the IS 350C, making the 250C the only hardtop convertible in this segment "under \$39,000." Lexus hopes to sell 12,000 convertibles a year in the US, anticipating about 75% of sales to be the IS 250C (the same ratio as on the sedan). The 250C has preliminary fuel mileage ratings of 20 mpg, 24 mpg combined. ■



RINSPEED OFFICIAL ART COLLECTION FOR VISIONARIES

Recognizing the intimate link between car design, automotive culture and graphic art, Rinspeed introduces its Official Fine Graphic Art Collection. At the forefront of innovation in car design and automotive vision, Rinspeed now offers car enthusiasts the possibility to decorate their living and working spaces with artworks that communicate the message and design of its iconic cars. The artworks can be purchased on the Rinspeed art web boutique: www.rinspeedart.com.

Rinspeed artworks are contemporary fine art giclée prints, reproduced on museum quality media. Rinspeed Graphic Art includes five collections based on Rinspeed's concept cars: iChange Art, sQuba Art, eXaxis Art, zaZen Art and Bedouin Art. The collection also features art subjects based on the E2 Fiat 500 concept developed by Rinspeed. The subjects interpret Rinspeed concept cars through a variety of artistic styles which highlight the message and concept of each car. The graphic artists who have created the first Rinspeed Official Graphic Art Collection are: Ottavio Di Chio, Chiara Gasparetto, Luca Imerito, Andrea Mariani, Filippo Ponzetti, Serena Zanello and Veronica Servente.

Graphic art and car enthusiasts can purchase a particular artwork online by choosing from three different reproduction media: canvas, art paper and Plexiglas. You can also choose the size in which to receive your artwork to perfectly fit your space. Each artwork is a bespoke creation, tailored to the individual order. Rinspeed artworks are realized in open, limited or unique editions. All artworks are accompanied by a watermarked certificate of authenticity—with a holographic seal on both the certificate and the artwork—guaranteeing their originality and collector value. All Rinspeed official artworks are printed and crafted in Switzerland.

On occasion of its 100th anniversary, the Rinspeed Graphic Art Collection dedicates five subjects, each of which limited to 20 units, as homage to the Futurist school, and in particular to points 4 and 5 of its manifesto: [4] We declare that the splendor of the world has been enriched by a new beauty: the beauty of speed. A racing automobile with its bonnet adorned with great tubes like serpents with explosive breath... and [5] We want to sing the man at the wheel, the ideal axis of which crosses the earth, itself hurled along its orbit.

For visionaries only. Future included.
Shown (some images have been cropped on this page):
 "Futurismo Orange" Rinspeed zaZen by Serena Zanello
 "Facets of Speed" Rinspeed zaZen by Luca Imerito
 Frank Rinderknecht with one of the "zaZegments" series by Filippo Ponzetti
 "Good Vibes XV" Rinspeed eXaxis by Chiara Gasparetto ■

LEGACY MOTORS AUTOMOTIVE ART

Legacy Motors Automotive Art Gallery was created to provide the automotive aficionado with a wide span of choices, including subject, size and price. A poster, even a large one, starts as low as \$35. Giclée prints on expensive paper reach the \$100-300 range. You can spend more at this online gallery, but they think that's not likely.

A wide range of style includes the representational and realistic, such as Ken Eberts with his Norman Rockwell classic image quality or the super realism of Roger Hector. Or in a different direction, you'll find the expressionist style of Gerald Freeman or Dave Wendel, while artist Kevin Beeson is known for highly charged and flamboyant images.

Prints start as small as 13 by 16 inches and range up to 38 by 27 inches. You surely can visualize these in your garage or den, but you may find you'd like them in the hall or stairway, or even the master bedroom.

Classics or muscle cars, hot rods or race cars, whatever your interest, whatever your space or budget, this gallery is worth a look. Visit the collection online at www.automotive-art.com or call toll-free: 1-877-534-2733.

Shown (some images have been cropped on this page):
 "Bugatti 35" by Roger Hector
 "Smokey Sunrise" by Rick Herron
 "Marilyn" by Nicola Wood
 "Crimson Tide" by Thierry Thompson ■



AUDI AND XBOX 360 JOIN FORCES FOR FORZA MOTORSPORT® 3

Xbox 360 and Audi have forged a partnership centering on the highly-anticipated debuts of the 2010 Audi R8 5.2 FSI quattro and Xbox 360's Forza Motorsport 3 later this year. Forza Motorsport has enjoyed considerable popularity among racing video games since its arrival in 2005. When Forza Motorsport 3 hits the market in late October, it intends to set a new standard for the modern racing game.

Featuring the Audi R8 5.2 FSI quattro prominently on the cover as its hero car, the creators of Forza Motorsport 3 have worked closely with Audi engineers to model the R8 V10 to an intricate degree. Important but often overlooked aspects of motorsport—details such as gear ratios, tire deformation, and track telemetry—are tightly integrated throughout the entire game, making it the most exhilarating experience you can have off the track.

The new game will also feature exceptionally realistic renderings of race courses that Audi has dominated in recent years, including home of the 12 Hours of Sebring and several others that will be revealed in the months leading up to the game's fall release. Best of all, Forza Motorsport 3 allows participants to experience the thrill of taking the checkered flag right from the starting line, with the help of driving assists, training modes and a forgiving game rewind feature, good for all ages and skill levels.

Anticipation for the 2010 Audi R8 5.2 FSI quattro has been running high in advance of its arrival in showrooms in the second half of 2009. At the February 2009 Boca Raton Concours d' Elegance charity auction, rights to own the first R8 V10 model in the US sold for a record \$500,000. The car takes the new top spot in the R8 lineup, developed jointly with quattro GmbH. Its ten-cylinder engine develops 525 hp. Audi technologies include quattro permanent all-wheel drive, a lightweight aluminum body and innovative all-LED lights.

The Xbox-Audi partnership extends beyond the development of the game itself to include a series of marketing and promotional activities leading up to and following the launch of the R8 V10 and the game. Among these activities:

A competition allowed one lucky and talented fan to design a skin for the R8 V10 that will become the exclusive custom downloadable car for everyone who pre-orders Forza Motorsport 3.

Xbox and Audi will work together on several additional upcoming cross-promotional opportunities and events, including the Audi Centennial Celebration in August and the Forza Motorsport 3 launch in late October. ■



"VOLVO-THE GAME" US DEBUT

Volvo-The Game, developed together with SimBin Studios, is available at volvocars.com/us. Just download the game, select your favorite Volvo and test your skills on one of two highly authentic tracks. Six cars are the stars, with lead roles played by the Volvo S60 Concept, the Volvo C30 (currently competing in the STCC), the previous Volvo S60 that also competed in the STCC, the Volvo S40 that notched up notable successes in the British Touring Car Championship (BTCC), the Volvo 850 (the estate car that became a legend in the BTCC), and finally a true racing classic from the past, a Volvo 240 Turbo Group A.

The two tracks are the Gothenburg Eco Drive Arena in Göteborg, Sweden and Chayka outside Kiev in the Ukraine. Volvo-The Game is the only virtual racing game in the world to feature the Ukrainian racing track.

A seven-year-old can have fun with the game, but in order to truly get the most out of the game's many advanced features, players really should be a few years older. The game offers three skill levels: "novice" with all driver assistance technology such as ABS activated, "semi-pro" and "pro" with no assistance whatsoever.

Volvo-The Game is best played with steering wheel and pedals connected to the computer. However, it is also possible to operate the keyboard or with a gamepad. You can compete against your own best times and have the track all to yourself, or compete against up to eleven computer-controlled competitors. ■



TATA MOTORS UNVEILS NEW WORLD STANDARD TRUCK RANGE

Tata Motors, becoming known around the world as the new owner of both Jaguar and Land Rover, as well as producer of the world's least expensive car, the \$2500 Nano, has ushered in another new era in the Indian automobile industry, by unveiling its new range of world standard trucks. The range comprises multi-axle trucks, tractor-trailers, tippers, mixers, and special application vehicles. Besides India, they will also gradually be introduced in South Korea, South Africa, the SAARC countries and the Middle East. ■

HIGHEST AND LOWEST COST TO INSURE

Insure.com performed extensive research to calculate average car insurance premiums for almost 300 vehicles in model year 2009. Topping the "most expensive" list is the Nissan GT-R, billed as a "multi performance supercar" that delivers fantasy driving. Its supercharged 3.8-liter twin-turbocharged 24-valve V6 with 485 horsepower helped drive it to the top. Compare that to the the Smart Fortwo, the smallest car available and one of the least expensive to insure, which has 71 horsepower. Owners of the GT-R buy it for power and speed, and their driving habits are reflected in frequent and expensive insurance claims. Young owners with less-than-spotless driving records could easily see their annual car insurance premiums zoom to several thousand dollars. Sports cars dominate the "most expensive" roster, along with theft favorites like the Cadillac Escalade (coming in at number 17).

THE 10 MOST EXPENSIVE TO INSURE

RANK	AVG PREMIUM	VEHICLE	CLASS
1	\$2,533	Nissan GT-R	Sports car
2	\$2,446	Dodge Viper	Sports car
3	\$2,236	BMW M6	Sports car
4	\$2,186	Ford Shelby GT500	Sports car
5	\$2,088	Mercedes-Benz G-Class	Large SUV
6	\$2,071	Audi S8	Passenger
7	\$2,020	BMW M5	Sports car
8	\$1,912	Hummer H2	Large SUV
9	\$1,881	Lexus ISF	Sports car
10	\$1,819	Porsche 911	Sports car

The "least expensive" list contains a selection of SUVs, minivans and passenger cars. Low insurance rates tend to reflect a vehicle's safety, as their drivers models have submitted fewer and less-expensive insurance claims.

THE 10 LEAST EXPENSIVE TO INSURE

RANK	AVG PREMIUM	VEHICLE	CLASS
1	\$832	Hyundai Santa Fe	SUV
2	\$840	Kia Sportage	SUV
3	\$848	Hyundai Entourage	Minivan
4	\$857	Kia Sedona	Minivan
5	\$870	Kia Rio5	Passenger
6	\$871	Honda Odyssey	Minivan
7	\$881	Smart fortwo	Passenger
8	\$911	Saturn Vue	SUV
9	\$913	Mazda Tribute	SUV
10	\$915	Chrysler Town & Country	Minivan

To compare car insurance rates, Insure.com used a driver profile of a 40-year-old single male who drives 12 miles to work, with policy limits of 100/300/50 (\$100,000 for injury liability for one person, \$300,000 for all injuries and \$50,000 for property damage in an accident) and a \$500 deductible on collision and comprehensive. Policies quoted include uninsured motorist coverage of 100/300. Rates were averaged across multiple ZIP codes and insurance companies. Average rates are for comparative purposes; drivers' own rates will depend on age, driving history, location, discounts and other personal factors.

When all vehicles were averaged together, the Chevy Tahoe ranked at the center, with an average car insurance premium of \$1,169. ■

The quiet middle sister is suddenly all grown up



With E350 and E550 Luxury and Sport models in both coupe and sedan form, Mercedes-Benz consolidates the CLK into the E-Class while also applying a near-5 technological tour de force,

The Mercedes-Benz E-Class, long the simple and functional middle model of the lineup, overshadowed in ways by the affordable C-Class and the high-ticket S-Class, has received massive updates in both style and content for 2010. More big news is the birth of the E-Class Coupe, which replaces the CLK.

This is the ninth generation of the E-Class. Its introduction was accompanied by superlatives from Geoff Day, Director of Communications for Mercedes-Benz USA: the new E-Class is a milestone, the most important launch of the year, everything they know has all put into this, and it is the most technologically advanced automobile on the planet. Far from faint praise. And by "this," they don't mean a car, but rather an expanding family of cars: already a sedan and a coupe, two quite different cars, including E350 versions of each with V6 powerplants, E550 versions with V8s, and the E350 BlueTEC (anticipated to achieve 33 mpg) yet to follow. There are also a wagon and a cabriolet on the horizon (not to mention AMG versions of some of the above).

Mercedes-Benz has had a mind-boggling alphabet soup of model lineups for some time, and they've embarked upon some simplification. Now, rather than the E-Class being a sedan line and the CLK a

separate coupe, the CLK is phased out, replaced by the E-Class Coupe. (The CL is also slated to be replaced by, or evolved into, an S-Class Coupe.) Mercedes emphasizes that while the name change is in the interest of simplification, the new coupe gets most of its parts from the E-Class, so it should no longer be a C, anyway.

The new E-Class endured 6 million miles of testing, the most stringent in the history of Mercedes-Benz, equal to 250 circumnavigations of the globe.

The E-Class comprises both Luxury and Sport subsets, to cater to a wide variety of customer tastes, a strategy Mercedes points out is taken by none of its competitors. They anticipate 80 percent of sales will be the Sport option in the US. (About 15 to 20 percent of E-Class sales worldwide are in the US.)

Suspension is based on the C-Class. The ride automatically transfers into a firmer mode as it encounters different road surfaces. The Sport models sit one inch lower than Luxury, while the 550 sedan and the E63 AMG sedan use AIR-MATIC suspension to adapt to conditions (while this technology is not considered necessary in the shorter and more agile coupes). And owners can select from two

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Our test routes over two days took us to the Nevada Test Site, the progressing US 93 Hoover Dam Bypass bridge and up into the snowcapped Nopah Mountains en route to Spring Mountain Motorsports Ranch. By the time we'd driven most of the cars and analyzed the parking lot at Spring Mountain, we could start to distinguish the many iterations of the new E-Class more readily.

suspension options: comfort and sport. Combine these options with the Sport and Luxury variable, and you can get whatever you want, with a little forethought and sometimes after the fact.

The coupes and the E63 AMG sedan have their shifter in its traditional location on the console. The E350 and E550 sedans, however, move the gear selector to the right side of the steering column, where a "Direct Select" lever electronically controls the seven-speed automatic—lift the stalk up for reverse, push down for drive, and depress a button at the end for park. Steering wheel controls allow for manual upshifts and downshifts. Four-way power seats also feature four-way lumbar support, which, along with massage—and the shifter locations—are all picked up from the top-dollar S-Class.

V8 models include a performance-styled squared-off three-spoke steering wheel with thumb grips, rounded out by the luxury touch of Nappa leather. The instrument panel's information display screen has been moved up higher, closer to eye level, to enhance safety.

The interior features ambient lighting (standard), definitely a significant current trend. Mercedes says this is not only attractive, but also provides a useful eye transition to the dark outside. In the face of landmark technical updates inside and out, we are also told the new E-Class has two new cupholders.

On the first evening, we were given a demo of the Pre-Safe Brake feature, on a coned and blockaded course set up in a large Las Vegas parking lot. The demonstration was given by the two German engineers who developed the system, a couple of young guys who no doubt cut their teeth on PlayStation and were very enthusiastic (and informative) showing it off. It's dramatic to experience, neck-snapping during the full-blown collision with a large foam wall. Each of the new safety and tech features could easily warrant its own full-blown brochure, but the basics are presented in the sidebar.

Bernhard Glaser, Mercedes General Manager of Marketing/Product Management, tells us there are three key reasons buyers choose the coupe over the sedan: styling, performance/handling and exclusivity. To achieve high style, all the sheet-metal details have been exaggerated and are all "sexier," according to Glaser. The E-Class Coupe and E-Class Sedan, in fact, share a grand total of zero body panels. There is no B-pillar in the E-Class Coupe, unlike competition in the segment. This is a feature that can be traced back to the 1968 Mercedes-Benz C 114, their first performance coupe.

The overall impact of the coupe's styling is that of a powerful "forward wedge." Up front, rather than an above-hood ornament, a center star is integrated into a two-lamella grille, looking more powerful and more streamlined, as opposed to delicate and luxurious. Daylight running lights are fabricated with seven LEDs. The front of the car suggests an overall V-shape, again accentuating its aggressive stance. (The V-shape is reflected on the interior, with cues applied to the instrument panel.)

The panoramic sunroof (standard) retracts, rather than just popping like the rest of the segment, and a mesh air dam controls turbulence. The E-Class coupe has standard split folding rear seats, optimizing the utility of the coupe format.

Utilization of high- and ultra-high-strength steel has knocked off 20 pounds of mass. Airflow has been engineered to keep dirt off the taillights (the stylists also considered what they call "night design," the ability to recognize the E-Class at night just by its taillights). Other details include chrome handles for folding the front seat (easier to see at night, along with chrome plates on the door sills), a seat belt "presenter" (so the belt is basically handed to you), and yet another suggestion of the V-shape on the mirrors.

At launch, the E-Class Coupe will be available as an E350 with V6, chrome lines, a paint-color-matched diffuser, oval tailpipes and 17" wheels, or an E550 with V8, a massive air intake, black diffuser and rectangular pipes.

Agility Control Suspension is upgraded to Dynamic Handling Suspension on the V8. The Sport model is programmed with a quicker throttle response, more aggressive shift pattern and firmer suspension.

How to choose among them all? The sedan/coupe alternative is a personal choice and therefore easy enough. Other comparisons of V6/V8 and Sport/Luxury are combinations of objective and subjective considerations. Cross-comparing every variable (e.g. whether to go with the Sport model or the Luxury model with suspension on the sport setting) is a challenge. Style will probably be one primary guide between Sport and Luxury, though the suspension and ride equality are quite different. Driving will be the tie-breaker on engines. Our test drive gave us plenty of variables. The larger engine was a killer (in the best sense) on flat straightaways, such as our drive out past the Nevada Test Site. But the E350 Sport Coupe with the smaller engine handled much more nimbly in the twisty mountain climbs en route to Spring Mountain Motorsports Ranch near Pahrump, Nevada (just east of Death Valley, California).

There will be an AMG sedan (in fact, we had a look at the prototype in Las Vegas, though it was not available to drive), but Mercedes says an AMG coupe is unlikely, given the volume difference and sportiness of the E550 coupe as is.

The E-Class began dealer deliveries in June, 4MATIC all-wheel-drive versions are set to arrive in September, followed by the E63 AMG sedan in November, then BlueTEC in March 2010 and a 4MATIC wagon in June 2010.

The 2010 E350 coupe has a base price of \$48,050 (plus \$875 destination), compared to \$48,100 for the 2009 CLK350 coupe it basically replaces. Mercedes calculates this is 8.2 percent increase in product value, given all the technologies and other improvements in the new vehicle. The E550 Coupe starts at \$54,650 (also an 8-10 percent improvement).

With such a powerful collection of technology, form and function in the E-Class, one obvious question is: where does this leave the S-Class? The E-Class delivers so much, with features the S-Class doesn't even include, at half the price. Mercedes tells us the next S-Class will have all these features, too, but the answer seems to boil down to prestige: the S-Class buyers know who they are. It seems the E-Class buyers will know who they are, as well, and they'll have every right to feel pretty proud of themselves for their selection. ■

SAFETY TECHNOLOGY

Safety has always been a priority for Mercedes-Benz. To say the E-Class is no exception would understate the case. Basically, every idea they currently have is incorporated into this vehicle. There are nine airbags including driver's knees and two pelvic bags, plus pre-tensioning seatbelts. Instrument layout, brakes and suspension are highly developed. But electronics and automation are where the real magic lies. (In a quick text search of the E-Class technical overview document, the word "automatic" came up 31 times.) Here are some of the systems:

ADAPTIVE HIGHBEAM ASSIST goes well beyond the traditional up/down feature of any and all vehicles, providing a low beam that extends from 200 feet to 1000 feet in range, intended to give a full 5 seconds' additional view of a pedestrian, deer or other challenge.

NIGHT VIEW ASSIST PLUS hails straight from the S-Class, using two active infrared beams and a camera, factored through a computer algorithm, to provide a crystal clear black and white image of nighttime obstacles that have never before been visible until it's too late.

DISTRONICS PLUS WITH PRE-SAFE BRAKE is the Mercedes implementation in which not only is distance controlled via adaptive cruise control, but in the event of an impending collision, action is taken by the vehicle. Some manufacturers have opted for an automated full stop, which can be a stiff promise with stiff results for the occupants. The Mercedes system works through several zones of impending disaster to warn and to respond, but ultimately only to the point of mitigating—not promising to avoid—a collision, reducing damage and the potential for injury. Mercedes engineering staff variously describes this as "following on an invisible rubber band" or having an "electronic crumple zone." The system does everything it can to prevent an accident, while mitigating impact should it occur.

LANE KEEPING ASSIST analyzes lines on well-marked freeways and highways. Whereas some makers have implemented systems that fight the driver for control of the wheel, attempting to bring the car back in line (even perhaps when this is not the best solution), Mercedes technology simply gives the driver rapid vibrations through the wheel, much like running over Botts dots on a California freeway. We found this to be extremely effective while not intrusive and not overruling the driver's own judgment. The system can even distinguish between solid and dotted lines, providing varying feedback levels.

Other safety technologies in the new E-Class include: Blind Spot Assist, Parktronic with Parking Guidance, Attention Assist, Neck-Pro Headrests, ES, ABS, BAS, EBD, brake priming, brake drying, HOLD braking and much more.

Does this seem like a lot of technology to understand and use? Mercedes engineers say that "after getting used to it, they aren't distracting at all. It takes an hour or two, like getting used to a new mirror." That may be optimistic, given the number of features we never fully master in a typical weeklong test drive, but it's a comforting thought.

FORD'S FUEL FIGHTER

The new Fusion Hybrid sets a record for distance on one tank of gasoline, achieving 81.5 mpg

Ford kicked off Earth Week this year with an introduction to its latest hybrid vehicles, particularly the launch of the 2010 Ford Fusion Hybrid, at Camelback Ford Lincoln Mercury in Phoenix.

Having just come off a comprehensive launch presentation and fuel challenge drive in the 2010 Toyota Prius (see May/June issue), and having coincidentally rented a gasoline-engine 2009 Fusion on a recent trip, we were interested to see how Ford would be combining the best of both.

In the face of many developments in the hybrid vehicle market, with gas prices suggesting a right-sized 4-door sedan with great fuel mileage, and while watching Ford skate past the restructuring minefield of its com-

petitors, the new Fusion Hybrid has been a highly anticipated vehicle. We had its goals and details presented to us by the top tier of its development team.

ROOTS

Dr. William Harris, from the Science Foundation of Arizona, points out that sustainability in Arizona is usually thought of as sunshine and water, but it's a lot more. Arizona needs to be working hard to build an economy for tomorrow, with such enterprises as Ford, Boeing and research, not just more houses.

Harris worked with Volvo in the '90s during his involvement with Columbia University and Arizona's Biosphere II project (now run by ASU). Harris traveled to Sweden with Volvo

back then, and whereas he was expecting to go straight to the offices and factories, he instead was taken first to a dead lake, then to a Volvo employee resort, where everything is recycled. "You have one planet," they told him. "You had better take care of it."

He did get introduced to the Volvo biofuels program and much else, but overall was stunned not so much by the company's technologies as by their culture. This was pre-Ford ownership of Volvo, but Harris cites it as an example that a Ford-Volvo-green mindset goes way back. It was in this same timeframe that Ford bought Volvo. At first, he was concerned that this would redirect Volvo, but as Bill Ford picked up the environmental banner, Harris realized Ford was "majorly commit-



Praveen Cherian, Project Manager for the Ford Fusion Hybrid, and Dr. William Harris, Science Foundation of Arizona. Randall Bohl Photography.

ted" to going green. Ford had carefully chosen a green tail to wag their own dog.

TRENDS

Praveen Cherian, Project Manager for the Ford Fusion Hybrid, has been project development leader since 2005. He was with Mustang prior, thus moving from a team concerned with how the exhaust will sound, to one that wants to know how it smells.

Four years ago, Bill Ford beat the government and the competition by declaring Ford would reduce CO₂ emissions in its products 30% by 2030. Some were concerned about the enormous cost of such a transformation, but this is when Alan Mulally took the reins at Ford, who was instrumental in implementing Bill Ford's goals, as he had the foresight to take all of Ford's assets, from bricks and steel down to brands and logos, and secure lines of credit against them. This seemed shocking and risky to some, but turns out to be exactly what kept Ford out of the government bailouts and oversight that GM and Chrysler have endured for the bulk of this year and able to forge ahead with its own best ideas.

The Ford Fusion has been a solid offering since 2005, along with its Mercury Milan and Lincoln MKZ (né Zephyr) brethren. Updated for the 2010 model year (and released this year), the Fusion was already a solid option.

There have been demographic and market shifts that work in concert with their goals. Pushed to smaller cars by fuel costs, people realize they like a Ford Focus, when done up with Sync™, leather and other high-end fixings. Ford is quite proud of what they've achieved so far, with the focus getting 35 mpg to the Toyota Corolla's 30. They recognize that many buyers want to accommodate more people or larger loads, and this has traditionally meant "a big V-8." But Ford aims to make the twain meet using new technology that delivers both fuel efficiency and performance. Apply those to the midsize range, and the market seems right for the Fusion Hybrid.

Ford aims to introduce the EcoBoost engine as an option on every model. They will simultaneously keep developing hybrids, plug-in hybrids and full battery-electrics. They also will always seek weight reduction on all vehicles, reminding us that a trimming of 500 pounds can equal a gain of 10 mpg (a broad claim that warrants further study).

FORD FUSION HYBRID

How did Ford achieve 41 mpg on the new Fusion Hybrid? The recipe goes beyond the

KEEP RIGHT >>

VITAL SPECIFICATIONS

PRODUCTION LOCATION: Hermosillo, Mexico

POWERTRAIN: Gasoline engine: Duratec 2.5-liter DOHC 16-valve Atkinson cycle; 156 hp @ 6,000 rpm, 135 ft.-lb. of torque at 2,250 rpm; Electric motor: Permanent magnet AC synchronous motor, 106 hp @ 6,500 rpm, 275 volts maximum, Electronically Controlled Continuously Variable Transmission, 191 net horsepower

FUEL ECONOMY: 41 mpg city/36 hwy

MSRP: Starting at \$27,270

HYBRID PROPULSION

NEXT-GENERATION HYBRID SYSTEM:

- New 2.5-liter four-cylinder engine (155 hp/136 ft.-lb. of torque) running the proven Atkinson cycle, mated to an electronically controlled continuously variable transmission (e-CVT).
- Intake Variable Cam Timing (iVCT) allows the vehicle to more seamlessly transition from gas to electric mode and vice-versa. The spark and cam timing are varied according to the engine load to optimize efficiency and emissions.
- Enhanced electronic throttle control reduces airflow on shutdowns, reducing fueling needs on restarts.
- Wide-band lambda sensor analyzes the air-fuel ratio and adjusts the lean/rich mixture accordingly to keep the system in balance and to minimize emissions.
- An added variable voltage converter boosts the voltage to the traction battery to operate the motor and generator more efficiently.
- A new smaller, lighter nickel-metal hydride battery has been optimized to produce 20 percent more power. Improved chemistry allows the battery to be run at a higher temperature and it is cooled using cabin air.
- A new high-efficiency converter provides 14 percent increased output to accommodate a wider array of vehicle features.
- Smarter climate control system monitors cabin temperature and only runs the gas engine as needed to heat the cabin; it also includes an electric air conditioning compressor to further minimize engine use.
- The regenerative brake system captures the energy normally lost through friction in braking and stores it. Nearly 94 percent energy recovery is achieved by first delivering full regenerative braking followed by friction brakes during city driving.
- A simulator brake actuation system dictates brake actuation and delivers improved brake pedal feel compared to the previous generation braking system.

1445 MILES/TANK 81.5 MPG

FORD FUSION HYBRID 1000-MILE CHALLENGE Drivers trained in mileage-maximizing techniques achieve 1,445 miles on a single tank of gas in a 2010 Ford Fusion Hybrid on a drive from Mount Vernon VA to Washington DC—averaging 81.5 mpg in DC—setting a world record for a gasoline-powered, midsize sedan and demonstrating that fuel-efficient driving techniques can nearly double a vehicle's EPA-rated fuel economy.





powertrain (see sidebar), to such details as dual climate-control systems. Climate control uses more fuel and more battery power, so the Fusion Hybrid has an occupant sensor, which know when a passenger has left the vehicle, and then mitigates any energy-sapping settings they may have left behind. They saved .25 mpg by reengineering the wheels. Even careful engineering of the fog lamp openings provided a .425 mpg savings. There is no dedicated battery cooler, as on the Escape Hybrid (a 50-pounder). The Fusion Hybrid's newer technologies run cooler, plus the battery draws cabin air back to cool itself.

To see how well you are performing behind the wheel (and they think you can get up to 50-60 mpg with a little care), Ford's Smart-Gauge with EcoGuide has configurable information screens, which along with specific tech information also has a compelling innovation: the display includes a collection of green leaves, which fall off if you are achieving poorer fuel economy. (It does always have at least one lonely leaf, just "for being smart enough to buy a hybrid.") The goal of this interface, as with the Toyota Prius, is to reward the driver's efficiency and help to change driving habits. Carrots and sticks.

THE MARKETPLACE AND THE FUTURE

So is this what the marketplace wants? Apparently so. Even for the proudly obtuse F-Series market (no worries; we own one), fuel economy has moved from number 11 to number three in customer importance.

Ford engine plants are doubling capacity for inline-4 engines. Ford sees hybrids as not a whole new vehicle (e.g. Honda Insight and Toyota Prius), but rather as a powertrain option (as on the Ford Escape, the Lexus line-up or GM's Malibu, Tahoe and others).

They are already confident about mainstream reliability. The Escape Hybrid is in heavy use as a taxi in both New York City and San Francisco, where an individual vehicle easily racks up 300,000 miles a year. The powertrain and technologies have proven very durable, as they also have for Honda and Toyota after quite a few years on the road.

At the same time, Ford is developing a plug-in hybrid version of the new Transit Connect delivery truck for 2010 (a good implementation, given its typical usage cycle). They are working on an unspecified C-size battery-electric vehicle for 2011 and an all-plug-in-electric for 2012. They also state that they can adapt the vehicles and launch cycles depending on energy and market trends.

Plug-in hybrid and battery-electric plug-in vehicles involve very different types of battery development. Ford is performing strategic collaboration with infrastructure partners, developing broadly applicable interfaces not only for those who may not have a garage

with their house, but also for retail locations, apartment renters and many more. They are also working with power utilities to develop smart meters connected to the grid that can be used as conveniently as (and more willingly than) a parking meter. And they are working with SAE and others on a universal plug.

Ford has diesel products in Europe, and some would like those in the US. But these vehicles and their fuels are subsidized in Europe, so the perceived advantage is not as strong here (and sometimes, as last year, diesel fuel is more expensive than gasoline, further eroding the comparison). Ford states that they do have some diesel products, but that the hardware is more expensive, and while there is "some interest," they do not see that the market is there at this time.

Ford's long-range goals are intended to get higher volume sales through flexible, advanced development and high-volume manufacturing. They do not include food-based sources (i.e. ethanol) among their solutions. And they seek to do all they can with domestic sourcing of raw resources. They do not foresee a loss of driving freedom. They simply want to help us go farther but use less.

EASY TO DRIVE, EASY TO BUY

Whereas we'd taken the new Toyota Prius on a 40-mile course around metro Tucson, including freeways, hills and city grid, our Fusion Hybrid test was confined to one multi-block square starting on Camelback. The car was very conventional to operate, no real adjustment to the alternate power—but our ability to learn from the display's feedback and optimize our leaf-count was limited. It was not hard to reduce our display to one leaf, and we had no time to bring it back.

We cleared out of our seat, asked a few questions, said our thanks and bid our good-byes. Mr. Cherian was now off to LA, where next to grace the seat would be Jay Leno.

The Fusion Hybrid is built at Ford's Hermosillo plant in our neighboring Mexican state of Sonora, so they have faced hot-climate issues. You can remote-start the car, set the cabin at 70° and pre-cool with no engine. (Note that while 8% of the vehicle's development funds went to the Hermosillo plant, most research and development and economic impact has been in the US.)

The gasoline-engine 2010 Ford Fusion with its new 2.5-liter I-4 engine has a base price of \$19,995 (prices include delivery and destination) and offers best-in-class fuel economy of 34 mpg highway. The Fusion Hybrid starts at \$27,995 and offers best-in-class 41 mpg city, 36 highway. The 2010 Mercury Milan starts at \$21,905 and the Milan Hybrid at \$31,300.

But wait, there's one more thing: Fusion and Milan Hybrid models qualify for the highest available federal tax credit of \$3,400. ■



Piloti Spyder SV
Black/Ecosse Blue/Race Yellow

What's the difference between a driving shoe and a regular shoe?

EVERYTHING!

Driving a car is a specialized activity, just like golfing, hiking, jogging or closing a deal in the boardroom. To perform at your best, you need the right shoes—Piloti driving shoes from AutoSport. Sleek tread patterns give you the feel you need for smooth heel-and-toe downshifts. Tidy sole sides won't snag on

the pedals. And Piloti's patented Roll Control™ heel not only helps with precise pedal application, it also centers and stabilizes your heels while walking.

Whether you're a daily driver or a weekend racer, nothing beats the comfort, control and style of Piloti driving shoes from AutoSport.



Piloti Spyder SV



Piloti Stradale

Piloti Prototipo

AutoSport
Automotive Outfitters

View our entire collection online at www.autosportcatalog.com or call us at 1-800-726-1199





MITSUBISHI BRINGS I-MIEV TO MARKET

On World Environment Day, June 5, Mitsubishi Motors unveiled the production version of their i-MiEV (Mitsubishi innovative Electric Vehicle) electric vehicle (EV), describing it as "the pioneer that will open the door to the next 100 years." We drove the prototype in Detroit in January. It was small, silent, roomy and quite compelling. It's unfortunate its name is none too catchy.

The i-MiEV is based on Mitsubishi's "i" minicar, with a large capacity lithium-ion drive battery under the floor and the power unit under the luggage compartment.

The i-MiEV is a zero-emissions vehicle (ZEV) which produces no CO₂ emissions while being driven. Even counting CO₂ emitted by power plants, it generates about one-third the CO₂ of the gasoline "i" minicar.

The i-MiEV has a single-charge range of 160 km (about 100 miles) in the Japanese 10-15 mode urban driving pattern, a range ample for everyday minicar use.

Mitsubishi starts selling the i-MiEV in Japan this July, but the US will have to wait.



GM OPENS LARGEST BATTERY LAB IN US

General Motors has opened the largest and most technologically advanced battery lab in the US, at its Technical Center campus in Warren, Michigan. The new Global Battery Systems Lab will lead GM's global resources and expedite the introduction of electrically driven vehicles, including the Chevrolet Volt, as well as plug-in hybrid, hybrid-electric and fuel cell vehicles. Operations began in January, nine months ahead of schedule. The lab is equipped with 160 test channels and 42 thermal chambers duplicating extreme real-world driving patterns, hot and cold climates and calendar life. The lab was built within GM's Alternative Energy Center facility, with environmentally friendly features such as high-efficiency LED lighting and a floor made from recycled tires. Maximum power capacity is 6 MW, enough electricity to power approximately 1,400 homes. Approximately 90 percent of the electricity used for battery testing can be returned to the local energy grid for use by homeowners and businesses.



NEW GOLF PLUS BIFUEL IN EUROPE

The new Golf Plus BiFuel (Europe) can run on both gasoline and LPG, with LPG offering a reduction of more than 10% in CO₂ emissions. LPG mode can also achieve fuel savings of €6.10 per 100 kilometers (about \$36 per 100 miles), due in part to reduced German fuel tax until 2018. All in all, a solid argument, at least in Europe.

With its bi-fuel drive system—which can run on gasoline at the flick of a switch—the new Golf Plus BiFuel lowers consumption and emissions: the 1.6-liter, four-cylinder 96.6-hp engine needs about 9.8 liters of LPG per 100 kilometers (generating 159 g/km CO₂). When burning gasoline, it's even more economical (7.5 liters of premium, 179 g/km CO₂) over that distance.

The 55-liter (14.5-gallon) gasoline tank, along with a 43-liter (11.4-gallon) LPG tank (built into the spare wheel well to save space), provide a range of over 1,100 kilometers (683 miles). The LPG tank alone has a range of about 440 kilometers (273 miles). (LPG filling station coverage is comprehensive in Europe: in Germany alone there are more than 4,700 stations. In metro Phoenix, there are just a few at this time.)

The factory build has considerable advantages over an LPG conversion: the vehicle has been subjected to extensive endurance testing and undergone crash testing with the LPG tank, and customers receive a full warranty for the entire vehicle, LPG components included.

The new Golf Plus BiFuel is available in Europe with an entry-level price of €22,460 (\$31,290).

JAGUAR AND LAND ROVER GOING GREEN

With loans in place from European regulators, Jaguar and Land Rover are going green with some future products. Hybrids, lightweight aluminum bodies, stop/start technology and clean diesels are being developed. An electric-drive power pack is even being considered for the next XJ sedan using technology similar to the Chevrolet Volt. Expect prototype testing by 2011 and a few more years to production. The technology is being developed with Lotus Engineering and Capao works. The target performance for the XJ is a top speed of 112 mph, 57 mpg fuel economy, ultralow emissions and an electric range of 30 miles.

CALCULATE YOUR CARBON FOOTPRINT

With all the talk about carbon footprints lately, perhaps you are curious to see the size of your footprint. The Carbon Calculator powered by Eco Hatchery, an easy way to measure the environmental impact of your car, household or entire community, is now available online at www.ecohatchery.com/calculator. It is also available to be added to your website for others to use. ■



PRIUS KIT: 70 MPH ALL-ELECTRIC DRIVING

Plug In Conversions Corp. (PICC) has completed a software upgrade to its plug-in conversion kit that for the first time will allow all-electric mode driving at speeds of up to 70 miles per hour in a converted Prius. Previous Prius conversion kits have been limited by Toyota programming to a top speed of 34 mph in all-electric mode.

The software upgrade also allows PICC-converted cars to operate in an enhanced hybrid mode at various speeds, with the vehicle heavily favoring the electric motor versus the gasoline engine, boosting highway fuel efficiency to as high as 170 miles per gallon.

PICC's conversion kit adds about 220 pounds, but rear springs are upgraded to maintain rear height specs.

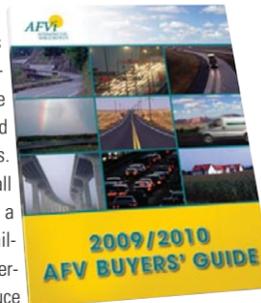
PICC's conversion kit, which replaces Toyota's 1.3-kilowatt hour NiMH battery pack with a 6.1-kWh pack, retails for \$12,500. Conversions can be completed in about one day and the kit is covered by a three-year warranty. As for performance, a Prius equipped with the upgraded PICC conversion kit "acts exactly like a normal Prius," PICC says. "You can't tell the difference."

AFV INSTITUTE 2009/2010 BUYERS' GUIDE

Alternative Fuel Vehicle Institute (AFVi) has published their 2009/2010 AFV Buyers' Guide—an easy-to-use decision-making tool for fleet managers who need information on alternative fuel and advanced technology vehicles. The Guide includes all vehicle classes and a complete list of available options that operate efficiently, reduce greenhouse gas emissions, improve air quality and increase energy security.

The Guide is divided by vehicle class, from Class 1 through Class 8. Other sections include Small Volume Manufacturers, Engine Manufacturers, OEM Contact Information, Industry Listings, a Cross Reference Directory and Industry Acronyms. The Guide includes basic specifications for all the known and commercially-available AFVs, engines and advanced transportation technologies.

The Buyers' Guide is priced at \$249. However, for a limited time, AFVi is offering it at an introductory price of \$199, plus \$5.95 shipping and handling. A volume-discounted price of \$149 per copy is available and shipping is FREE for orders of ten copies or more. The Guide is available for purchase exclusively through AFVi at www.afvi.org.



FIREBIRD INTERNATIONAL RACEWAY 2009 SPECTATOR EVENTS



NAPA Auto Parts Monster Truck Nationals April 25 & 26



NHRA Arizona Nationals February 20-22

NAPA Auto Parts National Time Trials January 24 & 25

Pacific Street Car Association (PSCA) February 6-8

NHRA Arizona Nationals February 20-22

NHRA Division 7 Season Opener Feb 26-28, March 1

Whiplash MotoX March 14

Bug-O-Rama March 29



NHRA Division 7 Season Opener Feb 26-28, March 1



IHBA NAPA Auto Parts World Finals Nov 19-22

IHBA Lakefest April 24-26

NAPA Auto Parts Monster Truck Nationals April 25 & 26

NHRA Division 7 ET Finals October 1-4

Whiplash MotoX October 3

Whiplash October 30 - November 1

IHBA NAPA Auto Parts World Finals November 19-22

Hot Import Nights December 12



Pacific Street Car Association (PSCA) Feb 6-8

DATES ARE TENTATIVE AND SUBJECT TO CHANGE



FOUR ROLLS-ROYCE PHANTOMS. TRY TO PICK JUST ONE.



The good news is: if you're shopping for a Rolls-Royce, you have options. Forget the "do I need a Rolls" question, and move right into "which one is for me?" Since Rolls-Royce is, of course, a considerably low-volume super luxury automaker, it takes awhile to build up a model line, and great care has been taken with each step toward this Rolls-Royce Phantom foursome.

An aluminum space frame chassis had been chosen for the original current-generation Rolls-Royce Phantom specifically because it lends itself to structural adaptation with relative ease. The ability to create Bespoke (custom-built) models to meet the individual needs and desires of Rolls-Royce customers—no matter how challenging or eccentric—has been central to the marque throughout its 100-year history, and this facilitates the process.

The current lineup comprises four models, from the Phantom four-door sedan, to the Phantom Extended Wheelbase, then the Phantom Drophead Coupé

convertible, and finally the newest, the Drophead-derived Phantom Coupé. Each of the four has its niche neatly defined, as well as its features.

All four were brought to metro Phoenix recently for us to take the wheel during a Drive of Distinction dealership-hosted event. This was the very first driving opportunity in North America for both the updated Phantom and the Phantom Extended Wheelbase. Choosing among the four amounts to a clear vision of your ownership mission, but if you spring for any, we're willing to guess right up front that you won't be disappointed with your purchase.

The Rolls-Royce Phantom, first introduced in 2003 under the company's then-new BMW Group ownership, is the basis for all four of the vehicles here. The other

three therefore may seem to be the newsmakers; however, the Phantom itself has been updated considerably, in line with the evolutions that have taken place in the rest of the lineup.



PHANTOM

One thousand two hundred and twelve Phantom series cars were retailed around the world in 2008, marking five years of continued growth under BMW control and the highest Rolls-Royce sales figures for 18 years. Building on that successful sales year, a number of subtle model refinements have been phased into the Phantom. Harmonizing appearance

with the Phantom Drophead Coupé (which debuted in Detroit in January 2007) and Phantom Coupé (which bowed at Geneva in spring 2008), a new stream-

lined front bumper has been integrated with a shallower grille, finished in stainless steel. Other new exterior features include LED door handle illumination and standard 21-inch cast aluminum wheels. Two other wheel options are made of forged alloy in painted or part-polished finishes.

Rear passengers benefit from a new RCA auxiliary audio and visual input with connectivity to 12-inch monitors mounted within another classic Rolls feature: their picnic tables. Further details include new front and rear door cappings with integrated grab handles and new bi-directional double reading lights in the C-pillar. Rear climate control, volume control and window switches are repositioned into a wood veneer panel in the door.

Although this may not sound like a lot of changes six years after the Phantom's introduction (though there have been others throughout the intervening years), it's not difficult to imagine lab-coated engineers carefully scrutinizing the process behind each and every detail.

When you think of Rolls-Royce, the basic Phantom is the iconic image most likely to spring to mind: a solid and sizable four-door sedan of classic stance.

At over 19 feet in length and almost three tons in weight, this is a ponderous beast, as expected, and pulling out of a roomy parking spot behind the dealership could only hint at normal parking lot experiences. On the road, though, it is well balanced and feels quite manageable. 435 horsepower from its 6.75-liter V-12 makes the weight transparent. Other drivers seem to give it some berth, either out of subconscious respect, or more probably because they certainly don't want to hit it.

Production began at Goodwood this spring, and our vehicle arrived here among the very first. The Rolls-Royce Phantom for 2010 is the price leader of the group, at \$380,000.

PHANTOM EXTENDED WHEELBASE

The Rolls-Royce Phantom Extended Wheelbase was introduced at the Geneva show in 2005 and first brought into standard production in Europe, in 2006. Not that the Phantom couldn't be, but this is



KEEP RIGHT >>



clearly the chauffeured version. Fit for a queen, or for Keith Richards, this one is so spacious in the back, and accordingly appointed, it would be utterly pointless to be the one behind the wheel. We had intended to drive it, along with the others, but once we settled in, we realized that for any potential buyer, the back is where it's at. This is a most uncommon conclusion in our driver-oriented publication, but we must say: life in the back of the Phantom Extended Wheelbase could be very nice, indeed.

Ian Robertson, Chairman and Chief Executive of Rolls-Royce, says an extended wheelbase version "was originally a Bespoke solution in response to demand from customers, principally in Japan and the Middle East. However, it was soon attracting interest from buyers in Europe and the UK. The increased interior space offers even wider scope for individualization." And now these wide open spaces are available in the USA. The production launch of the longer Phantom also fol-

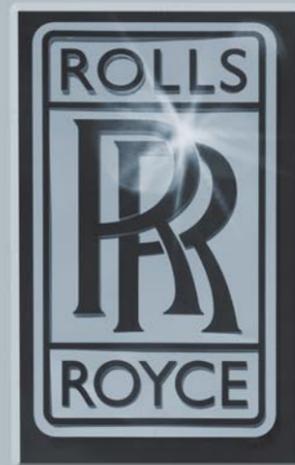
lowed a record year (2005) that saw the sale of 800 Phantoms, a 15-year high. Success begets success.

To create a Phantom Extended Wheelbase, an extra 250mm (just under 10") is added to the standard Phantom, all behind the B-pillar, where the owner or other royalty will be spending their time. The extra length is achieved simply by using longer extrusions in the construction of the body without any loss in torsional rigidity. Aluminum roof and rear door panels are the only new major exterior parts required. Dynamic driving characteristics and general performance of the Phantom are essentially maintained. The extra space not only lets the occupants spread their own wings, but it provides them with a sizable canvas on which to

apply their own interior design or naval architecture impulses in ways limited only by their imaginations.

We will learn that the leaner shorter Phantom Coupé is billed as the most driver-oriented of the lineup. This is of course the least. But a contended passenger will not particularly care. Nor will the driver.

The Phantom Extended Wheelbase is the most expensive of the four (though not by much), at \$450,000.



PHANTOM DROPHEAD COUPÉ

The Phantom Drophead Coupé is the lineup's convertible by any other name. In 2004, Rolls-Royce unveiled the striking 100EX, an experimental drophead built to celebrate 100 years of Rolls-Royce. During two world tours, the 100EX

garnered positive comments from customers and media alike and came to represent the future direction of the brand.

By fall 2005, Rolls-Royce announced a production version would be available by 2007. Launched at the Detroit show in 2006, the Phantom Drophead Coupé was the second new model from Rolls-Royce since BMW Group took control in 1998. The two-door, four-seat convertible is a less formal interpretation of classic Rolls-Royce design. It uses the same lightweight rigidity of an all-aluminum space-frame in a shorter (18.4-foot), streamlined two-door convertible body. It's not as sporty as, say, the Bentley Continental GT, but from the Phantom four-door, it's at least halfway there. Carrying the reinforcements necessary in a convertible, it actually weighs more than the larger Phantom: 5776 pounds versus the Phantom's 5478. But with the top down and all that horsepower at your feet, it feels even better than the Phantom on the road. "Balance" is again the word.

The Rolls-Royce Phantom Drophead Coupé is just a hair more affordable than the Phantom Extended Wheelbase, coming in at \$443,000.

PHANTOM COUPÉ

The Rolls-Royce Phantom Coupé also began as a concept, the 101EX, in 2006 also at Geneva. The Phantom Drophead Coupé had been a successful departure from the staid sedan, the company realized buyers might appreciate the same personal performance orientation in a two-door hardtop. Nonetheless, the car was presented as an "experiment" at Geneva, with no production plans.

The show car was a hit, and by late

2007, Rolls-Royce had announced production release by summer of 2008. The production model was revealed at the Geneva show in March 2008.

The Phantom Coupé is the third new model from Rolls-Royce under BMW Group, conceived to round out the Phantom family with its most driver-oriented model. And driver-oriented it is, though it only manages to shave the Drophead's weight by 66 pounds, to 5710. It shaves the price quite a bit, though, to \$408,000.

If we were actually shopping for one of the Phantoms ourselves, we'd go for one of the Coupés, since we don't often drive around with four adults, though four doors can be handy for anybody with a few packages to stash while running errands. Given the same weight, and clearly assuming price is no particular factor, we'd probably go for the Drophead, with its extra styling touches and of course its open-air capability. But it depends upon daily use, just as with less-rarified cars. The hardtop Coupé exudes the cocoon-like feeling of personal luxury that's really at the heart of the marque. Of course, we'd also appreciate having the Extended Wheelbase at hand for those chauffeur-driven trips to the airport.

Our drives were not extensive, all within simple cruising range of the north Scottsdale dealership, so we had a mix of exurban grid and a minor amount of freeway, but no curves and no climbs. We did, however, find our biggest surprise in a close cousin of a curve: we reached a good turnaround point in the Drophead, and timed things so we could cross the street to the left, catch a bit of a parking area and presumably begin the multi-

point operation of reorienting this craft in the other direction. Much to our surprise, we were through our turn and headed back the other way with room to spare in the first pass—this car has one of the more impressive turning circles we've seen, and we are big fans of tight turning circles. Is this possible? Neither the Rolls-Royce rep nor we quite believed what we'd seen, held and felt, so we decided to take another loop. Sure enough, as we entered the parking pulloff from about a perpendicular approach, it was clear we had our nose headed out into the desert. We eased the wheel to the left, to see how far we could go before running out of paved real estate, and once again, the nose came around, the wheels never touched dirt, and we'd executed our maneuver. This, we had to look up. The four-door Phantom sedan turns in 45.3 feet (compared with, say, about 39 feet for a Ford Crown Vic or Cadillac Escalade, versus 34.4 feet for the diminutive Honda Fit). The Phantom Extended Wheelbase required 47.9 feet for a turn (this is why you have a staff to bring 'er around). But the shorter Phantom Coupé and Phantom Drophead Coupé come in with a 43-foot turning circle. That's a bit better than the four-door Phantom (upon which we hadn't run the turn test), but the numbers don't explain the surprising ease of handling. For the third time, we come back to the concept of balance. When a team this dedicated and talented applies itself to such specialized volume and has time to fully develop their machines, not only do the details matter, but the overall execution really is at an unmatched level.

Now you just have to decide which one is best for your needs. And start saving. ■

SIZE MATTERS



by Joe Sage

When the Scion brand was first introduced at auto shows in 2002 and 2003, and released for the 2004 model year, it sought to bring a new market niche to Toyota, offering a product lineup that was less expensive, simply configured, more youth-oriented, a bit quirkier and a bit edgier. The vehicles were also notably small and low on power. Scion was intended to stretch the Toyota brand in basically exactly the opposite direction from what Lexus had, previously. The first two vehicles were the xA and the xB, carlike and boxlike little econovehicles, respectively. The boxlike xB was in some ways the more innovative of the two, at least for the US market—small urban boxmobiles having been popular for some time in Japan. It drew comparisons to the contemporaneous Honda Element, both being boxy and new, but the Scion xB was basically a quite different vehicle—considerably smaller, lighter, less powerful and with no offroad utility—a repackaging of the Japan-market bB city car. Very short on horsepower and not a lot better at braking, it was basically a counter-statement on wheels.

Three key things have happened since then: [a] smaller and smaller vehicles are grabbing more and more attention, [b] other vehicles have entered the boxy little niche and [c] the xB has evolved into a completely new generation.

The Scion xB was completely redone on a new platform for the 2008 model year, offering a noticeably larger vehicle, much curvier, with larger wheels, more power, better brakes, more amenities—all in all, a more

mainstream vehicle. (The xA was comprehensively redesigned, also, but—inconsistent with the xB—Toyota chose to give it a new name: the xD. But the xB name [for “box”?] is now in play for two quite different vehicles.)

The replacement is different enough that we find ourselves starting to think of the xB in exactly that mainstream way when inventing the various boxmobiles.

Kia has been a roll for the last few years and has continued to expand its product lineup (and its concept show-vehicle offerings). The Kia Soul concept appeared at the 2006 North American International Auto Show in Detroit, the production version was unveiled at the 2008 Paris Motor Show—and it then quite quickly comes to market this summer, largely unchanged from the concept vehicle.

Another is the Nissan Cube, aptly named and directly derived from its cousins indigenous to the streets and nightlife of Tokyo since 1998, with updates in 2002 and 2008, which is the model now available here.

If they had all arrived at one point in time, including both versions of the Scion xB, we'd be comparing the new xB with the Kia Soul, the original xB with the Nissan Cube, and the Honda Element still really as a third option with different characteristics (see sidebar).

With elongated wraparound headlamps and pronounced fenders, the new xB is more aggressive than the original. The xB's iconic boxy shape is basically retained, but with softer angles and a high beltline. A 2.4-liter dual-overhead-cam 4-cylinder engine—the same as the tC coupe's—with Variable Valve Timing with intelligence (VVT-i) produces 158 hp, a

whopping 55 hp (or 53%) more than the original. Choose a five-speed manual or four-speed automatic transmission with sequential shifting. EPA estimated fuel economy ratings are 22 city/28 highway for both transmissions, and the vehicle is rated California Level II Ultra Low Emission Vehicle (ULEV-II).

The xB has MacPherson strut front and rear torsion beam suspension and 16-inch steel wheels, with a choice of three standard wheel covers (shared with the xD). The xB features 10.83-inch ventilated discs in the front and 10.98-inch disc brakes in the rear, so stopping power is as dramatically enhanced as go-power. The xB is available only in front-wheel drive (add awd, and the range of possibilities would be ideal).

The interior offers 21.7 cubic feet behind the rear seats. 60/40-split fold-flat rear seats, a flat cargo floor and fully-reclining front seats add additional volume. The xB includes a driver's convenience tray, a glove box, a console box, front door storage and a fixed tray beneath the rear seats for hidden storage.

Metal-tone trim accents the shifter and instrument panel. Centered on the dash are the speedometer and multi-information display, with a deep orange readout for the clock, outside temperature, instantaneous MPG, average MPG, distance to empty, or average speed.

Scion offers an optional Pioneer premium audio system which adds several features to the standard head unit, including the ability to download “skins” for the organic electroluminescent (OEL) screen. You can download images, four-second video clips and eight-sec-



Our test xB in Scion's new Stingray Metallic paint.

The interior offers an impressive array of utility, tech, storage and safety features. The arrangement of the instrument panel, gauges and steering wheel, though, struck us as fairly odd, overall.

ond movies from Pioneer's website, or burn your own images and movies onto a CD and upload them. The faceplate light also changes from deep orange to blue at the touch of a button. This system has rear head unit outputs for external amps to boost power to additional speakers and subwoofers, with all head unit features unchanged. A 160-watt Scion AV/navigation unit with seven-inch LCD touch screen is also available.

Like all Scion vehicles, the xB is mono spec, making purchase extremely simple. Customers only need to choose exterior color and transmission. Standard features include power steering, windows, door locks and mirrors; remote keyless entry; a/c; four-wheel ABS with Electronic Brake Distribution and Brake Assist; driver and front passenger dual-stage airbags; front seat-mounted side airbags; front and rear side curtain airbags; Vehicle Stability Control with Traction Control; tilt steering wheel with audio controls; and even a first aid kit. Factory-recommended maintenance services at the first 5,000 mile and 10,000 mile intervals are included.

Our test vehicle was in the one new exterior color, Stingray Metallic, which replaced Nautical Blue Metallic in the lineup. Five other paints are Super White, Classic Silver Metallic, Black Sand Pearl, Blackberry Crush Metallic and Hypnotic Teal Mica. All xBs fea-

ture high-quality dark charcoal interior fabric.

The xB is a great blank slate for customizers and has been a hit at SEMA. Scion's Release Series (RS) models are for buyers who want “custom” style but with accessories all up to the brand's standards in fit and finish. Limited-production RS offerings have an array of cool touches inside and out and are designated by number within the series. For a small bump on the bottom line, RS Scions deliver a one-off color with combinations of interior and exterior treatments. The xB RS 1.0 in Hot Lava debuted at the 2004 Los Angeles Auto Show. The latest is the xB RS 6.0 in Absolutely Red.

The ultimate question is: has the xB changed into something else? and if so, does it matter? is it, in fact, better? If your gut response is that it never should have changed, then [a] you might want to give it a test drive, anyway, and you might be really pleasantly surprised; and/or [b] you may be a prospect for a used first-generation xB; and/or [c] you may find yourself looking at the Nissan Cube (though, having looked, you may or may not appreciate the reasons Scion has beefed up a bit). The new-gen xB has moved forward by a lightyear.

Once a niche vehicle targeted toward a limited demographic, the Scion xB has now entered the mainstream—all the moreso when and if gas prices again broaden the mainstream with a return to last year's levels. Though it may have left a small segment of its original niche behind, this time around the Scion xB may seem a right-sized and useful choice for just about anyone. ■



NICHE ODDITIES (PROUDLY)

NISSAN CUBE



Engine	122 hp	Price	\$ 13,990-19,370
Overall length	156.7"	Wheelbase	99.6"
Overall width	66.7"	Overall height	65.0"
Weight	2762-2864 lb	EPA	30

SCION xB (ORIG)



Engine	103-108 hp	Price	\$ 14,165-19,000
Overall length	155.3"	Wheelbase	98.4"
Overall width	66.5"	Overall height	64.6"
Weight	2395 lb	EPA ...[old system]	31-35

MOVING MORE MAINSTREAM

SCION xB (NEW)



Engine	158 hp	Price	\$ 15,750-18,343
Overall length	167.3"	Wheelbase	102.4"
Overall width	69.3"	Overall height	64.7"
Weight	3020 lb	EPA	22/28

KIA SOUL



Engine	122-142 hp	Price	\$ 13,995-17,645
Overall length	161.6"	Wheelbase	100.4"
Overall width	70.3"	Overall height	63.4"
Weight	2800 lb	EPA	24/30

STILL A BIT OF EACH / NEITHER

HONDA ELEMENT



Engine	166 hp	Price	\$ 20,275-25,285
Overall length	±170"	Wheelbase	101.4"
Overall width	71.6"	Overall height	±70"
Weight	3515-3624 lb	EPA	comb 20-22

Classic Planes on the Coconino Plateau

by Larry Edsall



Location! Location! Location! It's the key to real estate, they say, and it can work for your property or against it.

For example, travel US Highway 180 northwest out of Flagstaff and you pass the Museum of Northern Arizona, the Arizona Snow Bowl and the Flagstaff Nordic Center. Soon the San Francisco Peaks are in your rearview mirrors and you're driving between the Squaw Coxcombs and the Dog Knobs as you head across the Coconino

Plateau before T-boning with Arizona Highway 64 at Valle. Plateau before T-boning with Arizona Highway 64 at Valle.

Though you may not recognize Valle's name or its history—it was settled more than 100 years ago by Spanish and French sheep herders—you know where it is: It's where you turn right as you head from Flagstaff to the South Rim of the Grand Canyon, and immediately after making that right turn you recognize the Flintstones Bedrock City, an recre-

ational vehicle park and campground complete with the Buffalo Lodge and Fred's Diner. Everybody, it seems, knows the location of Bedrock City and recognizes the huge Fred Flintstone figure on the west side of the road. But very few people seem to know that just south of Bedrock City—if you turn left on 64 instead of right—you find the Planes of Fame Air Museum, a wonderful gem not only for those interested in avia-

Those who find the Planes of Fame Air Museum immediately notice the "Connie," a four-engine Lockheed C-121A Constellation parked out front.

tion, but automobiles. While the museum's name indicates its emphasis, it doesn't tell you that the facility also houses a collection of interesting and historic cars and trucks as well as aircraft and displays about aviation history.

Of the perhaps hundreds of thousands of people who turn right each year off 180 onto 64, or who travel all the way up 64 from Williams to the Grand Canyon, only 10,000 to 15,000 find their way into

the Planes of Fame Air Museum. The museum was founded in 1957 in southern California, by Ed Maloney, who was watching no longer needed World War II aircraft being scrapped for their aluminum and other metal components and thought that instead of being destroyed, at least some should be preserved.

Established with a dozen aircraft and known simply as "The Air Museum," Maloney's was the first such airplane museum west of the Rocky Mountains. As the collection grew at Chino airport, a second location was needed and was provided in the mid-1990s by John Seibold at his Grand Canyon Valle Airport, which was built in 1936 by TWA, became an Army air base in 1942 and then returned to civilian service in 1946.

Seibold was born in 1934 in New Jersey and was a teenager when his family moved to southern California. He earned his pilot's license at 18 and studied aviation mechanics before enrolling at Cal Poly, where he did a double major in aeronautical engineering and physics.

After college, he worked as an engineer

at the Nevada (nuclear) Test Site and moonlighted flying charter and Grand Canyon sightseeing flights for Las Vegas-based Scenic Airlines. When that company folded in the mid-1960s, Seibold offered to overlook what the company owed him if it would give him its reservations list and brochures.

He eventually upgraded the company from a single-engine Cessna to flying DeHavilland Twin Otters, aircraft with a high wing that didn't block the passen-

Foot power may have propelled Fred and Barney around on the ground, but aerial power is the focus of the Planes of Fame Air Museum located just south of the Flintstone village on highway 64 in northern Arizona.

Among the planes inside the museum is this US Navy Grumman J2F-6 Duck (right), built July 6, 1941 by the Columbia Aircraft Corp. of Valley Stream, NY. Propulsion comes from a 900-horsepower, 9-cylinder air-cooled Wright R-1820 radial engine.

Planes are the stars, but there are cars here, too. A 1931 Packard is parked beneath the wing of a V77 Stinson Reliant "Gullwing" (bottom) that wears the colors of Eastern Air Lines. Before its civilian duty, the V77 was developed for air ambulance and spotter duty in World War II.

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KEEP RIGHT >>





The Douglas RB-26C Invader (top) was developed as an attack bomber for World War II, then converted for firefighting duty in Montana and Alaska.

The framework of a two-seated 1917 Standard J7 (row two left) shows the delicate intricacies of such early aircraft.

The AD-4 Skyraider (row two right) was the successor to the carrier-based Helldiver and was used extensively in Korea and Vietnam. This later example has 20-mm cannon and 14 Aero rocket launchers.

The red nose of a Grumman Duck is backdrop to the brightly colored tail section of a Stearman PT-17/N2S Kaydet (row three left). More than 6000 Kaydets were built, used mainly for training of military pilots. This one wears the colors of Jeb Air and was used in the *Rocky & Bullwinkle* movie.

Parked outside at the museum is the Lockheed C-121A Constellation that was airborne headquarters for Gen. Douglas MacArthur and which has been restored inside and out to MacArthur's specifications, including his command seat (row three right).

Germany's Messerschmitt Bf 109 saw its first duty during the Spanish Civil War and was Germany's premier aerial fighter in early WWII. This Bf109G-10 (bottom) was built in 1944, flew over the Eastern Front and surrendered to the US in May, 1945.



gers' view. He entered a partnership with the historic Grand Canyon Airlines and was credited with creating the Twin Otter Vistaliner, a 19-seat craft with enlarged windows designed for sightseeing flights.

At the turn of the 21st Century, Seibold was among 100 people—others included Liberace, Howard Hughes and Kirk Kerkorian—featured by the *Las Vegas Review-Journal* for helping to shape the success of southern Nevada.

He's also helping shape this area south of the Grand Canyon. Because there was so much air traffic into and out of the Grand Canyon National Park Airport at Tusayan—traffic that typically caused his own sightseeing flights to circle for 45 minutes before landing—Seibold sought an alternative landing strip, found the old facility at Valle, and bought and updated it. That was 20 years ago.

Although Coconino County restricts roadside advertising and thus helps to keep the Planes of Fame Air Museum a secret, those who do find it immediately notice the "Connie," the four-engine Lockheed C-121A Constellation that is parked in front of the museum building.

The plane, known as the "Bataan," was used during the Berlin Airlift and then became the airborne headquarters for Gen. Douglas MacArthur—and later for other high-ranking generals. For a few

days it also served as Air Force One for President Eisenhower during a visit to Korea, and later was used by NASA in support of manned spaceflight operations until 1970.

The Planes of Fame museum returned the plane to flying condition and restored the interior to its condition when it served MacArthur during the Korean conflict, complete with his personal command center and the galley he had installed because he wanted hot meals instead of the traditional cold food served aboard such flights.

Most of the museum's aircraft are in flying condition, and several are the last of their make and model still capable of flight.

Many of the aircraft at the museum have military history, some dating to World War I. In addition to the aircraft owned by the museum or by Seibold, the display—in the museum building and another building just across the parking lot—also includes several automobiles, including a 1906 REO Runabout, 1908 Buick Model 10 convertible, and a 1939 Pontiac Woodie that was used for ground transport of passengers of Grand Canyon Airlines.

Seibold started collecting the cars just five years ago, largely to help those seeing his historic planes with a way to put those planes into historical context. For example, it's one thing to see a 1929 Ford Tri-Motor aircraft but another when that plane has a 1929 Ford car parked beneath its wing.

The museum also has display cases that focus on everything from fighter-pilot helmets to historic passenger airline menus. One large and prominent display case features women in aviation.

The Planes of Fame Air Museum at Valle is open daily except Thanksgiving and Christmas, from 9am until 5pm. Admission is \$5.95 for adults and \$1.95 for children 5-12 years of age. For more information, visit www.planesoffame.org or call (928) 635-1000. ■

After working as a sports editor for daily newspapers in Michigan, **LARRY EDSALL** was on staff for 12 years at *AutoWeek*, most of it as managing editor. He has driven more than half a million miles testing cars on four continents. He helped launch www.izoom.com and also helped found PAPA, the Phoenix Automotive Press Association. His books include *Masters of Car Design (Genius)*, *Miata 20 Years* and his eleventh, *Camaro: A Legend Reborn*, all available at amazon.com.



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A weekend in San Diego. A compelling version of motorsports—airborne—which we had attended last year (see *Arizona Driver*, July/August 2008).

Our hosts: Red Bull, a company that not only produces magical fluids to light a fire under people like us on busy production schedules, but also has developed a truly astounding stable of events worldwide. Add our own Arizona star pilot, Kirby Chambliss, in a comeback attempt after not repeating his prior World Championship in 2008, and you have a solid formula for excitement: stage 2 of the Red Bull Air Race World Championship.

Despite all the makings of a perfect race weekend in San Diego, the weather almost precluded the whole thing. We arrived on Thursday afternoon, just after training runs 1 and 2, and checked in at the waterfront Marriott Hotel & Marina in time for a cold, grey Friday on which training runs 3 and 4 were ultimately scrubbed. A minimal cloud ceiling is needed for the races, which occupy air space tight-up against both San Diego International Airport and Coronado Naval Air Station, North Island.

Saturday started out no better, and Qualifying rounds were at risk most of the day, but by afternoon the ceiling started to lift. That didn't last long, but fortunately, the weather held long enough for the Sunday race lineup to be determined.

Arizonan Kirby Chambliss was the World Champion in 2004 and 2006, but finished third in 2008 and has been determined to chase the number one spot on the podium this year. The competition was going to be stiff.

Technical advances

Pilots had spent the off-season advancing every detail of their planes' performance, eking out precious tenths however they could. "I am impressed with what they're coming up with," says Adrian Judd, Technical Director of the Red Bull Air Race World Championship. "Some have gone for better aerodynamics and some for cutting down on weight. They've been spending a lot of time and money in the off-season to make their planes faster. But it's obviously not anything I could talk about. All I can say is that most of it is on the insides of the planes, not the outsides."

Zivko Aeronautics Inc. makes the Edge 540, which ten of the 15 pilots use, including Chambliss. The other five fly the MXS-R from MX Aircraft. Lycoming LyCon and Barrett Precision Engines are the two approved powerplants. Per Red Bull Air Race rules, minimum aircraft weight is 1,190 lbs (540 kg). A typical factory Edge 540 is around 1,240 lbs.

Countering their weight-shaving efforts,

the pilots were adding a new high-tech G-Race Suit to help with the high G-forces they are subjected to when racing. The suits contain liquid-filled tubes which change shape under G-forces, contracting special non-stretch fabric and putting pressure on the lower extremities, to keep oxygen-rich blood in the head. Along with interactive muscle straining and breathing techniques, the suits are intended to provide the pilots with maximum G-protection. This was a major adjustment for the seasoned pilots to make, and the fact it added more weight to their weight-limited aircraft was not uniformly welcomed.

Prep and season opener

Hannes Arch of Austria had come from behind to win the first race of the year in Abu Dhabi, beating Paul Bonhomme of Britain, the same one-two who had won and placed in the 2008 series. Arche came to the second race, in San Diego, with a three-point lead.

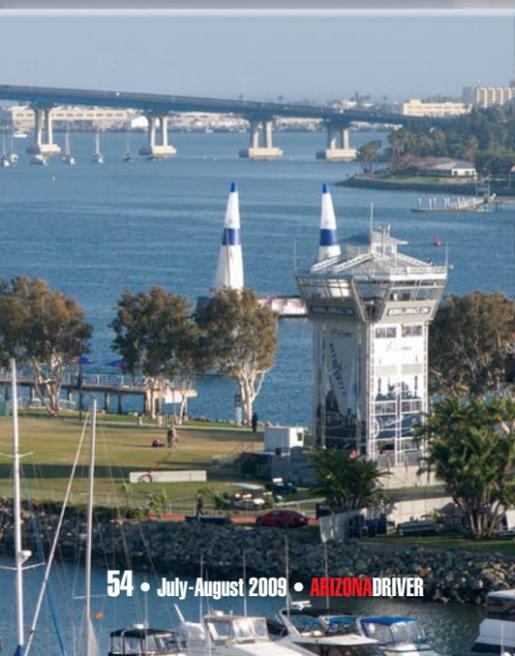
Kirby Chambliss has been training hard



Red Bull Air Race World Championship San Diego

Arizona's ace Red Bull Air Race pilot Kirby Chambliss: ready for takeoff; conferring with his ground crew and Adrian Judd, RBAR World Championship Technical Director; showing his daughter the ropes; shown in his new G-Suit; throwing out the first pitch at a Padres-Rockies game; and rolling his craft to the hangar.





Friday's weather was nasty, forcing the early cancellation of two training runs. Saturday's started out no better, but lifted in time for an exuberant start to the Qualifying rounds, though conditions socked back in pretty quickly—but not enough to preclude completing the rounds. On Sunday, the weather finally broke, for a postcard-perfect Race Day.

and modifying his plane all winter. The Red Bull Air Race combines extreme degrees of both aerobatics and racing, though Chambliss puts the emphasis on racing. "It's not really a straight choice because they're totally different," he told RBAR interviewer Matt Youson. "You want to win, whatever the competition, but the strategies involved in aerobatics and racing are miles apart. In competition aerobatics, you are looking for very, very precise figures. Here it's about the clock: You're flying really close to the water, trying to shave fractions of seconds. It's not the same thing at all."

Chambliss will be watching the performance of the MXS-R this season. He was one of the original testers for the Edge 540 and has a close bond with the plane. But he plays to win, so he's willing to consider the change. Americans Mike Mangold and Chambliss, who have won three of the last four World Championships between them, had a tough start this season. Both were flying without the horsepower they are accustomed to, after working hard to trim weight and to handle tight regulations on starting speed and G-force this year. Mangold finished seventh in Abu Dhabi, Chambliss ninth. Both were seeking a change of fortune in front of their own fans.

Saturday: Qualifying

Chambliss probably did not mind that Friday's training sessions were cancelled, as he knows the San Diego track well. Nonetheless, Arch rallied from behind to post the fastest Qualifying time on Saturday and collected one point to widen his lead over Bonhomme. The British ace had been fastest

in the first Qualifying session, but Arch—only in fourth after Q1—opened the throttle in Q2 to best Bonhomme with a time of 1:18.42.

The technical edge to the series has become a big factor, and personal frictions have grown. Several technicians thought it was "odd" that Arch had not only closed off access with a rope in front of his hangar but had also assembled the plane at clandestine locations. Arch enjoys putting psychological pressure on rivals and having them unsettled by his secrecy fits his strategy. "I'm glad if the others get stressed about it," Arch said.

Chambliss, the 2006 World Champion who took third place in San Diego a year ago, gave the home crowd something to hang their hopes on by taking sixth in Qualifying. "It was expected that until we get our technical thing worked out we're just kind of sitting there," noted Chambliss, who is not one for excuses. "But who knows—anything can happen."

Sunday: Races

Sunday's races include Top 12, Super 8 and Final 4 runs, as well as three Wild Card slots, due to the expanded roster this year.

Excessive Gs: For the Arizona fan base, the most noteworthy moment came during the Top 12, when Kirby Chambliss saw his chances evaporate as he was disqualified for exceeding the G limit—a risk of hammering into the course at max speed. For Chambliss in San Diego this year, it was all over.

Bird strike: Another of the race's major incidents happened directly in front of the media dock in the Final 4, when Hannes Arch suffered a birdstrike halfway through the course. The defending World Champion carried on through the course, unaware that a hole had been ripped in one of the rear surfaces. Arch, who managed to fly his damaged plane without problem and salvaged third place, later said he would have pulled out if he had known the extent of the damage. He

was in the lead before the bird strike and said bad luck cost him the victory (he finished third). He realizes the bird strike could have been much more serious. "It's like you crash your car into a wall. It's really loud. Immediately you know something is going on. You think about the engine, but the engine is still running fine and the next pylon shows up. The plane is flying, so you just continue. It's hard to finish the race with all those questions in your mind. The one side says 'Stop, because there's something serious going on,' but the other side says, 'Well, the plane is still flying, so why shouldn't I continue to fly?'"

Frenchman Nicolas Ivanoff had a penalty-free run in the Final 4 and two record-shattering times close to the 1:17 mark, putting him in the first place spot on the podium.

Paul Bonhomme was second, despite suffering a back injury in Saturday's Qualifying, with a personal best of 1:18:32 in the Final 4 and 10 points. Bonhomme, who suffered a bird strike in training in London last year and aborted his run, said he thought Arch should have stopped after the bird strike but said, "I must admit he did well considering he had just collected a pelican weighing 5 kg."

Followup: Windsor, Ontario

The next leg of the Red Bull Air Race World Championship was just being run as we went to press. Formerly held in Detroit, this year it was officially held in Windsor, Ontario—same diff, a Detroit River course straddling the US-Canada border—adding to the international flavor of the season overall. Kirby Chambliss squeezed every bit of horsepower out of a hot new engine during training runs here, topping the time sheets in both morning and afternoon sessions. Chambliss, who won last year on this course, was a full 1.44 seconds ahead of Bonhomme in the fourth and final session. France's Ivanoff was third in the final training, 2.30 seconds behind Chambliss's

Austria's Hannes Arch lost his lead but saved his hide when he unexpectedly collided with a 12-pound pelican during an already-challenging maneuver.

Kirby Chambliss on the podium at Windsor, Ontario.

pace-setting time of 1:09.91, while Austria's Arch was fourth, 3.02 seconds behind.

"I'm not flying any differently than in Abu Dhabi or San Diego," said Chambliss. "The engine makes all the difference. It'd be great to make the podium here, but I'd really love to have the number one spot again."

Chambliss won one World Championship point by placing first during Qualifying on Saturday. Bonhomme took second and Ivanoff was third. Defending champion Arch shrugged off a disappointing fifth in Qualifying—his worst result of the season—after getting hit with a 2-second penalty.

Chambliss now had four Championship points and could add 12 more with a victory on Sunday. "I cut every corner I could. I was right there on the edge. I think I went about as fast as I could go. We're looking good. I'm excited about the engine. We've got an extra 40 to 50 horsepower now. We've been definitely lacking in the engine department."

On race day in Windsor, however, Britain's Bonhomme was the only pilot to avoid any penalties throughout the day despite unpredictable winds on the course that caused considerable trouble for several of the pilots.

Arch (who placed 2nd) was not at all pleased with the stewards' decision to impose a penalty for flying too high through the course in the Final 4, leaving him with a 1:09:31 time. "I don't know where I got the penalty but I'm not very happy," said the Austrian. He would have posted the fastest time in the track if he'd managed a clean run.

Kirby Chambliss didn't win, but with a third place finish added nine points to the extra one gained in Qualifying on Saturday. Even with complications from his long-awaited new engine earlier in the week (his technician had to overhaul the cylinders overnight), Chambliss appeared to be on fine form at every stage of the game. "It's a good sign, and we're moving in the right direction," said the Arizonan, who was pleased to be in play ahead of the European leg of the series.

The rest of the season

Remaining races are in Budapest (Aug 19-20), Porto, Portugal (Sept 12-13) and Barcelona (Oct 3-4). To follow the action and results, visit www.redbullairrace.com.

Fans of the Red Bull Air Race can enjoy the thrills on iPhone and iPod touch. For a virtual seat in the cockpit of one of the 15 high-speed airplanes entered this season, the interactive flying race game by Artificial Life, Inc. is \$4.99 from the Apple App Store. ■





Tony Kainuma, Cobra Electronics Senior Product Manager, Navigation and Detection Products, shows off the new freestanding SL3 Safety Locator during our Phoenix test. Safety is its middle name.

Two things about radar detectors and their ilk: [1] it's surely prudent to doubt they are always right and never wrong (which are two different things: catching everything, with no false alarms); and [2] it can be a little dicey to talk about law evasion, though everybody's more or less satisfied if the concept is simply to ensure safety.

Photo enforcement is a dicey topic in its own right: some people, alarmed by the traditionally libertarian behavior on Arizona's freeways, have welcomed photo speed enforcement, while others see it as a draconian revenue-enhancement scheme that ruins an enjoyable day every few miles. As for red-light photo enforcement, not as many people object to keeping things legal, but there are serious issues about accuracy and whether qualified-paranoid caution about the systems may actually cause a few rear-enders.

Arizona, in fact, has more speed cameras than any state in the US, not surprisingly, since the whole concept and most of the cameras themselves originate here. Over 52% of all cameras in the US are in Arizona, and over 56% of those are concentrated in metro Phoenix. Including red-light cameras as well as speed enforcement cameras, Arizona ranks sixth in the US.

There is a body of statistical information on accidents before and after photo enforcement is installed, but there are always other variables in a state with this much growth: not only are there more people driving every day, but counterintuitively, there are engineering improvements and alternate routes introduced that reduce the burdens on trouble spots. For lack of a statistical "control group"

(the same spot, at the same time, with and also without the programs in place), various parties are free to state their versions of fact and perception. Public (and even professional) opinion is highly polarized on this topic, and indeed it has led to extreme violence. Red-light enforcement and speed enforcement are different animals, but the gut reactions and arguments are somewhat similar.

At a minimum, most people would like to know when and where they may get a surprise. Enter Cobra.

Speed. Red-light. Fixed. Mobile. Scheduled. Random. Does photo enforcement save lives? Arguably. Is it annoying? In most cases. Does it reduce driving enjoyment? For most people. Would the world be a better place if you were always surprised by them, or if you knew where they were? Cobra has some definite ideas about that.

We were hesitant to even get involved in this, since the whole photo enforcement debate is so highly charged. But Cobra emphasized that their products aren't just about evading the law. Here's their angle: Cobra figures an informed driver will drive more safely and avoid panicky responses to the presence of photo enforcement, if they know it's there. So, if the cameras are really about safety and not revenue, then if drivers are informed and drive legally, everyone should be happy. Yes?

Cobra says their gear helps drivers avoid accidents as well as tickets from speed cameras, red-light cameras and radar or laser traps. In other words, safety first.

The makers of speed radar detectors have stuck their necks out, in a sense, for years—

Robocams gotcha down? Knowledge equals safety

offering their customers a way to fend off a guilty speed reading that may come just because their concentration has lapsed or been redirected (or because they're going for a new land speed record to Tucson). Detectors (which are illegal to operate, or even to possess, in some places) have never made law enforcement particularly happy, but they've saved the bacon of many a lead-foot at times. But imagine the confidence of the detector companies as they do their best to promise (and variously back up) ticket-free driving. A tall order. There has been an ongoing development leapfrog between detector makers and radar guns for decades.

Cobra Electronics introduced their 2009 line of radar detectors in January, with six of their 12 units including a new technology called AURA™ (for Advanced Universal Road Alert), with thousands of pieces of embedded information intended to avoid both "unintended traffic violations" (is there another kind?), as well as compromised safety. The Cobra AURA database stores GPS coordinates of speed and red-light cameras, as well as driving hazards, accessed by drivers online daily to download via USB flash drive, a special GPS locator stick that is then connected to compatible detectors, synchronizing coordinates. It is intended to have the most current camera information possible. Drivers can also add up to 1000 location-based alerts about temporary or moveable "driving threats" and set their own speed limit warnings.

The AURA system was introduced in 2008, but for 2009 they add two new technologies: Intelliscope™ and Intelliview™, the first using GPS to specify the direction of location-based alerts relative to your moving vehicle, and the other providing a picture-in-picture view so you can see radar alerts simultaneously.

Introduced in June is the SL3 Safety Locator, a standalone GPS-enabled AURA device using a series of LED lights and tones to alert the driver to both the type of threat



Just another red light? Or a "special" one? AURA™ technology can help you identify the difference. In addition to the freestanding SL3, Cobra's AURA is also available in several of the line's full radar detectors.

and its relative proximity. The 3-Zone Notification System escalates its alerts based on vehicle speed, attempting to provide adequate reaction time before an intersection or other situation is reached. Cobra says the SL3 is legal in all states (and Canadian provinces), even where radar detectors are not.

At our test drive in Phoenix, Cobra reminded us that locations which have been deemed worthy of photo enforcement were basically deemed more unsafe than average in some way. Cobra says AURA-equipped drivers have heightened situational awareness—courtesy of a tool that can keep them aware of what's

Fun with anagrams: "Robocop camera" equals "Cobra ace promo"

around them, and what's ahead. "There are significant financial and safety benefits to being aware of the growing number of photo enforcement cameras," said Tony Mirabelli, Senior VP of Marketing and Sales for Cobra. "Being an AURA-equipped driver helps you avoid the dreaded feeling of receiving an expensive traffic ticket in the mail for a violation you might not even know you committed. It also means you will be aware of accident-prone intersections."

Our test route, which started near the Biltmore and included surface streets and freeways, did bear out the effectiveness of the unit on a preplanned route. We didn't test it by speeding or red-light-running to see whether anything may have been missed. But known enforcement sites were clearly delineated in time to become a responsible driver before it's too late. Not bad for fixed cameras. Not bad even for photo vans that

were identified before the information was last updated, downloaded and fed to the unit. But might there not be other situations lurking? Weren't we just sure we saw a radar van when we drove to the post office, but it was gone on the way back? Can we count on this?

Given the rate at which new cameras are being installed, daily updates are critical to providing the most reliable information. Research teams working out of Cobra's Chicago headquarters (and in its European office) use a systematic verification process to minimize false alerts and maximize the dependability of their database. In North America, Cobra verifies 100 percent of the database's speed and red-light cameras, as well as dangerous intersections, by communicating directly with municipal police departments, traffic bureaus, state transportation agencies and proprietary data partners to guarantee every single alert is accurate. (Interestingly, this process also pretty well forces these agencies to imply that these programs are in place to encourage safe driving, not to rake in the dough.)

The GPS locator and lifetime AURA database subscription are included with the Cobra XRS 9960G and XRS R10G radar detectors at \$389 and \$439, respectively, and as an add-on purchase with four additional detectors ranging from \$209 to \$339. The standalone SL3 has an introductory price of \$99.95 including one year of free updates to the AURA database. ■ —JS

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THE TOP 10 SCENIC DRIVES IN THE NORTHERN ROCKIES

Thinking of heading to the cool, green north? Discover the Top 10 Scenic Drives in the Northern Rockies—ten spectacular drives through some of North America's most scenic mountains, lakes, charming towns, and historic places. A consortium of state travel bureaus and tour operators has combined to promote the Northern Rockies as North America's newest destination for travelers who seek an authentic experience with scenic beauty, wildlife and recreation that delivers a connection with the environment, American Indian cultures and North American history. From Arizona in the summer, it's a quick dash north through Utah, and the journey begins.

Online now and launching with full details in early fall 2009, this site encapsulates the very best of the Northern Rockies, offering a convenient new way to research and plan Rocky Mountain travel adventures. This gateway site has extensive information about All-American Roads, National Parks, and the scenic byways and historic trails that connect them.

Retrace the path of Lewis & Clark through Montana, Idaho, and Washington. Tour the hot springs of the Kootenay Rockies. Plumb the prehistoric depths of Hells Canyon, or witness an awe-inspiring Old Faithful eruption, one of the most timeless signatures of Yellowstone National Park.

Use this site to explore the countless natural wonders, historical sites, and cultural attractions that make this region so legendary and inspiring. Plan an unforgettable Rockies vacation that embraces the principles of green travel, and help us protect, preserve, and enhance these treasured destinations, ensuring that they remain unspoiled for generations to come.

The Top 10 Scenic Drives in the Northern Rockies spans five US states (Idaho, Montana, Wyoming, Washington and Oregon) and two Canadian provinces (British Columbia and Alberta) and includes four All-American Roads, ten National Parks and Recreation Areas, and four connecting National Historic Trails.

For more info: www.drivethetop10.com ■



WHAT'S NEW IN SEDONA

Visitor of the Month- New Feature

The Sedona Chamber of Commerce has a new feature on their social media outlets and website. They will be choosing a Visitor of the Month at random and interviewing them on camera, getting their trip highlights, details, notable facts and more. They are then sharing this on our Social Media outlets: Twitter, Facebook and VisitSedona.com. They hope this will enable them to reach new potential visitors, with happy tales of current visits, straight from the source.

Sedona Home to Three Trip Advisor Awards

Sedona is home to three of the Top Ten selections for TripAdvisor's Traveler's Choice awards for "Best Bed & Breakfast and Inns." TripAdvisor is an online travel and booking tool that provides recommendations for hotels, resorts, inns, vacations, travel packages, vacation packages, travel guides and lots more.

Coming in at number one is Canyon Villa Inn of Sedona (photos, above), an award-winning inn with bedside, patio, and deck views of the Red Rocks of Sedona. Guests bask in the warm Arizona sun by a seasonally heated pool and stargaze cool evenings by a crackling fire. Les Belch, Owner and Operator of the Canyon Villa said, "of all the awards we have received this one from TripAdvisor is the most meaningful because it comes straight from the people that have visited and stayed with us, it's extra special."

At number two is Boots & Saddles Romantic Bed and Breakfast. A hint of the Old West in comfort and luxury is what they strive to offer their guests. With spectacular views, romantic fireplaces and gourmet breakfast it is easy to see why Boots & Saddles has been on the Best B&B list in Sedona for the last two years by TripAdvisor.

Finally, at number three is Canyon Wren Cabins. With a superb Oak Creek location and a specialty in romantic getaways for two, or quiet singles retreats, the Canyon Wren Cabins are a hidden escape in Sedona. With amenities and views like these, they are a clear choice for number three. ■



WHAT'S NEW IN TUCSON

Beat the dog days of summer with extended hours and special programs from these three Tucson attractions:

Tucson Botanical Gardens opens to dog walkers on Tuesdays 7-8:30am during Dog Days of Summer, and Thursdays 5-9pm for Twilight Thursdays with live, all-ages entertainment, the return of the Prehistoric Gardens exhibit and buffet dinners catered by the Gardens Café, through August.

Tucson Children's Museum opens on Monday nights, from 5-8pm, for Monsoon Mondays, with reduced \$1 per person admission, through Labor Day.

Pima Air and Space Museum stays open late one summer Saturday per month (June 27, July 25, August 29) for tours of special hangars and kid-friendly, hands-on activities during Night Wings.

70 Years of Old Tucson Studios. Arizona's Hollywood in the Desert celebrates 70 years of moviemaking magic on July 25 with an exhibit of never-before-seen production stills from classic Westerns (some starring John Wayne or Clint Eastwood), including *Gunfight at the OK Corral*, *Rio Lobo*, *Bonanza*, *McClintock*, *Gunsmoke*, *The Three Amigos*, *Young Riders*, and *Tombstone*. Columbia Pictures built old Tucson Studios in 1939 as a frontier-town set for *Arizona*, the first major outdoor movie of the time. It's been the site for more than 300 Western-themed film and TV projects. It's also an all-ages entertainment venue with live shows, thrilling stunts, saloon musicals and Old West dramas. www.OldTucson.com.

Motor Sport Circuit for Karters. Musselman Honda Circuit is an outdoor motorsport circuit for both recreational and serious kart drivers, a replica of the famous Suzuka Kart Circuit in Japan, known by professional kart drivers as one of the best in the world. Teens can practice defensive driving, adults can develop skills, and spectators can have a blast watching the action. Operated by the Southern Arizona Kart Club, the Circuit has group events, kart rentals, racing programs, and a retail shop. For information, call (520) 245-5278.

These and more activities: www.visitTucson.org ■

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THE INSIDE TRACK: BRIEFS & RUMORS

Ford F-150 Raptor SVT



Off-road fans will want to check out the **Ford** F-150 Raptor SVT website. Using a theme of "Born in Baja," the website has videos of the Raptor on a closed course, going airborne while tackling the rugged desert terrain. The interactive website allows viewers to build their own Raptor, get off-road links or get more information about Ford trucks. To see it, go to www.fordvehicles.com/f150raptor.

We have often wondered what effect the type of gasoline used in a car might have on the engine. **Hyundai** now publishes some of the horsepower differences between the use of regular and premium fuels. The first car reporting is the new Genesis V-8, which produces 375 hp on premium fuel and 368-hp on regular fuel. Hyundai also plans to provide the information for its performance engines. The loss for using regular gasoline will be greater on turbocharged engines.

Previously, General Motors was rebadging some **Opel** cars as Saturns for the US market, but with Saturn's future in question due to the financial crisis, it appears Buick may be getting the European Opels. The first one will be the Opel Insignia, which was due to become the 2010 Saturn Aura; instead it will become a Buick Regal.



Opel Insignia

Bentley's newest version of the Continental, the Supersports, will arrive in the US this summer. The two-seat coupe will be the fastest ever, turning 0-to-60 mph times of 3.7 seconds, with a top speed of 204 mph. This model is powered by a 621-hp, 6.0-liter V-12 engine which is biofuel-compatible. The engine computer continuously monitors the mix of gasoline and E85 ethanol to ensure constant power.

Nissan has delayed the US launch of a new range of light commercial vans. Originally scheduled in April 2010, the economic crisis has caused the automaker to delay the NV2500 multipurpose vans until second the second half of 2010.



Nissan NV2500 concept

Penske Automotive, the distributor of the super-small **Smart** ForTwo, has negotiated a half-price parking rate for ForTwo owners with Central Parking System in the New York City area. Central Parking owns 3,450 lots in the area. Similar agreements were previously arranged with Meyers, Icon and AviStar parking companies.

Kia is looking at renaming all their models in the US in an effort to appeal to younger shoppers. Kia executives say the current brand names don't convey a hip, fun-to-drive image and they want to fix that. The first to get the name change is the redesigned Spectra, which will become the Forte later this year. Kia will also changing its marketing plan to include more interactive messaging and social networking.

The next-generation **Hyundai** Tiburon will be new from the name up. Acting Hyundai CEO Jon Krafcik says the new car will have a lower price point, eco-sport efficiency and indeed a new name. The Tiburon was discontinued after the 2008 model year, but the replacement won't be on dealer lots until 2011. The new unnamed coupe will share its front-wheel-drive platform with the Hyundai Accent and Elantra.



BMW Z4

Arriving at US **BMW** dealers early in May is the new larger, but slightly softer Z4 roadster with a retractable hardtop. Priced at \$46,575 for the 255-hp 30i and \$52,475 for the 300-hp twin turbo 35i, both models have a six-speed manual transmission, but the 35i can be outfitted with BMW's outstanding new seven-speed double-clutch automatic transmission.

With **Toyota** adding a rear seat airbag to one of its luxury models in Japan, it is likely we'll see the same in an American model in the future. The airbag, mounted in the rear-seat center console, inflates during side collisions to stop passengers from being thrown into each other.

Chevrolet announced the addition of a Grand Sport version of the 2010 **Corvette**. The Grand Sport replaces the previous Z51 package, improving handling and performance of the iconic sports car. Wider wheels and tires with upgraded shock, stabilizer bar and spring specifications, along with specific gear changes, give the car a 1.0g cornering capability and 0.2-second improvement in 0-to-60 mph acceleration times over the standard LS3-powered models.



2010 Corvette Grand Sport

With **Arizona** planning to have at least 60 stationary cameras and 40 mobile camera vans in place this year to automatically issue speeding tickets by mail, many automotive columnists are saying they plan to curb visits to the Grand Canyon State. Some are speculating in print that the system is designed to help the state help make up its \$90 million state budget shortfall. There have been rumors of an organized boycott against Arizona travel.

The next **BMW** M5 is expected to have a modified version of the 4.4-liter twin-turbo V-8 planned for the upcoming X5 M and X6 M. The 5.0-liter V-10 from the current M5 is expected to be dropped in favor of the BMW Efficient Dynamics engine that takes advantage of turbocharging, direct injection and some other high tech magic, including brake energy regeneration. Look for the next M5 to have more than the 550-hp planned for the X5 and X6 M.

Mercedes-Benz has announced plans for a \$290 million expansion of its Vance, Alabama, plant. The Alabama plant produces the company's M-, R- and GL-Class SUVs. The expansion will take until 2011 to complete.

New car sales in the US, Japan and Europe may be suffering, but in **China** the pace is setting records. In March, Chinese auto sales reached a new high of 1.1 million, up from 1.05 million a year earlier. The China Association of Automobile Manufacturers says sales are now greater than in the US, making that country the world's largest automotive market.

Volkswagen was surprised to see about 50 percent of people buying the Jetta wagon and 30 percent of Jetta sedan buyers were choosing the diesel-powered TDI version. VW had projected 20 per-



2010 Volkswagen Golf

cent of the sales would be diesels. The diesel option will also be available in the 2010 Golf, which goes on sale in the fall.

Ford may produce a high-performance Focus for the US market. Currently sold in Europe is a rally-style Focus RS powered by a turbocharged, 2.5-liter five-cylinder Volvo engine rated at 305 hp. When the restyled 2011 Focus, engineered in Europe, goes on sale in the US in late 2010 the RS may be in the lineup. A decision about the production of the RS will depend on media and consumer response. Early media response has been overwhelmingly favorable. ■

Briefs & Rumors is a summary of auto news from industry sources, trade journals and consumer magazines compiled for *Arizona Driver Magazine* by **BILL & BARBARA SCHAFFER** of *Auto Digest*.

UPCOMING FEATURES

Bondurant's Teen Program

We learn what the School can teach a 16-year-old, and in a mathematical flip, our correspondent compares what the program offers to a 61-year-old.



Colleen Crowninshield

We meet the woman behind an apparent paradox: this manager of the Tucson Regional Clean Cities Coalition is also a dedicated drag racer.



Postcard from Detroit: Meadow Brook events

Meadow Brook Concours d'Élegance, the Henry Ford Museum, Big Three design chiefs' forum and RM Auction.



Monterey and Pebble Beach events

Pebble Beach Concours d'Élegance, Russo and Steele, RM, Gooding and Mecum auctions, two Concorso, Monterey Historic Races and more.



Toyota RAV4 and Toyota Venza revisited

We get to compare the 4- and 6-cylinder Venzas, which we've wanted to do since last fall's original launch, and we check out the popular RAV4 Sport.



Ford Transit Connect and new Ford Taurus

The Transit Connect immediately grabbed our attention when announced; we drive it at Firebird, and we drive the new Taurus at another launch event.



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