

ARIZONA DRIVER

THE ENTHUSIAST'S GUIDE TO LIFE BEHIND THE WHEEL

VOLUME 11 NUMBER 5
SEPTEMBER-OCTOBER 2012

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THE ENTHUSIAST'S GUIDE TO LIFE BEHIND THE WHEEL

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COVER: The new Mazda CX-5 picks up where the CX-7 and CX-9 combo left off, and possibly where the prior generation Ford Escape left off. We find it a great steed for a road trip through northern Arizona and southeast Utah, to northwestern Colorado and back for the 4th of July. **Photo: Joe Sage.**

Greg Jarem



Joe Sage

Joe Sage

Joe Sage

Joe Sage

START YOUR ENGINES : FROM THE PUBLISHER

This is one of those months when the hardest decision may be what to put on the cover. What a great collection... an all-revised Mercedes-Benz GL, an all-new and very buzzworthy Scion FR-S, the clever and quirky little MINI Coupe in JCW trim, three new Hyundais that pack a lot of punch at very appealing prices (as does that FR-S), the broadly appealing Lexus ES including an impressive hybrid adaptation, a great many of next year's Fords with an emphasis on those that sport the latest fuel-sipping technologies, and an all-new Mazda crossover small utility, the CX-5. And that's just the cars. Goodyear flew us to Washington state to test their latest full-team-and-computer-engineered all-season F1 Eagle on the track in an all-day downpour, and **Tim Sharp** headed to the track in Sonoma to cover the Arizona contingent at their vintage racing festival. The nod goes to the Mazda, as we were able to do what we wish we could do with every one of these: put a couple of thousand miles on it, across big stretches of Arizona and neighboring states. (The Mercedes was in New Mexico, the Lexus and Hyundais both in Texas, and the Fords in Dearborn.) Even though you like to get around as much as we do, the in-state scenery wins the day for page one.

Best of all, though, is the fact that every one of these is a winner. There's really not a vehicle (or tire) here that you wouldn't want to take home and keep, each depending upon your needs and your budget. You might want them all.

We also take you to Tesla's new retail experience, a storefront operation within Scottsdale Fashion Square, where the Tesla S electric sedan will also surely entice you, although we didn't drive that yet. And we spent a couple of hours and a few dozen city blocks with Ford's Focus Electric in downtown Phoenix before we headed to Michigan to drive it on the track.

There's definitely something for pretty much everybody in here. Enjoy the ride.

Joe Sage - Publisher/ Executive Editor



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PUBLISHER / EXECUTIVE EDITOR: Joe Sage

CONTRIBUTING WRITERS:
 David Boldt Nick Calderone
 HR Driver Larry Edsall
 JP Molnar John Priddy
 Jim Pruefer Steve Purdy
 Barbara and Bill Schaffer
 Tim and Kristin Sharp
 Jan Wagner Kevin A Wilson

CONTRIBUTING PHOTOGRAPHERS:
 Randall Bohl Christina Lawrie
 Chris Marzoni Brenda Priddy
 Jan Wagner

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 letters@arizonadrivermagazine.com

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TESLA

HANDS-ON ELECTRIC CAR SHOPPING AT FASHION SQUARE

There's no denying it's unusual to head down to the car dealership ... inside a mall ... located across from the Microsoft store. Then again, Tesla doesn't make the usual kind of car.

But this isn't about being different. Tesla has determined that the kind of buyer they work with shops a little differently, buys a little differently and certainly thinks a little differently—all of that in a good way. And their new retail plan is targeted right at them. Not only does such a retail location seek to capture their target customers when they're already in a high-style mood and in shopping form, the location offers up-close looks at technology and features that insiders may see at the Geneva Motor Show, but the general buying public generally doesn't see in a dealer showroom.

Tesla has 22 company-owned stores and galleries worldwide, with twelve new locations opening during 2012, mostly in North America. Their new retail Design Studio at Scottsdale Fashion Square, which opened in mid-July, is one of four that launched over the summer. Tesla calculates that these retail locations will "entice, inform and engage," in ways a traditional roadside dealership cannot. The concept makes sense, particularly for a boutique brand bristling with the newest technology.

THE TESLA MODEL S

Tesla has a stated goal of accelerating the world's transition to electric mobility with a full range of cars that are increasingly affordable. Their first offering, the two-seat Tesla Roadster, was priced over \$100,000. They seem to be delivering on their premise, as their latest offering, the Tesla Model S, is a luxury five-seater starting at \$57,400 (or typically just \$49,900 after varying tax credits). The Model S is stated to be the world's first premium sedan that was engineered from the ground up as an electric vehicle. (Even the breakthrough electric Roadster was cleverly adapted from a Lotus Elise.)

With a roofline that sweeps all the way back to a slight spoiler lip at the rear, Tesla is calling the Model S a sportback sedan, suggesting it leans toward the Audi A7 and Mercedes-Benz CLS-Class four-door coupe concept. With conventional seating for five adults, the Tesla Model S also has an option to add seating for two children, with rear-facing child seats. All these folks benefit from the presence of a second trunk under the hood.

The Model S body uses aluminum-intensive design for weight-saving, strength and exceptional rigidity. This is a solid foundation for the battery packs and, in the event of collision, protects occupants with energy-

absorbing crumple zones.

The Model S can plug into any conventional 120v or 240v outlet to charge, or can be charged to 50 percent battery capacity in just 30 minutes with a cleverly named Tesla Supercharger.

The Model S is being offered at first with three battery pack options: 40, 60 or 85 kWh. Aptly for this pioneering high-end brand, the Model S claims the longest range of any electric vehicle in production—265 miles of EV range with the 85 kWh battery (using a 5-cycle EPA test procedure).

The first 1,000 Model S Signature Series cars were for North America, and customer deliveries began in June. These have an 85 kWh battery pack, unique badging and an extensive option list. For the second half of 2012, Tesla plans to produce about 5,000 Model S sedans, before ramping up to build 20,000 units for 2013. The first 85 kWh sedans are to be followed by cars with the 60 and 40 kWh battery pack options.

The instrument panel is centered on a huge 17-inch touchscreen panel with 3G connectivity, which works with a digital cluster and steering wheel controls to integrate audio, internet, navigation, communications, cabin controls and vehicle data. The display responds to tap, swipe and zoom gestures and is built upon a software-based user interface, enabling continuous evolution of functionality—a much-welcomed approach.

We didn't drive the car during our tour of the store, but it is engineered for comfortable yet engaging ride and handling, and—as with any pure electric vehicle—acceleration will be immediate, linear and powerful. Available air suspension (standard on Signature and Performance models) responds to speed and road conditions, lowering the car as it accelerates, for optimized aerodynamics and increased range. And the car can be raised and lowered (using the touchscreen) for everything from deep snow to steep driveways.

By mid-July when the Scottsdale Fashion Square store opened, Tesla had already taken more than 10,000 reservations for Model S worldwide.

SHOPPING AT THE TESLA STORE

When you visit the Tesla Design Studio at Fashion Square, you can not only slip inside and try it on for size, check out the trunk and look under the hood, but you can learn about the Tesla S through a hands-on chassis and drivetrain, plus interactive touchscreen displays (and live product specialists) with a world of information about Tesla's technologies and the benefits of driving electric, plus an easy process to customize and purchase your own Tesla S—or at least some Tesla sportswear.

And yes, you can still hop in and go for a test drive. The mall has a whole parking area devoted to the Tesla dealership, wired for charging, out of the sun, and ready to go when you are.

When your new car is ready, you can upgrade to a Tesla Personal Delivery, and have the car delivered wherever you choose: home, work, your friend's house, a hotel, anywhere you find convenient or can't resist making an impact. At delivery, a product specialist will take you for one more walk through the car's features, before turning you loose. Or you can take delivery from Tesla in Fremont, California, and take a factory tour.

Add the new Tesla store to your shopping list. ■

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2012 Concept Vehicle of the Year Awards

Concept vehicles stir the imagination of us all, as they put a face on the future of the auto industry with their unique designs and innovative features. Each year the North American Concept Vehicle jury reviews vehicles that were introduced during the season's North American auto shows in Los Angeles, Detroit, Chicago, Toronto and New York. This year more than two dozen automotive journalists reviewed 34 concepts and selected their favorites in three categories and overall:

The **PRODUCTION PREVIEW VEHICLE** category is for vehicles based on a model that has already been announced or planned for production. Finalists included the Acura NSX, Cadillac ELR, Jaguar C-X16 and Subaru BRZ STI. A model much awaited after its brief absence from the market, Acura brings back their NSX "halo" car to take the honor of 2012 Production Preview Vehicle of the Year. "Like the original NSX, it emphasizes lightness over brute power, but with bolder, edgier styling that's quite attractive in today's context," said juror Chris Poole. The Acura NSX also posted the highest overall score to earn the top award as **MOST SIGNIFICANT CONCEPT VEHICLE** of the 2012.

The **CONCEPT CAR** category recognizes vehicles where passenger-carrying is the primary intent. Finalists were the BMW i8, Cadillac Ciel, Fisker Atlantic and Lexus LF-LC. Marking its fourth competition as a category finalist, and the brand's second visit to the awards podium, BMW takes the 2012 Concept Car of the Year award with its i8 Concept Spyder. "With lines that remind me of icy water in a mountain stream, the BMW i8 takes open top driving into a new realm of environmental responsibility, with the mission of ultimate driving machine firmly embedded," said juror Bill Schaffer.

The **CONCEPT TRUCK** category recognizes vehicles where cargo-carrying is a significant consideration. Finalists were the Chrysler 700C Minivan, Land Rover DC 100, Land Rover DC 100 Sport and smart for-us. In this brand's first-ever competition as a category finalist, and its first visit to the awards podium, smart's vision for an eco-friendly urban cargo carrier, the "for-us" concept, takes the 2012 award for Concept Truck of the Year. "Smart leaps into the 21st century with their small electric-drive 'for-us', complete with pickup-like hauling capability," said juror Bob Kroupa. ▼



Acura NSX



smart "for-us" concept



BMW i8 Spyder concept

2013 Ford Focus ST



HOW DO HYBRID SAVINGS ADD UP?

An interesting math challenge is to try to figure out whether buying a hybrid vehicle will actually save you money. It requires finding the vehicle prices, making assumptions about fuel prices, looking up fuel economy estimates, estimating how far you drive annually and, to be accurate, figuring out what percentage of your driving is in the city. Sound confusing? It is confusing, but the US Government, specifically the Department of Energy, has made the process considerably easier with information on their hybrid vehicle website. Simply select the vehicles you want to compare. You still have to do some estimates, but they are easy with the online form. Fill in a couple of blanks, push enter, and in seconds you have estimates for your fuel savings—weekly, monthly and yearly—along with how many years it will take to pay back the extra initial cost of a hybrid. The [fueleconomy.gov](http://www.fueleconomy.gov) website also includes a place to compare available hybrids, side-by-side, and an explanation of how hybrids work, along with a listing of Federal tax credits. There's also a section on some enthusiasts' personal favorite alternative, the diesel. To do your own comparisons, visit the DOE hybrid vehicle website at: www.fueleconomy.gov/feg/hybridCompare.jsp.

FORD FOCUS ST AUDITORY EXPERIENCE

▲ A big part of driving a sporty car is the auditory experience. It's not enough to be fast—the car needs to sound good in the process. With that goal, Ford engineers tuned the exhaust sounds of the new Focus ST so that it's like music to the ears of a sport compact driver, and perhaps the envy of even some V8 owners. To get the powerful new sound, Ford engineers added a special sound tube—called a sound symposer—to naturally amplify the throaty, lower range of engine frequencies between 200 and 450 Hz that are most pleasing to performance enthusiasts, through the use of a composite "paddle" that vibrates with intake air pulses. The sound tube concept was used on past Mustang models, but the Focus ST version is unique because of an electronically controlled valve that opens and closes based on driver inputs: engine speed, accelerator pedal position and gear selection. In lower gears, the valve is mapped more aggressively, while in higher gears the effect is dialed back for quieter cruising.

DODGE DART CUTS CHARGING CABLES

Chrysler is eliminating the cumbersome and unsightly power cords that can clutter interiors by offering a new in-vehicle charging system in the new Dodge Dart. "Our industry-first in-vehicle wireless

charging system is the perfect solution for those connected customers who are always on the go," said Pietro Gorlier, president and CEO of Mopar, Chrysler Group LLC's service, parts and customer care brand. The system uses a seamlessly integrated power bin, 8.27 by 9.5 by 3.25 inches, installed just below the center stack at the front of the center console. The bin has a built-in charging grid that is activated when a battery-powered device is set in the bin. The unit begins to charge when the vehicle is started. A phone case, specifically designed for a variety of smartphones, is required and included with the feature. The system will charge iPhone, Blackberry, MP3 players and Android devices. Mopar in-vehicle wireless charging is \$199.99, plus installation.

CHEVY: "LOVE IT OR RETURN IT"

Even with record-setting sales, Chevrolet introduced a bold new guarantee for consumers of 2012 and 2013 model vehicles. The message was simple and direct: if you buy a new Chevrolet brand vehicle and don't love it, return it. Conditions were simple. Buy a new 2012 or 2013 model year vehicle during the program (delivery from July 10 through September 4), and if you don't love it, return it with fewer than

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Mazda SkyActiv clean diesel Grand-Am race engine



4,000 miles driven and no damage, within 31 to 60 days of the purchase date. "Research has shown customers respond positively to the confidence companies demonstrate with programs like this, and appreciate the peace of mind that comes with knowing they have the option of being able to return their vehicle," said Chris Perry, Chevrolet global vice president of marketing. The program will play out over the next couple of months, and we'll be curious to hear final results.

MAZDA CLEAN DIESEL RACE ENGINES

▲ Beginning with the 2013 season, Mazda will be providing racing versions of its new SKYACTIV-D clean diesel engines to teams competing in Grand-Am's new GX Class for advanced/clean technologies. The engine will be stock-block Mazda SKYACTIV-D 2.2-liter diesel four-cylinder, dual-stage turbocharged powerplants that, according to John Doonan, MNAO's Director of Mazda Motorsports, "will deliver outstanding performance and fuel economy coupled with the kind of quality, durability and reliability needed to produce great street cars and win endurance races." Currently Mazda is the only Asian automaker who has announced that they plan to bring modern clean-diesel technology to the United States. Production Mazda SKYAC-

TIV-D features include a low 14:1 compression ratio, new two-stage turbocharger with a 5,200 rpm redline. Compared to Mazda's current-production 2.2-liter MZR-CD diesel engine, the new diesel uses 20 percent less fuel, weighs 10 percent less and has 20 percent less friction. The engines are being developed jointly by Mazda Motor Corporation, Mazda North American Operations and SpeedSource Engineering.

EXPANDED JAGUAR ENGINE LINEUP

Jaguar plans to add new smaller engines to its global offerings, including a new supercharged 3.0-liter V6 and a turbocharged 2.0-liter four-cylinder. The new V6 engine was derived from Jaguar's potent 5.0-liter V8 engine, incorporating its direct injection, variable valve timing and aluminum construction. It will be available with Jaguar's Intelligent Stop-Start system. The V6, in 340- and 380-hp models, has power and refinement comparable to the naturally-aspirated version of the V8, but with greater specific output and efficiency, courtesy of supercharging. The turbocharged 2.0-liter four-cylinder engine, currently being used in the Range Rover Evoque, was developed from Ford's EcoBoost program. Rated at 240 hp, it produces impressive power in the Evoque. Both engines will be hooked to a

Jaguar-tuned ZF eight-speed automatic. The first utilization of the 380-hp supercharged 3.0-liter V6 will be in the all-new Jaguar F-Type two-seat roadster, in 2013.

WIRELESS ELECTRIC CAR CHARGING

One of the major complaints from early adopters of electric vehicles is that cords are a problem: they get tangled, they get dirty and they are a pain to always have to plug in. Now a group of companies are working on ways to charge the batteries wirelessly, from a mat that sits on the parking area floor beneath the electric vehicle. The mats have coils, which engage the charger when the vehicle is parked above them. Because the mats are plugged in and transferring power to the batteries, it's not necessary to physically plug the car into an electrical outlet. Wireless chargers work one of two ways: by induction, similar to the way the battery on an electric toothbrush charges when it's set back on its base, or by magnetic resonance. One downside of the wireless chargers is that they are expected to sell for over \$2,000, or at least twice

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1938 "Mormon Meteor III." Courtesy of Price Museum of Speed, Salt Lake City, Utah.
Image © Peter Harholdt.



GM RelayRides app

the price of current charging stations. The wireless chargers are also less efficient, losing about 10 percent of power during transmission.

GM: DRIVE MY (ONSTAR) CAR

▲ As if taking a page from the Beatles' old "Drive My Car" song, General Motors has teamed up with RelayRides to offer the first nationwide peer-to-peer car sharing marketplace. The owner of an idle GM vehicle can now rent it simply by using a smartphone and GM's OnStar system. Owners simply log in to their OnStar account online and click the car they want to list as available to rent. They then upload a picture of the car to the site. The owner sets the price, availability and any other terms. When the RelayRides renter selects the car and agrees to a time, he or she arrives at the reserved car and telephones or texts the owner, whereupon the owner unlocks it simply by making a phone call to OnStar. Through OnStar's proprietary application program interface, RelayRides developers were given access to key vehicle-centric features such as location and remote door lock and unlock. Depending on location and availability of the car, RelayRides marketplace participants can earn hundreds of dollars per month from their idle vehicles. Relay Rides provides all vehicle owners

with a \$1 million insurance policy for the duration of the rental, and the renter is covered by a \$300,000 policy. Owners whose cars are not OnStar-enabled can still rent out their vehicles through the RelayRides marketplace by exchanging keys with the renter, or reactivating their OnStar subscriptions. For more information, go to www.RelayRides.com.

HONDA IN-VEHICLE CONNECTIVITY

Debuting with the all-new 2013 Honda Accord is a new cloud-based connectivity system called HondaLink™. It will be the first original equipment application of Aha™, developed by Harman to provide a personalized experience, connecting drivers to thousands of cloud-based news, information and entertainment feeds from around the world, using an intuitive audio-system-based interface. The smartphone application allows owners to pre-set content on their phone, then once in their car, they can access personalized content using voice recognition, steering-wheel mounted controls and in-dash audio system controls. The tethered smartphone provides a connection with abundant cloud-based media. Through the Aha service, for example, HondaLink users can listen to Facebook and Twitter audio newsfeeds, podcasts from NPR, location-based personalized restaurant

listings from Yelp!, and access internet music services such as Slacker. The service is free and instantly accessible from the cloud. Honda says the user-friendly system requires infrequent smartphone software updates, with in-vehicle content and channel access updating simply and automatically throughout the vehicle life. Like all Internet services, the HondaLink system will grow and expand as new programs become available.

FORD EXPANDING DRIVER ASSISTS

In an effort to reduce driver stress and help minimize traffic gridlock, Ford Motor Company is developing two new technologies. One is Traffic Jam Assist, which uses radar and camera technology to help a vehicle keep pace with other vehicles in traffic and provide automated steering control to stay in the current lane. The system has the potential to follow traffic ahead while maintaining lane position in environments where there are no pedestrians, cyclists or animals, and where lanes are clearly marked. In addition, Ford engineers plan to expand the Active Park Assist technology, with a new feature that will add perpendicular parking aids to the system. This uses ultrasonic sensors to identify suitable parking

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spaces, by width rather than length, and then steers the vehicle into them using electric power-assisted steering. Perpendicular parking functionality would use the vehicle's rear parking distance control sensors to monitor possible obstructions not seen by the driver when backing into the space. Where there is insufficient space to complete the maneuver in one attempt, the system might ask the driver to shift the vehicle into drive and reverse as necessary. Once the vehicle is perfectly parked, the driver gets a finish signal.

MINI ANNOUNCES A SEVENTH MODEL

▲ In a surprise announcement before a thousand fans at the start of the sixth annual 3,900-mile cross-country rally, MINI Chief Executive Kay Sigler said, "You are the first to hear this, even before the press. The MINI Paceman is the official name of the brand's seventh model, which will be launched next year in the US." The MINI Paceman concept debuted at the North American International Auto Show in Detroit, in January 2011. The Paceman is basically a two-door version of the company's Countryman SUV. The concept was outfitted with the 211-hp John Cooper Works 1.6-liter twin-scroll turbocharged engine, but when the Paceman reaches dealers it will likely have the same engine as the Country-

man, a 121-hp 1.6-liter inline-four in naturally aspirated trim, or 181-hp in S turbo trim. A JCW option will likely be offered later. The Countryman has the MINI ALL4 permanent all-wheel-drive system, so the Paceman will probably have the same drivetrain. The production version of the Paceman is expected to debut at the Paris auto show in September.

PEDESTRIAN SAFETY BY SMARTPHONE?

It may be possible for smartphones to save pedestrian lives, if research currently being conducted by General Motors comes to fruition. A communication system called Wi-Fi Direct establishes a peer-to-peer wireless connection, rather than having to relay the signal through cell towers. By eliminating the intermediate step required to reach a cell phone tower, Wi-Fi Direct allows devices to connect in approximately one second compared to conventional wireless systems that typically need seven or eight seconds to acquire location information and connect. GM researchers say Wi-Fi Direct can be integrated with other existing sensor-based object detection and driver alert systems on production vehicles to help detect pedestrians and bicyclists carrying smartphones equipped with Wi-Fi Direct. Wireless pedestrian detection is part of GM's ongoing development of vehicle-to-

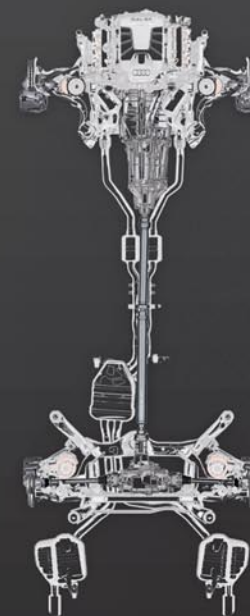
infrastructure and vehicle-to-vehicle communication systems that could provide advance warning about hazards such as slowed or stalled vehicles, slippery roads or intersections and stop signs.

GM: 100 LANDFILL-FREE FACILITIES

With the recent addition of a parts distribution center in Lansing, Michigan, to their list of landfill-free facilities, General Motors now has 100 such locations. To make the program work in each location, GM first reduces waste and then focuses on recycling and reuse. In 2011, they recycled or reused 2.6 million metric tons at facilities worldwide—equivalent to more than 38 million trash bags. GM began tracking its waste 15 years ago and has strived to improve the program each year. They are currently recycling or reusing more than 90 percent of the waste they generate. In conjunction with suppliers, GM recycles scrap cardboard from various plants into a sound absorber for Buick Lacrosse and Verano interior roofs. Air deflectors on the Chevrolet Silverado and GMC Sierra pickup trucks are made out of used tires from the automaker's proving ground. Its recycling and reuse efforts last year avoided 10 million metric tons of CO₂-equivalent emissions. GM's landfill-free roster includes more than half of its global manufacturing facilities. ■

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Numero uno Generación dos

by Joe Sage



2013 Mercedes-Benz GL 550 4MATIC

Mercedes-Benz joined the SUV craze in 1997 with the 1998 M-Class (aka ML-Class), at roughly the same time as the Lexus RX, with the swooping lines and fender bulges of the original concept vehicle toned down at first in production, taking most of a decade to come to life. The Mercedes-Benz R-Class—somewhat a cross between the highly stylish CLS four-door coupe and an immensely practical Escalade ESV or Suburban—debuted in 2005 as a 2006 model. The GL-Class, arguably somewhat more conventional in size and shape, joined the lineup in 2006 as a 2007 model. And the smaller GLK followed in 2009. They have now all received comprehensive updates, giving Mercedes-Benz the “youngest” SUV fleet in the US.

The new GL is what brings us together today.

Conquering the US market

We traveled to Santa Fe to drive the 2013 GL-Class and quickly learned that this has been a banner year for Mercedes-Benz, with their highest sales in the 47-year history of Mercedes-Benz USA. And after 15 years of sales, the combined Mercedes-Benz SUV lineup has had six-fold growth. This result has been helped in no small measure by the GL-Class, which now claims the number one spot among SUV sales in America, at 25 percent of the market (“way ahead” of the Escalade at number two). The GL is not designed in the US but is built here, and 53 percent of the GL’s global sales are in the US.

Four years ago, we drove all three 2009 BlueTEC diesel SUVs (see our Sept/Oct 2008 issue) and found that the GL was a group favorite, while a bit of a sleeper, tamer and more familiar in its style and purpose. That’s all relative, but don’t let it keep you from noticing there are now 138,000 GL-Class SUVs on the road in the US. Sales average 21,000 a year, with last year’s 25,000 second only to the GL’s first year. The GL has a 30 percent loyal customer repeat purchase rate and a 58 percent new customer conquest rate. It’s not hard to see why.

At an average of 48 years old, the GL’s buyers are the youngest among SUVs. 91 percent are married and some 80 percent are either baby boom or gen X, most with kids and dogs. We have no problem seeing great appeal also for empty nesters or even an individual.

New enticements outside and in

The GL for 2013 is the model’s second generation, and though it looks similar, it is very new. The vehicle is longer, wider and taller, yet has gained only 50 pounds due to weight savings in materials and technologies throughout. A new grille, headlamps, LED DRLs and LED taillights quickly distinguish the 2013 model—which comes in GL 350 BlueTEC, GL 450 and GL 550 iterations. The GL 550 has a distinct front air dam, lower fascia, fender flares and 21-inch AMG wheels. (At a base price of \$86,900 for the GL 550, versus \$62,400 and \$63,900 for the GL 350 BlueTEC and the GL 450, respectively, the GL 550 has earned its right to stand out.) The interior features a new upholstered dash, an updated central controller and two third-row seats that power-fold separately or together for a flat cargo floor—with manual Easy-Entry from either side. Power Easy-Entry is an option for the second row (which folds not quite flat). A retractable glass sunroof is standard, or optional is a panorama power sunroof, double-sized with a fixed



Our itinerary gave us a mix of pavement and gravel, open plains and high mountain trails and all three models of the 2013 GL-Class. The terrain model at right demonstrates the GL’s abilities to scale a 100 percent grade, handle a 35 degree tilt or ford a 60 centimeter depth. Bottom right: Rio Grande Gorge.

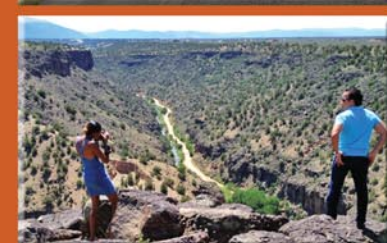
glass panel over the third row. New optional multi-color ambient lighting can round out your interior experience.

Ongoing strides in safety and tech

Mercedes-Benz has been a step ahead of most everybody else for the past few years in electronically-based safety features. Combining performance, safety and convenience, the GL-Class starts with the “mbrace2” system, standard, comprising cloud-based next-gen telematics, including internet access, the ability to interact with your GL remotely, and over-the-air diagnostics. These augment the first generation’s safety, destination planning and concierge features. Optional apps bring custom versions of Google Maps (including street view), Panoramio, Facebook, Yelp and news; more will be added all the time. Mobile apps for iPhone and Droid add remote horn and lights (priceless when looking for your GL in a dark parking lot), and Valet Protect (creating a virtual fence and generating alerts if it is violated).

Attentive parents will appreciate new “Control” features including geofencing, speed alert, driving journal and curfew-minder services.

At your fingertips are the Mercedes-Benz COMAND





2013 Mercedes-Benz GL 350 BlueTEC



Photos: Greg Jarem [3]

Happy on a smooth urban street, the GL has the range and the grunt to also tackle the wilds. The interior is clean yet engaging and feature-laden. A flat third row and tilt second add up to enormous storage volume. At left, we scale Taos Ski Mountain, pass through Taos on US 64, enjoy Wheeler Peak, New Mexico's highest, and wrap up our road trip near La Fonda Inn at historic Santa Fe Plaza.

control knob and center display. Hard-wired are a rear camera, power liftgate and second row 115v outlets. Electronic safety systems include Attention Assist, Adaptive Brakes, Crosswind Stabilization—which applies brakes on one side, to provide steady forward tracking and feel—and Airmatic suspension.

Operational and comfort options include an on- and off-road package and soft-close doors. Optional electronic safety and performance features include an Active Curve System, Active Parking Assist, Active Lane Keeping Assist and SurroundView camera, which eliminates your blind spots by assembling multiple triangulated camera views into one CGI image of the whole vehicle—a feature that will spoil you instantly.

The 2013 GL-Class marks the debut of another Mercedes-Benz technology that is sure to work through the whole lineup—Collision Prevention Assist. Evolving from the Distronic Plus With Pre-Safe Brake system—of which we had our first thrilling demo in the 2010 E-Class (see our Jul/Aug 2009 issue)—this system measures your vehicle's dynamics against the measured space between you and others, then provides visual warning, then audible warnings, then raises your brake

boost for a quicker stop (performed by the driver).

The GL will look great pulling up to the club, but its off-road capabilities are prodigious: it can climb a 100 percent (45-degree) grade, handle a 35-degree sideways tilt, and ford a 60-cm (24-inch) water hazard.

A GL-Class for every budget and need

This is where it gets easy. You know you want a new GL. And this is also where it gets tough—each of the three models is very compelling in its own way, and a fourth (arriving next year), well, ditto.

	GL 350 BlueTEC	GL 450 4MATIC	GL 550 4MATIC	GL 63 AMG
Horsepower	210	362	429	550
Torque (lb-ft)	398	406	516	560
MPG (city/hwy)	17/21	14/19	13/18	tba
Base price (\$k)	\$62.4	\$63.9	\$86.9	tba

The GL 350 BlueTEC has a 3.0L V6 turbodiesel with the best fuel mileage of the bunch—able to make it from Santa Fe to Las Vegas, Nevada on one 26.4-gallon tank with 3.2-gallon reserve. The diesel is expected to account for 60 percent of GL sales.

Choosing between the GL 450 and GL 550—both bearing 4.6L biturbo V8 engines—probably comes down to your budget. With all the power, creature comforts and style upgrades of the GL 550, and only one point loss of fuel economy, it makes all the sense in the world—other than costing 36 percent more for that 18 percent gain in horsepower (and 27 percent in torque). If you have the extra \$23k, you won't be disappointed. The 5.5L biturbo V8 AMG model is due to arrive in the first quarter of 2013. Details will follow, but it could easily top \$125,000. All four have seven-speed automatics. Tow capacity is 7500 pounds for the current three (AMG t.b.d).

Despite differences in fascias, wheels and various features, every one of the GLs is a stunning combination of beef and grace. You can't go wrong with any.

Pounding around northern New Mexico

We put significant miles on the GL, and they were just our kind of miles, driving from Albuquerque up Highway 14 through Madrid, through Santa Fe to Tesuque Pueblo, then north through Española and across beautiful two-lane highways and lesser roads to the Earthship natural and recycled building complex northwest of Taos. From there, we hit many miles of gravel, across the high plains to the precipice of Rio Grande Gorge. The road snaking down to the river crossing is tight, rough and full of hair-pin turns. Nothing fazed the GL. Climbing out the eastern banks of the Gorge, we regained pavement, then took winding roads to Taos Ski Mountain, moving back to gravel for the climb to Bavarian Lodge. Cliffhanging and riverside two-lanes from Taos south to Española opened up to four-lane US highway on our final stretch back to Santa Fe. The GL's performance was flawless through-out, and comfort never dimmed.

We were able to drive all models during the course of the day, then had a chance to repeat one, and went straight to the 550. After all, we weren't paying for it. Whether 350, 450 or 550, the GL-Class is a wonderful SUV. If you don't believe it, just try to find a used one. ■

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Triumph.



FR-S:
Fun Reigns Supreme.
The heart of a pure
sports car beats anew.

by Joe Sage

There are two reasons the new Scion FR-S makes us say "Triumph." One is that Toyota and Subaru have delivered exactly what they set out to deliver—a fun and capable sports machine at a price point we haven't seen in some time. And the other is that it reminds us, within a couple of quick degrees of separation, of the cars that bore that badge.

The introduction of the Scion FR-S (along with its sibling machine, the Subaru BRZ) evokes the arrival of several high-profile, lower-budget, high-fun cars from years past: notably the Mazda MX-5 Miata, introduced 23 years ago, and the Datsun 240Z, brought to the US some 42 years ago. Those in turn had harkened back to a simpler time, when a Triumph TR6, MG-B or Fiat Spider was anybody's clear idea of a sports car. No 500-horsepower millionaire's car. Just a low-frills, high-punch fun machine.

FR-S connotes "F" for front engine, "R" for rear-wheel drive and "S" for sport. (In the Subaru iteration, BRZ stands for both the cars' boxer engine, rear-wheel drive and Z for, well, zenith, as in basically maxing out.)

Sheet metal and badging vary between the Scion and Subaru, but overall, the two cars are the same.

THE FORMULA. The Scion FR-S is clearly conceived to deliver performance at a price—a reasonable price. The amount of performance is not unlimited, but it is balanced. And while the price is reasonable—under \$25,000 with a manual transmission (or barely over with an automatic), this is no stripper: the FR-S includes a full complement of dynamic handling electronics and creature comforts, not to mention the airbags and other safety features that a Triumph or 240Z never dreamed of.

"Pure Balance" is, in fact, a guiding principle of the car's development. A way this was literally achieved is through the use of the world's only flat boxer engine—a benefit of Subaru's involvement—in a front-engine, rear-wheel-drive configuration. The compact, flat format of the boxer allows its placement farther back than usual, for a 53/47 front-to-rear weight ratio and a center of gravity as low as some supercars.

Electronics in the Scion Star Safety System include Vehicle Stability Control (VSC), Traction Control (TRAC), Anti-lock Brake System (ABS), Electronic Brake-force Distribution (EBD), Brake Assist (BA) and Smart Stop Technology (SST). Airbags include driver and front passenger frontal and seat-mounted side airbags, plus front and rear side curtain airbags.

The interior is also tech-heavy, from an 8-speaker 300-watt Pioneer AM/FM/CD/HD audio system with USB and iPod links, to Bluetooth™ phone and music streaming, plus power door locks, auto power windows, leather-trimmed tilt-telescope steering wheel, bolstered sport seats with red accents, a digital/analog speedometer, programmable analog tach, a multi-information display and more. We've often noted, only half tongue-in-cheek, that a 15-cent chip can deliver almost anything a manufacturer can think of—usually cleverly applied to justify more expense for more features at the higher end. In the case of the Scion FR-S, you get this impressive array of electronics in a well-performing car for under \$25k. Add to this aluminum sport pedals and scuff

plates, A/C of course, and a rear window defogger, plus a no-fuss one-piece folding rear seatback. The car even delivers with a full tank of gas.

FIRST IMPRESSIONS. We understood the concept before laying eyes on the machine: this would be a sports car you can buy not because you're so wealthy, but because it's so much fun—a formula that was tried and true decades ago, but which had been lost somewhere between horsepower wars and fuel economy battles. Scion has figured out anew that tempering both goals can deliver more than either does alone.

It's a great-looking little ride from every angle, with sharp details all around. We know it's affordable, and it was refreshing to hop in and fire it up. We had the feeling right away that this is the pure and fundamental machine everybody has been saying it is. We were glad to not see a big display screen in the center stack, just a simple knob and four arrows that bode for quick orientation, climate control with three simple knobs, and clear instruments overall. Others could take cues from this. We felt as though we were in a Datsun 240Z forty years ago, which is of course a very good thing to feel.

Our car arrived with the rear seat folded flat. This exposes goods in the trunk to the interior, of course, but gives a nice flat stowage area. It's very likely a good way to leave the car for the long haul, giving the FR-S a spacious feel inside, and ignoring the game about having a back seat at all, since few will use it.

Our car came with the 6-speed manual transmission, which we of course consider a win-win, at \$1100 less than the available paddle-shift automatic, but for those who prefer the auto, going F1-style at this price is irresistible. We enjoyed the basics of the car, and the simplicity of the HVAC interface, but did wish we had an "auto" setting for the A/C on an Arizona summer day.

Pulling away from the curb, we find a tight drivetrain delivering nice, solid shifts. Our logbook notes that we were "loving it straight away." Our FR-S had 3500 miles on it, and it was as tight as a drum.

At 200 horsepower, of course it could use a hair more, and that wouldn't have to destroy the reasonable balance of the car as presented. We're sure, in fact, that something will come along—whether a turbo or other boost, or perhaps all third-party. (We anticipate seeing a huge presence for this car at SEMA this year.)

But, as is, it feels every bit as powerful as that old Triumph, Z car or equivalent, but with highly modernized fit and finish, solid suspension, shifts and steering—a rock solid feel overall. G-forces are light, but you do get that sporting feel. And gearing is well executed, as—despite torque of just 151 lb-ft—we find ourselves with plenty of punch even on a surface street at 2500 revs and 45 mph. We found ourselves using 5th gear routinely and could even use 6th on surface streets, whereas in a 500-hp car, you could drive all day in 2nd gear, basically. Tight shifting in tight situations was better than average for a 6-speed manual, with gears easy to find.

FINDING ITS NICHE. Our mind drifted to our recent time with the Nissan GT-R, a stellar high-horsepower machine in the \$100k range, which begged the question: which would you rather have: four of these, or one of those? Though largely a rhetorical question, of



course, we can easily imagine people for whom it would be an actual practical decision.

One colleague proclaimed on our social media that the FR-S was "more show than go, but the show is sooooo good." We suppose you could say that, but is it any less "go" than expected? We would say not. It's a tight little package that brings back the spirit of a car from the '70s with the quality and appointments of a car from the new millennium, and we're sure there's a market for this.

Imagining a world in the near future populated by electric cars and hybrids—and a handful of sporty little combustion-powered options like this—we suspect the sportiness of this car in that world will make for a lot of fun, for years to come. This line of thought casts a little perspective on the current world of 500- and 600-hp supercars in excess, by the numbers. This could actually become a better world, in ways, for the enthusiast.

The Scion FR-S is definitely one of those cars that returns the joy of driving—one of those where you realize as you're running errands, you're kind of glad if a



SPECIFICATIONS

ENGINE.....2.0L DOHC 4-cylinder 16v boxer
 Horsepower/Torque200 hp / 151 lb-ft
TRANSMISSION.....6-speed manual
DRIVETRAIN..Front-engine, rear-wheel-drive
INCLUDED: 17-inch alloy wheels, 215/45R17 tires, electric power steering, F/R ventilated disc brakes, double wishbone rear suspension, Torsen limited slip diff, VSC, TRAC, ABS, EBD, BA, SST, chrome-tipped dual exhaust, color-keyed mirrors, halogen headlights, LED taillights, DRLs, Pioneer 300W 8-speaker audio, keyless entry, much more.

BASE PRICE\$24,200
OPTIONS: Wheel locks67
DESTINATION CHARGE730
TOTAL PRICE.....\$24,997

Base price with six-speed automatic transmission including paddle shifters and rev-match technology\$25,300



We recognize much commonality between the new Scion FR-S and earlier accessible sports cars, from '50s and '60s Brits, to the Datsun 240Z, to the Mazda Miata. Not to be forgotten is this car's half-blood kin, the Toyota 2000GT (the new FR-S is half Subaru; the 2000GT was half Yamaha). The Brits, Z cars and Miatas all sold by the boatload in the US, while the GT2000 (1967-70) was more of a trivia question on our shores. But the Z car may have never happened without the 2000GT (shown below with the Scion FR-S). A 2000GT can now be worth hundreds of thousands of dollars at auction.

store is closed and you're going to have to run back again, because you could run around all day long. We also find that the FR-S is a head-turner and a magnet for parking lot fans.

The sports cars this evokes—the Italians and Brits of yore—were built for fun on the open road. Make no mistake, those got taken to the track and these will get taken to the track, but they will be raced among like-minded, like-powered people. Nobody is trying to beat a Shelby in this. (The only downside may be that it looks like it just might be ready to try. But if that's really a downside, give us more downsides.)

Exactly how much power the car has isn't even the point. That you drive it like a sports car is—and you will. Nonetheless, it didn't take long for us to find ourselves at a red light next to a Corvette. You know this could be a scenario for feelings of inadequacy, although if the car didn't look as though it had a bit more to it than it does—you wouldn't. (Envy, though, could be another issue.) But still, this is a \$25,000 car, which brings us back to that GT-R question, or now: would you rather have two of these, or one Corvette? Hmm. Different strokes. This is a game that never ends, for the gearhead.

It can be a little disappointing when you find yourself next to a powerful luxury sedan that's going to just smoke you at the light. However it's that same concept: if you imagine 50 or so years ago what it would have been like to be in that little Fiat or Triumph, next to that big Cadillac or Lincoln sedan, and yes they had all sorts of power, and they could roar off down the boulevard when the light turned green. But you were just having a lot more fun.

The FR-S looks to some degree kind of like a kid's car—but what a kid's car. We conclude that the Scion FR-S is fundamentally the real deal, though a hair showier than its performance might dictate—20 percent boy racer, but 80 percent SCCA.

A FEW DETAILS. The red stitching on the interior upholstery is a nice touch, often played up as a big deal on vehicles that cost two to three times as much as the FR-S does. The headrests angle forward dramatically, angled just right, crowning very comfortable and effectively bolstered sport seats.

The speedometer is at the left, its visibility fairly poor, while in the center is a tach, and visibility on that is very high, featuring a white face with black numbers

plus a digital speed reading, all you need overall.

There's a huge difference in the climate control's noise level from the fan at its #4 versus its #3 speed setting. If you're driving on a 117-degree week like we were, you're certainly going to start out at #4, and since the system is not automatic, you're going to want to remember to turn it down sooner than later, because there's a big noise relief when you do.

The car's audio system is not too bad. We did consult the manual at first, to figure some of its deeper-down settings, but having done that, it's easy to set and forget, or to reset later. Sometimes there is good punch in the bass, but much of the time the low end makes the installation rattle—quite a bit. It reminded us of times we used to, without batting an eye, spend more on a custom audio system than we had on the car itself, and that could happen here. But we're wondering whether it might be a challenge to put a custom audio system in here and counter the buzzes and rattles.

The third brakelight (CHMSL) is an odd design that sits on a few spindles, and every time we look over our shoulder, it basically looks like there's a vehicle in our blind spot. If we owned this car, we would somehow modify this. Ditto if we were its engineers.

It's kind of cool at first, to get a little chirp out of the rubber (on purpose or otherwise), but we soon found we were getting it almost every time, for instance when at a stop light or stop sign and then turning right. It's not the kind of thing you want to do every time, ready or not, for instance if there's a police cruiser next to you. Checking the tires to see whether they were low on air, unevenly worn, especially hard or soft, they checked out just fine. We concluded the chirping was a benefit or demerit of the rear suspension, mostly likely, and we continued to note that we were getting it too often. We did love the suspension overall, and on rough spots, rain troughs and speed bumps—solid and firm.

A front-engine rear-drive layout is a great place to start, but it's not in itself a guarantee of performance. But it works for the FR-S, which is superbly sure-footed as we carve through turns.

LASTING IMPRESSIONS. We always come back to the same thing: discovering the Scion FR-S is like getting your hands on a classic sports car, and for everybody who would think, man, I wish I could buy something like a Triumph in this day and age, but all up-to-date and reliable, that's exactly what Scion has delivered here. It only took Datsun a few years to deliver that in the first place, with the 240Z, though it was a breakthrough then. It's taken another 40 years, but Scion has delivered the same with this. (And yes, in between there was the Miata—same mission, same success.)

Toyota is definitely a clever company, but if you think they're so clever they're delivering a 911 for 25 grand, nobody's that clever. No, they're so clever they're delivering what they can for 25 grand, and by a long shot. That is their triumph. It is affordable, but more than the sum of its parts. Give it a drive; it will not disappoint.

The Scion FR-S would be a great first or second car for anybody with a fun streak. This car prompted what were surely the most times since we were 16 years old that we've thought of this many reasons to run back out and do another errand, over and over. ■

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Plugged in and focused in Phoenix

By Joe Sage



Prior to our trip to Michigan (see next feature) to drive the Ford Focus Electric and other emerging powertrain vehicles at Ford's Dearborn Development Center, we joined Ford engineers and the Green Chamber: Greater Phoenix, as they invited consumers to slip behind the wheel and whisk around downtown Phoenix. The occasion? Phoenix and Tucson have been chosen as two of 19 initial markets for the Focus Electric. The venue? The Children's Museum of Phoenix, which already has a solar panel installation in its parking lot to power electric vehicle (EV) charging stations.

Ford's Power of Choice approach—a combination of hybrid, plug-in hybrid, electric and highly efficient EcoBoost gasoline vehicles—is aimed at typical current shoppers, fully 44 percent of whom say fuel economy is their number one goal when buying a new vehicle (61 percent "would consider" an electric or plug-in hybrid vehicle). As Ford is engineering one third of its lineup to get 40-plus MPG, the Focus Electric is tops. This frugal car has been certified to achieve the equivalent of 110 miles per gasoline gallon (MPGe).

Interest in the vehicle was high at this event, with smiles all around as people experienced life behind the wheel of an electric car for the first time. Quiet is something they expect, though it still registers delight. What surprises most is the high torque—the potent grip and push of the electric motors through the wheels to the pavement—that an electric vehicle provides. This is no golf cart, and more people understand this every day.

We've spent significant time with the fully-electric Nissan Leaf, the range-extended Chevrolet Volt and the Toyota Prius Plug-In Hybrid. Each vehicle feels more familiar, and the appeal grows stronger and stronger. ■



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NUMEROLOGY

MODEL YEAR 2013 FOR FORD WILL BRING MORE 40-PLUS MPG VEHICLES AND A SURPRISINGLY POTENT 1-LITER 3-CYLINDER ENGINE BY JOE SAGE



We flew to Dearborn, Michigan this summer to learn what's new at Ford—not just their complete 2013 model year lineup in general, but their recent successes, their technological thrust of the past few years, and their mission to continue massively improving fuel economy over the next few years, demonstrated by a tremendous variety of new product hitting the marketplace right now.

5 YEARS 8 VEHICLES 40 MPG

We first met with Mark Fields, Ford Executive Vice President and President of the Americas. He emphasized what is on many consumers' minds—fuel economy—and he was reporting from an enviable position. Ford will have eight vehicles achieving 40 MPG or better by year's end, which is twice as many as last year, and they state is unmatched by any other manufacturer.

Most of Fields' comparative analysis was over a five-year run, and notable improvements fall across the product lineup. The new Ford Fusion brings MPG from 33 five years ago to an anticipated 40 or 40-plus in the 2013 model (which was at our event, but not yet ready for

driving—stay tuned). The Taurus with its 4-cylinder EcoBoost engine (see our launch drive in the May/June 2012 issue) boasts 32 MPG, compared to the same-slot Ford Five Hundred at 26 in 2007. The Mustang, without taking its eye off fun and performance, has moved up 24 percent, from 25 to 31 MPG. The all-new Escape, with two different EcoBoosts, is up as much as 32 percent, to 32 MPG. The Explorer over five years has increased fuel mileage from 20 to 28 (with a V6), a 40 percent gain. And America's best-selling vehicle, the Ford F-150, has moved from 19 to 23 MPG, a 21 percent gain.

Credit Ford's EcoBoost engines with most of these gains—a family of designs that combine direct injection with turbocharging (and a generous dose of other breakthroughs) to bring horsepower and torque roughly to par with engines a category higher—a V6 that feels like a V8, or a 4-cylinder that feels like a V6—while running on noticeably less fuel (mileage on average is 20 percent higher) and with lower emissions.

KEEPING THE CUSTOMER SATISFIED

Knowing full well that awareness and acceptance of electric vehicles is still moving a little bit more slowly than technical breakthroughs—with conventional liquid fuel powertrains still the “main customer preference”—Ford is proud to have seven vehicles for model year 2013 that will boast the smallest displacement engines in their respective segments. Ford has its share of hybrids and electrics, but the energy and ingenuity they've applied to EcoBoost has paid off handsomely. Ford expects to be producing some 1.5 million EcoBoost engines annually by next year, which is about 200,000 more than expected.

It's all a far cry from classic horsepower wars. But it's not just what the law increasingly requires;

it's what the customer increasingly wants. Though thirty-five percent of shoppers are driving fewer miles now than they did the year before, improved fuel economy has given them a new reason to buy. Ford has made the math easy for their buyers, calculating a “value equation” that combines purchase and operating costs. For example, they figure you can save \$1650 over a normal life cycle with a Focus over a Camry, or \$2245 with a new Escape over a RAV4. Your mileage may vary.

Through clever technologies—EcoBoost engines, hybrid and electric powertrains, new fuel-saving 6-speed transmissions in every car and SUV and pickup, weight shaving including 75 percent implementation of electric power assist steering (EPAS), and drag coefficients increased by 10 to 12 percent or better—Ford is tackling the challenge of meeting that fuel economy need, while still delivering a satisfying and even exciting ride.

And that's exactly what we have traveled to Michigan, to the Dearborn Development Center—Ford's home turf test track—to confirm.

KEEP RIGHT >>



On the track at Dearborn, lead photo, are a silver Ford Focus Electric and two golden EcoBoost turbo gasoline models. At right, top to bottom: the new Ford F-150 Limited, the updated F-150 Raptor, the next Ford Fusion (present this day for looking only, not for driving), a Ford Taurus fleet including those with the new 2.0-liter EcoBoost inline-4, and displays of the full EcoBoost lineup.

 <p>3.5L EcoBoost TAURUS SHO FLEX EXPLORER SPORT F-150 POLICE INTERCEPTOR SEDAN</p>	 <p>2.0L EcoBoost FOCUS ST FUSION TAURUS ESCAPE EDGE EXPLORER</p>	 <p>1.6L EcoBoost FUSION ESCAPE</p>	 <p>1.0L EcoBoost COMING IN 2013</p>
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FUEL EFFICIENCY AND FUEL ELIMINATION

As many consumers tune in to the presence of electric vehicles in the marketplace and sharing their roads, Ford has been consistently developing the category and is now introducing the Focus Electric, to be followed by a Transit Connect Electric delivery van, and "Energi" plug-in hybrid versions of their upcoming Fusion and C-MAX (both available also as gasoline-electric hybrids). They will offer six electric or plug-in hybrid models by the end of 2012, with capacity expected to triple in 2013.

FOCUS: ELECTRIC AND 1-LITER 3-CYLINDER

We first drove the new Ford Focus at launch in Southern California (see our March/April 2011 issue). We had just driven the Focus Electric briefly in Phoenix, shortly before heading to Dearborn (see prior article in this issue). And we gave you detailed information on the Electric's hot weather cooling technologies last year (see our July-August 2011 issue). Track time in Dearborn was our next chance to drive them all again. And Ford already had something new for us to check out.

Not released yet, but due next year, is an initially startling prospect we are now immediately used to: a 1.0-liter 3-cylinder EcoBoost engine, which the engineers have already fitted to the Focus. Bearing memories of the gutless 3-cylinder, 66-hp Subaru Justy of the 1980s, we slipped behind the wheel and fired it up. This was not on the streets of Dearborn, mind you, but on Ford's best test track, with dips and turns, hairpins and straightaways—and this little Focus lit it up. With a manual transmission, we chirped the tires on our shifts, and we noted that others did the same. We were highly impressed and can't wait for more time behind the

wheel. The one-liter Focus is also equipped with Auto Start/Stop fuel-saving technology.

This 1.0L 3-cylinder EcoBoost has already been in use in Europe, where it won "2012 International Engine of the Year" honors as the smallest, quietest conventional engine ever built. Its design reduces fuel consumption, emissions and vehicle weight, in a triple win.

A repeat drive of the Focus Electric, this time on the track rather than in downtown Phoenix, confirmed its smooth drivetrain, satisfying power and the impressive full-band torque a full electric drivetrain provides.

FORD F-150: NEW MODELS AND ENGINES

Ford had two F-150 model updates for us: a new Limited series, and the latest Raptor. The Raptor breaks from the day's theme, in that it has a powerful, segment-topping 6.2-liter V8 with 411 horses and an 11/16 MPG city/highway fuel mileage rating. But we love it. The 2013 model brings new 17-inch wheels, HID headlamps, and SYNC technology or a MyFord Touch upgrade.

Joining F-150 special edition King Ranch and Platinum models is a new Limited, starting at \$52,455, which raises the bar further on comfort, convenience and connectivity. Features include MyFord Touch, navigation with SiriusXM Travel Link, rain-sensing wipers and HID headlamps, special graphics, 22-inch polished aluminum wheels, red and black leather, and aluminum and piano black interior finishes.

But most pertinent to this day was the well-established news that Ford's F-150 sales have moved to over 50 percent EcoBoost V6 engines—a success they had not fully anticipated. Our mission was to compare these with the competition. Is the move to the V6 a fuel-econ-

omy-seeking compromise? Or a win-win? To find out, we drag-raced the Fords against their main competitors, with thousands of pounds loaded into the beds. As the Christmas tree lights turned green, the F-150's punch was immediate. You know they wouldn't have set this up if they didn't think they'd prevail, and they did. Overall, the V6 EcoBoost option is a proven win-win.

TAURUS: NOW WITH 4-CYLINDER ECOBOOST

The Ford Taurus has consistently won awards as the "best large family sedan" and sometimes even as the sportiest (partly attributable to the SHO version). We drove the new Taurus lineup last spring in Oregon (see our May/June 2012 issue), including with the 2.0-liter EcoBoost four-cylinder engine, which we drove again in Dearborn. For this one, we left the proving grounds and roamed sweeping boulevards through River Rouge Park in the metro Detroit suburbs around Dearborn.

Ford is not alone in planting an efficient four-cylinder turbo in their big family sedan: we've driven the same combo over the past year in the Audi A6, BMW 5 Series and others. It takes no time at all to realize that a great 2-liter four-cylinder is more than up to the task of moving this much automobile. Fuel mileage—and its closely related factor, vehicle weight—is the reason for this move. Ford has achieved a 32 MPG figure for the 2.0L EcoBoost Taurus, which delivers 240 hp and 270 lb-ft of torque. This compares with the 3.5L non-EcoBoost V6 at 288 hp and 254 lb-ft, with a highway rating of 29 MPG. The base price for a Taurus SE with V6 is \$26,600 and for the EcoBoost, \$27,595. (There is also a 3.5L EcoBoost only in the Taurus SHO, but at just under \$40,000, that's a different equation.) Is it worth more to buy the 2-liter, for a three-MPG-highway advantage and higher torque, but for \$995 more? That's a tough call, but it's about a 10 percent fuel advantage, for only a 3 or 4 percent price hit. For early adopters of technology, the 2-liter EcoBoost is compelling—and smoothly capable (and could ultimately impact resale value, too).

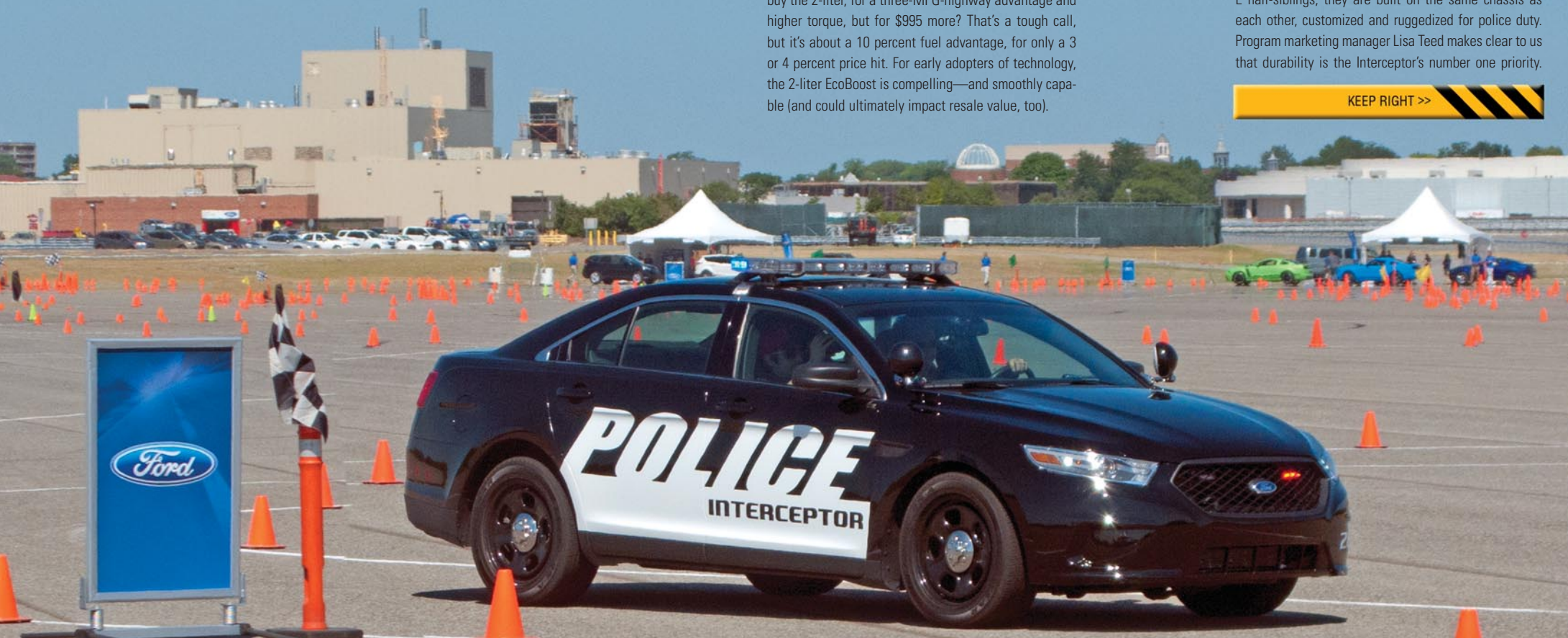
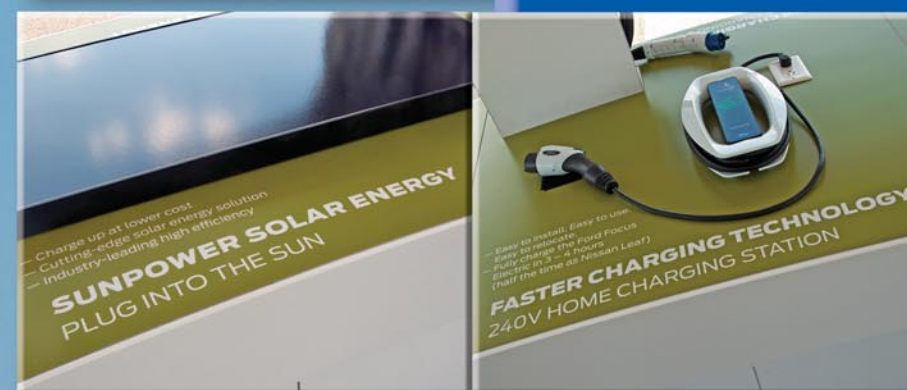
At right, top to bottom: the upcoming Ford C-MAX hybrid and C-MAX Energi plug-in hybrid (upper left) bridge somewhat between minivans and the new Ford Escape (upper right). With Ford's electric offerings come new power accessories, such as this solar installation for harnessing Mother Nature or this 240-volt fast-charging station for tapping the conventional power grid. The spacious and luxurious leather interior is inside the diminutive C-MAX. Ford has two new law enforcement machines: the Police Interceptor Sedan and Police Interceptor Utility. As for the Mustangs in the Interceptor Sedan's background, there was not enough time in the program for these, but see our May/June 2012 issue for our Mustang launch drive in Oregon.

FORD POLICE INTERCEPTORS

When we first reviewed the current-generation Ford Taurus (see our Jan/Feb 2010 issue), we had thought that, especially with the increasingly capable and right-sized Fusion in the mix, the Taurus could absorb the Crown Victoria's spot in the lineup, if only it were not front-wheel-drive, especially given the Crown Vic's police duties. The Crown Vic ceased production after 2011, and a lot of police have been driving new Dodge Chargers while Ford prepared its next move.

There are two new Ford Police Interceptors, and while they clearly look very much like a prominent sedan and a prominent SUV in Ford's lineup, the T word and E word are not part of the program. One is the Ford Police Interceptor Sedan, the other the Ford Police Interceptor Utility. You can find the more traditional 3.7-liter flex-fuel-capable V6 in either, while the Sedan offers an optional 3.5L EcoBoost V6, as well. As with their T and E half-siblings, they are built on the same chassis as each other, customized and ruggedized for police duty. Program marketing manager Lisa Teed makes clear to us that durability is the Interceptor's number one priority.

KEEP RIGHT >>



As we gaze upon the two perfectly handsome vehicles, Teed tells us they spent no money on looks: these are all about performance. Hence their visual similarity to the Taurus and Explorer that they are not. Top speed in the Interceptor Sedan is 148 mph; in the Utility, 131 mph. Ford is proud that in a rear crash, the new Interceptor stands up as the outgoing Crown Vic. We drove both on the dry track, then on a slick water track, at pursuit speed. Power was ample and tracking was solid. As for catching up with the competition after a model year's absence, Ford is not worried.

FORD FUSION: SNEAK PEEK

It has been common knowledge that there is a great new Fusion coming, yet Ford is surprised and gratified that sales for the 2012 model have continued to set records. The Fusion has been a stellar offering for years, in our opinion, and the new one looks to be further transformative in defining its continually rising stature.

Buyers who waited will find the new Focus available with five powertrains, including a hybrid (HEV), a plug-in hybrid (PHEV), a normally aspirated 4-cylinder engine, a 4-cylinder EcoBoost turbo and soon that same new 1.0-liter 3-cylinder EcoBoost as in the Focus. You can get a new Fusion with front-wheel or all-wheel drive. And you will have a choice of automatic or manual transmission. (We do not yet know whether every combination will be available, e.g. an AWD manual.) For additional fuel savings, the Fusion will also include Auto Stop/Start.

ALL-NEW FORD ESCAPE

Driving the new Ford Escape was not part of our day, but its statistics were. Dealer inventories at that time were just 4.5 days' worth, moving even faster than the red-hot Explorer (which was new a year and a half earlier). Some 57 percent of Escape buyers go for the high end of the lineup, with Titanium models standing at just a 3-day supply. Escape is available with either the 1.6L or 2.0L EcoBoost inline-4, and 93 percent of sales are EcoBoost. (The other seven percent are with a traditional 2.5L four.) We were struck by a certain degree of potential overlap, in product and buyers, with the new C-MAX.

FORD C-MAX HYBRID, ENERGI PLUG-IN HYBRID

This "multi-activity vehicle" functions in much the same niche as a minivan (and brings back the "mini" in that term), while looking considerably like the new Escape—and may be the hottest news item in the group. C-MAX will be offered as a conventional gas-electric hybrid and as a C-MAX Energi plug-in hybrid.

The presence of this new vehicle has knocked the Escape Hybrid out of production, which for now eliminates an all-wheel-drive hybrid this size. The C-MAX was another display-only model: no driving yet. Ford is positioning it solidly against the Toyota Prius, especially the Prius v due to its size and shape, which it beats by several points in fuel mileage, at 47 MPG—and with a price anticipated to be \$1300 lower.

TECHNOLOGY FOR THE DRIVE AND THE DRIVER

To Ford Group VP for Global Product Development Raj Nair, technology should be about being smart. He loves "what makes a driver better and makes the drive safer." Ford is among the legions working with automatic distance and spacing for freeway driving, which they calculate can reduce travel time by 37.5 percent, save fuel and make the trip safer. This may not be an enthusiast's dream, but the morning commute falls a bit short, anyway, and most everyone thinks this is coming.

Ford VP of Engineering for Global Product Development Hau Thai-Tang reminds us that it has already been five years since SYNC arrived as the company's benchmark electronic hands-free system. Evolving through MyFord Touch, things are moving toward all voice commands, for all devices, with apps and interfaces from your own smartphone that can be continuously updated. Many have eagerly awaited this approach. Working with ongoing partner Microsoft, Ford is pursuing faster touchscreens, with simpler interface, faster response, and upgrades you can perform yourself (or at the dealer, if you prefer). Tests of these systems show a 25 percent increase in user satisfaction, with 69 percent of respondents indicating the self-installation process is "very easy." This approach also enables Ford to implement revisions in response to customer feedback, such as having moved time and temperature toward the center.

The MyFordTouch system is intended to increasingly make drivers not more distracted but rather more aware, acting as their "sixth sense." Driver assistance technologies include blind spot information (from two multi-beam radar modules), cross traffic alert (when backing up), active park assist (cars that parallel-park them-

selves and soon will add perpendicular parking), adaptive cruise control, drift-pull compensation and a multi-faceted lane keeping system.

Senior Technical Leader for Ford Research and Advanced Engineering Jeff Greenberg introduced us to the latest synthesis of human and electronic engineering, Ford's Driver Workload Estimator. What you quickly realize is that existing onboard sensors, cameras and radar contain so much information already, it's one brilliant leap to integrate massive amounts of information from outside and inside the car. They combine vehicle response (speed, acceleration, lateral loads, yaw rate), driver cabin activity (steering wheel angle, pedal activities, instrument panel interaction, phone use), driving environment (traffic density, road surface and more) and biometrics (seat sensors measure your temperature, heart rate and respiration, as well as ambient temperature). Psychologists say driving is "overlearned," leading to boredom, monotony and fatigue when the workload is low, or to distraction and confusion when a driver pushes skill limits. A Do Not Disturb button can be manually activated for e.g. a long drive in a snowstorm. But workload limits are more transient. One immediate application of Driver Workload data is an intelligent Do Not Disturb function. Estimates based on average population are customizable for individual drivers. Information gleaned and applied through these systems—for example to send calls to voicemail when the car knows you shouldn't be answering—can in turn dictate information displayed on contextual touchscreens.

GLOBAL POSITIONING STRATEGY

Ford EVP Mark Fields had told us that Ford is pursuing a "One Ford" global strategy—an elusive concept the industry has dreamed about for decades, but which has traditionally been difficult to implement, as regional tastes and needs have varied so much, along with materials and manufacturing technologies. Now a major convergence is occurring, from the US to Europe to China.

Group VP Raj Nair tells us the company is already about a year ahead with their plan, consolidating design and production around a series of global platforms. From 2011 to 2015, the company will move from 22 platforms to just ten—with 80 percent of their products on just five global platforms. You may know these as the B, C, C/D, commercial van and light truck platforms. Product names will still vary around the world—e.g. the Escape is the Ford Kuga in Europe—and styles can be tweaked, as well as powertrains. This approach allows not only economies of scale but more rapid development of breakthrough technologies.

The counterintuitive result of global consolidation is that you now have more intriguing new choices than ever, when you visit your local Ford dealer. ■

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JCW AND COUPE FORMAT ARE A COMPELLING COMBINATION

BY JOE SAGE



We're inclined to think the original MINI Hardtop could stand on its own as master of a niche, well-engineered, well-priced, well-positioned, stylish, economical and fun. And yet, the line-up keeps growing. For one thing, they are a nimble operation: popular response to a couple of their auto show concept cars inspired the company to put them right into production, and that has become something of an anticipated ritual by now. Thus we have the original MINI Hardtop, in Cooper, Cooper S and John Cooper Works (JCW) iterations; Cabriolet versions of those; the slightly extended Clubman; the burly little Countryman; a trimmed-down Roadster droptop; and now, the MINI Coupe. Every one of these, in fact, comes as a Cooper, Cooper S or John Cooper Works, with the exception of the Countryman, whose top spot is occupied by the Cooper S ALL4. And, conversely, John Cooper Works is available applied to any body style except the Countryman. (Perhaps this suggests an impending auto show concept, or perhaps not.)

NOT-TOO-TOUGH CHOICES

How does a buyer choose from among them all? They're all in similar ranges of price and operating economy. They're all sporting drivers, the S and the JCW versions that much moreso. The MINI buying decision is arguably to a high degree an emotional one—driven by good, healthy emotions, of course—and the utility factor on any of them is as likely as not to include some element of tradeoff, just because they are small, by mission and definition.

So it comes down to what floats your boat—style and emotion, with a bit of rational thinking thrown in as far as your purposes for the vehicle. There's a lot of this in any vehicle purchase, but with the MINI lineup, it seems to come to the fore.

The first decision is the easiest, boiling down to budget mostly, fuel economy in the course of things—and that is whether to go with JCW. In the case of the Coupe, a Cooper starts at \$22,150, a Cooper S at \$25,450 and a JCW at \$32,050 (slightly higher today than the sticker on our 2012 test car). That's about 45 percent more than Cooper, to get the JCW, but anybody interested in performance is going to at a minimum compare it to the Cooper S, against which it's only about 26 percent higher. The rationalization process is a wonderful thing.

Engine output follows a different scale, from 121 to

181 to 208 horsepower, respectively, so the biggest bang-for-the-buck upgrade is from Cooper to Cooper S (just 15 percent more dough for 50 percent more go), while going from Cooper S to JCW approaches the opposite (30 percent more dough for 15 percent more go). Can you rationalize any of the decision by fuel economy? Not really. That's linear through the lineup, at 37/29/32 MPG city/highway/combined for the base, 35/27/30 for the Cooper S and 33/25/28 for the JCW.

Tough choice. The MINI Coupe in any form should be the quickest of the body types: smallest and lightest (without the added weight of a convertible with its moving parts and its chassis stiffening efforts). That gives you latitude on your decision.

IF IT GETS A REACTION, IT'S ART

As we posted our first photos of this car on Facebook, one reader commented, "and this is an attractive design why?" Another said there are "much better ways to spend 40k." The price does pile on. Start with the model-to-model ratios we ran, above. Add the options you see on our test car, at right. (And go ahead, just try to start subtracting many of them. Some even seem essential to the JCW level, and we wonder why they're options at all—sport suspension, notably.) Add a bit more for 2013 model pricing, while you're at it.

We weren't paying for ours today, so we hopped in and checked it out. It's very roomy, though it is thoroughly a two-door two-seater, as it's intended to be, based as it is on the Roadster. The trunk is separate from the interior, though it has a ski or long bundle passthrough, but one colleague who was very interested in the car in general had to rule it out because of dog ownership. Too bad, given the actual volume with that big boot. For some, the car could benefit from the open cargo area offered by many small coupes when their limited back seats are folded down.

Back to Facebook. "It's a really odd roof, like a bike helmet—pretty ungainly," read another comment. "The Roadster is much better looking." To each their own.

"I think it would look better in MY driveway," chimed in a more enchanted reader (and current MINI owner).

"Looks like the top was chopped by an underskilled technician," countered yet another.

The roof provides plenty of headroom. At over six feet in personal height, we actually moved the seat a little higher, because it felt like we were sitting on the driveway surface, as delivered. We still had another three inches or so of headroom.

FEATURES AND PERFORMANCE

A joystick behind the shifter rules the center pod of the instrument panel, much like Audi's MMI or BMW's iDrive, but simpler and smaller. Good idea: there's no need for these to be as dominant as they often are.

The armrest conflicts with operation of the hand-brake, and it was a \$250 add-on. That we would skip.

Rear visibility is poor. An opera window behind the B-pillar is tiny, and the C-pillar is enormous. To have a car this small be this hard to back up is a paradox.

But when we put it in first gear and go, we love it immediately. Ahh, love versus logic. Then reality kicks in, in the form of one of our least favorite things: front-drive torque steer. Within the first quarter-mile, we have noted it twice, and we note it throughout the week.

The retracting rear decklid spoiler, when finished in contrasting stripes (\$250), puts on a good show through your tiny back window, which also provides you with just a little vignette of the road you're leaving behind.

The torque steer generates a love-hate relationship, wherein we note that sometimes when you feel it, you can turn that torque steer into sport. If we felt things starting to get a little squirrely, we could dig in hard and enjoy it. If you're a front-drive fan, you just might love



SPECIFICATIONS

ENGINE1.6L 4-cylinder 16v turbo
HP/Torque.....208 hp / 192-207 lb-ft
0-to-60 mph6.1 sec manual (6.3 auto)

TRANSMISSION6-speed manual

DRIVETRAINFront-engine, front-drive

FUEL MILEAGE25 MPG city, 33 highway

STANDARD FEATURES: 17" alloys, run-flat tires, manual 6-way seats, Brembo discs with red front calipers, ABS, CBC, EBD, DTC, EDLC, four airbags, personal lock/lighting settings, keyless entry, CD-AM-FM-HD six-speaker audio, cargo area pass-through, piano black interior surfaces, active rear spoiler.

BASE PRICE\$31,200

OPTIONS: Blue metallic paint500

Carbon black/beige punch leather1500

MINI Connected with Nav1750

Sport suspension500

Chrome line interior250

Silver stripes250

Door mirror chrome caps100

Center armrest250

Xenon headlights500

Harman-Kardon audio750

White turn signal lights100

DESTINATION CHARGE700

TOTAL PRICE\$38,350



this. If not, you can join us in our effort to look at it from the bright side.

Torque steer is one thing, but engine torque is another, and on this the JCW excels: its 208-hp turbo brags 192 lb-ft at peak, but also has an override feature that goes, well, beyond peak—to 207 lb-ft. We find ourselves on the freeway, up into fifth gear at highway speeds, normally a borderline lugging situation, yet can punch it and accelerate another 10 mph immediately.

The engine has a great raspy note when you accelerate—not the roar of a V8 and not a pocket rocket sewing machine—just powerful and wound up tight.

As our week wears on, we declare that this MINI is red hot and solid. We hit highway speeds immediately without even trying, tracking straight and true. People had been very polarized about the style. If you are, then take it as a motivation to drive a MINI John Cooper Works Coupe. Then if you don't like the Coupe style, take it as a motivation to try the standard-issue JCW Hardtop or one of the others. It's a great package (and we stopped doing the math on the cost of the JCW upgrade, long since). The Coupe part is just one flavor.

Caught in traffic with a combination of a red MINI Countryman and our MINI Coupe, plus three-of-the-same from another brand, we realize MINI is on to something with their push for variety. The car makes a whole different kind of impression in its different forms. As regular MINIs proliferate, it's really good to have options that distinguish themselves from the herd.

We came to this MINI straight from the tiny Scion iQ, which could do a boulevard U-turn between two adjacent (but for the divider) lanes. The MINI takes another lane, and torque steer hits in the middle of it, then again as we shift up on the opposing straightaway. We find more gripes with the torque steer on surface streets. On

the freeway, it holds straight and strong. Yet, freeway driving is not the main reason we'd buy this car. We already mentioned that you can shake off some of that torque steer by giving the car a lot more power, but it seems you can also get rid of it, to a degree, by giving it less power. But that's less fun.

The suspension is impressive. We drove over a succession of bolted steel plates in a construction zone, and basically wanted to do it again, it felt so good.

Toward the end, we were even making friends with the torque steer effect. You gun it, hammer it, power it, bear down, forge ahead, grab that torque and handle it, and it can become part of the fun and challenging sports car feel—fairly elusive in the market overall. (We'd still rather have the tail hanging out, than the front fighting back, but maybe that's just us.)

We had a beef with the audio system, which uses two buttons—one a half foot above the shifter and one a half foot behind it, with the shifter in between—to go between volume and tuning. We also inadvertently changed our airflow settings a few times, while reaching for the radio volume.

The shifter is precise and tight during forward driving, but we would love a gate or detent for reverse, as it takes special care to avoid it when sliding back into first at a stop.

Our logbook reveals that, despite a few demerits on specifics, "overall, all the things we're commenting on, especially the torquiness, are things that likely wouldn't bother an owner at all. It is plenty peppy and remains a hoot to drive, on the open road or even a freeway ramp. As we change lanes in rush hour traffic, it is every bit as quick as you want it or need it to be. We're having our way with everyone on the freeway: Mustang, Challenger, BMW, big pickups. This car is a hoot."

FAMILIARITY BREEDS FAMILIARITY

Getting used to this car's look and feel took no time at all. A MINI Cabriolet at the light, with the top up, looked startlingly tall now. That in turn made the Roadster seem cool, and the idea of a Coupe based on the Roadster makes sense. (We did keep getting the urge to put the top down on the Coupe.) We think the stylists could have done something much more integrated with the roofline, bringing the body into play more, but working from the beltline up (within likely constraints of engineering and budget), this is what we get. Not bad. Distinctive.

Overall, if you want a small car with more than decent fuel mileage, it's hard to beat any MINI. The cars offer fine fit and finish, performance, and that elusive panache and authority that a lot of small cars don't. You can show up at the country club in any MINI, and the more attention-getting—like this Coupe—the more so.

Once you get accustomed to its defining shape, the other MINIs can start to look odd by comparison. It has its own flavor and a personality that grows on you. (We experienced this with the Countryman, to a degree, too, though the Hardtop remained our benchmark.)

You could say the MINI Coupe is for anybody who likes the Roadster but doesn't like convertibles. But there's something about this combination. If the JCW came only as a Coupe, or if the Coupe came only as a JCW, it would be a perfect mix. And it's a blast to drive.

We've driven many MINIs and have never had one we wouldn't have been glad to keep indefinitely. It was the same with this. If we were shopping on any kind of budget, though, we'd take a good look at the Cooper S.

This odd little Coupe starts to feel like your own little secret. It looks so small, but inside it's not. Some people think it's a little awkward, but it's not when you drive it. It's just a little different, and everyone agrees on that. ■

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Control freaks

New Goodyear ultra high performance all-seasons

by Joe Sage

Tire development seems as though it would be largely the same from one tire to the next: maximize traction, handling and tread life, achieve tradeoffs between wet or dry, hot or cold, slick or adhesive surfaces, figure your target market, calculate your costs. How, then, can it keep so many people so busy, over and over? We flew to the Pacific Northwest to learn how one tire might break through all that has come before.

We began by reviewing any tire's fundamentals—a torus-shaped flexible membrane pressure vessel, constructed from high-performance composites comprising long-chain macromolecules. You suspect there is rubber involved, and you are 43 percent right. Add another 27 percent carbon black, 5 and 10 percent each fabric and steel wire, another 5 and 10 percent each oils and other chemicals, and you have a recipe with 18 components, 12 compounds, two fabrics, two steels and 60 raw materials.

Torturing itself where thousands of pounds and hundreds of horsepower of



vehicle meet the road, a set of tires has to ensure the ultimate stable engineering interface between the two—carrying the load and cushioning the ride, while aggressively and effectively accelerating, cornering and braking, while maintaining strong fuel mileage, not wasting horsepower and minimizing noise, vibration and harshness.

Computerized design processes help, but the starting point will never be quite the same for two tires. Even within the Goodyear Eagle performance lineup, there are six families: three high perform-

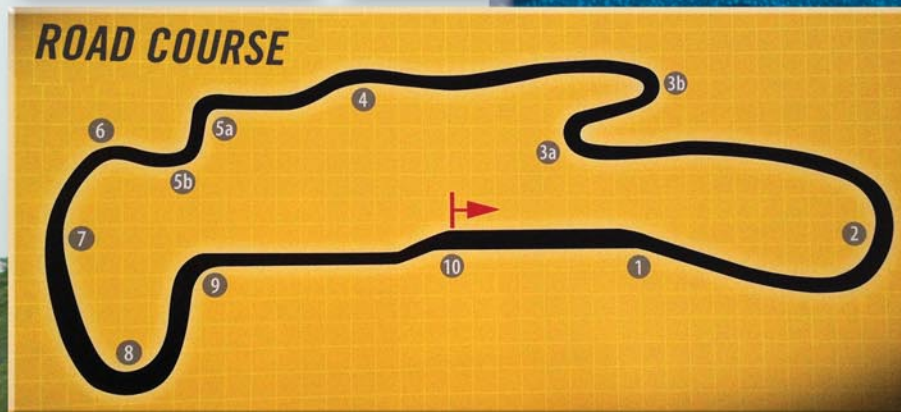
The 2.25-mile track at Pacific Raceways was perfect to push the limits of Goodyear's new all-season F1 Eagles on a pouring rainy day. At right, BMW 3 Series gather at the starting line. The S curves of Turn 3 (third row, first photo) could not shake our grip, nor could the significant standing water in the straightaway to Turn 1 (third row center). Rounding Turn 8 (bottom), we were all ready for another run.

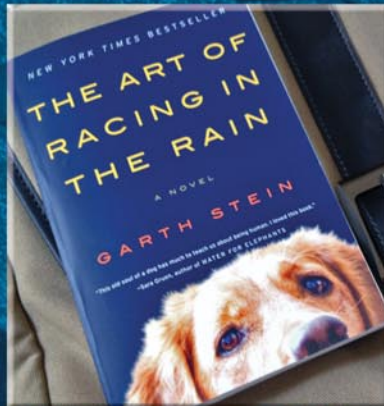
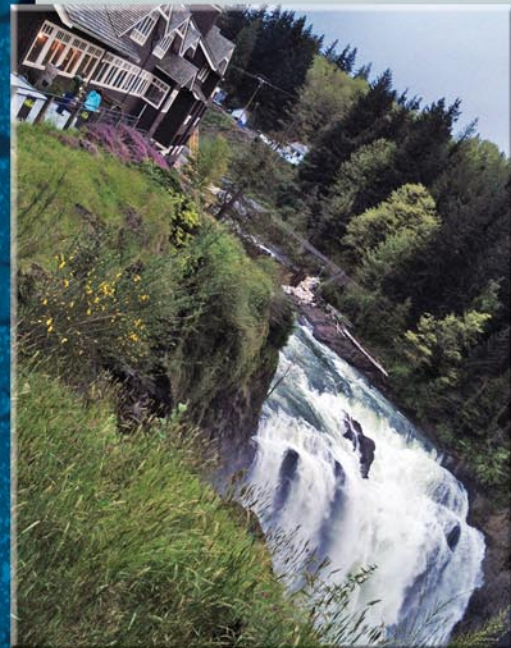
ance and three ultra high performance lines.

Goodyear knows performance. In Formula 1 racing, they have an enviable record of 368 victories and 25 drivers' world championships. Every NASCAR Sprint Cup champion since 1968 has won on Goodyear tires, and they have been the exclusive supplier since 1997.

The performance tire segment of the market is the fastest-growing, now approaching half the volume of conventional commuter/touring tires, surpassing all-terrain, and eclipsing winter tires almost four-fold. Manufacturers are increasingly using them as original equipment, for reasons of style, stopping power (their lower profile allows for larger brakes), and intrinsic

KEEP RIGHT >>





Outside shoulder:
Dry handling zone
(lower void volume)
Enhanced handling & grip

Inside shoulder:
All-season zone
(higher void volume)
more water evacuation

Three-finger block

Traction teeth

TredLock® technology

X
Specialized tread compound

The venue was well chosen for the task. A break in the clouds revealed the wet conditions below. The gushing waters of Snoqualmie Falls at Salish Lodge & Spa, known to Twin Peaks fans as the Great Northern Hotel, were another harbinger of a wet day ahead. Pacific Raceways is home to the famous novel *The Art of Racing in the Rain*. And clever Goodyear technologies got us through it all.

characteristics of handling and grip. OEM is important for volume and the endorsement factor, but folks bought 247 million replacement tires in 2011. These buyers are increasingly putting performance tires not just on Corvette or Porsche, but on Taurus and Malibu, and they want them to work well in any weather.

The twain meet in one tire and tread

What distinguishes the new Eagle F1 Asymmetric All-Season (A/S) is that it is both an ultra high performance tire and an all-season tire—goals that have typically been at odds with each other. (Goodyear did develop the first all-season performance tire—the GT+4—in 1986.) Tire engineers typically make tradeoffs among three elements comprising a “performance triangle”: rolling resistance, wet/dry performance and tread wear. This new F1 expands the triangle.

A team of more than 50 engineers at Goodyear developed this new tire, using virtual tools to create many iterations of tread pattern, profile and other characteristics, to test for wear, noise and handling. Over 1000 alternate models were tried, with even a racing slick in the mix as a benchmark, generating profiles that enabled the team to identify a sweet spot for steering, handling and feel overall. The tread compound had been determined and fixed by last summer—a functionalized polymer chain protected by several Goodyear patents. Next it was time for a tread pattern and mold shape.

The job of any tire varies considerably from edge to edge: the outer half bears the brunt of handling and grip, but dimensional and load-carrying rigidity, along with traction, must be maintained. To the degree that task can be carried across the inner half of the tire, there is increasing latitude for the outer half to give and grab more. Stiffness was balanced across the entire footprint, which may sound simple as a concept, but involved considerable modification of the molds.

An aggressive tread pattern is key for traction. But what's *there* is only half the story. What's *not* there—the “void volume”—is what evacuates water. The outer edge of this new Asymmetric A/S tire features a three-finger block design (32 of these) that shoots rain and snow out quickly, while having three times the number of biting edges. Since a big blocky pattern can be noisy, the inner edge has a smaller element, and 64 of these.

When you come down to it, rubber on pavement is what gives grip, not grooves—visualize a racing slick. Goodyear tackles this with its TredLock® technology on the second course of the outer half of the tire, with biting-edge microgrooves that provide wet traction but lock together for more grip in turns. Bigger traction teeth on the inner half continue to provide bite in wet conditions (including mud, snow or rain—lots and lots of rain).

By the time we were done learning about the development of the new Goodyear Eagle F1 Asymmetric All-Season tire, and ready to drive it in the best possible

While we weren't doing road course laps, we were hammering a very wet autocross course also at Pacific Raceways. Our runs were also done in the BMW 328i equipped with Goodyear's new A/S tires, then with tires from competitors. We also did about an hour's open touring drive in the BMW, Audi A3 and Lexus IS, tackling the equally very wet hills, curves, highways and school zones of the region.

conditions—which would in this case mean the worst—at Pacific Raceways outside Kent, Washington, we were hard pressed to figure what the team would tackle next, that hadn't just been solved for all time.

Taking it to the track and the open road

Lots and lots of rain is what we found at Pacific Raceways in the Evergreen State—enough to scrub any normal event. But you couldn't have asked for better, for our track test of the Goodyear F1 Eagle Asymmetric A/S tire. We also had a fleet of 3 Series BMWs, as this was the primary development platform for the tire, demanding an ideal comfort and ultra high performance mix. The road course at Pacific Raceways (which also has a drag strip and motocross course) is 2.25 miles long, with nine turns and significant elevation changes. Great for race events, it is also used for such skills as law enforcement winter pursuit training. The facility also created a flat, very wet coned handling course for us.

These conditions are not that different from the worst that Arizona can dish out—from winding two-lane mountain highways in winter, to sudden stretches of standing or rushing water on desert road surfaces during our less frequent but often even more intense rains. Goodyear's own testing indicated that their new Asymmetric A/S outperforms its main competitors—the Michelin Pilot Sport A/S Plus and Bridgestone Pole Position RE970 A/S—in six out of eight tests on the handling course and four out of eight on the road course. We would be testing all conditions except “dry.”

We pushed the tires to extremes on the track, and we were impressed. We ran many laps, and on some we brought along a seasoned race instructor, who made sure we pushed our boundaries. Yet we never exceeded our comfort zone. We've driven many a mile in the worst of weather, and we think we can feel the edge of grip, but these tires did not want to reveal any limits.

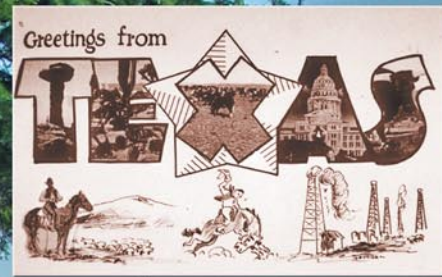
We also drove on a flat autocross course, running the new A/S on the 328i, back-to-back with the same car on competitive tires. One colleague had grim results in this comparo. We kept our sheetmetal intact, but could very much feel the difference. Impressive.

Made in America for the long haul

Goodyear has engineered the Eagle F1 Asymmetric All Season for a 45,000-mile warranty life. The tires are manufactured at plants in Lawton OK and Fayetteville NC. It is being produced in 36 sizes; the first thirteen W- and Y-rated variants began arriving in stores in July.

Between a great car and a great road—all the more so a great road in miserable conditions—is a piece of engineering that must pull it all together. The development team at Goodyear has worked very hard to ensure the new F1 Eagle Asymmetric All-Season is the perfect key to that puzzle. For an entertaining video about this tire, visit www.goodyear.com/controlfreak. ■





fine tuning

All-new but familiar Lexus ES includes a smooth, powerful hybrid

By Joe Sage



This is the sixth generation of the Lexus ES, a model that helped launch the brand—and the whole concept of high-end Japanese product in the US—24 years ago, in 1989. Stylewise, it is more evolutionary than revolutionary, easily recognizable as the successor to the prior ES, yet immediately recognizable as new by its spindle grille, the signature element of all new Lexus models.

What lies beneath

Similar though the new Lexus ES may appear to its predecessor, it has actually moved to a new platform this year. The first five generations were based on the Toyota Camry, but the sixth generation is based on the slightly larger Avalon. Considering the stretching and chopping various brands do within platforms, anyway, this 2-inch-or-so difference is almost imperceptible.

What's more significant, perhaps, is the addition of an ES 300h hybrid this year (alongside an ES 350 gasoline-engine model). Lexus has made a point of consistently expanding its hybrid lineup for years, and as big as this news is, it could almost fall into the "they didn't already have this?" category. And that is meant in a good way: it's just a perfect fit for the car, and seamlessly integrated into its design and build.

Takumi "L" design

The Takumi master craftsmen at Lexus are highly disciplined and highly skilled. One unexpected skill test they must pass is to create a piece of origami in 90 seconds using their non-dominant hand. Try that. Their applied skills are evident throughout the development of the new Lexus ES—for example in the hand-stitched leather interior, a highly skilled endeavor performed by just a dozen of these Takumi technicians.

New sheetmetal features mildly crisper lines, and that spindle grille is framed by headlamp assemblies featuring "L"-shaped LED lights. Body corners are pulled in tighter to enhanced wheel arches. The grille—more subtle than some spindle implementations—has its shape carried back through the hood, and body lines flow below the beltline to the rear deck. At the rear, the ES 350 sports dual exhaust tips, while the ES 300h hybrid can be distinguished by a modest spoiler and its hidden exhaust.

The driver's realm is divided into a display zone and an operation zone, upper and lower respectively, intended to keep your eyes on the road, while hands fall naturally to operations. Ten-way power seats have improved bolstering, to reduce fatigue, and are set an inch lower than before, to accommodate taller drivers. The steering column has changed from a 24-degree angle to 22, easier on the shoulders and better for long drives. The back seats are larger, with bolstering (so you "sit in, not on"), the additional length of the new platform adds to rear legroom (plus improved ingress/egress), and rear headroom is increased by almost an inch.

Electronics of course abound, including available Blind Spot Monitoring, Rear Cross Traffic Alert, Lane Departure Alert and Automatic High Beam technologies.

Attention to cabin quietness extends to an acoustic windshield, as well as side mirrors that are set out and back for quiet-enhancing aerodynamics. Ambient light-



ing adds to the peaceful setting.

The new ES has a standard moonroof, and an Ultra Luxury Package on the ES 350 offers a panorama glass roof. The panorama glass roof's front panel slides up and back over its rear panel.

The panorama roof has two tenths of an inch more headroom in the front, whereas the moonroof offers half an inch more headroom in the rear. The rear window has an electronic sunshade, and rear side window shades are manual.

Trunk volume is significant: 15.2 cubic feet, or 12.1 cubic feet in the hybrid, which makes room for a very compact and well-placed battery pack.

Making your ES your own

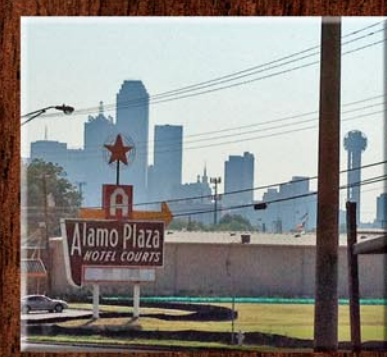
There are ten colors this year—mostly fairly sedate, but also including Matador Red Mica and Deep Sea Mica (blue)—with interiors in black, grey or parchment, with choice of piano black, bird's-eye maple or—in the hybrid—bamboo interior trim. Standard seats are finished in NuLuxe synthetic leather, with two levels of leather—embossed, semi-aniline—available.

Customization is more than skin deep on this car, however, with over 300 combinations of lock, climate, lighting and other vehicle presets possible. Not only does each standard smart key remember seats and mirrors—as expected—but also prior climate settings. And you can touch-open and lock all four doors.

The new ES is the fourth vehicle to receive the Lexus Enform App Suite, a voice-controlled technology bringing audio playback, destination assistance, Facebook, Pandora and more—all of which you can download to your phone and then load to the car.

The Lexus ES 350 starts at \$36,100 and the ES 300h at \$38,850—one of the smallest differences ever for a hybrid price in a vehicle that offers both drivetrains.

KEEP RIGHT >>





The Lexus ES 350 and the ES 300h hybrid are hard to tell apart at a glance—a taste of just how mainstream the hybrid adaptation is in this car. Ten new colors can help you tell your ES from the pack. The two-panel “panorama” glass roof is only available on the ES 350 for now. While in Dallas, we visited infamously historic Dealey Plaza, third photo at left.

car. But to reach our sales goals, we'll need to look beyond our current customers.” Updating the car's styling, driving dynamics and technical features is one part of the plan. The other part is the hybrid.

The typical buyer of a rear-wheel-drive (or all-wheel-drive) Lexus GS is in his or her 50s and earning \$200,000 a year. For the front-wheel-drive ES, age is in the 60s and income around \$130,000. Visual cues and the driving experience of the new ES are expected to separate the two models even more clearly.

The ES 300h is expected to bring in younger customers than the ES traditionally has, and to attract converts from other luxury and sub-luxury brands. The hybrid is expected to produce 25 percent of ES sales.

Tackling Texas highways

Lexus has engineered the new ES for the expected very high degree of comfort, while also for more engaging driving and handling. Opposite-wound front coil springs keep the vehicle centered—a seemingly simple but significant breakthrough when compared to two springs wound the same way, which causes most vehicles to jerk to one side on a bump. Electric power steering has been given a quicker gear ratio. Dual-link strut rear suspension and reduced-friction shocks are new, atop an optimized foundation of body rigidity which has been increased numerous ways.

Our time in the Lexus ES was centered around Dallas, with open highway time, urban freeway, downtown city streets and high-end suburbs. We drove the ES 300h hybrid for the first hour or two, then the ES 350 for the next. For our third leg, we chose the hybrid again, because we wanted to confirm what we were already thinking: this hybrid is a comfortable and straightforward car, offering power that—between the various modes and with the extra grunt from the electric portion—is almost indistinguishable from the gasoline model. And all this with a conventional interior, not the My Science Project instrument panel of many hybrids. For a couple of grand more, you can top 40 MPG in the hybrid. Lexus expects 25 percent sales, but unless that couple of grand makes all the difference, we could easily see the hybrid accounting for 75 percent of the mix.

Lexus says the new ES will be unforgettable: “impossible to ignore and impossible to forget.” That's a tall order. But we'd think of it this way. The Lexus ES has always been a fine car, though somewhat a sleeper. We've found the prior generation attractive—looking like a smaller LS—and easy to live with, though we've noted that it has carried some aura of an older demographic and some from its former Camry basis. As with some of its stated competition—eg the Mercedes-Benz C-Class or the Cadillac CTS—it has now absorbed style, technology and panache from its higher-end siblings, which is exactly how it delivers what the segment announces: luxury and value. ■

There are several option packages, with Premium starting at \$2895, Luxury about \$6000 and Ultra Luxury topping out at \$11,000-plus.

Cleverly frugal luxury

Lexus, as the luxury arm of world fuel economy image leader Toyota, has access to a great many cutting-edge technologies, large and small. The Lexus ES adds tiny aero stabilizing fins to mirrors, door frames and taillight lenses—as seen on the new smaller Toyota Prius c (see our March/April 2012 issue)—to create vehicle-stabilizing vortices. Air is pulled toward the car's body, for aerodynamic flow and also to improve tracking. Underbody covers—also with fins—increase aero slipperiness below. As with the side mirrors, all this aerodynamic attention not only improves fuel economy, but also interior tranquility.

The 2013 Lexus ES 350 has a 3.5-liter V6 running on 87-octane regular gas and producing 268 hp and 248 lb-ft of torque. This gets the 3605-pound ES 350 from 0 to 60 in 7.0 seconds, while achieving 21/31 MPG city/highway fuel mileage (24 combined). A 6-speed automatic works with eco, normal and sport drive modes.

The 2013 Lexus ES 300h—new to this model, and the latest of Lexus' always-growing hybrid lineup—has a 2.5-liter Atkinson cycle DOHC inline-4, also running on regular, and producing 156 hp and 156 lb-ft of torque if measured by the gasoline engine alone. Total system horsepower is stated as 200 hp. The 3660-pound ES 300h hybrid accelerates from 0 to 60 in 8.1 seconds, and fuel mileage is an impressive 40/39 MPG city/highway (40 combined).

Lexus US marketing communications manager Brian Bolain says, “Since its debut in 1989, the ES buyer has been one of our most loyal. There are over one million ES owners on the road today, and they are going to love this

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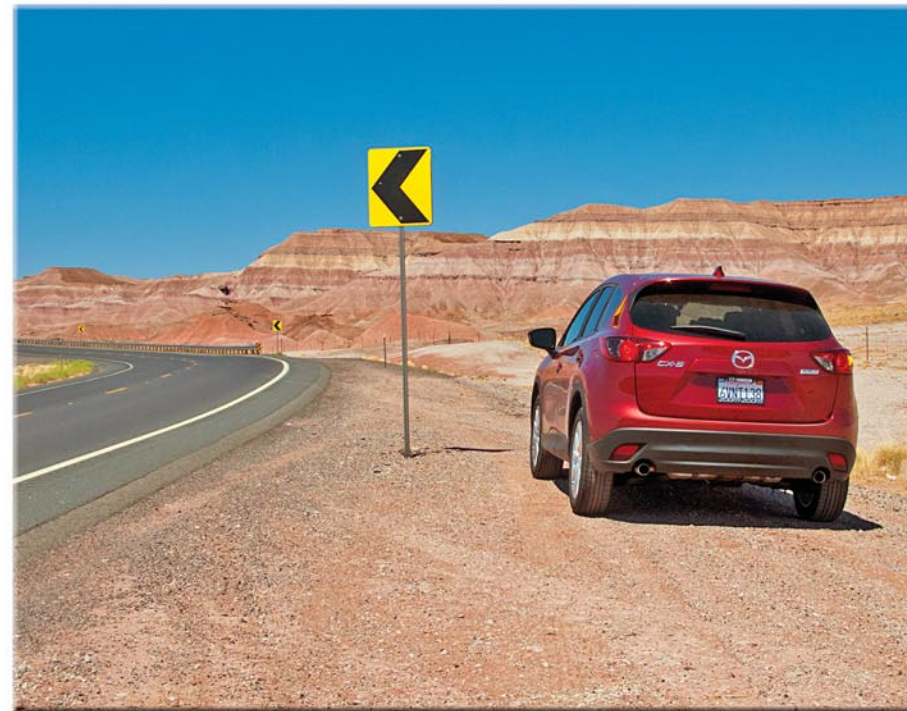
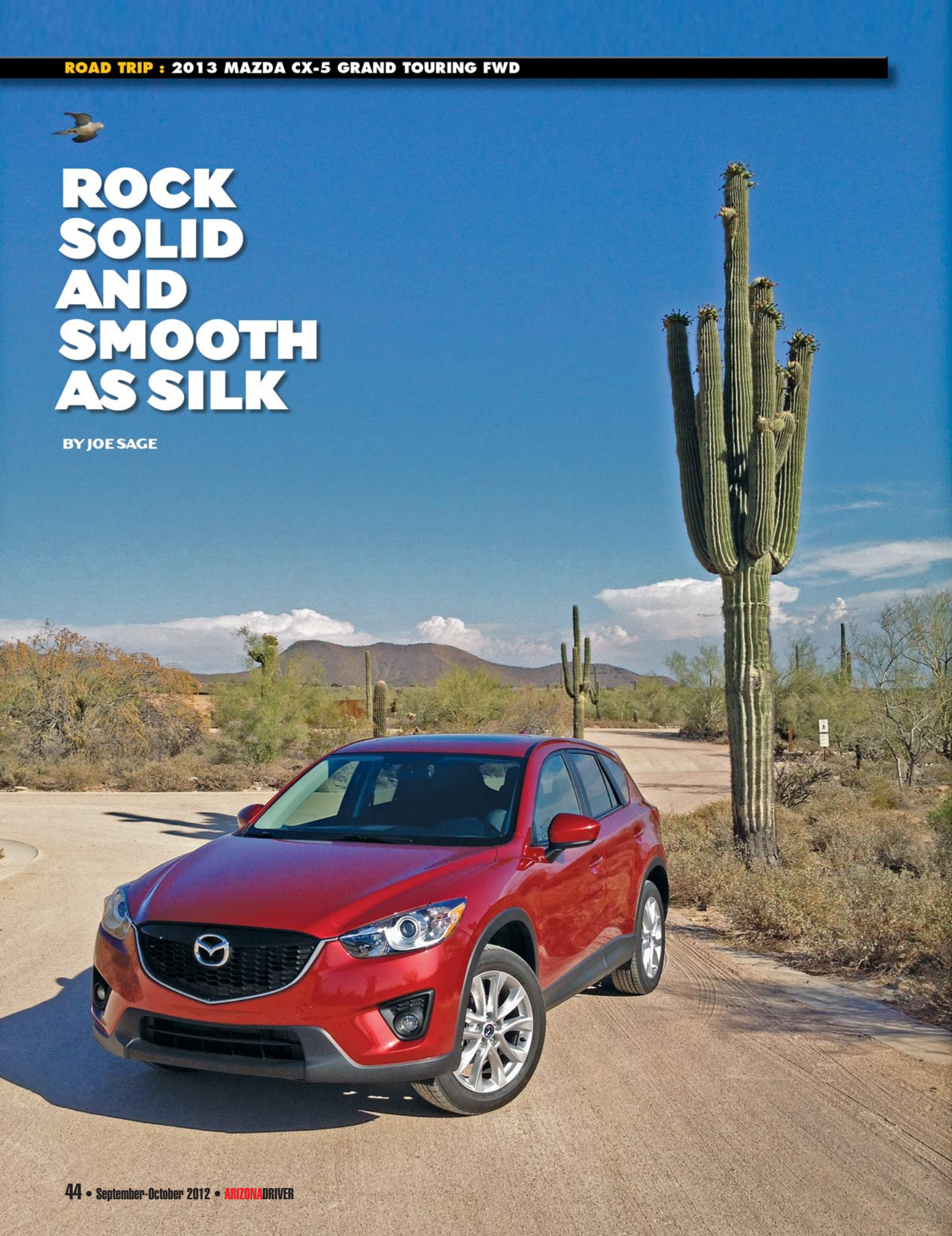
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ROCK SOLID AND SMOOTH AS SILK

BY JOE SAGE



Given the chance, we would take every test vehicle on a long road trip through the region—easier said than done. But the all-new Mazda CX-5 was due to arrive at our offices in time for the 4th of July, and a classic Western pilgrimage was in order.

We drove from the Valley, up I-17 through Flagstaff, north-northeast through the Navajo Nation into Monument Valley and Utah, into Arches National Park and other red rock highlights of southeastern and eastern Utah, on into Colorado on I-70, along the Colorado River and north from there to Steamboat Springs—known as the home of the Bridgestone Winter Driving School—in time for their 4th of July parade.

The return trip took us south out of Steamboat Springs on Colorado 131 to I-70, west through Glenwood Canyon, then picked up the same route back through Moab and south through Monument Valley back to Arizona.

A great route, a good schedule, and a compelling new vehicle ready for a solid tryout. Let's hit the road.

ALL NEW, ALL INCLUDED

The CX-5 sits in a very competitive segment, but Mazda clearly brings a highly competitive vehicle to the market, at least by the numbers and inclusions.

Our test CX-5 came in the highest of three trim levels—Grand Touring—but in front-wheel-drive (AWD is also available). We don't always list every item from the Monroney sticker, but in this case (see specs at right), we are compelled to do so by the fact that our Grand Touring example had not one dollar in options, add-ons or upcharges. This top trim is very complete, with all modern electronics, interfaces and amenities, from audio to dual climate to moonroof to electronic handling systems—and is still priced very attractively.

Three available levels are Sport, Touring and Grand

SPECS: MAZDA CX-5 GT

ENGINESKYACTIV 2.0L
HP/Torque155 hp / 160 lb-ft
TRANSMISSION6-speed sport automatic
DRIVETRAINFront-engine, front-drive
FUEL MILEAGE26 MPG city, 32 highway
STANDARD FEATURES: 18-inch alloy wheels, P225/55 R19 all-season tires, variable rain-sensing wipers, fixed-intermittent rear wiper, heated power mirrors w/ turn lamps, rear privacy glass, power moonroof, 5-passenger seating, tilt/telescope leather-wrapped steering wheel w/audio-cruise-Bluetooth™ controls, power locks, power windows (driver one-touch), leather trimmed sport seats, carpet floor mats, remote keyless entry, dual zone auto climate, 40/20/40 split fold-down rear seat, 37-month warranty and 60-month/60k-mile powertrain warranty, 24-hour roadside assistance, ABS with EBD and brake assist, 5-passenger 3-point seatbelts, child safety seat anchors, blind spot monitor, 4-wheel disc brakes, electric power steering, independent front and rear suspension with front/rear stabilizer bars, auto halogen headlamps, DRLs, stainless steel exhaust outlets, rear roof spoiler, roof mounted satellite antenna, fog lamps, dual lighted vanity mirrors, 5.6" color display with rear camera, Bose AM-FM-CD-MP3-SAT 9-speaker audio, aux input/USB, Bluetooth™ phone/audio, HD radio, center armrest and covered storage, rear seat center armrest, 6-way power driver's seat, power lumbar support, heated front seats, DSC, TCS, hill launch assist, advanced airbags/curtains, ring-structure SKYACTIV body, TPM, anti-theft immobilizer.

BASE PRICE\$27,045
OPTIONS:[none]
DESTINATION CHARGE795
TOTAL PRICE\$27,840

KEEP RIGHT >>

NORTHERN ARIZONA

The route to northwest Colorado is actually quite direct. From wherever you start, drive to Flagstaff, then north on US 89, east on US 160 to Kayenta—(while there, don't miss the uniquely situated Navajo Code Talkers Museum, inside Burger King)—then north into Monument Valley, which looks like classic Arizona but is mostly in Utah.



SOUTHEASTERN UTAH

Southeastern Utah is a travel treasure trove, with parks and attractions to keep you busy for weeks. The drive north brings you through Bluff, Blanding and Moab. Shown are Monument Valley, Wilson Arch, a classic Moab motel, Arches National Park and Fisher Towers Road. Also nearby are Canyonlands NP and Dead Horse Point.



Touring. If you choose Mazda's 6-speed SKYACTIV-Drive automatic (almost the only choice), you can also choose between FWD or AWD. That makes six models. The base model—the FWD Sport—is also available with a 6-speed manual, for a total of seven models. We would certainly like to see a manual also available on at least one of the AWD models, the better to tool over some tougher terrain at times.

A bottom-rung 2013 Mazda CX-5 Sport with manual transmission and front-wheel drive has a base price of \$20,695, while the FWD automatic starts at \$22,095. The top FWD model—our test vehicle—starts at \$27,045. AWD models (all with 6-speed automatic) run from \$23,345 to \$28,295. We would certainly pay \$1150 to have AWD, and the fuel mileage difference is almost negligible: 25/31 MPG city/highway with AWD versus 26/32 as a front-driver. (Note that the manual-shift front-driver gets the best fuel mileage, at 26/35 city/highway. Again, please build that AWD manual.)

BATTING CLEANUP

Mazda brought us the CX-7 and CX-9 crossovers for a number of years. And let's not forget the Mazda Tribute—close kin to the hotcakes-selling Ford Escape of the last decade. The Escape has just gone through a major evolution, so where did that leave Mazda?

The Ford-Mazda relationship is already pretty much in the rearview mirror, having receded from a high point of one-third ownership by Ford down to just three percent by a couple of years ago. Mazda would now evolve their own way.

Whereas the Ford Escape has become a completely different vehicle this year, though bearing its old familiar name, Mazda has a new vehicle that we find more in line with the Escape-Tribute predecessors, despite

wearing a new name that aligns with CX-7 and CX-9. However compelling it may be for Ford to chase the Honda CR-X and other small crossovers, the prior Escape had been the hottest seller in the segment, and we're inclined to think Mazda is on to something with their more traditional approach, in this new CX-5.

The CX-5 also knocks the CX-7 out of the Mazda lineup. While the CX-7 and CX-9 offerings seemed to be built similarly but in different sizes, the CX-9 is still based on the platform used in everything from the Ford Edge and its sibling Lincoln MKX, to the outgoing Ford Fusion and Mazda6. The CX-7, exiting the lineup, was based more on the Mazda MPV minivan platform.

Run all that information through the grinder, and we'd say the results are clear. Mazda now has two choices with well-defined missions.

MAZDA CX-5 WHEEL TIME

We received the Mazda CX-5 a couple of days before our road trip, and we made a few notes as we dashed around town the first day or two. We noted that the vehicle is pretty sizable. We found it easy to tune the radio and add preset stations. The hot months were just coming on, and climate control wasn't cooling very effectively at first.

Turn signal functions are simple, either on or off; hold for a lane change. After a lot of finicky, overly-tricked-out stalks, this was a touch of grace. The righthand stalk, however, almost completely blocks the start/stop button, a startling design failing. We do like the sturdy, machined look and feel of the controls on both stalks—a tapered barrel with an offset stem.

Within the first five miles, we were noting the CX-5's normal dashboard real estate, more conventional shape, and good size and fit—and liking this. While other small SUVs are morphing into carlike little crossovers, we sus-



pect Mazda is nailing a niche that still exists. Around town, we noted that while crossing storm troughs, the CX-5 was solid and smooth as silk. Maneuvering around a vacant parking lot, handling was level and smooth.

We noted one particular instance of pulling out onto the boulevard, and finding ourselves shy of power, with a faltering of the engine before engaging. Others have noted the automatic transmission as a weak point. Ultimately, we only had that one instance around town.

As we headed north on our road trip, though, having made the climb up through Black Canyon on I-17, with a lot of steep stop-and-go for the requisite holiday traffic wreck, once we were up on the high plains, we did note the automatic transmission was underperforming. We had trouble getting enough power out of it a few times, especially when resuming speed during that stop-and-go. Once at the top, trying to open it up and move into more open lanes, the vehicle was still hunting and shifting at times, though on flat terrain at that point.

By the numbers, the brakes are sufficient, if not noteworthy: diagonal hydraulic discs, single-piston caliper front and rear, both just under 12 inches, with the fronts smaller than the rears, but ventilated. In actual use, the logbook noted that you tend to apply them with extra firmness, because you feel you need to, though they do stop abruptly. The turning circle is fairly good: at 36.7

feet curb-to-curb, it's only a foot and a half more than a MINI Cooper; then again, only a few inches less than a Grand Cherokee.

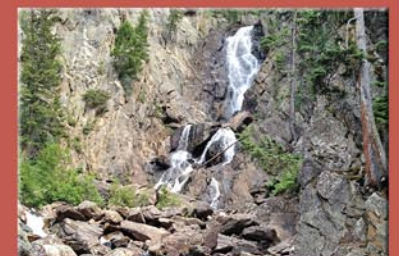
Tunes are generally a must on a road trip, but on the next-to-last day, driving south out of Moab, for a drive team who traditionally can't drive a mile without the tunes blasting, we were leaving this turned off as often as not—the audio quality wasn't great, for a Bose unit. Then again, we only had satellite as a source—200 stations and nothing on, and that's not the car's fault.

We tried to make friends with the transmission. The manumatic does help a little when you need to achieve a power band in the mountains and at altitude, but the revs go pretty high pretty quickly, it doesn't have a lot of gears, nor prodigious torque. But it will get the job done.

All in all, we had a great trip in the new Mazda CX-5 and would happily do it again. It was handy and convenient, well outfitted and feature-laden, attractive and very well priced for all it delivers. We'd like a little more power, or maybe just a remapped transmission. And we'd like that manual AWD. Early in our week, we had enthusiastically told our logbook, "if you're at all interested in this, just go buy one"—we were sold. By the end, we wouldn't buy it sight unseen, but think it's a very strong contender in a high demand category that now has fewer options. Definitely check this one out. ■

NORTHWEST COLORADO

I-70 in Colorado brings you through Grand Junction, past the Book Cliffs. We headed north at Rifle to US 40 in Craig, then east on 40 to Steamboat Springs (the Yampa Valley and Fish Creek Falls are shown below). For the return, we drove south on Colorado 131 to I-70 between Vail and Eagle, then west through Glenwood Canyon, back to Utah.



HYUNDAI HYUNDAI HYUNDAI

**TEXAS
ROAD TEST
IN THREE
NEW POCKET
ROCKETS**
BY JOE SAGE



Hyundai is clearly benefitting from a severe case of accelerated development. In roughly a decade, they have progressed in the US from who? to red hot, with a stylish and increasingly innovative lineup that we have noticed arguably seems to generate a degree of copycatting by everyone from Ford to BMW.

Hyundai started in our market with an unprecedented warranty, to ease any of those who? concerns, and it worked. Their ongoing response to the wants, needs and feedback of the US market has brought improvements in design, model mix, technology, quality, and fit and finish at a blindingly fast pace, surpassing most manufacturers' rates of just normal evolution.

And despite brisk sales and a top-notch reputation now, those generous warranties remain.

The Veloster breakthrough

When Hyundai introduced the Veloster at the Detroit and New York auto shows in 2011, we were struck by the crowds it attracted—not just during the public show days, but even from the jaded press corps during media preview days. It took a lot of patience, to get a chance to photograph the new model through the mob.

Hyundai brought us the Tiburon from 1997 through 2008, a reasonably peppy drive in a small package at a pleasing price. The Tiburon was attractive and popular, though somewhat derivative in format. The Veloster, on the other hand, stakes out new turf. To make that perfectly clear, the company provided it with three doors: one on the driver's side and two on the passenger side. (This has been done before, on some Ford pickups 15 or

20 years ago, though the third door in that case was as much an access panel as anything.) As with so many things coming from Hyundai, it's not only distinctive, but it makes sense: the driver uses the car all the time, often alone, so why suffer the smaller door of a four-door? But it does have a back seat, so why make passengers crawl in from the front? A third passenger has total convenience, and a fourth can just scoot over. Nice. The base Veloster has a 1.6-liter four-cylinder engine generating 138 horsepower and 123 lb-ft of torque and weighs about 2600-2800 pounds depending upon fitments.

Veloster Turbo

So clever and sporty is the Veloster, there was only one thing begging to be added: a little more pep. Enter the

If you have any doubt that the new Hyundai Veloster Turbo packs a lot of style and punch, look how quickly it attracted a Ferrari 458 Italia when parked in front of an Austin hotel. At \$22k for the Hyundai versus about \$240k for the Ferrari, which gives you more bang for the buck: one Ferrari, or eleven Veloster Turbos? More to the point, how does one Veloster Turbo compare with one-eleventh of a Ferrari, say a wheel and a taillight?



Veloster Turbo for 2013. The core difference is of course its 1.6-liter twin-scroll turbocharged engine, pumping out 201 horsepower. The new performance is announced by a distinctive front fascia and body kit, upstyled headlights and taillights, tuned exhaust, sport-tuned steering, 18-inch wheels and interior upgrades including heated leather sport seats with Turbo inscription. The Turbo weighs in at 2800-3000 pounds. A little weight gain, but all for the right reasons, and the Turbo works out to just 14-15 pounds per horse, compared to 19-20 on the base Veloster.

Scott Margason, Hyundai's director of product planning, met us in Austin, Texas, to discuss how things are going. The company was just coming off four months in a row of 60,000-plus units sold per month in the US, and retail sales for the first half of 2012 were 13 percent higher than last year. Fleet sales are only nine percent of Hyundai's mix, since they don't seek to pad their demand

that way. And in the world of supply and demand, Hyundai's supply of inventory was sitting at just 27 days, the lowest of any non-premium brand. Hot, hot, hot.

How do they do this in a lingering recession? Prices are more than fair and fuel economy is more than good, two things anyone is seeking as the economy continues its prolonged recovery. The government has set aggressive new CAFE fuel standards (corporate average fuel economy), with a mandate for 35.5 MPG by model year 2016. Sound impossible? By calendar year 2011, Hyundai had already hit 36.1 MPG as its average. The company has enough 40-plus MPG vehicles in its lineup that it had sold close to 140,000 40-MPG-plus vehicles by midyear, some 39 percent of its total mix. Improvements throughout the industry have been dramatic in the



KEEP RIGHT >>





past year or two, with 30 MPG becoming commonplace, followed by 40 MPG becoming “the new 30.” And close to half of Hyundai’s vehicles, by sales, are there. Again, they demonstrate a case of accelerated development.

The beauty, not unique to Hyundai, is that this kind of fuel frugality no longer necessarily comes at the expense of style, comfort, even luxury and pride.

Speaking of supply and demand, the Veloster is one car whose sales are so hot, the supply has had trouble keeping up. From sales of about 1700 in January, volume skyrocketed to more than double that, almost 3900, by March. Sales have been over 3000 per month since then, too, but Hyundai knows they can sell more, once production increases. How? They compare the number of days it takes to sell comparable “sporty cars”—MINI, VW Beetle, Scion tC, Honda CR-Z and Fiat 500. Those range from 26 days for a MINI Clubman to 64 for the Fiat. And Veloster? Just 13 as of midyear. If you’re developing the itch for one, get your name in, pronto.

Also hot in the lineup are the Hyundai R-Spec cars. Sales of the Genesis R-Spec sedan and coupe have represented over 10 percent of those models’ totals, far more than they had anticipated. This is more evidence that sporty will sell.

Any company’s “halo cars” are known to boost

The Hyundai Veloster Turbo is available in a factory Matte Gray paint. This costs \$1000 and takes extra care, but is a stunning sight to see.



sales overall. Typically, this will be something at the pricey end that casts its magical light on the rest of the lineup, such as a Corvette or Lexus LF-A. Hyundai sees the Veloster Turbo as a “reverse halo” car, bringing its desirable attributes to the most affordable end. Competitors in the Turbo’s realm include the VW GTI, Honda Civic Si, MINI Cooper and Abarth from Fiat. (The Veloster boasts the most interior volume and cargo volume among its competitors, with the Beetle coming closest.)

The engine is a first-of-its-kind for Hyundai: a 1.6-liter turbo pumping out 210 horses and 195 lb-ft of torque on regular fuel. (That’s the same horsepower a first-generation Porsche Boxster had, but that required premium.) What’s more, it qualifies as an ultra-low emissions vehicle (ULEV), achieving 38 MPG highway with a 6-speed manual (or 34 with a 6-speed automatic). The base Veloster is geared with an emphasis on fuel economy, while the Veloster Turbo aims for more torque and a fun-to-drive experience—and yes, while getting 38 MPG.

The cost of the Turbo is \$1600. Beyond that, \$2350 of content is added but \$1450 is deleted (e.g. leatherette is out, leather is in), for a net addition of just \$900 more. Grand totals: \$17,450 base for a Veloster, \$21,950 base for a Veloster Turbo. Forty-five hundred bucks is forty-five hundred bucks, but we would certainly be inclined to come up with it. When you consider a few likely additions to the base model, the gap is even closer.

Elantra Coupe and Elantra GT

If you’re still learning your way through the extensive Hyundai passenger car lineup, that’s not surprising. Among compacts, they have the Accent, Elantra and Veloster. Midsize includes the Sonata and Azera (and a Sonata Hybrid). Performance and Premium models are combined in their lexicon, including the Genesis four-door sedan and two-door coupe (quite different vehicles in application and spirit), and the top-dollar Equus sedan

(\$59,250 base). Within the compact category, the Accent is clearly entry level, while the Veloster is a bit of a specialist. Hovering closer to the Veloster in price, but more conventional in form, is the \$16,695 base Elantra four-door sedan (the Accent starts at \$14,545). With the larger Sonata starting at just about \$20k, the product planners saw an opening for something in the Elantra’s size and economy range, not as mildly unconventional as the Veloster, but sportier than the four-door.

Enter not one but two new Elantra models: a two-door Elantra Coupe and a five-door Elantra GT. Competition for the Elantra Coupe includes the Honda Civic Coupe, Kia Forte Koup, plus Accord and Altima, secondarily. The Elantra GT chases after Mazda3, Ford Focus and others in the finally very popular and growing category of five-door hatches (by whatever name). Both pick up the 1.8-liter four-cylinder from the Elantra four-door, and are available with 6-speed manual or 6-speed automatic. Suspension and steering are modified and include a compact segment first: three-mode driver-selectable steering.

The new Elantra is 151 pounds lighter than the Mazda3 and 175 pounds lighter than the Focus. Three models (the GT, manual or automatic, and the Coupe, automatic) achieve 39 MPG highway. The Coupe with manual transmission hits 40.

All four are rated at 148 hp and 131 lb-ft of torque. Moving from the Veloster Turbo to the Elantra in our test cycle, we debated whether 148 hp in the Elantra felt anemic or not—and whether that matters. Hyundai is of course trying to achieve those high fuel mileage numbers and those reasonable sticker prices (the Elantra Coupe starts at \$17,445 and the Elantra GT at \$18,395). Our conclusion? In this era of quality, fit and finish—even at these prices—you can make a legitimate decision to buy in this price bracket and totally enjoy yourself. It’s just like buying popcorn at the movies, we concluded: sometimes you only want the small popcorn.

Hyundai sports economy drive time

An easy 90-minute flight took us from Phoenix to Austin, a popular vehicle launch locale with a combination of freeway, two-lane highway and country road driving, as well as great barbecue.

Stated competition includes some good machinery. Hyundai has calculated their competitive advantages—as stated, plus braking, cabin noise and more—and such test numbers tend not to lie. Also not lying are the Monroneys: all punch well above their sticker price. And all include Hyundai’s 10-year/10,000-mile coverage.

When it comes to the folds and flows of Hyundai sheetmetal, we’ve come to realize they are doing what Audi has long done: anticipating—and leading—design direction by a few years, developing styles that stand the test of time as the rest try to catch up. All three of these cars are handsome and fresh and look worth more than they cost. It’s not just style for style’s sake: these cars demonstrate a trend—benefiting from gains in lightweight strength and goals of fuel economy—toward larger cabins in smaller cars.

If you’re looking for something in the 20ish price range, with style and pep, plus daily driver comfort and utility you won’t get tired of any time soon, head to the dealer and do what we did—drive all three. ■

The Hyundai Elantra GT and Elantra Coupe are easily distinguished by their body profiles or from the back, but also have distinct front fascias.



Ken Schutze of Cowboy Restorations preps author Tim Sharp's Austin 7 Special at Sonoma Raceway.



ARIZONA VINTAGE RACERS INVADE SONOMA

STORY BY TIM SHARP
PHOTOS BY KRISTIN AND TIM SHARP

There was a time when vintage races were nostalgic processions of historic cars. Proud owners paraded their rare race machines around the track at sensible speeds. That was twenty years ago. Times have changed. Today vintage racing is serious racing.

If you have not attended a vintage road race recently, you would have enjoyed this year's Sonoma Historic Motorsports Festival. You would have watched two talented Valley drivers put on a race driving clinic. You would have seen vintage cars driven in anger, as they were raced back in the day. You would have enjoyed some close competition at one of America's premier road racing circuits, Sonoma Raceway.

Vintage race fans saw remarkable driving performances put in by Arizona's Ross Thompson and Spencer Sharp. These two guys are not your average race drivers. They are ex-Bob Bondurant School of High Performance Driving racing school instructors, racing champions, former teammates and good friends.

This year, Tommy Thompson would not put his son Ross in the seat of his Pontiac Firebird for the 1982-1991 IMSA GTO/SCCA Race. Why not? Ross was coaching for the McKenna Team and he was racing John McKenna's 1985 Thunderbird. What was Tommy to do? Simple, he asked Ross' friend Spencer to race his car.

On paper, both Ross and Spencer's 1980s GTO machines should be mid-pack runners. The newer 1990s IMSA GTO and SCCA TransAm cars should kill them. However, Ross qualified on the pole against a factory 1991 Chevy Beretta while Spencer was relegated to the last row, due to an engine overheat problem in qualifying.

SCHOOLING THE LOCALS IN CALIFORNIA

When the green flag dropped, Ross Thompson took the lead in his 1985 Thunderbird, with Peter Balljet's 1991 Beretta in close pursuit. After a few laps, it was obvious that the old Thunderbird was at a disadvantage to the newer and more powerful Beretta. Regardless, Ross



(Above) The Sports Racer class heads out of the start during the Sonoma Historic Motorsports Festival, at Sonoma Raceway in northern California. (Right) Ross Thompson, Tommy Thompson, Spencer Sharp and Chris Hines in the paddock.

held off the Beretta for the first third of the race until the bulk of Ross' big bird took its toll on his tires. Balljet slipped around the Thunderbird and Ross was relegated to the runner up spot.

Meanwhile back in the pack, Spencer Sharp moved from sixteenth to fifth by the midpoint of the race. Methodically picking off the competition, he sliced through traffic like a sushi chef with a new Ginsu knife. However, when a tire began smoldering against the Firebird's body work, Spencer received a mechanical black flag (aka: the meat ball) and had to park the Pontiac. Game over, but it was fun to watch Spencer's great run.

ROSS GETS A SECOND CHANCE

Not that Ross Thompson needed to redeem himself after his fine drive in the IMSA GTO/SCCA TransAm Race, however he got a second chance in the 1973-1979 IMSA GT & FIA Race. Again, Thompson qualified on the pole. Again, he led the race. However, this time it was a rout, as Ross took the lead and hid from Ranson Webster's Porsche 935 Turbo.

With a lead of a half minute, Thompson entered the first turn at one hundred twenty miles per hour. Then his radiator cap flew off and water gushed onto the track. Not a good thing when your racing slicks are sliding on your own water. Even worse when you are in the dirt and are heading toward a cement barrier at a buck twenty.

Wisely, Ross turned into the slide, applied some throttle and kept his Corvette off the wall. Obviously, Thompson's years instructing at the Bondurant School paid off. Ross and the Corvette survived to race another day. No victory, but no damage to the family race car either. (Maybe this is why Ross' dad trusts him with his car keys.)



MORE TALES OF ARIZONA DRIVERS

We would love to tell you a Cinderella story about how our little 1938 Austin 7 Special won its race. We would like to spin a tale about how this spunky 850cc machine vanquished the big three-liter Alfa Romeo Grand Prix cars. However, that did not happen. It certainly would never happen if the Austin leaked oil onto its clutch and could barely ascend the Sonoma Raceway hills, which is precisely what happened.

However, there were some bright spots for other Arizona race drivers. One is the story of Mike Blackie of Prescott. Mike won the Sonoma Historic Award for "Performance and Presentation" with his Genie MK10 Can Am car. Mike drove a superb race and finished in a hard-fought second place in the 1959-1963 Sports Racing Group with his beautiful aluminum-bodied sports racer. Congratulations, Mike, for a well deserved honor and a great podium finish. Jonathan Ornstein of Phoenix and Owen Gibson of Arivaca also ran up front in this race, but experienced mechanical problems.

Mike's wife Barbara Blackie finished twelfth in the tough 1959-1963 Formula Junior race, and Jerry Clarke finished ninth in his ex-Dan Gurney Ford Galaxie in the 1963-1973 Grand National Stock race. It was remark-

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(Top) Spencer Sharp in his 1982-1991 Historic IMSA GTO/SCCA class Pontiac Firebird leads an Audi quattro through the curves while Ross Thompson brings up the rear in his Thunderbird. (Second) Thompson's 1985 Ford Thunderbird. (Third) Jeff Abramson of the Bay Area in his 1959 Morgan, in the 1955-1962 Production/GT Cars class. (Bottom) The hills and wineries of Sonoma County are the backdrop for your visit to the area.

able how well these monsters negotiated the twisty Sonoma road race circuit.

Scottsdale's Bob Paris finished ninth with his 1965 Mustang in the 1962-1966 Production/GT race, and Drew Alcazar finished fourteenth in 1966-1972 Historic Trans-Am, perhaps the most hotly contested race of the weekend. Steve Hilton finished sixteenth and twentieth in his two sports racing classes. Don Tevini of Cave Creek did not get to start his race due to mechanical problems.

ARROW LANE AND COWBOY RESTORATIONS

Chris Hines was responsible for the restoration, transportation and race support of most of the Arizona contingent. Chris restored many of the old race cars to original race condition, hauled them to Sonoma and left the racing up to their owners. The good news is that the Arizona drivers acquitted themselves quite admirably.

Ken Schutze of Cowboy Restorations worked long hours preparing our Austin 7 Special for Sonoma. However, as Roseanne Roseannadanna used to say on SNL, "If it's not one thing, it's another." So it was with our Austin. It had a new supercharger and new distributor, so what else could possibly go wrong? How about oil on the clutch. Of course, keeping old cars running can be a challenge. However, for us the Sonoma race was a tune-up for Monterey where we will get to run with smaller, more equally matched race cars.

WHY THE SONOMA HISTORIC RACES

If you are new to vintage racing, the Sonoma race is the perfect place to start: rare vintage cars, a wonderful race circuit, fine wine, lovely weather and superb cuisine. In addition, you do not have to contend with the high room rates of "Monterey Car Week," when the Rolex Monterey Motorsports Reunion, Pebble Beach Concours d'Elegance and classic car auctions are held simultaneously.

Think of Sonoma as a "weekend getaway test" to see if you like vintage racing. If you enjoy it, then you can continue on to Monterey in August, one of the two most significant vintage car races in the world (the other being Goodwood Festival of Speed, in England).

What is *not* to like about Sonoma in June? Weather is in the mid-seventies. You can tour the beautiful wine country. The vintage car owners enjoy telling you the history of their vintage race cars. Some owners will even let you take your child's photo in the cockpit of their marvelous machines (yes, we do that—just ask us).

The Sonoma Historic Motorsports Festival is in early June. Make plans now for 2013 (see resource and contact info at left), if for no other reason than you can get excellent hotel rooms at the lowest possible rates if you book early. ■



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THE INSIDE TRACK: BRIEFS & RUMORS



2014 Mazda6 (Russian spec)

■ **Mazda** plans to drop the V6 engine from its next-generation midsize Mazda6 sedan, replacing it with the company's new SKYACTIV four-cylinder engine recently introduced in the CX-5 crossover. The current V6 is rated at 272 hp, while the new four-cylinder SKYACTIV is rated at 155 hp. Mazda would not say if a V6 SKYACTIV engine was in the works, but that it would not rule out such an engine. There are also rumors of a SKYACTIV diesel for some future US Mazda products. The new generation Mazda6 design is based on the Takeri concept, which debuted at the Tokyo auto show in 2011 and again at the 2012 New York show. The current Mazda6 is built in Flat Rock, Michigan, but the new SKYACTIV model will be produced in Hiroshima, Japan. It should arrive at US dealerships in the first quarter of 2013.

■ It's hard to believe the Mustang is quickly approaching its 50th anniversary. When that five-decade milestone rolls around, **Ford** will be showing the future of America's iconic pony car. Until then, the company has been playing its cards close to the vest, with few hints and many rumors. Among the rumors are the new Mustang deserting its recent retro styling and moving more toward the Evos concept shown earlier this year. That would probably attract some new shoppers, while alienating rabid Mustang fans. In addition, it is also expected to get a rear independent suspension. The new model is also rumored to be a world car, with universal style and expanding sales.

■ When the current generation **Range Rover** was designed and developed under BMW tutelage, the major use of aluminum frames and body parts was too expensive and not as important as it is with today's fuel economy pressures. As a result, the iconic Land Rover SUV ended up the equivalent of an NFL linebacker, tipping the scales at over 5,600 pounds—but the Range Rover needed lots of power and fuel. As the next generation takes shape behind closed doors, there are reports of a major weight loss regimen, a new lightweight aluminum architecture strongly influenced by Jaguar experience and new engine variations. The slimmed fourth-generation Range Rover is expected to make the runway at the Paris auto show this month, about 600 pounds lighter than the previous model. We can expect the Discovery and Range Rover Sport replacements to get a similar trimming, arriving in the US in early 2013.



Ford Evos concept

With the scientific world sprinting to build a better battery, researchers at Washington State University, in Pullman, announced a breakthrough technology that could triple the capacity of **lithium-ion batteries**. If the technology can be applied successfully, it could possibly mean tripling electric vehicle range and usage times of battery-powered devices like cell phones and laptop computers. The researchers, led by Grant Norton, Professor in the School of Mechanical and Materials Engineering, have filed patents on the nanoscale-based technology, which also allows the batteries to recharge many more times and more quickly than current models. By using an anode made of tin, rather than the tradi-



Nissan Leaf

tional carbon, the new battery has the potential to store almost three times the energy of graphite. (The anode is the electrode through which the electric current flows.) They expect to bring it to market within a year.



Volvo hybrid truck Mean Green

Volvo Trucks' "Mean Green" hybrid has established new world speed records this spring at Wendover Airfield in northern Utah. Mean Green hit the flying kilometer at 147.002 mph and the standing kilometer at 95.245 mph. The speed record attempts were sanctioned by the US Auto Club, an extension of international governing body FIA. Mean Green's modified aerodynamic body design bears little resemblance to a freight-hauling tractor, but the truck is comprised almost entirely of production components from the Volvo Trucks vehicle family, including a Volvo VN cab and frame. Mean Green features a highly tuned Volvo D16 engine and a modified version of Volvo's automated IShift gearbox, which interacts with the hybrid's electric motor. The combination of an electric motor and Volvo D16 diesel engine delivers 2100 hp and nearly 5000 lb-ft of torque—of which 200 hp and 885 lb-ft come from the electric motor. Volvo Trucks is a separate company from Volvo Cars. Its sister truck companies in the Volvo Group include Renault Trucks, Mack Trucks and UD Trucks (Nissan Diesel Trucks).

According to Edmunds.com, the sales of **manual transmission** cars are up—way up—at double the amount from 5 years ago. In fact, they were up 6.5 percent in just the first quarter of 2012. Factors such as fuel economy and price have made stick-shifts more attractive, and new hill start assist technology (that prevents you from rolling on a hill while releasing the clutch), relieves drivers' fears.

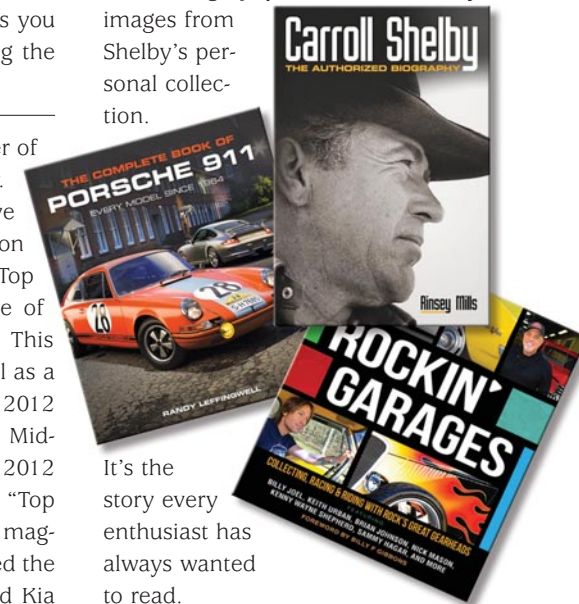
Kia has made its way onto a number of awards lists. Total Car Score (www.totalcarscore.com), a comprehensive automotive ranking and comparison website, has listed Kia among its "Top 10 Best Car Brands for 2012"—one of only two non-luxury brands listed. This comes on the heels of the 2012 Soul as a "Top Scoring 2012 Economy Car," 2012 Sorento among "Top Scoring 2012 Midsize SUVs and Crossovers," and 2012 Forte compact sedan landing on the "Top Cars for College Grads" list. *Parents* magazine and Edmunds.com have named the 2012 Kia Optima midsize sedan and Kia Sorento crossover utility to the publications' "Best Family Cars of 2012" list.



2013 Kia Sorento

Mecum Auctions has added a three-day event in Anaheim to their 2012 schedule. Over 750 collector cars are expected to cross the block at the Anaheim Convention Center, November 15-17. Discovery's Velocity Network will broadcast live during all days. Mecum's Anaheim auction is open to the general public, with tickets available at the door for \$15 per day. To consign a vehicle or to become a registered bidder, visit mecum.com or call 262.275.5050.

Motorbooks, a division of Quayside Publishing Group, has released several new gems. • *Carroll Shelby: The Authorized Biography*, by Rinsey Mills, "is not the usual fluff," says racer Peter Brock. This 400+ page volume took Mills several years to research and write—the complete, authorized biography of **Carroll Shelby** with images from Shelby's personal collection.



It's the story every enthusiast has always wanted to read.

• As the **Porsche 911** nears its 50th birthday, *The Complete Book of Porsche 911: Every Model Since 1964*, a 288-page hardback by author/photographer Randy Lefingwell goes on sale online on September 15 and in stores October 15. • Cars and **rock'n'roll** have always gone hand in hand. Some of the music world's big names are also serious car guys, and their variety of vehicles is as eclectic as rock 'n roll itself. In *Rockin' Garages: Collecting, Racing and Riding with Rock's Great Gearheads*, authors Tom Cotter and Ken Gross profile each musician and what drives their car collecting, with photography by Michael Alan Ross. • For information or to order, visit www.motorbooks.com. ■

UPCOMING FEATURES

Chevrolet model year 2013 in Northern California : Malibu Turbo - Spark - Sonic RS - Traverse - Equinox



2013 Hyundai Santa Fe : Park City, Utah



New A4-sized 2013 Audi allroad



Toyota hybrids : Camry Hybrid - Prius Plug-In Hybrid - Prius v



Monterey and Pebble Beach highlights



2013 Lexus LS : Tucson



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