

WINDING ROAD

WINDING ROAD MAGAZINE / ISSUE NO. 5 / SEPT-OCT 2005

NATIONAL PRIDE

MUSTANG GT vs.
NISSAN 350Z vs.
MINI COOPER S

FUN DRIVES THAT SAVE GAS

ACCORD HYBRID
JETTA TDI
MINI COOPER

NEW CLASSIC

PORSCHE 993



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Cover photography by Andrew Yates



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ROAD**

Editor**WINDING ROAD**4544 South Lamar
Building G-300
Austin, TX 78745**Editor-in-Chief** Bill Campbell**Features Editor** Tom Martin**Senior Editor** Chris Martens**Managing Editor** Monica Williams**Editorial Assistant** Nicholas Boeglin**Editorial Intern** Morgan McCarty**Contributing Writers** Richard Chianavalli,

Herb Harris, Brooks Holden, Dave Kelley,

T.B. Martin, David Scott, Allen Taffel, Chris Toh

Creative Director Jeff Neely**Art Directors** Megan Berryman,

William Blacklock, Craig Hinthner,

Kevin Leger, David Steinert

Contributing Photographers Ross Benton,

T.B. Martin, Scott Pacey, Gary Russ,

David Smith, Andrew Yates

Chief Technologist Bill Parkes**Technical Design** Jennifer Gray**Production Assistant** Collin Kennedy-Puthoff**Fleet Manager** Scott Pettit**Absolute Multimedia, Inc.****CEO/Publisher** T.B. Martin**Publishing Director** Anita Erickson**Strategy Advisors** Mark Fisher, John Ellett,

Atul Kanagat

Fleet Manager Scott Pettit**Legal** Michael Metteauer, Fulbright & Jaworski**Circulation** Josiah Sternfeld, Stefanie Nelson,

Lauren Virr

Advertising Betsy Moore (512) 891-0348**The Engine of the Future?**

I recently had the opportunity to drive eight sports cars in the 400- to 600-hp range, in many cases over quite long distances. I noticed during hundreds of miles, both behind the wheel and riding shotgun observing other journalists, that the upper limits of the rev range are almost never used in these cars. Of course, that's partially because, for most of these cars, second gear at redline will get you way above a U.S. speed limit.

I think there is a deeper significance to this observation, though. Without fail, my colleagues and fellow members of the motoring press would jump out of each of these cars and make some witty remark about the joys of high-powered sports cars, but when we say things like this, we're literally wrong. We love these cars because you can get into the throttle at 2800 rpm and find a tremendous shove in the back as you wind out to 5000 rpm or so. These cars feel relatively relaxed, and you can do this all day long without losing your license. With peak power at 7500 or 8500 rpm, the horsepower spec isn't really the key to our fondness for the way these cars accelerate. We love these cars on the street because they have great mid-range punch.

I also had a chance to drive our test Jetta TDI while it was floating around WR World Headquarters. Reflecting on my experience with today's supercars, I began to wonder why I liked the Jetta so much despite its meager 100 hp. It dawned on me that the Jetta had decent mid-range, part-throttle acceleration. No, it isn't really that strong, but the Jetta does a little of what supercars do. It just gets there in a very different way.

After some investigation, I think I can safely say that most diesels are really good mid-range engines. Consider the estimated torque figures at 3000 rpm for high-performance gasoline engines:

Ferrari F430	275 lb-ft
BMW M5 (V-10)	305 lb-ft
Porsche Carrera S	250 lb-ft

Now consider the torque numbers of a few diesels:

Mercedes-Benz E320 CDI	350 lb-ft
Mercedes-Benz SL400 CDI	500 lb-ft
BMW 535d	375 lb-ft

Note that the diesels make a lot more torque, but are available in cars at more affordable prices. Consider, then, that these diesel engines will get in the range of 50-percent better gas mileage, all while delivering substantially lower carbon dioxide emissions (about 20-percent lower). Carbon dioxide is the greenhouse gas associated with global warming. While carbon dioxide is unregulated in the United States, concern about global warming, along with the torque advantages of diesels as shown above, have to make you think that diesels might be the performance engine of the future. Yes, the performance engine.

Diesels have gotten a rather bad rap for emissions, which mostly stems from a lack of current information. In fact, diesels have several inherent emissions advantages over gasoline engines, including lower hydrocarbon and lower carbon monoxide emissions, to add to their carbon dioxide advantage. There is work to be done on emissions of nitrous oxide and particulates, where diesels have disadvantages. But Europe is making a bet that diesels are the green way to go, and these problems will almost certainly be solved.

Given this, the general view is that Americans won't accept diesels because of bad memories about noisy, smoky diesels of the past. I find this view a bit insulting, not to mention logically flawed. It is a bit like saying, circa 1980, that Americans won't accept personal computers because of bad memories about the size and heat generated by mainframes.

Americans, as much as any other group, have shown great flexibility in adopting new technologies when those technologies deliver real value. But if all the interesting diesel engines stay in Europe, and if manufacturers bury their dullest diesels in mundane cars, then, sure, Americans will stay away (actually, they'll be over at the Toyota/Lexus store buying hybrid SUVs). Mercedes has shown that it might be willing to break the mold on this one, with the announcement of the SLK320 CDI and the SL400 CDI. That is to say, diesel sports cars.

That's a future I can sign up for.

Bill Campbell*Editor, Winding Road*



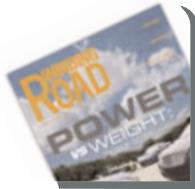
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From the READERS

Quoting Issue 4, page 35, on the automotive version of the meaning of life: "We'd love to see a well engineered car, with a 2700-lb curb weight, around 300 hp, and 275 lb-ft of torque." I think Noble has what you are looking for. The M400 has 425 hp, 390lb/ft of torque, and weighs in at 1160 kg (about 2560 lb to you Yanks).



Simon Porter

Just wait for Issue 6.

-Ed.

Congratulations on your new venture. I am very impressed with what I have seen thus far and went ahead and subscribed. I love your format and the cars you are testing. Keep up the good work and best wishes for your success.

John H. Lee

I agree with your evaluation of the Boxster vs. Corvette. This year I went car shopping for a weekend ride to go along with my every day car – a 2004 BMW 545i. I spent two full after-



noons driving a new Corvette, two full afternoons driving a BMW Z4, and two full afternoons driving an M3 convertible. I loved all three rides - they each had unique qualities. The Corvette was an absolute rocket, but I had to take contact with the curves more on faith than on feel. Too isolated for my BMW-trained tastes. After you've hit 90 mph (a matter of seconds), there simply wasn't much else to do with the car. If I were interested in long roads at high speeds and civilized ride, the Corvette would have been my choice, but it lacks the sensory input necessary to have confidence in a true sports car.

The M3 convertible had too much cowl shake and was, after all, a four seater – not really what I wanted – but I couldn't resist taking a stab at one.

The Z4 was an absolute blast to drive, save in two categories: It was underpowered, (where is the M version?), and its exhaust didn't sound right to me.

Finally, still unable to determine where to plunk down my \$60K plus or minus, I drove by the Porsche dealer and fixed my eyes on a Boxster S. I'd always thought the original Boxster was a bit too girly, but the new model looked more muscular and had a great deal more grunt to it along with seriously improved interior and wider wheels.

I test drove the Boxster just once and bought it – immediately. It was clearly much better than the other cars I'd tested – much more fun right out the gate on first impression. An easy decision I haven't regretted for a moment in the months since. The Boxster S turns like a go kart – it goes exactly where you point it – immediately. The power curve above 4000 rpms (and the accompanying exhaust note), is the stuff heaven must be made of. It's one of those cars you simply don't ever want to climb out of once you're in it.

Your review was dead on. To any Corvette owners unhappy with the review I can only say, "Forget the stats and actually drive a Boxster S."

Mike Tompkins

I have just subscribed to *Winding Road* and am extremely excited and satisfied with the magazine. Your magazine is superior to *Car & Driver* and *Road & Track*, which I've read for decades. They've rather deteriorated in the last few years, in my opinion. Your reviewers write with wit, intelligence, insight, and a style that I find fun and refreshing. I also appreciate the lack of mild profanity that seems the vogue in many magazines today. It's crude, offensive, and boring. I'm glad you refrain from it.

About my only criticism is the lack of statistical handling data in your road tests. Your reviewers do a superb job of describing the handling qualities of the cars you test, but I'd appreciate some objective skid pad and slalom data as well.

Thanks for a great magazine. I'm thoroughly enjoying it. The price is right as well!

G. Jeffery Puhua

The Caterham 7 and other "contemporary" cars like the Elise challenge auto designers to get back to fundamentals. Simplicity in design is a quality that is difficult to achieve. As an architect I know that it is often easier (but not simpler) to add something to a project in order to solve a problem created by another aspect of the design. Less sophisticated design approaches tend to take on a life of their own by becoming ever more complicated unless designed with an overriding philosophy that values the "simple" solution. The most elegant solutions come when nothing more can be removed.

Now how about a test on the new Caterham CSR?

Richard Engelhardt R.A.

Your wish is our command. Stay tuned.

-Ed.

Thank you very much. An online magazine! I had the thought quite some time ago that it would be really cool if my favorite car mags would let me download their issue in pdf format. That way, not only do I get to save every issue for later reference without taking up half my spare bedroom, but I can actually take the entire collection with me anywhere. The pages don't get wrinkled and smudged, the covers don't fall off. What could be better? You guys made it free! I really hope this catches on.

Steve Lloyd

Correspondence

Send your love notes, accolades, insights, questions, quibbles, and hate mail to:
editor@windingroad.com

or

Editor
WINDING ROAD
4544 South Lamar Blvd.
Building G-300
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Corrections:

In the Top 50 spec box in Issue 3, we mistakenly indicated that the Jaguar XJ offers an F1 transmission. XJs, of course, use a ZF 6-speed automatic transmission as standard in all derivatives. In addition we wrote that the car has an aluminum chassis, but we neglected to add that it also has a full aluminum monocoque body, contributing further to its light weight.

In our story on the Chrysler 300C SRT-8, we indicated that the car has a supercharged HEMI. While the engine is really strong even at low rpms, it is in fact a normally-aspirated engine.

The fact checkers are being flogged as we speak.

UPDATE

edited by Tom Martin



Bored With Your Enzo?

Ferrari has announced plans to produce about 20 Enzo-based track cars dubbed "FXX." With a 6.2-liter version of the Enzo's V-12 developing in excess of 800 horsepower, straight-line speed should be mind-blowing, as should cornering, thanks to aerodynamic changes providing 40-percent more downforce. But the real thing that sets the FXX apart from your run-of-the-mill hypercar is the package Ferrari has designed around it.

Each FXX owner will be invited to various exclusive track events across Europe where they, along with the likes of Schumacher and Barrichello, will be asked to provide feedback on the performance of the car. This input, along with information from the FXX's advanced 39-parameter, on-board telemetry system, will be used to develop future limited-edition Ferraris.

A special committee of Ferrari execs must first approve each buyer's application. Only then are those lucky few permitted to drop € 1.5 million on a car not available for road use.

Sotheby's Visits Ferrari

More than €9.8 million worth of Ferrari memorabilia and automobiles were sold at a special invitation-only auction hosted by Sotheby's and held at Ferrari HQ in Maranello. Most outstanding of the memorabilia were Luigi Chinetti's 1949 Le Mans trophy and the steering wheel from Schumacher's 2001 Formula 1 championship winner, sold for €69,000 each. As for the cars, notables included a 250 GT SWB for € 1.1 million, Schumacher's F2004 for €2.65 million, and the 400th Enzo, originally presented to Pope John Paul II in January. The latter was sold to benefit Caritas, per the late Pontiff's request, for a shade over € 1 million.

Gas Turbine for Project 1221

In a shocking update, Project 1221, the charmingly insane infant Italian manufacturer has announced that the forthcoming MF1 supercar will be powered by a gas turbine engine. Developed in conjunction with award-winning turbine engine craftsmen Williams International, the MF1's engine will output over 1200 hp, but apparently requires little maintenance.

The firm has also announced that a second, rear-drive model, with unspecified, but distinct technical and visual features, will follow the AWD MF1's intended production run of 199 units.



Veyron Quiets Critics

After what seemed like an eternity of development following VW's first announcement of a 1000-hp Bugatti supercar in 2002, the car has finally reached and exceeded its promised top speed of 400 km/h (248.5 mph). Under the watch of the German Homologation Authority and timed by their precise instruments, the Veyron reached its max speed multiple times in both directions at VW's Ehra-Lessien test track, the same spot where Andy Wallace hit 240.1 mph in the McLaren F1 seven years earlier.

Diesel Power War

Audi has introduced an impressive diesel version of the A8 luxury sedan. Powered by a 4.2 liter bi-turbo V-8 diesel, the Audi A8 4.2 TDI makes 326 hp and can accelerate from 0-60 in about 5.8 sec. That compares favorably with the standard gasoline engine A8's 0-60 time of 6.3 sec. Torque is also an impressive at 479 lb.-ft., which is essentially the same torque level as the McLaren F1, Lamborghini Murcielago and new Corvette Z06. No word on whether the car will be sold outside Europe.

Mazda3 Gets Some Serious Power

Mazda will soon offer the Mazdaspeed6, a sensibly grown-up version of the marvelous rally-derived cars from Subaru and Mitsubishi. But the word is that Mazda will do something less mature with the superb Mazda3: We hear they'll put the same 2.3-liter turbo from the Mazdaspeed6 into the new Mazdaspeed3. With a reported 256-hp, the new engine would give the 3 a 0-60 time at or below 7 seconds. Look for us giddily watching the car preview at the Frankfurt Motor Show this September.

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Morgan to Offer Limited Run of Roadsters in U.S.

Morgan has announced that, for a short period only, the Morgan Roadster will be available in North America. This is the classic, though often updated, Morgan. The latest version has a 3-liter Ford V-6 delivering 225 hp and 200 lb-ft of torque. This is in a car that weighs 2070 lb, giving it the power-to-weight ratio of a Carrera S or an SL55. Prices will start at \$73,950—that's pretty reasonable money for true old world craftsmanship coupled with modern airbags, emissions, and performance. Not to mention rarity: Only 82 examples will be available for delivery in late December 2005.



Coollest Maybach on Earth, Not for Sale

In the late '30s, tire company Fulda commissioned Maybach to build a car to test their tires at high speeds. The result was a vehicle, based on the SW 38, but capable of 124 mph. Maybach and Fulda have once again teamed up to create a prototype to showcase their tires, but today's car, dubbed Exelero, is capable of a stunning 218 mph. This comes thanks, in part, to the 5.9-liter, twin-turbo Merc V-12 which AMG has now bestowed with 700 hp. With a hefty curb weight of 5860 lbs however, the Exelero's power-to-weight ratio is decidedly pedestrian, at least in supercar terms. So the Exelero relies heavily on staggeringly slippery bodywork to reach its Enzo-topping max speed. Maybach says there are no plans to produce the car in quantity, but they might be well advised to rethink such a statement considering it's the only thing the reincarnated firm has created that enthusiasts might consider purchasing.



New S-Class Merc Details Emerges

Mercedes-Benz has released more information on the new S-Class. Not wishing to let BMW run away with the horsepower show, the new S-Class has a new V-8, now sporting 382 hp (up from 302), and significantly higher torque. This much-beefier engine is mated to M-B's excellent seven-speed autobox. Can this drivetrain be far behind for other cars in the lineup? The new S will also be available with a V-12 dishing out over 500 hp, though performance nuts will probably wait for the AMG versions. Mercedes also claims to have simplified the COMAND system, reducing the use of menus. Hopefully, they've also improved the chassis.

Porsche Officially Announces First Sedan

Porsche has approved the design and production of the Panamera, a fourth model range for the company. Referred to as a "Sports Coupe", following the lead set by Mercedes with the CLS, the car has four doors, but the svelte lines of a coupe. The Panamera will have its engine in front, driving the rear wheels. Porsche says the Panamera platform will not be shared with any other car in the Porsche line, nor with any other car maker. The car will enter the market in 2009.

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New Passat Details

Look for a beefier 2006 U.S. Passat – in size and power. VW expands the sixth-generation car's track by 1.5-inches and its rear legroom by 2.4-inches. You'll be able to choose from either a 2.0-liter, 200-hp turbo four-cylinder or a 3.6-liter, 280-hp VR6 (late 2005). No mention of the 138-hp TDI engine with the marvelous DSG gearbox, though this will be available in other markets.



Goodbye, Old NSX

Acura (Honda) has promised to develop an all-new version of the 15-year-old NSX sports car. Acura promises that the new car will be as groundbreaking as the original car, which featured the first all-aluminum chassis and suspension. Amazingly, the current generation 1 car is still competitive in terms of driving dynamics, but just about everything else – from the drivetrain to the chassis – is outdated. Since the current version of the NSX would not meet 2006 emissions and safety regulations, production of the NSX will stop at the end of this year.



Extreme Track Elise

Lotus continues its commitment to ultra-light vehicles by proving that the Elise is in fact “heavy.” They’ve done so with the Circuit Car, a 1320-lb. Elise-based trackday car powered by a supercharged Toyota I-4 from the limited-edition Exige 240R. With 243 hp on tap, the Circuit Car will hit 60 mph in around 3.5 seconds versus 4.6 seconds for the entry-level, normally-aspirated version. Lotus has said nothing about street-legalizing the car, but it would be a longshot, especially in America.



Reincarnated Connaught— Hybrid Sports car

Connaught, the small British firm attempting to resurrect the legendary '50s racecar name in the form of a hybrid V-10 sports car called the Type-D, has put its first prototype on the road. The innovative engine under the hood will feature variable valve timing, ceramic crowned pistons, and electrically heated catalysts, all of which will aid efficiency and help the Type-D to easily pass the 2010 Euro 5 emissions standards. A 48-V electric motor will also help the 2+2 give 42 mpg, 0-60 in 6.2 seconds, and a top speed of 140 mph. Connaught has been working frantically to reach their optimistic intended start of production in 2006, however the likelihood that it will reach American shores so soon, or ever, is low.

Powerkit Boosts Carrera S

In keeping with a time honored tradition, Porsche has released the X51 powerkit for the Carrera S. This kit boosts horsepower from 355 to 381, just topping the last generation (996) GT3's output of 380. The kit also lifts Carrera S torque from 295 to 306 lb-ft. The powerkit includes a larger throttle body, optimized intake airflow, different cylinder heads and exhaust manifold, a revised ECU, and a sport exhaust. Coupled with the previously announced Carrera 4S chassis, the X51 could be an interesting alternative to the upcoming 997 GT3.

New Porsche GT3 Cup Racer: New Street Car?

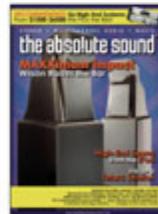
Porsche released details of the GT3 Cup car for the Porsche Michelin Supercup series. The Based on the new 997, the GT3 Cup car delivers 400 hp from a 3.6-liter engine, uses brakes with Porsche's Ceramic Composite system, and has a six-speed sequential box.

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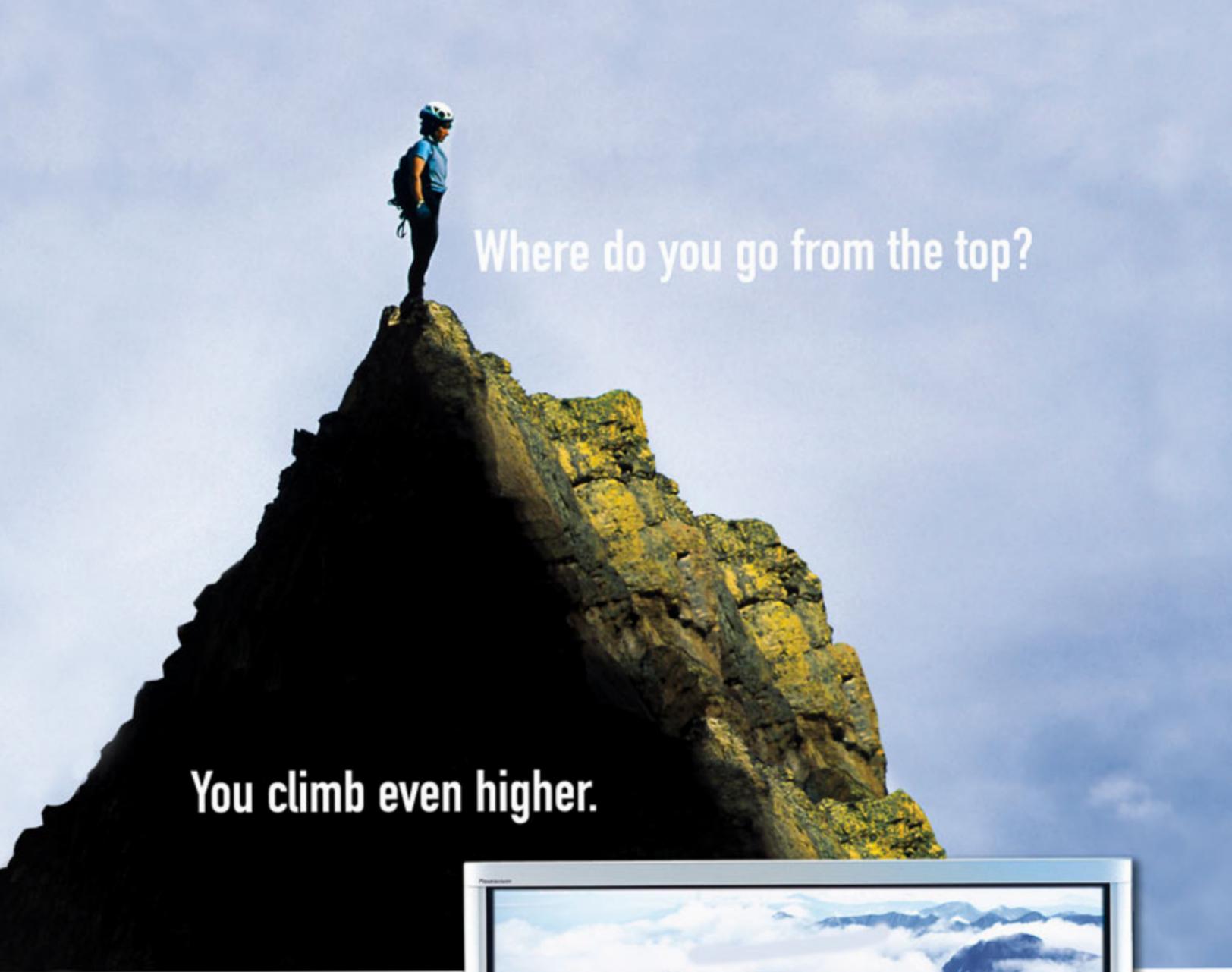
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10 Kirkland Concours d'Elegance
Kirkland, Washington kirklandconcours.com

11 Grand Prix of Belgium
Spa Francorchamps, Belgium formula1.com

16-18 Goodwood Revival
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**16-18 VSCDA Elkhart Lake
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18 Palos Verdes Concours d'Elegance
Palos Verdes, California pvconcours.com

25 Grand Prix of Brazil
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Pretty AND SMART?

**Mustang GT, 350Z, or Cooper S:
Which car delivers both?**

by Brooks Holden

Ferraris, Porsches, and Corvettes each have elements of greatness, but let's face it – most of us can't afford them. Which leads me to several so-called ranch-to-market roads outside of Austin. I'm here searching for a real sporting coupe under \$30K that delivers 90 percent of the satisfaction of those famous marques at 50 percent of the price. Heck, I might as well admit it: The optimist in me hopes for 100 percent of the driving fun, if not the refinement. »»



I'm also more than a little bit fascinated that the wisdom of some very large car companies – Ford, Renault/Nissan, and BMW – has served up such different approaches to the reasonably priced sport coupe problem. In keeping with WR tradition, I've selected three really different cars, just to help get a grip on how engineering decisions affect the fun quotients of these cars.

“ **FORD, RENAULT/NISSAN, AND BMW**
HAVE SERVED UP SUCH DIFFERENT APPROACHES TO
THE REASONABLY PRICED SPORT COUPE PROBLEM. ”

The Ford Mustang GT represents a traditional American technique: drop a big V-8 into a relatively primitive but heavily massaged platform. The Nissan 350Z descends somewhat indirectly from the traditional British sports car of the '60s. A medium-sized engine, in a small, light, and sophisticated chassis aims at providing a balanced measure of all things sporting. Leverage some parts from the sedan bin, add some Japanese quality and refinement, and you have what the British car industry probably

wanted to do, but never could. And then there's the wild card, the Mini Cooper S. BMW's time-honored approach involves tweaking a basic economy car for all it's worth. None of this sounds terribly pretty, but does any of it work, or is it more on the order of a bad facelift?

In my head, the Nissan is the reference car in this group, and clearly the car to beat.

Easing onto the most demanding section of our first test loop, I'm reminded that the familiar Nissan V-6 is a fine piece of work. This one has a guttural sound at low revs that has a bit of V-8 ring to it. Appropriately, the 3.5-liter engine delivers solid low-end torque to go with the happy sounds from the engine bay. As the revs rise, the 350Z has nice OHC bark and moves the 350Z along rapidly, though it will never be confused with a Corvette C6 or even a Mitsubishi Evo. But the 350Z is more linear than either of those

cars, giving it a more refined air and sense of proportion.

Working my way through several series of tight, undulating curves, the 350Z shows that the entire engineering team at Nissan had an obsession with balance. Thanks to the short wheelbase and firm spring/damper setup, the 350Z turns in sharply and communicates a real desire to rotate. This means that both tight corners and faster sweepers reveal their pleasures readily. Not only that, but some of the smaller roads in this area dish out a positively devilish array of bumps, ripples, and swales, which the 350Z handles quite easily.

Don't let this notion of balance let you think that the 350Z is clinical or boring. The same desire to rotate when coupled with the torque at hand means that it's relatively easy to get the rear end to slip out a bit. The electronic traction control, responsive throttle, and pleasantly quick steering make the car highly controllable, not to mention capital fun.

Still, the 350Z never gives you sense that it is wired to you or the road. For some, this will be an ideal state of affairs, given the realities



of potholes, expansion strips, and the like. That said, I would have preferred a bit less rubber in the attachment points of the suspension, and a bit more life to the steering. This is a subtle thing and doesn't interfere much with the 350Z's basically excellent point-and-shoot qualities.

In the same way, the notchy shifter isn't ideal in my book, and it's a tad far back in the chassis to fall readily to hand, but it really works just fine. Nissan says it was trying to mimic the feel of the gated shifter of a vintage Ferrari, which sounds nice. But that means mimicking a shifter decried by many who've tried it. Still, this level of quibbling reveals how superb the overall 350Z experience is. When the basic dynamics are wrong, why bother complaining about the details? With the 350Z, the basics are so well done, you start playing the "if only" game.

Switching to the Mustang and retracing most of the routes I traveled in the Nissan yields an entirely different experience, as might be expected. What surprised me is that I had at least as much fun in the Mustang, if not more.

Let's just say that torque is a good thing. If you look at the specs on paper, the Mustang has only slightly more power than the 350Z, and it has to move about 300 lb more over the tarmac. But then if you look at the torque on tap for each car, the source of the gutsier feel of the Mustang starts to become obvious. The Mustang's torque-to-weight of 182 lb-ft/ton is only a bit higher than the Nissan's 170, but com-

All would be for naught, if the Mustang's shifter were too clunky. But actually it is pleasantly light and smooth, not just for a V-8, but overall.

As you might expect, when we get to the handling department, things aren't quite so pretty, but the wrinkles aren't enough to put a serious damper on the party. In fact, they

telegraphs more of what the suspension is doing than the Nissan does. This is probably because the Mustang is less composed than the 350Z, but even so, real car folk seem to have worked on setting up the Mustang.

After driving the 350Z and the Mustang back to back, you naturally wonder if you couldn't have agility and connectedness in



inject a bit of life. The steering is acceptable, though it won't win any awards for feel. Surprisingly, turn-in is pretty good and the suspension tuning keeps the car quite flat. On smooth roads, the Mustang is a blast to whip around in. When bumps and ripples show up, you can tell immediately that Ford

one car. Enter BMW and the Mini Cooper S. On our test loop there is a downhill left hander followed quickly by an uphill right sweeper. With the mildly bumpy surface so beloved of the Texas DOT, most cars get upset somewhere in the middle of this section – weight transfer, rapid suspension movements, and accel/decel not being the recipe for a very palatable soup. In contrast with the other cars, the Mini generates lots of smiles on this section because it just goes. It isn't easily upset, it just seems eager to go into the next curve or dip. And beyond that, you have a great feeling of what the car is doing.

Part of the Mini secret is that it has quick steering and a suspension tuned for flat, linear handling. The quick steering amplifies the sense of agility that the short wheelbase provides automatically. Not only that, but you get a good sense of what the contact patches are doing. The flat handling inspires confidence, which is helped along by the uncanny feeling that the Mini wants to oversteer. This is a front-driver after all, and everyone knows that front drivers understeer. But BMW has built in a subtle initial move at the rear that communicates the

“ THERE'S SOMETHING LOVELY ABOUT BEING ABLE TO ASK THE MUSTANG FOR POWER AT ANY MOMENT AND GET IT. ”

bine this with a flatter torque curve and you can feel the difference. You can, of course, keep the revs up on the 350Z and get some cracking good power coming out of a turn, but there's something lovely about being able to ask the Mustang for power at any moment and get it. Rather lazy, this approach, but quite fun.

This sense of fun is amplified by the sound of the car. The Mustang has that grumbly, industrial sound of a typical V-8, which is an achievement for Ford, whose OHC V-8's have tending to be mostly valvetrain noise.

has saved some money by skipping an independent rear suspension. The rear end can get overexcited and hop around a bit. Depending on your view, this is either annoying or something fun to work with. I could easily see the latter point of view.

Besides the possible issues with the basic suspension design, you need to know that the Mustang feels like a larger car than the 350Z. That might seem obvious, but you're also giving up a feeling of agility in the process. Strangely, what you gain with the Mustang's tuning is a sense that the car



“ THE MINI COOPER
ISN'T JUST GOOD,
IT'S ONE OF THE BEST
DRIVER'S CARS FOR SALE. ”

desire of the car to rotate. This would be a risky strategy if the car couldn't cash the check written by this tuning, but the front just tracks away up to some pretty high limits.

The Mini can pull off some seemingly miraculous moves, in part because it carries a good 500-lb less weight around than either the 350Z or the Mustang. Which is a good thing, because the Cooper S has a lot less power than either of its rivals in this test. Even with the weight difference accounted for, the Mini is down on power and torque, with only 121 lb-ft/ton. Still, there is enough on tap to make the car feel quick. The supercharged engine is quite responsive, and the shifter is light and easy to use. When working through the twisty bits, the engine provides enough torque to cover for being in the wrong gear, and the sound generally makes the car feel very willing to do you bidding. On longer, more open roads, the car isn't in the same league with the Mustang or the 350Z on power, but you might be having enough fun winding it out and whipping through traffic that you wouldn't notice. Actually, we'd bet on it.

You will notice, of course, the dramatically different images that the cars project. The Mustang is all menace and power, the

Nissan full of sleek techno-sophistication, and the Mini is, well, cute. Fortunately, the Mini is cute in a cool sort of way, but for many, cute just won't do. Not only that, but the Mini is by far the most practical of the three cars here, with a usable back seat (for one person at least), and lots of cargo room. But, again, that may count against the Cooper S as much as for it.

That's a real pity, because the Mini Cooper S isn't just good, it is one of the best driver's cars for sale. It feels connected, responsive, and quick, something relatively few cars manage to combine, not to mention at this price. And the Mini can pull off this impression under a variety of real world conditions. Which is probably the key to the car: It does not try to do an impression of a supercar or an expensive GT. Instead, it works at speeds that are commonplace and provides feedback that normal drivers will love.

All this isn't to say that the 350Z and Mustang GT are inadequate. They're loads of fun. Though, of the two, the Nissan is the better car – more refined, more linear, and probably faster in the right hands. Still, we think 75 percent of drivers would have more fun in the Mustang, at least if they live in areas with relatively good road surfaces.

Because of image differences, few will cross-shop the Z and the Mustang, but they should. If they could forget their preconceptions, we'd bet that more than a few purchase plans would change.

In fact, people should try all three cars. They give a real demonstration of well-executed versions of different visions, and in a lot of cases force a decision about whether to value driving behavior over image. The beauty of these three cars is that if you choose to put image first, you won't suffer. No dumb blondes here. »



Manufacturer	Nissan	Ford	Mini
Model	350Z	Mustang GT	Cooper S
U.S. Base Price	\$26,800	\$25,225	\$20,400
ENGINE:			
Type	V-6	I4.6 liter 90-DEGREE V8; Aluminum block /heads	I-4
Displacement	3.5 liters	281cu in / 4606 cc	1.6 liters
Valvetrain	DOHC, 4 valves per cylinder	SOHC, 3 valves per cylinder, variable camshaft timing	4 valves per cylinder
Max power	287 hp @ 6200 rpm	300 hp @ 5750 rpm	168 hp @ 6000 rpm
Max torque	260 lb-ft @ 4800 rpm	320 lb-ft @ 4500 rpm	162lb-ft @ 4000 rpm
Power:Weight	178.3 hp/ton	172.3 hp/ton	125.4 hp/ton
Torque:Weight	161.5 lb-ft/ton	183.7 lb-ft/ton	120.9 lb-ft/ton
CHASSIS:			
Drivetrain Layout	Mid-mounted front engine, rear-wheel drive	Rear-wheel drive	Front-wheel drive
Transmission	6-speed manual	5-speed manual (Tremec 3650)	6-speed manual
Steering	Engine-speed-sensitive power rack-and-pinion	Rack-and-pinion with power assist	Rack-and-pinion
Brakes	Power-assisted vented disc brakes, 4-wheel ABS	Four-wheel antilock brakes and all-speed traction control	ABS and driveline traction control
Tires	225/50 R17 front, 235/50 R17 rear	P235/55Zr17 98W	195/55 R16 87 V RSC AS
DIMENSIONS:			
Wheelbase	104.3 in	107.1 in	97.1 in
Length	169.4 in	188.0 in	143.9 in
Width	71.5 in	73.9 in	66.5 in
Height	51.9 in	55.4 in	55.8
Passenger Config	2 passenger	5 passenger	4-Passengers
Curb Weight	3213 lb	3483 lb	2679 lb
PERFORMANCE:			
0-60	5.8	5.3 sec	6.8 sec
EPA City Mileage	20 mpg	20 mpg	25 mpg
EPA Hwy Mileage	26 mpg	29 mpg	32 mpg



IN SEARCH OF THE

Great British Sports Car

part 1 of 2

by T.B. Martin

photography by David Smith

In the past day I've been in a cab, a 747, two buses, and a Ford Focus. Not my preferred vehicles, rest assured. Not only that, I haven't slept for 27 hours, I've been driving on the wrong side of the road, shifting an unfamiliar transmission with the wrong hand, and imagining at each roundabout that I'd turn the wrong way into a head-on meeting with a truck.

But now I'm riding in a Lotus Elise, with its little Toyota heart wailing a full VVTL-i song, on the Lotus Cars test track in Hethel, 100 miles northeast of London. All seems right with the world as Lotus' Gavan Kershaw, principal vehicle dynamics engineer flies down one of the old World War II runways that have been the basis for this circuit since Lotus moved to Hethel in the early '60s. Then suddenly, in the same spot where I'd backed out of the throttle when I was behind the wheel only minutes before, Gavan upshifts and keeps the hammer down as we enter a huge sweeper and drift out to the very edge of the track (you can see where



they've added a patch of asphalt for this maneuver). Maybe I was too tired to be scared, or perhaps my vision was too blurred to see the line of trees across the grass from the apex, but I think it was Gavan's oh-so-calm voice, describing how the suspension geometry and steering are set to be forgiving in these circumstances, that distracted me from our impending death. Good thing, that work on the suspension.

But I'm getting ahead of myself. A while back, *WR's* crackerjack and ever-inquisitive editors got to wondering why the British seem to have a corner on the market for purist, high performance, lightweight sports cars. As our minds wandered over the list of true sports car manufacturers we noted that the list is heavily populated with British brands – MG, Triumph, Lotus, Aston Martin, Jaguar, Marcos, Morgan, TVR. The purist sports car business has followed a bumpy road in recent decades, but a surprising number of the British firms have survived, with the most focused firms doing the best, and a few newcomers entering the mix. A keen observer can't help but notice that most of the F1 teams are based in the United Kingdom, leading us to wonder if there is something special in the water. Are these boys onto something or are they just playing a game that others have outgrown? So, off I went.

To get in the spirit of things, I kicked off my journey with an F1 race, the Canadian Grand Prix in Montreal. Despite F1's self-destructive tendencies, let me say that F1 cars themselves are amazing. Chatting with a few team engineers, I find a consensus that the top teams are currently running close to 1000 hp. With a weight of 1320 lb, that gives an F1 car about 1500 hp/ton. Crikey! As the Renaults, BARs, McLarens, and Ferraris rocket around the Circuit Gilles Villeneuve, you could see the amazing acceleration. The deceleration was perhaps even more impressive. I happened to be sitting directly across from the spot on the main straight where the drivers lift and begin braking for turn one. So, they're going from 180 mph to maybe 60 in what seems like about 100 ft. I have no idea how the drivers remain conscious. And, since the ceramic brakes are on the edge of catching fire during pit stops, there is no way heavier cars could do what these cars do.

As I board a 747 for London, visions of Kimi Raikkonen's McLaren are a powerful reminder of the benefits of low mass. An appropriate introductory thought, it would seem, right before visiting Lotus Cars. After all, Colin Chapman was known during Lotus' F1 heyday as fanatically driven in the pursuit of light

weight. Still, it would be amazing if this spirit could live on 20 years after Chapman's death and after passing through several changes in corporate ownership.

With the introduction of the Elise over a decade ago, Lotus has found the marketplace success that eluded it in the '70s and '80s. But, I was curious whether they had simply stumbled upon a good design for an obscure niche or had built a company capable of hitting winners again and again? Walking through the nondescript hallways of Lotus HQ, I noticed a poster that said "Performance Through Lightweight." That was a hopeful sign, though good intentions and consistent execution aren't the same thing.

But as we tour the factory, it slowly emerged that Lotus has a gift for simplicity. If light weight begets performance, then simplicity must beget light weight.



Assembly of the Elise is relatively straightforward – certainly an advantage when you are a small manufacturer. The chassis consists of a group of aluminum pieces that are glued together. Modern adhesives create an extremely strong bond, and when “riveted” for alignment and sheer strength, the entire structure exhibits superb rigidity and excellent deformation characteristics, even for a light 150-lb chassis. Just looking at the rest of the process – drop in the drivetrain, add fiberglass body panels, install interior – reveals a car simple enough that you feel you could learn to assemble it fairly quickly.

What you forget is that getting to this level of simplicity requires lots of brain power, which most small manufacturers would not be able to gather. With an engineering division that also does consulting work for outside companies, Lotus possesses a real asset. The obvious benefit is that Lotus has a very large engineering staff for a car manufacturer its size. The more subtle, but probably more important benefit is that Lotus Engineering gets exposed primarily to difficult, state-of-the-art kinds of problems from all sorts of car makers. Let’s just say that lots of famous sports cars are running around with Lotus designs inside – and we’re not talking about the wheel nuts or the door handles. The Lotus team then has a history and culture of innovative solutions to tough drivetrain and chassis issues. So, trying a new method of assembling and bonding an aluminum chassis fits right in with day-to-day work in Hethel.

Even more impressive, though, is the absolute devotion that everyone we meet has to the ideas of performance and light weight. They refer to the original idea of the Lotus Car sketched out by an early Lotus

Affects	Issued By	Approved by	17.4.78
LOTUS CAR	A. C. BOND	A.C.B. CHAPMAN	Consents and replaces issue dated Page ONE

1). A Lotus
Provides its owner with prestigious efficient transport. Prestige is given by exclusivity and racing heritage. The designer gives it efficiency by light weight, effective use of economic material and the maximum return for fuel burned in the engine and in cornering power.

2). Where a Lotus manufactured part is not essential to meet (1) use a mass produced part from the motor industry.

3). Engines and other high investment assemblies to have a basic design life of 8 - 10 years, which must include in-built capacity to accept legal and performance up-dates.

4). Lotus peculiar chassis and suspension assemblies with high cost in development - time or facilities to have a design life of 10,000 units and be concurrently used in several models.

5). Weld tool life and body process techniques to be exploited to ensure exclusivity is maintained by trend setting styling and structural change every 4,000 units.

6). The most elegantly effective and traditionally Lotus solution is the one with the least number of parts, effectively deployed. This criteria is to be applied by section leaders and managers at every stage of the design and drawing approval procedure.

7). Only the Product Policy Committee may authorise a change in the visual standard, appearance and colour once approved.

YES



chief engineer and approved, with emphasis by Chapman. The answer to almost every question comes down to, “We did it for high performance with low weight.” As an example, we discuss the choice of the VVTL-i Toyota powerplant. Lotus is particularly fond of this engine because it has such high output for its weight. They also recognize that the Elise is a quick, slightly edgy car, and that the high-revving Toyota has a personality that fits nicely with their chassis.

Nothing makes their efforts more clear

than getting into an Elise, especially when you’re the student of a professional driver well versed in Lotus philosophy. When asked to show me what he looks for in the car, Gavan suddenly shifts from race car driver (he runs a Mosler in European FIA GT) to engineering poet-in-residence. First of all, he says, Lotus is trying to make a car that is predictable. That means, in simple terms, that the front end and the back end of the car have to do the same things. As an example, Gavan takes me over some bumpy curves (Lotus’ track, being made from an old WW II air base has plenty of bumps) and discusses how the car needs to rise and fall as a unit as we encounter each swale.

Lotus also wants the car to be progressive so that it suits real world drivers—and they have an interesting take on this. Gavan repeatedly shows that he wants the car to react slowly to inputs. Roll is a good example, because, while the Elise feels as flat as a go-kart in turns, in point of fact it rolls somewhat. The roll isn’t abrupt, rather it slowly comes on as you load up the suspension. The advantage of roll is that it helps you sense where the limits are, but by bringing it on slowly, you don’t back off too far from the limit.

Everyone who drives the Elise talks about the steering, which is simply fantastic. But, ever the skeptic, I wondered if Lotus understands why, and are they aware of its unusual characteristics? I didn’t wonder for long. A few minutes into our demo session, Gavan, unprompted, brings this up and launches into a treatise about how the steering needs to be slow but immediate around center, to make the car usable on highways. As steering angle increases, the steering needs to quicken so that you can



Above Left: Elise aluminum chassis assembly. **Above Right:** Lotus body panels waiting for their cars. **Center Top:** A memo note by Chapman confirms Lotus philosophy



I quickly discover that TVR's are amazingly well known and beloved by the British public. No Ferrari would get this reaction. Of course, there must be a dose of "Rule Britannia" in these sentiments, too.

make small adjustments without excessive motion. But, as cornering loads increase further, the steering should slow down a bit so that you don't overdo it at the limit. Lotus wants you to feel the loading of the suspension as well, so that you know where you are. This might sound pretty intuitive, except that it is an apt description of exactly what the Elise steering and suspension does that is so different from almost every other car.

The Lotus team clearly understands its history. But rather than trying to live it out as a museum piece, they've internalized the principles and are trying to live them out and advance them in the 21st century. They've succeeded mightily with the Elise, and clearly know why. To me this shows that a small sports car manufacturer can deliver advanced engineering and apply it to a distinctive vision of the sports car. We can't wait to see their new take on the Esprit.

After a solid night's sleep to reduce my threat to the British motoring public, I set out to investigate a different take on the British sports car. Early in the morning I picked up my test TVR Sagaris. Since TVRs aren't available in the United States, I thought that some extensive time behind the wheel of a TVR would help me understand the mystique better than anything else I might have done. Little did I know what an insight that was.

TVR tradition involves a few variations from the conventional, which I discover immediately upon my briefing about the car. First of all, TVRs don't have door handles – you press a button on the bottom of the mirror to release the electric door latch. TVRs also eschew labeling the interior controls, so you must know what you're doing or you simply can't, for example, get out of the car. Feels a little like a Knights of the Round Table secret code.

I also quickly discover that TVRs are amazingly well known and beloved by the British public. Each time I mention that I'm testing a TVR, the response invariably involves a) a huge grin, even from normally stiff-upper-lipped bellmen in top hats, and b) an urgent question along the lines of, "May I see the car?" No Ferrari would get this reaction, which seems to stem from TVR's unusual mix of exclusivity and affordability. Of course, there must be a dose of "Rule Britannia" in these sentiments, too.

My chosen test route goes from London across the channel to France, and then to Le Mans for the *Vingt Quatre Heures*, and back. Upon firing up the Sagaris, I found it to be quite a different experience from the Elise, and I began to understand the emotional reaction it generates. The engine spins with a lumpy, race-derived idle that sends tremors through the car and also suggests that cau-

tion rule the day when applying your right foot. The racy feel is amplified quite literally by the unmatched exhaust tuning which rips and snarls at low revs in a decent simulation of straight pipes. Something, perhaps being a small manufacturer, must allow TVR to sidestep the Euro drive-by noise regulations that have killed almost every big-name supercar exhaust system. Anyway, the sound of the Sagaris is mightily impressive.

Once underway, the positive impressions continue. The Sagaris is a light car, and while not as light as the Elise, the quick steering, stiff suspension, and the weight make the car impressively nimble. I repeatedly enter roundabouts imperfectly only to find a small correction with the wheel instantly brings the TVR around to where I want it. The engine also dishes out decent power from about 2500 rpm on up to its 400-hp peak, so the Sagaris is very quick.

The sounds and the vibrations and the general feeling of lots of mechanical activity mean that you'll never confuse the TVR for a German or Italian car. It isn't that refined or sophisticated. In spirit it is much more American, with its hint of brutishness and its general air of extroversion (just look at the design). But the Americans would never do something as alive, nor anything so obviously handmade, nor a car this edgy. The TVR is, I guess, just plain British, but more of

a rugby and pub kind of British than aristocracy and all that.

In France, the TVR really comes into its own, the British roads being a bit bumpy for the stiff suspension. But as speeds rise on the continent, we notice that the Sagaris feels a tad uncomfortable above 80 mph. That doesn't stop people on the street from admiring the car as we pass. At Le Mans, where half the attendees seem to be British, we're befriended by all sorts of TVR owners and admirers, in part because the Sagaris is "the new TVR." The lone TVR in the race finishes, which is an accomplishment, though most of our new friends are disappointed that Aston Martin faded at the end, yielding victory to the impressive Corvettes. On our way out of Le Mans, we fear that the heat will get to the TVR as the dashboard display signals the edge of overheating. Fortunately, we keep enough air moving through the radiator to avoid Chernobyl redux. We also note that the air conditioning can't really get the cabin temperature down to normal. Evidently TVR's testing regime is thoroughly British and doesn't involve stints in the Sahara or Death Valley.

We're celebrities again as we find that the French pastime anywhere within 75 miles of Le Mans is to take one's family and one's lawn chairs out to the side of the highway and watch all the flash metal go by on the way from Le Mans to Paris or London. After crossing on the Ferry, we're back on British roads. At night the combination of bumps, curves, steering quickness, and the suspension tuning of the TVR mean that speeds over 70 mph aren't much fun. I guess there is a certain hairy-chestedness to this, and that seems to be part of the TVR reputation, but I can't help but think that a little more testing is in order here too.

Still, the TVR is an inspired ride, and one I won't soon forget. The TVR is a full-on demonstration that the British can do passion as well as anyone. I've driven lots of Vipers, Corvettes, Ferraris, and Porsches, and frankly the TVR Sagaris makes them seem a



bit corporate. A bit shy and reserved. Now if TVR just had the investment wherewithal to do some operational refinement, they'd be world beaters in their markets.

To see what really big investment can do, or so the thinking goes, my next stop is Aston Martin. This expectation is heightened by the drive up the long grassy promenade to the Aston HQ in Gaydon. The Aston facilities are beautiful, and it is quite clear that Ford has invested heavily to make Aston a player. This feeling is reinforced inside the plant, which is an intriguing mix of high tech and handcraftsmanship. The place is loaded with automated jigs and material-handling equip-

ment. Part of this is because Aston Martin takes a completely fanatical and modern approach to quality. The chassis and body assembly process is related to the one used by Lotus, with aluminum bonded and riveted together. At the same time, Aston has added laser positioning checks and robotic application of adhesives to ensure car-to-car uniformity to spec. As Aston's volume is about the same as Lotus' (5000 cars per year), this is quite an achievement and reflects the difference in price levels.

At the same time, a lot of hand work goes into each DB9 or V8 Vantage. The interiors for example, are works of art. It helps that



Aston's designers come from outside the industry, as their choices of materials and shapes are simply stunning. The handcraftsmanship is apparent, though in a completely modern idiom. The painting process is insanely labor intensive, but you can see that it gives an unequalled smoothness of finish. And Aston insists that each car be personalized and so offers a huge choice of paints, leathers, stitching, woods, as well as the strong suggestion that you visit the factory to spec out your car. In this way, you can see more examples and larger material samples than you could even in Aston's well-equipped showrooms.

While I was in Gaydon, Aston was building pre-production V8 Vantages to ensure that the production process is bug-free. I have to say that the new car looks fabulous and is surprisingly different from the DB9. I can't wait to hear the results from our drive of the car for Issue 6.

I was also at Aston Martin right after their disappointing finish at Le Mans. Everyone seemed to take it in stride, with a good understanding that racing success requires years of effort. Aston is clearly passionate about the design of its cars and wants to build a highly-respected brand. Aston shows that big corporate investment in a small sports car company

can deliver high quality and consistency. Porsche and Ferrari have been down this path, though, so it isn't too surprising. Aston Martin also has a vision of a car that is different from a Ferrari or a Porsche. Somewhat surprisingly, Aston Martins, with Ford's investment, have become stylish in a wonderfully subtle and very British sort of way. This is a big achievement. It is an area in which Bentley and Rolls have struggled under their similarly huge corporate parents. Ferrari's increasingly Hot-Wheels-inspired design shows that it isn't easy, as does Porsche's inability to do a seductive car that isn't based on the 911.

These small British firms are clearly onto something. Engineering excellence, sensory passion and impressive design are all things any *WR* reader would want in a great car. These qualities are very rare in today's platform-engineered automotive world, and each of these companies is already delivering exceptional and praiseworthy vehicles. At this point in my quest, though, I wasn't satisfied that I'd found a firm that was putting it all together. Like many a quest, I realized that this one might remain unfulfilled for now. Nonetheless, I was so inspired by Lotus, TVR, and Aston Martin, that I felt compelled to continue the search. I'll report on that and more in the next issue. »

Above: Final details of a fantastic finish.

Top Right: Carefully sewing flawless leather.

Middle Right: Bonded and riveted aluminum.

Bottom Right: Pre-production V8 Vantage line.



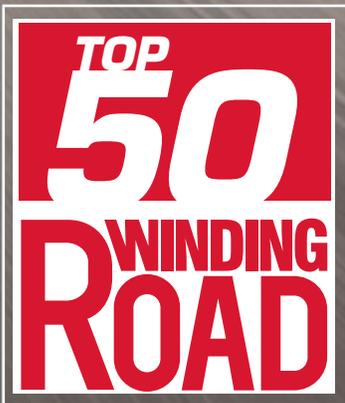


BEST DRIVES 2005

50		49		48		47		46		45		44		43		42		41				
	40		39		38		37		36		35		34		33		32		31			
30		29		28		27		26		25		24		23		22		21		20		
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10		9		8		7		6		5		4		3		2		1				



»» THE BEST OF THE BEST



by Tom Martin, Brooks Holden, Bill Campbell

Photography by Andrew Yates

Unlock the gun cabinet and break out the ammo. Or, fire up the PC and get set to dish out some truly pyrotechnic flame mail. It's time for Winding Road to name the top 10 cars in our illustrious Top 50.

At the beginning of this adventure, we sensed there were about 50 really good driver's cars on the market. Now that we've driven many more cars than that, and ranked the ones with some real merit, we're pretty comfortable with 50. If we had any more cars, we'd be counting those that have an obviously superior alternative on the list already. With fewer than 50, we'd be leaving off some cars that fit a small niche, but fit it very well.

We also speculated that there are some truly excellent cars at very reasonable prices. Likewise, we thought that excellent cars were available across the various categories — sedan, sports car, GT, wagon, economy car — that the industry uses for some semblance of order. By comparing across prices and categories, the Top 50 reveals some gems that might otherwise go unnoticed. This idea has proven to be a greater insight than we imagined.

So, with a new crop of 2006 models starting to arrive, we'll be back in a few months to reshuffle the deck and do it again. For now, sit back and enjoy the show.

Cars 10 - 3

10 Subaru Impreza WRX STi

When it comes to power and grip, the STi can run with the big boys. Sure it looks a bit strange, but most Subes do. Yes, the interior bits are better, but still not great. Then you get behind the wheel, stomp on the right pedal and — Whoa! Unlike all other Subarus, the STi is flat in the corners, and delivers amazing punch in the straights. With the adjustable diff, you can dial in the chassis balance you like, and the quick steering will keep a smile on your face. Not only that, but the ride isn't bad, the back seat is roomy, and the trunk will hold plenty. Practical meets racy, and the price is within reach. The only things not to like are the boy-racer styling and the little bit of extra softening that makes it livable.



PROS: Very high capability, useable at all speeds, minimal suffering for this sort of ride

CONS: Tends to understeer; interior space and comfort could be better; styled by Quasimodo

Best of the Bunch: Choose silver wheels (not gold)

Power: 300 hp

Engine: 2.5 turbo H4

Torque: 300 lb-ft

Price: \$32,445

0-60: 4.9 sec

8 Morgan Aero 8

Nowadays it's rare to find a manufacturer that can create a pure driving experience, but Morgan is one of them. Some might say even the Aero 8 is too pure. Its narrow footwells, heavy controls, and slightly creaky aluminum/ash frame seem like limiting factors, but naysayers are soon shown the door by the Aero 8's wealth of ability. The Aero's 2500-lb. weight means that the torque-rich BMW V-8 delivers tarmac-liquefying acceleration. And if the Cuisinarting of your gut hasn't sent "massive acceleration" signals to your brain, the engine's all encompassing thunder will. Throw the car through a few bends and it's just as impressive, with direct steering and flat handling. On imperfect roads the chassis may not be superbly planted, but that doesn't diminish the characterful, alive feeling of the whole car.



PROS: Raw power-to-weight; flat and balanced handling; the pinnacle of uniqueness

CONS: Looks not for all; heavy controls; BMW interior bits

Best of the Bunch: Get side exhausts

Power: 325 hp

Engine: 4.4 V-8

Torque: 320 lb-ft

Price: \$120,000

0-60: 4.8 sec

9 Aston Martin DB9

When the first official details were released, it was hard to imagine what might stop it from being the best car in the world. With German dynamics courtesy of Dr. Bez's Porsche history, a stonking 450 hp V-12, a featherweight aluminum chassis, and possibly the best looking sheet metal ever penned, all together with British character, it seemed to have the perfect combination. And the DB9 is indeed a superb effort. The design execution is fantastic, and Aston went with a sports suspension that gives the car the flat handling Dr. Bez promised. But this also means the DB9 is upset by bumps that wouldn't bother a proper GT. That tradeoff would make sense except that the V-12 counters the aluminum chassis's lightness, so the DB9 is a bit too heavy to be a proper sports car. Due to these few niggling bits of incoherence this Aston is a bit less than the sum of its otherwise flawless parts. Which means it's great. But it could be greater.



PROS: Awe-inspiring craftsmanship; Porsche-like suspension; thunderous motor

CONS: Heavy for an all-alloy car, isolated steering, aloof handling

Best of the Bunch: Looks surprisingly good in Aston racing green

Power: 450 hp

Engine: 6.0 V-12

Torque: 420 lb-ft

Price: \$160,000

0-60: 4.8 sec

7 Chevrolet Corvette

With the C6, Chevrolet claimed to have a Porsche-beater. Continue down the Top 50 list and you'll see that we don't quite agree. That doesn't mean we have to write off the Vette as a failure though, for it is still a stunning vehicle in its own right. It may not have as talkative a chassis or as well-judged a helm as an all-out sports car, but no one will be complaining after a healthy helping of six liters of Detroit V-8. The Chevy's motor does away with the need for tach-swinging histrionics by providing usable power that can be fun at any time of day. Add that to its flat, composed handling and quite a great car emerges. If the shady interior quality, heavy shifter, and slightly vague steering could be remedied, it might be a Porsche-beater, too. As it stands, the C6 is pure American fun.



PROS: Prodigious torque; massive grip; great all-rounder

CONS: Lack of chassis and steering feedback; clunky shifter; Impala interior plastics

Best of the Bunch: Spring for the Z51 suspension

Power: 400 hp

Engine: 6.0 V-8

Torque: 400 lb-ft

Price: \$44,510

0-60: 4.7 sec

6 Lotus Elise

Lotus' philosophy toward car design may not suit all, but no one can deny their unflinching adherence to driver-focused automobiles. And, there are still those who want a great driver's car badly enough to put up with a stiff ride, minimal visibility and tough ingress/egress. Once you look past that, the Elise rewards with masses of unassisted steering feel, a playful and composed chassis, and a grippy, highly composed suspension setup. The only disappointment is the Toyota-sourced motor. Plenty of fuss has been made over its 8500-rpm redline and top-end power, but lower in the rev band it lacks usable torque and a wheezy drone is to be found. Open it up, though, and it's without peer.



PROS: Telepathic steering, unsurpassed chassis dynamics, near-perfect suspension
CONS: Wheezy engine, origami ingress and egress, terrified of potholes
Best of the Bunch: Touring pack, but skip the sport suspension

Power: 189 hp	Engine: 1.8 I-4
Torque: 129 lb-ft	Price: \$42,990
0-60: 4.6 sec	

5 Mitsubishi Lancer Evolution

To the self-conscious, driving around in a car that looks like a boy's toy might be hopelessly embarrassing. Except that it is completely worth it. The Evo has driving dynamics that will see off sports cars from the best manufacturers. A talkative chassis, lightning turn-in, balanced handling, and wobble-free steering endow this rally derivative with world-class cornering ability. On exit, drop the gas to the floor and four wheels pull the Evo through without excess slipping, sliding, or drifting. You must exercise caution with the potent turbo boost, but the shifter is quick and easy to use, so staying above 3000 revs is not too painful. The Evo may not have the polished maturity of its European rivals, but it's a hell of a lot of fun.

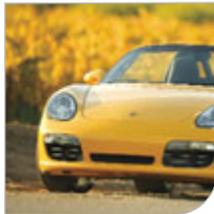


PROS: Razor-edge handling; four-wheel-drive grip; serious power, sedan practicality
CONS: Headache inducing harshness; dime-store interior; bolt-on styling
Best of the Bunch: The regular (non-RS, MR) Evo

Power: 276 hp	Engine: 2.0 turbo I-4
Torque: 286 lb-ft	Price: \$30,699
0-60: 5.0 sec	

4 Porsche Boxster

Call it boring, but Porsche has always known how to make fantastic, driver-focused cars (Cayenne notwithstanding — that was just a bad day in Stuttgart). The ubiquitous Boxster, dismissed by some as a poser-mobile or a hairdresser's car, is no exception. Responsive steering, a slick shifter, hard-wired throttle response, and an involving chassis all figure into a polished and coherent package that is further enhanced by cowl shake-free convertible versatility. Only the marginally underpowered engine, even in 3.2-liter S form, and the pointlessly overcomplicated user interface limit the baby Porsche's all-conquering abilities. Virtual perfection does tend to come at the price of character, but the Boxster hasn't lost much. The Boxster manages to be comfortable and relaxing, but still engages any level of driver at any speed, on any road, at any time.



PROS: Fantastic steering; fun at any speed; balanced chassis
CONS: Limited power; cluttered dashboard; ubiquitous
Best of the Bunch: The S, but there's no shame in the base car.

Power: 240 hp	Engine: 2.7 H-6
Torque: 199 lb-ft	Price: \$43,800
0-60: 5.9 sec	

3 Mini Cooper

In a world where colossal SUVs rule and boys dream of decadent Maybachs or 600-hp supercars, it would seem there is little room for a diminutive hatchback with about a quarter of an Enzo's power. The explosive little Mini, however, can hold its own in today's daunting world of automobiles. It's backed up by a heritage of conquering Goliaths, and after driving one it's not hard to see how the little Brit could win rally stages. The unbelievably nimble chassis is easy to chuck around in ways that don't seem healthy for such a tiny object, and the lack of power can actually add to the fun because momentum and smoothness become more important than all-out speed. The steering and chassis fuse beautifully to reveal the car's limits and communicate what the wheels are doing. Efficient, cheap, and light is a simple idea, rarely done well. The Mini pulls it off with stunning results.



PROS: Wants to turn; rubber-free steering; cheaper than some Kias
CONS: Some Kias have more power; chick-car image
Best of the Bunch: Cooper S

Power: 168 hp	Engine: 1.6 supercharged I-4
Torque: 162 lb-ft	Price: \$20,400
0-60: 6.8 sec	

PROS: The good things about the car
CONS: The not-so-good things about the car
Best of the Bunch:
 Our favorite model from the basic car's lineup

Power: The peak power of our pick's engine
Torque: The peak torque of our pick's engine
0-60: The manufacturer's claimed 0-60mph time for the car chosen in "Best of the Bunch"

Engine: The displacement, aspiration, and cylinder setup of our pick's engine
Price: The manufacturer's quoted base price for our pick

THE VERY BEST



by Bill Campbell

2 vs **1**: HISTORY MATTERS

That's the recurring thought each time I grab second gear and prepare for what must be my twentieth 110-degree bend of the day. No complaint about that, to be sure. History came to mind because the Ozark Mountains of Arkansas are old enough to provide a terrain that is just about perfect for testing cars; it offers an astonishing variety of corners that, when mixed in with medium-length straights and high quality asphalt over hundreds of miles, add up to a track of sorts that almost makes the Nurburgring look claustrophobic.



My colleague Tom Martin and I were in the Ozarks to put in some major seat-time with the Ferrari F430 and Porsche Carrera S, our two candidates for numero uno in the Winding Road Top 50. While it wasn't too difficult to come down to these two cars for the top slots, we just couldn't get comfortable naming one of them to first place without a head-to-head test.

One or two years ago, we would have seen the Ferrari 360 Modena and the 911 (996) Turbo battling for supremacy. Fortunately, history marches on, and the two greatest living sports car manufacturers have served up new cars that correct some of the

deficiencies of their old models. In the case of Ferrari, the 360 had a chassis and transmission that were once state-of-the-art, but could obviously be improved. As for Porsche, the 911 Turbo's non-linearity made street drivers long for a normally aspirated car with close to the Turbo's power level. And anyone with eyes wanted a cleaner design, both inside and out.

Ferrari and Porsche, of course, knew about these criticisms and have taken a first shot at addressing them with the new F430 and the almost new 911 (997) Carrera S. From prior experience with the cars, we knew that they were exceptional,

as you might expect from manufacturers with a history of producing great cars. Not only that, in this case each manufacturer is working from their historical strength: The F430 descends from the 355 and 360, which were excellent, and the Carrera S descends from, well, the seemingly infinite line of 911s over the past 40 years. In an era of computer technology, we've all come to assume that newer is better, and that at any moment one manufacturer may eclipse another. But, in reality, car manufacturers almost never design new models from the ground up. Their new designs are

modifications of what they have done in the past. So, history matters, and you can feel it when you drive several generations of 911s or V-8 Ferraris and then get into other cars.

As we headed south from Harrison, Arkansas, on Route 7 in the F430, it became clear that one of the areas where manufacturers benefit most from historical knowledge is in knowing how small things make a big difference to the driving experience. On the face of it, the F430 is a 360 Modena with a bigger motor. Same basic shape, same chassis layout, same F1 transmission setup. But the F430 has a totally different feel. When the 360 came out, other manufacturers marveled at its chassis stiffness and drivetrain refinement. Well, boys and girls, the F430 chassis makes the Modena's look like it's made from overcooked pasta. The F430, more than any

“YOUR HEAD FLIPS BACK, EYEBALLS PRESSED INTO SOCKETS AND YOU'RE DEFINITELY ABOVE THE SPEED LIMIT. WAY ABOVE IT, ACTUALLY.”

other car, feels like it is carved from a single block of aluminum or titanium. Just driving through open sweepers and along straight stretches, the car feels planted and strong. I'm sure the aero package helps by supporting directional stability, but even with that in mind, the solid, imperturbable feel of the car is overwhelming. Right away, I started wondering, "How could the 911 top this?"

The steering reinforces these sensations. The wheel is large and the weighting is on

the heavy side. As you wheel the Ferrari in and out of corners, it feels substantial. It doesn't feel large like a Murcielago, but it isn't small and agile either. If you've seen the Audi R8 Le Mans cars race, you'll know what I mean when I say the F430 feels like the R8 looks. The car seems wide and low and glued to the ground, yet full of potential – ready to vacuum up anything in front of it. It doesn't hurt that you sit low in the F430, which emphasizes the width of the car and the sense that it is big and powerful.

A quick switch to the Carrera S, as we headed toward towns with colorful names like Nail, Deer, and Ozone, provided a dramatic contrast. Where the F430 feels big and planted, the Porsche is light and agile. The Carrera is by no means skittish, and on highway straights it is the most planted and stable 911 we've driven. It's

just that when you get into the twisties, Porsche has put together a steering, handling, shifting, and throttle package that is ideal for practicing your Bob Bondurant driving school techniques.

In the Carrera, everything seems to begin with the steering. Much has been made of the changes in ratios, and the addition of variable ratio steering. Part of the brouhaha is that the 996 Turbo and C4S had fantastic steering, so Porscheophiles were wondering

whether the engineers might actually go backwards. Not so. The Carrera S steering has just about the right amount of feedback, weight, and quickness to make you feel that you can place the car right where you want it. The higher driving position and open glass of the Porsche helps with this sensation, because you can clearly see sharp bends that dip below or rise above you, something that happened a lot in the Ozarks. This latter observation is probably more psychological than real, but it helps make the Carrera into a coherent package for carving up snaky roads.

This steering stuff is important because the Carrera's chassis is decidedly not about racecar-like traction. The Porsche has pretty high limits, but you will find them much more easily than you will in the Ferrari. And that's part of the fun. As we slashed our way across Highway 16, I repeatedly got into a corner, felt the front tires slipping just a hair, backed out of the throttle to bring the tail out and front end in, and then rolled into the gas. Of course, I didn't always do this perfectly, and I didn't always anticipate changes in the radius of the curves invented by the Arkansas DOT, but the thrill of the Carrera lies in working to get the car balanced and to drive it smoothly through corners.

For this to be entertaining rather than work, the chassis has to be very easily controlled. In this new version of the 911, Porsche has given us as predictable a chassis as ever. Roll is low, though not in Ferrari territory, and turn-in is sharp without being



darty. No amount of tuning, of course, changes the historical decision to hang the engine behind the rear wheels. On bumps, the Carrera still unloads and loads the front tires in a way that adds some thrill to the proceedings. The chassis isn't thrown off very much by this effect, but you do have to correct ever so slightly, which is part of the game. And you'll probably want to be running at less than nine-tenths on a bumpy road in the Porsche.

Because the throttle is a big part of the control system for the Carrera, you'd ideally want a really linear throttle setup along with ample torque and a great shifter. For the first time outside of the GT3, Porsche has delivered on all three fronts. Porsche's new Sport-Chrono package amps up the throttle response when placed in "Sport" mode, and this yields just about ideal adjustability when running through tight corners. Fortunately, Porsche has made the Porsche Active Suspension Management (PASM) damper settings independent of the throttle response switch. We say that because PASM in "Firm" is just too stiff for typical rippled back roads. With two separate settings, you can get the car dialed in for most conditions. The only thing we'd like to see Porsche do is to move the switches to the steering wheel.

All the throttle response in the world won't help if you're in the wrong gear and the engine lacks torque. But the new 3.8-liter motor has plenty, although no one will confuse the Carrera with a Corvette. And with that engine hanging out back, and

the monster tires Porsche specifies providing mucho traction, you can get the power down big-time coming out of curves. Just as important, the shifter is light, smooth, and positive, which makes it a joy to use in these situations. This is particularly unusual for a transmission connected to a powerful engine, and is part of what sets the Carrera apart.

Of course, Ferrari takes a completely different approach to the problem of transmissions connected to high-powered engines. The F430's new F1 paddle-shifted transmission is indeed smoother than the one from the 360, although the old transmission worked just fine for our tastes. Still, nothing wrong with a little refinement, which you also feel in the way the F430 rolls away from a stop or goes into reverse. Ferrari, which already had the best paddles by far among sequential manuals, has seen fit to improve their shape, finish, and even their sound. But the big deal as always is the ability to grab the right gear seemingly at will (this being code wording for, "Get help from the transmission to cover up some of your driving errors."). Ferrari has also added a downshift blip, which could be annoying, but seems subtle enough while adding some racy feel to the proceedings.

While I find a lot to like in the F430, after time in the Carrera S I'm getting a little worried that the whole of the F430 is less than the sum of the parts. The Porsche is all of a piece, full of feedback and carefully considered

controls. The Ferrari dishes out lots of interesting sensations, but what do they add up to? Tom put his finger on it when he said at one of our stops that the Ferrari seems so stable that you feel like you need to go extremely fast, which is to say too fast, to make things interesting. Fortunately, heading south on Highway 309, between Paris and Havana (I'm not making this up), I started to find the rhythm of the F430.

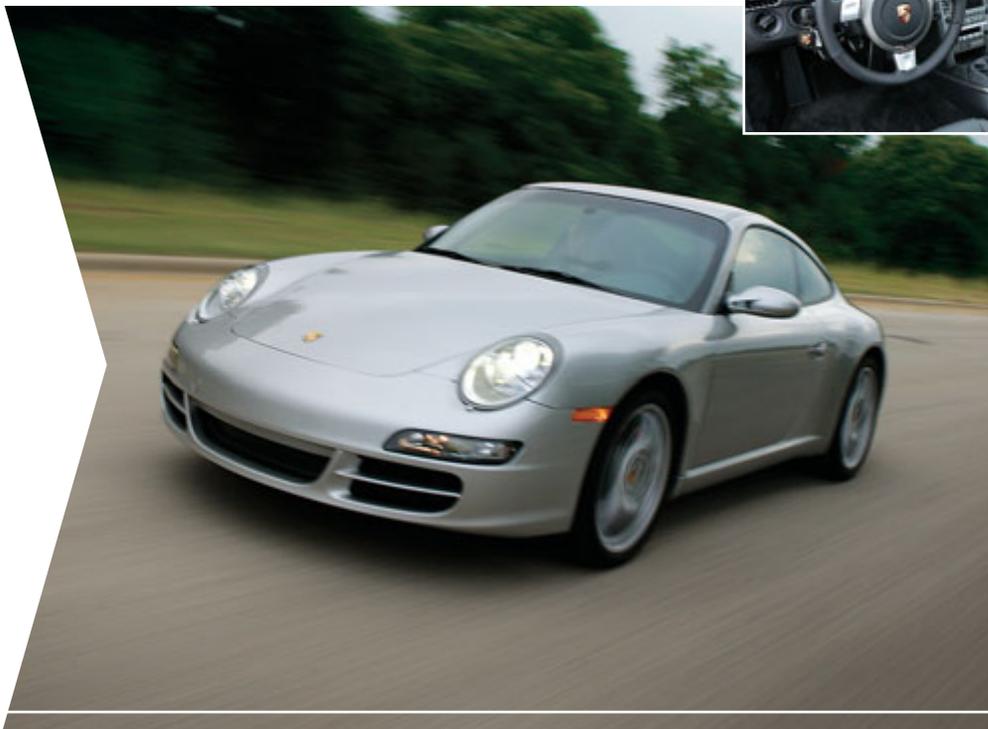
The F430 comes into its own when you relax your hold on the reigns a tad. With the Ferrari, you have to realize that the car is supremely competent, and that you don't have to make constant adjustments for the car's mistakes. You drive smoothly and focus on the big stuff. More Jackie Stewart or Alain Prost than Jody Scheckter or Juan Pablo Montoya.

Which could be boring, except that Ferrari has provided a full-on, 5.1-channel sensory overload system in this car. It works as follows: As you downshift for a corner, you get the aforementioned throttle blips, which, unless you're on the way to the corner, move your heart rate up by five or ten ticks. Initially the car seems to understeer, but this is because the steering is relatively heavy and slow on center. After adjusting to that, the F430 pretty much goes where you point it, and the steering is set up to allow you to precisely select the path of the car. Then it goes 'round. The challenge and the fun lies in getting the path right, not in making a zillion little corrections.

Once the correct flight path is confirmed, you can begin thinking about when to roll on the power. As in the Porsche, the Ferrari throttle system is a willing and responsive partner. Much more than in the Porsche, which doesn't want

the tail to let go no matter what, the F430 challenges your decision of exactly how much power to put down and how quickly. With the Manettino (a knob on the steering wheel that selects the settings for the active differential and suspension) in "Sport," too much power brings the rear end out, though you and the car can prevent disaster if you aren't too far off the mark. And since you will be moving at quite a clip given the Ferrari's limits, you don't want to be very far off. Remember, keep it smooth.

Get the power setting right, and a magical sequence starts. A tenor thrum – part exhaust, part induction noise – begins behind you. This sound is obvious, much more so than in most cars, yet it isn't loud, suggesting that there is more to come. There is. Thanks to ample displacement, the car pulls strongly from about 3000 rpm,



49
48
47 but when the engine comes on-line above
46 4000 rpm, you are clearly rocketing
45 forward. The engine gets a bit raspier, and
44 more rocketing ensues. The marvelous part
43 is that you don't need to have your foot to



39 the floor. As with the Mercedes Benz SL 65
38 AMG, part-throttle acceleration in the F430
37 is prodigious, and is made all the more
36 amazing because the sturm-und-drang of
35 many lesser cars is missing. The car obviously
34 isn't breathing hard. Unlike the big
33 Merc, with the Ferrari you get a great sound-
32 track as you move up through the gears.

31 If you do get the throttle closer to the floor,
30 the amazing turns surreal. With the hammer
29 down, just above 4000 rpm the engine
28 changes modes. You hear this change as the
27 engine gets significantly louder and more
26 F1 scream gets mixed into the soundtrack.
25 Even more noticeable is that the big V-8
24 seems to pick up about 100 horsepower.
23 Your head flips back, eyeballs pressed into
22 sockets, and you're definitely above the
21 speed limit. Way above it, actually. On a
20 track you'd want to keep the engine above
19 this booster rocket point, because it comes
18 on pretty abruptly.

17 You're at the next corner by now, and the
16 fun begins again. Although the car is faster,
15 the rhythm of the Ferrari is slower than the
14 rhythm of the Porsche. It takes a fairly open
13 road for the Ferrari to feel comfortable.
12 There are tradeoffs, and I begin to wonder
11 about which car fits the reality of street
10 driving better.

09 This thought was reinforced when we
08 occasionally stumbled into a small Arkansas
07 town. At 2500 rpm rolling down Main
06 Street, the F430 seemed disinterested. In
05 an urban setting, the Porsche would be
04 much more entertaining because it is more
03 willing to do the cut and thrust stuff of
02 urban life, and the engine seems perfectly
01 happy at the bottom as well as the top of
the rev range. The Porsche wins on a host of
practical points, too. For example, it has
more storage space and is unlikely to bot-
tom out entering parking lots. I can imagine
a woman getting into the Porsche in a dress,
but I wouldn't want to be on the receiving
end of the icy glare that would accompany
such a maneuver in the F430. The Ferrari
isn't finicky, but I'd have a harder time
imagining it as a daily driver.

2 Porsche Carrera S

As we headed out onto a long stretch of interstate highway, my mind relaxed a bit and began to focus on a thought that has been forming about the Carrera S. From the Ferrari's cockpit, I looked into my mirrors at the shape and detail of the new car. My first thought was, "Wow, they really got it right this time." The car looks good, both inside and out, and while we know the shape is classic, I suspect the detailing will hold up well. When you think about the driving dynamics of the car, the boys in Stuttgart should be proud. Everything that has been a weakness of past cars has been addressed – torque, balance, steering, shifter quality. History matters, and that's partly because it takes a long time to dial everything in without compromise.

Buried within my, "They got it right this time," thought were two more subtle but important ideas. One is that the 911's refinement, by definition, brings with it a certain familiarity. Apart from the unusual, though now well-controlled, dynamics of the rear engine configuration, the Carrera S is a better or more refined or more complete version of other good cars that you'll find in our Top 50 list. As such, it is a great car, a giant accomplishment, and a real value. But it doesn't stand a world apart.

The second idea buried in my thinking is that all the refinement comes at a price. But not in the traditional sense in which everything got better except that the car lost its soul. No, this 911 is a great 911 – it is a complete, coherent package. But it feels young and a bit shy. Now that the Germanic phase of the engineering is done, the design team should take a long holiday in, say, Italy or Greece to contemplate how to unshackle the spirit of the car. We're talking stuff like removing sound deadening, exhaust tuning, adjustments to PASM mapping, and improvements to wheel and tire choices. This might be the plan for the next GT3, but it might not. The glory of the 911 is that it is sophisticated and fun and practical. The GT3, we assume, will be all about normally aspirated speed, which is good, but isn't the same as revealing the spirit in the core 911 idea.

All that said, I can't help but think that in a better world everyone would get the chance to own a 911. It is a rolling history lesson, a measure of the irrepressible will of great people and companies, and one of the few truly excellent cars. It is a car to have owned

at least once in your lifetime, and the 997 Carrera S iteration should go down as one of the best 911s. And right now, it stands as one of the best cars ever.

1 Ferrari F430

For right now, though, the top dog, gotta have it, best car title goes to the F430. Sure, we wish it were less expensive, and we'd like it to be more practical (there has to be a way to raise the ride height at low speeds when needed). But the top car in the Top 50 should be genuinely special, and the Ferrari is that in spades.

Of course, numero uno should look the part, and in most ways the Ferrari does. It has the gorgeous Pininfarina shape of its predecessors, which is destined to be fondly remembered. Ferrari wisely continued the ever popular "hemi-under-glass" engine display of the 360 Modena. Still, the styling is probably the least special part of the F430, if for no other reason than it lacks the subtlety of a classic. The Enzo and F1 derivative styling elements don't suggest a lot of confidence in the Ferrari design



department. Not only that, they aren't very artfully integrated into the flowing shape. And, the interior could have come from the drawing board at Mattel, so overamped is it with carbon fiber and designer details. Still, the car stands out, which – sadly – may be the point, and it has its moments when you look from the right angles.

None of this matters much once you get



inside. The seats are properly shaped, the controls are in the right place, and then you press the start button on the steering wheel. Whoa! The F430 has, hands down, no contest, the best sound firing up of any production car circa 2005. One whir of the starter motor, followed by a very healthy blat of mid-range exhaust gets your heart racing right now. The engine settles down to a nice, slightly erratic idle in a way that seems to beg you to get going.

This sense of the car being different, engineered not by mere mortals but perhaps demi-gods who for some strange reason loved cars, is present every step of the way as you drive anywhere except in mid-town traffic. The road-crushing chassis stability is the omnipresent theme accompanying everything the car does. Drive it on the highway and you feel like royalty, a world apart, imperturbable yet ready to spring into action at the flick of a finger (or toe). Setting up to pass cars on a two-lane road requires only a glance ahead. Then pull the left paddle back, listen briefly to the intensely potent symphony behind your head, adjust throttle to "ahead two-thirds," and wave bye-bye. No squirrely movements, no histrionic bellowing, just engaging, well controlled and very rapid motion. Repeat as needed, and you'll feel better in the morning.

Put in a few hundred miles, especially on curvy roads, and you start itching to get out there again. To figure out how to do it right this time. And to find out what other heretofore hidden wonders lie under the F430's skin. There are, indeed, many wonders to be found. You can quibble about the details of the Ferrari, but somehow you know you're in the presence of overall greatness. Unlike every other car, this one seems fully alive, almost biological in its complexity, and as a result, completely and utterly engrossing. And, for now at least, number one.)))



Porsche	Manufacturer	Ferrari
Carrera S	Model	F430
\$79,100	U.S. Base Price	\$167,000
\$85,200	Price as Tested	\$190,500
	ENGINE:	
H-6, aluminum block and heads, rear engine	Type	90-degree V-8
3.8 liters	Displacement	4.3 liters
four valves per cylinder, four overhead camshafts with continuous adjustment	Valvetrain	DOHC, four valves per cylinder, variable timing and variable intake tract
355 hp @ 6600 rpm	Max Power	490 hp @ 8500 rpm
295 lb-ft @ 4600 rpm	Max Torque	343 lb-ft @ 5250 rpm
227 hp/ton	Power:Weight	307 hp/ton
188 lb-ft/ton	Torque:Weight	215 lb-ft/ton
	CHASSIS:	
Rear engine, rear wheel drive	Drivetrain Layout	Mid-longitudinal engine, rear wheel drive
6-speed manual	Transmission	6-speed manual, automated shifting & clutch
Variable steering ratio, hydraulic power-assist	Steering	Rack & pinion with power assistance
12.99 x 1.34 in front, 12.99 x 1.10 in rear, power, ABS	Brakes	ABS, front and rear vented, 4-piston calipers
235/35 ZR 19 front, 295/30 ZR 19 rear	Tires	255/35 ZR19 front, 285/30 ZR19 rear
	DIMENSIONS:	
92.5 in	Wheelbase	102.4 in
175.6 in	Length	177.6 in
71.2 in	Width	75.7 in
51.2 in	Height	47.8 in
2-passenger	Passenger Config	2-passenger
3131 lb	Curb Weight	3197 lb
	PERFORMANCE:	
4.6 sec	0-60	4.0 sec
18 mpg	EPA City Mileage	10 mpg
26 mpg	EPA Hwy Mileage	12 mpg



Good, Clean Fun.

Three approaches to efficiency...but are they fun to drive?



by Richard Chiariavalli
photography by Ross Benton

With gasoline prices reaching new levels in the United States and concerns about global warming rising, the past few years have seen a renewed interest in fuel-efficient cars. In the most visible example of this trend, Toyota has been notably successful with the Prius hybrid. So notable, in fact, that Bob Lutz, Vice Chairman of General Motors, has wondered aloud whether GM should have pursued a similarly aggressive approach to brand-building. Like Mr. Lutz, we admire the Prius' gas mileage, interior layout, and wear-your-ecofriendliness-on-your-sleeve styling. That said, its driving dynamics are nothing to write home about. So we reached for the official *Winding Road* gauntlet, and threw it down with the question, "Can't they make an economy car that's fun to drive?"

As we started looking into this question more deeply, we discovered some interesting choices. Our first discovery was Honda's Accord Hybrid. With Honda's Integrated Motor Assist (IMA) battery/electric motor package boosting the output of its gasoline V-6, the Accord pumps out 255 hp and 232 lb-ft of torque. Given the Honda's 3500-lb curb weight, those numbers put it in a dead heat with the new BMW 330i in power-to-weight and torque-to-weight specs. Yet, the Accord Hybrid manages to get an EPA mileage estimate of 29 mpg city and 37

mpg highway. Not exactly Prius territory, but 40-percent higher than the EPA numbers for the BMW, which sports a new fuel-efficient design.

Our second discovery of sorts was the new Jetta TDI. Europeans have long favored diesel powerplants as the logical way to generate fuel efficiency, and we wanted to see what a modern Eurodiesel could do. One thing we saw right away was that diesels can put down some impressive mileage numbers, with the Jetta rated at 35 mpg city, 42 mpg highway. We also liked the Jetta's 177 lb-ft of torque coupled with its a 3197 lb curb weight. And, as icing on the cake, the Jetta is available with a Direct Shift Gearbox (DSG) that is VW's take on the computer-controlled sequential transmission. We've tried and enjoyed these systems in Ferraris, Maseratis, and BMWs, but we wondered how such an approach would work on an economy car.

Finally, we had to check out the Mini Cooper. Mini's approach to economy is straightforward: low weight. At 2557 lbs, the Mini weighs 20-percent less than the Jetta and nearly 1000 lb less than the Accord. With less mass to move around, the Mini can use a conventional gasoline engine and still get respectable mileage. Even with the Continuously Variable Transmission (CVT) we specified (since our other cars can



shift for themselves), the Mini gets 26 mpg city and 34 mpg highway. With a manual transmission, these numbers would go up to 28/36.

So, we ended up with three different powerplants: hybrid, gas, and diesel. We also had three different transmissions: automatic, DSG, and CVT. Add to that the fact that these cars are from three different weight categories and from three different countries, and you might expect three really different driving experiences. You'd be right.

After only a few miles, it was clear that the Accord is set up as a luxury sedan. The seats are soft, and the suspension cruises over bumps with disdain. The car is quiet, and not

just at stop lights when the hybrid system shuts down the engine. The back seat is generously sized, with ample leg and head room for passengers in the six-foot-and-over range. And, our test car had plenty of comfort features, including a navigation system that does a fair imitation of iDrive (minus some of the complexity).

The big hybrid powerplant supports this luxury orientation. Because the Accord Hybrid has an automatic transmission, the power of the drivetrain can't be deployed easily for quick throttle adjustments or cut-and-thrust maneuvers in town. But when you put the hammer down, the Accord does accelerate quickly, aided significantly by IMA. Honda provides a gauge on the dashboard to show when the electric motor is assisting the gasoline engine (and when the engine or brakes are recharging the batteries). What you notice is that IMA comes online when you ask for more mid-range thrust (say half-throttle or more). This is ideal for people who want an economy car, but hate the feeling that they're risking life and limb on freeway entrance ramps as they wait for their tiny economotor to glacially bring the family sedan up to speed. Such thoughts will be far from your mind in the Accord as you rocket onto the highway or easily pass slow-moving vehicles on two lane roads.

We weren't as comfortable in the Accord Hybrid on twisty back roads as we were in town or on highways, as you might expect. The soft suspension tuning just makes the car too vague on these sections. Like many front wheel drive cars, the Accord wants to understeer. In addition, the chassis wants to shift laterally when you dive into a corner. Couple these characteristics with slightly sloppy steering, and the car is difficult to place precisely in a corner.

Interestingly, Honda has fitted the Accord with fairly beefy anti-roll bars, yielding relatively flat cornering. For a luxury suspension, this neatly avoids the unpleasantness of body roll when the car is hustled along at



When you put the hammer down, the Accord does accelerate quickly, aided significantly by IMA. »

The only unusual chink in the armor of drivetrain greatness (beyond the normal limitations of automatic transmissions) is that the hybrid system in the Accord involves some fairly obvious clunks and whirs as the gasoline engine and electric motor interact. The Accord never stumbles or hesitates when this is happening, but in the context of a luxury car, the complex sounds and vibrations interrupt the sense of poise that the rest of the car conveys.

anything above a tepid pace. If you add this to the soft springing and damping that Honda specified, you get a car that seems fairly stable. It filters out the harshness of the bumps and ripples in the pavement. This isn't a *WR* kind of car, but Honda clearly knows what it is doing.

Stepping out of the Accord Hybrid and into the Mini involves a bit of culture shock, like moving to a different country. In almost every way, the Mini is the opposite of the

Accord. Deep within its little soul, the Mini wants to be a sports car. Actually, deep within its soul, the Mini *is* a sports car. The first thing you notice is the marvelous steering. The Mini combines a moderately light feel and a pretty quick ratio with near perfect linearity on center. You can accomplish most of what you need to on the highway with small, almost subconscious movements, which gives you the sense that the Mini is tightly connected to your thoughts.

Thankfully, the Mini doesn't stop there. The suspension settings offer a slice-and-dice level of turn-in that is so unlike most other four-wheel drive cars, that you start wondering how the Mini engineers did it. When you couple responsive turn-in with a handling balance that feels for all the world like an oversteer bias, you begin to realize that the Mini designers went all-out to create a suspension that wants to turn. What you net this out, you have an amazingly fun car. Driver after driver got out of our test Mini unable to suppress a huge smile.

Some, including Mini themselves, have referred to this as "go-kart like handling." We understand the concept, but the Mini has far too much happening in the suspension (something go-karts distinctly lack) for this to be accurate. The Mini suspension is go-kart like in that it is very direct: The steering and the dynamics of the car are quite linear and so the car does what you ask it to do.

The price you pay for all this handling fun comes in the form of ride harshness. You'll notice this most around town on potholes, patches, and discontinuities. The resulting small impacts are transmitted directly into the car. Of course, you'll find the same thing on most Porsches or Ferraris. And we don't hear those drivers complaining about ride quality.

Porsche and Ferrari owners have lots of power on tap to keep the fun quotient in the stratosphere between corners. The Mini doesn't. Even with the Mini's low weight, 115 hp and 110 lb-ft of torque only go so far. Still, the big problem is the CVT.

Continuously variable transmissions hold the promise of optimizing the gear ratio that the engine sees and keeping the engine in just the right part of the power band. On the Mini, the transmission creates the sensation of sapping power while making relatively unpleasant sounds (droning away for an eternity at 3200 rpm is not our idea of fun).

You can get around some of the CVT's limitations by switching to manual shift mode. Just pop the shift lever to the right, and you can move up and down gears with a flick of the lever, just like you would on a sequential manual box. This approach is fairly responsive, and certainly better than





many manually shifted automatics. Shifting like this doesn't make the Mini fast, but it feels much more responsive. An even better approach, of course, is to go for the true manual transmission.

The other limitation of the Mini is the back seat. Depending on the size of the driver, the Mini is either a three- or a four-passenger car. And even with a smallish passenger up front, leg room in back is in short supply. In contrast, the Mini's hatchback arrangement means that it can hold quite large packages, assuming you don't need the back seat.

All this carping about details really misses the point, though. The Mini offers pure unadulterated driving fun on almost any type of road at a level that few cars can match. At the Mini's price, and given its excellent fuel mileage, it is a stunning value.

The Volkswagen Jetta is in some ways as different from the Mini and the Accord as they are from each other. The Jetta is about refinement and sophistication. We also think, more than the other two cars, it shows where the green car of the future should go.

The refinement starts inside. The Jetta is a roomy car, especially for its weight. The back seat isn't as large as the Accord's but it will work for tall people. The trunk is huge, and with the rear seats folded down, the car will carry all sorts of cargo. There is not a trace of iDrive, MMI, or any other computer excess (the radio has actual physical knobs for bass, treble, and balance!). And the fit and finish put cars twice the price to shame.

When you begin driving the Jetta, you immediately notice that the suspension feels nicely planted on the road. It follows the road's bumps and undulations so that you know exactly what is going on, but without undue harshness being transmitted to the cabin. As you take sweepers you notice a bit of body roll, but it is well controlled. The steering feels light, quick enough, and linear. It isn't in the Mini class, but it fits well with the suspension tuning. At typical speeds in town or on the highway, the Jetta is a pleas-

“ Deep within its little soul, the Mini wants to be a sports car. Actually, deep within its soul, the Mini *is* a sports car. ”

ure. While it doesn't tempt you to push harder, the amount of feedback from the chassis is confidence inspiring. You start to realize that the Jetta feels a lot like the new BMW 3 Series. Not quite as flat, nor as controlled, but very close, and a cut above most cars on these factors.

Take the Jetta out onto some twisty sections, and you'll get a surprise. Like the 330i, you don't expect such a comfortable car to work so well when pushed. The Jetta isn't as glued down as the 330i or certainly the Mini, but the suspension is so composed that you can have a blast just making the VW dance from corner to corner. Most cars get thrown off by the bumps or swales on our handling loop and so are out of position more often than not as you enter the second or third corner in a series. Not the Jetta. It just hangs in there, with only a minimal sense that the front tires are doing a lot of work.

The other magical component of the Jetta is the drivetrain. The diesel engine provides excellent fuel economy in part by being down on power. What you forget until you drive it is that the turbo diesel in this car is plenty torquey (clearly Dr. Diesel liked torque), and it makes its torque precisely in the 2000-3000 rpm band where you often find yourself. Make no mistake about it, this isn't a big, punchy motor. You can't wind it out to high rpms for increased power. But it does move forward nicely at part throttle, and it sounds happy doing it.

That sense of part throttle responsiveness is enhanced tremendously by the DSG transmission. DSG does three things that together are a cut above any other automatic we've tried. First, DSG uses clutches, as in a manual gearbox. This means that when you're in





The Jetta is about refinement and sophistication. It shows where the car of the future should go.

a gear and you add some throttle, the car responds immediately because there's no torque converter to spool up. Secondly, DSG uses two clutches so that the engine is always powering the drive wheels. Unlike sequential manual gearboxes in auto mode, where the single clutch must be disengaged as the transmission is shifted, the DSG approach means power is always on. The result is that there is essentially no pause in forward motion when you step on the gas and the computer calls for a downshift. A related benefit is that DSG is smoother shifting than almost any automatic. Finally, the DSG computer has some fancy logic that guesses which gear you'll need next. We thought this might cause trouble, but in many cases the car had already preselected the right gear so that the car didn't have to shift when we asked for power. As an example, when we got off the throttle in fifth gear and braked for a corner, DSG (apparently) looked at our speed, selected third as the next gear, and when we applied the throttle near

the apex, we just motored away.

We loved driving the Jetta. But while it does everything well, it is perhaps too demure to really make an impact in the United States. Still, the Jetta TDI is so close to greatness that we can see it as a model for the future economy sports sedan. The DSG gearbox is state of the art, and with a good set of paddle shifters would make any car proud. If VW could drop in a beefier diesel (say 50 percent more power and torque), we think it would still be competitive with the Accord and Mini in fuel mileage, and have superb real world performance. Add to that tauter suspension settings, and you'd have a post-global-warming BMW 2002. It might have to be an Audi for people to understand it, and VW/Audi would have to get past a major case of corporate nerves to market the car in the United States, but it would be a blast.

You can't blame us for hoping. Until that time, you'll find us out in the Hill Country in the Mini.)))

JETTA TDI:MINI COOPER:ACCORD HYBRID)))



Manufacturer	Honda	Volkswagen	Mini
Model	Accord Hybrid	Jetta TDI	Cooper
U.S. Base Price	\$30,140	\$21,385	\$17,500
Price as Tested	\$32,140	\$24,420	\$21,420
ENGINE:			
Type	V-6, permanent magnet electric motor	I-4	I-4
Displacement	3.0 liters	1.9 liters	1.6 liters
Valvetrain	SOHC, i-VTEC, 24-Valve	SOHC, 8-Valve	SOHC, 16-Valve
Max power	255 hp @ 6000 rpm (with IMA)	100 hp @ 4000 rpm	115 hp @ 6000 rpm
Max torque	232 lb-ft @ 5000 rpm (with IMA)	177 lb-ft @ 1800-24000 rpm	110 lb-ft @ 4500 rpm
Power:Weight	146 hp/ton	62 hp/ton	90 hp/ton
Torque:Weight	133 lb-ft/ton	109 lb-ft/ton	86 lb-ft/ton
CHASSIS:			
Drivetrain Layout	Front engine, front-wheel drive	Front engine, front-wheel drive	Front engine, front-wheel drive
Transmission	5-speed automatic	6-speed DSG	CVT
Steering	Power, rack-and-pinion	Power, rack-and-pinion	Power, rack-and-pinion
Brakes	Power discs, front and rear	Power discs, front and rear	Power discs, front and rear
Tires	215/60R16	205/55R16	175/65R15
DIMENSIONS:			
Wheelbase	107.9 in	101.5 in	97.1 in
Length	189.5 in	179.3 in	143.1 in
Width	71.5 in	69.3 in	66.5 in
Height	57.1 in	57.5 in	55.8 in
Passenger Config	5-Passenger	5-Passenger	4-Passengers
Curb Weight	3501 lbs	3241 lbs	2557 lbs
PERFORMANCE:			
0-60	6.7 seconds	11.6 seconds	8.5 seconds (manual)
EPA City Mileage	29 mpg	34 mpg	26 mpg
EPA Hwy Mileage	37 mpg	45 mpg	34 mpg



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BIG?
FUN

Subaru B9 Tribeca



The New Contender

By Dave Kelley

Subaru loves to defy expectations. Back in the 1970s, the company challenged Chevy's El Camino and Ford's Ranchero for the, "I want a car AND a pickup, but I can only afford one vehicle," market with the hyper-funky Brat (recently resurrected as the Baja). Then Subaru decided that what the world's drivers really wanted was a station wagon with all-wheel drive and enough ground clearance to go off-roading,

and so introduced the Outback. When everyone thought Subaru was limited to the practical and utilitarian, the company unveiled the high-performance WRX and started winning rallies around the world. So maybe it shouldn't be considered unusual that for 2006, the newest Subaru will be the biggest, most expensive vehicle ever to roll off their production line, the all-new B9 Tribeca.

Admittedly, when I (and just about everyone I know) first saw photos of the Tribeca (nobody outside Subaru is ever going to call this the "B9"), I was non-plussed, to say the least. Judging from the photos, the Tribeca was something that had been rejected by the Chrysler design shop, destined for a one-way trip to the "What were they thinking?" file. Still, remembering seat time in the WRX, my curiosity as to how the Tribeca would perform was piqued. Could Subaru move up in weight class and still bob and weave?



When I finally got to see the Tribeca in the flesh, as it were, I did a bit of a double-take. It's much better looking in person than in photos. The grille that looks like a bad Chrysler knockoff in photos turns out to be a jaunty, art deco-inspired bit of personality that harkens back to Subaru's origins as an aircraft manufacturer. The body of the grille echoes an airplane's fuselage, with the upswept "wings" flaring off to either side. Combined with the nearly cat-eye headlamps, the visual effect of the Tribeca's nose is that of a grinning Anime creature, something Speed Racer might have seen in one of his more feverish dreams.

Considering my enthusiasm for both Anime and feverish dreams, you can consider that a compliment.

The Tribeca's interior lives up to the promise of the exterior, with a cockpit design that reminds me of the old Flash Gordon movie serials, with a cascading waterfall of controls centered on the dash and every showing at least a touch of the deco. Granted, this won't be everyone's cuppa. If you're a fan of stark modernism, don't waste your time here. Same goes if you like the over-engineered controls that make certain high-end marques so infuriating to operate. The Tribeca's controls are totally intuitive, and well-placed for easy access and use.

On the less-positive side, the seats were stiffer than they should've been, going beyond supportive to bench-like. And behind the wheel, I had to choose between sitting where I could comfortably work the pedals or where I could comfortably reach the steering wheel – there was no middle ground.

Aside from that, the interior was spacious, with three rows of seats providing the people-moving capacity that's such an important aspect of the midsize SUV class. And while some may disagree, I'd put the Tribeca solidly in the midsize SUV class instead of calling it a crossover like the Toyota Highlander. It boils down to capabilities, and the Tribeca has what it takes to get down and dirty, go off road, or pull a trailer (albeit a light one). And on the subject of capability, I've long been a fan of Subaru's all-wheel drive system, which is in full effect on the Tribeca. Admittedly, if you're one of the 95 percent of SUV drivers who never leave pavement, all-wheel drive is overkill. But if you ever actually put the Tribeca to use as intended – let's say a trip to Big Bend or pulling a ski boat to the lake – then the AWD system is most appreciated.

The AWD system features variable torque distribution, the vehicle dynamics control stability system, and the four-wheel

“ THE TRIBECA OFFERS A STYLISH AND COMFORTABLE SUBURBAN PEOPLE MOVER THAT COULD LEGITIMATELY GET OFF THE BEATEN PATH IF THE OPPORTUNITY AROSE. ”

tractions control system. In normal conditions, the torque is split 45/55 front/rear, for better-than-expected handling. As conditions warrant, the system regulates power through the center differential via an electronically managed, continuously variable hydraulic transfer clutch. In practice, it's absolutely seamless, invisible to the driver and passengers.

For the most part, the Tribeca driving experience is a good one. I've always believed that full-time, all-wheel drive systems greatly improved SUV handling and overall performance, and the Tribeca did nothing to dissuade me. The Tribeca may not be as nimble as the Cayenne, X5, or ML, but let's bear in mind that with an MSRP of \$39,371 as tested, the Subaru

doesn't really consider Porsche, BMW, or Mercedes-Benz direct competitors. Put the Tribeca up against a Chevy TrailBlazer or a Ford Explorer, on the other hand, and the Subaru compares very nicely in the handling department.

But, the question is begged: Is it fun to drive? A fair question considering who we are. If you expect the Tribeca (or any SUV, for that matter) to light up your cerebral cortex the way, say, a Mini does, you're going to be disappointed. If, on the other hand, you're hoping the Tribeca will deliver the capabilities you want in an SUV and still provide a modicum of driving excitement, you might be satisfied. The Tribeca is a bit heavy-nosed, and if you're crazy enough to carry a lot of speed into a corner, I imagine you'll find some big-time understeer. I have no desire to risk a rollover, so I didn't test that hypothesis to the extreme. Under moderate push, though, the Subaru AWD system feels sure-footed, and the whole vehicle feels stable.

The Tribeca does slip a bit, though, when it comes to power. Subaru is, rightly, making a big deal of the fact that the Tribeca has a 3.0-liter, 6-cylinder boxer engine under the hood, further inviting comparisons to Porsche, and I had high hopes that the engine would live up to the promise. Not quite. Because even though the Tribeca's boxer is rated at 250 hp, the truck weighs in at 4225 lbs. It felt seriously underpowered, and getting up on the highway was an adventure. Once on the highway,

passing another vehicle was generally out of the question, unless I had a long, long stretch of clear roadway to work with.

No surprise, then, that braking is a bit of a non-concern for the Tribeca – you'll rarely be going fast enough to have to hammer that particular pedal. Under normal conditions, the brakes felt a wee bit spongy, but when I simulated an emergency stop, the brakes came on smooth and hard, bringing the truck to a quick, controlled halt.

Will this relative lack of power be a deal killer? Hardly. The Tribeca offers a stylish and comfortable suburban people mover that could legitimately get off the beaten path if the opportunity arose. It looks sharp, drives well (if not quickly), and loads you with creature comforts that range from a sliding second-row of seats that allows for an extra few precious inches of legroom for the third-row passengers to a spiffy DVD system that actually allows the front seat occupants to watch the movie on the nav system's 7-inch in-dash display as long as the transmission's in park. (Admittedly, I worry about the inevitable hacks that will allow the movie to play on the nav display even while the Tribeca's moving.)

If you were hoping that Subaru would transplant some of the WRX series to a crossover vehicle, forget it. But, add the 8.4-inch ground clearance and the excellent symmetrical all-wheel drive system that gives the Tribeca the ability to go seriously off road to the list of family-friendly features, as well as the wallet-friendly MSRP and decent fuel economy (the EPA rates the Tribeca at 18 mpg city and 23 mpg highway, about average for this class), and the result is a solid, if not quite borderline excellent, debut SUV for Subaru. Add some muscle to the motor – which I believe Subaru will – and the Tribeca is going to be a contender in its class.

SPECIFICATIONS

Manufacturer	Subaru
Model	B9 Tribeca
U.S. Base Price	\$33,895
Price as Tested	\$39,371
ENGINE:	
Type	6-cylinder, horizontally opposed (boxer)
Displacement	3.0 liters
Valvetrain	aluminum-alloy heads w/ DOHC, four valves per cylinder.
Max power	250 hp @ 6600 rpm
Max torque	219 lb-ft @ 4200 rpm
Power:Weight	118 hp/ton
Torque:Weight	104 lb-ft/ton
CHASSIS:	
Drivetrain Layout	Symmetrical all-wheel drive
Transmission	5-speed electronic direct control automatic transmission with lockup torque converter
Steering	Rack-and-pinion with variable power assist, "canon mount" steering rack
Brakes	Power w/ EBD and ABS
Tires	255/55 R18
DIMENSIONS:	
Wheelbase	108.2 in
Length	189.8 in
Width	73.9 in
Height	66.5 in
Passenger Config	5-passenger
Curb Weight	4225 lb
PERFORMANCE:	
0-60	9.0 sec
EPA City Mileage	18 mpg
EPA Hwy Mileage	23 mpg



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NEW CLASSIC >>>

Porsche 993 CARRERA



by Brooks Holden
photography by Gary Russ

The End of the Line

Among a line of cars that has been in production for over 40 years, it can be a bit risky identifying any recent model as an emerging classic. Naming the original 911 or 1973's RS 2.7 a classic is easy. New models are harder because we lack the historical distance to properly judge what was just fashionable and what is actually substantive excellence. But in the case of Porsche's 993 edition of the iconic 911, both history and aesthetics make the term classic a pretty sure bet.

The obvious significance of the 993 is that it is the last air-cooled 911. From the beginning, 911's have been air-cooled, though to anyone not schooled in all things Porsche, air cooling might appear to be a drawback. And indeed it is, restricting Porsche to a two-valve-per-cylinder arrangement and thus limiting top-end power. You can see this by comparing the last 993's 282 hp with the 355 hp of the latest 997 Carrera S or the 380 hp of the 996 GT3. It is a slight oversimplification, but water cooling

allows these newer-era cars to run four valves per cylinder with higher internal temperatures and resulting higher output.

But Porsche lovers have a traditional streak, so there was a bit of hand-wringing when Porsche announced that the 993 would be the last air-cooled 911. Climb into a 993, fire up the engine, and you soon realize that there is more to this than just sentimentality. The air-cooled cars have a special sound – a lovely mechanical thrum at lower rpms that turns into a howl as the revs rise. This sound is best appreciated in the early 1995 993's (later cars incorporated Porsche's Varioram induction system to improve low end torque - never a 911 strength - but this detracts a bit from the sound).

The other area in which the 993 represents the end of an era is in the interior design. The basic five-dial instrument layout, with switchgear scattered across the lower panel, dates back to the first 911, at least in concept. This arrangement is a model of simplicity as well as having a wonderful traditional feel. Oddly, Porsche ergonomics were roundly



“**ALL OF THE CONTROLS SEEM TO BE PROPERLY WEIGHTED AND DESIGNED BY REAL DRIVERS.**”



criticized by the motoring press, both before and during the 993's active production. Having lived with several of these cars on a daily basis, I can say the ergonomics were never a problem. I would add that we should all be careful what we wish for: The 996 era 911 interior was pitifully ugly, and the new 997 interior has so many buttons it is almost a nightmare to use.

Not only is the 993's interior design a classic, but Porsche incorporated modern safety and comfort items. Airbags are on both sides, the heater is improved, and the seats are more comfortable than in earlier cars. Mid-1990's cars often have a blend of the traditional with the modern, leading me to suspect that these cars will continue to be appreciated. In any event, you won't see an interior like the 993's again.

The exterior of the 993 represents a bigger departure from the past than does the interior. Borrowing from the rare and revered 959, the 993 represents a thorough updating of the 911 body design, yet without bowing to fashion in any perceptible way. The 993 is clean and light, harkening back ever so slightly to the first generation 911s. Yet the car has seductive curves, mixed with a strong stance, that make it seem to be the ultimate evolution of this amazingly long-lived shape. In some ways the new

997 is the strongest testimony to the significance of the 993 design. The new car clearly brings back much of the 993 design, no doubt under pressure from customers world wide. What is impressive is that most people who spend time studying the 997 body will conclude something like, "It is almost as good as the 993".

Porsche not only improved the body, but spent some serious engineering time on the 993 chassis. A more modern multi-link rear suspension replaced the time-honored but limited 911 design. The front retained struts, but with gas-filled shocks. The result is the first 911 to tame but not crush the trailing throttle oversteer that comes with the 911's rear-engine layout. The 911 generation prior to the 993 had dialed-in ample understeer to tame the beast, which is a solution, but isn't much fun. The 993, in contrast, feels balanced. It has the wonderful of agility of so many 911s, but doesn't punish you for it should you get into a corner to hot and back off in a bit of a panic.

When you combine this chassis set up with Porsche's highly communicative steering, you wind up with a thrilling ride. As with all 911's, you have to manage the car as it goes through bumpy turns. But this is much more a subtle challenge than a disconcerting headache. The



great thing about the 993 is that it always feels alive and willing. All of the controls seem to be properly weighted and designed by real drivers. You get the feeling that everything has been carefully refined over many years. Of course, that's probably because it has.

Between curves, you work the engine up into the howl region again and again. The 993 isn't a powerful car in the modern sense, but that isn't really a drawback. For comparison, the 993's horsepower and torque specs are almost identical to those of the 2005 Boxster S, as is the curb weight of the car. And like the Boxster S, the 993 is plenty fast for real roads. In fact, this level of power and torque seems almost ideally suited for the real world, where more power gets you into triple digit speeds far too quickly.

993s are currently selling for \$30,000 to \$40,000 in the United States, depending on age and mileage. Using the Boxster S again as a reference, you can save \$20,000 or so with a 993. You'll probably have some repairs to make and cosmetic work to do. And you won't have a warranty. But you'll still be ahead by \$10,000 or more, if you buy the right car.

The other great thing is that you have a sports car that can be driven every day. The 993 goes in and out of parking lots with ease, unlike some more exotic cars. The sight lines are excellent, making traffic a breeze. And the storage space in the back seat and trunk is genuinely useful. Heck, if your children are younger than 10 years old, they'll fit back there with ease. Combine that with Porsche durability and you have a car that appeals to the head as well as the heart.

In the end though, the 993 is a great car for those who can appreciate its traditional virtues and who love the idea of owing a piece of history. No other recent car combines the legacy of the 911, genuine historic significance, and real world affordability. 

SPECIFICATIONS

Manufacturer	Porsche
Model	993 Carrera (1994-1997)
Current Price Estimate	\$30,000 - \$40,000
ENGINE:	
Type	Normally aspirated, H-6, air-cooled
Displacement	3.6 liters
Valvetrain	Two valves per cylinder
Max Power	272 hp ('95); 282 hp ('96-'98)
Max Torque	243 lb-ft ('95); 251 lb-ft ('96-'98)
Power:Weight	181 hp/ton
Torque:Weight	162 lb-ft/ton
CHASSIS:	
Drivetrain Layout	Rear engine, rear-wheel drive
Transmission	6-speed manual
Steering	Power-assisted rack-and-pinion
Brakes	Ventilated discs, 4 piston calipers, ABS
Tires	205/55ZR16 front; 245/45ZR16 rear
DIMENSIONS:	
Wheelbase	89.5 in
Length	167.2 in
Width	68.4 in
Passenger Config	2+2
Curb Weight	3014 lb
PERFORMANCE:	
0-60	5.5 seconds



WORLD CLASS
THE BEST OF THE BEST



BMW K 1200 S

Redefining superbike

by Chris Martens
photography by Gary Russ



Even if BMW had never built automobiles, the firm would likely have achieved worldwide fame for its motorcycles. Skeptical? Consider this: At the end of World War I, BMW was forced to move from its core business of building aircraft engines – remember the stylized spinning propeller motif in BMW’s logo? – and into the business of building motorcycles. Years before the blue-and-white roundel appeared on any car, it adorned the sides of BMW’s first R-series motorcycles. The classic R-series recipe calls for a responsive, horizontally-opposed “boxer” twin mounted in a sturdy frame and equipped with good suspension components and shaft drive.



“ THE K 1200 S MOTOR COMMANDS SERIOUS RESPECT. ”

BMW motorcycles might never have offered anything but those iconic boxer twins were it not for the explosion of popular Japanese multi-cylinder designs that emerged in the late 1960s. Never ones to back down from a challenge, BMW responded with its own range of multi-cylinder motorcycles – the K-series – in 1983. The K-bikes featured longitudinally mounted in-line fours (and later on, triples) whose cylinders were oriented horizontally for a lower center of gravity, but the size and blocky appearance of those engines led the K-models to be nicknamed “flying bricks” – a not-entirely-flattering moniker that unfortunately stuck. Accordingly, customers interpreted the K-models primarily as distance-oriented sport tourers – but not as full-fledged sportbikes. In the two decades following the release of the K-series, BMW continued to make evolutionary improvements in its R- and K-models, yet without it never built a machine to address the needs, and dreams, of sport riders. Until now.

In mid-2004 BMW announced that it was developing a paradigm-breaking new bike, the K 1200 S, one destined to become the fastest, most powerful, and best-handling BMW motorcycle yet made. Rather than conforming to the “racer replica” template established by Japanese sportbikes, the K 1200 S deliberately breaks unspoken sportbike rules.”

First, the bike puts stupendous performance (0-60 in 2.8 seconds, with a top speed around 170 mph) at the rider’s disposal, yet it does so in a way calculated not to intimidate but rather to inspire confidence and control. Second, though heavier and longer than most Japanese sportbikes, the K 1200 S promises nimble handling and backs that promise with a distinctive Hossack-type fork and an electronically adjustable suspension. Third, where traditional sportbikes are cramped and demanding, the K 1200 S is roomy, comfortable, and designed to require relatively little maintenance. Like an Olympic decathlete dressed up in a tuxedo, this bike is a powerful and versatile athlete, yet one that is also refined.

The K 1200 S motor commands serious respect. If BMW liked cryptic acronyms as much as Japanese manufacturers do, the K 1200 S would probably come with decals bearing the letters “BoPoP” – for Bottomless Pit of Power.

At all times, and everywhere in its rev-band, this free-spinning 1157-cc engine makes big torque and even bigger horsepower (up to 96 lb-ft and 167 hp). It pulls with gusto from idle on up to 5000 rpm, steps things up a notch from 5000 to 7000 rpm, and then becomes



“THIS IS THE SMALLEST FEELING “BIG” BIKE I’VE EVER RIDDEN.”



downright urgent as it surges toward its 11,200 rpm redline. And this motor is not only powerful, but musical. I picture BMW having a Stradivarius-like employee who fine-tunes exhaust plumbing until the sound is perfect. The K 1200 S’s exhaust note offers an ideal cross between a deep purr at cruise speeds, a snarl at mid-throttle, and a howl at full song.

The next thing I noticed was that, despite its 547-lb weight and 61.9-inch wheelbase, the K 1200 S felt wonderfully light and flickable – responding to handlebar inputs more quickly than several liter-class sportbikes I’ve ridden (perhaps a steering damper would be a worthwhile option?). The only downside to the quick steering was that the bike was sometimes nudged off-line by quartering headwinds. While the longish wheelbase meant the bike needed to be heeled over a ways to carve tighter turns, the K 1200 S was wonderfully confidence-inspiring at deep-lean angles, so that I quickly forgot all about its size.

Although the K 1200 S does not provide the hyper-taut, short-coupled, scalpel-like handling of today’s “racer replicas,” it offers a responsive, entertaining, and rider-friendly alternative. I’m not sure whether to attribute the bike’s fine handling to its innovative Hossack-type, “Duolever” fork – a rigid, non-telescoping fork positioned by a pair of forward-facing A-arms and suspended by an electronically adjustable coil-spring-over-shock assembly – or to its low center of gravity. Either way, this is the smallest-feeling “big” bike I’ve ever ridden.

Finally, I noticed the way BMW’s many design

touches worked together as an integrated whole. A good example would be the electronically adjustable suspension that – far from being a gimmick – worked like a charm, offering a choice of nine useful combinations of spring/damping settings. The drill is to use a handlebar-mounted switch to set one of three baseline spring rates to match your intended load (rider, rider plus luggage, or rider plus passenger and luggage), and then – on the fly – choose among preferred damping settings: “Comfort,” “Normal,” or “Sport.” Comfort mode is ideal for droning along on the freeway, while Normal or Sport work better for the twisty stuff.

Similarly, BMW’s power-assisted ABS brakes also performed flawlessly, especially on not-so-grippy surfaces, so that the only trick is remembering to put your feet down when the K 1200 S cranks to a halt. There is synergy, too, between the ABS brakes and the Duolever fork, whose design resists front-end dive under heavy braking; in tight situations, you can grab

a fistful of front brake, secure in the knowledge that the bike won’t dive out from under you.

Put all these characteristics together, and you

have a motorcycle that potentially redefines sport motorcycling, not just for BMW, but in a broader sense. This überbike’s performance limits are very high – approaching, if not precisely equaling, those of contemporary liter-class sport-

bikes, yet it is neither edgy nor temperamental, and its ergonomics are light-years better than those of typical butt-in-the-air, wrists-by-your-knees sportbikes. Instead, the K 1200 S makes high performance manageable, accessible, and a heck-

uva lot of fun to tap. Although the K 1200 S is not the right bike for inexperienced riders, it is a perfect superbike for seasoned, real-world riders for whom savoring a world-class riding experience means more than pretending to be Valentino Rossi.

With terrific acceleration, speed, handling, poise, and all-day comfort, the K 1200 S is a two-wheeled M5 – for about one-fifth the price. It’s no wonder these things are flowing out of BMW showrooms faster than free beer at Oktoberfest. >>

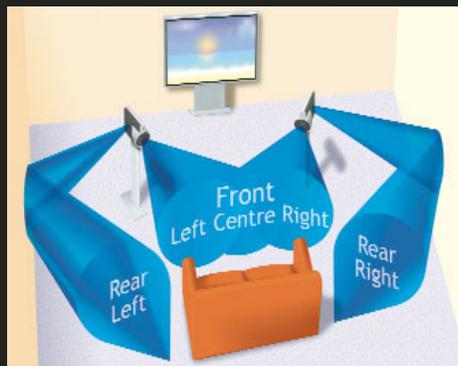


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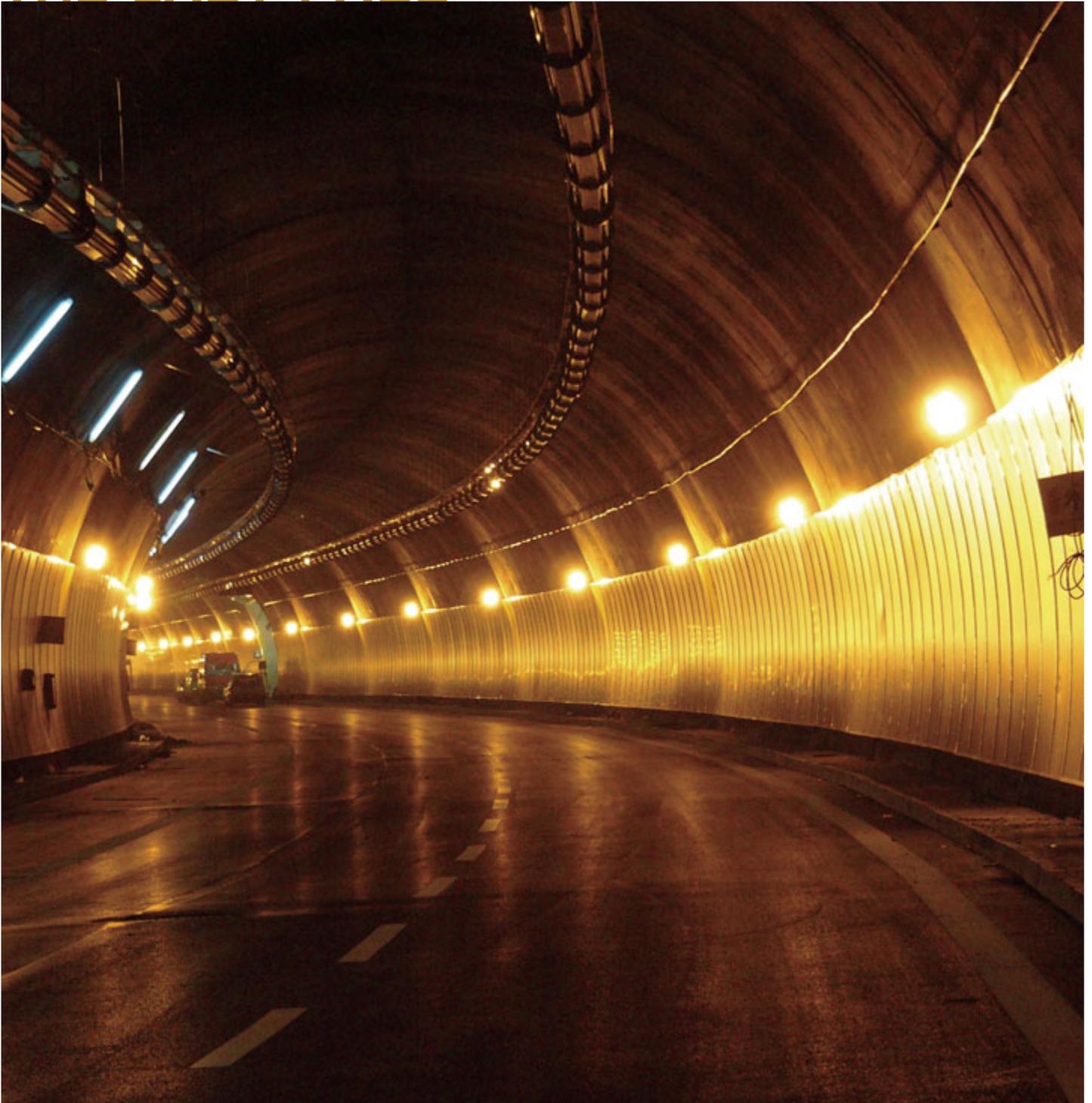
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