

BONUS: PULL-OUT 325i TURBO POSTER

BLOWN: JETTA 2.0 SUPERCHARGED

eurotuner

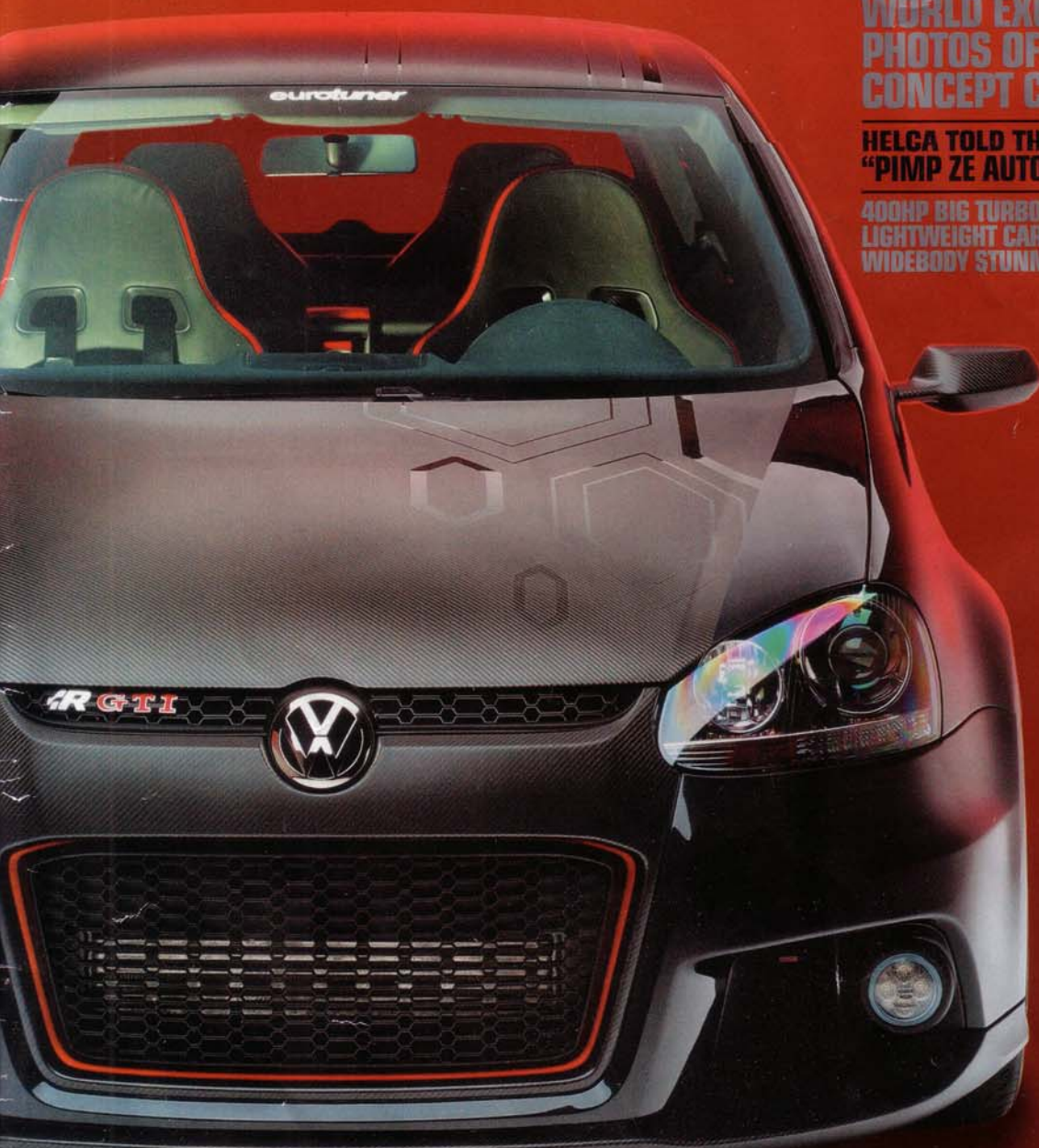
RGTI

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CONCEPT CAR

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HOW-TO: GTI STEREO UPGRADE • GTI SPORT SPINDLES • 3-SERIES CLEAR CORNERS



Here it is: our exclusive look at VW's SEMA 2006 concept car, the R GTI.

*Photos: Sam Du
Words: Greg Emmerson*

Last month we showed you exclusive design illustrations of VW's newest concept car headed for SEMA 2006, the R GTI. We had scant details at the time, but pleaded with the design team to gain access to the actual car. Through a combination of good luck and strategic bribery, we managed to pull off the impossible and get access

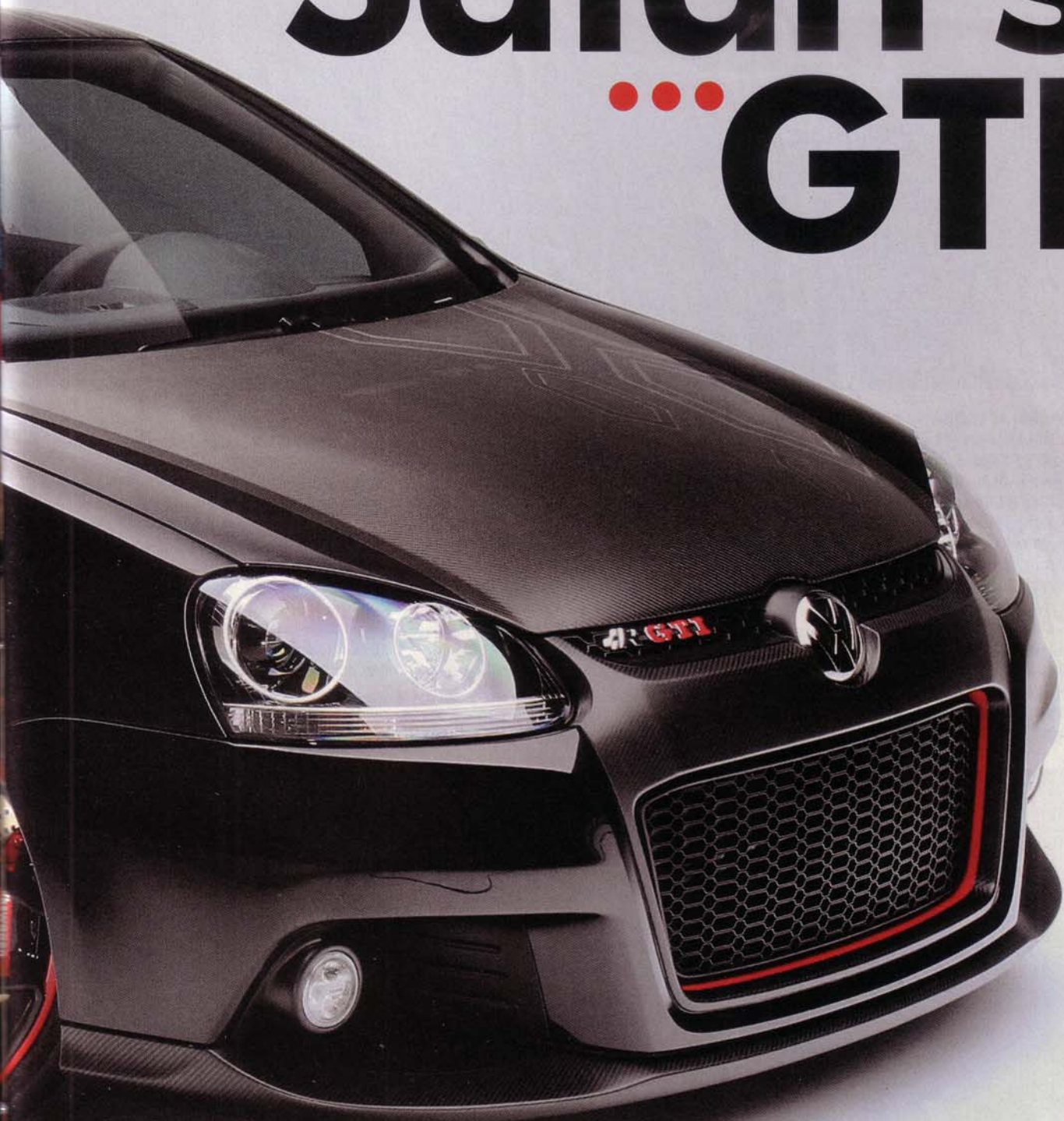
ahead of everybody – even before VW had taken its own promotional photos.

We needed this head start because our publishing deadlines mean you won't see this until a few weeks after the car has been unveiled at SEMA, and yet we photographed it almost a month prior to that.

One of the reasons the car was finished so

early was in order to compete in VW's SEMA Challenge – a track day and beauty show in which this R GTI will go head to head with a handful of tuner cars selected by VWoA to represent the brand at the SEMA show. Along with several of our sister publications, we've been invited to judge the cars based on performance and quality of modifications.

Satan's ... GTI





You can read all about the Challenge next month and see how the R GTI stacked up against the tuners.

In the meantime, allow us to give you the inside story on this remarkable, satanic GTI. We sat down with VWoA Chief Designer Derek Jenkins as well as Abeng Halim, (responsible for the exterior and wheels) and Yuval Appelbaum (designer of the interior and mirrors).

Where it all began

The story begins shortly after SEMA '05 where VW of America made its official debut at North America's largest aftermarket show. It brought three R GT concept cars – Jetta,

Passat and Touareg – all boasting tasteful styling, twin-turbo 3.2 motors and 4WD (et 12/06, 1/06, 3/06, 7/06, 9/06).

After its triumphant debut, VW planned for another assault at SEMA '06. The design team had moved to its new Santa Monica, CA location and looked at the GTI as the next logical project. By March '06 the team had come up with a proposal to build two cars – a GTI and a Rabbit. The latter is a modern interpretation of Neuspeed's original Thunder Bunny. Based on the Mk5 Rabbit, it's a fun, affordable driving machine and we'll have more details in a future issue.

The R GTI would be VW's main weapon at SEMA '06 and would be the responsibility of

the California design studio. Its stealth approach would be an evolution from last year, sporting similarly subdued paint and hexagonal ghost graphics, along with the four individual seats in the cabin.

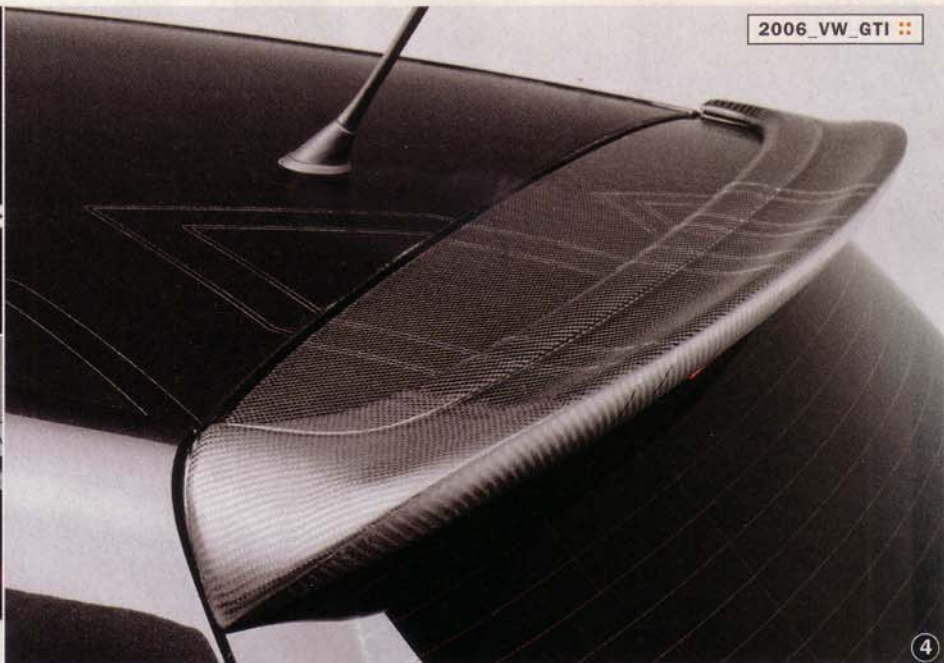
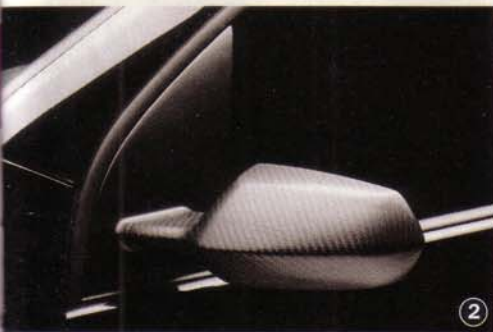
"This was a calculated approach," Derek informed us. "This is no random styling exercise. In fact, we're creating a family of SEMA cars, where the latest has evolved from the previous. It's something no other manufacturer has considered; I'd like to look back in four years to see a lineage from the first car to the latest."

It was decided the SEMA '06 show car would build on the success of the '05 cars, but they wanted to take a slightly different



1. Headlight surrounds are painted black
2. Custom carbon mirrors continue the hexagonal design theme
3. We put VW designers Abeng Halim, Derek Jenkins and Yuval Appelbaum to work
4. OSIR carbon spoiler is available off the shelf for the Mk5 Golf
5. Custom 19x9" wheels painted black and highlighted red, Brembo calipers painted German colors. All four tires are 265/30 Pilot Sport Cup





approach. Whereas last year's cars offered no-compromise performance with twin-turbo 3.2 VR6 powerplants, DSG transmissions and 4WD, the '06 car would use off the shelf parts and be more accessible to the average enthusiast. "We wanted to retain the car's basic architecture," Derek told us, "so that meant FWD and the four cylinder engine. But we still wanted to maximize its performance and handling.

Widebody

"Having decided to retain FWD, we knew grip would be a problem since our tuning partner, APR, was giving it plenty of power with its big

turbo on the 2.0T. So we looked for a solution to the problem without applying another widebody conversion like the '05 Jetta R GT. We wanted this car to be subtler, more integrated.

"With its widebody the Jetta R GT had 265-section tires all round. We knew it was possible to fit the same 265s on the rear of the stock GTI, so we looked for a way to get the same on the front. And I think the solution we found works really well."

So what is the solution? Well, you might not realize it immediately but the front fenders have been flared 22mm on either side. It was then possible to fit 19x9s with 265/30s under each corner of the car. But

the only way you'd detect this is how we did – check out the tire size on the sidewall, laugh in disbelief and try to figure out how they did it. The giveaway is the carbon fiber R logo on the front fenders, which helps you understand the R GTI has wider carbon fenders, painted to look factory.

But we're getting ahead of ourselves, Abeng explained how he spent almost three weeks in March designing 50 front end treatments and about 30 for the rear. "It was a challenge to produce an edgy design while retaining the existing lights and hood shape to maintain the GTI's DNA. We also wanted to evolve the R GT concept from SEMA '05 while incorporating VW's new look," Abeng said.





1. The big mouth is dramatic, housing the FMIC and hinting at a new VW face
2. Twin moto-inspired central tailpipes hook up to the APR exhaust system

Derek expanded on this: "The current GTI has equal size openings in the upper and lower grilles, but the new cars coming from VW will have a larger lower section – a bigger mouth. The R GTI hints at new cars like the Scirocco and the GTI facelift in a few years. So the R GTI will make far more sense to people when they see the new product. After all, we're the OE and this design isn't random at all."

Abeng reiterated his thought process: "The Jetta R GT had twin-turbos and its two side-mount intercoolers called for two ducts in the front bumper, while the VR6 needed exhaust outlets on either side of the rear bumper. For the R GTI we have one large mouth for the front-mount intercooler and central exhaust tailpipes that emphasize the difference between these cars."

"Lightweight elements were very important to this car," Derek told us. "The Jetta R GT was probably heavier after we'd finished, so once we'd improved the R GTI's traction, given it a new front end and evolved the SEMA themes, the next message we wanted to put across was weight saving. So there's lots of carbon fiber on the car, and plenty of matte finishes to give the impression of weight saving. The front and rear spoilers have floating lower elements that give the impression of light weight."

"It's all vacuum-bagged carbon with a satin finish to distinguish it from the metal panels. There's no filler in this car whatsoever; the hood, trunk, bumpers, fenders and sills are either exposed or painted carbon fiber. And then we saved additional weight with our race seats, brakes and wheels, which helped to achieve our goal."

Front to back

With the help of Derek and Abeng, let's look at the individual elements of this car. Starting up front, the new carbon bumper/spoiler is a

custom piece. The carbon weave is exposed on the center section and floating splitter, while the outer sections were painted. The distinctive GTI red stripe was added around the mouth to remind us of its heritage and to draw attention to the enormous intake.

The grille is custom and echoes the hexagonal mesh in the mouth. This nylon mesh is carried over from the R GT concept and the Mk5 GTI.

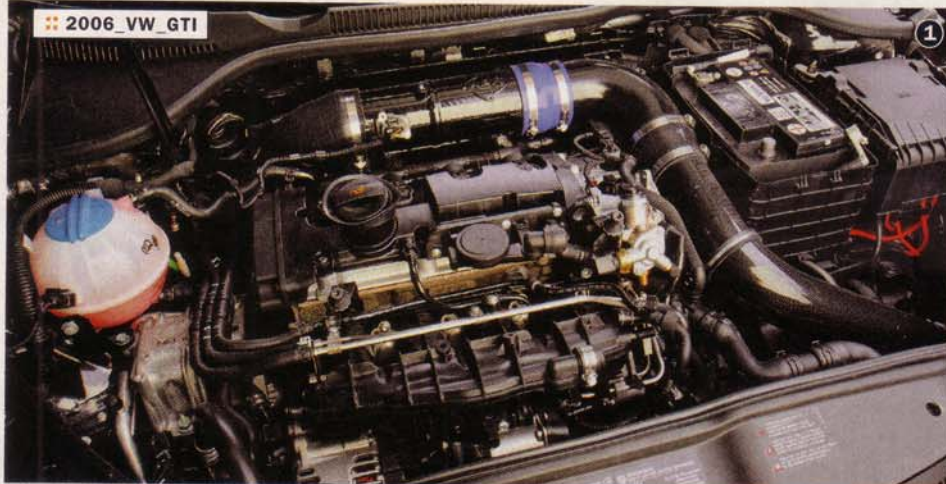
The headlight housings have been painted inside to reduce the amount of chrome, although Derek didn't paint everything. "Like the R32 rear lights, we wanted things to be subdued and different but we didn't want to go too far. I'd love to paint everything black and make it completely stealth, but a show car needs highlights to catch the eye. So we retained the VW roundel and chrome rings on the headlights. Then we added prototype

Cibie LED foglamps into the brake ducts for another focal point and to emphasize the width of the car," Derek explained.

While the front bumper was manufactured locally in California, OSIR Design in Japan supplied the carbon hood. "We were happy to work with them because they do really good work and the prices are reasonable," said Derek. "The hood is extremely well made and about 60% lighter than the stock part. We left the center of the hood bare carbon and color-matched the outside. And although we don't follow the natural V in the hood, we've come off the lines established in the front bumper to emphasize the mouth."

Abeng continued: "When it came to the carbon front fender flares, it was difficult to get them looking right, especially at the rear where they blend into the sills. We could have kicked up the sills or finished the fender





1. The 2.0T has APR big-turbo conversion: Power is expected to be almost 400hp
2. The R logo cleverly shows the flared front fenders are actually carbon
3. Rear brakes from Audi S3



differently but we wanted it to look OE. And we were worried the car might look puffed up at the front, like a front-wheel drive dragster. However, the result is pretty stealthy and you really have to look at the tires to see how much we got under there."

The side sills are new, and again manufactured in carbon by the design team. They are deeper than stock and have elements that drop down ahead of each wheel to pick up the line of the front and rear spoilers.

On each door you'll find new mirrors. These were designed and executed by Yuval. "I picked up the hexagonal theme and tried to create something light and slim. It needed to be F1-style, but not as crude. So we lost the electric adjustment and indicator units but shed a lot of weight," he added. "And they plug into the stock mounting points so are mounted in the correct position for visibility."

At the rear, OSIR produced a carbon tailgate for the project. At the top, the team mounted OSIR's existing carbon spoiler for a sporting touch. Again, the team was enthusiastic about the quality of the Japanese products and the contribution they made to the project.

"The rear bumper was created in-house and is all about performance and lightweight," Abeng told us. "It has a floating blade as before and there's a diffuser for sportiness."

Derek then expanded on the team's design process: "We wanted a family connection to the R32 because it's impossible to ignore

that car, even though it's not yet in the USA. So the rear bumper has the same inverted horseshoe shape as the R32, and of course the tailpipes are centralized. They're moto-inspired and hook up to APR's exhaust system that travels up the center of the car. We kept APR's sport cats, removed one of the mufflers and joined it to our tailpipes. It works really well for the concept but it's quite loud," he told us.

The final rear element is the R32 tail lights. They're tinted 35% compared to regular Mk5 tail lights to subdue the rear end but still give it a focal point.

Ghostly

The final exterior treatment was the ghost graphics. These were first seen in '05 and Derek was keen to continue them because he feels they're both dramatic and subtle, without resorting to import-style vinyl. He evolved the idea for the R GTI by incorporating both gloss and matte graphics to contrast the different finishes on the car.

The hexagonal, linear graphics down the side are actually vinyl, whereas those over the hood, roof and hatch were masked and the actual panels were painted with a satin coating, leaving the graphics in the original panel finish.

The final graphic is the R logo on each front fender that shows the carbon weave under the Black Magic painted panels.

All the graphics help to emphasize how light falls on the car and give it a forward motion. They were originally inspired by the GTI's hexagonal grilles and have become a signature of VW's SEMA show cars.

Rollers

"Wheels are a really important element in the tuning industry so we were dedicated to producing our own design," Abeng told us. "We went for lightweight construction with thick, sturdy spokes inspired my Ducati moto influences."

Again, Derek gave us more insight: "Traditionally we go with a five-spoke wheel because they suit our cars, but this year we wanted something more detailed. So we have a design that's still a five-spoke, but the spokes are split and continue the hexagon theme."

"Last year we painted the wheels a dark color but with a red pinstripe around the outside. This year we evolved the stripe into a bolder design. The result is a wheel dominated by the red sections. In fact, you look at the red, then the painted brake calipers before you take in the wheel itself, which was always our intention.

"The brakes are Brembo's GT kit with 13" drilled rotors and four-piston calipers. There is a 14" kit available but we discussed our plans with Brembo and they recommended the smaller kit to save weight. Many concept cars have huge brakes for visual purposes

VOLKSWAGEN OF AMERICA

LOCATION: Detroit and Santa Monica

OCCUPATION: Purveyors of Fun

2006 VW GTI

ENGINE: 2.0 four cylinder 16v FSI turbo with APR big turbo upgrade, front-mount intercooler, bigger injectors, software, intake, exhaust with sports cats, single muffler, custom tail pipes

DRIVELINE: six-speed manual

SUSPENSION: H&R coilovers, anti-roll bars

BRAKES: 12.9" Brembo GT front brake kit with custom-painted four-piston callipers, Audi S3 8L rear rotors and callipers

WHEELS & TIRES: 19x9" custom wheels finished black with red highlights, 265/30-19 Michelin Pilot Sport Cup tires

EXTERIOR: custom carbon fiber front and rear bumper/spoilers, grille, carbon front fenders, side sills and mirrors, OSIR Design carbon hood, tailgate and roof spoiler, ghost graphics, R GTI badges

INTERIOR: Recaro Pole Position front seats on custom tilt runners reupholstered to match rear seat cushions in carbon fiber rear seat pod, Schroth harnesses for all four seats, custom brace and support tower behind front seats, GTI steering wheel wrapped in suede with red piping, OSIR Design carbon trim, red stitching on door cards, R GTI mats

THANKS: VWoA Design Team, Jorge Nunez

(right) One-piece carbon rear seat is lightweight and rigid. Minimal leather cushions and harnesses mean they're only for occasional use but still look inviting. Tower between the seats secures bar for front harnesses (below) Recaros have been reupholstered with individual leather cushions and red piping to match rear buckets



but we've been assured these will do the job and are more authentic to our overall theme," Derek explained.

The rear brakes are Audi S3 parts because the rotors and calipers are slightly bigger than stock GTI. Both front and rear calipers have been painted in German colors. "VW likes to play with its German roots in our advertising, so we thought enthusiasts would enjoy that we recognized it on the car. After all, the Asian scene brings in lots of Japanese cultural associations, so I thought we could do the same with the Euro scene, especially after I was in Germany for the World Cup and saw Germans being openly patriotic. I enjoyed the excitement of it and carried that into the car," Derek said.

The suspension uses H&R coilovers and sway bars. It has very little travel and the bodyshell is so rigid the car would lift a tire over any slight imperfection on the ground.

The motor is pure APR, with the company's new big-turbo conversion that includes bigger injectors to solve fuel starvation problems. It has the necessary software, FMIC, intake and exhaust. Prior to SEMA, APR was fine-tuning the package and is looking toward 400hp for this set up.

Interior

Retaining the essence of the GTI was an important consideration for the R GTI. They wanted to preserve its four-seat practicality and sporty feel. However, the designers also

wished to incorporate their carbon and motorsport themes that dominate the exterior.

They originally intended to strip the interior for track use, but thought better of this approach and devised a 2+2 solution that leans heavily toward track days. It also nods at the Jetta R GT that boasted individual Recaro seats front and rear.

The traditional rear bench seat was discarded, saving plenty of weight. A carbon fiber pod with two sculpted bucket seats replaced it. Being lightweight and stiff, it was ideal for the concept.

The seats have minimal leather padding and are ringed by a trademark GTI red stripe. This theme was continued on the Recaro front seats that were reupholstered with similar cushions and red piping. The GTI steering wheel also gets red stitching around its new suede cover.

Because the car has obvious track intentions, the designers wanted to provide racing harnesses to secure the occupants. However, the rear seating presented a problem, one that Yuval overcame with his cross-bar. It sits behind the front seats and is secured to the B pillar seatbelt anchors, as well as a support tower in the center. The red latches on the tower allow the bar to swing up and provide rear seat access. It then swings down, amusement ride-style, and fixes the front seat harnesses. The bar also provides an "oh shit" handle for the rear passengers, who have their own four-point harnesses for track-day thrill rides.

Other interior flourishes include OSIR carbon trim, red stitching on the door cards and R GTI mats.



Finally

"This is a significant time for VW," Derek explained. "We have a lot of new product on the way and it's our second time at SEMA, so we wanted to focus people on the GTI because it's our enthusiast product. I love mine; it's a blast to own and drive. So we've strived to emphasize how much fun the car is and show its performance potential. We want people to know that VW will continue to head in this direction."

So there you have it - VW's slant on the performance industry and what the GTI is capable of. With reduced weight, increased power, improved handling and sharp looks, the R GTI is telling us anything's possible with this great car, and that a stock GTI is only the beginning of the story.

To see how it stacks up against other tuned GTIs, don't miss VW's SEMA Challenge in next month's issue. 