



# Cup Car Engine, Street Car Style

A PROFESSIONAL SHOWS MLE EDITOR  
COLUM WOOD WHAT DRIVING REALLY IS

STORY COLUM WOOD PHOTOS JASON SIU



**W**HAT WOULD the owner of a Porsche racing team drive to the office? Why, a Porsche, of course. But not just any Porsche. Michael Levitas pilots a sumptuous yellow Carrera S equipped with many of the parts that have given TPC Racing a decisive advantage against the competition in the Grand American Rolex Sports Car Series and brought them the Super Grand Sport (SGS) Championship in 2004. (And just before this very issue of MLE was being shipped to the printer, Levitas and his team – Spencer Pumpelly, Ian Bass and Randy Pobst – raced their #36 Ajilon Consulting Porsche 911 to a GT victory at the 24 Hours of Daytona. Congratulations guys!)

Examining the engine bay of a Porsche, one wonders if the German company hires contortionists to magically squeeze the flat six between the rear tires. To pop the engine cover of this 997 makes you wonder if Levitas employs magicians. The powerful engine is paired up with a TPC Racing supercharger which was designed to be used on team TPC's Porsches in the Grand Am Cup. It never made it to the track, however, as Levitas decided it was best to focus the company's efforts on just the Rolex series. "Rolex has been good to us," says Levitas, "and to be good at this level you really need to focus." Levitas also admits that politics has something to do with the decision. "Porsche really wants us driving the new GT3s," he says. The engineering didn't go to waste however, as all the technological advancements and all the fun can be enjoyed by any 996 or 997 owner for a reasonable \$9,795.

The sheet metal of Levitas' pearl yellow Porsche is bulging for a reason. The supercharger/engine combo results in a final horsepower number of 420 out of a 3.8L engine. To do this, TPC employs a Roots type or "positive displacement" supercharger for several

reasons. While most aftermarket superchargers are centrifugal and only make full horsepower at maximum rpm, the TPC charger, which is a more complex package, imitates manufacturer superchargers (such as those used by AMG) and provides over 100hp and 100 ft-lbs of torque at all rpm.

To do this TPC starts with an Eaton model 90, 90 cubic-inch supercharger. A Roots unit doesn't compress the air but just propels it into the combustion chamber where it is then compressed, hence the term "positive displacement." In other words, the engine's volume is increased, in this case by 1.5-liters. Now because the engine makes a full cycle twice per crankshaft rotation and the supercharger inputs air for each of these times, the 3.8L engine receives 3.0L (1.5L per half rotation) of extra air, resulting in a 6.8L displacement. Now that's a big engine for a Porsche!

One of the down sides of a Roots style blower is the heat it creates. To manage the heat, the TPC system comes complete with a self contained synthetic oil supply and a liquid to air intercooler, located in the front of the car.

The brain of the operation is a Unichip

**"While most aftermarket superchargers are centrifugal and only make full horsepower at maximum rpm, the TPC charger provides over 100hp and 100 ft-lbs of torque at all rpm."**

ECU which was specifically made for TPC. "The system allows us to control fuel ignition tables and inlet air temperatures as well as additional fuel and supercharger cutoff in case of emergency," says Levitas. He also pointed out that a new version of the ECU will be installed which will feature a Bluetooth option to adjust the boost or adapt to different fuels as well as a valet option to cut boost entirely.

Levitas is particularly proud of the suspension setup on his 997. "Chassis tuning is where it's at," says Levitas referring to the world of competition racing. "The suspension in the 997 is taken from a racing program and tuned for the street." The JRZ shocks are a product of TPC's involvement in a spec racing series where only small changes to suspension products were allowed. So, TPC had to get creative.

JRZ shocks are twin-tube, high-gas, two-way shocks which means they can control both compression and rebound adjustment independently, which Levitas claims no one has ever done before. He didn't want to spill all of his racing knowledge but Levitas did say that the shocks use a unique valve and piston design. It is like a shock within a shock and the key is the special seal that connects the two.

One of the unique advantages of the JRZ shocks is that they can adjust appropriately for low speed shock reactions, meaning that even zero to two-inch changes per second can be accounted for. While this has an obvious advantage for small bumps at high speeds the benefits can also be seen for daily driving on less than perfect surfaces. Because of this advantage over most retail suspension systems, Levitas is planning

## DETAILS

2005 PORSCHE CARRERA S

### WHEELS, TIRES, BRAKES

(f) Stock 19-inch Porsche Carrera S wheels with Michelin Pilot Sport 235/35/ZR19 tires and Pagid pads, 380mm APC two-piece floating rotors and six-piston calipers, (r) Stock 19-inch Porsche Carrera S wheels with Michelin Pilot Sport 295/30ZR19 tires, 997 GT3 rotors and calipers with Pagid pads

### SUSPENSION

JRZ USA lowering springs front and rear, race-spec JRZ four way adjustable front roll bar and three way adjustable rear roll bar, JRZ USA twin tube adjustable gas shocks

### CHASSIS, BODY

Porsche 997 GT3 street car body kit including rear spoiler



877.636.8500  
WWW.MODULAREWHEELS.COM



*Mr. Mrs. Ms.*



ALL AVAILABLE IN CUSTOM FITMENT AND FINISH



*Modulare*  
F O R M B I L E

on bringing his technology to the street. He says that when it comes to horsepower the street guys have adopted race technology because it is something you can feel, and he is convinced that his suspension – unlike those products offered by the competition – is something you can also feel. “Suspension tuning is somewhat of a black art for the race world,” says Levitas. Levitas has tested other products on the market and isn’t impressed. “Most adjustable shocks don’t change much until the very limits,” he says, pointing out that the JRZ suspension will have many dampening increments – the race version has 14 – some of which will be for the street and many of which will be for precise track tuning. He also plans on offering customers access to a database of suspension tuning which the TPC team has created for tracks across America.

While the product might be new to the street, JRZ has been around in motorsports for quite some time. JRZ is the exclusive shock for Team Subaru, Team Lexus and countless Porsche race teams, has provided numerous victories for TPC and is the shock used by elite tuners Dinan and Callaway.

Adding to all that suspension wizardry, JRZ also manufactures hollow anti-sway bars for Porsches and Levitas’ 997 comes equipped with the race-spec adjustable bars in both the front and rear. A lowering kit has been installed using the brand new JRZ USA 997 springs. The silicon steel springs, much like the shocks, are publicly available. The Porsche also comes equipped with the same big brake package used on the TPC Grand Am GT3 Racing Porsches. It consists of Pagid pads, 15-inch APC two-piece floating

rotors and six-piston calipers up front and the same pads in the rear.

For now the 997 sports stock 19-inch wheels with Michelin rubber, however, Levitas says Jongbloed wheels, which will look similar to the competition wheel on the TPC Racing cup cars, will be installed shortly, measuring 10-inches in the front and 12-inches in the rear.

To let me experience the improvements made to his Porsche first... err... second-hand, Levitas took me for a spirited rip on the roads surrounding the Las Vegas Motor Speedway. What might normally be a terrifying experience, I trusted Levitas to bring me back, in one piece – after all, he doesn’t just own a racing team, he is a driver. His ingenuity and skill have led to four class victories in the 2003 season of the Grand-Am Cup and an additional four victories in the 2004 Rolex Series,



## SOURCEBOX

### ■ TPC Superchargers and JRZ USA Turbo Performance Center

Tel: 410-799-7223

Fax: 410-799-8523

URL: [www.tpcsuperchargers.com](http://www.tpcsuperchargers.com)

Email: [sales@tpcsuperchargers.com](mailto:sales@tpcsuperchargers.com)

Location: 8040 Washington Blvd.

Jessup, MD 20794



# MODIFIED LUXURY & EXOTICS



Visit Modified Luxury & Exotics Online today!

[www.ModifiedLE.com](http://www.ModifiedLE.com)

At ModifiedLE.com, you can preview the latest issue online before you buy! Also, when you subscribe online you'll save money off of the newsstand price. You can discover more about the magazine and take part in our online forums. So visit us today at ModifiedLE.com!



not to mention his win at Daytona. I would characterize the experience not as terrifying or scary, but educational. Allow me to explain.

After gingerly crawling over a dip where water from the lawn sprinklers had collected, Levitas kicked the pedal and without having to wait for revs to rise or a turbo-charger's boost to kick in, the tires fought hard to grip the asphalt as the Porsche's rear end slid out and angled 45 degrees to the left. Levitas raised his right foot as the water that was on the tires was either been blown off, boiled off or just ran away screaming. With that little safety precaution taken care of, Levitas stabbed the throttle again and as the car jerked sideways, this time the 19-inch Michelins grabbed the asphalt and we shot off. With as much composure as I could muster I forced my legs straight to hold me still as sweeping corners came and went. We barreled down on tight corners and with even more shocking deceleration the car seemed to make an over 90 degree turn barely slowing down. The massive brakes

grabbing, the rear-engine swinging around, followed by the immediate propulsion from behind seemed to defy physics.

As we approached the speedway, the thoughts of driver and passenger diverged. I thought, "are we allowed to drive into the infield," while I believe Levitas was thinking, "I wonder what the supercharger would sound like going through that tunnel." Without any thought of stopping – remember Levitas is no stranger to infields – we shot through the tunnel, the tremendous whine of the supercharger echoing from behind us like a shrieking she-devil.

What did I learn from this educational experience? I certainly learned how well the innovative JRZ suspension works. I also learned a great deal about supercharger technology and the advantages of a roots type supercharger. More importantly, however, I learned something about driving. Levitas taught me that whatever it is that I do in a car, I just can't call it driving any more. A race prepped car at the hands of a race car driver is the best recipe for fun. **MLB**



## SPECIFICATIONS

2005 PORSCHE CARRERA S

### ENGINE

Porsche 3.8L flat-six

### ENGINE MODIFICATIONS

TPC Racing positive displacement supercharger system including an Eaton 90 model supercharger, precision CNC cut and machined mounting bracket, inlet and outlet castings. Liquid to air intercooler assembly, complete with reservoir, pump and all lines

### ENGINE MANAGEMENT

Unichip ECU with adjustable fuel ignition tables and inlet air temperatures

### NUMBERS

Horsepower: 413.8hp @ 7050 rpm  
Torque: 385.9 ft-lbs @ 5000 rpm  
Top Speed: 182mph



"Without any thought of stopping, we shot through the tunnel, the tremendous whine of the supercharger echoing from behind us like a shrieking she-devil."



# NR AUTOMOBILE ACCESSORIES

NR Automobile Accessories manufactures and distributes wheels, aerodynamic enhancements, colored gauge faces, dash kits (Porsche) and ECU modifications for sport utility vehicles and the finest European automobiles. Serving the automotive enthusiast since 1986.

Order Line: (800) 225-3498

**ForgeLite Shuriken**  
(for Bentley, BMW and Mercedes Benz)  
shown in Black Chrome 22"



**ForgeLite Shuriken 22"**  
Wheel shown on Bentley Flying Spur



**ForgeLite 5 Spoke**  
shown in Brilliant Silver



**Porsche 996 Turbo**  
with Type II Aerodynamic Enhancements  
and ForgeLite 5 Spoke 19" Wheels



**ForgeLite Multi Spoke**  
shown in Gloss Black



**Mercedes Benz "S" Class I**  
Style Aerodynamic Enhancements  
from \$2895.00 (shown with F1 steel fenders)  
LM5 Style 20" Wheels - Call for pricing



**ForgeLite Style 5 Spoke**  
8.5" x 22".  
Fits for BMW X5,  
Mercedes Benz ML,  
Porsche Cayenne and  
Range Rover. Available in  
Brilliant Silver, Gloss Black,  
Black Chrome or Chrome.



**Porsche 997 Aero Kit**  
\$2495.00 shown with  
ForgeLite 5 Spoke 20" Wheels



ForgeLite Wheels use the latest technology in manufacturing our forged 2 and 3-piece design. Wheels are forged using high-grade 6061 T6 aircraft aluminum alloy along with precision machining to assure dimensional perfection and trueness of each wheel. Our wheels reduce unsprung weight for better handling, braking and acceleration. ForgeLite Wheels are available in 19", 20" and 22" diameters for BMW, Mercedes Benz and Porsche automobiles. Wheel centers are painted in Gloss Black or Brilliant Silver. Black Chrome, Chrome, Machined or Custom Painted finishes available at extra charge. 19" wheels from \$2995.00 per set.

## NR AUTOMOBILE ACCESSORIES

4521 Van Nuys Boulevard Sherman Oaks, CA 91403



Telephones: (818) 986-8881 or (818) 501-4214



Order Line: (800) 225-3498 Fax: (818) 986-8882

[www.nrauto.com](http://www.nrauto.com)



WWW.NRAUTO.COM NR AUTOMOBILE ACCESSORIES