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NOVEMBER 2004

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16 supercars worth \$2.1 million go flat-out in our annual performance shootout



NEW: 483-hp Ferrari F430, Buick LaCrosse, Pontiac G6, Volvo XC90 V-8.
COMPARED: Audi S4, Cadillac CTS-V, Mercedes-Benz C55 AMG.
SPORT: Assaulting the Bonneville Salt Flats in a Toyota Prius?

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SUPERCAR CHALLENGE

It's a fantastic day when the least powerful car in the field has 442 horsepower.

PHOTOGRAPHY BY RICH CHENET AND JEFFREY G. RUSSELL



Our annual tuner-car beat-down, presently called the "Supercar Challenge," has all the earmarks of becoming a tradition at *Car and Driver*. It started in September 2001, when we ran six powerful, highly modified cars through a two-day event that we dubbed the "Supertuner Challenge." It included a day of driving the cars on public roads and a second day at speed-limit-free Michigan International Speedway in Brooklyn, about 40 miles from headquarters in Ann Arbor.

We held the event again in September 2002 but changed the name to the "Supercar Challenge." Sixteen cars competed that time. In September 2003, we made some significant changes. Although the '01 and '02 events were pretty much run-what-you-brung affairs, we invited only four-cylinder cars last year, and instead of hosting them in Michigan, we traveled to Southern California for the "Super-four Challenge."

This year, we're back to the original big-dog format. We extended invitations to a varied group of expensive, super-strong cars. In 2003, when we ran the little guys, the average as-tested price for the four-bangers was about \$45,000, and the king of the hill claimed 450 horses. Big difference from the current runoff, where the average as-tested price is more than \$130,000. Four of our entrants claimed peak power of 750 or more horses.

Need we say it was a carnival of horsepower and torque? As before, we spent day one driving the cars on public roads and rating drivability on a five-star scale (five being best). The second day was spent at Michigan International Speedway, a 2.0-mile banked oval with an infield road course. There we gave each entrant five runs through a modified autocross course (see map, next page).

All runs were timed by our Racelogic VBOX GPS-based test equipment. Each run included a standing-start blast to 60 mph, elapsed time and speed over a quarter-mile, road-course time, various data points, and overall time—the last determining the finishing order of the cars. Space limitations prevent us from printing every number of every run, but we've posted all the data and more detailed specifications at www.CARandDRIVER.com.

Since we didn't use our usual procedure for testing acceleration time (for example, we did not make runs in two directions), we didn't apply our normal weather correction to the times, so be wary when comparing these results to ones from previous road tests. Judging by the day's weather conditions, we figure the acceleration numbers published here are probably a few 10ths of a second higher than what we'd normally record. And since the test cars represented a range of model years, we used current stock pricing when calculating the cost of each one.

We haven't quite figured out how to handle emissions compliance. Some companies claimed their cars met EPA regulations; other cars, like the Hennessey Venom and Vishnu Evo, ran without catalytic converters, devices that clean exhaust gases but rob horsepower. We didn't test the exhaust gases of each car, so we can't say if any of them met the regulations. But if you live in a state with strict laws like California's, you'll want to make sure your chosen tuner can supply a car that meets the regs. Maybe next year we'll include emissions testing.

This year, we did tweak the rules a bit. As before, the cars were required to run 93-octane gas, and we prohibited the use of nitrous or water injection. We mandated tires that have a minimum tread-wear rating of 140. In previous years, a few competitors who shall remain nameless complained that one winner ran specially made tires that carried the appropriate tread-wear rating molded onto the sidewall but were in fact deviously sticky, one-off specials. We were inclined to let that go, but nonetheless, we ordered this year's

THE PLAYERS

	price as tested*	horsepower†
2002 Active Autowerke M3	\$75,312	442
2004 Evotech Gallardo	\$203,171	545
2004 Hennessey Venom Twin Turbo SRT-10	\$162,054	800
2003 Hoppen/MTM RS 6	\$124,030	575
2004 HPA Motorsports Stage II Twin Turbo R32	\$81,840	450
2004 Kleemann 55K3	\$164,338	630
2004 Lingenfelter 427 CTS-V	\$93,480	510
2002 Lingenfelter 427 Twin Turbo Corvette	\$149,187	800
2004 Mallett Cadillac CTS-V	\$120,365	751
2004 Mosler MT900S	\$215,775	560
2002 MTI Z07 Corvette	\$108,275	625
2003 RENNtech CL55	\$189,860	625
2004 RENNtech SL600	\$174,001	640
2004 RSI SR Twin Turbo Viper SRT-10	\$136,745	800
2004 Superformance Brock Coupe	\$88,400	505
2003 Vishnu Mitsubishi Lancer Evolution	\$56,874	475

*Calculated using 2004 new-car prices. †Manufacturer's claim.

EXPLANATION OF TEST RESULTS

We define a "run" as a complete cycle of our test course. So a run begins when the car leaves the starting line, and it ends when the car comes to a stop. Each car does five runs, and from each run we also determine several other performance measures—quarter-mile acceleration, braking distance from 150 to 0 mph, time on the road-course section, etc. To determine finishing order, we use a car's best run time, and the lowest time wins. In the graphic section, we've used that one quickest run and plotted the other data points for that particular run. We've also found that in some cases a car might have a quicker quarter-mile or road-course time, or whatever, *in a run that is slower than its quickest run*. So for each car, we've also listed the best quarter-mile acceleration time and speed, road-course time, and braking distance from 150 that the car performed in its five runs.

Check out the data for all the runs as well as detailed specifications at www.CARandDRIVER.com.



The cars start from a standstill at the entrance to pit lane. They accelerate full throttle down the length of pit lane, past the 1320-foot, quarter-mile mark. At the 2100-foot mark, the course makes a hard left turn onto a 0.8-mile road course. Exiting the road course, drivers hang a left and drive onto the oval's Turn Three. In the middle of Turn Three, the cars go through a chicane that slows them down, then they accelerate through Turn Four and onto the front straight. When the car reaches 150 mph, the driver brakes to a standstill.

entrants to get their rubber from the Tire Rack, ensuring no cheater tires.

As in the past, the tuners could supply their own drivers or have C/D technical director Larry Webster drive. In the event a driver struck a cone, a five-second penalty was added to the score, and if the car was louder than 103 dBA (measured at the side of the track), it was slapped with a 10-second penalty.

Most significant, we divided the cars into two classes: Open and Sedan. A sedan is a car with a back-seat space of 36 or more cubic feet, and an open car works out to, well, anything else. So we have a winner for each class. In addition, we awarded a trophy to the car that posted the quickest time of the day, regardless of class, and called it the John Lingenfelter Memorial Trophy. Lingenfelter was an enthusiastic and determined participant (his cars won in 2001 and 2002) who died last December from injuries sustained in a racing accident. Lingenfelter Performance Engineering carries on, but we all missed John's energy and intensity at this year's event.

To make the challenge more interesting, we invited two of the same car. We were successful, winding up with a pair of Corvettes, Vipers, Cadillac CTS-Vs, and Mercedes-Benz SLs, eight of the 16 entrants. Unfortunately, despite our come-on teaser in the June issue, no one stepped forward with a Ferrari Enzo to demonstrate exactly why it is viewed in some circles as the greatest street car ever built.

Still, an impressive group of machinery showed up, and with a few exceptions, all of them ran extremely well. We hope you enjoy the show.

—Larry Webster





pliment to Active Autowerke. We were hard pressed to detect these modifications as there is no supercharger whine, the power delivery has a stock feel, and even the exhaust note is the same. The upgraded brakes were not grabby, the car tracked straight, and the ride was not compromised—at least one editor thought it rode better than stock.

During the competition, the M3 showed that it's an excellently balanced package, simply without enough horsepower to compete in this crowd. Its best quarter-mile run of 13.1 seconds was the only car in the 13s. However, despite a poorer power-to-weight ratio, its 50.3-second road-course time was third in class—only 1.8 seconds off the Vishnu Evo's

quickest run and 0.1 second behind the 510-hp Lingenfelter CTS-V. It was no slouch in braking, either, with a best-in-class 682-foot stop from 150 mph.

Active Autowerke proved its competence with this unflappable M3. Maybe next time AA will have a 600-hp turbo version that will be in the hunt.
—Dave Vanderwerf



5TH PLACE 2003 RENNtech CL55

Street drivability: ★★★★★

1/4-mile: 12.7 sec @ 117 mph

Road course: 51.3 sec

150-to-0-mph braking: 700 feet

Total course time: 110.1 sec

The guys from RENNtech had a bit of trouble this year with their entry in the Sedan Class. The car, a highly modified Mercedes CL55 AMG, ran fine on public roads, but at the track the transmission stuck itself in second gear. On its one run without problems, the CL55 posted an overall time of 110.1 seconds, enough to put it fifth in a class of seven.

A garden-variety Mercedes CL55 makes a smashing 493 horsepower and 516 pound-feet of torque. When RENNtech is through tinkering, the horsepower has swooped to 625 and the torque number to 620. RENNtech makes this magic first by squeezing in larger intercoolers and reprogramming the engine and transmission computers. Then an upgraded crankshaft pulley goes into the mix, along with higher-flow exhaust headers, side exhausts, and stronger axle shafts in the rear to handle the mayhem. Handling and cornering were enhanced



by reducing the ride height of the suspension three-quarters of an inch via a lowering kit and mounting 19-inch Monolite wheels fitted with steamroller-sized 255/35R-19 front and 295/30R-19 rear Michelin Pilot Sport PS2 tires. This comes at a cost of \$52,702.

In the looks department, the exterior got a special rear airflow diffuser, a larger trunklid spoiler, and some side aero accents; the interior was swathed with dazzling metal-coated carbon fiber—all of this to the tune of an extra \$16,488. We would give the interior the best-in-show award.

The power of this car is simply thrilling, but the CL is burdened with too much mass, 4330 pounds in all. Ride and handling were excellent, but after considerable time, the booming exhaust can

Vehicle type: front-engine, rear-wheel-drive, 4-passenger, 2-door coupe

Price as tested: \$189,860 (base price: \$173,372)

Engine type: supercharged and intercooled SOHC 24-valve V-8, aluminum block and heads, port fuel injection

MODS engine/transmission: \$34,275 **suspension:** \$1695

brakes: \$7960 **wheels/tires:** \$8772 **body/interior:** \$16,488

Displacement 332 cu in, 5439cc

Power (mfr's claim) 625 bhp @ 6500 rpm

Torque (mfr's claim) 620 lb-ft @ 3500 rpm

Transmission 5-speed automatic with manumatic shifting

Front brakes ... RENNtech 15.1 x 1.4-in vented, grooved discs;

RENNtech 8-piston calipers

Rear brakes ... RENNtech 13.0 x 1.1-in vented, grooved discs;

RENNtech 4-piston calipers

Brake pads Pagid RS 15 Grey

Wheelbase 113.6 in

Length/width/height 196.6/73.1/54.3 in

Curb weight 4330 lb

Weight distribution, F/R 49.7/50.3%

*Base price includes all performance-enhancing options.

become annoying, and that's why it got four stars for drivability instead of five. The metal-laced carbon-fiber cosmetic treatment is tastefully done and drew drool from many of us.

Overall, the RENNtech CL55 is a well-conceived and well-executed but really pricey—at \$189,860—executive express. It's too bad that faulty electronics kept it from showing its best at the track.

—André Izkowski



Vehicle type: front-engine, rear-wheel-drive, 2-passenger, 2-door roadster

Price as tested: \$174,001 (base price: \$163,106)

Engine type: twin-turbocharged and intercooled SOHC 36-valve V-12, aluminum block and heads, port fuel injection

MODS engine/transmission: \$14,910 **suspension:** \$16,995

brakes: \$7,960 **wheels/tires:** \$8,971 **body/interior:** \$10,895

Displacement 336 cu in, 5513cc

Power (mfr's claim) 640 bhp @ 5500 rpm

Torque (mfr's claim) 770 lb-ft @ 3600 rpm

Transmission 5-speed automatic with manumatic shifting

Front brakes RENNtech 15.1 x 1.4-in vented, grooved discs;

RENNtech 8-piston calipers

Rear brakes RENNtech 13.0 x 1.1-in vented, grooved discs;

RENNtech 4-piston calipers

Brake pads Pagid RS 15 Grey

Wheelbase 100.8 in

Length/width/height 178.5/72.0/51.0 in

Curb weight 4389 lb

Weight distribution, F/R 50.9/49.1%

*Base price includes all performance-enhancing options.

to a hefty \$33,536. Total cost of the car came to a staggering \$174,001.

On the street, it's hard to find any difference between the RENNtech SL600 and the stock Mercedes; that is, until you toe into the throttle about halfway. Floor it, and there's a tidal wave of acceleration accompanied by a bellowing roar from the exhaust that makes the little hairs on the back of your neck stand up and pay attention. But the bigger wheels and tires don't change the excellent ride qualities at all, and that's why it earned a five-star rating for street drivability.

With a curb weight of 4389 pounds, the RENNtech SL600 was some 900 pounds heavier than its competition, and even its voracious power output couldn't make up for such a huge weight disparity when it was time to run at the track. The RENNtech SL600 wasn't the fastest runner in this contest—its 106.0-second total time was 13.8 seconds slower than the winning Hennessey Venom's—but it couldn't be beat for its polish and refinement.

—André Idzikowski

6TH PLACE 2004 RENNtech SL600

Street drivability: ★★★★★

1/4-mile: 11.8 sec @ 121 mph

Road course: 50.5 sec

150-to-0-mph braking: 712 feet

Total course time: 106.0 sec

The RENNtech SL600 finished in sixth place, but that doesn't warrant a sneer, considering it's a wind-in-your-hair luxury roadster that was up against some very serious sports cars. A stock Mercedes-Benz SL600 cranks out a remarkable 493 horsepower and a neck-snapping 590 pound-feet of torque, and after RENNtech's head honcho, Hartmut Feyhl, gets through with his 15-grand engine massage, those numbers soar to an astronomical 640 horses and 770 pound-feet. On its best run at Michigan speedway, this souped-up SL600 ripped from 0 to 60 mph in 3.9 seconds, only 0.2 second behind the winning Hennessey Venom's performance. The RENNtech's quarter-mile results on that run were also topped only by the Hennessey Venom,



Lingenfelter Corvette, and RSI Viper—they were 0.4 to 1.0 second quicker and 10 to 20 mph faster.

The leap in engine output is credited to a redesigned intake airbox and reprogrammed engine and transmission computers. Stronger axle shafts have been installed to handle the extra load, and new mufflers provide an improved exhaust note. RENNtech also lowered the car and bolted on larger-diameter brake rotors front and rear and bigger calipers to grip them. The rubber is Michelin Pilot Sport PS2s all around on larger 19-inch forged aluminum wheels. The performance upgrades came

5TH PLACE 2004 Evotech Gallardo

Street drivability: ★★★★★

1/4-mile: 12.6 sec @ 111 mph

Road course: 47.8 sec

150-to-0-mph braking: 715 feet

Total course time: 105.8 sec

The tuner religion preaches that all cars have an inner beast waiting to be unlocked by the right ministering. With a Lamborghini, animal rapture is pretty much attained at the factory. A stock \$177,200 Lamborghini Gallardo with the e-gear paddle-shift transmission makes 495 horsepower from a 5.0-liter V-10 and hits 60 mph in 4.1 seconds. The factory ain't leaving much bull behind for tuners.

Evotech, a software company based in Ludwigsburg, Germany, has made a good business of reflashing the computers in gray-market Ferrari 360 Modenas to U.S. legal specification. Now the company is launching a kit for Lamborghini's all-wheel-drive Gallardo. The claimed horsepower bump, just 52, isn't huge. Nor is the tear-up of the \$14,440 price for the engine mods alone, at least relative to the Gallardo's base price or typical buyer income. Those



mods include a \$4900 computer reflash that contributes a claimed 15 to 20 horsepower by allowing a little more spark advance, a smidge less fuel richness at wide-open throttle. The \$4450 exhaust puts in shorter silencer cans downstream of the catalysis (worth another 15 to 20 horsepower). A carbon-fiber airbox runs \$4350 and adds the remaining beans. Underneath, Evotech bolted on a stouter front anti-roll bar (\$690), dropped the nose an inch (\$425), and installed Pagid performance brake pads

