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SWAP  
GUIDE**

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QUICK  
+ EASY**

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// Trad T Kit from Speedway Motors



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RADDEST RIDES**  
(IN TROY'S OWN WORDS...  
WITH LOTS OF GOOD DIRT!)

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ALUMINUM CASTING  
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DOUBLE-PUMPER  
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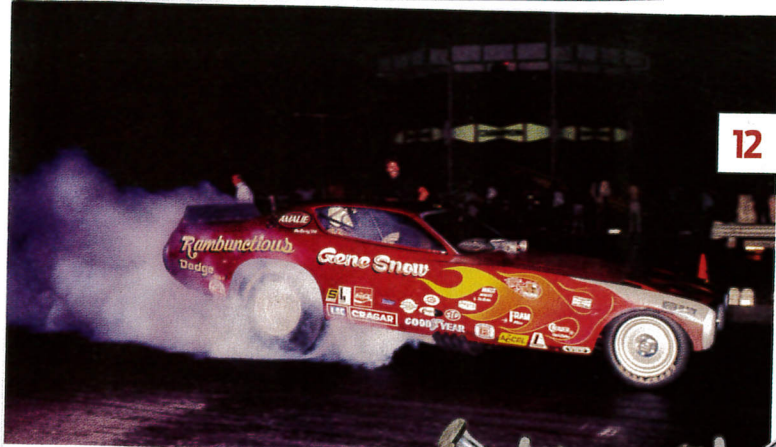
COP-CAR  
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8-SECOND  
DAILY DRIVER

INDY-POWERED  
'66 MUSTANG

WICKED  
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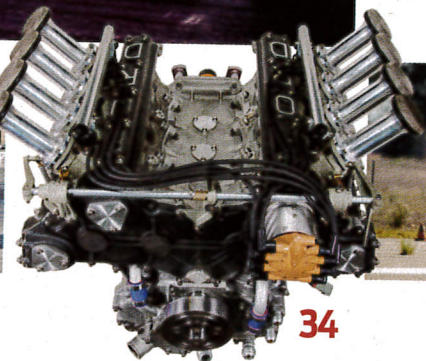
**HOT ROD WHERE IT ALL BEGAN**



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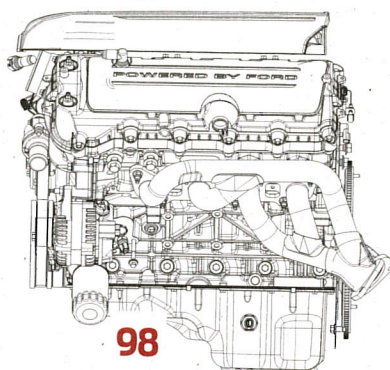
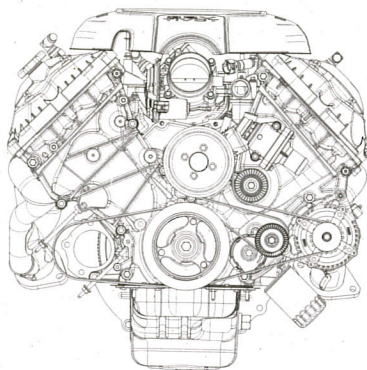
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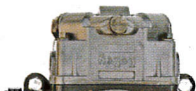
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**ON THE COVER:**

Can you believe the HOT ROD staff built this T-bucket in about three weeks? Actually, we mostly got in the way and watched tech center manager Grant Peterson do it. It's a Speedway Motors Tribute T. Kit, buildup on page 84. The photo of Kelley Koski is by Wes Allison.



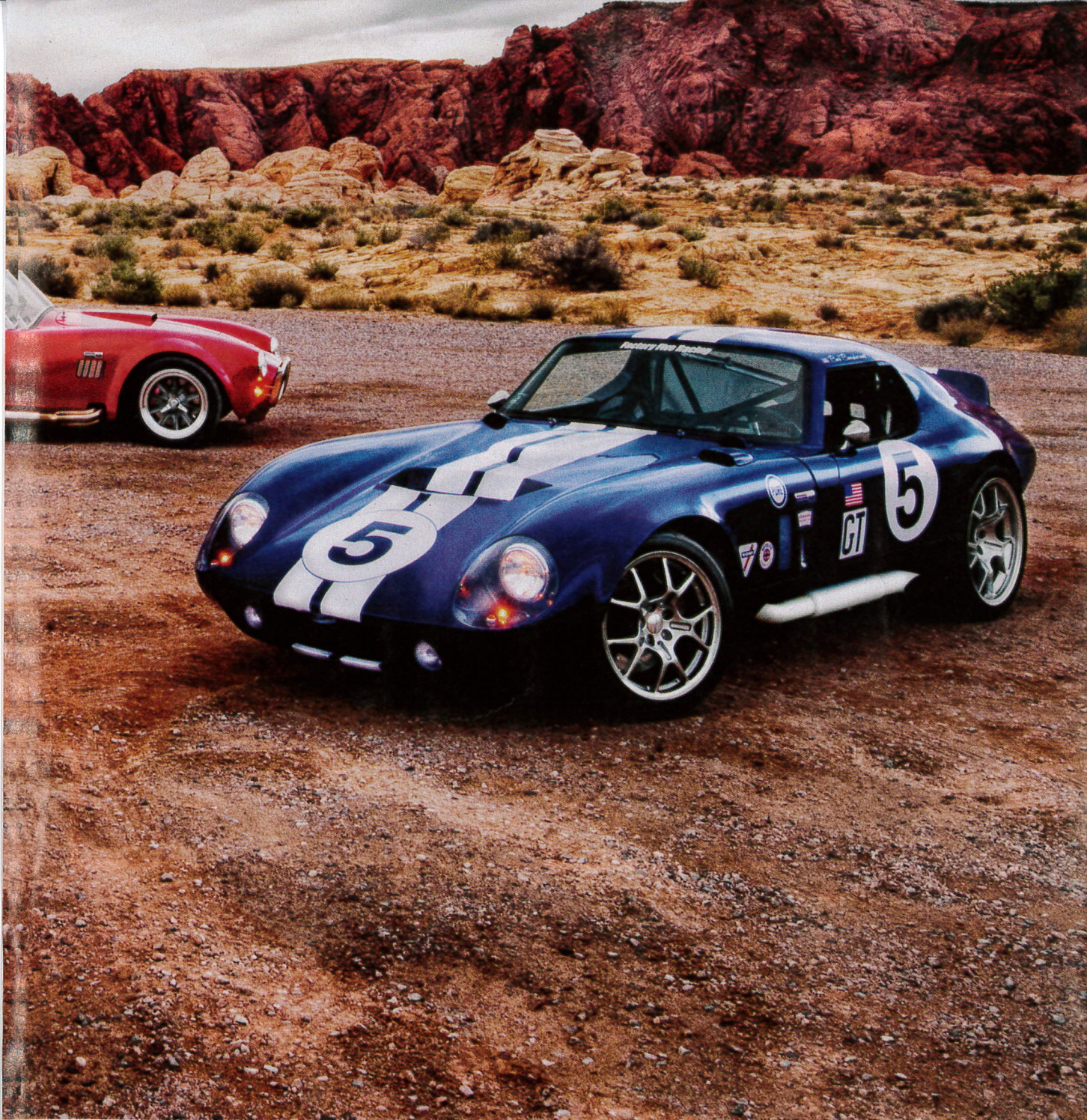


Do any of these Ford V8-powered "project cars" have a shot at beating a Lambo on a road course?

✉ Brandon Gillogly 📷 Jessica Walker

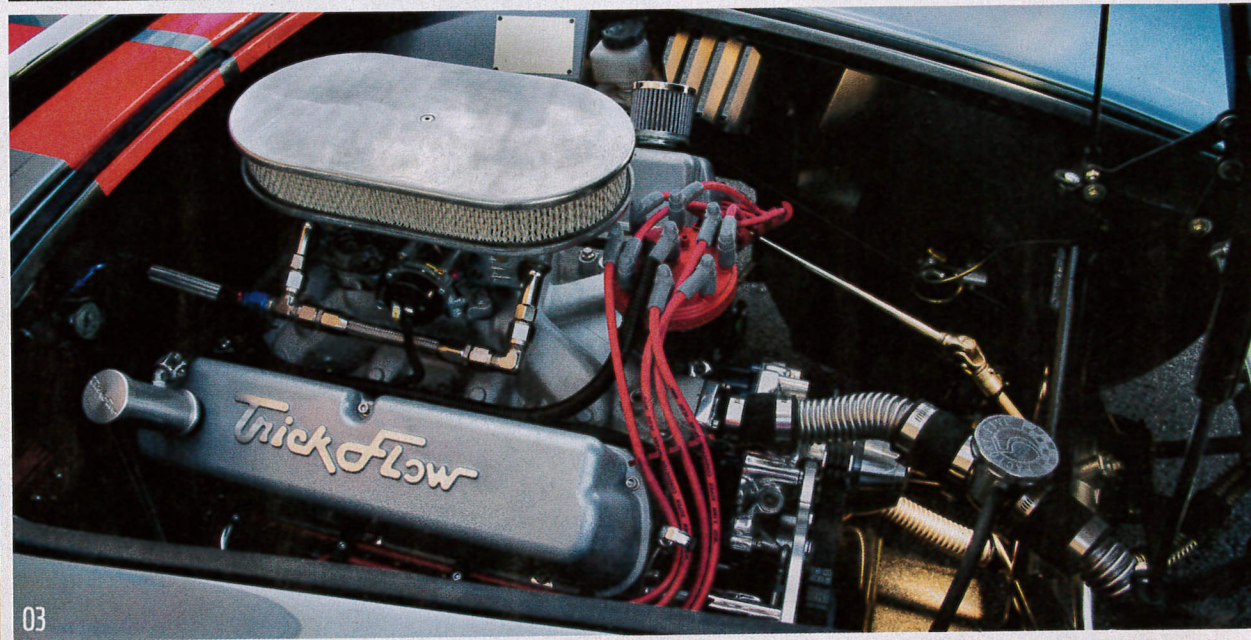
# DIY SUPERCARS

## Can Garage-Built Kit Cars Compete?



» What if we told you that a car with iconic '60s lines that you can build today for around \$45,000 can hold its own against an Italian exotic that stickers for nearly \$200,000? Tired of the lame kit cars that were on the market, Dave Smith founded Factory Five Racing ([FactoryFive.com](http://FactoryFive.com)) in 1995 to prove that a car you can build in your garage can run toe-to-toe with the fastest production cars in the world. It began with a Cobra replica called MK1. Now the company is on its fourth version, the MK4, and the lineup has expanded. There's the street-going MK4 roadster; the track-only MK4 Challenge car; the Type 65 Coupe, which is a Shelby Daytona Coupe replica; a '33 hot rod that uses a tubular space frame; the GTM, a mid-engine supercar that typically uses an LS engine; and the latest project—a mid-engine car that uses Subaru running gear.

When Dave invited us to drive some of his cars, we headed to Las Vegas Motor Speedway. Not only did the Speedway provide us with an opportunity to test the Factory Five cars in a straight line, but adjacent to the dragstrip is Exotics Racing, where visitors can spend a day driving one of more than a dozen different exotic cars on its 1.2-mile track. We had a feeling that Exotics Racing would have the perfect adversary for the MK4 and a Daytona Coupe, and we found it in the form of the 542hp, rear-wheel-drive Lamborghini Gallardo LP 550-2. The only caveat was that Exotics Racing wanted to supply their own driver for the Lambo. Perhaps the guys there have seen a few too many of our YouTube videos and know what we're like behind the wheel, though this time we brought our own pro driver, Mike Essa.



04

## SUMMIT RACING'S 427 MK4

Factory Five produces what Dave calls, "projects," but he's also not afraid to call them kit cars—it's right there on the website. Since 1995, the company has built more than 8,000 chassis and body kits. MK4s start at \$13,000 for the basic kit that uses an '87-'04 Mustang donor to provide the drivetrain, suspension, and fuel system, while \$20,000 will get you the complete kit that includes everything you'd

need to build a car, except for the transmission, rear axle, engine, and paint. To fill in those last few pieces of the puzzle, Factory Five recently teamed up with Summit Racing to offer engine and transmission packages that make building a Factory Five kit even easier. There are engine packages that group crate engines or long-blocks with all their necessary hardware, and you can choose between a

**01]** The MK4 kit even includes the just-right Halibrand wheels, 17x9 in the front and 17x10.5 in the rear. The front suspension uses a forged spindle designed in-house at Factory Five, along with tubular upper and lower control arms. Fox Mustang control arms can be used, but the tubular arms save weight and improve geometry. Standard brakes come from a '99-'04 Mustang GT, but these are optional Wilwood 13-inch rotors and six-piston calipers.

**02]** The odd angle of the shifter is required when the standard rear mount is used. It prevents you from having to shift with what Dave calls "T-rex arms." The Tremec TKO 600 transmission kit (Summit PN SUM-CSUMFFC07) includes a Ram clutch and flywheel, Ford Racing pilot bushing, a Quick Time bellhousing, and ARP bolts.

**03]** Proving that the 427 badge on the fender is legit is this stroked 351. The short-block (PN SUM-CSUMFFC01) includes a Trick Flow Track Max hydraulic roller cam with 283 degrees of advertised duration on the intake and 291 on the exhaust. The top-end kit (PN SUM-CSUMFFC03) uses Trick Flow Twisted Wedge 185 heads, roller rockers, pushrods, and valve covers, and ARP hardware. The torque monster was dyno-tested at 372 hp and 461 lb-ft.

**04]** The beauty of the original Cobra was the big engine/light chassis formula, and the Factory Five MK4 delivers. The curb weight of this 427 MK4 is only 2,284 pounds with 10 gallons of fuel.

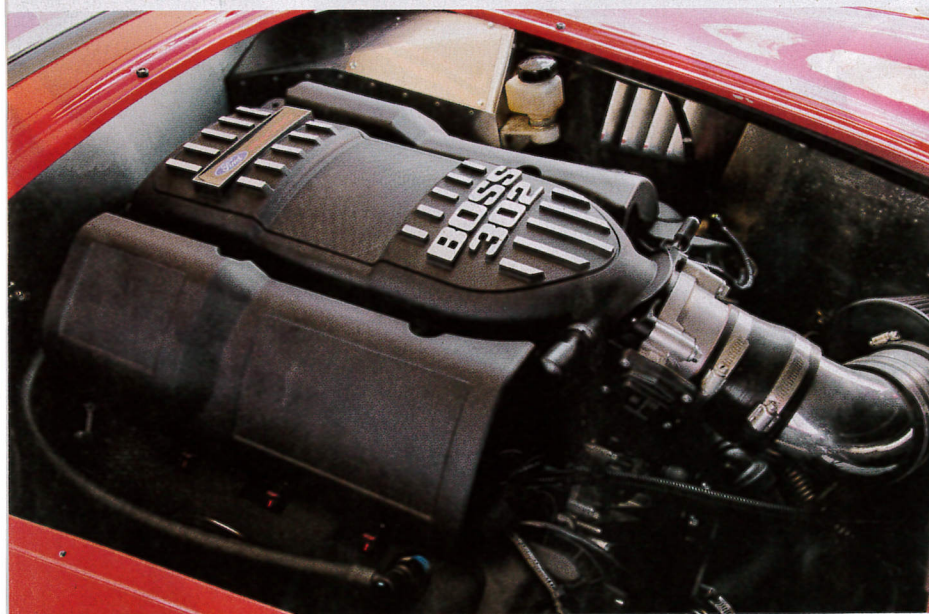


412hp 5.0L Coyote that pairs with a Tremec Cobra R five-speed or a 340hp 306 Ford small-block that matches up with a T-5. Both of those engines are from Ford Racing, but Summit cooked up a high-torque small-block of its own. This silver-and-red MK4 is owned by Summit and showcases its 351-based 427 crate engine and Tremec TKO 600 five-speed manual transmission kit. Built by SJK Customs

in St. George, Utah, the car was unveiled at the '12 SEMA show. Unfortunately for us, the car still had some show dates lined up and had to be in pristine condition, so while it got some road time and a few dragstrip passes, we couldn't risk taking it on the road course. Luckily, we had another Cobra waiting in the wings that was just as capable on the track.



Like most MK4 roadsters, Dave's car is equipped with a Mustang-style Ford 8.8-inch rear end located with a three-link rear suspension and coilovers. A four-link and Thunderbird-style IRS are also available.



[Tuned for the better-looking and better-breathing Boss intake, the 5.0L's 388 rwhp and 2,428-pound curb weight give it a power-to-weight ratio that's better than the 662hp '13 Shelby GT500. Summit offers the 5.0L in a package especially for Factory Five kits.

“Coming off corners, it's really easy to control on throttle. It will maintain a 10-degree slip angle. The only part that's tricky is getting on the brakes hard. The car wants to come around on trail braking. You have to get almost all of your braking done in a straight line.”

— Mike Essa on the MK4 roadster

## COYOTE MK4 ROADSTER

The MK4 is Factory Five's most popular kit, and this one, Dave's personal car, is set up like most customers build their cars. We found that the softer suspension allowed for a much more relaxed drive than the track-oriented Factory Five cars. Unlike the rest of the test cars we drove that had Ford small-blocks, the red roadster uses a modern 5.0L Coyote V8, just like the one you'd find under the hood of an '11-and-later Mustang GT. However, the 5.0L in the roadster

only has to haul around 2,400 pounds versus a Mustang GT's 3,600 pounds. There are downsides to cars of this size, and we're not just talking about luggage space. The MK4, with its short wheelbase, is not as easy to slide around corners as the Daytona coupe, and both cars have narrow footwells. Most of us had no problems, but those with caveman feet will have to steer clear of combat boots when strapping in behind the wheel.



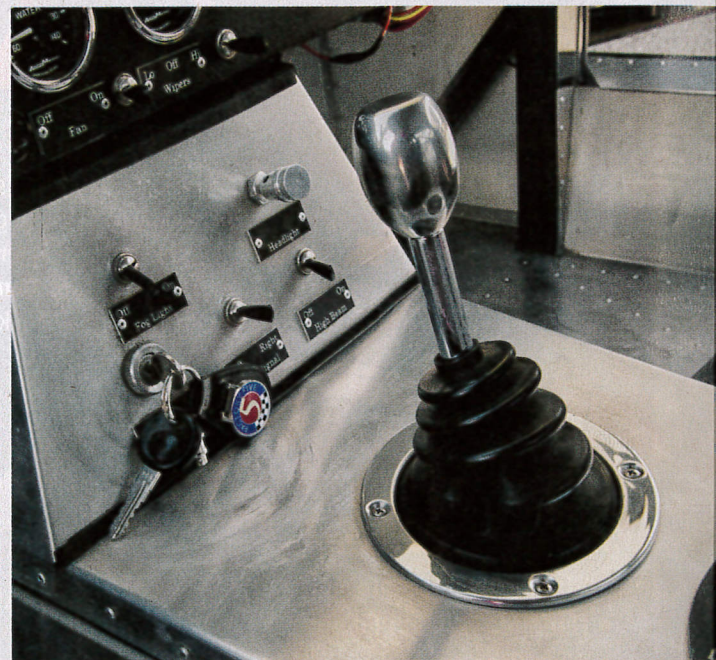


[This Daytona Coupe is powered by a fuel-injected Ford Racing 363 small-block. It's rated at 500 hp at the crank and manages to put down an impressive 426 hp and 369 lb-ft to the rear wheels via 3.27 gears in the 8.8-inch rear axle. It proved to be as tame on the streets as the Coyote-powered roadster. It tips the scales at 2,460 pounds with 10 gallons of fuel.

“I particularly like them. They're probably as close to the original as any out there.”  
 — Pete Brock, designer of the original Daytona Coupe on the Type 65 Coupe



[In the roadster, noise has someplace to go. Inside the aluminum-skinned coupe, it was all gears, exhaust, and the whine of pavement. It's not an issue for the track, but it did make us contemplate earplugs when driving on grooved sections of highway.



[We preferred the forward-mounted shifter in the Daytona compared with the one in the MK4. It felt like a gated shifter, or at least what we imagine a gated shifter would feel like.

## TYPE 65 COUPE

You all know the story of the Shelby Cobra, but judging by the responses we got while driving it around Las Vegas, the Daytona is not as well known. It was designed by Pete Brock to offer better aerodynamics and a higher top speed compared with the Cobra, which couldn't compete with Ferrari on the Mulsanne straight at Le Mans. Although this particular coupe is a former race car, you can think of it as the more practical of the Factory Five cars we took to the track, if a car with a cage and five-point harnesses can be practical. Its aero-

dynamic Kammback tail has a huge glass hatch that opens to a generous cargo area, and, of course, it has a roof. Even though the coupe doesn't have side glass, the extra wind protection the roof provides makes a huge difference in driving feel when compared with the roadster, but the bare-aluminum interior served as an echo chamber for road noise at highway speeds, and we'd get into too much trouble if we tried to drown it out with the sidepipes. We'd probably order a couple yards of Dynamat if we had a coupe build planned.



Exotics Racing allows Las Vegas visitors the chance to drive exotic cars on its 1.2-mile road course after a short classroom period that covers the basics of safety. The company's stable includes cars from Porsche, Ferrari, McLaren, Aston Martin, and Lamborghini.

## TRACK TIME

At Exotics Racing, we let Formula Drift driver Mike Essa take each car on the seven-turn, 1.2-mile road course and get used to it as best he could in four to five laps. Then we used in-car lap timers to chart his times as he took another three to four laps of hard driving. The Lamborghini pilot, Fred Johais, who represented Exotics Racing (read: ringer), has had hundreds of laps on the course. Like Essa, he had a few warm-up laps before he really charged into the course. He knocked down a series of very smooth, very fast laps and managed to knock off the best time posted by the Coyote-powered Cobra replica, but it was still not the fastest car on the track. We also had a Factory Five Challenge car as well as Ridetech President Bret Voekel's

'33 coupe autocross car on hand. Bret's car is an absolute beast, and had steamroller-sized 315/30ZR18 Proxes R888 rubber all around, while the Challenge car wore slicks and posted the best lap times, even though it was the least powerful car in attendance. We've got more track time planned for Bret's car, so we'll have a story on the autocross machine in a future issue of *HOT ROD*. In the meantime, we've got footage of the cars on the strip and the track. Visit [YouTube.com/MotorTrend](https://www.youtube.com/MotorTrend) for the *HOT ROD Unlimited* episode featuring these cars.

So how are these 50-year-old designs able to stand up to a modern supercar? The answer is yes, though Factory Five cheated. If you

## FACTOIDS

Shelby American built the first coupe to compete in the '64 24 Hours of Daytona. It didn't really have a name, but the team referred to it internally as "the Daytona car." A press release about the car referred to the car as a Daytona Coupe, and it stuck.

Only six original Shelby Daytona Coupes were produced.

Carroll Shelby approached Austin Healey to get a lightweight car that would fit an American V8 before he worked with English sports car maker AC to get bodies

for his famed Cobras.

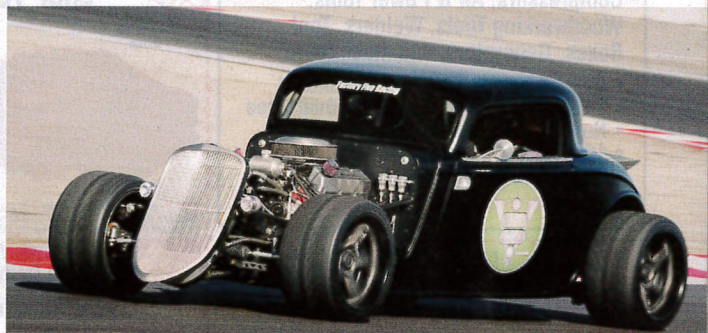
The Gallardo is made in Bologna, Italy.

The Gallardo name, as with many Lamborghinis, comes from a breed of Italian fighting bulls.

The Gallardo's 90-degree 5.0L V10 is based on Audi's 4.2L V8 that was developed by Cosworth, who built Ford-based engines for Formula 1, Formula 2, and Formula Junior as far back as 1959. Ford even owned Cosworth from 1998–2004.



[As much as we'd like to boast about our driving prowess, none of us are road-course phenoms, so we brought Formula Drift driver Mike Essa to drive each of the Factory Five cars and give us his impression of how each car handled at the limit.



[All the cars we've shown so far were the mild-mannered, Clark Kent versions of how customers can build Factory Five's kits. We also had a flat-black superhero on hand in the form of Ridetech's '33 Coupe. We'll show you more of the car next month, but you can also see it on our YouTube page showing the Lamborghini who's boss. You didn't think we were gonna let them win, did you?

## TRACK RESULTS

Lamborghini LP550-2	54.53 seconds
MK4 5.0L	55.26 seconds
Daytona Coupe	55.60 seconds

We couldn't take the Lamborghini to the dragstrip (something about grenading very expensive transmissions), but we did get to take the Summit 427 roadster out for a few passes. The short wheelbase made for quick weight transfer, and we even saw daylight under the left front tire on a few launches.

Summit 427 MK4 Roadster	11.502 @ 115.81
MK4 5.0L Roadster	11.743 @ 118.82
Daytona Coupe	11.871 @ 117.08

took off the bodywork, the MK4 would still look a lot like a Cobra, because they both have a parallel, 4-inch-round tube chassis, but each iteration of the Factory Five roadster has been an improvement over the previous generation. First they added a frame backbone that increased stiffness, then they added better front suspension geometry, and the MK4 brought a new forged spindle and some minor chassis upgrades. The computer-designed chassis was tested using finite-element analysis to make it stiff without adding too much weight, and the front/rear weight balance is better than in an original car, with a 55/45 bias to the front. Besides the design, the modern materials used in the chassis are better, the welding techniques are

better, and the Toyo Proxes R888 tires we used on all the Factory Five cars offer more grip than anything you'd find in the '60s. After Mike Essa made faster and faster laps, diving into corners and powering through turns with the rear end just a bit sideways, Dave told us, "You can't drive an original car that way, and it's mostly in the chassis stiffness." **HOT ROD**

## Contacts

**EXOTICS RACING;** Las Vegas, NV, 705.405.7223, [www.exoticsracing.com](http://www.exoticsracing.com)

**FACTORY FIVE RACING;** Wareham, MA, 508.291.3443, [www.factoryfive.com](http://www.factoryfive.com)

**SUMMIT RACING;** 800.320.3030, [www.summitracing.com](http://www.summitracing.com)

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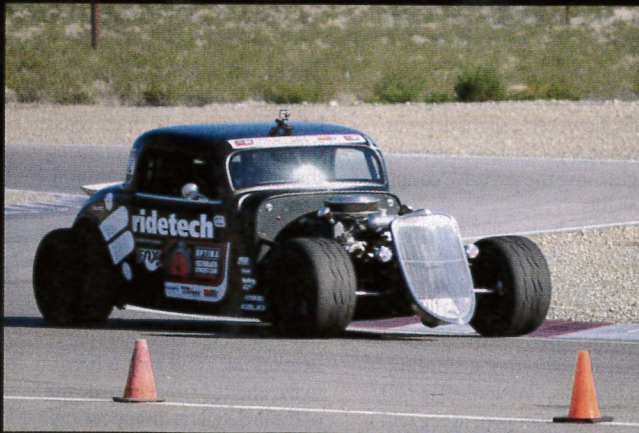


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