

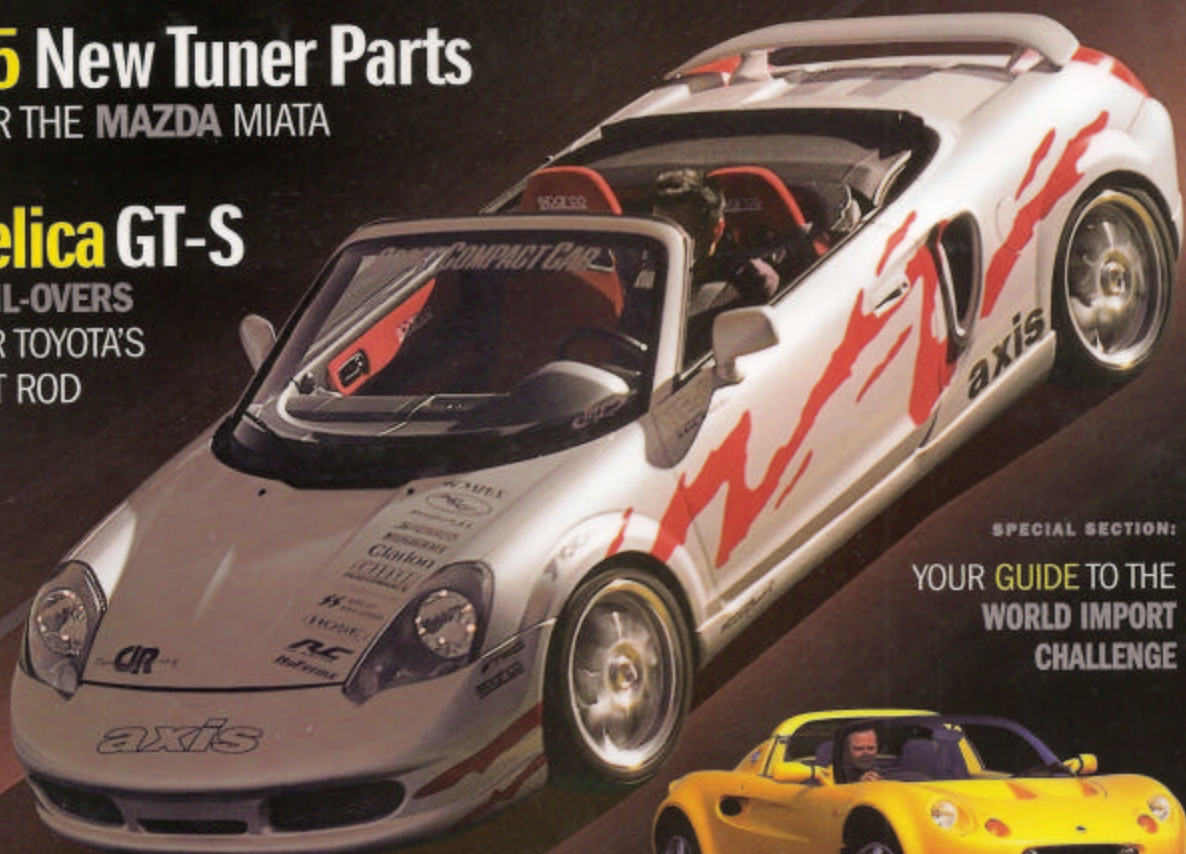
Project 200SX: Big Brakes, Better Handling ■ **Budget Racer:** Pro Spec RX-7

SPORT COMPACT CAR

JUNE 2001 • VOLUME 13, NO. 06

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Cover Story

Add big power and monstrous grip to Toyota's little roadster and you've got a hard-to-beat recipe for performance.

Photography by
Josh Jacquot

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SUN INTERNATIONAL'S Lotus Elise

PHOTOGRAPHY BY
JOSH JACQUOT

It's as coarse and undiluted as a concert hall filled with Limp Bizkit fans on crack, and just about as refined. It's also quite easily the most entertaining car we've ever experienced and without question one of the most unique automobiles on the planet. Sun International's Lotus Elise, with a Honda B18 stuffed neatly in place of the original Rover K-series engine, makes no apologies for being the most fun-to-drive car in the world.

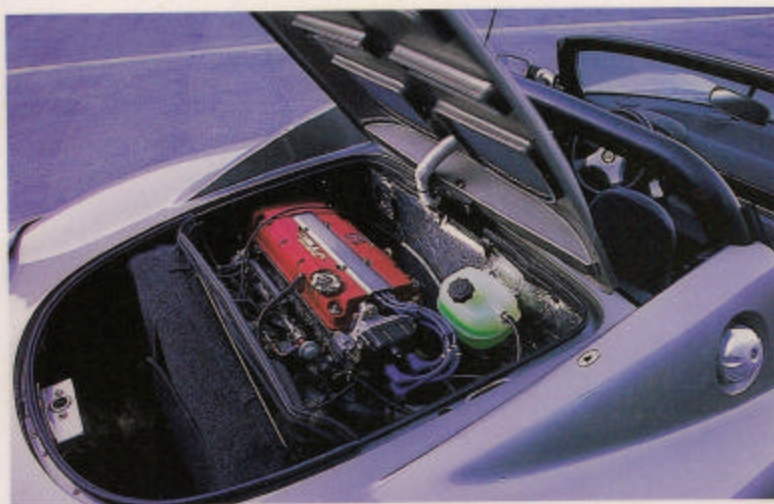




driving impression

British and Japanese engineering join American capitalist instinct in the most raw, pure and potent car we've ever driven **BY JOSH JACQUOT**

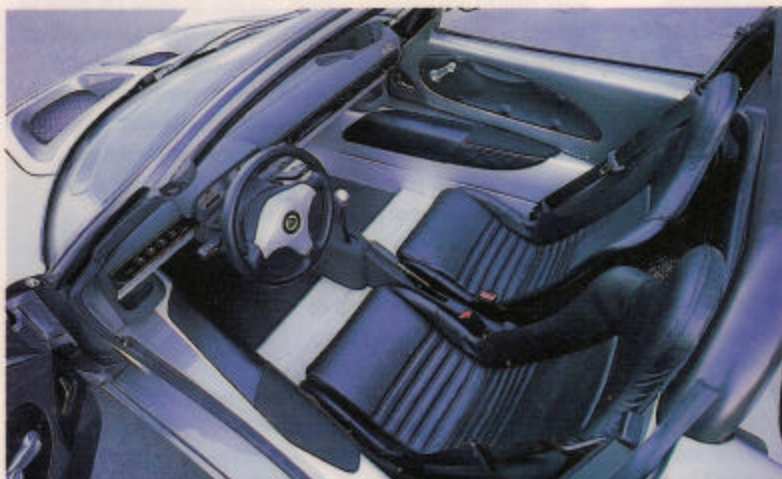
■ LOTUS ELISE



It speaks to the pure, hard-core car enthusiast in all of us like no other car we've driven. It's as simple, light and uncompromised as a modern automobile can be and still be called a car. Plus, it's blindingly quick. Not quick like a Lancer or WRX. It doesn't have that go-anywhere-on-any-road kind of speed that we love so much at *Sport Compact Car*. It's a different sort of thing altogether. Take the spirited, fun loving nature of the Miata, cross it with the dynamics and power delivery of a shifter kart and turn it loose on the road with a shapely and ultra-lightweight Fiberglass body. That's Sun International's Lotus Elise.

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GO

Describing the Lotus's power delivery is going to sound familiar to anyone who reads *SCC* very often. We've already dedicated far too many pages of this journal to describing how well the B18C5 (yes, the Type R engine) motivates the aging Integra chassis. What we haven't done is tell you what it sounds like 18 inches behind your head in the plastic-bodied Elise. It's weird, it's loud and it's fast.

First up, the noise. If you like the sound of Honda's high-overlap B-series engines, you'll like what you get in the Elise. Although the two cars we drove had slightly different intake configurations, there's no escaping the Honda engine note above 6000 rpm. In the Elise, however, it's not damped by the firewall or hood. In fact, it resonates through the little car's plastic body like a fire alarm in a steel culvert.

With all that noise comes the most insane, Honda-motivated acceleration

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we've been part of. Luckily, it's not just the Honda engine that makes the tarmac disappear so rapidly under the British roadster's flanks. The rest of the Type R drivetrain is working inside the Lotus chassis as well. The entire Type R transaxle, including the Helical limited-slip differential, hides beneath the



Lotus's bonnet. That means, and we've said this before, every shift at redline places the engine right back in VTEC-land where it can once again pound back to speed without the delay of a cam switchover. It also means the Lotus is graced with one of the most effective and livable limited slips available today.

Standing on the gas around a corner gave us the results we had always hoped for in this car. Even before the cam switch, the Elise will

power sideways with controlled authority. This little car speaks a language we understand. Its tongue is part Miata, part Lotus, part Honda and part full-on racecar. All of which becomes immediately obvious from behind the wheel.

We won't waste your time rambling on about power-to-weight ratios and loony acceleration numbers. Those things aren't what this car is all about. The Elise is about the experience of uncompromised driving pleasure.

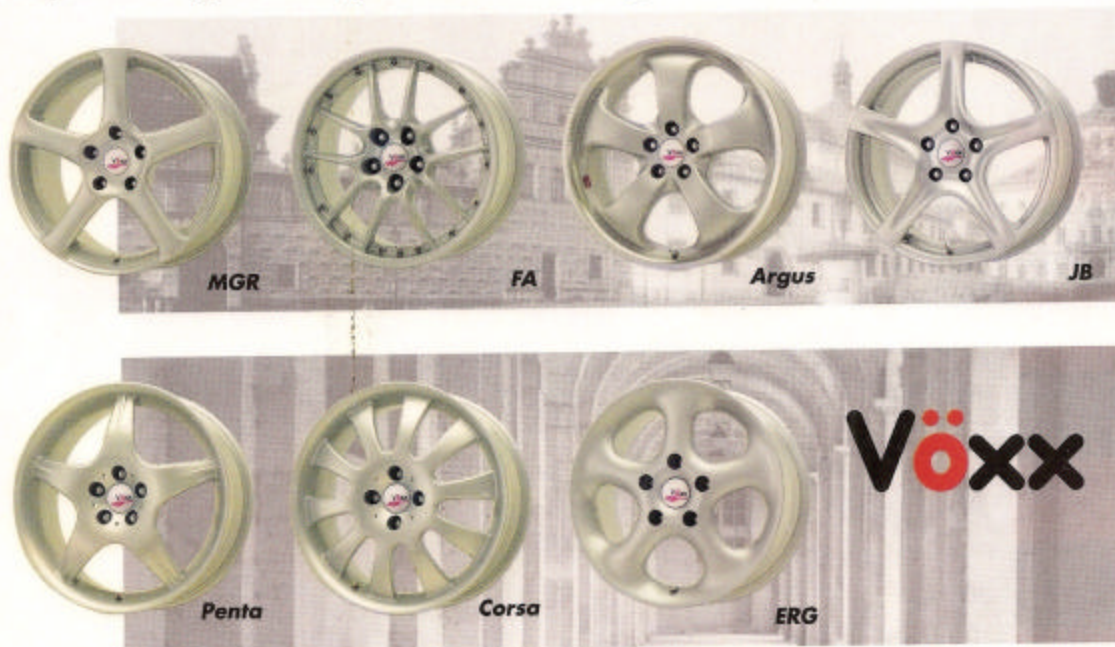
Besides, the numbers are so good there's no point in that kind of hair-splitting here. Want to beat the car beside you to the next stoplight? No problem, mash the gas and go. Nothing short of a Porsche Turbo or Corvette Z06—neither of which could provide the minimalist driving experience of the Elise—will keep up.

TURN

Up to this point, our benchmarks for dynamics in small cars have been Mazda's wonderful Miata and Toyota's different, but equally capable, MR2 Spyder. There's no comparison with an Elise. It's got the chassis rigidity the Miata can only hope for and the suspension the MR2 deserves—with weight that makes both camps green with envy. It's a straightforward, no-holds-barred cornering machine.

In fact, its focus is so evident it makes our first-generation Miata project car feel like a couch by comparison. And it's not just the suspension that sends that message. Every surface of the Elise serves a purpose, every angle of its body fits that purpose and every driver interface is sharp and precise. The Miata is a toy, while the Elise is a tool. Bend the Elise through a slalom and

European engineering ... Italian design



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every input and correction seems second nature. Balancing power with grip is an intuitive compromise in this car—everything just works right together. It's as if the B18 was meant to be there from the beginning—at least as far as the dynamics are concerned.

Our time with the car was too short to offer a comprehensive look at the car's road manners. But we have enough seat time to be confident of one thing. The shortcomings of a car this size are easily overlooked by spending two minutes behind the wheel. Even without 200 hp (stock Elises come with 120 hp), this is a lot of car. There's no doubt that Colin Chapman's philosophy drove the design of the Elise.

If there is any area to fault, it's the Elise's lack of suspension travel; we noticed it bottoming on very small bumps. However, that's a shortcoming common to almost any car this size—and the only one we could find.

PURITY

The best part? The simple lack of unnecessary crap. And we mean that in the most appreciative way. After squirming over the wide sill (necessary for the huge rigidity present here but rarely found in other roadsters), our hind ends found comfort and support in a simple piece of aluminum covered with leather. The beauty is in the details. The seats are hard as hell, there's no question about it. Their design, the shape of the aluminum and the placement of the one or two pieces of padding, is exacting and perfect. They're simple and decidedly effective just like the rest of the car.

The whole car follows this theme. In fact,

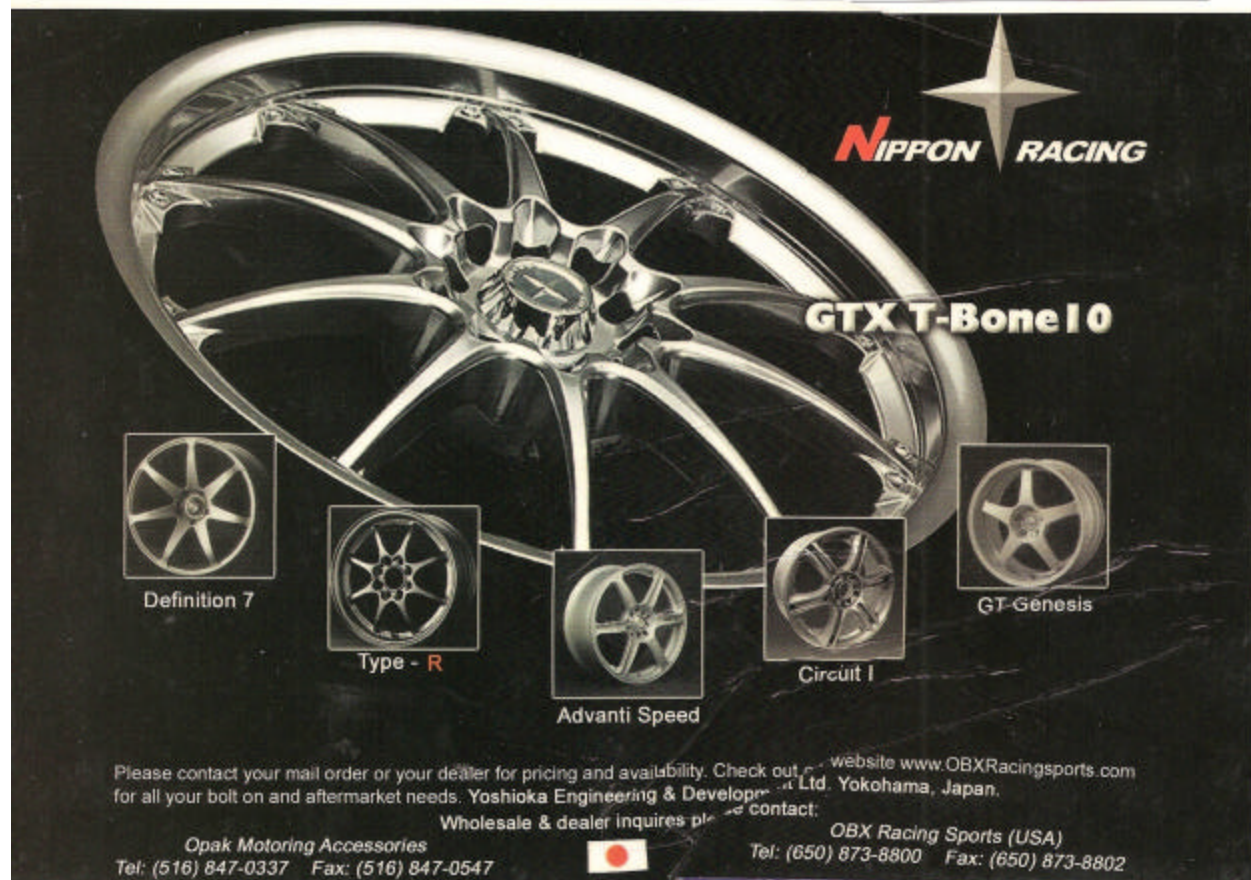
the driving experience is so overwhelming we can't even recall if our test car had a radio. The driving is simply that involving. Nothing matters except the next corner. During testing of the Elise, we found ourselves asking why other cars can't be this good. And, without hesitation, we reached one simple conclusion time after time. Weight. Or to be more precise, lack of weight.

With the exception of a Lotus Europa, which was built with the benefit (if one chooses to see it that way) of 1960s-era safety standards, this is the lightest car we've driven. At 1,710 lbs., there's simply no room for excess. No air conditioning, no spare tire, no power anything. It takes driving back to what it should be—the simplest of interactions between man and machine.

The lack of weight is evident everywhere in the Elise. Its doors and A-pillar must be handled with care; their paper-thin construction makes one instantly aware of their fragility. Don't lean on the body or hang on the door or you'll likely end up with pile of broken Fiberglas. Don't plan on being babied with amenities or catered to in any way. The Elise was designed with one focused goal—hard, fast driving.

It doesn't like to be coddled either. Sure, there's room for mechanical empathy, but we get the feeling from our test that this car likes a beating. We pounded it up and down our test facility for more than an hour without a break. Short shifting is pointless as the B18 feels right at home at 8000 rpm—which, incidentally, is the last increment on its Stack tachometer. So our technique—bury the tach and shift, bury the tach and shift—took some time to get used to, but was truly enjoyable.

It's loud, it's buzzy and it has its share of harshness. But none of that



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LOTUS ELISE

matters. We would have given anything for a 500-mile road trip in this car. It's just that much fun.

CONVERSION

No, not the religious kind, although this car makes us think about it. The conversion we're concerned with here is from Rover's conservative, but adequate for a 1,700-lb. car, K-series engine to Honda's raging B18C5. Tom Cahalane, the Elise program director at Sun International came up with the idea after a customer brought in a car with the stock engine.

The rest became obvious in a hurry. The Honda mill fit, made ample power and was relatively light—sort of a no-brainer, if you ask us. Apparently, Cahalane thought so too as there are now a handful Honda-powered Elises running around. The entire conversion runs about \$55,000—not exactly pocket change, but a reasonable price when considering the company this car keeps from a performance standpoint. Not to mention, with a Type-X-powered Elise, all owners will be driving one of the most rare and unique cars on the road. Cahalane said Sun can build the cars at a rate of about one per week, so it looks like their owners will remain in a fairly exclusive club.

If you're not satisfied with the 195 hp from the stock engine, Sun will custom build a B18 specifically for your Elise. Possible upgrades include higher compression, a lighter flywheel, modified VTEC switchover points, a baffled oil pan and a displacement increase up to 2.0-liters. Sun is also working on a carbon fiber muffler, which will scratch 13 lbs from the weight of the stock Elise exhaust currently in use, as well as a free-flow catalytic converter.

We can't imagine why anyone would want more power. Sure, there's always going to be someone with a faster car—so what? This car defines driving pleasure. It's quicker and more agile than almost all of today's road cars and likely rivals many racecars dynamically. Plus, where else could you defy two continents full of brand-loyal purists? It'll have the Lotus and Honda camps riled up for years to come.

Like we said, it's just that good. ■

SOURCE

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'99 LOTUS ELISE BY SUN INTERNATIONAL

Estimated Price	: \$55,000
ENGINE	
Engine Code	: B18C5
Type	: In-line four, aluminum block and head
Valvetrain	: DOHC, four valves per cylinder, VTEC variable valve timing
Displacement	: 1797 cc
Bore & Stroke	: 81.0mm x 87.2mm
Compression Ratio	: 10.6:1
Horsepower	: 195 hp at 8000rpm
Torque	: 130 lb-ft at 7500 rpm
Redline	: 8400 rpm
DRIVETRAIN	
Layout	: Transverse, mid-engine, rear-wheel drive
Transmission	: Gear Ratios
1	: 3.230:1
2	: 2.105:1
3	: 1.458:1
4	: 1.107:1
5	: 0.848:1
Final drive	: 4.400:1
Differential	: Helical limited slip
EXTERIOR DIMENSIONS	
Curb Weight	: 1,710 lbs.
Weight Distribution F/R	: 38/62
Overall Length	: 146.7 in.
Wheelbase	: 90.6 in.
Overall Width	: 66.9 in.
Track F/R	: 56.6 in./57.4 in.
Height	: 45.2 in.
SUSPENSION	
Front	: Upper and lower control arms, anti-roll bar
Rear	: Upper and lower control arms
BRAKES	
Front	: 11.1-inch vented rotors, fixed two-piston opposing calipers
Rear	: 11.1-inch vented rotors, single-piston sliding calipers
WHEELS AND TIRES	
Wheels	: Front: 15x5.5 Rear: 16x7.0
Tires	: Front: 185/55-15 Rear: 205/50-16
PERFORMANCE	
Acceleration	
0-30 mph	: 2.1 sec.
0-60 mph	: 5.1 sec.
30-50 mph	: 1.8 sec.
50-70 mph	: 2.4 sec.
Quarter Mile	: 13.2 sec. @104
HANDLING	
Slalom speed (700 ft.)	: 70.1 mph
BRACING	
60-0 stopping distance	: 133 ft