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CAR and DRIVER

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1982 MERCURY CAPRI

Horsepower is alive and well in Dearborn

PROJECT CAPRI

130 mph from 4.2 liters? No problem

SUPRA! Toyota's brand-new samurai GT





GRUDGE MATCH AT NELSON LEDGES

We snatch defeat from the jaws of mediocrity

CAR DRIVER

PREVIEW



Toyota Celica Supra

The latest Good Ride from Japan, Inc.

• The Japanese carmakers may be facing the specter of import quotas, but they're not about to fall on their corporate swords just yet. Not content simply to flood the U.S. with high-quality, high-mileage small sedans, the Japanese

together since the beautiful 2000GT of the mid-Sixties. It packs enough good stuff to ring almost any enthusiast's chimes: a 2.8-liter double-overhead-cam in-line six fed by electronic fuel injection, a slick-shifting five-speed manual

1982 Chevrolet Camaro Z28 and Pontiac Firebird Trans Am. What's more, the Supra now has the roadgoing panache to bring it off.

This wasn't always so, of course. The original Supra, which hit these shores in

high-mileage small sedans, the Japanese manufacturers put their latest offensive on the drawing boards long before the UAW called for sanctions. The new wave from the Land of the Rising Sun is made up of two- and four-seat GTs, the kinds of cars that used to come strictly from Europe. And what we've seen so far is just the tip of the iceberg.

To support this contention we offer you Exhibit A, the latest Good Ride from Japan: the all-new 1982 Toyota Celica Supra. The new Supra is the most serious road car Toyota's conservative management has dared screw to-

back. In size, performance, and price (we estimate that the Supra will start at about \$13,000), the new model cuts a wide swath across the market. Its natural enemies will include such cars as the Audi Coupe, the Datsun 280-ZX two-plus-two, the Alfa Romeo GTV6 2.5, the BMW 320i, and even the all-new

injected six-cylinder turbo injection, a slick-shifting five-speed manual gearbox, four-wheel independent suspension, variable-power-assist rack-and-pinion steering, four-wheel disc brakes, alloy wheels, full instrumentation, super seats, and a mother lode of comfort and convenience gear.

PHOTOGRAPHY BY GEORGE LEPP

This wasn't always so, of course. The original Supra, which hit these shores in 1979, hung on the fringes of the serious-car ranks. It was very much a Japanese Buick Regal—comfortable, quiet, and well equipped, but lacking the kind of moves that make covering large expanses of macadam a joy.

Getting from there to here necessitated nothing less than a complete remake. The new Supra is fresh from bumper to bumper; only the name is the same. Just as before, it's the big brother to the Celica, the two sharing the same fastback body from the cowl rearward. (The Celica is also offered as a two-door notch-

OCTOBER 1981

35

SUPRA

back.) Once again the Celica's body has been stretched, this time 6.9 inches between the fire wall and the front bumper to make room for the six-cylinder powerplant.

Surprisingly, Toyota didn't put the Supra through the rigors of downsizing. (The quest for ultra-high efficiency is apparently being left to the Corolla and Tercel lines.) In fact, the new car is marginally larger in just about every critical dimension but wheelbase.

Weight savings were passed over in favor of making the front structure more rigid, thereby improving steering response and noise-and-vibration isolation. The new Supra tips the scales at about 3150 pounds, 50 more than its predecessor—not enormously overweight but still some distance from the ultimate in low-calorie engineering.

The freshly tailored sheetmetal cloaking the chassis may well be the new Supra's most controversial feature. The new car's crisply folded doorstop shape looks mean and lean coming up in your mirrors, but the architectural details



give it a busy feeling. This has been done purposely. Japanese buyers took to the clean, fluid shape of the old Celica and Supra like fish to bicycles. As a result, the new car has been doled some of what the Japanese refer to as "surface

entertainment"—vents, lumps, black panels, and other visual twists that add just that subtle hint of Godzilla. This, the designers hope, will bring some home-market buyers back into the fold.

The new shape does aid aerodynam-

Celica

• Everybody loves the Celica. It's virtually defined the imported-sporty-car market since it debuted in 1971, and has won over a million hearts since. You know this is one new car that will not slip into the marketplace unnoticed.

The Celica made its mark with the young-professional set as a more efficient, higher-quality alternative to cars like the Corolla. Placement marketing has

from the fire wall back with the Supra, its space efficiency is improved as well—so grown-ups won't need intensive leg massage after stints in the rear seat anymore.

Unfortunately, the Celica doesn't benefit from all of the Supra's suspension improvements, so it must roll through life on a rigid rear axle rather than on semi-trailing arms. Still, its handling seems quite a bit more disciplined than its predecessor's.

The new model uses the engine from

Detroit would do well to embrace this powerplant as an object lesson in noise-and-vibration control. Though no official fuel-economy numbers are yet available, we predict the new Celica will at least equal the older car's respectable 25-mpg EPA rating.

At ten paces, the most noticeable difference between the Celica and its big brother is their front-end treatments. The Celica's shovel nose and flip-up headlamps (à la Porsche's 928) help the fast-

cient, higher-quality alternative to cars like the Camaro. Pleasant motoring has been its calling card, and that's pretty much the story with the latest model.

Like its six-cylinder sibling, the new Celica is just barely larger than the car it replaces—or about the same size as a Mustang. Two body styles are again available—a three-door fastback and a chunky two-door notchback—and as you can well see, neither bears any family resemblance to past models.

Since the Celica shares its body shell

The new model uses the engine from last year's car, the big 2.4-liter four-cylinder. With only 96 hp to call on, straight-line performance is only adequate. But

Vehicle type: front-engine, rear-wheel-drive, 4-passenger, 2- or 3-door sedan

Estimated base price: \$7700

Engine type: 4-in-line, iron block and aluminum head, 1x2-bbl carburetor

Displacement	144 cu in, 2367cc
Power (SAE net)	96 hp @ 4800 rpm
Transmission	5-speed manual or 4-speed automatic
Wheelbase	98.4 in
Length	175.6-176.2 in
Curb weight	2650 lbs
EPA fuel economy, city driving (estimated)	25 mpg

Celica's shovel nose and pop-up headlamps (à la Porsche's 928) help the fastback version to cleave the air with a drag coefficient of 0.34.

Inside, the Celica looks like a Supra that's survived a gadget-bypass operation. Two trim levels, ST and GT, are again available, and both offer simple, tasteful, and comfortable furnishings.

So the new Celica doesn't stray far from the original formula laid down eleven years ago. Stay tuned to find out if it's enough to keep America's hearts melting in 1982. —R.C.



ics, though. The Celica Supra registered a drag coefficient of 0.35 in Japanese wind tunnels, a 14 percent improvement.

While the jury is still out on the question of the Supra's new styling, there's

Driving in Japan

Where 55 seems fast.

• It's amazing that Japan produces as

Nagoya, the home of Toyota, we explored this potential one day in a rented Daihatsu Charade. The Charade is a front-drive sedan, a bit smaller than a Ford Fiesta, powered by a 1000cc three-cylinder en-

While the jury is still out on the question of the Supra's new styling, there's no doubt that the new model goes about its business with impressive grace. We're actually speaking of two Supras here, because this year there are two distinct models: the standard car and the as-yet-unnamed performance version pictured here. The hotter car's primary differences include fat 225/60HR-14 tires on 7.0-inch alloy wheels, fender flares to cover the tires, a limited-slip differential, sport seats, and a hatchback-mounted device that looks like a wing but is in truth a sunshade. Functionally speaking, the two models are quite similar—and both are better in almost every respect than the car they supersede.

Improvement number one is hidden away under the hood. Considering the sophistication represented by twin overhead cams with hydraulic lifters, hemispherical combustion chambers, and electronic fuel injection, the Supra's 145-hp power output is underwhelming. (BMW, for instance, squeezes 24 more hp out of its single-cam 2.8-liter six.) But the new powerplant does add 29 more horses to the Supra's stable, and for that we're thankful.

This still isn't enough to let you blaze

• It's amazing that Japan produces as many fast GT cars as it does, for it offers few opportunities to bury the tach needle in top gear in a new Supra, a 280-ZX, or an RX-7.

The freeways, or "roads of high speed" in the literal translation, certainly don't provide the proper venue. Their speed limits vary from 97 to 62 mph, and they're enforced by robot radar-cameras that produce pictorial evidence against transgressors. The problem isn't the limit per se; it's the hordes of vehicles actually obeying it. They're not really crowded bumper-to-bumper as in L.A. at rush hour, but they're close enough to preclude sustained rushes of speed. The game to play is called "keeping it on the chime." Japanese law requires that all vehicles have an auditory warning device that operates above 62 mph. On more expensive cars a chime serves this purpose, so the game is to see how long you can keep it from lapsing into silence.

The secondary roads are even worse. They typically have only one lane in each direction, and they run through heavily populated areas, replete with intersections, traffic signals, schoolchildren, and other pass-inhibiting objects.

Given these conditions, the real potential for banzai driving in Japan lies not in high-speed cross-country work, but rather in the cut and thrust of urban traffic. In

sedan, a bit smaller than a Ford Fiesta, powered by a 1600cc three-cylinder engine. It runs faster than you'd expect, even with three Occidentals aboard, and can actually shed some rubber on the one-two shift. That is, once you've mastered shifting with your left hand.

Yes, the Japanese drive on the left side of the road, which is certainly the only automotive trait they have in common with the British. Usually this is a problem only in large, open intersections, where one can easily get disoriented and start pointing toward the wrong lane. With three of us aboard, however, someone always started screaming before we wronged any Fairlady's or trampled any Violets.

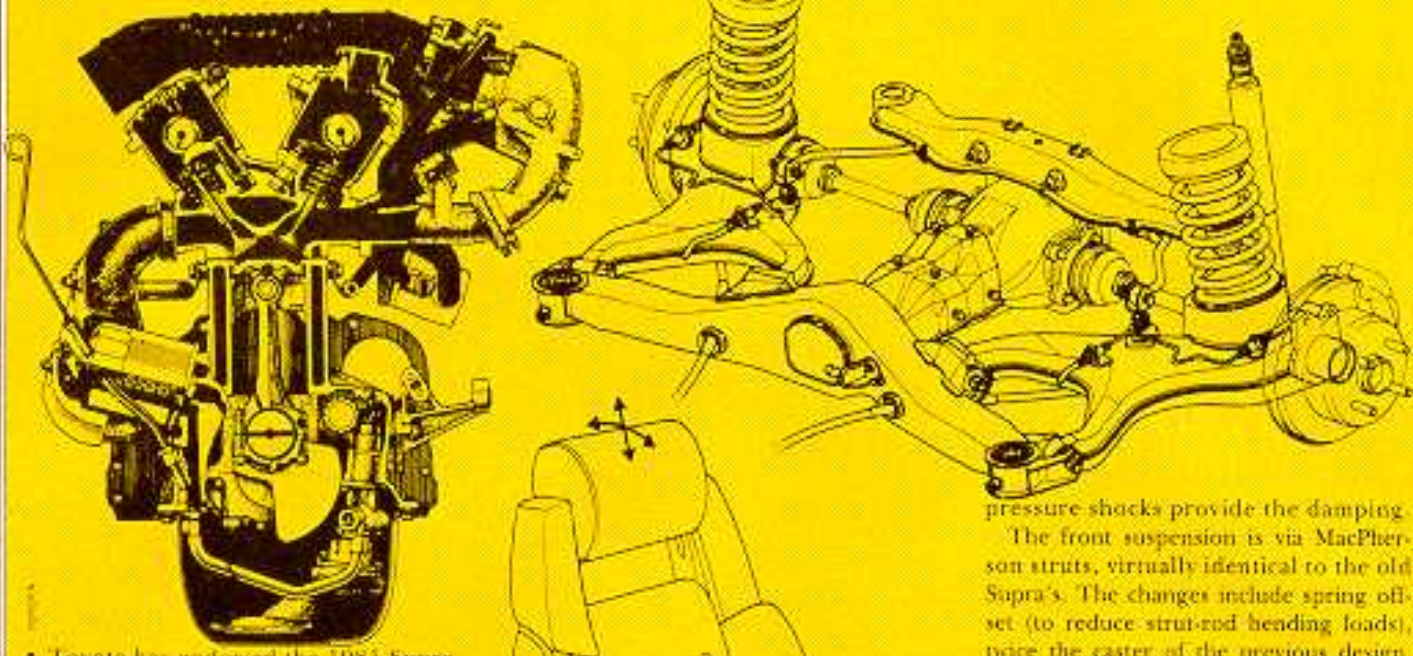
Most Japanese drive rather sedately, so if you're looking for competition, look for the cabs. There is something about cabbies that transcends cultural boundaries; they always seem ready to defend the honor of their steeds. However, since the cabs we encountered were mostly diesels, they were dog meat for the Charade.

Policemen are also a culture unto themselves, as we found when we accidentally ran a red light and were pulled over for our trouble. Fortunately, after ten minutes of intense, animated noncommunication (with our lone Japanese speaker holding his tongue) and relentless scrutiny of my Michigan driver's license, we were released. Were it only so easy back home.

—Cuba Carré

SUPRA

Technical Highlights

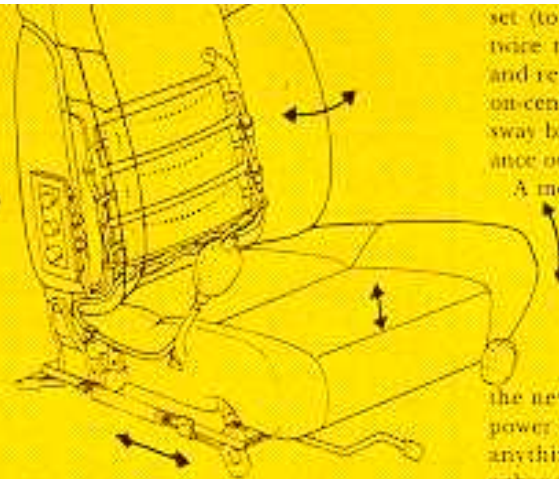


pressure shocks provide the damping. The front suspension is via MacPherson struts, virtually identical to the old Supra's. The changes include spring offset (to reduce strut-rod bending loads), twice the caster of the previous design,

• Toyota has endowed the 1981 Supra with a lot more than a new suit of clothes. Underneath the finery, the new car bristles with enough genuine performance improvements to place it firmly in the ranks of the serious (read, European) grand tourers.

The most significant change is a new double-overhead-camshaft engine. It's the first Toyota non-cam on these shores since the 1967 2000GT, although Toyota has since marketed various twin-cams elsewhere in the world. The new engine, designated 5M-GE, first appeared earlier this year in the Soarer (not exported to the U.S.). Based heavily on the 5M-E engine used in the old Supra and the current Cressida, the new powerplant retains the Nippondenso L-Jetronic fuel injection, the bore and stroke dimensions, and most of the block and bottom end, but a new, aluminum twin-cam head with cross-flow porting and multispherical combustion chambers (somewhat similar to BMW's) transforms the engine. Each seven-bearing cam spins in its own bolted-on carrier and actuates the valves by means of finger followers pivoting on hydraulic valve lifters. This is the first application of hydraulic lifters to a twin-cam engine, though the identical arrangement is common on single-overhead-cam engines. To reduce noise and weight, the cams are driven by a belt rather than Toyota's usual roller chain. The new head with its matching pistons raises the compression ratio to 8.8:1 from 8.0:1.

The non-cammer develops 145 hp at 5600 rpm, and 155 pounds-feet of torque at 4400 rpm. Although these figures represent solid increases of 29 hp and 10 pounds-feet over last year's engine,



they're none too impressive for an engine of such lavish specification. The 5M-GE suffers in comparison with other 2.8-liter injected sixes, providing power no better than Datsun's ZX single-cammer and well below the 169 hp of BMW's single-cam engine. Even the carbureted, pushrod Citation X-11 engine comes within 10 hp of the Toyota. In its defense, the Toyota twin-cam does match its weaker predecessor in fuel economy, and it offers a magnificent sight under the hood. Perhaps with further development the power output will become more commensurate with the exotic hardware.

Putting the increased power to the ground is a new semi-trailing-arm rear suspension. This suspension is also borrowed from the Soarer, although again Toyota has used similar designs on European and Japanese models for several years. The semi-trailing arms pivot from a rubber-isolated crossmember. Another rubber-isolated crossmember supports the rear of the differential, along with a 15mm (0.51-inch) anti-sway bar. Gas-

set (to reduce strut-rod bending loads), more the caster of the previous design, and revised steering offset (to improve on-center feel). A 25mm (0.98-inch) anti-sway bar helps control body roll and balance out cornering characteristics.

A more significant front-end change is

the new variable-assist rack-and-pinion power steering. The reduced assistance at anything above parking speeds greatly enhances road feel and controllability.

Toyota has even doled out a major technological goody to the interior. The optional sports package features a driver's seat that's a quantum leap forward in production-car seating systems. In addition to the usual fore-and-aft, headrest, and rake adjustments, the lower-cushion angle and the firmness of its padding are adjustable, and viselike side bolsters can be positioned to any desired degree of clamping force. What sets this seat apart from all other production seats is a pneumatic lumbar-support adjustment. Three bladders within the lower seatback are simultaneously inflated by a squeeze bulb to the right of the seat. Three bleed valves are then used to alter each bladder's pressure individually, thereby varying the firmness, height, and contour of the lumbar support.

Such meticulous attention to detail is one of the primary sources of Toyota's current success. The new Supra shows, furthermore, that Toyota has turned this attention in the enthusiast's direction.

—Caleb Carr





away from stoplights like Shirley Muldowney (60 mph came up in 9.8 seconds on Fuji International Speedway's damp front straight), but it does allow you to cover ground plenty briskly once you're on the roll. We expect top speed to knock on 120 mph. Better still, this is one engine that just plain feels good. Its throttle response is *right now*, it pulls to the redline turbine-smooth, and it hums just like a piece of well-oiled German machinery.

Improvement number two is the Supra's chassis. The highlight here is its new fully independent suspension. MacPherson struts and an anti-sway bar are recycled for use in the front, but a pair of semi-trailing arms, coil springs, and an anti-sway bar now hold up the rear, replacing the older car's rigid axle and four trailing links. Up front the caster angle has been doubled for greater straight-line stability. Variable-rate power steering has been bolted in. Finally, each wheel now has a vented disc brake to slow it down.

What makes a GT car, of course, isn't so much the pieces, but how well they work together. After an afternoon of furious flogging around the Fuji road course, we're happy to report that the

Toyota engineers have honed all the parts into a unified, harmonious whole. We'll reserve final judgments until we've logged some real-world miles, but our first impression is that the new car feels very BMW-like—supple and calm over bad pavement, sure-footed and direct when the going gets twisty.

The steering serves up impressive feel (the assist backs off all the way by 3500 rpm), and when you twist the wheel the Supra goes where you point, simple as you please. Mild understeer marks the limit of adhesion, but a good driver can play both ends of the Supra like a fine instrument—and it never feels as if it's about to turn and bite.

The Supra's good kinesthetics are underscored by accommodations that put you in the mood for serious motoring the minute you slip behind the thick, leather-wrapped wheel. The come-on starts at the driver-car interface with what has to be one of the best production drivers' seats ever bolted to a floorpan. The seat, which is part of the sports package, duplicates most of the features found on Recaro's top-line C seat. In addition to the common fore-and-aft, backrest-angle, and lower-cushion height adjustments, the Supra's seat

allows you to adjust the rib-hugging upper-cushion side bolsters in or out and to firm up the under-thigh cushion as well. The *pièce de résistance* is an air-pressurized tri-bladder lumbar-support system, which you pump up with a small squeeze ball and bleed off to maximum comfort with three small buttons on the backrest. By the time you're done dialing yourself into position, you'll be held as if in a lover's arms.

The good vibes continue with a tilt wheel, a neat instrument cluster, and handsome corduroy fabric splashed all over the place. This year you can bring two more friends along for the ride, because the rear seat is adult-approved for those up to roughly five foot ten.

True to its Japanese heritage, the Supra is swamped with standard luxury features. The amenities include climate control (with a switch that lets you direct heater air to either one or both forward footwells), a five-speaker stereo, a split-back rear seat, automatic door locks, power windows, cruise control, a rear-window wiper, rear armrests that open into drink holders, numerous map pockets and bins, and on and on.

The optional equipment includes Luke Skywalker digital instrumentation

OCTOBER 1981

39

SUPRA

with an LED-lit linear tach that's shaped to resemble an engine's power curve; a trip computer is part of the package as well. You can upgrade the already good sound system with a power booster, a graphic equalizer, and a cassette unit. The trickiest bit of them all is a direction-and-destination computer like the one on 007's DB5. Alas, this piece will



one on 007's DB5. Alas, this piece will be restricted to the home market for a while.

Gadgets aside, the new Supra's scenario is nothing if not bright—and that's because it's taken a big step ahead in basic goodness. It's now the kind of car that can burn down two-lanes and reel in Interstates with equal ease. It's bolted together as tight as a Seiko, and it makes getting there more than half the fun. Such is the anatomy of the Good Ride.
—Rich Ceppos



Vehicle type: front-engine, rear-wheel-drive, 4-passenger, 3-door sedan

Price as tested: \$15,000 (estimated)

Options on test car: base Toyota Celica Supra, sports package, AM/FM stereo radio/cassette.

Sound system: AM/FM stereo radio/cassette with graphic equalizer, 4-x speakers.

ENGINE

Type 6-in-line, iron block and aluminum head
 Bore x stroke 3.27 x 3.35 in., 83.0 x 85.0mm
 Displacement 1600 cu in., 2759cc
 Compression ratio 8.8:1
 Fuel system Nippondenso L-Jetronic fuel injector
 Emissions controls 3-way catalytic converter, feedback fuel-air ratio control, EGR
 Valve gear belt-driven double overhead cam, hydraulic lifters
 Power (SAE net) 145 bhp @ 5600 rpm
 Torque (SAE net) 155 lb-ft @ 4400 rpm
 Redline 6500 rpm

DRIVETRAIN

Transmission 5-speed
 Front-drive ratio 3.73:1

Gear	Ratio	Mph/1000 rpm	Speed in gears
I	3.28	5.8	38 mph (6500 rpm)
II	1.89	10.0	65 mph (6500 rpm)
III	1.28	14.8	96 mph (6500 rpm)
IV	1.00	18.9	121 mph (6400 rpm)
V	0.88	22.0	121 mph (5500 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase	103.0 in.
Track, F/R	56.8/55.1 in.
Length	183.5 in.
Width	66.3 in.
Height	52.0 in.
Ground clearance	4.7 in.
Curb weight	3150 lbs
Fuel capacity	16.1 gal
Oil capacity	6.0 qt
Water capacity	8.5 qt

CHASSIS/BODY

Type unit construction with two rubber-isolated crossmembers
 Body material welded steel stampings

INTERIOR

Front seats bucket
 Recliner type infinitely adjustable
 General comfort poor fair good excellent
 Form-and-fit support poor fair good excellent

Lateral support poor fair good excellent

SUSPENSION

F ind, MacPherson strut, coil springs, anti-lswey bar
 R ind, semi-trailing arms, coil springs, anti-lswey bar

STEERING

Type rack-and-pinion, power-assisted
 Turns lock-to-lock 3.1
 Turning circle curb-to-curb 35.4 ft

BRAKES

F 9.8 x 0.9-in vented disc
 R 10.3 x 0.7-in vented disc
 Power assist vacuum

WHEELS AND TIRES

Wheel size 7.0 x 14 in
 Wheel type cast aluminum
 Tire make and size Dunlop DA, 225/60HR-14

ACCELERATION

Zero to 60 mph 9.8 seconds
 100 mph 32.5
 Standing ¼-mile 17.2 sec @ 80 mph
 Top speed (manufacturer's estimate) 121 mph

FUEL ECONOMY

EPA city driving (preliminary estimate) 22 mpg