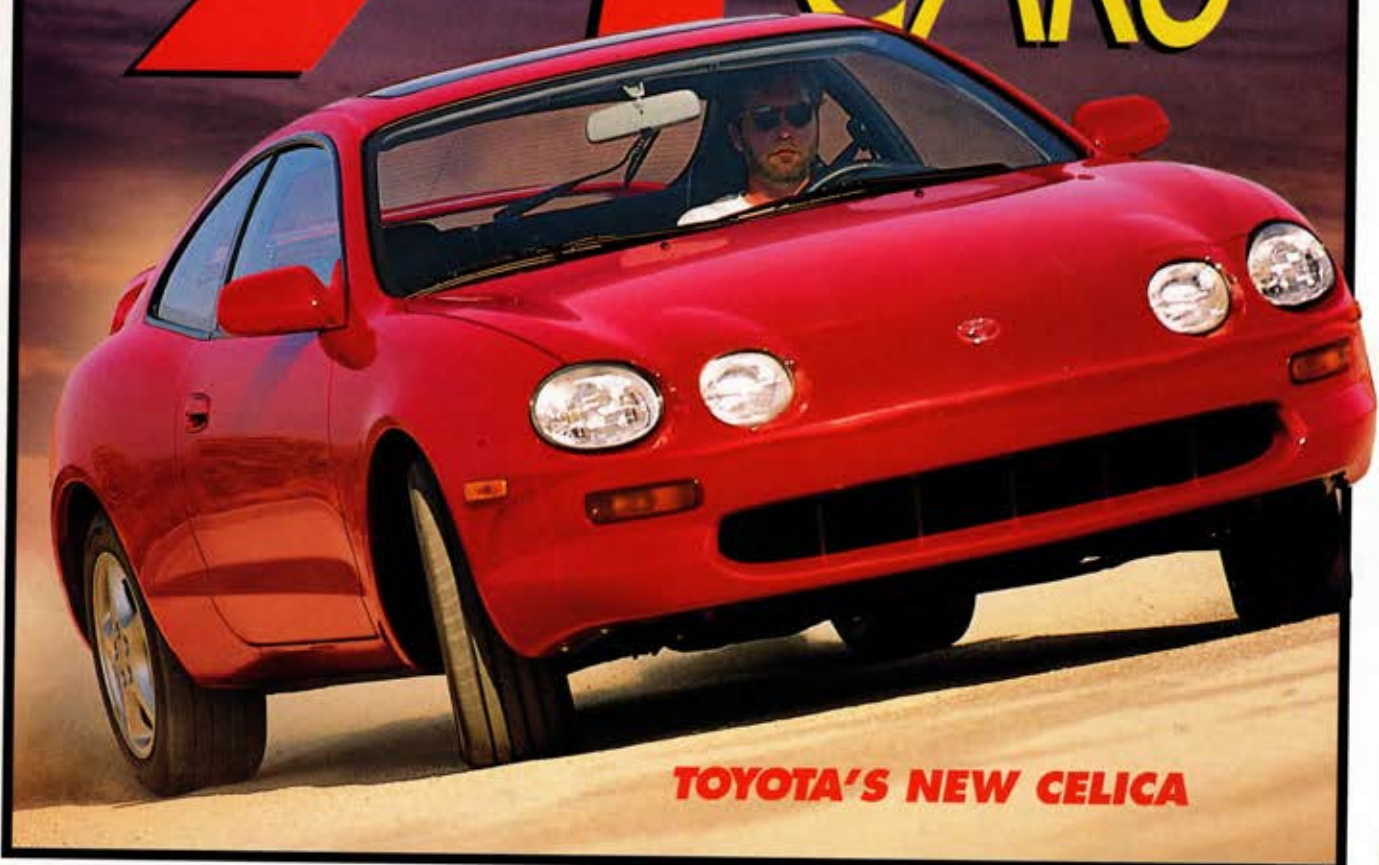


FIRST DRIVE: FORD'S ALL-NEW MUSTANG

# CAR AND DRIVER

NOVEMBER 1993 • CANADA \$3.95 UK £1.95 US \$2.95

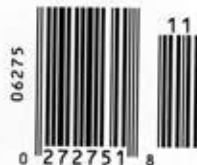
# 1994 IMPORT CARS



**TOYOTA'S NEW CELICA**

**NEW  
Saab  
Jami**

**turbo, VW Jetta,  
-motor Miata.  
plosive car stunts.**



# CAR AND DRIVER

VOLUME 39, NUMBER 5  
NOVEMBER 1993

C/D's Canadian editor  
practices parking  
alternative-fuel vehicles.

PAGE 134



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## 1994 IMPORT CARS

- 40 TOYOTA CELICA GT**  
At its best looking good—*by Kevin Smith*
- 49 FERRARI 456GT**  
The first all-new Ferrari since Enzo's death is a winner—*by Barry Winfield*
- 57 VOLKSWAGEN JETTA III GL**  
The lights are on again at VW stores—*by Patrick Bedard*
- 67 VOLVO 850 TURBO**  
Some Swedish roads double as landing strips. Here's why—*by John Phillips*
- 72 MAZDA MIATA**  
The Miata goes under the knife and emerges... a Miata—*by Don Schroeder*
- 77 SAAB 900SE**  
Despite the British V-6, it's a Trollhättan troll, through and through—*by John Phillips*
- 89 CHARTING THE CHANGES**  
New Accord, Integra, and Celica, and a new company from Korea—*by Phil Berg*
- 99 TECHNICAL HIGHLIGHTS**  
A super Saab 900, a potent Benz diesel, programmable VW wipers—*by Frank Markus*

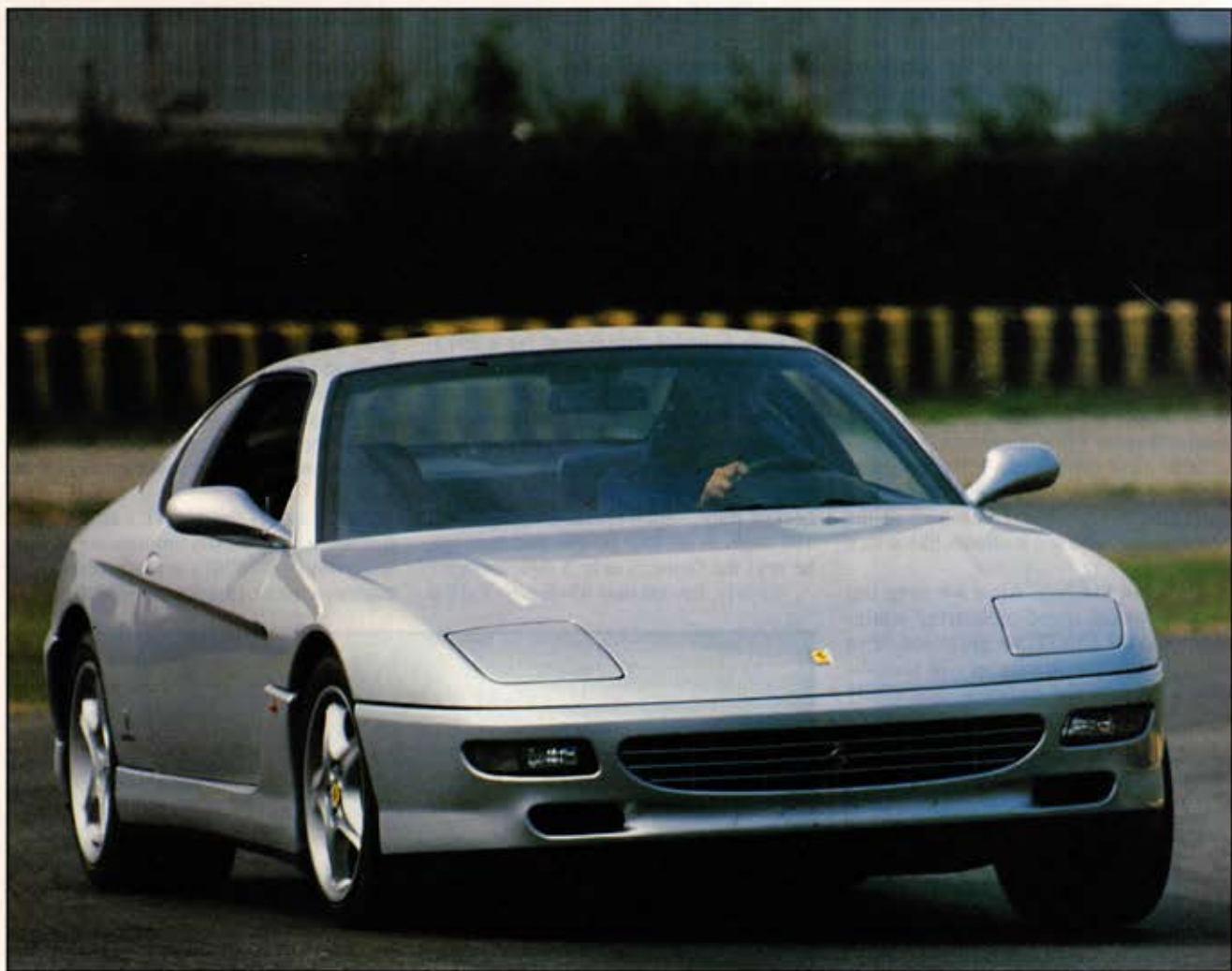
## FEATURES

- 106 PREVIEW: FORD MUSTANG GT**  
What's old is new again. Mostly—*by Martin Padgett Jr.*
- 117 THE SPECIALTY FILE: JAGUAR XJ220**  
We drive the controversial, contraband cat from Coventry—*by Csaba Csere*
- 124 HOW TO BEAT LASER AND RADAR GUNS**  
Light stupefies laser guns; a quasi-legal radar jammer—*by Don Schroeder*
- 134 THE LIFE OF BRIAN**  
Brian Carson jumps cars, blows up, breaks 53 bones, so forth—*by John Phillips*
- 140 LONG-TERM OLDSMOBILE ACHIEVA SC**  
The power of intelligent engineering takes a vacation—*by Don Schroeder*
- 147 SPORT: THE FALL OF THE HOUSE OF ALLISON**  
Darkness descends on stock-car racing's free-spirited clan—*by Ed Hinton*

## COLUMNS

- 9 THE STEERING COLUMN** Free the speed slaves.
- 10 LETTERS** Prowler needs prowess, Integra's eaten alive, Panpipes play on.
- 16 BROCK YATES** Words to live by: 'It's only metal.'
- 17 PATRICK BEDARD** Look out!
- 21 BARRY WINFIELD** We get calls.
- 25 UPFRONT** New Porsche 911, '95 Cavalier and Sunbird.
- 167 TOURING** Ghosts—*by Steve Spence*
- Cover photography by David Dewhurst.

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# Ferrari 456GT

The first all-new Ferrari since Enzo's death. He would have approved.

BY BARRY WINFIELD

**A**t the Pista di Fiorano—Ferrari's private test track in Maranello—Turn Six is an elbow-shaped right-hander that sweeps uphill to the overpass. It's a corner that invites you to explore the limits of the 456GT's roadholding, because you negotiate it at fairly low speed in second gear with the confidence that you can deal with any surprises. Sure enough, as the corner unwinds and your right foot goes down, the wide Bridgestone Expedia rear tires push out in a long and

gradual slide, calling for just a little throttle modulation and a gentle application of opposite lock.

As it wags its tail into the slide, the Ferrari 456GT confirms what it has been hinting all day. This is a car that is not only stable, fast, and immensely enjoyable—it's also wonderfully communicative. And that may come as a surprise to anyone who hears first about how quiet, comfortable, and easy to drive it is.

Those are not characteristics normally

found at the top of a Ferrari's list of virtues, but in the 456GT they complement the usual Ferrari properties—speed, power, dazzling street presence—in a way that will confound the diehards. From the moment you slide your backside onto the leather of the power-adjustable seat, you're aware that something profound has happened. There is a natural relationship between the positions of the wheel, the seat, and the pedals. You look around and see that the control layout is a model of

tidy design. You can find stuff without hunting. Ahead is a perfectly simple two-gauge binnacle, flanked by generous ventilation registers and a long flat dashboard molding. Auxiliary gauges ride dead center atop the broad console panel, ahead of the gearshift. Alongside your right thigh, where many cars have a storage bin, you find flat-mounted radio and ventilation controls.

The pedals are directly ahead, and there is adequate head and legroom, even for a driver who is six-foot-five. We wonder at this newfound ergonomic convenience and how it fits in with the car's performance envelope. Franco Cimatti, project development boss at Maranello, explains: "We wanted this car's performance to be accessible to most drivers. So it has two personalities. At low engine speeds, there is good flexibility—but if you look at the power curve, you see it climbs like a race car."

He's not kidding. After we strap our Datron optical speed-measuring equipment onto the 456GT, we get in and drive off with the familiarity of old friends. That's because the engine is beautifully smooth and torquey, with an easily mod-

ulated throttle and a firm but progressive clutch action. We use a light throttle and relatively low engine speeds for an orientation run down the military runway at Rimini's Italian Air Force base, and the Ferrari delivers this low-speed stuff with a well-mannered purr. Then, when we start the acceleration runs, the car rips away with a melodic snarl, both big Bridgestones smoking and the tail snaking as the limited-slip differential juggles torque from wheel to wheel.

The standstill-to-60-mph time of 4.8 seconds is pretty sensational for a 3912-pound car, but midrange grunt is what really impresses. The 456 takes only 6.6 seconds from 60 mph to the magic 100 mark, and then another 15.9 seconds to hit 150. Cimatti shows us figures from tests at the high-speed circle at Nardo, in the heel of Italy, which reveal a top speed of 192 mph. With four people and luggage, he says the figure is only 5 mph slower.

Clearly, this all-new 65-degree V-12 is

quite an engine. It pulls strongly from 1000 rpm (where it already has 265 pound-feet of torque) to its redline at 7250 without the benefit of variable valve timing or variable-volume induction systems. It also feels smaller and more responsive than an engine displacing 5474cc ought to, somehow, and its sounds are mellow and musical—but not particularly loud.

Another big surprise is the ease with which the traditional skinny steel gear stick directs shifts in the rear-mounted six-speed transaxle. There's none of the first-gear balkiness found in other Ferraris. Only the first-to-second shift reveals any notchiness, and then it's slight. The lever clangs against the gate, as always, but the gearwheels at the rear axle embrace silently, ready to put more power to the wheels.

What makes the 456GT's athletic performance particularly impressive is how accessible it is. With a smooth, responsive engine, a fluent, progressive clutch, and an

## the Verdict:

**Highs:** Gorgeous shape, superb dynamics, great sound, civilized cockpit.

**Lows:** High price, cheap plastic interior trim.

**The Verdict:** A fantastic new Ferrari.



unexpectedly cooperative gearchange, the Ferrari becomes a teammate rather than an adversary. The signals come through as clear as you could want, without you having to overwhelm ponderous mechanical linkages to get them.

It's the same with the steering, which is a Servotronic mechanism supplied by



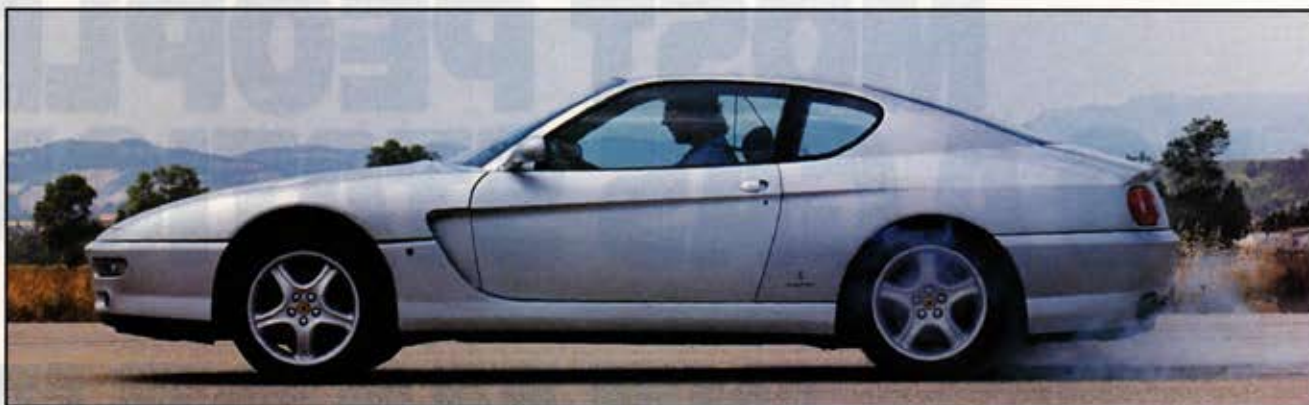
ZF. In Audis, this system is overlight, particularly at low speeds, but that's not the case in the 456GT. Equipped with variable assist, a varying ratio that speeds response once off center, and with what Ferrari calls positive center feel, the steering seems in tune with the car. It's not overly sensitive on center, yet it turns the car in quickly. It's restful on the autostrada, but it communicates a useful amount of road feel through to your palms. And although the thick black rim demands decisive pressure at all speeds, it's not so heavy that you have to get your shoulders into the act the way you do in a 512TR. There's less nervousness, kickback, or tramlining than in the TR, so the car feels a good bit more stable at speed.

Half of the steering pump's output supplies power to a hydraulic self-leveling rear suspension that keeps the car's attitude flat and the suspension geometries at their optimum position regardless of load. There is also a sophisticated electronic sys-

tem to vary the shock-absorber damping rates. Developed jointly by Bilstein and Ferrari, the system has a three-position switch (soft, medium, hard) in the cockpit and an elaborate control strategy that monitors a vertical-acceleration body sensor, a brake-pressure sensor, and a steering-angle sensor to select appropriate damper values. This is done by varying the size of the shock-valve orifice. Because there are many valve positions between the three main program baselines, the permutations are vast, selected by control logic that recognizes the differences between uneven surfaces, hard cornering, and braking.

As well as endowing the car with extraordinarily good pitch and roll control and remarkable highway poise, the shock system helps the car feel agile and responsive to the wheel. Much more so than a BMW 850i (a car similar in concept), which feels inert and overdamped in comparison. In the 456GT, 120 mph on the autostrada feels peculiarly placid, partly because of





the car's directional stability and balanced weight distribution and partly because body motions are so well controlled.

Contributing to the sense of security is a quartet of big ventilated disc brakes (the same as found on the 512TR, but with better front cooling), operated by a dedicated hydraulic system with Ate Series-4 anti-lock control. This equipment brought our car to a stop from 70 mph in 170 feet—no mean feat for a two-ton GT—with excellent pedal feel and modulation. The adoption of ABS, more than anything, heralds Ferrari's acknowledgement that Nineties supercars have to be more than stunning styling exercises based on Fifties race-car technology. Especially if they are to command a price tag of \$225,500 or more.

If, as we expect, Ferrari purists howl that ABS, assisted steering, a softened gearshift, and a supple ride for four passengers are a dilution of the old Ferrari style, then they're clinging to the myth that only experts should be able to overcome the challenge of cars from Maranello. The beauty of this newest Ferrari is that it's user-friendly and charismatic at the same time. You can circulate your favorite track like a hero, hang the tail out and balance the car on the throttle, then lend the car to your five-foot-two-inch wife to drive to her tennis game. This is not a sell-out; it's an achievement.

It was no accident, either. The influence of the latest crop of Japanese supercars has clearly been felt in Maranello. But it has not emasculated the 456GT. While the car is friendlier, quieter, and more civilized than any other Ferrari we've driven, the flavor is still clear and strong. This car is not a diluted Ferrari. It's a distillation of the power, the style and the sensuous elements of the marque, with the hassles filtered out. So far, the only thing about it we don't heartily endorse is the so-called titanium plastic trim that adorns the interior. Apart from the "titanium," the car is pure gold. ●

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

**Estimated price as tested (Europe):** \$225,500

**Major standard accessories:** power steering, windows, seats, and locks, A/C, tilt and telescoping steering, rear defroster

**Sound system:** AM/FM-stereo radio/cassette/CD player, 8 speakers

**ENGINE**

Type..... V-12, aluminum block and heads  
 Bore x stroke..... 3.46 x 2.95 in, 88.0 x 75.0mm  
 Displacement..... 334 cu in, 5474cc  
 Compression ratio..... 10.6:1  
 Engine-control system..... Bosch Motronic 2.7 with port fuel injection  
 Emissions controls..... 3-way catalytic converter, feedback fuel-air-ratio control, auxiliary air pump  
 Valve gear..... belt-driven double overhead cams, 4 valves per cylinder  
 Power (SAE net)..... 436 bhp @ 6250 rpm  
 Torque (SAE net)..... 406 lb-ft @ 4500 rpm  
 Redline..... 7250 rpm

**DRIVETRAIN**

Transmission..... 6-speed  
 Final-drive ratio..... 3.64:1, limited slip  
 Transfer-gear ratio..... 0.90:1  

Gear	Ratio	Mph/1000 rpm	Speed in gear
I	3.21	7.4	54 mph (7250 rpm)
II	2.10	11.4	82 mph (7250 rpm)
III	1.52	15.7	114 mph (7250 rpm)
IV	1.18	20.2	146 mph (7250 rpm)
V	0.97	24.7	179 mph (7250 rpm)
VI	0.82	29.2	192 mph (6550 rpm)

**DIMENSIONS AND CAPACITIES**

Wheelbase..... 102.4 in  
 Track, F/R..... 62.4/63.2 in  
 Length..... 186.2 in  
 Width..... 75.6 in  
 Height..... 51.2 in

Ground clearance..... 4.7 in  
 Curb weight..... 3912 lb  
 Weight distribution, F/R..... 53.4/46.6%  
 Fuel capacity..... 29.1 gal  
 Oil capacity..... 12.7 qt

**CHASSIS/BODY**

Type..... steel-tubing space frame  
 Body material..... aluminum stampings

**INTERIOR**

Front seats..... bucket  
 Seat adjustments..... fore and aft, seatback angle, front height, rear height  
 Restraint systems, front..... manual 3-point belts  
 rear..... manual 3-point belts  
 General comfort..... poor fair good **excellent**  
 Fore-and-aft support..... poor fair good **excellent**  
 Lateral support..... poor fair **good** excellent

**SUSPENSION**

F:..... ind, unequal-length control arms, 3-position cockpit-adjustable electronically controlled shock absorbers, coil springs, anti-roll bar  
 R:..... ind, unequal-length control arms, 3-position cockpit-adjustable electronically controlled shock absorbers with automatic leveling, coil springs, anti-roll bar

**STEERING**

Type..... rack-and-pinion, power assisted  
 Turns lock-to-lock..... 2.5  
 Turning circle curb-to-curb..... 38.0 ft

**BRAKES**

F:..... 12.4 x 1.3-in vented disc  
 R:..... 12.2 x 1.1-in vented disc  
 Power assist..... hydraulic with anti-lock control

**WHEELS AND TIRES**

Wheel size..... F: 8.5 x 17 in, R: 10 x 17 in  
 Wheel type..... cast aluminum  
 Tires..... Bridgestone Expedia S-01; F: 255/45ZR-17, R: 265/40ZR-17  
 Test inflation pressures, F/R..... 35/35 psi

**CAR AND DRIVER TEST RESULTS**

**ACCELERATION**

	Seconds
Zero to 30 mph.....	2.0
40 mph.....	2.7
50 mph.....	3.7
60 mph.....	4.8
70 mph.....	5.9
80 mph.....	8.3
90 mph.....	9.7
100 mph.....	11.4
110 mph.....	14.0
120 mph.....	16.2
130 mph.....	18.9
140 mph.....	23.3
150 mph.....	27.3
Street start, 5-60 mph.....	5.3
Top-gear passing time, 30-50 mph.....	7.1
50-70 mph.....	6.7
Standing 1/4-mile.....	13.3 sec @ 107 mph
Top speed (mfr's rating).....	192 mph

**BRAKING**

70-0 mph @ impending lockup..... 170 ft  
 Fade..... **none** moderate heavy

**HANDLING**

Roadholding, 300-ft-dia skidpad..... 0.89 g  
 Understeer..... **minimal** moderate excessive

**FUEL ECONOMY**

European city cycle..... 11 mpg  
 steady 56 mph..... 28 mpg  
 steady 75 mph..... 24 mpg

**INTERIOR SOUND LEVEL**

Idle..... 63 dBA  
 Full-throttle acceleration..... 86 dBA  
 70-mph cruising..... 73 dBA  
 70-mph coasting..... 72 dBA