

IN THIS QUALITY-conscious era where many automobile manufacturers are turning out near-flawless examples of touring cars (making comparison tests like this increasingly difficult), the definition of "luxury" has become somewhat diluted. Twenty or so years ago, the mere mention of a supple ride and leather-trimmed interior would have deemed a car luxurious. But today, with even econoboxes having a smooth ride and a leather-interior option, one is forced to focus attention elsewhere: namely, under the hood.

Today, what separates a luxury sedan from a run-of-the-mill 4-door is the number of valves and cylinders in the engine, preferably a dohc 32-valve V-8. Why else have the world's leading luxury-car makers, in the brief span of six years, adopted this formula into their best-selling models.

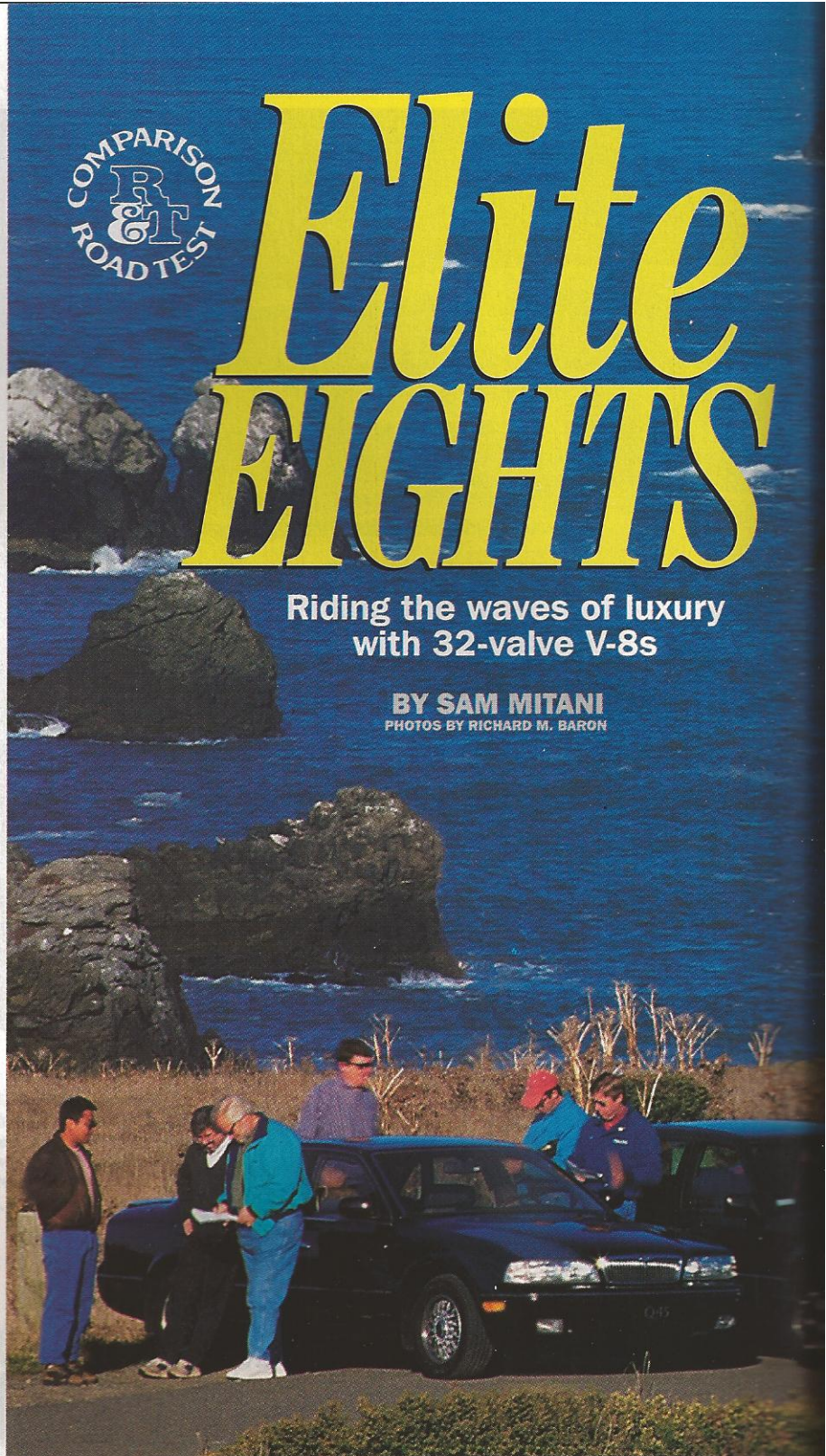
On a crisp, clear day in San Francisco, we assembled the key players from Germany, Japan and the U.S. to take part in a scenic drive up the California coast to judge for ourselves exactly how far today's luxury cars and their respective powerplants have come.

BMW 540i

OUR FIRST STOP was the small coastal town of Bolinas, a slow-moving seaside community where people and stray dogs go to be forgotten. Bolinas is accessible via Highway 1, a winding passage that proved to be an ideal stage for the BMW 540i.

For a simple four-word description of the new 540i, simply refer to BMW's ad slogan, "The Ultimate Driving Machine." This is not just another catchy phrase, but an accurate description of the car's performance-minded character. Under the hood is a smooth-yet-potent 4.0-liter powerplant that is the *crème de la crème* of luxury-sedan V-8s. It pumps out a smooth 282 bhp at 5800 rpm and 295 lb.-ft. of torque at 4500. The most impressive aspect of the engine is its fruitful supply of low-end torque. Combine all this with an unusual 5-speed automatic transmission, and you have a seamless delivery of power from zero to flat-out.

The benefits of the additional gear are most evident when quick downshifts are required. Whether you're blasting past slower cars in the passing lane or exiting an uphill corner, the 540i always finds the correct gear. During normal driving, the electronically controlled shifts are smooth and barely noticeable.



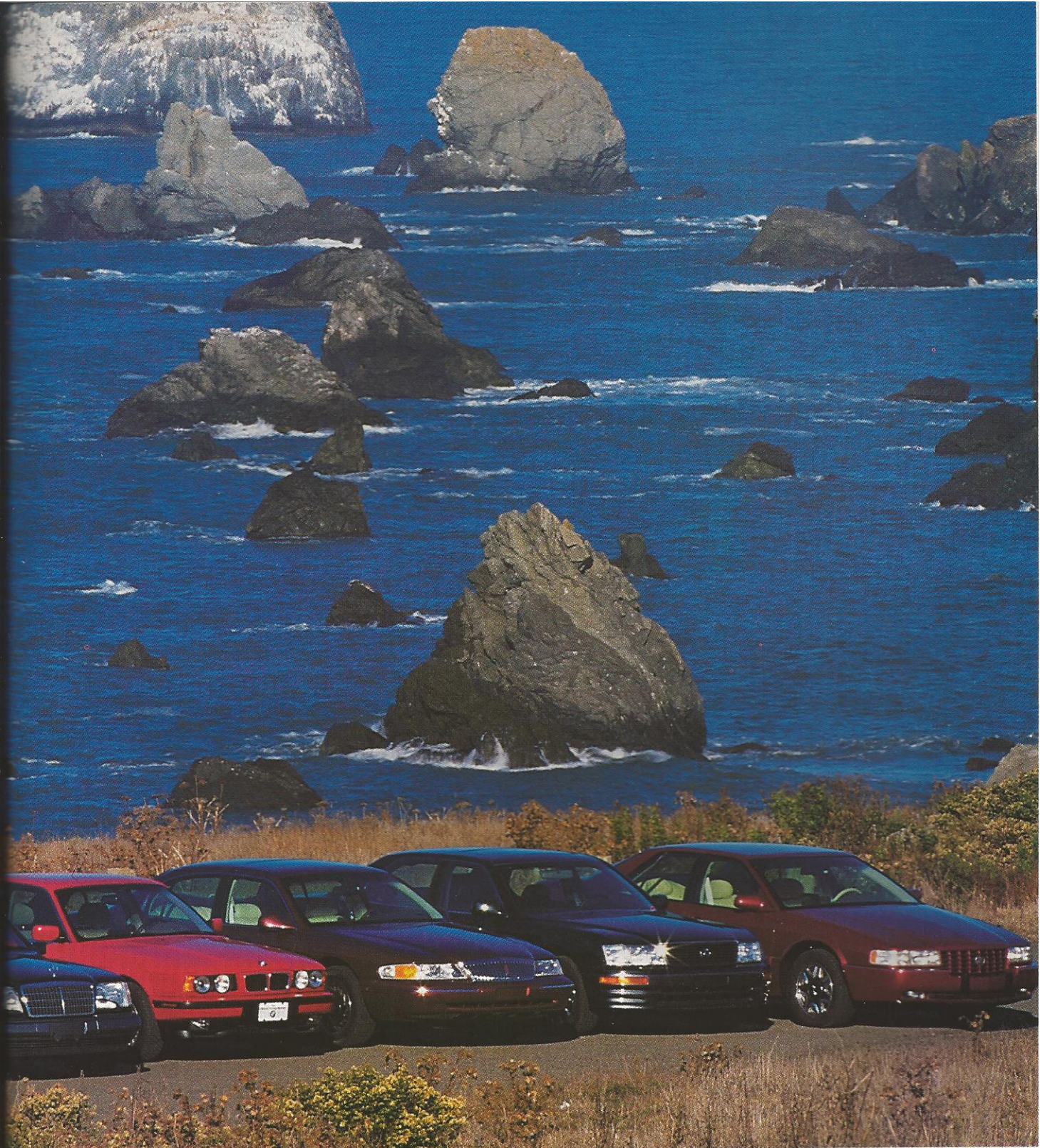
Elite EIGHTS

Riding the waves of luxury with 32-valve V-8s

BY SAM MITANI
PHOTOS BY RICHARD M. BARON

In our track testing, the 540i's performance was excellent. Its 0-to-60-mph time of 7.2 seconds and quarter-mile dash of 15.5 sec. at 96.6 mph are comparable to today's finest sports coupes. Braking distances are equally impressive. The ABS-equipped vented disc brakes used up only 144 feet of tarmac stopping from 60 mph.

But the 540i quickly demonstrated that its forte is handling. The Bimmer's sturdy chassis and taut suspension—MacPherson struts up front and semi-trailing arms at the rear—kept the car wonderfully stable through corners, exhibiting minimal body roll and no chassis flex. Directing the BMW through those narrow passages



was a simple task, thanks in part to the power-assisted steering that displays flick-of-the-wrist response and marksman-like accuracy.

The 540i's verve on the twisties was offset by its shortcomings in the interior volume department. Because of its modest exterior dimensions—overall length, width and height are 185.8,

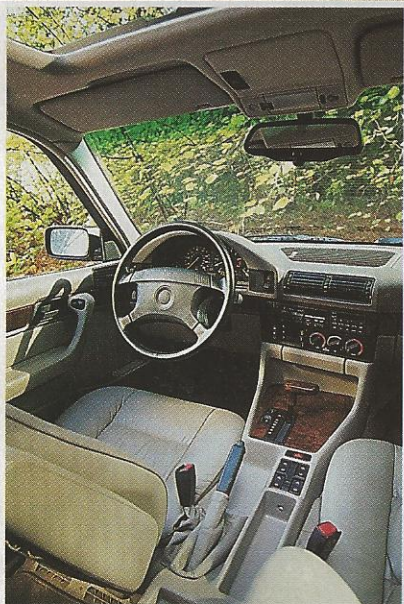
68.9 and 55.6 in., respectively—head and leg room for rear-seat passengers are severely limited, posing a dark prospect for two 6-footers on a multi-hour trip. On the bright side, the cabin stays adequately quiet, with the gratifying whir of the engine as the most audible sound.

To illustrate the overall nature of the

cars, I devised a new measuring stick called the Balance Factor, which is the difference between the scores given to a car's Sport Rating (engine, gearbox, steering, brakes, handling, driving position and body structure) and its Tour Rating (ride, quietness, front seats, rear seats and trunk, and loading). The closer to zero the Balance Factor is,

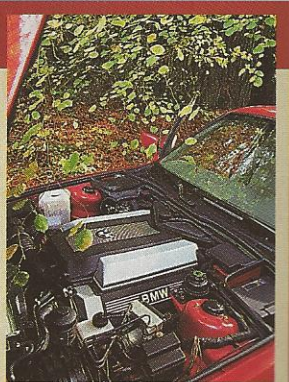


■ Complementing the BMW 540i's aggressive good looks (above, overlooking the coast near Bodega) is the car's excellent handling, which helped earn it top honors in the Performance categories. Inside, the driver is treated to an extremely efficient—yet elegant—cockpit.



BMW ENGINE TECH

The "big" 4.0-liter BMW V-8 (there's also a smaller 3.0-liter version) is notable for its high power and torque considering its relatively small displacement. Indeed, of all the engines in this group, the BMW's power density is tops at 70.8 bhp/liter. Likewise, the engine is rigid, thanks partly to closed-deck construction, and it's light weight, helped here by sleeveless cylinder walls. Interestingly, the cylinders are made wear-resistant by coating their walls with nickel. The process is called Galnikal, and BMW has used this technique with its motorcycle engines for many years. Like the Lincoln, the BMW's connecting rods have "cracked" big-ends for ideal bearing alignment.—*Kim Reynolds*



the better balanced car.

The BMW 540i scored an unusually high Balance Factor of 1.1 that overwhelmingly favored its Sport Rating (9.1 to 8.0). It serves as yet another indication that the 540i is really a sports car in a luxury-car body. And judging by the astronomical cost of sports cars these days, at \$50,062, the 540i represents quite a bargain.

Cadillac STS

AFTER BOLINAS, OUR route took us toward the majestic coastline of Bodega Bay, a picturesque seascape composed of rolling hills and white cliffs dropping into a tumultuous sea—very reminiscent of Scotland.

The roads here are mostly twisty, but there are some long, straight stretches that encourage you to stomp the throttle and get the most from your car's engine. And when unleashing the STS's Northstar, make sure there's plenty of road ahead.

Recently, in view of the dropping prices of European sedans, the STS has lost some of its value aspect. Nevertheless, when it comes to delivering bang for the buck, this third-generation Seville, with a test price of \$50,521, does it with a stick of dynamite.

Thanks to the potency of the transversely mounted 4.6-liter Northstar V-8—300 bhp at 6000 rpm and 295 lb.-ft. of torque at 4400—the STS was

the quickest car of the group, easily taking top honors in both the 0-to-60-mph run and the quarter-mile dash with times of 6.6 and 15.1 sec., respectively. Complementing the Northstar's power is Cadillac's excellent 4-speed automatic that provides smooth and effortless shifts. Stomp the throttle, and downshifts arrive with quickness and precision, helpful when performing passing maneuvers.

The Cadillac also scored high in exterior and interior styling. The body's clean, flowing lines give the car a pleasing appearance from every angle and effectively mask the sedan's sizable exterior dimensions. With an overall length of 204.1 in. and a wheelbase of



■ Up with the sunrise—even before the local fishermen (left)—the Cadillac STS gets ready for a hard day's work. Its wonderful combination of style and power makes it an excellent car to get from Point A to Point B in style, and in a hurry.



111.0, the STS is the second-largest car of the group.

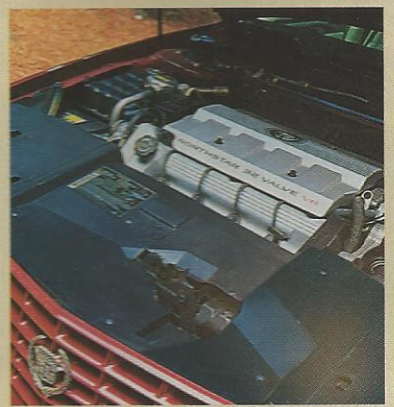
Inside, the driver is treated to an opulent dash highlighted by a tasteful presentation of leather and wood. The most pleasant attribute here is the amazing surplus of space. Front-seat occupants are treated to an abundance of head and leg room, and the rear seats can easily accommodate three normal-size adults.

A softly tuned electronically controlled suspension system—MacPherson struts up front and unequal-length arms at rear—provides a supple ride and efficiently absorbs harsh road irregularities. But many rated the STS as too soft, especially while cornering. Although it ran the slalom at 59.1 mph (thanks mainly to its front-wheel drive, power and meaty Goodyear Eagle GA P225/60ZR-16s), the car's behavior on Bodega's twisty roads was less than stellar.

Under hard cornering, the STS dives and leans noticeably. And, because of lack of lateral support, it's difficult to stay secure in the driver's seat. Understeer is pronounced because of its 65/35 weight distribution front/rear and

CADILLAC NORTHSTAR ENGINE TECH

Top to bottom, the Northstar impresses, from its remarkably quiet roller-chain cam drives and unusual (and beautiful-looking) die-cast block right down to its bolted-on aluminum "lower block" for added bottom-end rigidity. Adding to long service life are platinum-tipped sparkplugs and a distributorless ignition system resulting in a 100,000-mile tuneup interval. A major loss of coolant results in a limp-home mode where the engine operates on only four cylinders at a time, allowing the others to cool and you to get home. For 1995, an extra 5 bhp is gained through smoother, better-shaped thermoplastic intake runners. And to avoid mistakenly restarting a quiet-idling Northstar, a new starter interrupt intercedes after three seconds of running.—*Kim Reynolds*



front-wheel drive, but there's no doubt the fwd is beneficial on icy or slippery roads. Stopping power was good, but not exceptional; the STS needing 156 feet of road to stop from 60 mph.

Overall, I found the Cadillac to be a more well-rounded car than the Bimmer. Its Balance Factor of 0.4 favors its touring nature (8.4 to 8.0) and illustrates that it is still more at home cruising the open road than

chasing a Porsche down a twisty passage. But then, Touring is the STS's middle name.

Infiniti Q45t

EVER SINCE ITS introduction in 1989, the Infiniti Q45 has been extremely popular at R&T. Its artful blend of performance and comfort placed it on our Ten Best list in the December 1990 issue, and its popularity as



■ The Q's handsome exterior design, as well as its nimble behavior on twisty roads, effectively masks the car's large size. Inside, the dash is attractive and straightforward.

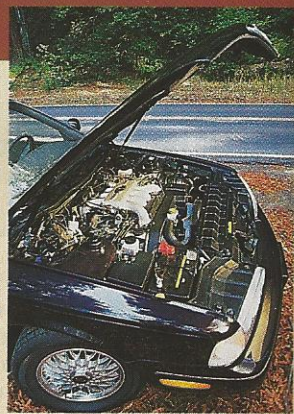


a long-term car remains unmatched. However, things were a little different then: The Q45 listed at \$38,000 and represented a less costly alternative to European luxury sedans. Today, with a base price of \$52,400, it no longer enjoys that distinction. Nevertheless, it's still one hell of an automobile.

After a brief visit to Point Reyes National Seashore, a serene but extremely windy place where deer frolic in the fields and sunken ships lie beneath the waves, we continued north

INFINITI ENGINE TECH

At roughly 4.5 liters, the Q45's aluminum V-8 makes the cut as one of the three larger engines in this group, though its calculated bhp/liter is below all but the Lincoln's. However, this is slightly misleading because its maximum torque is reached at a low 4000 rpm. This is largely because hydraulically operated devices attached to the nose of each intake camshaft vary the intake timing. Unlike the Lexus V-8, the Infiniti's cams are driven by single-row chains instead of belts, while another difference is low-friction roller cam followers (with built-in hydraulic adjusters at their pivots). At first glance, the Infiniti's engine appears to be installed transversely under the hood—actually, the crosswise plenum only gives that illusion.—*Kim Reynolds*



toward Inverness where the road was mostly straight. We encountered more than a few vehicles traveling at a snail's pace, but thanks to the Q45t's mid-range power, getting by them never posed a problem.

Infiniti's wonderful 4.5-liter V-8 pumps out 278 bhp at 6000 rpm and 292 ft.-lb. of torque at 4000. And although shifts from the 4-speed automatic transmission are smooth and effortless, to get the maximum potential from the engine, you're better off se-

lecting gears manually. Hold each gear to near redline and the car rockets forward in race-car fashion. (Incidentally, this same V-8 will be the basis for the engine in next year's Nissan 300ZX IMSA GTS race car.)

At the track, the Q45t sprinted from 0 to 60 mph in 7.9 sec. and reached the quarter mile in 16.2—a half step behind that of the original model. The reason? Although the Q's exterior dimensions have remained unchanged (overall length, width and height are 199.8, 71.9 and 56.3 in., respectively), the car is significantly heavier than before, tipping the scales at 4090 lb.

Despite its size, the rear-drive Q45t sprints nimbly when faced with a challenging road. It displays a touch of understeer through most corners, but its overall balance and handling are excellent. The multilink suspension is ideally tuned to provide both flat cornering

and a comfortable ride. In fact, we found the Q45t's ride to be so supple that it finished at the top of the group alongside the Lexus LS 400 and the Mercedes-Benz E420.

Complementing the smooth ride is the Q's amazing quietness. Our sound meter revealed that at 70 mph, it was quieter than even the Lexus. But unlike the Lexus, engine noise penetrates the cabin when revs rise above 4000 rpm. Head and leg room are plentiful for both front and rear-seat occupants, and getting in and out of the car posed no problems; not even for our in-house tight end, 6-ft.-4-in. Feature Editor, Andy Bornhop.

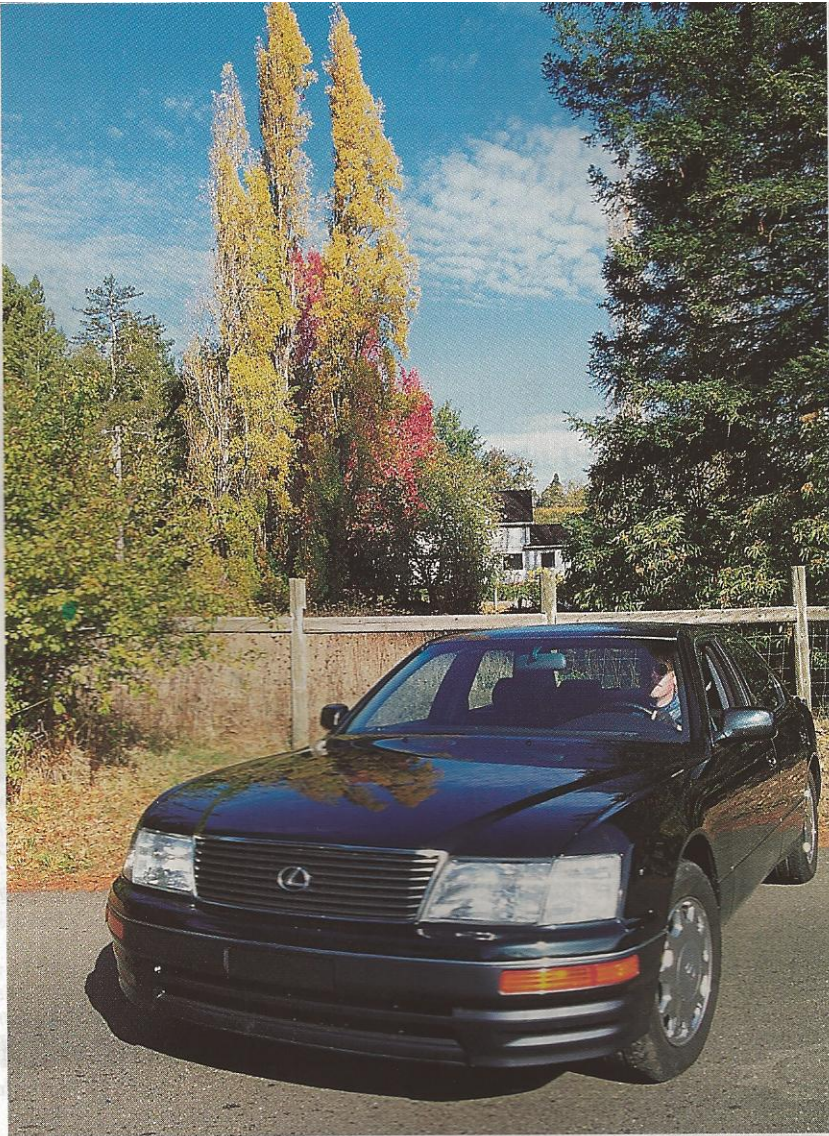
Although only one staffer picked the Infiniti Q45t as his favorite, we all agreed that the sedan provides a wonderful blend of performance and luxury. Its Balance Factor of 0.3 (8.6 Sport, 8.3 Touring) suggests that it is indeed as much at home on Interstates as it is on remote backroads.

Lexus LS 400

THE INFINITI Q45 and Lexus LS 400 have been the Magic Johnson and Larry Bird of the automotive world. Ever since entering "the league" together, they have revolutionized the game and, in the process, become fierce rivals. Although the basketball greats have hung up their sneakers, the competition between the Japanese luxu-cars rages on.

In the pages of R&T the Infiniti and the Lexus have clashed twice—in 1990 and 1992. Both times, the Infiniti finished on top by a narrow margin, thanks primarily to its sporty demeanor. However, this year saw the emergence of an all-new LS 400, leaner and more powerful than before. And after the smoke had cleared, our evaluations revealed the LS 400 besting its nemesis for the first time.

Changes to the LS 400's exterior and interior are subtle—mildly re-

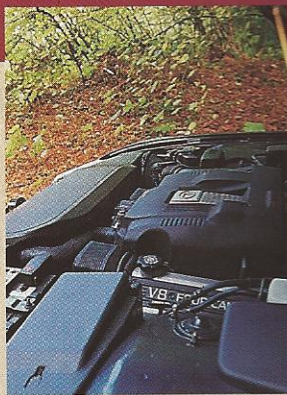


sculpted bodywork, modified taillights that no longer extend the width of the rear, a stepped shift gate a la Mercedes-Benz. But at the track, the LS 400 performed like a different car altogether. Lexus has added 10 more horses to its already quiet 4.0-liter V-8 and pared 200 lb. off the car's curb weight. The result is better snap off the line and improved midrange punch. Its 0-60-mph time of 7.7 sec. bests its old time

■ Lighter and more powerful than before, the all-new LS 400 now keeps pace with the best of them. The interior remains relatively unchanged with the exception of a 6-disc CD changer mounted in the passenger-side dash.

LEXUS ENGINE TECH

Output from the smallest engine in this group, the Lexus V-8, is 260 bhp, somewhat low for this test, although the bhp/liter figure is respectable. Like the Northstar, the Lexus' cams act directly on the tappets (which, unusually, are composed of aluminum). But unlike the Cadillac's, the LS 400's cams are belt-driven, and its combustion chambers are of a modified pent-roof shape—recessed exhaust valve seats together with adjacent "squish zones," areas where the pistons come close to touching the head at top dead center. The consequence is highly turbulent combustion—important at lower engine speeds. For 1995, a more effective hot-wire airflow meter, redesigned exhaust manifold and higher compression ratio result in 10 additional bhp.—*Kim Reynolds*



PRICE

	BMW 540i	Cadillac STS	Infiniti Q45t	Lexus LS 400
Base price	\$47,950	\$45,935	\$52,400	\$51,200
Price as tested	\$50,062	\$50,521	\$60,565	\$58,883
Price as tested for all cars includes standard equip. (dual airbags, air cond, cruise control, leather upholstery, AM/FM stereo/cassette, pwr windows, door locks, front seats and mirrors).	Luxury tax (\$1642), dest charge (\$470).	Chrome wheels (\$1195), up-grade radio with CD player (\$972), electronic compass (\$100), luxury tax (\$1684), dest charge (\$635).	Touring Package (spoiler, rear anti-roll bar, heated front seats, 10-CD changer) \$3450, traction control (\$1650), luxury tax (\$2615), dest charge (\$450).	Traction control (\$1900), up-grade stereo (\$1100), in-dash CD changer (\$1000), sunroof (\$1000), memory seats (\$750), luxury tax (\$2453), dest charge (\$480).

GENERAL DATA

Curb weight	3860 lb	3890 lb	4090 lb	3650 lb
Test weight	4010 lb	4040 lb	4240 lb	3800 lb
Weight dist (with driver), f/r, %	54/46	65/35	59/41	57/43
Wheelbase	108.7 in.	111.0 in.	113.4 in.	112.2 in.
Track, f/r	57.9 in./58.9 in.	60.9 in./60.9 in.	61.8 in./62.0 in.	62.0 in./62.0 in.
Length	185.8 in.	204.1 in.	199.8 in.	196.8 in.
Width	68.9 in.	74.2 in.	71.9 in.	72.0 in.
Height	55.6 in.	54.5 in.	56.3 in.	55.7 in.

ENGINE

Type	dohc 4-valve V-8	dohc 4-valve V-8	dohc 4-valve V-8	dohc 4-valve V-8
Displacement	243 cu in./3982 cc	279 cu in./4565 cc	274 cu in./4494 cc	242 cu in./3969 cc
Bore x stroke	89.0 x 80.0 mm	93.0 x 84.0 mm	93.0 x 82.8 mm	87.6 x 82.6 mm
Compression ratio	10.0:1	10.3:1	10.2:1	10.4:1
Horsepower (SAE)	282 bhp @ 5800 rpm	300 bhp @ 6000 rpm	278 bhp @ 6000 rpm	260 bhp @ 5300 rpm
Torque	295 lb-ft @ 4500 rpm	295 lb-ft @ 4400 rpm	292 lb-ft @ 4000 rpm	270 lb-ft @ 4500 rpm
Maximum engine speed	6500 rpm	6700 rpm	6900 rpm	6200 rpm
Fuel injection	elect. seq port	elect. seq port	elect. seq port	elect. seq port
Fuel	prem unleaded, 91 pump oct	prem unleaded, 91 pump oct	prem unleaded, 91 pump oct	prem unleaded, 91 pump oct

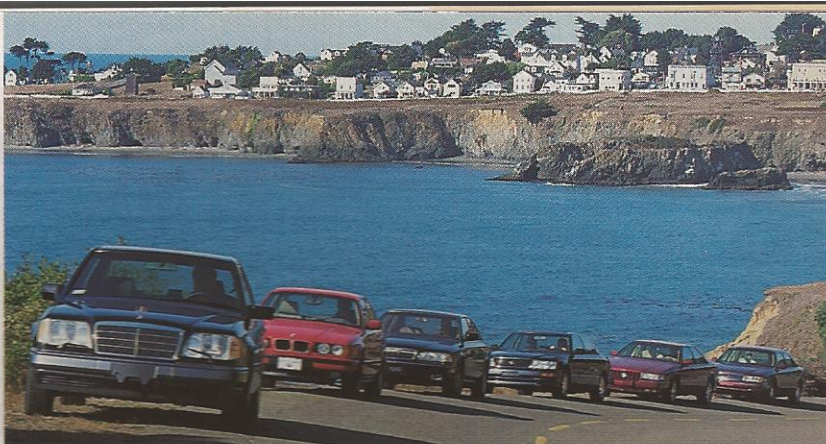
CHASSIS & BODY

Layout	front engine/ rear drive	front engine/ front drive	front engine/ rear drive	front engine/ rear drive
Body/frame	unit steel	unit steel	unit steel	unit steel
Brakes, f/r	11.9-in. vented discs/ 11.8-in. vented discs; vacuum assist, ABS	10.9-in. vented discs/ 11.1-in. discs; vacuum assist, ABS	11.0-in. vented discs/ 11.5-in. discs; vacuum assist, ABS	12.4-in. vented discs/ 12.1-in. vented discs; vacuum assist, ABS
Wheels	cast alloy, 15 x 7J	cast alloy, 16 x 7	cast alloy, 15 x 6JJ	cast alloy, 16 x 7JJ
Tires	Uniroyal Rallye, 225/60R-15 95V	Goodyear Eagle GA, P225/60ZR-16 M+S	Michelin Sport XGT V, P215/65R-15 95V	Goodyear Invicta GA, P225/60R-16 97V
Steering	recirculating ball, power assist	rack & pinion, power assist	rack & pinion, power assist	rack & pinion, power assist
Overall ratio	16.2:1	15.6:1	17.0:1	18.7:1
Turning circle	36.1 ft	41.6 ft	37.4 ft	34.8 ft
Suspension, f/r	MacPherson struts, double pivot lower A-arms, coil springs, tube shocks, anti-roll bar/ semi-trailing arms, coil springs, tube shocks, anti-roll bar	MacPherson struts, coil springs, adj tube shocks, anti-roll bar/ upper & lower A-arms, coil springs, adj tube shocks, anti-roll bar	upper lateral links, lower A-arms, extended wheel carriers, coil springs, tube shocks, anti-roll bar/ lower A-arms with 3 links, coil springs, tube shocks, anti-roll bar	upper & lower A-arms, coil springs, tube shocks, anti-roll bar/ upper A-arms, lower later links, semi-trailing links, coil springs, tube shocks, anti-roll bar

DRIVETRAIN

Transmission	5-sp automatic	4-sp automatic	4-sp automatic	4-sp automatic
Gear Ratio/Overall/(Rpm) Mph				
1st, :1	3.55/10.40/(6400) 43	2.96/10.99/(6400) 41	2.57/9.10/(6600) 50	2.80/10.14/(5850) 44
2nd, :1	2.24/6.56/(6400) 68	1.63/6.05/(6400) 75	1.48/5.24/(6600) 87	1.53/5.53/(5850) 82
3rd, :1	1.54/4.51/(6400) 100	1.00/3.71/(6400) 124	1.00/3.54/(6600) 129	1.00/3.62/(5850) 123
4th, :1	1.00/2.93/(5710) 149*	0.68/2.52/(5250) 150*	0.69/2.44/est (5130) 150*	0.71/2.57/est (5075) 150*
5th, :1	0.79/2.05/(4720) 149*			
Final drive ratio	2.93:1	3.71:1	3.54:1	3.62:1
Engine rpm @ 60 mph in top gear	1900	2100	2050	2750

*Electronically limited.



Lincoln Continental

THE NEW KID on the V-8 block is the Lincoln Continental, which joins Cadillac as the only other front-drive sedan in the class. It's powered by Ford's modular V-8—the same powerplant found in the Mark VIII luxury coupe, though transversely mounted—which replaces last year's pushrod 3.8-liter V-6. The smooth-revving 4.6-liter engine produces 260 bhp at 5750 rpm and 265 lb.-ft. of torque at 4750. The manufacturer's suggested retail price for Ford's new luxury car is a commendable \$42,312, making it the least expensive car of the group by several thousand dollars.

The final day of the test took us further north, past the quaint town of Mendocino. After lunching at an Irish-style pub—where, judging by the state of its patrons, happy hour begins with the sunrise—we journeyed south via Highway 128 because of its blend of twisties and straights. It presented a great opportunity to test the Lincoln's adjustable ride and steering control.

With a push of a button, the driver can choose Low, Normal and High steering effort, and Soft, Normal and Firm ride quality. But after sampling every combination, we unanimously agreed that leaving everything in Normal was best for all driving conditions.

On the straights, the Lincoln exhibited a plush ride, and its air-ride suspension system appropriately soaked up bumps in the road. Handling behavior, however, left more to be desired. The Firm setting did little to combat the Continental's heavy understeer, and body roll was prominent. The power-assisted rack-and-pinion steering felt disconnected, lacking the feedback and precision of the better cars in this class.

The Continental fared better at the track than it did in real-world driving. From zero to 60 mph, it posted a time of 7.8 sec. and ran the quarter mile in 16 sec. flat. Its slalom speed of 55.5 mph was a tad slower than the rest of the pack.

by nearly a half second. Through the slalom, the LS achieved an impressive 56.8-mph run. However, as we have seen with the Cadillac STS, a good slalom run doesn't necessarily translate into good all-round handling.

The handling traits of the LS 400 are still characterized by "softness," which translates to significant body roll through corners and noticeable dive under braking. Although understeer has been reduced (thanks to a redesigned front suspension), it nonetheless predominates. Partly attributable are Goodyear Invicta GA tires that are geared more toward quietness than grip. Response of the power-assisted rack-and-pinion steering is good, but it still lacks the precision and feedback of its German counterparts. On the positive side, the rigidity of the LS 400's body rivals that of the Mercedes. And Lexus ride quality is the smoothest around.

Accolades also go to the velvety shifts of the 4-speed automatic transmission and to the LS's opulent interior that is tastefully designed and quiet. Road and engine noise are virtually inaudible, with just a breath of wind noise creeping in at speeds over 70 mph. One welcome interior feature is the location of the 6-CD changer, which is now in the passenger-side dash. No more going to the trunk to change CDs. Perhaps not a big deal to an owner, but with six staffers possessing vastly different musical tastes—from Gustav Mahler to the Smashing Pumpkins—changing discs without jumping in and out of the car proved to be a tremendous convenience on our trip.

Despite its improved performance, the LS 400 still comes up short in the fun-to-drive department. Its Balance Factor of 0.3 suggests that it is indeed well-rounded; what's more, the LS's high Tour Rating of 8.8 (the best of the group) suggests that Lexus engineers still consider comfort a number-one priority. To their credit, the LS 400 is perhaps the most comfortable sedan in the world.

Lincoln Continental	Mercedes-Benz E420
----------------------------	---------------------------

\$40,750	\$52,500
\$42,312	\$55,137
Luxury tax (\$937), dest charge (\$625).	Floor mats (\$102), luxury tax (\$2060), dest charge (\$475).

3970 lb	3845 lb
4120 lb	3995 lb

64/36	55/45
109.0 in.	110.2 in.
63.0 in./61.5 in.	59.2 in./58.7 in.
206.3 in.	187.2 in.
73.3 in.	68.5 in.
55.9 in.	56.3 in.

dohc 4-valve V-8	dohc 4-valve V-8
281 cu in./4609 cc	256 cu in./4196 cc
90.2 x 90.0 mm	91.9 x 79.0 mm
9.8:1	11.0:1
260 bhp @ 5750 rpm	275 bhp @ 5750 rpm
265 lb-ft @ 4750 rpm	295 lb-ft @ 3900 rpm
6250 rpm	6000 rpm
elect. seq port	elect. seq port
prem unleaded,	prem unleaded,
91 pump oct	91 pump oct

front engine/ front drive	front engine/ rear drive
unit steel	unit steel
11.6-in. vented discs/ 10.1-in. discs;	11.6-in. vented discs/ 10.9-in. vented discs;
vacuum assist, ABS	vacuum assist, ABS
cast alloy, 16 x 7JJ	cast alloy, 15 x 6½J
Michelin MXV,	Pirelli P600,
P225/60R-16	195/65R-15
rack & pinion,	rack & pinion,
power assist	power assist
16.9:1	16.9:1
41.1 ft	38.4 ft
MacPherson struts, lower	MacPherson struts, lower
A-arms, air springs, adj tube	A-arms, coil springs,
shocks, anti-roll bar/ upper &	tube shocks, anti-roll bar/ multilink, coil springs,
lower A-arms, air springs,	tube shocks, anti-roll bar
adj tube shocks, anti-roll bar	

4-sp automatic	4-sp automatic
2.77/4.27/(5600) 44	4.25/9.52/(6000) 48
1.54/5.48/(5600) 79	2.40/5.37/(6000) 85
1.00/3.56/(5600) 120*	1.48/3.31/(6000) 138
0.69/2.46/(3600) 120*	1.00/2.24/(4910) 155*

3.56:1	2.24:1
--------	--------

1800	1900
------	------

ACCELERATION

	BMW 540i	Cadillac STS	Infiniti Q45t	Lexus LS 400
Time to speed, seconds				
0-30 mph	3.1	2.8	3.5	3.1
0-60 mph	7.2	6.6	7.9	7.7
0-80 mph	11.3	10.5	12.7	11.9
Time to distance				
0-100 ft	3.7	3.5	3.8	3.6
0-1320 ft (1/4 mile)	15.5 @ 96.6 mph	15.1 @ 95.1 mph	16.2 @ 90.8 mph	15.8 @ 92.1 mph

BRAKING

Minimum stopping distance				
From 60 mph	144 ft	156 ft	146 ft	151 ft
From 80 mph	249 ft	279 ft	263 ft	260 ft
Control	excellent	excellent	excellent	excellent
Brake feel	excellent	very good	very good	very good
Overall brake rating	excellent	excellent	excellent	excellent

HANDLING

Lateral accel (200-ft skidpad)	na	na	na	na
Speed thru 700-ft slalom	58.3 mph	59.1 mph	56.7 mph	56.8 mph
Balance	mild understeer	heavy understeer	moderate understeer	moderate understeer

FUEL ECONOMY

Normal driving	19.2 mpg	17.5 mpg	17.1 mpg	18.4 mpg
EPA city/highway	16/23 mpg	16/25 mpg	17/22 mpg	19/25 mpg
Fuel capacity	21.1 gal.	20.0 gal.	22.5 gal.	22.5 gal.

INTERIOR NOISE

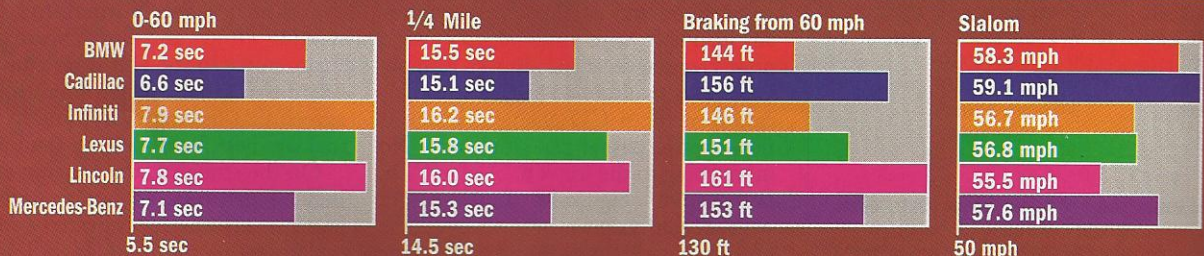
Idle in neutral	46 dBA	43 dBA	40 dBA	40 dBA
Maximum, 1st gear	66 dBA	73 dBA	65 dBA	68 dBA
70 mph	64 dBA	65 dBA	63 dBA	65 dBA

ACCOMMODATIONS

Seating capacity	5	5	5	5
Head room, f/r	37.5 in./34.0 in.	39.0 in./36.0 in.	38.2 in./34.7 in.	39.5 in./36.0 in.
Seat width, f/r	2 x 20.5 in./56.5 in.	2 x 20.5 in./56.0 in.	2 x 23.0 in./55.0 in.	2 x 21.5 in./56.0 in.
Front leg room	43.5 in.	44.5 in.	44.0 in.	43.5 in.
Rear knee room	22.5 in.	26.5 in.	25.5 in.	24.5 in.
Trunk space	17.5 cu ft	18.5 cu ft	19.5 cu ft	19.5 cu ft

Subjective ratings consist of excellent, very good, good, average, poor; na means information is not available.

HOW THEY COMPARE



■ With 300 bhp and traction control, the STS reaches 60 mph noticeably sooner than the rest. The Cadillac's front-wheel drive allows for easy initial wheelspin that smoothly blends into tire lockup with the asphalt.

■ Does the BMW's 5-speed automatic help or hinder its quarter-mile times? We'll never know, because its traction control can't be disengaged. However, its fast speed at the quarter mile suggests the potential for a much better time. Quick-est is the powerful Cadillac.

■ Credit the BMW's brake diameters (the second largest), good dry-condition tires and the closest thing to a 50/50 weight distribution for its win in the braking category. Impressive as well is its sensitive pedal. All-season tires and nose-heavy weight distribution hurt the Cadillac and Lincoln.

■ Strong understeer, meaty tires and a well-controlled chassis make the STS hard to beat in the frantic transitions of the slalom. The second-place BMW's biggest asset is precise steering, though it required a delicate touch to stay on line. Despite adjustable shocks, the Lincoln felt sloppy.

Lincoln Continental	Mercedes-Benz E420
3.0	2.9
7.8	7.1
12.5	11.2
3.6	3.7
16.0 @ 90.0 mph	15.3 @ 93.0 mph

161 ft	153 ft
286 ft	261 ft
excellent	excellent
very good	excellent
excellent	excellent

na	na
55.5 mph	57.6 mph
moderate understeer	mild understeer

20.3 mpg	18.0 mpg
na	18/24 mpg
18.0 gal.	18.5 gal.

45 dBA	41 dBA
67 dBA	65 dBA
66 dBA	66 dBA

5	5
37.5 in./34.0 in.	38.0 in./36.0 in.
2 x 19.5 in./54.5 in.	2 x 20.5 in./2 x 22.0 in.
43.5 in.	44.5 in.
27.0 in.	22.0 in.
13.0 + 4.2 cu ft	22.9 cu ft

Fuel Economy

19.2 mpg
17.5 mpg
17.1 mpg
18.4 mpg
20.3 mpg
18.0 mpg

12 mpg

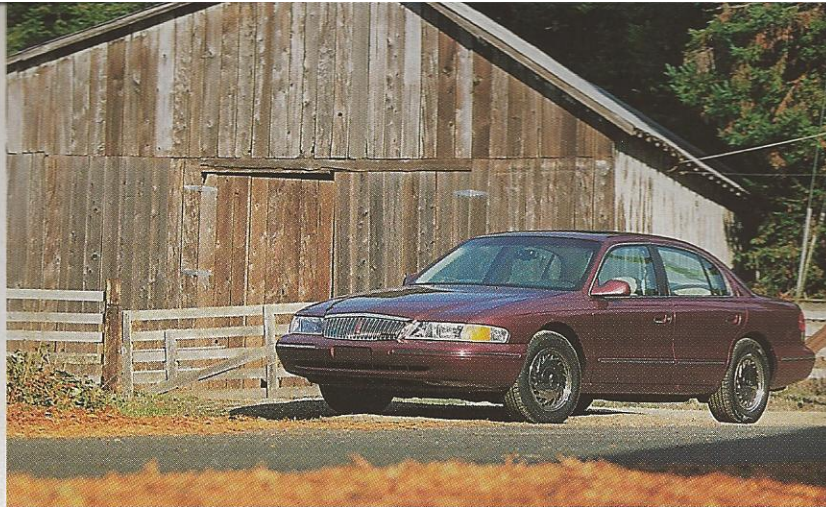
■ The Continental's best-of-class mileage is just what Ford's engineers were aiming for with their V-8's re-design. The Q45 ranks lowest in mpg, though its large fuel tank delivers respectable range. In fact, the longest cruising range is about 396 miles for the LS 400; the shortest is the E420's 315 miles.

Interior Noise/70 mph

64 dBA
65 dBA
63 dBA
65 dBA
66 dBA
66 dBA

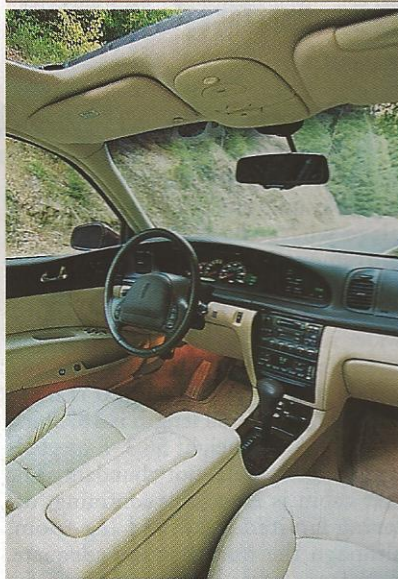
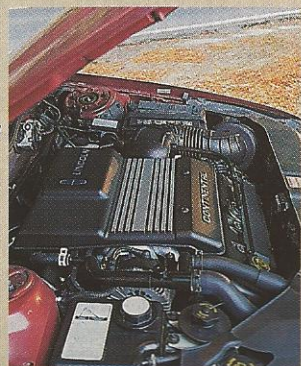
60 dBA

■ These are quiet cars! Quieter than quiet, however, is the idle noise of the two Japanese sedans and the Mercedes. At full throttle, the Cadillac's engine roars more than most; while cruising at 70 mph, the Q45 sets the standard for silence that's truly amazing.



FORD INTECH V-8 ENGINE TECH

Ford's transverse mounting of its renowned Modular V-8 has resulted in a multitude of design tweaks—so many, in fact, that Ford has given it a new name, the InTech V-8. The most significant change is a new front engine cover contrived so that the accessory systems, formerly on the right side of the engine (now the firewall side), are moved to the front or left side of the block (the alternator is mounted in the vee's valley). To improve fuel economy, output is down 20 bhp and 20 lb.-ft. of torque compared with the earlier Modular V-8. But the InTech retains the Modular's interesting technical features such as pressed powder-metal connecting rods that are made in one piece and then "cracked" across their journals for perfect bearing alignment when reassembled on the crankshaft.—*Kim Reynolds*



■ The Mark VIII-type grille gives the Continental a different look. But the interior is bland.

Although our Subjective Ratings indicate that the Continental was unmatched in most categories, it did not get shut out. The Lincoln's generous amount of head and knee room, and its soft, comfortable rear seats, gave it top honors in the Rear Seats category alongside the STS.

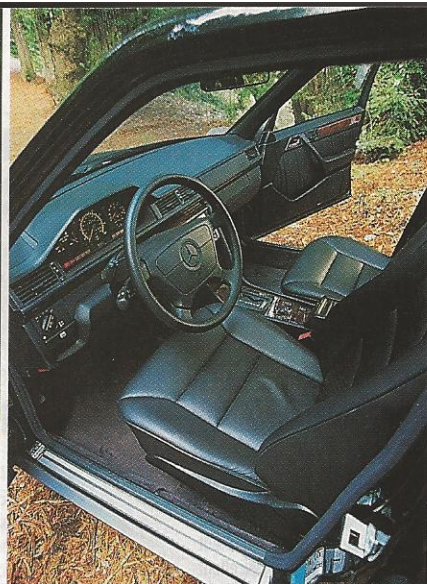
Unlike the Caddy, however, we found the Continental's exterior styling to be bland and uninspiring. The Mark VIII-type grille looks tacked-on, and the generic taillight design fails to provide any distinctiveness from the rear.

Although it scored a Balance Factor of 0.3, the same as the Lexus and the Infiniti, the numbers involved were significantly lower: 7.5 for Sport and 7.8 Tour. But that's not to say that the Lincoln is a below average car, because it is not; the new Continental is a competent luxury sedan with a big emphasis on value via its distinct edge in price.

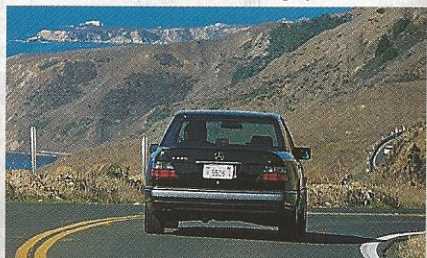
Mercedes-Benz E420

WHEN MERCEDES-BENZ equipped its popular E-class sedan with a V-8, we knew it had the makings of an exceptional automobile. Our 50,000-mile long-term test confirmed our suspicions (see Long-Term Wrapup, September 1994). But in the marketplace, the 400E (as it was known back then) was hampered by a hefty price tag of \$60,000. Then last year, as the cost of Japanese sedans crept up, M-B slashed almost \$10,000 from the E420's price. Now its base price of \$52,500 makes it somewhat of a bargain.

Under the hood is M-B's smooth 4.2-liter V-8 that produces 275 bhp at

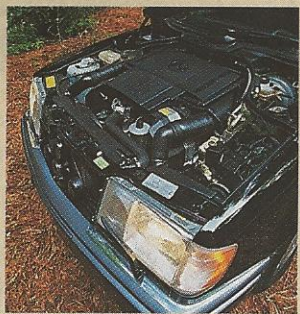


■ The E420's stately looks symbolize its character: solid, straightforward and highly efficient.



MERCEDES-BENZ ENGINE TECH

Mercedes-Benz's 4.2-liter V-8 is a standout in one particular way: For its displacement (which is on the small side), it not only develops as much torque as any other engine in the test, but does so at the lowest rpm as well. Like the Infiniti V-8, Mercedes-Benz's trick is variable intake valve timing accomplished by fitting an advancing mechanism to the nose of the intake cams. The cams act directly on the valve's tappets in a classic pent-roof combustion chamber that includes a small squish zone. In keeping with Mercedes tradition, the aluminum block is impregnated with silica, eliminating the need for cylinder liners.—Kim Reynolds



5750 rpm and 295 lb.-ft. of torque at 3900. It comes mated to an electronically controlled 4-speed automatic that provides silky-smooth shifts and responds well to manual shifting. The E420 ran from zero to 60 mph in a respectable 7.1 sec., a step ahead of its fellow German, the 540i. Its dash through the slalom was equally impressive, the Mercedes speeding past the cones at 57.6 mph.

Despite having a ride nearly as smooth as both the Lexus and the Infiniti, the E420 feels like a better handler. Its suspension effectively communicates every movement of the car to the driver and keeps the sedan perfectly poised through corners. Also, it exhibits razor-sharp turn-in response, only mild understeer and (thanks to exceptional suspension tuning) minimal body roll. The power-assisted rack-and-pinion steering felt a little slow for our tastes, but very communicative nonetheless. During high-speed cruising, the E420's stability is unrivaled—the sedan remains smooth

and quiet at speeds that would be acceptable only on the *Autobahn*. One place where the E420 can use improvement is tire size: The current 195/65R-15s are the narrowest of the group, and we believe that adding wider rubber would improve its merely competent cornering abilities.

Like the BMW, the E420 is not a large car. Its overall length is 187.2 in., width 68.5 and height 56.3. Expectedly, interior space is not abundant. The rear cabin is especially confining, offering limited head and leg room, although the front is quite adequate. The front seats were everyone's favorite, thanks to their supportive-yet-comfortable nature.

The staff was less enthusiastic about the E420's exterior design. Although traditional to some, most of us felt that the boxy design is somewhat stodgy. Fortunately, it's scheduled for a major freshening in 1996.

But beauty is only skin deep, and the E420's Balance Factor of 0.2 indicates that it's the most well-rounded

car of our group. Both its Sport Rating and Touring Rating were exceptionally high, scoring 8.8 and 8.6, respectively. And when you factor in Mercedes-Benz's reputation for reliability, the E420 may well be the closest thing to a perfect luxury sedan.

A twist of eights

AFTER TWO DAYS of exploring some of California's finest driving roads in these top-notch sports/luxury sedans, we returned to San Francisco via the Golden Gate Bridge with the difficult task of choosing a winner. After tabulating the Subjective Ratings scores, it was the Mercedes-Benz E420 that emerged victorious, squeaking past the Lexus LS 400. Although the E420 didn't win as many categories as the LS 400, its solid all-round performance proved the difference. This result also reflected the staff's personal sentiments: The Benz got the nod as Favorite Pick from four of six staffers.

Regardless of this convincing victory, we all agreed that every car in the test was exceptional in its own way, each offering a slightly different package to different types of buyers. Those who prefer pure comfort and quietness would no doubt opt for the LS 400. For kick-in-the-tail power, the STS is the obvious choice, while handling champions would opt for the BMW. Don't want to spend too much money

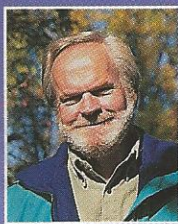
PICKING FAVORITES



Andrew Bornhop
Feature Editor

Mercedes-Benz E420

■ Going in, I never thought I'd pick the Benz. Too stodgy. Too much a symbol that you've made it. I was won over by its solidity, its overall competence and its surprisingly 540-like road manners. And if I'm spending more than 40 grand on a car, it had better last a long time. I know this Benz will.



Thos L. Bryant
Editor-in-Chief

Mercedes-Benz E420

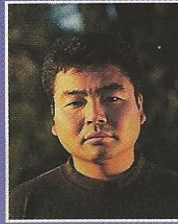
■ In a comparison of such universally excellent sedans, picking one becomes a very subjective decision. For me, it's the Mercedes-Benz E420 because it feels right from every standpoint of driving; moreover, it offers excellent durability and resale value.



Otis Meyer
Librarian

Infiniti Q45t

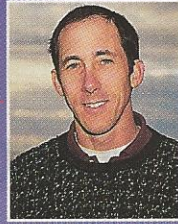
■ The more time I spend with the Q45t, the better and better I like it. It's big and comfortable with a taut suspension and a powerful, responsive engine. All the cars in this test are a compromise among size, luxury and performance. The Infiniti wins by offering the best blend of all the factors.



Sam Mitani
Associate Editor

BMW 540i

■ An important reason I drive is to have fun. And the BMW provides the ever-important fun factor in a luxurious package. The Mercedes and the Lexus were good, but they didn't provide that on-the-edge feeling. I can see myself "settling down" with the other two later in life, but for now, I'll run with the 540i.



Kim Reynolds
Road Test Editor

Mercedes-Benz E420

■ It's hard to dismiss its stodgy elements and to put aside the Bimmer's great handling, but the Mercedes-Benz's sturdiness is what I'd demand in such an expensive car. And, for me, it's sporty enough. Years ago, an M-B would not have been fun enough to earn my pick, but this one is and does.



Ken Zino
Detroit Editor

Mercedes-Benz E420

■ Both the Lexus and the Mercedes-Benz are superior luxury automobiles. But the edge goes to the M-B for its subtle German performance nuances. The STS is the finest front-drive sedan around, but resale value presents a riskier proposition. I'll take the Benz for its bargain price and hope for snow-free roads.

for a great V-8 engine? Then the Lincoln is especially appealing.

If anything, our test revealed that today's luxury cars are indeed the best-

balanced automobiles in the world, masterfully blending comfort, performance, reliability and value. Oliver Wendell Holmes once said, "Give us

the luxuries of life and we'll dispense with the necessities." With these luxury cars, the necessities are all taken care of as well.

SUBJECTIVE RATINGS*

	BMW 540i	Cadillac STS	Infiniti Q45t	Lexus LS 400	Lincoln Continental	Mercedes-Benz E420
Performance						
Engine	9.3	9.0	8.8	8.7	8.3	8.7
Gearbox	9.0	8.7	8.5	9.0	7.3	8.5
Steering	9.7	7.2	8.7	7.5	6.3	8.5
Brakes	9.3	8.3	8.5	8.2	8.3	8.5
Ride	8.0	8.7	8.8	8.8	7.3	8.8
Handling	9.7	7.2	8.3	7.8	6.7	8.7
Body structure	8.5	7.0	8.0	9.2	7.5	9.7
Comfort/Controls						
Driving position	8.3	8.5	8.0	8.8	7.8	9.2
Controls	8.0	8.2	7.7	9.3	7.7	8.5
Instrumentation	8.7	7.5	8.8	8.7	8.0	9.0
Outward vision	8.3	7.8	7.8	8.3	7.5	8.2
Quietness	8.5	8.3	8.8	9.3	7.7	8.7
Heat/vent/air cond	7.2	7.5	8.7	9.2	7.7	7.5
Ingress/egress	7.5	8.5	8.7	8.7	8.3	8.3
Front seats	8.3	8.2	8.0	8.7	7.2	9.2
Rear seats	6.7	8.7	7.8	8.3	8.7	7.8
Luggage & loading	8.5	7.8	8.2	8.8	8.3	8.7
Design/Styling						
Exterior styling	8.3	8.7	7.8	7.2	6.5	8.0
Exterior finish	8.7	8.8	9.0	8.8	8.7	9.3
Interior styling	8.0	8.5	7.8	8.5	7.0	8.3
Interior finish	8.3	8.8	9.1	9.2	na.	9.2

In a closely knit group, BMW's 4.0-liter wins by a nose. The 540i's extra gear and the Lexus' smoothness win the day. The BMW's recirculating-ball system continues to be the standard. Responsiveness and good pedal feel give the BMW the nod. It's a three-way tie—almost four with the Caddy trying to sneak in. The 540i dominates this one, thanks to its overall sporty nature. The LS 400 felt solid, but the M-B's was its usual vault-like self.

Whether tall or short, the driver cannot go wrong with the M-B. Everything was easy to find and operate inside the LS 400's cabin. The E420's instrument cluster provides info without gimmicks. Thanks to thin pillars and lots of glass, the 540i and LS 400 win. At idle, you can almost hear your heart beat inside the LS 400. Unlike some others, you needn't consult a manual to use the LS's. Large doors and high ceilings place the Japanese sedans on top. Our backsides were won over by the M-B's supportive feel. Soft, opulent seats and lots of room result in an American sweep. The Lexus wins by providing more room and a low liftover.

Kudos go to the STS's designers for their elegant, distinct design. All excellent, the Benz's near-flawless paint job was the decider. The STS's was pretty, the LS 400's, efficient; so they split the votes. Being a prototype, the Lincoln was excluded from this category.

*Ratings are averages of six staff members' choices; cars are rated on a 1-10 scale, 10 being best; na means not applicable.