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# BMW 333i ALPINA

*Smooth, subtle, spectacular*

PHOTOS BY JOE RUSZ

IT'S ONLY NATURAL to expect high performance from 240 bhp DIN in a car weighing less than 2800 lb, and outstanding handling from a suspension system making good use of Pirelli P7s. And certainly one expects smoothness and riding comfort from anything carrying the BMW badge. But putting all these qualities together in a nearly perfect blend is no easy task and we were solidly impressed by the 333i Alpina built upon a standard U.S. 320i base by Dietel Enterprises, Inc., 23632 Via Fabricante, Unit F, Mission Viejo, Calif. 92675 (714 768-1941). The result is an automobile with totally usable performance, deceptively docile until real speed is wanted, and then it's abundantly, effortlessly available.

The BMW sohc 6-cylinder engine has always been one of our favorite powerplants: smooth, strong and possessing the most beautiful sound this side of 12 cylinders. In this form, it has a bore and stroke of 89.0 x 86.0 mm, displacing 3210 cc. The European version produces 197 bhp DIN and 206 lb-ft torque at 5500 and 4300 rpm respectively. The U.S. version, as used in the 633CSi tested in our September issue, is still more than adequate at 177 bhp and 196 lb-ft. Mike Dietel built up the fully balanced Alpina modification with forged pistons, lighter connecting rods, larger valves (47-mm intake, 39-mm exhaust), a wilder camshaft and a 9.5:1 compression ratio; it demonstrates the high level of engineering done by Burkard Bovensiepen's tuning firm, producing its punch without sacrificing the tiniest bit of refinement or

flexibility. So smooth and quiet is the engine at low speeds that grandma wouldn't have any qualms riding with you, and there is so much torque (228 lb-ft at 4500 rpm) that mid-range acceleration is Ferrari-like amid the greatest calm. The 333i simply glides away from other cars, with so little fuss that most drivers aren't aware they're being dusted off. But at least two 928 owners noticed.

Dietel figures his Alpina is safe to 7200 rpm but has a 6700 rev limiter. We used 6500 rpm during our acceleration runs, recording 7.0 sec to 60 mph and 15.7 to the quarter-mile hitting 95.5 mph at that point. These figures are very close to those achieved by the 928 tested in April.

The engine is just part of the Alpina package installed by Dietel. A Getrag-built 5-speed transmission with ratios of 3.37, 2.16, 1.52, 1.24 and 1.00:1 drives into an Alpina 75-percent limited-slip differential which transfers the power to the back wheels. This same combination was used on the 320i Alpina tested last year but with a lower numerical 3.36:1 final-drive ratio more appropriate to the extra torque. The clutch, of Tii type also used on the CSL coupes, has low pedal effort and functions with great smoothness. The same Alpina suspension modifications are made, mainly stiffer springs, special anti-roll bars and Bilstein shocks; the front end is lowered (enough that we found the front air dam to be a problem on dips and driveways), and while the back end sits down too, there is a noticeable rake that is probably



the car's most eye-catching feature other than the blue Alpina side stripes. (Interestingly, the Alpina was all but ignored by drivers of larger BMWs but of immense interest to those in 2002s and 320s.) The brakes are Alpina ventilated discs in front and standard (European) 323i discs in back. The payoff comes with the P7s, 205/50 VR 15s mounted on Alpina-center BBS split-rim wheels.

With the 6-cylinder engine and the various Alpina parts the

#### GENERAL

Curb weight, lb	2790
Wheelbase, in.	100.9
Track, front/rear	54.6/57.1
Length	177.5
Width	63.4
Height	52.3
Fuel capacity, U.S. gal.	15.9

#### ENGINE

Type	subc inline 6
Bore x stroke, mm	89.0 x 86.0
Displacement, cc/cu in.	3210/196
Compression ratio	9.5:1
Bhp @ rpm, net	220 @ 6000
Torque @ rpm, lb-ft	228 @ 4500
Fuel injection	Bosch L-Jetronic

#### DRIVETRAIN

Transmission	5-sp manual
Gear ratios: 5th (1.00)	3.36:1
4th (1.24)	4.17:1
3rd (1.52)	5.11:1
2nd (2.16)	7.26:1
1st (3.37)	11.32:1
Final drive ratio	3.36:1

#### CHASSIS & BODY

Body/frame	unit steel
Brake system	10.0-in. vented discs front, 9.6-in. discs rear; vacuum assisted
Wheels	BBS Alpina; 15 x 6 1/2 front, 15 x 7 1/2 rear
Tires	Pirelli P7, 205/50VR-15
Steering type	rack & pinion
Turns, lock-to-lock	4.1
Front suspension	MacPherson struts, lower lateral links, anti-roll

bar as longitudinal link, coil springs, tube shocks  
Rear suspension: semi-trailing arms, coil springs, tube shocks, anti-roll bar

#### ROAD TEST RESULTS

##### ACCELERATION

Time to distance, sec:	
0-100 ft	3.3
0-500 ft	8.5
0-1320 ft (1/4 mi)	15.7
Speed at end of 1/4 mi, mph	95.5
Time to speed, sec:	
0-30 mph	2.4
0-50 mph	5.2
0-60 mph	7.0
0-80 mph	10.8
0-100 mph	17.5

##### SPEEDS IN GEARS

5th gear (6500 rpm)	129
4th (6500)	106
3rd (6500)	81
2nd (6500)	57
1st (6500)	34

##### FUEL ECONOMY

Normal driving, mpg	20.0
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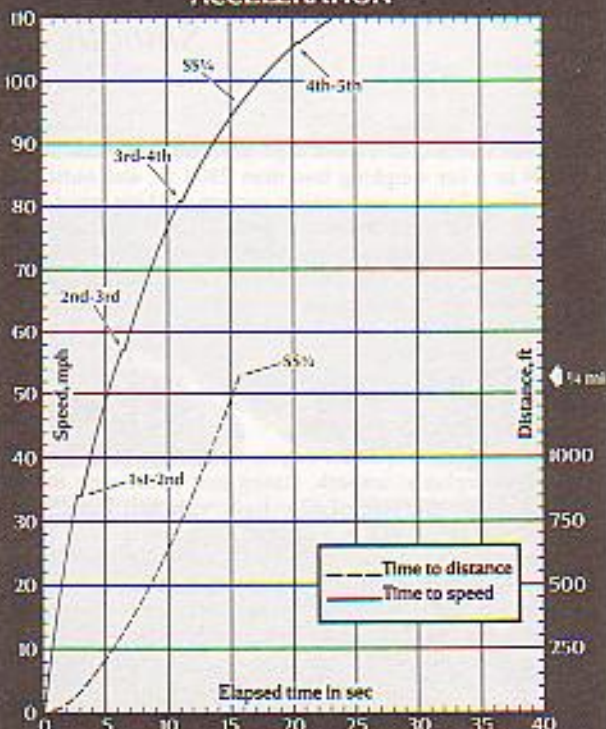
##### BRAKES

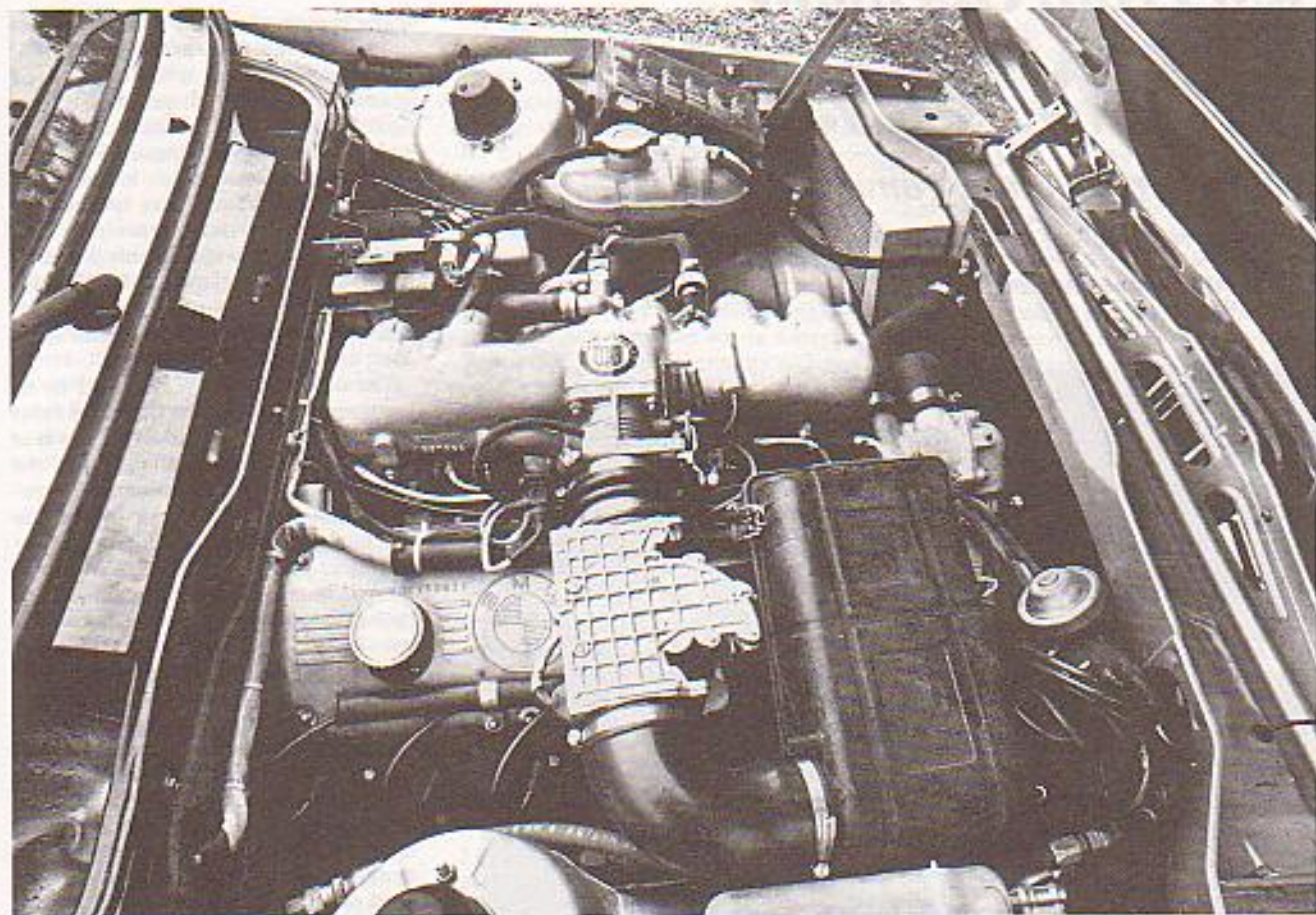
Minimum stopping distances, ft:	
From 60 mph	154
From 80 mph	253

##### HANDLING

Speed on 100 ft radius, mph	35.4
Lateral acceleration, g	0.838
Speed thru 700-ft slalom, mph	51.2

#### ACCELERATION





333i weighs 185 lb more than a production 320i tested in 1976. But the battery has been moved to the trunk which helps hold the increase on the nose to 2 percent. Weight distribution is a manageable 56/44 percent.

The skidpad and slalom performances were all that we expected from this combination, producing 0.838g and 35.4 mph on the 100-ft radius, and a superb 61.2 mph through the cones. There is mild understeer up to the limit and, most important, the tail doesn't come out when backing off, making the 333i a very safe car to throw into turns. The limited-slip is a real help coming out of corners, keeping the inside back wheel on the job so the power can be used. It has a minor effect of creating a noticeable but not objectionable chirp on hard lock at low speeds. In normal driving the ride is very compliant, just a bit harsh over abrupt ridges and potholes but more than satisfactory for sedate family

use; at high speeds the car is extremely stable, so that its maximum (129 mph at 6500 in 4th; without the rev limiter, the figure at 7200 rpm would be 141 mph) is a manageable reality, rather than a test-situation accomplishment. Although the close ratios give great acceleration, we'd have liked an even lower numerical 5th for cruising, as 4th already takes you to the top of the acceleration curve. We understand that a 5th gear in the 0.80 range will be available later. At any rate, we obtained 20.0 mpg fuel economy in regular driving as little throttle is needed.

Braking wasn't quite as remarkable as the acceleration and handling; pedal modulation was good but initial right front lock-up was combined with a pulsation that suggested a detail problem at that corner rather than in the system overall. The braking effect is certainly adequate to the performance, nevertheless, with stopping distances of 154 ft from 60 mph and 253 ft from 80.

Inside, the car is pretty much standard BMW, which is fine. The Scheel-built blue-and-green striped Alpina seats are a big improvement for lateral support on hard driving, with only the minor annoyance, initially, of sliding one's hips over the raised sides on entry. The standard rear cushions have been re-upholstered in the same pattern, the steering wheel is an Alpina, and the mounting of VDO oil pressure and oil and water temperature gauges are the only other interior changes.

Everything except the engine, which doesn't, of course, meet emission standards, is a possible modification on any U.S. 320. But Dietel's 1979 plans are to submit a car with catalyst-equipped, smog-legal, 2.8-liter engine as a 0-mileage test car in order to secure a manufacturer's sticker and produce up to 2000 cars. He figures the present car could be duplicated for about \$27,500 and that the 1979-based emission-legal car would come in at substantially less. If the total all-around function of our current test car is closely matched, a true enthusiast's racing-type sedan should be a road reality. We're looking forward to it, as we were sorry to have to give this 333i back!

