der bayerische

SEPTEMBER 1980

calendar of events

Date		Event
9/17/80	Wednesday	Meeting- Virginia State Trooper- Jolly Ox I395 at Seminary Road, Alexandria, VA
10/4/80	Saturday	Oktoberfest at AUTOY/AUTOWERKE Rockville (not sponsored by BMWCCA but thats OK)
10/19/80	Sunday	Wine tour-free wine- meet at Dulles passenger arrival pickup area at 845am for trip to Middleburg. Bring picnic lunch.
11/1/80	Saturday	Autocross learner's school -see inside
11/2/80	Sunday	Autocross -see inside
11/7/80	Friday	Blob's Park meeting -off BW parkway- drink, eat, and watch people who take Polka seriously

The editor went to the beach.

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President's Message

Notes on Driver's School

Driver's school in 102° heat and not a shade tree in sight. No one in their right mind would show up at such an event. Yet forty crazy people did. I think I am speaking for all but one or two when I say we had a ball and all of us are thinking about next year's driver's school.

The day started with a tech session for the 2002's, 320's, 530's and 733's which were present. A forty-five minute classroom session followed with Bill Scott lecturing on the finer points of driving fast and safely. He was able to convey how much difference in distance a tenth of a second variance in reaction time could cause. We then went out on the track to learn what fast driving is all about. After about three hours of practice most people had learned to drive really fast (the exception being the editor of this newsletter who was always sideways in turns one or five). It became obvious that the track was really safe for a 2002 or 320 because the power was just about balanced to the track. Turns one and five required heavy braking and turn nine required a lot of attention but the rest of the turns were faster than the cars and could be taken flat out.

We then had a SOLO I event in which the primary goals were consistancy and smoothness. This was followed by a braking seminar at the end of the main straight. The students were asked to arrive at turn one with their gas pedal on the floor and traveling about 100 miles per hour. An incredibly short amount of track was left to stop the cars before turn one, but to each participant's surprise, they only needed one third of the space available.

The day ended with a tag team contest. The real speed of the weekend was seen in this event when the drivers would exit their cars and run to tag a team mate. Most the runners were totally out of control. There was this 530 with a turbo that blew everyone off the track. Next year the driver of that car is going to be given instructions to some other track.

We were joined by a number of club members from the Smokey Mountain Chapter, Blue Ridge Chapter and Delaware Valley Chapter. We are already planning next year's school (in April or May) and we are going to invite our friends back again. If you didn't make it this year, you had better start getting ready for next year.

Zone Congress

I have just returned from the Atlantic Zone Congress which was held in Connecticut this year. All but four chapters were represented. In addition to the Atlantic Zone Governor, the club president, secretary and executive director were in attendance. The president related what has been going on with the international organization and future directions of the club and club magazine. The executive director informed us of the status of the elusive computer system that will soon straighten out all the records and mailings. We discussed members' rights to privacy and reaffirmed the club's position not to give out names or any other information on members. A lot of good ideas were tossed around among the delegates to benefit the members, to help local chapters organize better and to raise money. These will all be topics of discussion at our board meetings in months to come. This year's event was hosted by the Connecticut Valley Chapter and they did an excellent job with superb accomodations and great food. Their hos-

pitality suite was set up for one night but did not run dry for the two nights we were there. The board of the National Capital Chapter has voted to host this event here next year, and I only hope we can do half as good as the Connecticut Valley Chapter did.

November Schedule

On Saturday November 1st, we will have an autocross school at Ft. Meade. The event will start soon after 12 noon in the north parking lot behind the NSA Operations building (Route 32 East off Baltimore-Washington Parkway). This will not be a competitive event. It is a school in which you will be instructed on how to drive around an obstacle course, laid out with pylons, the fastest way. The key to good driving in an autocross as well as on the road is smoothness. You will get many examples of how sliding a car around wastes a lot of time. The school will be limited to BMW's and there will be a charge of $2 for the afternoon. After the event is over there will probably be some hotdogs and beer. The Annapolis Junction Sports Car Club will be our hosts and will provide instuctors and almost everything else. If you have a crash helmet, bring it. Borrow one if you can, but don't buy one. We will have some loaners. The one mandatory requirement is that you stop somewhere and get at least 40 lbs of air in each tire. There will be no air at the event and no car will be allowed to run without at least 40 lbs in each tire. Please give me a call at home and let me know you are coming so we can anticipate what size turnout we will have.

On November 2nd, the same club will host the largest autocross of the year at this same parking lot. Any BMWCCA member will be allowed to compete for the same fee as the AJSTC members. Additionally AJSTC would like as many members as possible to help out as BMWCCA workers on Sunday. This is not hard and does not require any experience. The work includes setting up pylons, flagging, teching, and helping out in general. The shifts are about one and a half hours. Volunteers normally sign up to work one or two shifts during the day. It will give you a close-up of what a big time autocross is all about. You will get to see an awful lot of cars that are much slower than BMW's, so sign up to help while you are there on Saturday if it is at all possible.

Friday November 7th at 8:45 P.M. we will get together at Max Blob's Park (Route 175 east and Baltimore-Washington Parkway). It will cost you $2.00 each to get in the door and the club will reimburse this. The beer will be on the club and if you want anything to eat, you pay. This is not only a beer party but a great chance to bring your mate along for some dancing. It is almost all polkas with a live oompah band. You have to see it to believe how much fun everyone has. We are inviting our friends from AJSTC so that we can return the favor for the autocross school.

On Thursday November 13th we will have our general membership meeting at the Jolly Ox at the intersection of I 395 and Seminary Road in Arlington. We will get under way about 7:30 and I expect to have an entertaining guest speaker.

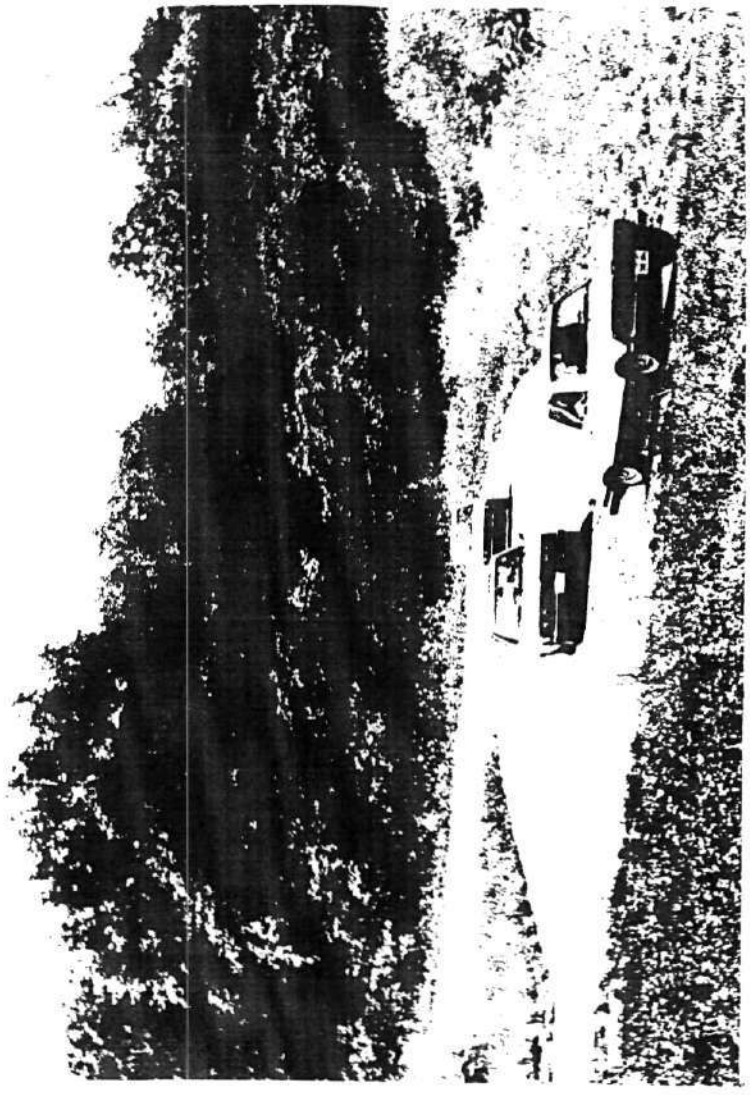
Somewhere in the back of my mind is the seed of an idea for a Christmas party. Is there anyone out there that will take charge of this event? If you would like to try it, give me a call.

Continued in a few pages →

From the BUCKEYE DRIVING LIGHT

Mid-Ohio Sports Car Course is a beautiful park-like layout spread across the gently rolling hills of central Ohio. The manicured grounds are strictly controlled by owner Les Griebling and his minions to provide a family picnic atmosphere. The pungent odor of newly lighted charcoal and the aroma of grilled T-bone steaks mingle with the perfume of Coppertone as race fans soak up the sun and cheer their favorite driver. There are no bog people here, no tear gas, no beer bottles smashed on the track, no impromptu motocrosses in the infield, nothing more unruly than a loose German Shepherd nipping at the screaming Porsches and Datsuns flying down the front straight. The deep, clear azure sky and warm breeze complete a peaceful, content atmosphere pervading Mid-Ohio's 2.4 mile track. But this mood extends only to the edge of the pavement.

Inside the gaudy machines circulating so smoothly around the course, violence and madness reign. Sweating, aching men strain to make their race cars defy the laws of centrifugal force, friction, even gravity. Teeth are clenched, eyes bulge, arms flail, feet pump like pistons, and the race car responds by careening around corners at impossible velocities, inches from other cars whose drivers are equally determined. There's nothing gentle about driving a race car—the smoothest race driver simply brutalizes the machinery more artfully.



How do I know? How can I tell you what it's like out there? Well, Chris, I've been "out there" for a demonstration ride with the cooperation of the Miller & Norburn racing team, and I saw it and felt it and smelled it. It's like nothing you or I have ever experienced.

All that garbage about "poetry in motion" and "symphony of speed" must have been written by the armchair racers. Even with IMSA champion driver Nick Craw at the wheel of a sleek and beautifully prepared BMW 2002 touring Mid-Ohio's velvety asphalt, it's violent. Believe it, fellow spectators, **that's** what it's like out there.

Not in the pits, of course. Not when the car hunkers down beside the pit wall, gleaming blue and white in the early morning sun. The engine is off, and a dapper, Nomex-clad Nick Craw is calmly explaining the gauges and controls.

"We got the idea for these manifold exhaust gas temperature gauges from aircraft. This way we can tell how each cylinder is running (leaner mixture, hotter temperature) at any time. I can radio the readings to Preston (Miller, co-manager and chief wrench) in the pits," he explains, touching his helmet microphone. "If we have coil failure, I'll switch to this one," he smiles, pointing to a spare coil neatly recessed in the black metal dash. "This ring actuates a two gallon reserve fuel tank—enough to get back to the pits if it looks like we're going to run out."

Nick talks while I sit beside him in the silent car, my head stuffed into a battered blue and yellow spare helmet (from last year's racing season in the original #64 BMW) and my other end jammed into a racing seat. Several photographers are shooting close-ups of Nick and me, probably hoping to record a "before" shot of the first modern passenger fatality in a race car. A little later, I am **convinced** that's what they were doing.

The Miller & Norburn crew was very cordial about this whole thing, I reflect with growing suspicion. BMW of North America's competition director, mild-mannered Burge Hulett, offered to set up the ride, then disappeared, I recall uneasily. Preston Miller had smiled engagingly as he let out the lap belt to fit my beer-bloated belly. Russ Norburn had chatted amiably about the season. Right. It's a conspiracy alright. My mind begins urging my body to unwedge itself and flee, but it's too late. The pit marshall is signaling to us, and Nick has fired up the fuel injected 2002. We are rolling. Good-bye, world. I love ya, Mom and Dad. Take good care of the kids, dear wife. Bury my Bimmer by my side...

We accelerate around the broad left hander past the Mid-Ohio bridge with Nick sawing the wheel back and forth and using his left foot on the brake (scrubbing the tires and bedding the brakes, as you know, race buff). Then into the chicane, the car sliding across each apex, the engine noise rising to a solid roar. I begin to relax. Just like a driver's school, I think to myself with satisfaction. Hell, I could do this. I knew racing couldn't be such a big deal.

We angle around the keyhole in one long, noisy drift and set off down the straight. Fun. I take a leisurely look at the fans lining the fences. I glance at the tach, climbing in jerks toward 8000 rpm as Nick's right hand hovers over the stubby shift lever. Turn seven is approaching now at the bottom of the downhill back straight, and Nick brakes hard while shifting back down to second. We drift through under light throttle, then set up for the hump at turn eight. Up and over, as Nick points the Bimmer's nose at some unseen apex over the hill. Down the hill, quite fast, across the speed bumps marking the inside of the turn (he probably miscalculated the effect of my weight, I chuckle to myself, and I'll bet he made a mental note to be more careful next lap). Down the straight and around the tight, off camber right at corner eleven (my, that was a bit wild), then down the chute, engine screaming. As we pass the Buckeye Chapter corral at turn thirteen, I wave and smile. Buckeye waves back and cheers. Nick lurches around the right hander, no doubt showing off a bit for the guys, I think. Then he completely botches the carousel, going very deep and very wide, then cranking the back end around and broadsliding the rest of the turn. I will suggest a better line when we return to the pits. Nick was lucky, though: the slide catapults us down the front straight rather nicely. We go faster, ever faster.

Nick absently flicks the radio switch and chats with Preston as I watch turn one coming up way too fast (funny how long the front straight looks from the infield). I am about to tap Nick on the shoulder when he wrenches the wheel left and powers across the late apex. It is abrupt, hard—no "easing the helm over" or anything like that, just WHAM and I can feel the wheels scrabbling and skittering across the bumpy pavement (funny how smooth turn one looks from the infield). Finally the Goodrich radials dig in and Nick directs the car toward the chicane. We zing along toward that nasty series of turns and I know we are going to crash. The god of tightrope walkers and dumb journalists intervenes, however, and we sweep over the speed bumps in one long slide and skate around the keyhole. Off down the straight at something in excess of 100 mph. Turn seven looms ahead. We will be killed. I consider mentioning this to Nick, but I see he is busy with the brakes (thank heavens!) so I refrain. The brakes heat up and begin to stink. I think of junior high shop class when we made cold chisels. The brake stench mixes with a malodorous aroma of burning rubber and failed anti-perspirant (guess whose). As I am sorting all this out, I realize we haven't been killed.

I turn to Nick to congratulate him on our great good fortune, but my mouth is suddenly filled with stomach as we bound over the hump. We rush toward certain destruction at the bottom of the hill. Good-bye, Nick. Don't try to turn right—it won't do any good. He ignores my silent advice and the BMW arcs around under power. We live!

Nick is not satisfied, though; he is a true sadist. He sends #64 veering across turn eleven utterly and completely sideways. The pavement drops away around the turn, and all I can see is sunlight through the trees. An awful realization hits: this guy really **is** trying to kill me after all! I reflect on insults I might have unwittingly made. I regret writing last year that Nick drove better than he played darts. "You're a fantastic dart player, Nick, honest," I whisper prayerfully. We whistle past the corral. This time I do not wave. My right hand is wedged firmly between the roll cage and the door. My left hand clutches the edge of the seat. I concentrate on staying reasonably upright.

Down the front straight, and the whole mad business begins again—faster. Now we are in traffic, but Nick fails to notice this. He aims between a Colt and a Capri and rips through the chicane between them. I glance over at the Capri driver, expecting to see anger or surprise. He looks as if he didn't notice us. We glue our front bumper to Margo Potheau's yellow Circle Tire BMW and I wonder what will happen when she lifts off to round the keyhole. She doesn't lift. Nick flicks the car to the right (putting us in a driftier drift) and we slide by. Down the back straight again. I don't look at the spectators or the tach. I stare at the 90° righthander at the end of the straight where I have seen so many cars go careening off into the trees. I wish Nick would slow down, as I am due at work Monday morning. He

doesn't. We slide clear to the edge of the track, tortured tires shrieking and clawing for traction. The left side of the car drops off into the dirt, then we lurch across the track and fly over the hump, landing with a jounce just in time to veer crazily across the road to set up for the next turn.

I give up. He'll kill me for sure if the BMW will let him. I begin communicating directly with the car. "Hey, car—run out of gas, OK? C'mon, lose oil pressure, eat a valve, **anything**, OK?" It stubbornly refuses, and I picture its grill curled in a hideous sneer. We start another lap—aarrrrrrrggg! Time to start settling up accounts. They turn out badly, and I bitterly sum up my wasted life.

Wait! He's slowing down, pulling into the pits! I'm saved! We stop in the Miller & Norburn pits, right in front of a calmly waiting Preston. He looks bored. Nick glances over at me. I try to read his expression behind the Foster Grants, but I can't. I imagine I detect the smallest grin, but I can't be sure. I smile wanly, mumble my thanks and stumble out of the car. The inside of the helmet is soaked and I hand it to Preston sheepishly. Russel is leaning against the pit wall, and I casually inquire how much faster Nick would go in the race that afternoon. "A good five seconds a lap." he answers matter-of-factly. Oh...

So maybe I don't know exactly what it's like out there, but I got a taste of the violence and the excitement. I know now why those men race—it's the mastery, the dominance and exhilaration of sheer speed under tenuous control. I also know that 55 mph back to Columbus will be even harder to take in my kissin' cousin to old #64. Thanks, Nick!

→ Continued from a few pages back

Future Events

We are looking ahead to the spring now. I have already mentioned that we are scheduling another driving school at Summit Point. We are planning a joint event with three other chapters down in Virginia. It will be a two day tour in the Blue Ridge Mountains. This has been an annual event for the Tidewater Chapter and I hope we can join them in 81. If our autocross school goes well, we will put on a competitive autocross for BMW members.

We will try to have tech sessions whenever we can arrange them. (How about a tech session for girls only, taught by girls?)

I am open to any ideas that you might have. Drop me a note or call whenever you have a chance.

BILL

A SUMMIT POINT EXPERIENCE

The July 20 Driving School at Summit Point was the most fun I've had in a BMW in six years of ownership. The event, which was sponsored by Heishman BMW with assistance from our club, filled the forty positions very quickly. Drivers drove in from Tennessee and Pennsylvania, however most were local BMW's from our club, which I found encouraging. There were 2002's, 320i's, 5's and even a couple of 7's; from stock to turbo; first timers to veterans of 10+ Driving Schools.

We met at 7:30 at the race track outside of Charlestown, W. Va. for final teching. Bill Scott, of Bill Scott Racing, explained for forty-five minutes some of the finer points of high speed driving. After being divided into two groups, the instructors, who are current professional racers, would "drive". THIS WAS A HELL OF AN EXPERIENCE. I couldn't believe how fast these guys were driving my car. I developed a greater respect, which I didn't think possible, for the BMW. Before every turn I had my doubts the instructor would be able to negotiate the curve, but by excellent use of the brakes and skills not yet possessed by me, the car would slow and exit faster than I thought possible. The instructor would demonstrate the best line of travel, when to brake, and the importance of heel and toe. There is immediate feedback as the car runs faster and smoother.

In the afternoon, participants were timed on two laps, the winner in each category receiving gift certificates toward Bill Scott's Racing School. A braking seminar taught the effectiveness of BMW's brakes and how quickly you are able to stop.

The final event was a tag event where three car teams did relays, just like the old track and field days.

I have a hard time describing the exhilarating feeling of seeing what the BMW is really capable of performing. I can't wait to return for our next driving school. It's a very addicting experience.

Come give addiction a chance next spring!

Gordon M. Kimpel

Classified:

For Sale: Auto/air/AM/FM/Cass Alloy wheels 78 320i 60k mi $9000
John Fajfar 703-670-7338

Steel Radials: assorted 205/70x14, 195/70x14, 185x14, 175x14, 185/70x13 some like new, some used; Michelins, Semperits, Dunlop/Veloces, Pirelli, $10-30 each. Ask for AL 10:30-11:30 pm SUN-THURS 202-966-1752

Stock shocks and springs 4 ea from 77 320i with 10k miles. Stock front sway bar with rubber bushings. Bill 301 262 0184

BILL SCOTT (white shirt with helmet) , owner of Sumitt Point, instructs the folk on the fine art of screaming through the curves.

The pleasure of your company is
requested at the Third Annual

Oktoberfest

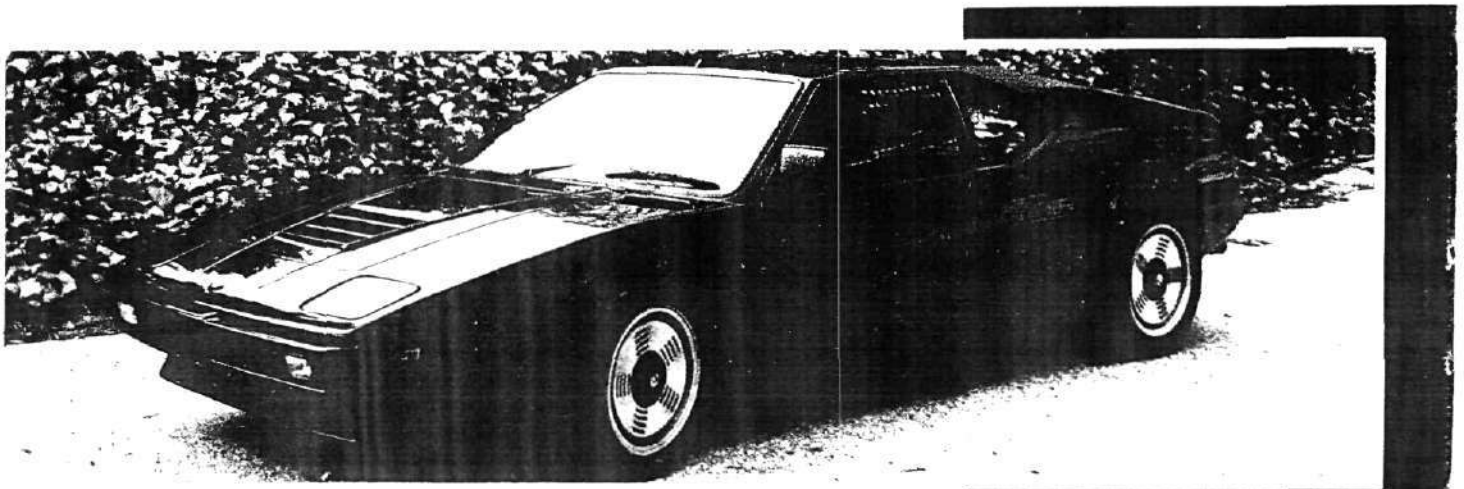
Open House Party
hosted by

Autoy inc. and AutoWerke inc.

BMW and Porsche Specialists
at two o'clock p.m.
on Saturday, the 4th of October
Nineteen hundred eighty
at 4952 and 4954 Wyaconda Road, Rockville
behind White Flint Mall
Rare and unusual automobiles
will be displayed by their owners
while Beer, Bratwurst and Kraut
are offered for your enjoyment

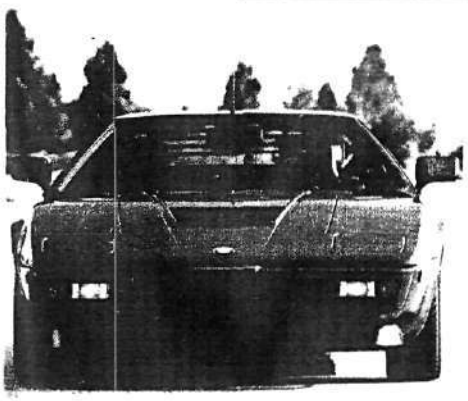
Casual attire
(Bring only your beermug
and this invitation)

Phone:
468-0428

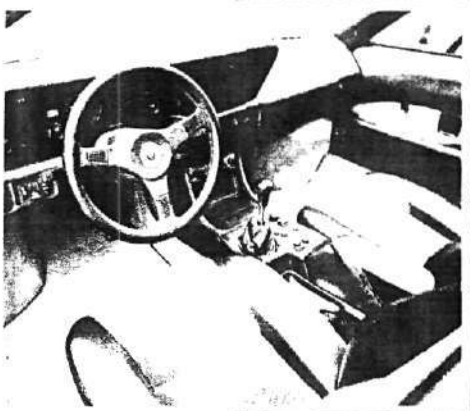


Some driving machines are more ultimate than others PHOTOS BY JOE RUSZ

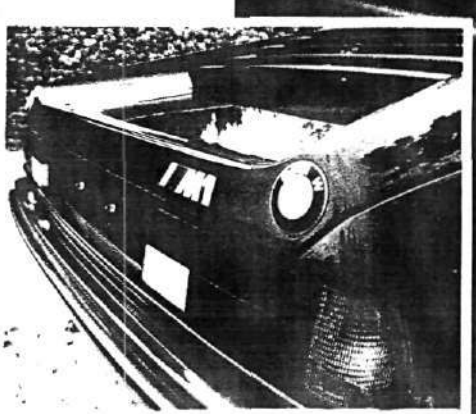
GIVE ITALIANS CREDIT for developing the exotic car concept, but leave it to the Germans—BMW, specifically—to bring it well nigh to perfection. The BMW M1 is the sort of car that enthusiasts dream about, and for good reason. It has all the elements of a proper exotic car: a powerful, high-technology engine located amidships, a suspension resplendent of racing practice, aggressive styling, the right combination of sounds piped into a well engineered cockpit. But what's so extraordinary about the M1 is the lack of compromise it requires of its driver and passenger. Unlike several other super exotics that come to mind, here's a car that's superbly finished, quite comfortable, tractable as you'd like, yet blindingly quick in a straight line or otherwise. It's an exotic you could live with. Alas, only if you're well heeled to an extreme, however, because the U.S.-legal BMW M1 we tested set a new record for these pages as to list price for production cars: $115,000. No matter, because for most of us, exotic cars are dream stuff anyway and what good is a dream if it's attainable?

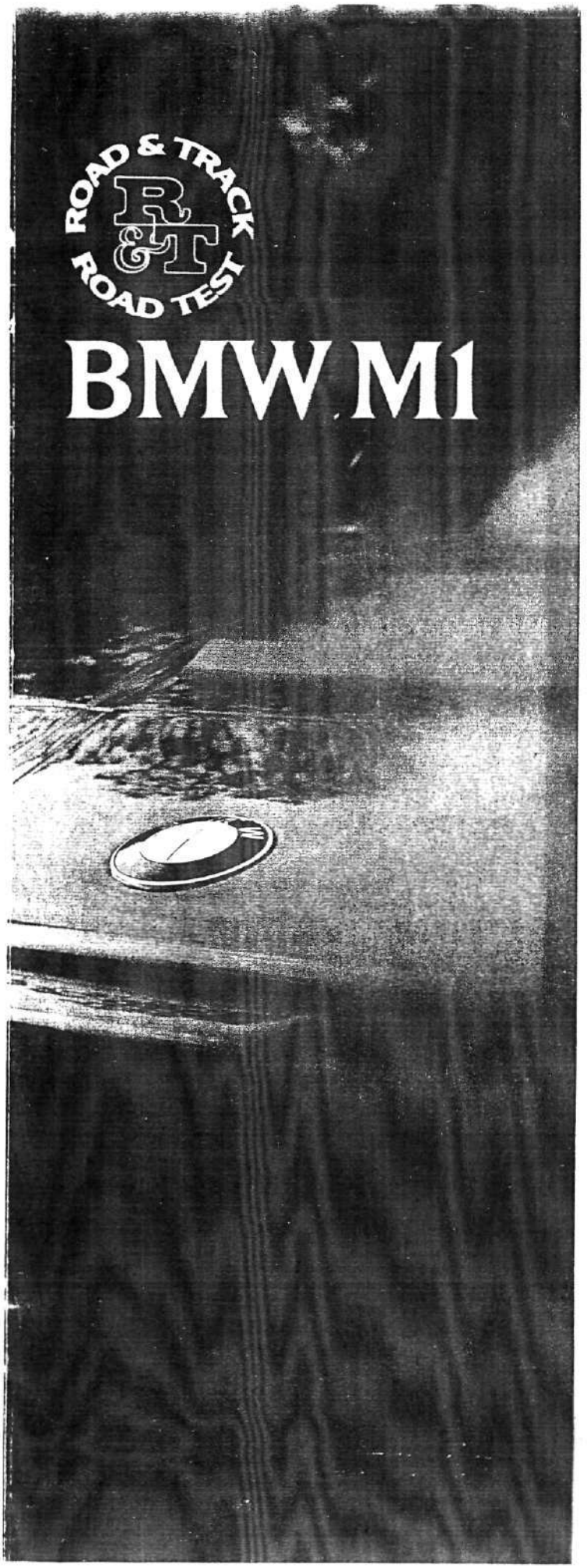


Genesis of this particular dream came with BMW's deciding back in 1976 that its 3.5 CSL wasn't quite competitive enough in Group 4 racing. By October 1977, we saw fruition of this with R&T's cover subject that month, the BMW Lamborghini E-26. Why Lamborghini? Simple. Neither the BMW factory nor BMW Motorsport GmbH, its racing division, had capacity to produce the car in any quantity, and Group 4 and 5 requirements say 400 cars within 24 months or no homologation. Time passed, and our next feature on BMW's exotic was in June of last year, when Contributing Editor Paul Frère sampled an M1, and yes, by this time the code-name E-26 (and Lamborghini's production assistance) had gone by the boards. Paul spoke highly of the car, calling it "unexpectedly refined, especially bearing in mind that the street version is derived from what was conceived as a racing car, rather than vice versa." And although the M1 has been in competition, production numbers have limited it to the Procar Series, a European version of IROC in this country, and to an occasional IMSA effort.



But what of the "production" version (if this mundane term can apply to something as rare and exciting as the M1)? First, its lines haven't changed since Giugiaro set them down in 1977; in fact, it's his Ital Design firm in Turin that still fabricates the fiberglass bodies. The bodies travel to Stuttgart next where the frames are fitted, and BMW Motorsport in Munich completes the assembly of all street versions. In addition, the handful of cars entering the U.S. legally have yet one more step in their manufacturing process. Our test M1 came from ACI, Automobile Compliance Inc, a Harbor City, California firm whose specialty is importation and legalization of cars otherwise unavailable in the U.S. market.





BMW M1

We noted back in 1977 that the M1's bodywork wasn't all that breathtaking a design, but our bright red-orange test car has a purposeful look from the front three-quarters that says BMW unmistakably, and its side window treatment is nicely taut if not especially original. The rear looks a bit busy with its louvered glass, cooling vents and multi-surface development, but its soft, rounded contours carry a purposeful appearance as well. The overall design has a blend of tautness and Teutonic opulence that looks particularly striking in impeccably finished fiberglass.

All this fiberglass envelopes a steel space frame that incorporates fore and aft bulkheads, the floor panel of the passenger compartment and a roll-over structure. ACI adds the necessary fed-crash bumpers with so little change of appearance that our plan of showing before-and-after photos proved pointless: The original appearance is retained with a mere 3.0-in. increase in length, 2.0 in. at the front and 1.0 in. at the rear. The front bumper was split horizontally and sectioned a bit to narrow it for clearance. From it a pattern was pulled which was used to lay up a layer of Kevlar, five layers of fiberglass and a steel backup bar. The latter is attached to energy absorbers taken from the Fiat 131, and these hydraulic struts are mounted to longitudinal structures of the M1's frame which have been gusseted and reinforced to take the added load. A similar scheme prevails at the rear, only here the hydraulic struts are from a Chevrolet Caprice, chosen because of their shorter stroke than those of the Fiat 131 (and hence, less clearance constraints). Seems that load transfer at the rear goes directly into the main frame, and the shorter stroke is acceptable.

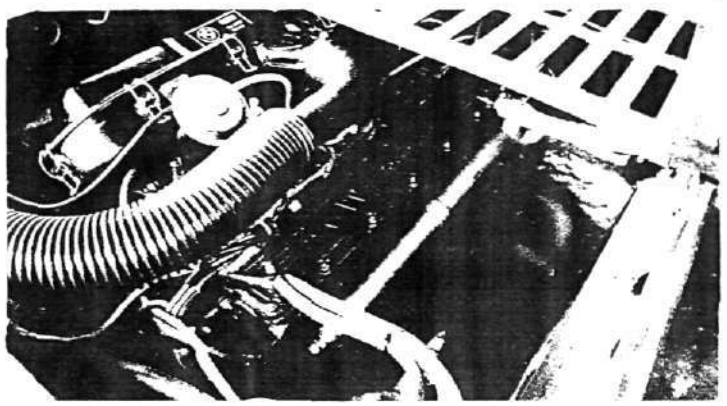
Other structural modifications include a pair of tubular steel bars welded in each door to its hinge plate at the forward end and latch plate at the rear. These together with a gusseting of the rear bulkhead behind the seats and added tubular cages around the two rear-flank-mounted fuel tanks take care of the side-intrusion regulations. Legalization adds a total of 175 lb to the M1's curb weight, bringing it to 3325 lb.

Suspension is typical racing practice, with unequal-length A-arms, coil-over shocks and a 23-mm diameter anti-roll bar at the front. The rear suspension is similar, but with additional upper and lower longitudinal radius rods and a 19-mm anti-roll bar. Tires are Pirelli P7s, 205/55VR-16s on 7-in. rims at the front and 225/50VR-16s on 8-in. rims at the rear; wheels are cast alloy with a distinctive ventilated disc look. Speaking of same, the brakes are ventilated discs of diameters (11.8-in. front, 11.7-in. rear) befitting a car of the M1's performance capability.

The M1's 6-cylinder 3453-cc engine uses the dohc, 24-valve crossflow head developed for the BMW coupes that campaigned the 1974 IMSA series. Other noteworthy features of this oversquare engine (93.4-mm bore, 84.0-mm stroke) are its Kugelfischer/Bosch mechanical fuel injection, dry-sump lubrication and digital electronic ignition system with flywheel sensor. In Euro- →

AT A GLANCE

	BMW M1	Ferrari 512BB	Lamborghini Countach S
List price	$115,000	$85,000	$85,000
Curb weight, lb	3325	3615	3250
Engine	inline 6	flat 12	V-12
Transmission	5-sp M	5-sp M	5-sp M
0-60 mph, sec	6.2	5.5	5.9
Standing ¼ mi, sec	14.5	14.2	14.6
Speed at end of ¼ mi, mph	97.0	103.5	100.5
Stopping distance from 60 mph, ft	156	140	131
Interior noise at 50 mph, dBA	79	72	85
Lateral acceleration, g	0.858	est 0.850	0.852
Slalom speed, mph	62.7	61.2	63.6
Fuel economy, mpg	13.0	est 10.0	11.0



pean trim, the production engine produces 277 bhp at 6500 rpm and 243 lb-ft of torque at 5000. ACI's Jas Rarewala estimates that desmogging cuts maximum horsepower by some 15 percent (which mainly affects top-end performance), but he's confident from mid-range flow measurements that peak torque is essentially unaffected. U.S. emission standards are met by fitting two Ford dual-brick catalytic converters in place of the single large muffler orginally filling the rear of the car's underside. The forward portion of each catalyst handles NO_X reduction; the rear, HC and CO oxidation. There's also selective air injection that injects air upstream during warmup to promote catalyst light-off, then switches downstream between the two converter types to give each HC/CO converter its necessary oxygen. The only other engine modification is a bit of enrichment to its fuel injection; this, to give the forward NO_X converters their necessary oxygen-starved environment once they're lit.

But don't be concerned that all this emission-control hardware bogs the M1 down, because the car is still a stormer. We had opportunity to test it before its desmogging as well as after, and it impressed us both times with the effortless way in which it posted really spectacular performance. Time from 0 to 60 mph after desmogging was a super quick 6.2 seconds, a scant 0.2 sec off its original figure. Even at the top end, the 0-120 mph time rose by only 1.2 sec (22.8 versus 21.6 sec); and note, there are only a handful of cars that will reach 120 mph within the confines of our test track. Indeed, the M1 is just a tad faster in the quarter mile than the Lamborghini Countach S tested in December 1978, but a bit off the mark from the Porsche 930 Turbo tested in June of that year. For instance, M1 quarter-mile figures were 14.5 sec and 97.0 mph; quick indeed, but not the 13.7 sec and 106.5 mph of that delightfully outrageous 930.

This is part of the appeal of the M1—somehow it doesn't feel outrageous. It's a low car, at 44.9 in. overall height, so getting in demands a certain agility. But in place, only those taller than 6 ft will encounter any head-room compromise. The leather-trimmed interior has that blend of luxury and starkness that's typical of BMWs, and the driver faces a full bank of instruments and a particularly handsome leather-wrapped steering wheel; the latter perfectly located. In typical mid-engine-car tradition, the pedals are offset to the right a bit, but only the narrow space between clutch and dead-pedal to its left presents an ergonomic challenge of any sort. Succinctly, it's a cockpit designed for the enthusiast driver, with every control and instrument in good proximity. Outward vision is what you'd expect for a mid-engine car: fine forward and to the forward flanks, but limited at the rear three-quarters and hampered at the rear somewhat by the louvered hatch. Heating, ventilation and air conditioning controls are built into the center console; in fact, 320i owners will feel right at home because ACI replaces the German-labeled panel with an English-labeled one from the 320i.

The shift feels right at home to BMW owners as well (the knob is standard BMW issue), and it's an excellent linkage with crisp, positive throws and excellent definition of the five forward speeds and reverse. Befitting the car's racing pedigree, the shift pattern has 1st to the left and back, out of the H, but somehow in a car of this character it doesn't seem out of place. And compared to several other exotic cars that come to mind is the superb overall level of fit and finish of the M1's interior. No mouse fur in sight here, thank you.

However, he who travels in style such as this also travels light, because the only provision for luggage is a bin located behind the engine bay, sealed from engine heat but measuring only 6.2 cu ft. There's also a small lockable cubbyhole nestled in the rear bulkhead between the seats.

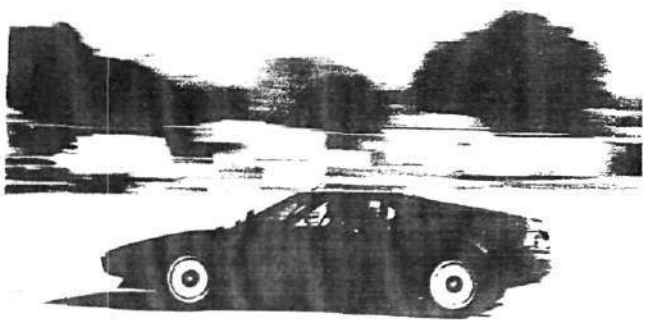
A twist of the key, and the engine fires to life with a throaty burble enhanced by the catalytic converters replacing the original muffler. A proper sound, although members of your local constabulary might feel otherwise if you abuse it at all. The engine is a perfect model of a smooth 6-cylinder around town, displaying tractability that would put several less powerful engines to shame. It'll dawdle all day at 1500 2000 rpm without protest, if for some strange reason you felt the need of this, yet a push on the throttle and you're pinned back in the seat with a characteristically BMW turbine sound behind your head. Even during all-out acceleration testing, the car gives the impression of being understressed. You ease into the clutch at 3500 rpm, just enough to light the P7s off the line, then hold part-throttle until 4500 when the car catches up, then nail it to 6700. Upshift through one of the best mid-engine linkages, and you're on your way to an exciting ride.

Brakes and suspension are fully up to this level of performance. Panic stop distances from 60 and 80 mph were 156 and 270 ft, respectively, with the tester's only negative comment being a relative insensitivity to modulation of the quite light pedal. Our 0.5g stops from 60 mph, for instance, required only 22-lb pedal pressure, perhaps a bit low for a car of this character. On the other hand, as expected, there was not the slightest trace of fade in six stops from 60 mph, and certainly the M1's brakes didn't get extensive time to cool in between.

Handling is everything one would expect of a race-bred suspension: Our objective measurements on skidpad and through slalom posted figures of 0.858g and 62.7 mph, respectively. Around the skidpad, a gradual throttle would bring the car to an understeering stance just slightly that side of neutral, a little punch would kick the tail out and a liftoff would tuck the front in ever so gradually. Through the slalom, the suspension and tires reacted with only barely perceptible lean, and only a nibble at the steering wheel told how close the M1 was to the limit. A bit of extra throttle caused a slight squat that translated into added grip. All as effortless as can be, yet at speeds that would embarrass lesser suspensions (not to say our tester).

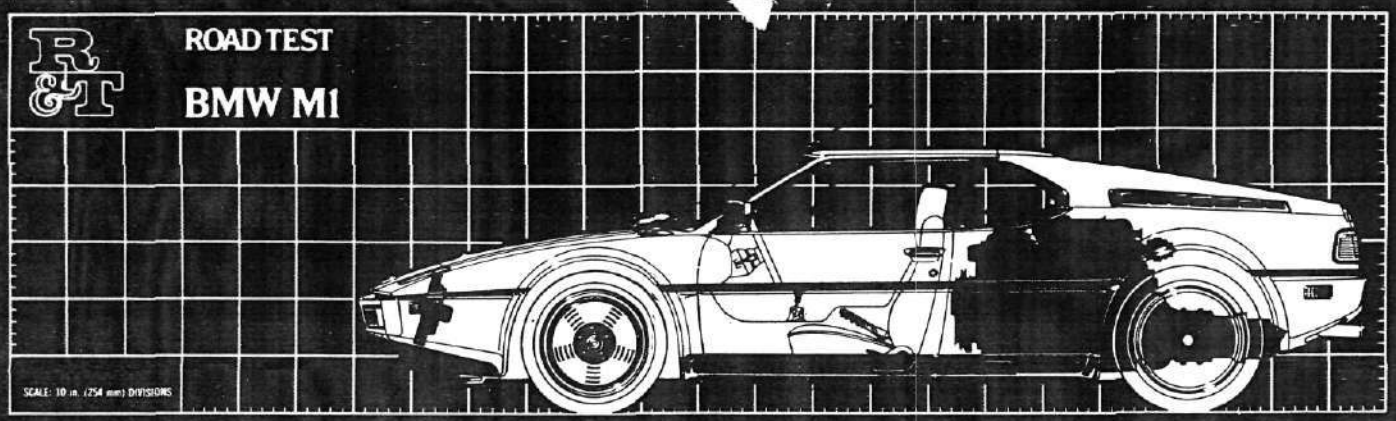
The ride is typical BMW, with considerable suspension travel (especially for what is essentially a race-car suspension) and excellent compliance over large irregularities. High-frequency compliance is hardly Cadillac Seville, but then this is a suspension—and, in general, a car—that telegraphs to its driver information of the tire/road interface that matters.

But enough. We came away appreciating just how refined an exotic can be, how much pleasure it can provide. Whoever the lucky owner is, we hope attainment of a dream doesn't lessen its sweetness.



ROAD TEST

BMW M1



PRICE

List price	$115,000
Price as tested	$115,000

Price as tested includes importation and safety, emissions & damageability certification

IMPORTER

Automotive Compliance Inc, 25518 Frampton Ave, Harbor City, Calif. 90710

GENERAL

Curb weight, lb/kg	3325	1510
Test weight	3405	1546
Weight dist (with driver), f/r, %		45/55
Wheelbase, in./mm	100.8	2560
Track, front/rear	61.0/62.0	1550/1576
Length	174.7	4437
Width	71.8	1824
Height	44.9	1140
Ground clearance	4.9	125
Overhang, f/r	39.9/34.0	1013/864
Trunk space, cu ft/liters	6.2	176
Fuel capacity, U.S. gal./liters	30.6	116

INSTRUMENTATION

Instruments: 280-km/h speedo, 9000-rpm tach, 999, 999 odo, 999.9 trip odo, oil press., coolant temp, oil temp, fuel level, clock

Warning lights: oil press., coolant temp, alternator, brake sys, low fuel, rear-window heat, seatbelts, hazard, high beam, directionals

ENGINE

Type	dohc inline 6
Bore x stroke, in./mm	3.68 x 3.31 — 93.4 x 84.0
Displacement, cu in./cc	210 — 3453
Compression ratio	9.0:1
Bhp @ rpm, SAE net/kW	est 235/175 @ 6500
Equivalent mph / km/h	152/245
Torque @ rpm, lb-ft/Nm	est 243/330 @ 5000
Equivalent mph / km/h	117/188
Fuel injection	Kugelfischer-Bosch mechanical
Fuel requirement	unleaded, 91-oct

Exhaust-emission control equipment: 3-way catalyst with selective air injection

DRIVETRAIN

Transmission	5-sp manual
Gear ratios: 5th (0.70)	2.95:1
4th (0.85)	3.59:1
3rd (1.14)	4.81:1
2nd (1.61)	6.79:1
1st (2.42)	10.21:1
Final drive ratio	4.22:1

ACCOMMODATION

Seating capacity, persons		2
Head room, in./mm	34.5	876
Seat width	2 x 20.0	2 x 508
Seat back adjustment, deg		30

CHASSIS & BODY

Layout: mid engine/rear drive

Body/frame: fiberglass/tubular steel space frame

Brake system: 11.8-in. (300-mm) vented discs front, 11.7-in. (297-mm) vented discs rear; vacuum asst

Swept area, sq in./sq cm	502	3239
Wheels		cast alloy, 16 x 7 front, 16 x 8 rear
Tires		Pirelli P7; 205/55VR-16 front, 225/50VR-16 rear
Steering type		rack & pinion
Overall ratio		na
Turns, lock-to-lock		3.1
Turning circle, ft/m	42.7	13.0

Front suspension: unequal-length A-arms, coil springs, tube shocks, anti-roll bar

Rear suspension: unequal-length A-arms, longitudinal radius rods, coil springs, tube shocks, anti-roll bar

MAINTENANCE

Service intervals, km:

Oil/filter change	7500/7500
Chassis lube	none
Tuneup	15,000
Warranty, mo/mi	6/6000

CALCULATED DATA

Lb/bhp (test weight)	14.5
Mph/1000 rpm (5th gear)	23.1
Engine revs/mi (60 mph)	2600
Piston travel, ft/mi	1435
R&T steering index	1.32
Brake swept area, sq in./ton	295

ROAD TEST RESULTS

ACCELERATION

Time to distance, sec:

0-100 ft	3.2
0-500 ft	8.0
0-1320 ft (¼ mi)	14.5
Speed at end of ¼ mi, mph	97.0

Time to speed, sec:

0-30 mph	2.5
0-50 mph	4.9
0-60 mph	6.2
0-80 mph	9.8
0-100 mph	15.1
0-120 mph	22.8

SPEEDS IN GEARS

5th gear (6700 rpm)	156
4th (6700)	127
3rd (6700)	97
2nd (6700)	70
1st (6700)	47

FUEL ECONOMY

Normal driving, mpg	13.0
Cruising range, mi (1-gal. res)	385

HANDLING

Lateral accel, 100-ft radius, g	0.858
Speed thru 700-ft slalom, mph	62.7

BRAKES

Minimum stopping distances, ft:

From 60 mph	156
From 80 mph	270
Control in panic stop	very good
Pedal effort for 0.5g stop, lb	22

Fade: percent increase in pedal effort to maintain 0.5g deceleration in 6 stops from 60 mph: nil

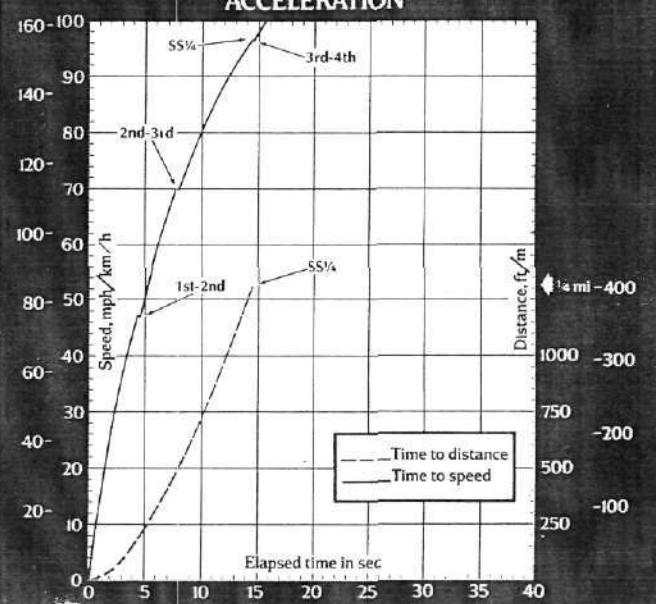
Parking: hold 30% grade? yes

Overall brake rating: very good

INTERIOR NOISE

Idle in neutral, dBA	65
Maximum, 1st gear	87
Constant 30 mph	72
50 mph	79
70 mph	79
90 mph	84

ACCELERATION



SPORTS -- by Charlie Harris

PAGE GIRLS WIN MIDGET TITLE - RUNNERS-UP IN SENIORS

Jeannie Woytowitz and Vicki Thomas made their coaching debut a successful one as they led the Page Midgets (5th/6th grades) to the White Oak League girls basketball championship. Sheila Saunders led the league in scoring with 136 points in 11 games. Other scoring threats were Judy Johnson (68 pts.) and Karen Coles with 46 points. After ending the regular season in a tie for first place with a 6-3 record, the team really put it all together for the play-offs. In the semi-finals, they romped over the Cannon-Westover team 34-16. They followed that with a convincing 30-19 victory over Jackson Road. Overall, it was a spectacular season in which 77% of all games placed were decided by five points or less. The Page squad improved with each game and the coaches were extremely pleased with their team. Jeannie and Vicki are members of the State Championship Paint Branch Girls Varsity. Nancy Archer and Laura Hall, also varsity members, assisted in the coaching at different times during the season. In addition to the scoring leaders mentioned earlier, the following girls were members of a real team effort: Adrian Olson, Alissa Fleetwood, Laura Holt, Donna Clemens, Elain Minus, Angela Slaughter and Jessie Schutt-Aine. Contratulations Champs.

PAGE SENIOR GIRLS LOSE TO JACKSON ROAD IN SENIOR GIRLS CHAMPIONSHIP

Shelton Nuttall's Page Girls team got off to a horrible start this year. They lost their first three games to White Oak (40-27), Jackson Road (50-36) and Hillandale (45-33). Then although it seemed the play-offs were out of reach, the girls put it together. They won 6 of their last 7 games including victories over White Oak (47-45) and Hillandale (61-36) to avenge earlier defeats. Their lone loss was to their nemesis Jackson Road. They were shorthanded for this contest, acutally finishing the game with four players in the 55-44 loss. In the play-offs, they were matched against White Oak. They jumped off to a good lead, but held only a 30-29 margin going into the final quarter. White Oak was coached by Austin Jackson and Fred Cravens. They are two of the league's most successful coaches and were looking to get their charges into the title game. When the fourth quarter got underway, the Page team exploded and pulled away to a surprisingly easy 50-36 win. This moved them into the championship against Jackson Road, coached by Scott Harris. Like Jackson and Cravens, he too is a Tamarack resident and veteran coach. Ken Burton, another vet, coached the Tamarack team. All of these coaches have been involved in the girls programs for several years and each performed well this year. Jackson Road was aiming for its second title and Shaun Jackson, the league high scorer, led Hillandale against Jackson Road in a losing cause 53-47. Shaun, from Tamarack, had been assigned to the Hillandale team to give the league more balance and she came through like a champion. She led the league in scoring with 170 points in 9 games. Hillandale was beaten each time she missed a game. Shaun led a comback against Jackson Road which saw an 18 point lead evaporate to 4 before Jackson Road finally put it away in a real struggle. The championship game was set, Page vs. Jackson Road. In scoring it was the big three of Page, Donna Nuttall, Susan Bryant and Mo Patterson, averaging 13.2, 11.1 and 13.8 respectively, against the big three of Jackson Road, Susan McHugh, Debbie Johnson and Kim Moxley, averaging 11.0, 9.2 and 8.7 respectively. Jackson Road took an early lead and held a 16-13 halftime lead in a real defensive struggle. Page got off fast in the third quarter and midway through the quarter led 24-17. Jackson Road fought back to take a one-point lead at the end of three quarters. The game stayed tight in the fourth quarter until Jackson Road finally pulled ahead by about six points. With less than a minute remaining, Nuttall pulled his starters; Harris did the same and Jackson Road wound up the victors 44-35. This game climaxed a fantastic season in which Page can be especia-ly proud. Other girls who helped this team make their great comback were: Shelly

Tech Tip:

GO SIT ON IT!

The stock 2002 seat, despite all the BMW hype about ergonomically designed fit, is an orthopedic disaster area. The seat offers too little support of the lower back, causing early fatigue and terminal numbness of your rear end.

The fix is to take off the six Phillips screws that hold the panel onto the back of the seat and bow the panel out slightly to release it from the top. It then swings down from the top, exposing the springs and rubberized horsehide padding. Have someone get into the rear seat as you sit in the driver's seat and have them push in on the springs in the lower area of the seat until it feels good in the lower part of your back. What you're looking for is to straighten your spine so that it does not curve into the seat in this unsupported area. Make note of the approximate location and extent of the area to be reshaped. Then get some carpet remnants, cut into 4 to 6 inch by 1-foot strips. Put on some work gloves to protect yourself from all the sharp edges in there and stuff the carpeting between the springs and the padding until it feels comfortable when you sit in the seat. Stuff some more carpeting into the bolster areas on the sides of the seat to increase the lateral support. The same can be done for the bottom cushion, but it requires taking the seat out.

If you have a sunroof car you probably have the "sunroof" seats, which have a lower cushion than the standard ones to provide more headroom. The problem is that the cushions are nearly flat, giving no thigh support. The quick and dirty way to provide more thigh support is to remove the front seat track bolts, block the track up an inch or so with washers or nuts and put in longer seat track bolts. If you elect this method you MUST bend the seat adjustment plate so that it engages with the adjustment teeth on the seat track, otherwise your seat could become dangerously dislocated under acceleration, braking or in an accident.

The advantage to blocking the seat this way is that it rises as you move forward on the track, an advantage for shorter drivers.

The more workmanlike way of adjusting the rake angle of the seat cushion is to remove the seat from the track and fabricate two angled pieces of wood or aluminum (one for each side) that will give you the tilt you want. This will not interfere with the adjustment mechanism but it will not change its height as you move forward on the track. This latter feature is really only useful if you have two people with a large difference in height driving the car, since you can build in the height that feels best to you in the blocks.

[Bill Machrone in BMWCCA's NJ Bulletin]

"I love the way you never mention mileage."

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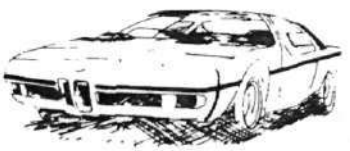

BMW CAR CLUB OF AMERICA, INC.

MEMBERSHIP APPLICATION

345 Harvard Street
Cambridge, Mass. 02138

Please accept this application for membership in the BMW Car Club of America and the National Capital Chapter.

Signature: _____

Date: _____

Name: _____

Address: _____

City: _____

State: _____ Zip _____

Model of BMW: _____

Year: _____ Ser. No. _____

Model of BMW: _____

Year: _____ Ser. No. _____

Your check payable to BMWCCA must accompany this application.

Total Dues: $25.00

This covers your initiation fee of $2.50 plus both National Capital Chapter and National Dues for a full 12 month period.