

**BMW ACA
Puget Sound Region**

Zündfolge

February 1993



**The Scoop on
BMW's Future**

**Road Test of the
David Heard M3**

**Fuel Injector
Cleaner Info**



THE LAW VIEWS DRIVING AS A PRIVILEGE. BMW PREFERS TO VIEW IT AS A SKILL.

In Germany, before you could get behind the wheel of a car like the new BMW 325i sedan, you'd first have to do a bit of homework. Up to 30 driving lessons at a cost of 1,000 dollars, in fact. Just to obtain a license.

Needless to say, in a country where there are highways that have no speed limits, they take the skill of driving seriously.

Perhaps that's why at BMW, we

© 1992 BMW of North America, Inc. The BMW trademark and logo are registered.



◆ At BMW, we believe that driving requires more than just a license, it requires skill. Something a BMW, any BMW, can make the most of.

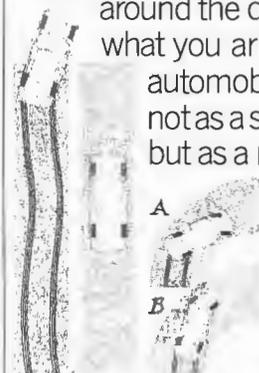
engineer our cars not simply to make the most horsepower or the most luxury, but to make the most of the driver's skill.

Take the 325i's rear suspension system, for example.

A unique, patented design, this multi-link system increases straight-line and lane-change stability and reduces both squat and dive, while still maintaining the perfect ride-quality balance. A ride that's not so harsh as to be uncomfortable, but not so soft as to insulate the driver from the realities of the road.

When you add engine-speed-

sensitive power steering, a high-performance/low-maintenance engine, and an interior designed around the driver's needs, what you arrive at is an automobile that acts not as a separate entity, but as a natural extension of the driver's will.



◆ The new 325i features BMW's latest generation antilock brakes, providing for improved control even in emergency braking situations.

◆ With oversteer (A), rear tires can slide out of control taking a turn. BMW's possess slight understeer (B), for a turning characteristic that is easier to control.

that takes the driver seriously. The BMW 325i. For the location of the BMW dealer nearest you, call 800-334-4BMW.



THE ULTIMATE DRIVING MACHINE.®

BMW SEATTLE

714 East Pike Street, Seattle, Washington 98122
Sales: 328-8787, Service: 328-2300

BELLEVUE MOTOR WORKS

2040 152nd Avenue N.E.
Bellevue, WA 98052

(206) 746-7141

Yohan Khosraw
Marc Khosraw

***Certified Factory
Trained
Technicians***



- Specializing in BMW, Mercedes Benz, Audi and VW
- Free safety check, oil change, wash and vacuum with service
- Free towing on the Eastside
- Show room quality detail
- 15% Club member discount
- OEM Parts
- Warranty repairs
- Emergency 24 hour on call service

40% OFF

Dealer Prices

BRAKE REPAIRS

By Certified
Professional
Mechanics

Present this coupon after our estimate.

40% OFF

Dealer Prices

SCHEDULED MAINTENANCE

1st and 2nd Service Intervals

ALL PARTS AND LABOR

(Major overhaul and diagnostic excluded)

1993 Board of Directors

Please limit phone calls to these volunteers to between the hours of 9 am and 9 pm.

President
Gary Parr
3573 E. "L" St.
Tacoma, WA 98404
472-4505

Vice-President
Dan Alvis
1308 121st St. S.
Tacoma, WA 98444
535-8937

Secretary
Michael Thompson
10821 S.E. 172nd St., #4-A
Renton, WA 98055
228-0848

Treasurer
Tom Cox
11682 Holmes Pt. Dr. N.E.
Kirkland, WA 98034
823-5048

Membership
Mary Lee Helton
4700 Somerset Ave. S.E.
Bellevue, WA 98006
643-4729

Roster Manager
Greg Mierz
2218 S.W. Willow St.
Seattle, WA 98106
768-0376

Zundfolge Editors
Lucetta and David Lightfoot
2641 39th Ave. W.
Seattle, WA 98199
282-2641

Technical
Open

Track Events
Paul Touby
3517 S. 8th
Tacoma, WA 98405
752-7549

Special Events
Al Lancaster
27820 37th Ave. S.
Auburn, WA 98001
854-4100

Past President
Paul Touby
3517 S. 8th
Tacoma, WA 98405
752-7549

Zundfolge Staff

Editors-in-Chief
Lucetta and David Lightfoot

Production Editors
Tom Williams
William Linder
Dara Laggart

Editor Emeritus
Denny Organ

Columnist
Thomas B. Nast

Zundfolge is published monthly (except November) by the BMW ACA Puget Sound Region. Office of Publication: 2641 39th West, Seattle, WA 98119. USPS publication number 715250. Subscriptions are \$10 annually (available only as part of the \$25 membership fee). Second Class postage paid at Seattle, WA. Postmaster: send address changes to Zundfolge, POB 1259, Bellevue, WA 98009.

This magazine is the monthly publication of the BMW ACA, Puget Sound Region, and remains its property. All information furnished herein is provided by the membership for members only. Ideas, suggestions and opinions, technical or otherwise, are those of the authors, without authentication by or liability to the editors or the Club. Unless specifically stated otherwise, the Club endorses no person, product, service, or business. Modifications within a warranty period may void the warranty.

Inhalt

| | | |
|---------------|---|----|
| | Track Events <i>by Paul Touby</i> | 3 |
| | Membership Drive <i>by Gary Parr</i> | 3 |
| Stalls | Stalls <i>by Thomas B. Nast</i> | 4 |
| | BMW Plans For The Future <i>by Georg Kacher</i> | 6 |
| | Annual Banquet <i>by David Lightfoot</i> | 8 |
| | Report on the David Heard M3 <i>by David Heard</i> | 10 |
| |  M-formation <i>from the Editors</i> | 14 |
| | Classified Marketplace | 15 |
| | Fuel Injection Cleaner In My BMW? <i>by John Diefendorf</i> | 16 |

Calendar

- February 25** Deadline for March Zundfolge.
- March 4** Board Meeting at the Lancasters' home in Kent. The meeting starts at 7:00 pm and Bea always has lots of goodies.
- June 16** Wednesday Nighter at Seattle International Raceway.
- July 28** Wednesday Nighter at SIR. Pay and play!
- August 20-22** Monterey Historic Races at Laguna Seca.
- August 22** Pebble Beach Concours d'Elegance
- August 23-27** Oktoberfest '93. The BMW CCA's big event of the year. Hosted by the Golden Gate chapter at Rohnert Park in the Sonoma Valley.
- October 30** High Performance Driving School at SIR. Have fun. Drive fast. No tickets.

BMW ACA events are partially supported by a generous grant from BMW of North America, Inc.

1993 Track Events

I know it's only February, but it's never too early to think about and plan for the club's track events. For 1993 we were able to schedule three track events at SIR. There will be two Wednesday nighters for Level 1 and higher drivers. Both are scheduled for prime time, no rain dates, the first being on June 16th, and the second on July 28th. This year's Drivers' School (dubbed the Big Chill) will be held on Saturday October 30th. That's right, a Saturday school.

Prices for these events haven't been set at this time. During the past few years we have been forced, due to increasing track rental and insurance cost, to raise what we charged for these events. However even with the higher cost to club members, we had in 1992, one of the best turnouts in recent years for track events. So, I don't see any increase in prices this year, and maybe, just maybe, a price cut to those of you that have been active at track events these last couple of years.

- Paul Touby

Track Event Flash

For those of you who just can't wait until June to get back on the track, have I got news for you. The Portland chapter of the BMW ACA will have an open track day at Portland International Raceway on Saturday February 20th. All club members are invited to participate, even if you don't have any track experience. They will have instructors for the novice drivers. Be aware however, that they require that you have a 5BC or better fire extinguisher mounted in the car and that you have a Snell 85 or newer helmet.

Cost will be around \$50 for the entire day and they usually serve lunch!

Now's your chance to drive the same track that Nigel Mansel will be driving this spring in an Indy car. Myself and another club member have made plans to attend. If you would like to join us, or just want more information just give me a call.

- Paul Touby

BMW Seattle Increases Parts Discount

BMW Seattle has long been the club's number one commercial supporter. Parts Department Manager Greg Noll has announced an even better deal for club members. The discount on parts will now be 15%, rather than 10%. The service discount will remain at 10%.

Please tell the person handling your order that you are a club member *before* the order is processed. Don't make them rework the order to give you your discount. Also, make sure your dues are paid up. We supply BMW Seattle a list of members on a monthly basis. Better yet, show them your card.

Thanks to Greg Noll and the rest of the BMW Seattle crew for this extra special deal.

Membership Drive Announced

Last month the club's new board of directors convened for its first meeting of 1993. Being that this is the start of a new year the major topic of discussion was what goals and objectives we should set out to accomplish in the new year. One of these objectives is to increase our activities and encourage participation among the membership. To start with we will be holding general meetings quarterly. The meetings will be held at local area businesses and will have some type of informal program. This year's Vice President, Dan Alvis, will be organizing the meetings. Watch upcoming issues of *Zundfolge* for more information.

Another area the board felt needed attention is increasing our membership. Our current membership hovers around 600. We have set a goal to have a roster of 750 members by December of this year. To reach this goal we've looked at several different options. The one we chose to start with is a membership drive.

To incentify our members to participate, we've made a contest out of it with a pretty great prize. The format for the contest is as follows. For every name that

you submit as a potential member you will receive one chance in the raffle for the prize. If that person joins and becomes a member you'll receive two more chances for a total of three. If you submit two names and they join, you get six chances, etc. The totals will be kept on computer by Roster Chairman Greg Mierz.

The contest was officially announced at the annual banquet held last month and will run through the calendar year ending December 31. The winner will be drawn at next year's banquet. The prize has been generously donated by BMW Seattle. The name drawn at the raffle will win a radio/CD player, installed, valued at over \$1,000! To submit a name simply have the person fill out a comp card and mail it in. Make sure your name is on the card in the space provided.

You can pick up your comp cards at any event or you can have some mailed to you by calling Dave or Lucetta Lightfoot at 282-2641 until we've appointed a Membership Drive Chairperson, who then will be responsible for distributing the comp cards. Speaking of which, we are looking for someone to volunteer to chair the drive.

Here's your chance to get involved with the club and work with some great people. If you're interested in helping out give me a call at 922-4378 days and 472-4505 evenings. So let's get out there and start spreading these cards around. The more you mail in the better your chance of driving your ultimate driving machine while experiencing the ultimate sound system.

- Gary Parr



Stalls

by Thomas B. Nast



Heaps of World Politics

It was not recognized until recently that automobiles are at the heart of many of our current geopolitical disturbances. The current discontinuity of our own government, combined with its proclivity to cover its ass to the exclusion of business at hand, has doubtless led to a lack of insight by our leadership regarding the role of the car in international affairs. But ignoring the accumulating evidence is as efficacious as the ostrich's avoidance of changing circumstance.

For example, the conflict in Eastern Europe is said to have started with an unfortunately crass remark by a Croat to a Serb:

"This Yugo is no better than a fetid pumpkin. I'd fill it up and use it as an aquarium, but it can't hold water, not even in the radiator."

To which the Serb replied, "Yo mama. Why don't you go back to riding dogs, like you did before Tito. You wouldn't know a good car if it bit you on the leg."

The Croat, pouring oil on troubled water in the traditional Slavic way, responded: "I've never found a dog that could rust like the cars you build. If one existed, you'd paint it, slap a sticker on it and put it in a showroom."

The Serb answered this (mostly accurate) comment with his AK-47, and the rest, as they say, is history. Thus, we can lay the present uncivil war ravaging Yugoslavia at the feet of Fiat, which designed the Yugo, constructed the plant it's built in, and trained the Serbs that put it together. Had, say, BMW, or maybe even Chrysler, been awarded that contract, much bloodshed would have been averted.

The dissolution of the Soviet Union started in much the same way. A Latvian and a Russian were sharing a samovar of tea, possibly laced with something stronger, at the collective cafe, when the subject of cars came up.

"Your Ladas aren't fit to grow mush-

rooms in, Comrade. The only useful thing about them are the tires, on which the moths like to feast. But tell me this: What is the substance of which the seats are made, which the moths refuse to touch?"

The Russian's eyes slowly shifted up from their examination of tea dregs. "Perhaps the moths would like the seat better," he opined, "if the bottom which sat on it was washed more often and passed less gas." He continued, in much the same vein, "When you Latts can build something besides fish waste barrows and frozen sewer pipes, we will consider your criticisms of the Motherland's distinguished industry."

"Comrade," scowled the Latt, "the bicycles you see in such quantity on the street are proudly made by Latvian hands. You will notice the difference between them and your Ladas. The bicycles work." The blush in the Latt's cheeks could be observed to be waxing. "Our bicycles are better spoken than any Lada, and do not require balls of moth for their operation. When you push down your foot, they go forward, unlike your Lada, which when you push down your foot, it goes through the floorboard."

The Russian thumped on the table, spilling the glasses and rattling the flatware. "Perhaps if you don't like our tires you would like us to import a few of our tracked vehicles? I will be happy to call my brother-in-law and arrange this!"

The Latt pointed out, "Comrade, you

will call nobody until you can find a Russian telephone in working order. I suggest you and your comrades leave with your message at once, and take your Ladas with you. Bye bye now, and don't forget the moths."

When this hit the papers, the Latvian Council invited VW to take over their market. Russia's brief attempt at import controls in Latvia were unsuccessful, although Russia did demonstrate to everyone's satisfaction that its tracks were better than its tires.

History unstudied is history repeated. The Dutch were unceremoniously ousted from Indonesia after importing a few boatloads of DAFs with defective transmissions. The cars were later melted down and forged into gongs. The Algerians revolted against the French when the hydraulic systems in imported Citroëns leaked chronically and the warranties were not honored. It is common knowledge what resulted from the export of Chevettes to the Phillipines, although those who blame the eruption of Mt. Pinatubo on them are perhaps stretching the point a bit.

Just as American manufacturers have learned important lessons from the Germans, so too can the American government learn from the (former) West German government. When it was clear that the East Germans were to be denied no longer, West Germany bought up every Trabant it could and sent them all to the crusher. It then exported its massive surplus of Audis to Karl-Marx-Stadt, et alia. There is no more talk of revolution now; the entire population is fully engaged in procuring funds for spare parts. We should follow the German example. Sending our Audis back to Eastern Europe would be a good start.



Why Some People Lose Money and Some People Don't.

Some people don't know a good thing when they see it. They go to banks for financial services and miss great opportunities.

You can enjoy financial services which are better than at any bank. Imagine – a FREE VISA card.

Join and keep coming back for more ... of a good thing.

Seattle Telco
It's your credit union.

(206) 382-7000
1-800-732-9300

BMW Plans For The Future

by Georg Kacher

Germany has a new number one luxury car maker. In 1992, for the first time in history, BMW produced more passenger cars than Mercedes-Benz. Although the final numbers were not available as we went to press, close estimates suggest that the Bavarians beat the Swabians by 585,000 to 525,000 units. While Mercedes-Benz is struggling to break even, BMW expects to repeat last year's performance and earn in excess of £300 million. This trend is mirrored by the stock exchange where, in the past five years, Daimler-Benz shares lost 40 percent in value while BMW's quotation has remained virtually unchanged.

Unlike all other German car manufacturers, BMW has so far survived the spreading recession without plant closures and lay-off schemes. It has, in fact, prepared itself rather well for what looks like an increasingly tough future. Fresh products, and an ambitious expansion program hinged on a new production site in North America, should help chairman Eberhard von Kuenheim to reach his aim and secure a two-percent slice of the world market, equalling 800,000 to 840,000 vehicles per year, before the end of the decade.

BMW's mainstay model is the 3-series, which accounts for 62 percent of all sales. Now that the early quality problems have been solved, the car is selling well, and the 325i Coupe has emerged as the model with the highest yield (in percentage terms, not cash), comfortably beating the 7- and 8-series flagships. If all goes according to plan, the success of the 3-series range will be further stimulated by such new additions as the new M3 (out in February), the next-edition Convertible (out in the summer), the three-door hatch dubbed E36/5 or lady-car (due in 1994), the follow-up to the Touring (scheduled for 1995) and the US-built roadster (E36/7) which will be launched in early 1996. The old-style Convertible and Touring will stay in production until 1994.

The most interesting future 3-series derivative is the three-door hatch. Powered by the familiar 1.6- and 1.8-litre

fours, E36/5 will be positioned below the cheapest four-door saloon. It's a true entry-level model in the wake of the classic 1602, and it has been designed to appeal to hot-hatch customers. According to internal calculations, this model alone may find up to 80,000 takers per year. The other promising new 3-series model is a two-seater roadster which will be built exclusively in South Carolina. This is again an attractively priced car which won't cost a lot more than a Mazda MX-5. The shape of the compact convertible (the clever folding top is being developed by ASC) is reportedly reminiscent of the legendary 328 and 507. The car, which sits on a short-wheelbase 318iS platform, is said to weigh approximately 2200lb. Powered by a 140bhp 16-valve 1.8-liter engine, the sporty soft-top will accelerate from 0-60mph in under eight seconds, top 125mph and average 28mpg, sources say.

So what about the oft-mooted affordable, sub-3-series BMW? The engineers have repeatedly looked at such a car, but so far none of their proposals has been accepted by the board. The most recent attempt was E45, a small front-wheel-drive runabout alternatively powered by a hybrid engine and a 1.4 litre version of the current four-cylinder (M40). Although the E45 is dead and gone, many of the ideas behind it are still alive. The follow-up project is labelled E48, and it will replace the three-door E36/5 in the year 2000. The next generation 3-series, dubbed E49, is due to go into production in 1998, and will share with E48 a common platform, suspension and drivetrain layout.

The debate currently raging inside BMW's R&D centre is whether these two new cars should be front- or rear-wheel drive. The fwd solution is less BMW-like, but offers weight and packaging advantages which are crucial to the smaller E48. Rear-wheel drive is, however, more suitable for powerful engines, and has certain handling and road-holding benefits. No decision has yet been made, but we should know more in the spring.

Although E48 and E49 share the same underpinnings (except that the wheelbase of E48 is about 10 inches shorter) the sheetmetal will be totally different. This means that BMW is going to derive two car lines from one and the same platform. While E48 will spawn the hatchback, the roadster and probably the coupe, E49 is destined to father the four-door saloon, the four-seater convertible and the five-door Touring. The three-door model may receive a 2-series badge (214i - 219i) and will be instrumental in reaching the annual 800,000-plus sales target.

A couple of rungs up the ladder, BMW will in late '95 launch the follow-up to the 5-series, code-named E39. The main engineering innovations are a new integral rear suspension with optional rear-wheel steering, a redesigned body and a variety of revised engines. The car goes on sale as a four-door saloon, followed by the new five-door Touring in 1996 or early 1997. A coupe and a convertible have been developed as back-up projects, but it is unlikely that these variants will ever go into production. There will probably be a minivan, but it won't be based on the 5-series floorpan. Known internally as Megaron, the proposed people-carrier (E44) gets its own platform and suspension. Megaron has been around for over three years, and has already been axed twice, but in late 1992 the project was once again revived and modified. Although the sleek seven-seater has quite a few influential supporters, the marketing department keeps changing the sales projections which directly affect the production costs. According to the most recent feasibility study, the price has been reduced from close to £40,000 to under £26,000, and at this level the BMW Megaron may attract enough buyers to justify the risk.

The 7-series saloon will be replaced in early 1994 by an evolutionary model which features additional high-tech goodies, new rear suspension with 4ws, bigger-displacement engines and a roomier, more comfortable and more lavishly equipped cabin. There will again be two body styles: the standard car (E38) and an



One design for a potential 2-series BMW.

upmarket long-wheelbase version (E38/2). The 8-series coupe is at this point unlikely to be replaced. It will probably stay in production beyond the year 2000, but sales are so slow (it accounts for only 0.8 percent of total volume) that the board is reluctant to spend money on a similar type of vehicle.

After E38 (which holds a six-percent share), there may not be another independent 7-series saloon. Instead, BMW is considering a common platform for the new 5- and 7-series ranges. We're talking 2002/2003 here, but if this strategy gets the nod, the company could save a lot of money. In addition to the two 5-series models (saloon and estate), this single platform is designed to accommodate a longer-wheelbase 7-series saloon and 5- and 7-series coupe to step in for the 840i/850i. BMW would thus reduce the number of different car lines from four (3/5/7/8) to two (2/3 and 5/7/8). And just in case the Bavarians do reach a takeover agreement with Rolls-Royce, there would always be room for a true flagship above the 5/7-series siblings.

The revised four-cylinder engines (M43) are due to appear in August '93. They feature a maintenance-free chain drive, lighter valve train, reduced inner friction, more advanced breathing appa-

ratus and thermodynamically more efficient combustion chambers. Also scheduled for the 1994 model year are two bigger displacement sixes. While the capacity of the 2.0-liter engine goes up to 2.3 litres, that of the 2.5 increases to 2.8 litres. The maximum power output remains virtually unchanged, but the new engines provide notably more bottom-end torque. In time for the 1995 model year, we should see the displacement of the V8 units go up from 3.0 to 3.6 litres and from 4.0 to 4.6 litres respectively. Since the V12 already stretches up to 5.6 litres, the top-of-the-line powerplants would thus be staggered evenly. Although BMW has a relatively young engine family, the powertrain wizards are already working on a state-of-the-art V6 (M80) which is due to replace the in-line six (M50) in 1998 at the latest. The V6 features a switchable intake system, a progressively adjustable camshaft and potentially, five valves per cylinder, but its main attractions are the light weight and compact dimensions. Not only would this engine permit a more radical cab-forward look for the rwd models, but its existence is also a precondition for any forays into fwd territory.

The company's near-term future is above all dominated by the current eco-

nomics crisis, by the need to cut costs on all fronts and by the guessing game concerning the successor to chairman Eberhard von Kuenheim. Because of the recession, BMW's internal sales forecast for 1993 ranges from 480,000 (worst case) to 558,000 units (best). Although the company has already made substantial cost-cutting efforts, it needs to get even leaner as well as more efficient. According to a top-secret study, the workforce must be trimmed to a degree not even pessimists had predicted. BMW currently employs around 70,000 workers, but it will have to dismiss close to 20,000 employees by the year 2000 in order to remain healthy and prosperous. Kuenheim, whose contract has been prolonged until late '94 or early '95, is reportedly determined to take whatever action is necessary. The name of his successor is a mystery even to intimates, but rumor has it that the charismatic top manager will become chairman of a still-to-be-founded BMW holding company. In this position, he could continue to pull the strings of the car division, where the board member in charge of production, Bernd Pischetsrieder, is said to have a good chance of becoming the new number one.

- Car Magazine

Annual Banquet

by David Lightfoot

This year's annual banquet, held January 23rd at Latitude 47 Restaurant was our best ever. And I say that having attended every club banquet and having organized several. It was a simply smashing event, and our thanks go to event organizer Al Lancaster who did a superb job. Al arranged the speaker, picked the restaurant and solicited most of the auction items. He did it all, and well!

Al and incoming club President Gary Parr shared the MC's duties. The food and service were good. The only negative was the turnout. We had 58 people including guests. That represents about 25 members, with partners. Now, out of 600 some members, why can't we do better? I wonder what it would take to draw more of you out to events in general and the banquet in particular. I don't know but I can tell you what you missed.

The evening started with a silent auction with lots of items arranged on three tables. The tables were decorated with red, white and blue and "closed" at different times. Bidding was spirited and people left with some excellent buys.

Higher value items and late arrivals were auctioned in the oral auction. This is always fun, but this year we had a professional auctioneer, which added a lot. Late additions to the auction included the generous donation of use of a 2002 race car, for one race, by owner/preparer Dan Alvis. Chip Hanauer donated a guided tour of the Miss Budweiser race shop. Thankfully, my wife was outbid on this one. We raised a lot of money for the club treasury, which certainly needed it.

After the auction, dinner of either prime rib or salmon was served. And dessert was provided by Black Tie Truffles. Beautiful table centerpieces of fresh flowers were donated by Ester's Florist in Kent.

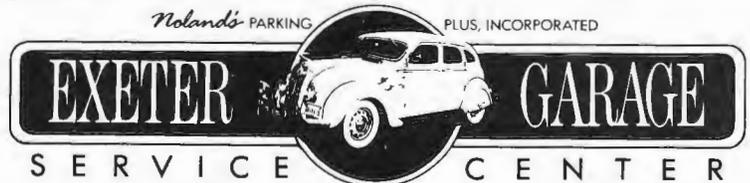
After dinner we heard Chip Hanauer for about an hour. None of us had heard Chip speak before. Although he comes across on television well, one never knows how a speaker will be in person. Well, we were all pleasantly surprised. He was an outstanding speaker: personable, entertaining and funny.



Hydroplane hero Chip Hanauer answers questions from the crowd.

Chip talked about boat racing, of course. But he is also involved in auto racing. Naturally, we were interested in comparing the two. Chip said that the hydros reward aggressiveness: the braver you are, the faster the boat, right up until

you crash. He's found that cars respond better to a combination of aggressiveness and finesse. He said both use a similar line, despite what it looks like on TV. The Miss Budweiser does 200 to 210 mph on the straights and about 160 mph in the



Auto Detailing

Meticulous Care For
The Owner Who Expects It!

- Showroom Quality Results
- We Protect Your Investment
- Only The Finest Products - Meguiar's

Pick - Up & Delivery
622-9800

Downtown next to Freeway Park
7th Ave. (Hubbell Pl.) & Seneca

Quick/Lube Service Too!

MEMBER OF BETTER BUSINESS BUREAU AND PROFESSIONAL DETAILING ASSOCIATION

BMW ACA Banquet 1993 Auction List

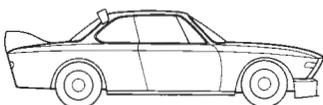
turns. If the water is just right, Chip doesn't have to lift to enter the turns. He just pitches the boat sideways — at 200+ mph. The lower speed in the corners is a result of scrubbing speed off with the skid fins. Chip said that with both cars and boats, the more sophisticated they become, the less feedback they provide to the driver. And he should know about sophisticated cars; he was scheduled to drive a Porsche 962 at Daytona the weekend after the banquet.

In response to another question, Chip talked about his two blowover accidents in 1992. Chip explained that a "good" blowover is one in which the boat gets very high and dusts off a lot of speed. Both of his were bad ones: low, fast and violent. The first, in Seattle, resulted in unconsciousness due to a severe head impact that split his helmet. He also broke six ribs but they were not displaced. Chip was treated by Dr. Trammell, the famous doctor in Indianapolis who treats all the injured car racers. He did therapy with Nelson Piquet, who was recovering from his terrible crash at Indianapolis.

Chip got a truss made and continued to race with the broken ribs. The second accident was worse. He broke eight ribs and this time they were displaced. He also was conscious throughout. The cockpit filled with water and the escape hatch wouldn't open from the inside. Fortunately, it did open from the outside. Now he shouldn't have raced, but there was just one race left in the season. So he raced with his truss and a spinal block that deadened him from the waist to neck. This is one tough guy.

Chip said he was able to get back in the boat after accidents because he accepts accidents and injuries as part of the sport.

It was fun to meet this local hero in such an intimate setting. Many got items autographed afterward. I'm sure everyone enjoyed the evening.



| | |
|------------------------------------|--|
| Alvis | Use of Race Car at Club Track Day |
| Alvis | Motorsport Posters |
| Armbruster | "Circuit" Video Tape |
| Auto Gear | 507 Coupe Metal Model |
| AutoThority | 20% off Any Purchase |
| Bavarian Auto Service | BBS Key Fob |
| Bavarian Auto Service | BMW License Plate |
| Bavarian Auto Service | BMW Logo Coffee Mug |
| Bavarian Auto Service | BMW Logo T-Shirt |
| Bavarian Auto Service | BMW Shifter Knob |
| Bavarian Auto Service | Halogen Fog Lamp Set |
| BBS of America | BBS Logo Golf Umbrella |
| Bellevue BMW | BMW Inspection II Maintenance Service |
| Bellevue BMW | BMW Logo Jacket |
| Bellevue BMW | BMW Logo Sweatpants |
| Bellevue BMW | BMW Logo Sweatshirt |
| Bellevue BMW | BMW Logo T-Shirt |
| Bellevue BMW | BMW Logo Wall Clock |
| Bellevue BMW | BMW Pen & Pencil Set |
| Bellevue BMW | Collector Series 507 Mug |
| Beverly Hills Motoring Accessories | \$50 off Car Cover |
| Black Tie Truffles | Truffle Basket |
| BMW Northwest | BMW Logo Sweater |
| BMW Seattle | "BMW: A Celebration" Book |
| BMW Seattle | 1993 BMW Calendars |
| BMW Seattle | BMW Logo Baseball Caps |
| BMW Seattle | BMW Logo Sweatshirt |
| BMW Seattle | BMW Pen |
| BMW Seattle | BMW T-Shirt |
| BMW Seattle | Remote Control Alarm System |
| Bryant Motors | John Deere Baseball Caps |
| Chip Hanauer | Tour of Miss Bud Hydroplane Facility |
| Electrodyne | 20% off Any Purchase |
| Exeter | Complete Auto Detail |
| Great Sheep Company | \$75 off Sheepskin Seatcovers |
| HyperTech | HyperTech High Performance Chip |
| Joncas Company | Nylon Cassette Case |
| Joncas Company | Nylon CD Case |
| Lancasters | BMW Logo Sport Shirt |
| Lightfoots | BMW 850i Model |
| Lightfoots | BMW M-Power Sounds Tape |
| Maru West | Black Again & Somthin' Else |
| Maru West | California Car Duster |
| McNeil Automotive | Heavy Duty Floor Mats |
| Metal Tech | \$600 of metal work |
| Minute Lube | Free Oil Change |
| Nardi | Silk Scarf |
| Omni Alignment | Free Balance of Front Tires |
| Puget Sound Tire | Wheel Alignments |
| Russell Driving School | BMW Logo Sweater |
| Russell Driving School | Russell Racing T-Shirt |
| Sam's Tire | Lube/Oil/Filter or Front End Alignment |
| Schack | Bra for '83-'88 5-Series |
| Skip Barber | Introductory Driving School |
| Snap On Tools | Black Nylon Tool Bag |
| Snap On Tools | Dream Car Calendars |
| Stahl Headers | Cert. \$50 off any purchase |
| Tire Rack | Pirelli Winter Jackets |
| Tire Rack | Radio Control Race Car |
| Touby | Mahale Oil Filters for 6-Cylinder |
| Zymol | Zymol Wax Kit, 40 oz |
| Zymol | Zymol Wax Kit, 80 oz |

Report on the David Heard M3

by David Heard

As some of you may know, I have long objected to BMW AG's abandoning those of us who prefer non-luxury sport sedans. The editors of *Zundfolge* are certainly aware of this so when the first 318is became available (as the heir to the 2002), they could not resist writing an article titled "The David Heard M3" in which I was encouraged to visit my local dealership post haste. I seized the moment and approached Dave Griffith (then of Alan BMW-Saab) for an extended test drive. He was unable to provide me with a car at that time, but this past August, he loaned me a current 318is. In exchange for his generosity and trust, I promised to write an article for the news magazine, so rather belatedly, I offer my thoughts about



this "low priced" BMW.

Before I share my impressions with you, I think you should know a little about my daily driver. I have a 1973 2002 (the last of the real BMWs) which I bought new. As things have broken or worn out, I have made extensive improvements: carburetor changed to a Weber 32/36 DGAV; engine rebuilt with Mahle pistons and cam reground to 1800 TISA specifications; suspension rebushed and upgraded with Korman touring springs, 22 mm front and 19 mm rear anti-roll bars and Bilstein street shocks; 6 x 14 wheels, currently with 195-60RE71's; stress bar; close ratio 5-speed transmission; Koenig sports seat; 14 inch leather wrapped steering wheel; and ventilated front brake rotors from an early 320i. The differential is new, but remains the stock 3.64—I have always liked 0 to 30 mph in first gear, so I chose not to change the ratio when it needed replacing (and yes, Denny, I did add a stereo some time ago.)

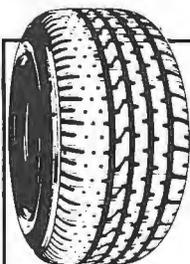
The 318is has 138 hp (SAE) at 6000 rpm and 129 lb-ft torque at 4500 rpm, but it is important to know that the curb weight is 2867 lbs. Final drive ratio is 3.45 with, by my calculations, approximately 21 mph/1000 rpm in fifth gear. The transmission is close ratio 5-speed with fifth gear ratio of 1.00. The acceleration from 0 to 60 is 9.9 seconds. The car I drove had 205-60 R 15 MXV's on 7J x 15 light alloy wheels. The salesmen were unaware of any difference between an i and an is except for the additional two doors, so perhaps more proper nomenclature should be ic. Base price is \$23,600.

As expected, the engine performance is excellent, but the car is simply underpowered. This is compounded by peak torque being at 4500 rpm, not a practical

engine speed for normal city or highway driving (in fifth, the car is traveling almost 85 mph at peak torque). The information brochure points out the torque curve is flat, but in reality, you must keep the engine speed high to produce the best performance. I much prefer my 2002's peak torque at 3500 rpm.

The transmission is very precise and smooth with short throws between gears and the five gears do help compensate for the inadequate power plant. The throttle is unfortunately not positioned properly to allow easy toe and heel shifting. The suspension is firm, but not harsh and handling is very good with limited understeer. Off throttle oversteer is minimal, but with the poor power to weight ratio, there is not much throttle steer available either. The power steering is supposedly engine speed sensitive, but I did not appreciate any real increase in steering effort as the rpms increased. This, I think, creates somewhat of a problem (see next paragraph). I did not have a chance to fully evaluate the ABS brakes (no rain and I didn't think my neighbors would understand why I was hosing down the street), but the four wheel discs certainly seem to have enough capacity. The pedal effort needed for a quick stop is only moderate, but pedal travel is a little too far for me.

BMW's efforts to isolate the engine and suspension from the passenger compartment are in, my opinion, too successful. I felt like I had very little acoustical and tactile feedback from the engine and suspension, especially at freeway speeds (okay, more than 55) and as a result, was very unsure of the car's status during high speed cornering. For routine driving, the quiet, isolated (almost serene compared



Tires PLUS Discounters of HIGH PERFORMANCE TIRES & WHEELS

PRICE:

Low Discount Prices.

SELECTION: Over 4,000 tires in stock - Pirelli, Goodyear, Yokohama, Bridgestone, Michelin, B.F. Goodrich, and Cooper.

SERVICE: Friendly, informed sales people; **FREE** tire mounting using European Tire Machines for Touchless Mag Wheel Mounting. All wheels are hand torqued to manufacturer's specs.

12540 N.E. 124th Street
Kirkland (Totem Lake)

821-9200

13310 Bel-Red Road
Bellevue (Next to Olympic Boats, behind JB Factory Carpets)

641-7300

\$1,000 instant credit plan O.A.C. with no money down.

to my 2002) interior may be acceptable, but I don't think I would ever feel at all comfortable in the 318 during spirited driving.

The head room in the passenger compartment is limited, especially in the back seat and anyone taller than 5 ft 6 in would be unable to sit up straight. Inexplicably, there is also no room under the front seats for the rear passengers feet, making the back seat even more inhospitable place to be (maybe the car is intended for two adults and their children). The seats are too firm and the seat depth is too shallow for true comfort on long trips and the thigh and chest bolsters are too low for good lateral support. The inboard seatbelt anchors are too far forward so the lap belt is rather horizontal, increasing, I believe, the chance of submarining under it.

The instrument cluster is very well laid out and all controls are within easy reach. The air conditioning has enough cooling capacity, but the controls are small and the A/C indicator light can not be seen in bright sunlight (it is literally 2-3 mm in diameter). Fresh air flow is sorely inadequate even at freeway speeds, so the A/C has to be used more than should be necessary in our temperate climate.

The trunk lid opens at bumper height, which should make stowing things easy. The opening is, however, not the full width of the trunk which makes putting in larger items a bit awkward. The seat back is split to permit carrying longer possessions, but it does not lie flat when tilted forward, detracting from this feature.

Maybe for an additional \$5,500 (the difference between the base prices of the 318is and 325is), you get more car, but I suspect many of my observations are applicable to both. I think BMW's designers and engineers could have done a better job and if I were in the market for a new four passenger sedan, I would look at alternatives to the 318is. A Taurus SHO comes to mind. Thanks again to Dave Griffith and BMW Seattle. I hope you will consider loaning me another car sometime, perhaps an 850Ci.

Complete BMW Service

"All services performed by experienced ASE Master Technicians in accordance with BMW factory specifications and warranty requirements."

**STRICTLY
BMW
INDEPENDENT
SERVICE**

- ELECTRONIC DIAGNOSTIC SPECIALISTS
- STATE OF THE ART EQUIPMENT
- FREE SHUTTLE SERVICE
- WE LOAN PAGERS



OPEN SATURDAYS

747-6044

2111 140TH AVE NE, BELLEVUE

Since 1968

Auburn Foreign Car

COMPLETE IMPORT REPAIR SPECIALIZING IN



Parts & Service For

V.W. • MERCEDES • TOYOTA • BMW
NISSAN • PORSCHE • HONDA • VOLVO • AUDI
and other Foreign Cars

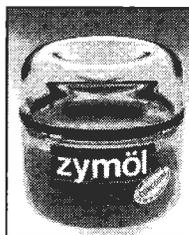
• FACTORY TRAINED MECHANICS
• STATE CERTIFIED EMISSION SPECIALIST

HRS MON-FRI 7-5

833-8161 or 872-0085

725 Auburn Way N.-Auburn

AAA



"The Finest in Automotive Care Products"

zymöl P21s QUARTOR BLACK AGAIN

Sea Sponges, 100% Cotton Towels & Wash Mitts, Grade A Chamois, Detail Brushes & Much More

"Professional Interior & Exterior Products for the Enthusiast"

Call for our Brochure

MARU WEST ENTERPRISES

1070 63rd Ave. N.E.
Salem, OR 97301

800-843-3568
503-364-1535

Club & Quantity
Discounts Available

A Convoluted Story

A recent issue of *Autoweek* included a story on the Six Hours of Seattle, an endurance race held last October at SIR. The writer, Sam Moses, co-drove with "Mean Dean" in his "Flying Machine"; a '71 Ford Pinto. The author noted that SIR reminded him of Germany's Nurburgring with all its twists, turns, elevation changes and trees.

Anyway, at one point in the narrative, the author writes:

"The Flying Machine wasn't as fast as it should have been either, because the twin-throat 40mm Weber Carburetor it needed was on the BMW 2002 driven by a friend of Mean Dean's, a Green Beret Army Captain, a covert operations officer who was built like a log and was intimate with explosives. That afternoon he missed a shift in his screaming Beamer (sic) and blew the motor shy high. Dean caught the carburetor as it plummeted down, and worked late Friday night fitting it to the Flying Machine."

Now, I don't know how much of that paragraph was true, but the 2002 driver was obviously our own Dan Alvis, new club Vice President. Dan's in charge of activities for the club and is planning for '93. Those plans were interrupted by a "vacation" in Somalia as U.S. liaison to the Canadian forces there.

But Dan's back now, getting ready to race his 2002 and lead some club activities. Unless a war intervenes.

I told you this was a convoluted story.
- David Lightfoot

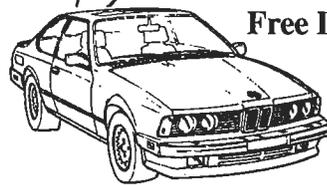


FAT CITY THE ANSWER!

REPAIR and SERVICE

WE'VE DARED TO REPAIR SINCE 1973

German Motor Specialists



Free Downtown Shuttle

628-0911

777 THOMAS STREET, DOWNTOWN
Open mon.-fri. 7:30-5:00

BMW
PORSCHE
AUDI
VOLKSWAGEN
MERCEDES

U L T I M A T E
BMW
P A R T S
S E R V I C E

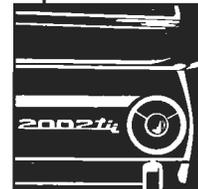
BMW

**PARTS
SERVICE**

823-1212

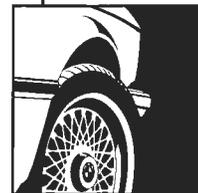
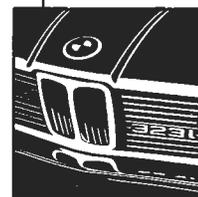
Gordon Kortlever
BMW Specialist
Pete Jackson
Service Consultant

*Ultimate Service for the
Ultimate Driving Machine*
13635 N.E. 126th Place
Kirkland, WA 98034
Telephone (206) 823-1212



**BMW
PARTS &
ACCESSORIES**

**FREE COLORFUL
100 PAGE CATALOG**
FAST DELIVERY
HUGE INVENTORY
LOW PRICES
**KNOWLEDGEABLE
SALES STAFF**



Specialist in replacement parts, accessories and performance products for your BMW. Names like Racing Dynamics, Zender, Bilstein, Dinan, Nardi and more!

Order Toll Free:

1-800-535-2002

Fax (24 hours): **1-603-659-7295**

**OFFERING QUALITY PARTS
AND CUSTOMER SATISFACTION FOR
OVER 17 YEARS!**



**Bavarian
auto service**

44 Exeter St, Newmarket NH 03857

New Convertible

GENEVA NOW, USA SOON. . . .
BMW AG will introduce the next addition to its highly successful 3-Series product range, an all new convertible, at the Geneva, Switzerland Motor Show in March. The North American introduction will follow at the New York International Auto Show, April 10 - 18, and Americans who want the fun of open motoring — BMW style can start taking delivery of the 325i convertible during the summer.

- BMW NA Press Release



**YOKOHAMA
BRIDGESTONE**

**MICHELIN
CONTINENTAL**

PUGET SOUND TIRE & SERVICE

**HUNTER
COMPUTERIZED
4-WHEEL ALIGNMENT**

GREG DOBRINEN
RETAIL STORE MANAGER, ASE CERTIFIED TECHNICIAN
ALIGNMENT/SUSPENSION/BRAKE SPECIALIST

**LONGACRE
SCALES**

GREG FORDAHL
SEATTLE RETAIL ASSISTANT MANAGER
HI-PERFORMANCE TIRE, SUSPENSION, AND ALIGNMENT SPECIALIST

**BMW CLUB —
DISCOUNTS**

PUGET SOUND TIRE • 11011 PACIFIC HWY. SOUTH • SEATTLE, WA 98116

1-800-882-2057 OR 763-1273

DP WHEELS • EIBACH SPRINGS • KONI • BILSTEIN

Come see the new Continental Aqua Contac Rain Tire (Available March 1st)

BMW still won't admit it will build a roadster at its forthcoming plant in South Carolina, but it does say the plant will produce 9000 units a year and that the vehicle, which will have 60% U.S. content, will be sold in 100 markets around the world. (*Autoweek*)

The 840Ci coupe is to begin production next summer and be available in the fall. (*Car & Driver*)

At the Rick Cole Auction in Monterey in late August, a 1980 BMW M1 sold for only \$102,400. (*Autoweek*) (Editors Note: At this price, we ought to put together a small partnership to buy a "time-share" M1.)

The 325i again, this year, made *Car & Driver's* list of ten best cars in the world.

The new 4.0 liter V8 in the 540i provides 286 hp, but overpowers the chassis. The underpinnings are the same as the 525i and are overmatched. The 540i is priced just about midway between the 525i and the M5. (*Automobile*)

GM's European divisions will use the BMW 2.5 liter turbo diesel in the new Vauxhall Carlton/Opel Omega. (*Autoweek*)



This highly customized, BMW Isetta "art car", blows bubbles while transporting its owner, "Hoop", through Clifton, New Jersey. (*Automobile*)



BMW of North America has formed BMW Financial Services Corp. to provide its 356 dealerships' customers with another choice in financing and leasing. (*Autoweek*)

A man in Amsterdam, Netherlands, got out of his BMW to close the garage door. His dog jumped into the running car and accidentally shifted the car into gear. The car lurched forward and pinned the owner against the garage door, breaking his leg. Man's best friend? (*Road & Track*)

Rumors persist about the development of a new 2-series powered by a 1.4 liter engine. About the size of a VW Golf, standard equipment would include: air bags, power steering, ABS and air conditioning. Production in the U.S. would hold costs down. (*Roundel*)

BMW chairman Eberhard von Kuenheim was asked, repeatedly, if the South Carolina plant would be a UAW facility. Kuenheim answered that the workers would decide if they want to organize. But Carl Flesher, vp for media and community relations, and the only current employee, at the factory, had his own thoughts: "Who are they going to organize, me?" (*Autoweek*)

BMW plans to have 40,000 visitors a year tour the South Carolina assembly plant. (*Roundel*)

BMW has changed its mind about participating in the German Touring Car Championship. BMW will take part, but only via a partial sponsorship. (*Autoweek*)

Besides the new assembly plant in Spartanburg, South Carolina, BMW will build an engineering and styling "think tank" at nearby Lake Blaylock. (*Roundel*)

THE ULTIMATE SOURCE

94 North Woodhull Rd., Huntington, NY 11743

**FREE
CATALOG**

**WORLD'S
LARGEST
BMW
CATALOG**



- 352 Pages
- 740+ Photographs & Illustrations
- 30+ Color Pages
- 410+ Tech Tips
- Euro Spec Parts
- Better Coverage Than Anyone In The BMW Business
- Competitive Discount Prices

Orders: 1-800-537-8248

In NY: 516-385-8686

• Visa • Mastercard • Discover

• \$25.00 Min. Order

In 1993 a 320i 4-door model will be produced for the Canadian market but not the U.S. The car will come with a 2.0 liter six cylinder with 150 hp and a choice of 5 speed or automatic.

Fluor Corp said its Fluor Daniel Inc. unit signed a letter of intent with Bayerische Motoren Werke AG to build the German company's first BMW automotive plant in the U.S., in Greer, S. C., for \$100 million.

Fluor Daniel's Greenville, S.C., office will provide general contracting services for the 1.5 million square foot plant being built on 900 acres in upstate South Carolina. The project will generate between 1200 and 1500 construction related jobs, and 1,000 manufacturing jobs once it is completed in 1995. (*Wall St. Journal*)

BMW is planning its second plant in South Carolina, about the same size as the plant currently under construction. Additionally, the New Jersey headquarters will eventually be moved to a site near the assembly plants. In what the South Carolina parts authority called "an emergency situation", it awarded Lockwood Greene Engineers, Inc., a German - controlled company, an \$8 million contract, with no other bids, for construction management for the plant. (*Roundel*)

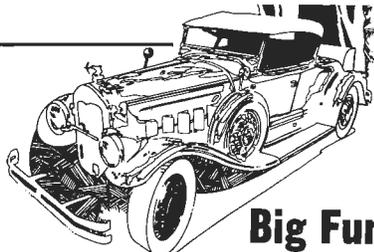
BMW has introduced a mechanical seatbelt tensioner in the 5 and 7 series. The system is independent of the airbag. The system acts on the seatbelt latch, tensioning both shoulder and lap belts. The latch scabbard is mounted in a ratched slot and connected by cable to a high tension spring. The spring is released by a multidirectional impact-sensing pendulum weight. The entire system is mounted to the seat for perfect alignment with any seating position. (*Car and Driver*)

BMW M3s took the first three places in the Macao Grand Prix for touring cars. (*BMW AG*)



Professional Detailing
Hi-Tech Finess Polishing
Color Sanding
Leather Care

(206)641-9932
 13600 N.E 16th St.
 Bellevue, WA 98005



Big Fun
On Little Wheels
 Over 1,200 Different
 Die-Cast Cars
Just Released:
M-SERIES:
The Complete Story
 by Alan Henry

Over 2,500 Motor Books.
Also Video Tapes, T-Shirts,
Lic. Plate Frames, etc.



10020 Main St.
Bellevue, WA 98004
635-9400

Classified Marketplace

For Sale: 1988 M3 Henna red, black leather. 48K mostly highway miles, excellent inside and out, all service, Yokohama A008's, always garaged and parked away from other cars. \$18,500; accept round taillight car in excellent condition as partial trade. Ted Rodgers, 206-432-2336 evenings, weekends.

For Sale: Adjustable cam sprocket for 320i/2002 — \$50, 320i brake calipers and rotors — upgrade your 2002 — \$125. 2002 engine, everything except bare head, \$250. All above for \$400 obo, or buy my M3 and I'll keep this as it's all good stuff. Ted Rodgers, 206-432-2336 evenings, weekends.

For Sale: Four BBS RZ 15 x 7 wheels, 4 bolt pattern for 3-series. Excellent condition, tires included. \$500 OBO. Curt 363-9200 days.

For Sale: 1978 530i, anthracite gray with tan leather interior. Sunroof and alloy wheels. One owner car with complete maintenance history; 117,000 miles. New suspension and Bridgestone HD 41s last year. Absolutely solid car with 4 speed. \$4500 OBO. Bud Hoelscaer 365-7366.

Classified Advertising Policy: Classified ads are free to members in good standing (paid up dues). There is a \$5 fee to non-members. Photo classifieds are \$15 to members, \$20 to non-members. Ads will be run for two consecutive months, space permitting. *Zündfolge* staff reserves the right to edit all classified ads. Ads must be typed or neatly printed and sent to BMW ACA; P.O. Box 1259; Bellevue, WA 98009; Attn: Classified ads. Make checks payable to BMW ACA.

Should I Put Fuel Injection Cleaner In My BMW?

by John Diefendorf

That's the question I asked myself when I bought a BMW in 1985. I also asked myself (and the clerk in the local auto supply store) "What kind of fuel injection cleaner should I buy?" and "How often should I pour into my tank a bottle of fuel injection cleaner?"

Just to double-check the answers I got from the auto supply store clerk, I posed the same questions to friends who owned cars that were equipped with fuel injectors and to garage auto mechanics. There was some diversity of opinion. I even thought of writing to Tom and Ray who write "Car Talk" for the Friday P.I. But I figured that probably I would get a flip answer which would expose my lack of automotive knowledge.

But in recent weeks I absorbed a lot of data regarding oxygenated fuels (gasohol) from my copy of the Auto Technician's Gasoline Quality Guide entitled "Changes in Gasoline II" which was discussed in the Nov/Dec issue of Zundfolge. I have also discussed fuel system deposits and fuel injector cleaners with Mr. Steven Fite, Quality Assurance Supervisor of the ARCO Refinery at Cherry Point, WA. from whom I got the copy of "Changes in Gasoline II".

On this subject the "Changes in Gasoline II" manual has this to say:

"The fuel injection systems in late model vehicles are incredibly precise compared to a carburetor or even a throttle body injection system. At the same time, these systems are also more sensitive to, and easily affected by, deposit formations. This, in combination with increases in intake valve deposits and induction system deposits, has caused a great deal of attention to be focused on this area."

"Properly formulated gasolines play an important role in minimizing deposits in carburetors, fuel injectors, intake valves, and the entire fuel induction system."

"Deposit formation occurs during the hot soak period immediately after the engine is shut off. Therefore, typical city short-trip driving tends to increase port fuel injector deposit formation."

"Fouled injectors can result in uneven idle, reduced power, poor fuel economy, hard starting, increased emissions and even stalling, particularly if the computer control system can no longer correct for insufficient fuel flow."

By November 1986 all major gasoline producers, most independents, and all ethanol blenders were offering detergent-treated gasoline to eliminate injector and valve system deposits. But not all oxygenated and non-oxygenated gasolines contain effective deposit control additives. ARCO advised me that a quantity of their gasoline is sold to no-brand-name cut-rate gasoline stations and ARCO has to meet a price. Inasmuch as the detergent additive is expensive, this gasoline does not include the additive. Gasoline obtained from such a source makes it very desirable that the automobile owner who puts such fuel into his car also add a bottle of fuel injector cleaner with frequency as indicated on the bottle.

However, what brand of Fuel Injector Cleaner should you pour in your tank? There exists some range of prices for a standard 12-oz. bottle of Fuel Injection Cleaner depending on the amount of detergent it contains. There is CD-2 at \$2.59; STP at \$2.69; STP Super at \$4.59; and Gumout at \$4.29. Some fuel injector cleaners may contain high levels of methanol (Gumout and STP do not) which cause degradation of those fuel system parts made from elastomers (plastic seals and o-rings that have rubber-like properties), or cause oil thickening. The Technician's Gasoline Quality Guide recommends Chevron's Techron as an effective fuel injector cleaner but the best procedure is to use a Name-Brand gasoline. ARCO assured me that both their 87 octane and 92 octane gasolines, as does all gasoline made by the major oil companies, contain an adequate amount of detergent cleaner to clean previously dirtied fuel injectors and which will remove 95% of the deposits. ARCO guarantees that both gasolines exceed the toughest BMW requirements for intake valve deposit cleanliness. The BMW test is Indus-

try Standard for fuel performance.

The Auto Technician's Gasoline Quality Guide includes a cautionary note:

"Auto manufacturer's recommendations regarding the use of after-market gasoline additives should be reviewed. Indiscriminate or excessive use of such additives could lead to other problems such as elastomer degradation or oil thickening."

After reading this, the BMW driver ought to be able to decide whether to try to improve his gasoline by pouring in off-the-shelf additives.

Another additive which is offered by the auto parts stores is a fuel system dryer. This is a 12-ounce bottle of methanol (methyl alcohol and other additives which is poured into the gas tank (for each ten gallons) to absorb water caused by condensation. The present use of oxygenated gasoline should obviate any requirement for such an additive as the 10% ethanol will absorb any overnight condensation very effectively. Further, while ethanol is compatible with fuel system components, methanol is corrosive and may cause damage to elastomer parts such as gaskets and seals.

Note: Quotes in the preceding paragraphs were taken from a monograph entitled "Changes in Gasoline II - The Auto Technician's Gasoline Quality Guide" published in July 1992 by Downstream Alternatives, Inc. of Bremen, Indiana.

Downstream Alternatives, Inc. is a private consulting firm for the oil and gasoline industry which is concerned with fuel quality, fuel additives, and oxygenated fuels. A copy of their publication, "Change in Gasoline II" may be obtained by sending \$2.00 to "Technician's Manual, Downstream Alternatives, Inc., P.O. Box 190, Bremen, IN 46506-0190.

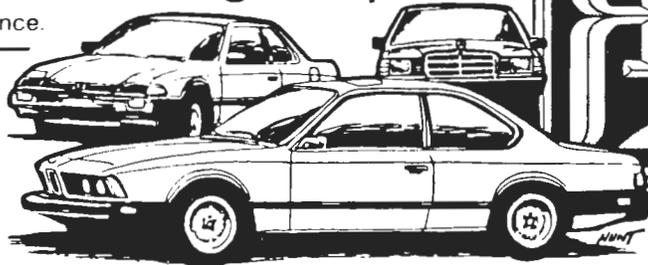


RNR Automotive Refinishing, Incorporated

Where Quality is the Difference.

Nicator
systems

Unibody/Frame Repair
LASER ACCURACY



Evans Industrial Park

DISCOUNTS AVAILABLE

IMPORT SPECIALISTS

1508-128th Pl. N.E.
Bellevue, WA 98005

COLOR MATCH GUARANTEE

453-2898

Richard Scott

INSURANCE WORK

DETAILS DETAILS

Thank you
for your
continuing
business.
We look forward
to serving BMW
club members.

- Doug and Nancy Garvey

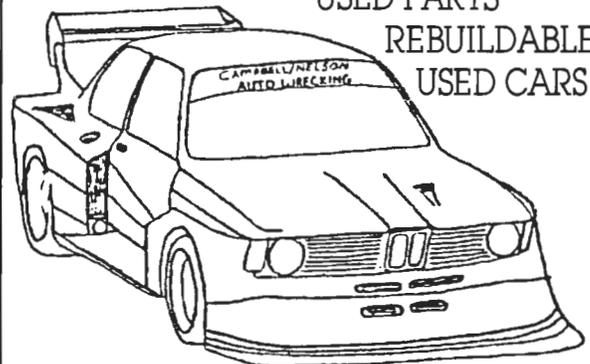
13500 Bel-Red Road, Bellevue, WA 98005

746-1976

DETAILS DETAILS

CAMPBELL/NELSON Auto-Wrecking

USED PARTS
REBUILDABLES
USED CARS



The Northwest's largest selection for BMW

Quotes Gladly!
(206) 771-4931

SAAB
PORSCHE
VW
AUDI



Quality

USED PARTS

OPEN
8:30 to 5:00
SAT. 9:00 to 4:00

205th & Aurora

Across from Aurora Village

BMW IS OUR BUSINESS.

- 15% Discount for Members (Parts Only)
- We use only genuine OEM parts
- Factory trained service technicians
- Complete & accurate phone estimates
- 32 Years Combined Experience with BMW
- Free shuttle to work or home



644-7770

EST. 1979

German Car Specialists INC

12408 S.E. 38th, Bellevue (Behind Factoria Cinemas)

VINES

*Specializing in
BMW Parts*

**NEW
&
USED**

- Sheetmetal & Interiors
- Engine & Transmissions
- Maintenance Items & Accessories
- Exhaust & Brake Parts
-

2460 Morgan Road, S.E.
Bessemer, Alabama 35020

(205) 426-2697

**BMW ACA
Puget Sound Region
P.O. Box 1259
Bellevue, WA 98009**

**SECOND CLASS
POSTAGE
PAID
Seattle, WA**