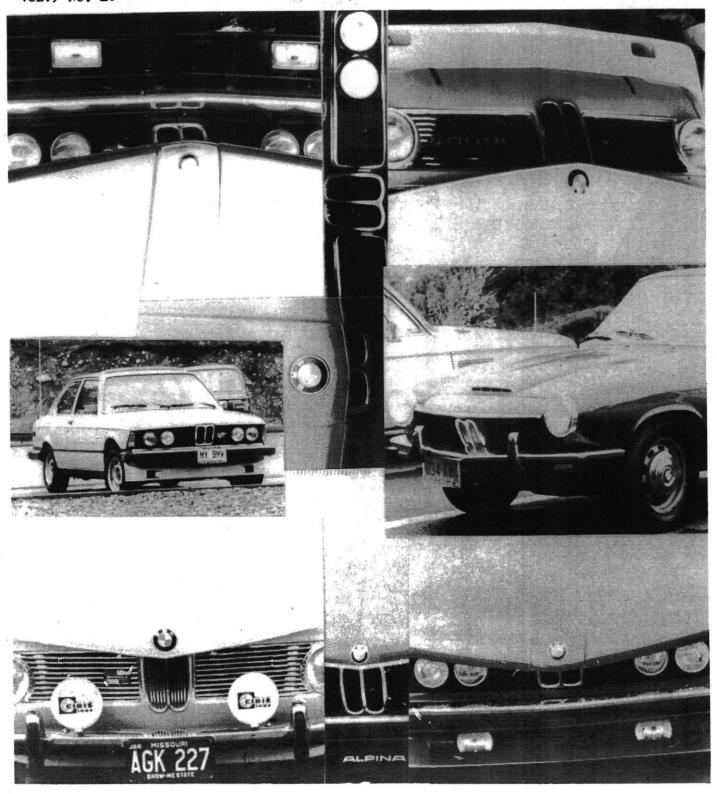
der bayerische

VOL.9 NO. 10

NOVEMBER 1979



From Behind the Gavel

It has been an unusual year for me as your president. I'M sorry to have to say that it has not been as successful as I anticipated, not as self-satisfying as the leader of a club such as this might expect. One could only use the club's history as a measure for the future. By that rule I have not reached the goals of our club. The brotherhood and solidarity is missing. The smug arrogance which was evident in driving the ultimate driving machine has been eroded like our supply of gasoline. Has driving become such a luxury that we now must consider our trips to and from work as driving's only dimension? The thought of any excursion beyond necessity is deemed wreckless and wasteful.

Well, maybe we're going through an adjustment period. Maybe by next year the new officerswill feel more confident and relaxed by the response of new club members participating in and contributing to the many interesting and worthwhile events. Somewhat optimistically, I know someone can hit on the pulse of the membership. This person thrives on challenges. Hopefully this individual will answer the call to become our next president. We need a person for a special breed of people, the people who judge things for their technical quality, not their glitter, the people who drive for their minds and appreciate the finer things: those of us who drive BMWs. The election of 1980 officers continues at the November meet-This is the time for you to step forward. So far, Phil Morgan, long time BMW enthusiast and club supporter has indicated an interest in being treasurer. We'll be working on a full slate of officers at the November meeting.

Barry Livingston

Editor's Notes

One day while compiling material for DER BAYERISCHE, the editor, apparently high on BMW exhaust fumes, took it upon himself to expand upon a SUNPAPER report on 1980 European BMWs. The newspaper said a top-of-the-line turbo 745i would be offered. The editor said, we all know that's a typo, it's actually a 735i, 'cause BMW does not make a 4.5 liter engine. (3MW uses 3 digit numbers to designate models, the 1st is the body

series: 3, 5, 6, or 7; the 2nd two represent engine displacement in liters to the nearest tenth; the i means fuel injected.) In this case, the newspaper was correct. The 745i is actually a turbo-charged 3.2 liter engine. BMW uses the sporting event method of tabulating equivalent displacement, multiplying actual displacement (3.2) times the turbo factor (1.4), equalling 4.5. But knowing that there is a 745i is only good for future trivia contests. It will not be imported to the U.S.A.

Today, the editor has been breathing BMW touch-up laquer. He's going to make another prediction. If BMW uses the 1.4 turbo factor for a gasoline engine, then it should apply to diesels as well. Don't expect 524D or 324D models in 1983, expect the turbo-6-cylinder diesels to be called 534D or 334D.

der bayerische

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Repair Report

Auto Werke, Inc, Rockville

I have an old 2002 which had a problem with leaking transmission oil. I took it to one dealer, who theoretically fixed it. During my next inspection, I found that it was still leaking. I took it to a second dealer, who also "fixed" it. Again I found on my next inspection that it still leaked. I put myself on a schedule to check and refill the transmission.

Recently, I needed some other work on my 2002, so I took it to Auto Werke, Inc., using the advertisement in DER BAYERISCHE. I am pleased to report that all work was satisfactory. My transmission no longer leaks. I can't tell you how pleased I am that I no longer have to go through the process of jacking up the 2002 in my driveway, putting it on jackstands, and crawling into the limited space under it to add transmission oil.

Dick Hayes, Bethesda

CLASSIFIED ADS

FOR SALE:

1968 2002 h sp, A/C, radio, good engine but lots of rust. Will sell complete car for \$600 or may consider parting it out. Also, extra 2002 trans. Ken Price 301-557-7525.

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1974 3.0 CS, new paint, 39,000 miles, sun roof, leather seats, Blaupunkt, 4 sp., Cleve at 301-459-2976.

1967 BMW 2000Ti, 4 door, rare European BMW, good interior, good body, new paint, good shocks, clutch, radials. \$2500.
Barry Livingston at 703-494-6869/971-0900.

Classifieds are free to BMWCCA members. Mail or call the info to the editor before the deadline for DER BAYERISCHE.



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GENDERSON BMW Gives Special Consideration to BMWCCA Members



by heishman



BMW TECHNICAL TIPS

WHAT'S A HYPOID?

Owner's manuals for BMWs equipped with manual transmissions specify 80 wt. non-hypoid gear lube in the transmission and 90 wt. hypoid gear lube for the differential. At tech sessions, mechanics and other authorities tell horror stories about the poor. unsuspecting owner who got the wrong gear oil. You've checked your transmission, rear, and steering box and discovered you need gear lube in a few places. It's likely at this point, that a discussion of "what's a hypoid?" with your local gas station attendant, or that guy who knew everything at the last tech session, does not help much, and you're beginning to feel a certain amount of trepidation about the whole business.

Let's check the dictionary. The unabridged Random House Dictionary says, succinctly: "HYPOID GEAR, a gear resembling a bevel gear in form but designed to mesh with a similar gear in such a way that their axes would not intersect, one axis crossing over the other at approximately a right angle."

Actually, it's not that hard. The ring and pinion in an auto's rear rotate with axes at a right angle. That's a hypoid gear. The arrangement poses a special problem for lubrication engineers because the relative speed and pressure with which these gears mesh can literally squeeze all the lubrication from the gear face, allowing metal-to-metal contact and causing a welding effect which transfers metal from one gear face to the other, resulting in galling of the gears.

The solution to the problem is to compound lubricating oils with so-called extreme pressure additives, or EP additives for short. These are normally compounds of sulphur, lead, and chlorine which have a mildly corrosive effect on the metal surfaces of the gears and thus provide a "grip" for the lubricant. The American Petroleum Institute (API) has six classifications for gear lubes:

GL-1 - Pure Mineral Oil (PMO)

GL-2 - Worm gear oil

GL-3 - Mild EP gear lube (meets GL-2)

GL-4 - EP gear lube (meets GL-2,3)

GL-5 - EP gear lube for phosphate-treated gears (meets GL-2,3,4)

GL-6 - Ford Motor requirement like GL-5

GL-2, 3, and 4 are now obsolete. Also note that GL-5 does NOT meet API requirements for GL-1 because it is not pure mineral oil. NON-Hypoid gear lube is PMO (GL-1), while hypoid gear lube is GL-5.

BMW specifies NON-hypoid (GL-1) gear lube for manual transmissions because the EP additives in many extreme pressure lubes are so corrosive as to be harmful to synchromesh rings and other soft-metal parts. It is possible to find a GL-5 lube with no harmful additives, but they are not generally available and command a premium price. Unfortunately, pure mineral oil is just that: oil without the benefit of water-proofing agents, rust inhibitors, corrosion inhibitors, heat stabilizers, and such. The solution is to use PMO GL-1 of the correct viscosity (80 wt.) for your transmission and change it periodically. In a pinch, use 30 wt. engine oil temporarily. For your rear end, 90 wt. GL-5 does the trick, and it, too, should be changed on a regular basis.

Hans Himler Tarheel Chapter

SUNROOF WIND DEFLECTOR

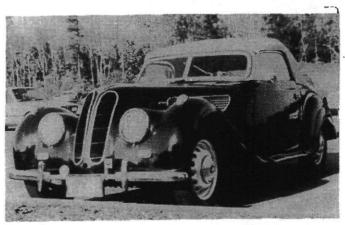
How many of you with a sunroof wondered if a wind deflector was really worth the cost? As an owner of a '76 2002, I would like to pass on some interesting results.

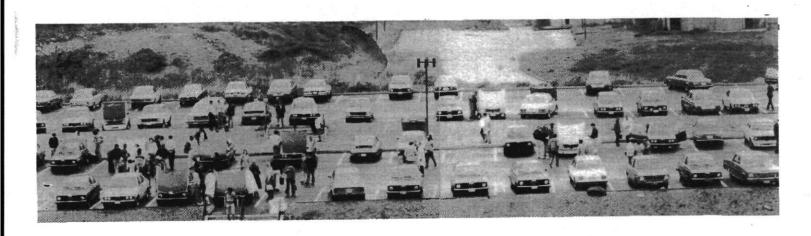
The wind noise from the open roof was reduced substantially, to the point that the radio can be comfortably heard at highway speeds. The noise level did increase when the rear windows were opened, although with improved air flow throughout the car as a result of the deflector, the windows do not have to be opened. The ventilation is pleasant and there are no down blasts of air, which enables the sunroof to be used in cool weather. Deflecting the air is not its only purpose. It also acts as a sunvisor during the middle of the day when the sun is very high overhead. I can also ventilate the car slightly by opening the roof just within the bounds of the deflector.

Bill Miller Smokey Mountain Chapter

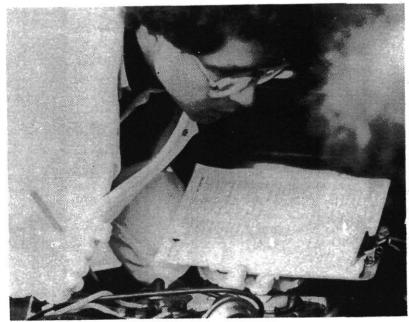
BMWCCA Oktoberfest '79











Hosted by Boston Chapter





About 300 BMW Car Club Members from around the country attended the '79 Oktoberfest the first weekend of October. The National Capital Chapter Secretary, Chuck Garrish was among the handful from this part of the country. Chuck reports a BMW-packed weekend from driving school classes with instructors like David Hobbs to the raffle of 3 528is and 1 320i.

Door prizes were awarded at many of the weekend events. Radar detectors were a popular giveaway, including a \$50 gift certificate toward a detector, won incidently by a New Jersey police officer. Others won T-shirts, polish, driving lights and other goodies.

Chuck was trying out a new camera and made the results available to DER BAYERISCHE. As you can see, there was an autocross, clean car judging, and lots of admiring tidy Bimmers from across the nation.

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No trouble guessing the year of this 2002. By, the way, air dam spoilers were very popular with the Oktoberfest participants

You think Automatic turbo 2002 is hard to believe? You should have seen under the hood—a 6 cylinder. Not your typical demonstrator.





Which Alpina is Mightier? 2002? or 320i? No doubt the answer was not determined by looking under the hoods but by taking a ride.

Lets see, BMW? That's British Motor Works, right. The whole neighborhood hasbeen infested with them all weekend.





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BMW TECHNICAL TIPS

INJECTED FUEL WOES

No improvement is without its cost. With injection systems getting continually more refined and fuel getting less "refined" (pardon the wordplay), I've 'gotten an incredible number of calls where people wanted to verify if a dealer's recomendation that the ENTIRE fuel injection system be replaced was correct. If you get a load of bad gas or it throws a precipitate, the usual solution is to replace everything from the fuel pump forward. The same is true of water in the gas. It can cause tremendous damage in the fuel system. At this point I'm not sure why the fuel filter doesn't provide adequate protection, but there's lots of \$500 to \$800 proofs out there that it doesn't do the job.

The first thing you should do with your injected BMW is replace it a whole lot more often (the filter, not the car). The next thing is to buy gas only from stations with a pump filter, such as Amoco or Sunoco. Follow the usual rules about never buying gas when the station has just gotten a delivery from the tank truck. The last and most important thing is to add a high quality fuel filter between the fuel tank and the pump. The kind to get is a truck or marine engine filter such as the Fram unit which provides water separation as well as micron—sized particle filtering. The problem is to find a place to mount the unit, since it is about the same size as an oil filter. Your mission, should you decide to save the life of your fuel system, is to devise a way to do this and write it up so that we can publish a good solution.

THROTTLE HANGUP EXPLAINED

When you lift your foot off the gas in your 320i or six cylinder car, there is a noticeable lag in the engine's return to idle. This is caused by the vacuum limiter, an emissions control device. The vacuum limiter bypasses air around the throttle plate, which reduces hydrocarbon emissions during deceleration. The unfortunate side effect of this operation is poor engine braking and difficult shifting.

In the 320i, the device is located on the front left side of the engine compartment and is two vacuum dashpots connected together at right angles. The vacuum control line runs from the intake plenum to the front dashpot.

On the six cylinder cars, the device is located at the right rear of the engine compartment and is a metal cylinder with two large tubes and one small vacuum line. The small tube is the control line.

In off road or other demanding driving situations such as an autocross or drivers school, you may wish to temporarily disable the vacuum limiter by plugging the control line. This will result in increased engine braking and much faster return to idle when you lift your foot from the throttle. A possible disadvantage is that with the air conditioning on, the engine may occasionally stall if the throttle is closed suddenly. There are no other negatives besides the disapproval of your dealer and the authorities if you leave it that way.

Darren Young of the Los Angeles Region, ACA, has come up with a definitive method for doing the otherwise impossible task of tensioning the alternator belt while simultaneously tightening the 13 mm nut and bolt:

...Maintaining tension on the alternator whilst trying to work two wrenches usually results in a few skinned knuckles and much abusive language normally not directed to such fine entities as BMWs....Out of the abyss of my trunk appeared one of those rubber tie-down cords with a hook on each end, the heavy black type a.k.a. bungee cord.

A quick pass about the alternator, a hook of the belt onto itself, the other end streched hard to reach the strut that spans the hood and connects the two hood hinges, and we were in business. An upward yank on the alternator, and it stayed right where it was yanked to until the bolt was cinched down. Viola, one correctly installed and tensioned fan belt, sans skinned knuckles or any other casualty.

This page by Bill Machrone, the Atlantic Zone Tech Tips rep for BMWCCA, from the New Jersey BULLETIN



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OVERHEATING PROBLEM SOLVED

During our first Limerock Drivers School in May of last year, I no-ticed that my "bimmer" was running very hot; about two-thirds of the way to the red area. At first I thought little of it as we were involved with high-speed driving. But on the way home that evening, chasing a convoy up and down the hills of the Taconic Parkway, I realized that the situation was to be more permanent. At one point I talked to the convoy about how hot I was running and it was suggested that I put my heater on full blast. Upon doing so, sure enough, the temperature gauge began to drop. But that is an uncomfortable way to drive on a summer evening and certainly not normal to say the least.

In the days and weeks that followed, I went through many procedures to cure the overheating problem. The first thing was to change the thermostat with a similar 80 degree factory issue bought from a dealer. Nothing changed. Next I purchased a 75 degree thermostat from our club co-op and installed that (keep in mind that each time I changed thermostats it was costing me a gallon of coolant). While the 75 degree thermostat initially kept the temperature gauge just below mid-way, once I started out on any interstate with any high speed at all, the gauge then began to rise up to two-thirds towards the red again. So it obsiously was not the thermo-

Next I flushed out my cooling system using a can of DuPont radiator flush and following the instructions This not only did not cure the problem, it cost me another gallon of coolant. I checked all of my hoses front and rear - including the clamps and everything was in perfect operating order. Our second Lime Rock Drivers School was upon us and I had to drive a car up that after running perfectly normal for a year and a half, with or without the airconditioning on, now would not run any other way but hot.

I nursed my bimmer up Thursday evening and proceeded to the track on Friday morning with apprehension.
Sure enough, it ran red hot during each heat. During the day I talked with many people who gave me many ideas that were mostly makeshift, ie., ways to make-do with the cooling system the way it was. But I for one believe in getting everything back to its original order. I ran one heat with a friend's radiator cap who's cooling system was doing an adequate job. Nothing changed. Then we retarded my timing which gives you a cooler burn and still nothing changed. Now it was time to come home and nurse my wheels along the highway once again.

On Saturday I remembered a kit that could be bought for \$2.79 wherever Prestone coolant is sold that Mark Senecal had told me about the previous day. It's called a flushing "Tee" that he had put in his system when he bought his car. It can be installed quickly with two tools - a screwdriver and a sharp knife. Having tried everything else, I gave it a go. Armed with my fifth gallon of coolant, I cut about a three-quarter inch section out of the radiator hose that runs from

the rear of the block into the fire wall. I then inserted the hard plastic Tee into each end of the opened hose and using a three-quarter inch clamp, permanently installed the Tee as part of the radiator hose. The bottom or perpendicular angle of the Tee has a cap on it.
You simply unscrew the red cap which reveals a male threaded spout the size of a garden hose. Part of the flush and fill kit is a small coupler about two inches in length with a female hose end on each end. One end you screw onto the Tee and into the other, a garden hose. You remove the radiator cap and then turn your water pressure on and begin back-flushing (reverse flush) your cooling system up and out of the radiator. The other part of this kit is a radiator splash tube that seats perfectly into the top of the radiator by applying pressure. Thus you can direct all the water coming out to wherever you want it to run over. You run the hose until the water runs clear.

COOLING SYSTEM TROUBLE-SHOOTING CHART

Windy City Chapter

Overheating due to poor circulation

- Coolant level is too low.
- Radiator hose is collapsed.
- Fan belt is loose, glazed or oil soaked.
- Thermostat is faulty.
- Water pump is broken or loose on shaft.
- Water passages in radiator core are restricted
- Engine water jacket is restricted.

Overheating due to other problems

- Radiator air passages are blocked.
- Ignition timing is incorrect. Engine oil level is too low.
- Valve timing is incorrect.
- Temperature gauge is inaccurate.
- Overflow tube is restricted.
- Radiator pressure cap or seat is faulty.
- Brakes are dragging.
- Engine is idling too high.
- Coolant is frozen. 10.
- Fan clutch is faulty.
- Temperature sending unit is faulty.

Temperature too low - slow engine warm-up

- Thermostat is faulty.
- Temperature gauge is inaccurate.
- Temperature sending unit is faulty.

Coolant loss - internal leakage

- Head gasket is faulty.
- Valve port is cracked. Cylinder wall is cracked.

Coolant loss - overflow

- 2. Coolant is foaming because of insufficient corrosion inhibitor.
- 3. Head gasket is blown.

Corrosion

- 1. Water in radiator contains too much lime and minerals.
- Insufficient corrosion inhibitor is used.
- Anti-freeze is used for an extended period of time.
- Corrosion inhibitor is not used in summer.

While one purpose of the kit is to avoid the opening of the draincock of your system, I wanted a topnotch flush and I opened my draincock after turning the hose off. I then turned the hose on again and lo and behold more coolant appeared from other parts of the system plus white foam probably left by the DuPont flush used a week or so earlier. When the water was run-ning clear from the draincock area, I then stopped flushing and sealed the system once again. As for the Tee, you simply disconnect the garden hose and the coupler and screw the little red cap back on hand-

I then replaced the coolant and wa-

ter, put the radiator cap back on,

drove off. Much to my delight

and in 90 degree weather, I was able to cruise up and down Inter-state 287 at 60 and 65 with the airconditioning on and my temperature gauge stayed slightly below mid-way at all times. Only at idle for an extended period does it go slightly above mid-way. Ne-dless to say, that without air and on a cooler day, the needle is incredibly low and I am running a very cool car for a change.
As a result, I would recommend a reverse flush to all BMW owners who are having hot running problems There may be something akin to our cooling systems that this is the perfect action to remove sludge and blockage of all types. One last note...the instructions for the Tee last kit indicate to begin pouring the coolant into the radiator with the cap of the Tee off and when enough water has been pushed out at the Tee (which is lower) and the colored coolant begins to show, put the cap back on the Tee and then continue filling the radiator. As I drained from the draincock, I figured this was not necessary. I was wrong. was not necessary. I was wrong. There is a lot of clean water left in the system and I was able to get only two-thirds of my gallon of coolant into the radiator before . I had to stop pouring. This is some-thing I will deal with in the fall.

> -Don Heyer New Jersey Chapter

CHECK YOUR SIX FOR A CRACKED HEAD

So do add your coolant with the

flush Tee in the open position until

the coolant begins to come out after

the water, much like bleeding brakes with a different colored brake fluid.

Some late model six-cylinder BMWs been experiencing head ng problems. Early evidence have cracking problems. Early evide can be abnormal white "smoke" the exhaust during warmup. If the condition is not corrected, the crack will propagate to the exhaust valve seat. This could allow the valve seat to drop, a failure mode which has wasted more than one big-block Chevrolet. Let's not find out the expensive way if it can destroy a BMW in similar fashion. One dealership reports that they have discovered four cracked heads recently and speculates that the problem is related to the high operating temperature of the thermal reactor.

-Ed Brady, Die Zeitung, Connecticut Valley Chapter



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NEXT MEETING:

DATE: November 20, 1979

TIME: 8:00 P.M.

PLACE: Diamond Head Restaurant

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Blvd.)

DER BAYFRISCHE Deadline for next issue: Dec. 1

