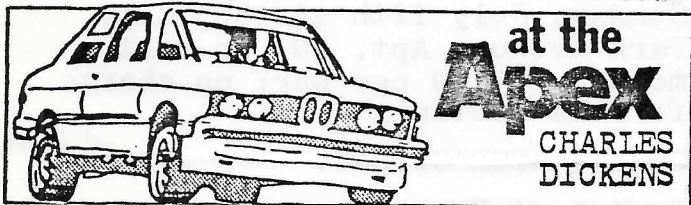




Das Kummel

JUNE 1981



Several club members have called me regarding the availability and advisability of sheepskin seat covers, herein after referred to as Sitzpelts. The inside dope on Sitzpelts will be found in the article written by Mr. John Herod, proprietor of the SHEEPSKIN at the shops at Military Circle. Mr. Herod is a native of New Zealand and is therefore singularly qualified to speak on the subject of sheepskin seat covers.

John has offered to order the custom-made Sitzpelts for stock BMW seats at a substantial discount. The particulars are as follows: If ten members are willing to buy the custom-made Sitzpelts, he will sell them to us for \$195 a pair instead of the list price of \$285 a pair. If only five members are interested in taking advantage of this outstanding offer, he will still offer us a 25% (\$71.25) discount off the \$285 list price. For those of you lucky enough to have Recaros, if five of us can get together, John has offered us a 25% discount on the seat covers.

These covers come in about a dozen shades from white to black and the SHEEPSKIN deals only in the finest grade New Zealand sheepskins, which are the best in the world. And the covers have

a unique fastening device which precludes having to spend more money to get matching headrest covers. In addition to the Deluxe model we have been discussing up to now, the SHEEPSKIN also carries some very good quality flat type covers which are perfectly suited to standard BMW bucket seats. And these are available for a substantially lower price.

Keep in mind that we must act together to avail ourselves of this unique opportunity. In order to coordinate this purchase, members should call me so that we can make a list and place our order.

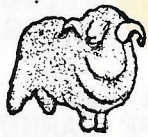
As I have said, John Herod is very knowledgeable about sheepskin and its versatility, and will be more than glad to discuss with club members, either in person or by phone, their specific needs.

The Sheepskin

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Der Tafel: BEYEMVEY ACTIVITIES COLUMN

The June Meeting will be at Becky and Jeff's on Sunday, June 7th at 3:00 p.m. The address is 134 South Palm Avenue in Virginia Beach. Call 340-9043 for directions.

This month's Tech Session will be on Saturday, June 13th at Dave Gist's. Dave lives within walking distance of the ocean and everyone's invited to bring swimming attire and take advantage of the beach weather. Dave's address is 232 Regulus Avenue in Virginia Beach. Call 425-8211 for directions. Cost: \$3.00 per car.



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Father's Day is Sunday, June 21. Don't forget that Charles (the Prez) will be glad to help with ideas and suggestions for gifts for your Bimmer man. Since this is my column, I'd like to take a minute to wish love and a happy Father's Day to my Franky.

In July we are going to have a combination Member's Meeting - Tech Session at Paul Honea's (Surprise Paul). The date is Sunday, July 12th at 1605 City Park Avenue, Apt. 20, in Portsmouth. \$3.00 per car; no charge for the meeting.

COMING ATTRACTIONS:

Brunch at Cascades
Sing-along with Pappy - Jim Coffey will host
Dinner Meeting at the Bavaria House.

by JULIE ELMORE

Editor's Note: Perhaps you noticed, but we have changed "Board Meeting" to Member's Meeting or just Meeting. This change is an effort to invite more participation and feedback from the rabble. But seriously, it's your club and the board felt that by changing the name, you would feel freer to join in while we all work towards a better club.

	1981 JUNE 1981						
	SUN	MON	TUE	WED	THU	FRI	SAT
	-	1	2	3	4	5	6
7 - Member's Meeting	7	8	9	10	11	12	13
13-- Tech Session	14	15	16	17	18	19	20
21 - Dad's Day	21	22	23	24	25	26	27
	28	29	30	-	-	-	-

	1981 JULY 1981						
	SUN	MON	TUE	WED	THU	FRI	SAT
	-	-	-	1	2	3	4
12 - Tech & Member's Meeting	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	-

SILICONE BRAKE FLUID

BILL MACHRONE
New Jersey Chapter

Jim Evers and I had an interesting conversation concerning silicone brake fluid recently. As a professional mechanic, Jim has had the opportunity to attend "Brake Schools" and has received promotional and technical literature from some of the manufacturers such as Dow Corning. He maintains medium and heavy trucks, where brake performance is at least as important as on sports sedans.

Dow, as do most other manufacturers, claims that the silicone fluid is completely compatible with standard glycol-type fluids. Jim and some of his fellow mechanics decided to test this claim by simple pouring silicone and regular fluid together. Predictably, the two fluids separated rapidly, much as oil and water separate. They then attempted several other means to get the two fluids to blend. They didn't. Thus the compatibility claimed by the manufacturers is merely chemical, not physical. The two fluids have different densities, different viscosities and other physical properties. Although the two may coexist in the brake system, they will never truly mix.

Any old brake fluid, since it is hygroscopic (it soaks up water, from the air), will contain a certain amount of water, which will corrode the portions of the brake system with which it is in contact. It may be isolated from the air by the silicone fluid, but the water that was in it will never go away. This underscores the need for a complete flush before switching over to a silicone fluid.

But is that enough?

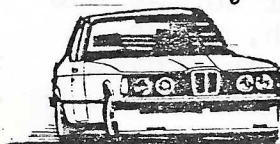
Jim's brake service schools taught him something important, a point often conveniently overlooked by the manufacturers of silicone

fluids. That is that glycol-based fluids encourage long-term sealing of the system by causing the rubber parts to swell. Silicone fluids have no such property and depend solely on the integrity of the seals and clean, unpitted cylinder bores to ensure a fluid-tight system. The fact that the silicone fluid is not hygroscopic ensures that the bores will not corrode and that the rubber parts will be far less likely to oxidize than with conventional fluids.

But what happens when you replace the old fluid, after a thorough flushout, with silicone? I feel that the chances become much greater for a leak or even a catastrophic failure of the system. After all, you no longer have the swelling action of glycol fluid and whatever damage may have been done in terms of pitting, corrosion or oxidation of rubber parts remains.

Based on the above and some unconfirmed reports of catastrophic system failures, I can recommend switching to a silicone fluid only after a complete rebuild of the brake system. That includes rebuilding the calipers, master cylinder and wheel cylinders. The only possible exception is on a car that is less than a year old. These cars are less likely to have corrosion damage to the metal portions of the brake system and the rubber will probably not be too swollen by contact with the glycol fluid.

Remember that Castrol GT LMA brake fluid is rated higher than any of the other non-silicone fluids and is less hygroscopic than most (LMA stands for Low Moisture Activity). It still needs to be changed yearly, but is probably the best alternative to going the silicone fluid route. What it comes down to, I guess, is just another indication that you can't do anything by half measures.



How to get Fleeced without having the Wool pulled over your eyes

by JOHN HEROD

With summertime upon us again, it's time to face up to an annual dilemma - do we go for a slow, gradual descent into a blazing hot seat in the hope that it will somehow manage to cool down before we "hit bottom" or do we instead do a fast slide so that maybe the car can be off and running before the body knows what hit it. Either way, it's bound to be a painful experience. Icy seats in winter are no fun either, but somehow you can bear up better with the help of coats and heavy clothes than in summer when your bare skin hits the fiery leather or vinyl. And if your bare skin is already sporting 2nd degree burns from too much fun in the sun, it's even worse!

Is there any solution to this problem? There is always the classy yellow and orange beach towel that Aunt Bessie brought back from Buckroe Beach sporting the 4-foot-long green sunglasses. Or one of those cane contraptions left over from the Spanish Inquisition. Then there's always the genuine polyester-foam-filled job with the fasteners as large as beer cans. But somehow that makes riding the mechanical bull at Michael's seem restful by comparison. No, sometimes it is better to blister than compromise one's self-esteem.

But are these really the only alternatives for the smooth, sophisticated and discriminating BMW owner who also happens, quite sensibly to dislike pain and discomfort? There is one other possibility - 100% pure wool sheepskin car seat covers like we've all seen advertised in the car magazines. Beautiful to the eye and soft to the touch, these durable wool covers can provide

a comfort in summer and winter driving that you didn't think possible.

These car seat covers will keep you cool in summer and warm in winter. Wool is nature's finest insulator and keeps your body temperature on an even keel. How does it work? Pretty much on the same principle as a thermos bottle works with hot and cold drinks. The heat (or coolness) from your body is trapped between the fibers of wool. In summer, when you're hot and sweaty, the wool absorbs the moisture from your body, at the same time dragging the coolness that your sweat has produced and trapping it in its fibers. This coolness is then reflected back to your body. This is a continuous process, and the cycle repeats each time your body starts to heat up again. Sheepskin absorbs up to 30% of its own weight in moisture without feeling damp. The constant movement of air between the wool fibers removes this moisture as it starts to build up. Let's face it, when was the last time you saw a sweaty sheep? In winter the wool traps your body heat and reflects it back in the same manner (sans sweat, of course).

Bear in mind, sheepskin is an insulator. It will not cool you down nor will it warm you up, it will just reflect and hold your body's ambient temperature.

There are two main types of sheepskin, salt-tanned and chrome-tanned. Salt tanning is the old, traditional method and, whereas it is slightly cheaper to produce, it cannot be washed but must be drycleaned. Chrome-tanning, on the other hand, is slightly more expensive, but is fully washable. Also, you need a better quality hide to start off with as the process is quite harsh. The price difference between the two, however is easily made up the first time you

need to clean the cover.

Country of origin can also play an important part in the quality and durability of your sheepskin covers. To produce a good hide (which is the most important part of your covers) the sheep must have received good nutrition throughout its life. Poor nutrition can lead to imperfections in the hide undetectable to the naked eye but can cause pilling and cracking after nominal wear. The most sought after hides come from Australia and New Zealand, due to these countries' stringent breeding controls.

One of the most fiercely fought battles regarding sheepskin is how long the wool should be. Wool length varies from 5/8" up to 4". In Europe, the standard is about 2 1/2", although they are now beginning to change to the shorter lengths. In New Zealand and Australia, the standard has been 3/4" for years. Basically, all one needs is a length of wool sufficient to allow air to pass underneath one's posterior. The longer the wool, the more it tends to mat down impairing airflow. Most hides available in this country are either 3/4" or 1". Both are equally good, with the pros and cons of each balancing the other out.

Last but not least, fastening mechanisms have been the bane of many motorists and have constituted most of the problems with the seat covers. Types of fastenings range from webbing to vinyl flaps. The choice of a seat cover with an adequate fastening mechanism is of prime importance. Bearing in mind that your seat cover should last for many years, so should the fastening mechanism. A good rule of thumb is "if in doubt, yank the hell out of it."

Examine all stitching carefully and treat with care any fastening mechanism that is single-stitched. Also be sure to check what

warranties and guaranties come with the cover, i.e., color-fastness, fading, pilling, and general workmanship. Wherever possible, try the cover on to check for fit and security of the fastening mechanism.

Quality does not come cheaply, but a few dollars more can make a great deal of difference in the quality of the sheepskin you buy. An investment in a set of good quality sheepskin car seat covers can pay off handsomely by not only protecting your body from the ravages of summer and winter but also protecting your car seats as well. Most car dealers will view your trade-in with a little less disdain if the seats are in good condition.

So now that no-one can pull the wool over your eyes, go forth and get fleeced! You'll love it!



Bulb Replacement

ANDY BELL
Portland Chapter

One expects that European cars differ in certain technical ways from American cars. Two of the most obvious are that fasteners are in metric sizes, and that the cars jack on the sides instead of on the bumpers. Light bulbs are no exception, and they occasionally need replacing. This article is intended to assist you in finding the right replacements.

Most BMW's have a marking by each hamp socket that tells the C.P. (candlepower) rating of that lamp. Great, except that the lamps in the local auto section don't show a candlepower. All they show is the voltage and type

Continued on page 9

Technik Tag at BMW

DENNIS SIMANAITIS
Road & Track

SHIFT AT 2000, DON'T WORRY IF IT'S
RUNNING ON ONLY THREE CYLINDERS,
BUT CALL US WHEN THE LITTLE RED
LIGHT COMES ON

Every so often (the last one was in 1978), BMW assembles many of its research and development folks and invites the world's motoring press to chat about the automotive state of the art, as viewed from the company's striking 4-cylinder-tower Munich headquarters (the sci-fi ground floor of which, I'm told, was used in the filming of Rollerball). Now it happens I managed to miss this great flick, but I'm pleased I didn't miss BMW's latest look into the future, the 1981 Technik Tag/Technical Day/Journee Technique/Giornata della Technica. And if you enjoy multilinguality, you'd have really grooved on all the simultaneous translations.

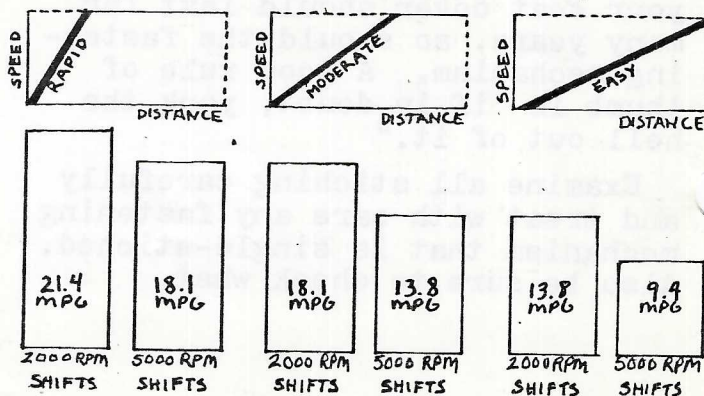
BMW is as thorough in researching things automotive as it is in putting cars together, and it's certainly refreshing to talk with auto executives who are auto enthusiasts as well (a surprising number are not). The day's conference and a fat press kit gave information well beyond space constraints here, so I'll pick out three elements that I found especially interesting and hope that you, technically fascinated reader, will find them likewise. The three are optimal driving techniques, a variable-displacement engine and a new service-interval philosophy.

SHIFT AT 2000

As someone wiser than I has already observed, the best fuel-economy device is the person behind the wheel, and BMW has expanded on this theme by studying driving techniques that optimize fuel economy. In citing their research, Bimmer engineers

note the obvious things: Avoid unnecessary revs, warm the engine by moderate driving rather than prolonged idling, shut it off during extended standstills and drive smoothly in cruise modes. Nothing here that would offend Pop Grundig, East High's driver ed teacher. But when it comes to optimal acceleration technique, guess what: The best one uses a rather heavy foot, say three-quarters to the floor, and shifting into the next higher gear at what seems like extremely low rpm, to wit, 2000. Now granted, Pop didn't like high revs; but three-quarters throttle?! My, my.

The testing involved steady acceleration from one cruising speed to another, and apparently the trend of results is independent of what these two speeds happen to be. BMW engineers looked at six different cases: rapid, moderate or easy acceleration, each shifting at 2000 or 5000 rpm. It's no surprise, of course, that high revs cost fuel, regardless of how heavy one's foot is. But the heaviest foot turns out to be the most fuel-conservative approach to acceleration. Even if one insists on winding out to 5000, for example, the three-quarters-throttle technique still gives economy equal to that of the middling acceleration short shifting routine. And the light-foot approach (Pop Grundig's favorite) not only takes longer to reach the desired speed, but comes in last regardless of when one chooses to shift. With one picture worth what it is, I'll direct your attention to the graph below.



It's interesting to note, though, the technical underpinnings of these results. First, internal pumping losses are at their lowest when an engine is running essentially unthrottled, which is another way of saying the engine doesn't have to fight a barely open throttle as it sucks its intake mixture into the cylinders. Second, reduced revs translate into considerably less frictional losses, because the latter grow essentially at the square of engine speed. Combine these, and you can see that an engine is running in its most fuel-efficient regime when it's at low revs and heavy throttle.

Curiously enough, a byproduct of this research is that BMW hasn't much faith in dash-mounted vacuum gauges rigged up as fuel-economy devices, and it's easy to see why: An acceleration at high vacuum (and as Pop Grundig would point to the gauge and believe, high fuel economy) is precisely the light-footed one that BMW says is actually least fuel-efficient. And the Bimmer three-quarters-throttle routine would have Pop's vacuum gauge decidedly into its red range, albeit not for very long. Also, we should observe that for steady cruising BMW agrees that a vacuum gauge is not without its charms. It's the means of getting to cruise we're discussing here.

As a last observation, note that the recommended short shifting would be most compatible with torquey low-revving powerplants, and, like others, BMW sees these as being the fuel misers of the future.

IT'S RUNNING ON ONLY THREE CYLINDERS!

The variable-displacement concept takes this operate-at-full-load principle one step further. In a nutshell, it's more efficient to run half an engine at relatively full load than the whole engine at

barely cracked throttle (those pumping losses again, you see). Now BMW has been working on variable displacement for some time (it was talked about back in 1978), but this year there was roadgoing hardware that ordinary mortals could actually drive.

"So what!" you say. "Cadillac is already on the streets with its V-8-6-4." True, but BMW has approached the variable-displacement concept from a simpler direction and, what's more, the company believes it's more fruitful as well. Unlike the Cadillac, there's no disconnection of valvetrain for the BMW's idle cylinders. Instead, it's handled by interrupting fuel injection to three cylinders and routing exhaust gases from the other three into these. The idea is to keep the combustion chambers warm so they will fire reliably when given fuel again (and also to extract any residual energy that's available). The exhaust routing is done by relatively straightforward baffles, components that BMW notes are inherently less troublesome than valvetrain disengagement.

Fuel shutoff is controlled by an electronic gizmo sensing engine operating parameters, principally load. And it's calibrated to stay in 3-cylinder mode quite a bit, unlike the Cadillac which spends rather more time in full-displacement operation. Driving a variable displacement BMW 323 around the test track, I found its performance surprisingly brisk on three cylinders. Little lights on the dash indicated the driving mode, and you can feel a mite of a stumble on transitions, but you'd be able to do a lot of driving - even some stay-with-traffic city acceleration - without invoking all six cylinders.

Continued page 8

BMW research indicated the variable-displacement car gets some 25 percent better fuel economy in the European test cycle and around 20 percent improvement in mixed-mode driving. Any chances for U.S. applications of it? Maybe in time, say BMW engineers, but it would demand some tricking of our cars' 3-way converter downstream. Engineers are confident that modifications could be made, but these muddy the cost-effectiveness picture. Indeed, they admit that European availability of a variable-displacement BMW would depend on future fuel pricing. So let's look on the concept as yet another arrow in BMW's quiver.

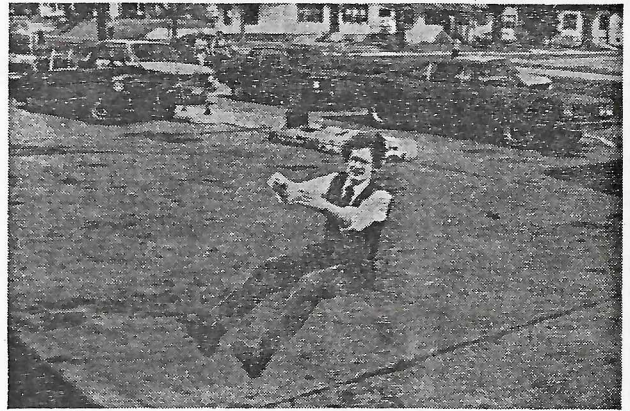
AND WHAT'S THE LITTLE RED LIGHT?

By contrast, the last item in this overview is likely to appear on next year's BMWs. It's the Service Interval Display, a dash-mounted device that translates engine operating conditions into what BMW calls "valued mileage," a very good term describing an entirely new philosophy in fixing oil-change intervals and the like.

Hitherto, carmakers have set recommended maintenance intervals pretty much based on worst-case conditions. They've had very little choice, really, what with having to worry about accelerated lubricant degradation in one car, driven flat-out in cold-weather short trips, whereas another might be driven gently in moderate climes on nice long trips that allow everything to be properly warmed. BMW's Service Interval Display remedies this by calculating service intervals based on more than simply accumulated mileage. It receives input about engine rpm, oil temperature, mileage traveled and time elapsed, and it computes a "processed distance" based on these. A sequence of green, orange and red LEDs let the driver know that everything is fine, cautionary or downright late, respectively, as far as service intervals are concerned.

I asked how these lights (which can be reset only by service folk) would affect one's warranty, but the question apparently defied translation at the time. However, BMW officials did note that moderately driven cars would be likely to run more than 20,000 km between service intervals; this, in contrast to the European-specification recommendation of 7500 km. Also, because our driving conditions tend to be more gentle, these numbers could well carry over directly into miles for U.S. cars. All in all, a clever gadget and one that I'd guess will be much copied by other automakers wanting to satisfy customer preferences for longer service intervals without jeopardizing engine durability.

As one can see, BMW is hardly resting on its technical laurels. Can't wait until the next Technik Tag.



Pictured above is Mike Lundly seated in his freshly Stelth coated 2002. Mike won the door prize at a recent Radicals for Reagan convention. Mike had his choice of two door prizes: a Stelth treatment, valued at \$1.2 mil, or a 1.2 million tax cut. It was a difficult choice but, reasoned Mike, "I figured what with inflation clipping along at its present rate, the tax cut would be used up in about three years, so I went with the Stelth job. Also the 2002 had a classic case of crizzling metallic paint. I was going to have the whole car resprayed soon, so winning the door prize fit right in with my plans."

from BMW Von Norden

Bulb Replacement

continued from p.5

number. So how do you get the right lamp? By reading the following type number-to-C.P. cross reference.

**Front side lights and turn signals: This is usually a single lamp with two filaments. Specifications call for 21 C.P. Flasher and 5 C.P. sidelight. The nearest equivalents are:

6v only. #1154 21/3 C.P.

12v standard. #1034 32/3 C.P.

12v heavy duty. #1157 32/3 C.P.
Most people use the #1157 because the flasher filament is rated at 1200 hours instead of the 200 hours on the #1034

**In the tail-light assemblies on BMW's all lamps are single filament, single contact, bayonet base lamps. There are some variations on physical glass sizes. The tail-light itself is a standard bayonet with a small glass

bulb. This is low powered and is normally the only lamp that will fit into the small hole in the reflector assembly. The cross reference follows:

6v only. #63 3 C.P. 1000 hours.

12 v standard. #67 4 C.P. 5000 hours.

12 v heavy duty. #97 4 C.P. 5000 hours - use for rough areas.

12 v brighter lamp. #89 6 C.P. 750 hours.

If you really want a brighter lamp there is one with a slightly large larger bulb that will still fit through the small hole:

12 v only. 31003 15 C.P. 200 hours.

**The turn, back-up, and brake lamps are rated at 21 C.P.:

6v only. #31129 21 C.P.

12v standard. #1141 21 C.P.

12v standard. #1161 22 C.P.

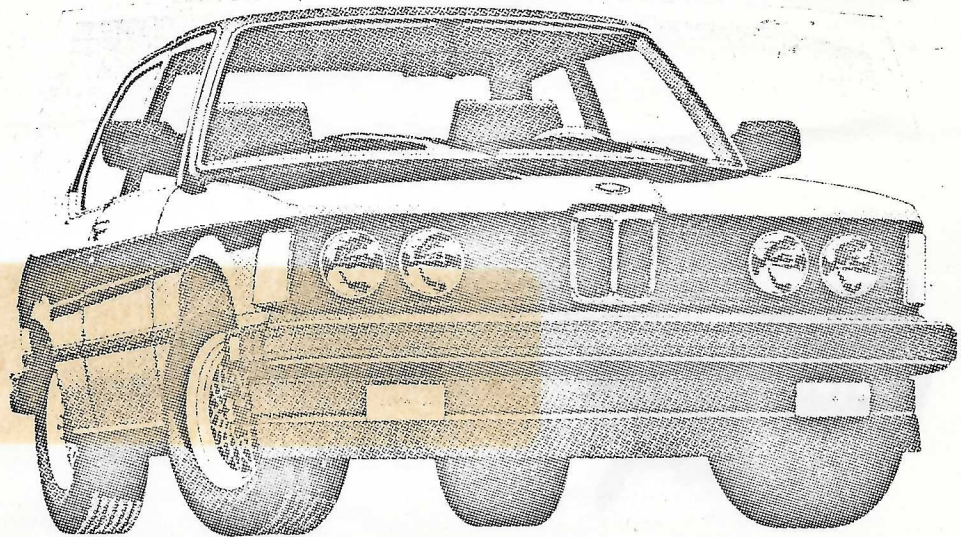
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