

# der bayerische

JULY 1980

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## Phenomena, Notes and Comments

A tip of the hat to Chick Stanton of Heishman BMW for his great talk at our last meeting. The Cannonball race he described, buzzin' from NYC to Redondo Beach, LA in 34 hours is evidence that there are few souls left that have not been legislated into mediocrity (we steal everything—ed.). For you thick folks, 3,000 miles divided by 34 hours equals about 90 miles per hour **average**. Requirements seemed to be a land vehicle (fake ambulances are handy), plenty of cash for binding situations, and a set of spheres.

Many thanks to John Hartge for his excellent job as editor. I had to try it only once to appreciate the quality work he did.

A survey of the local dealers in the Washington area shows they were really dealing on the 528 model in early June. Can't imagine why...

*Chip*

## der bayerische

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# RADAR

by Chris Jensen, Buckeye Chapter

The National Bureau of Standards released a report recently examining some of the allegations/findings of the Miami radar case. It contains some interesting information of the capabilities of various radar units.

Unfortunately, NBS has refused to reveal which of the six radar units tested were which. Instead, they were given various letter designations.

Fortunately, the NBS included on its charts some information on the tuning forks used with each of the radar units. Different manufacturers use different tuning forks and that enables the units to be identified.

Perhaps the most used radar unit in Ohio (and everywhere else) is the K-55 manufactured by MPH Industries of Kansas. Despite the name, the unit is an X-band radar. Funny thing, though—nowhere in its literature does MPH indicate that the unit is X band. They were asked about this recently by the Nebraska Judiciary Committee and an MPH official stated there was no intent to deceive the police; the unit was named after another company official whose first name is Ken. Right.

The K-55 lists for about \$2,000 but it has sold for as little as \$375 in quantity. The Washington State Highway Patrol has refused to buy K-55s due to what they describe as false readings.

MPH Industries claims the K-55 has a range of up to one mile. Radar experts working for the Electrolet Company (makers of the Fuzzbuster) have indicated that its range is closer to 1,200 feet. The NBS tests showed it to be less effective than that.

The NBS range tests were conducted on several two lane roads. Three vehicles were used against each of the radar units: a Thunderbird, a Winnebago motor home and a Pinto.

Against the Thunderbird, the best the K-55 did was 422 feet before it locked on and gave a readout. The best against the Winnebago was 819 feet and it did not register the Pinto until 317 feet—just about spitting distance.

The K-55 is the unit which has the antenna sitting on the dash. It is a triangular-shaped affair and it is mounted on a swivel so that the policeman can easily use it forwards or backwards. Facing backwards, however, the unit **cannot** be used in the moving mode.

Also tested were two of Kustom Signals' models, the MR 7 and MR 9. The units are basically the same, with the newer MR 9 having its circuits updated to ease a problem known as batching which occurs occasionally when the patrol car speeds up or slows down suddenly. The radar unit becomes confused and attributes the change to the target. This, of course, occurs only in the moving mode.

The Kustom Signals units did far better than the K-55. Against the Thunderbird the best range was about 1,900 feet. Against the Winnebago it was about 3,500 feet, while the Pinto came in around 2,323 feet. However, most of the readings for the BMW-sized Pinto were in the 800 to 1,200 foot range.

The MR 7 and the MR 9 are easily identified. They have the large antenna which hangs on the rear window, either inside or outside, behind the policeman. Both units are X band. Kustom Signals also makes the KR 10 and KR 11, which use K band and are considered two of the most sophisticated units around. Neither the KR 10 nor KR 11 were tested because they were not specifically mentioned in the Miami case.

About the best range found against the Pinto in the NBS study was 3,950 feet. That was registered by the MV 715, a model made by Decatur Electronics. Experts note that while such readings may be possible, police obviously have to see what they're reading and most of the time they are working in the 1,000 to 1,500 foot range.

Another interesting item in the NBS report concerns on-off or kill switches used to defeat the folks using the godless radar detectors. The idea, of course, is to wait until the scofflaw comes within range and then, blam, hit the switch. Without any radar beam to detect, the officer figures he's gotcha. Sometimes he is right.

With the K-55, the power switch took about 2.5 seconds to register a valid target speed. Using a kill switch (which comes on the K-55 as a nifty option in a little handset) the NBS did not record an elapsed time. Instead, it noted only that "the last previous valid reading displayed momentarily." Huh?

The MR 7 and MR 9 took about one second with the on-off switch in the stationary mode. They took about 25 seconds in the moving mode. The difference is apparently because the unit needs the extra time to calculate its own speed, the target's speed and then give a readout. Most of the other units were in the two or three second range for the on-off switch in the moving mode.

Also tested were two hand guns, the Speedgun 6 and Speedgun 8, both made by CMI. The 8 has a kill switch which registered .2 seconds stationary—that's right: 0.2 seconds. In the moving mode, however, the kill switch took 5 seconds.

Depending on the unit, you can see what the chances are against a radar detector. The edge for scofflaws is still with CB radio. With pulsed mode radar, if the policeman takes a shot at one car, the scatter can travel down the road and set off radar detectors.

One final note on the K-55. The NBS study found that a CB radio used as far as 175 feet from it would cause readings from 60 to 70 mph. Nice, huh?

It is not at all hard to keep an engine clean—just 50¢ or a dollar every month or two will suffice at the drive-in carwash.

**However—** Here is the recipe to get a dirty engine clean. Do it. It doesn't involve any expertise.

1. Buy a one quart can of Gunk at any auto parts store. Approx. \$3.
2. Buy one gallon of mineral spirits. Approx \$2.
3. Buy a parts washing brush. In lieu, get a 1" or 1½" **cheap** paint brush. 50¢ at the drugstore.
4. Save a one pound coffee can.
5. Get a large Baggie (plastic refrigerator bag) (two for carburetored cars) (three for six-cylinder carburetored cars).
6. Fill coffee can ¼ with Gunk, ¾ with mineral spirits.
7. Start cold engine. Run four minutes. Stop.
8. Place Baggie over distributor.
9. Remove air cleaner housing (carburetored cars). Place Baggie over carb top.
10. Brush Gunk mixture everywhere. **Everywhere.** Engine, accessories, inside fender panels, firewall, underneath hood. **Everywhere.**
11. Attack heavy concentrations with Gunk mixture and brush until you can see paint or bare metal.
12. When you think you have dislodged all the grime possible, get the garden hose. Spray with a firm stream all of the areas you have brushed. Do not be surprised to see the water turning white—this is the oil emulsifying.
13. Remove the Baggies and start the engine. If it won't start, remove the distributor cap and wipe the inside dry with a lint-free paper towel. It will then start.
14. You will find after the engine compartment dries that there remains some crud, especially in little nooks and crannies. Next time, attack these with an old toothbrush and the Gunk mixture.

Your engine will be much happier if it is clean.

Coonass Courier

## BMW M1 AND PRO-CAR SERIES

Bad news all around in this topic. The new head of Motorsport, Dieter Stappert, along with the Munich fathers have killed the Group 5, 850 HP M1 project. Motorsport, however, is still fighting to get the car homologated. The Procar series, developed by BMW and run before Grand Prix races, will no longer be run by M1's. Other marques, including Renault, are considering campaigning vehicles. All in all, the M1 has turned out to be a real disappointment. Apparently the cost of the program exceeded anything the Munich fathers had ever imagined.

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Tina CHAMBREAU  
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## COMING EVENTS

August -Smithsonian tour  
see article in this issue

September- 9/7/80

Rally to Summitt Point  
Meet at 7:30 AM at parking lot  
across from VOB for 8 AM  
departure. Bring food and  
drink- some provided by club also.  
This is the SCCA regional race.  
There will be parade laps and  
a BMW corral. CB will be helpful  
for ride up and back.



## PRESIDENT'S MESSAGE

Recently I was offered a paint job on my 1977 320i by BMWNA. I was to pay part and BMWNA the rest. I was not the least bit enthusiastic about having a "painted car". I postponed the decision several weeks because of past experiences with paint shops. I investigated every shop around that does BMWs and only found one that was unequivocally recommended by former customers. I was a bit skeptical but I went ahead with the paint job and now I can add my voice to the others who recommended it so highly to me. The shop that I am talking about is Wagonwork in Alexandria. There is a good chance that some dealership might have recommended Wagonwork to you in the past, but it's unlikely your insurance company did. Wagonwork might be a little more expensive than some other paint shops but you get a lot of quality for your money. It would probably be a good idea to know exactly which shop you would like to have fix your car in the event of an accident, because you will not have much time to decide when your car is hooked up to the tow truck.

A lot of you 320i owners have gone through every possible permutation of tire and balancing device to get rid of that front end shimmy and you have amassed a large store of knowledge about area tire dealers and various equipments. By now we all know that there is an official BMWNA solution involving a specific tire balancing machine, the Autodynamics Tire Matcher System 6000, which can be found in this area at VOB BMW in Rockville. I ran across the same machine at Central Tire Discounters in Laurel, Md., but in addition they also have a Hunter F70 Computer Dynamic Alignment machine which I found of great value. This machine can be used in conjunction with tire matching to select the two tires on your car with the least amount of belt run-out to be put on the front two wheels. If anyone needs a camber adjustment, they also have a diabolical machine to bend Macpherson struts. I need a camber adjustment but I just can't bring myself to let some machine inflict this indignity on my shock towers (I was told that only the knuckle at the bottom of the shock gets bent).

The next time you are in the Rockville area, you might stop in at VOB to browse the BMW Boutique. Jackie Rankin has a corner of the showroom for her boutique and indeed it is well stacked. She has ski jackets, parkas, a multitude of shirts, beer mugs, key fobs, etc., all at a discount price for BMWCCA members. In addition to the goodies from BMWNA, she has obtained a number of items not found in other boutiques. It is a lot easier to shop where you can handle the goodies and try on the jackets and really make sure that you are getting what you want instead of ordering and waiting four or five weeks for the mail. So let's all support Jackie's boutique and hope that she is able to keep it open for a long time to come.

**THE BEST**—A contest, sponsored by the German magazine **auto motor und sport**, asked readers to vote for the best cars in a number of categories. In the class "Sedans up to 2500cc" the 323i took 42.5% of the vote over second place Audi 100 5E (our 5000) with 22.4%. The Mercedes 500 SEL took the over 2500cc honors with 52.1%, the second place BMW 735i got only 16.1%. The 528i placed 5th in the same category with 5.7% of the vote. The closest race was in the over 2000cc sports car class. The Porsche Turbo 3.3 edged out the BMW M1, 35.8% to 33.4%. It is interesting to note that German cars took first in all categories.

(Mark Barkowski)

Tarheel Footnotes

## CLUB STORE

### GAS FILTERS

Part #	Model	Price
00610	2002tii and 530i to 78	\$ 4.00
GF140/1	320i 77 and 78	\$ 8.00
GF146	530i 79 on	\$10.00
GF148	320i 79 on	\$12.00

Contact Chuck Garrish

# BMW, Unhappy With New Holiday Law, May Take A Rest From Expansion Plans

WALL STREET JOURNAL  
14 MAY 1980

Bayerische Motoren Werke AG's expansion plans may take a holiday due to a new Bavarian state law that gives workers 14 days off a year plus regular vacations.

"We have among the highest labor costs, the highest travel costs and the highest telephone bills in any country in the world," Eberhard von Kuenheim, chairman of the producer of BMW cars, said. "Now we have this."

The law, passed last week by the Bavarian legislature, calls for 14 state holidays a year by 1984, one more than currently allowed. The paid state holidays are in addition to the average four or five weeks of vacation that most German workers get.

Mr. von Kuenheim said the increased costs of the law, combined with an unstable world economic outlook and the poor performance of the automobile industry, could lead to delays in setting up a new plant, despite current full capacity at BMW's two existing plants in Bavaria.

The auto producer, still influenced heavily by the Quandt family, which owns more than 25% of its stock, is keeping its plans for a new factory confidential. But, while declining most comment, officials concede privately that a plant in the U.S. is unlikely at present because of the limited American sales of 34,500 units in 1979.

Despite its seeming reluctance to locate a plant outside Germany, the company is counting on its export sales to make up for a lag in the domestic market this year, Mr. von Kuenheim said. In line with this push, exports in the first four months of this year were up 13%, to 71,000 units, while domestic sales were off by 9%, at 56,000 units.

In the first third of the year, the company's sales totalled the current equivalent of \$1.39 billion, up from \$1.32 billion the year before. Profit figures weren't released. Given its initial performance, Mr. von Kuenheim said that BMW should be able to reach last year's consolidated sales of \$3.81 billion, up from 1978's \$3.48 billion, although a slight decline isn't discounted.

The reported good performance of the company in the first four months of this year, comes in contrast to German analysts' predictions that, without a small auto, the maker of high performance cars could be hit hard by the energy crisis. As if to dispel such worries, Mr. von Kuenheim said that orders for the company's 700 model, its largest series, reached record levels in the first quarter because "it's a rational big car."

THE WALL STREET JOURNAL

Tuesday, June 24, 1980

## BMW Recalls 320i Autos Due to Throttle Problem

MONTVALE, N.J.—BMW of North America, Inc. said it is recalling all 1977-79 model 320i cars because defective rubber sleeves around the return springs of the throttle could cause the throttle to stick.

BMW said it received five customer complaints and two accident reports about the problem, although the company said there weren't any injuries in connection with the problem. BMW didn't estimate the cost of recalling the approximately 66,000 West German cars.

**LIMITING REVS**—a rev-limiting rotor is cheap insurance against over-revving your expensive engine. The part number for the rotor that fits the new 320i (and possibly other Bimmers) is 12 11 1 362 221.  
(Phil Williamson) Tarheel Footnotes

## THE NEW PIRELLI P8 TIRE

The P8, a tire which is said to provide fuel savings and, at the same time improved performance capabilities, is being manufactured by Societa Pneumatici Pirelli, Milan, Italy. Widespread use of this tire, the company contends, could cut U.S. oil consumption by up to 30 million bbl/yr. According to Franco Bottasso, technical director at Pirelli, the P8 represents technological achievement in three main areas of tire design and construction: shape coefficient, materials, and tread pattern. Shape coefficient refers to the ratio of height to width, which is a low-profile ratio of 65% on the P8. It utilizes materials with lower hysteresis, that is, more elastic, which leads to lower rolling resistance. Tread pattern of the tire consists of blocks with many transverse grooves, forming a series of "islands". Studies show that this pattern provides maximum longitudinal flexibility, reducing tread deformation.

(This article was taken from the Research Trendletter of **Industrial Research and Development**, April, 1980)

Provided to **Das Bimmer Rundschreiben** by Steve Nelson, Lone Star Chapter.

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## TECH TIP

by Archie Crow  
Lone Star Chapter

My 1977 320i has been plagued with a very minor oil leak for about a year. I always thought that it was leaking from the underside somewhere because the top of the engine was always clean. The service department (Bavarian Motors, Ft. Worth) looked at my car and said it was probably a seal between the engine and transmission, but was not financially practical to repair until the clutch or other transmission work was to be performed.

Last weekend while de-smogging my engine, I noticed a small drop of oil glistening at the rear of the cylinder head. A closer investigation revealed that indeed oil was leaking out around the top, rear cylinder head bolt. This bolt is located just forward of the oil pressure sending unit and is subject to an extremely high oil pressure.

I have now learned that this is a fairly common oil leak. The trick to stopping the leak is to remove and clean the guilty bolt, apply a thin layer of gasket sealer, and reinsert. Be sure to check your owners manual for correct head bolt torque.

After de-smogging my engine the car runs stronger, much smoother, and very quiet (even with headers). I haven't had a chance to check gas mileage yet but will keep you posted. The basic procedure is very simple with the guidance of an experienced BMW service engineer.

### SMITHSONIAN SILVER HILL TOUR

On August 9, 1980, the National Capital Chapter will host a tour of the Smithsonian Silver Hill Air and Space Facility, followed by a picnic. We will meet at the Smithsonian facility at 1:45 pm for a 2 hour tour.

After the tour, we will drive to Louise Cosca Park (10 min). The club will provide charcoal, hot dogs, hamburgers, chips, beer, and soft drinks. We might find a Frisbee and volleyball. This extravaganza will cost you \$2/person. Make your reservation by July 21 with Ira Winthrop at 301-249-6685.

BMW, the West German automobile manufacturer, will enter Formula 1 racing next season by selling its 1.5 liter turbocharged engine to Brabham.

Brabham will have exclusive use of the engine during the 1981 season, but BMW will sell the engine to other teams in subsequent years.

The BMW Formula 1 engine is based on the four-cylinder production engine used in the BMW 320i sedan sold in the United States.

BMW has used a turbocharged four-cylinder engine in sedan racing in both the German Touring Car Championship and the International Motor Sports Association (IMSA) GT Series in America.

The development work on the BMW engine will be carried out by Paul Rosche, member of the management and chief engineer of BMW Motorsport GmbH, BMW's competition subsidiary.

BMW has been the most successful engine builder for Formula 2 during the 1970's, winning nearly 70 percent of the races.

Brabham, managed by Bernie Ecclestone, is currently tied with Renault in the Formula 1 Constructors Championship, and Nelson Piquet, Brabham's number one driver, is in a first place tie for the World Championship of Drivers. The team currently uses Ford Cosworth DFV engines.

### TURN YOUR RAIN ROOF BACK INTO A SUN ROOF

Under each front fender well there is a small black hose with a dangling open end. This hose must be in a vertical position, clear of all debris, road dirt, moths, etc. The hose goes through the windshield pillar and connects to each of the drain troughs in the corners of the roof opening. Clean the hose with a piece of coat hanger wire to remove accumulated debris (my right hose was packed solid for the last four inches with debris). Check by carefully pouring water in each drain trough and watching it run unrestricted out the tubes.

### BMW KNEE DEEP IN F 1

BMW Munich has reversed its original decision of not supplying F1 engines. In a recent announcement, the company indicated it will develop a 1.5 liter, 4 cylinder turbocharged engine, delivering nearly 600 HP. Munich will supply power plants for Brabham cars in 1981. Bernie Ecclestone, Brabham head, is very influential in the F1 racing circles, and BMW expects Bernie's weight to be thrown in favor of turbocharged engines when the F1 powerplant battle comes to a head. Jochen Neerpach, former Motorsport head, who had left BMW for Talbot with a roll of 1.5 liter engine blueprints under his arm, is probably in pretty bad shape, unless Munich rehires him to manage their effort.



FROM FORTUNE MAGAZINE

Not just in Germany, but in the U.S. and even Japan, a demanding management and a line of "young, fast, responsive cars" are outrunning the auto recession.

# At BMW, Performance Counts

by ROBERT BALL

Ten years ago, when Eberhard von Kuenheim, now 51, took its wheel, Bayerische Motoren Werke was a speck in the rearview mirrors of Germany's other automobile manufacturers. But just as drivers on the autobahn are often startled at how fast that familiar white and blue badge and twin-ellipse grille can run up, Volkswagen, Opel, and Daimler-Benz must be surprised by BMW's smart gain in the corporate passing lane.

Sales have grown from 1.7 billion marks in 1970 to 7.4 billion (\$4 billion) last year, and have trebled in the years since the world auto industry was rattled by the first oil-price shock in late 1973. BMW can claim to be not only one of the world's fastest-growing carmakers, but also, on its own reckoning, one of the fastest-growing major industrial companies in Germany. Von Kuenheim predicts that by the mid-Eighties, sales should be

half again as large as they are today.

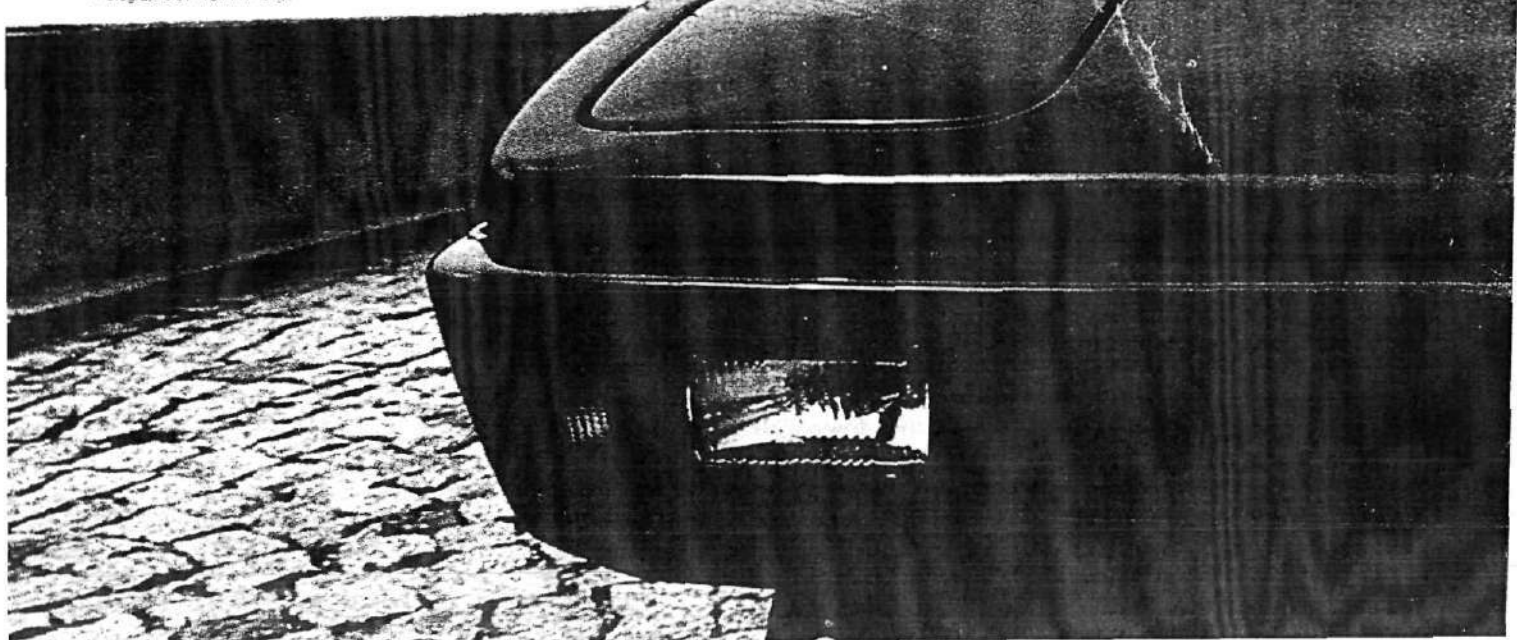
From the relatively spartan "3" series (the 316, 318, 320, 320i, 323i) through the comfortable "5's" to the luxurious "6's" and "7's," BMW makes what von Kuenheim describes as "young, fast, responsive cars for people who relish the sheer pleasure of driving." And are willing to pay for performance, he might add. The cheapest BMW, the 316, costs about \$9,500 in West Germany; the cheapest model available in the U.S., the 320i (an "i" means the car has a fuel-injection system), costs \$11,810 here. The top-of-the-line 745i is not sold in this

country, but costs nearly \$28,000 in Germany. That list doesn't include the handcrafted M1, BMW's 277-horsepower road version of a racing car; the M1 is for drivers who want to be able to accelerate to 100 miles per hour in 13 seconds and cruise at twice that speed—and who are prepared to pay \$63,000 for the thrill.

BMW's output of some 350,000 cars a year is small compared with the millions

BMW's snappiest model is the \$63,000 handcrafted M1 (parked in front of the company's headquarters in Munich).

Photographs by Wolf P. Prange



that roll off the lines of the volume car manufacturers. But the company bats in a different league. Its products are aimed at a lucrative segment of the world car business that so far has proved less vulnerable than the mass market to the jolts of inflation and zooming fuel prices.

BMW's are not fuel-thirsty by American standards; in fact, the company claims a fleet average of 26 miles per gallon. The 320i boasts an Environmental Protection Agency combined rating (city-highway average) of 29 miles per gallon—right up there with the four-speed, gasoline-powered Volkswagen Rabbit.

### A market in Japan

More than half of BMW's production is exported, with the U.S. the biggest customer, followed by Italy, France, and Britain. In the first three months of 1980, 9,664 BMWs were sold in the U.S.—an increase of 19% from a year earlier. Sales have since dropped off, but less sharply than for most American-made cars.

The BMW share of a foreign national market is nowhere more than 4%—a drop in the ocean, but a drop of pure gold. The company's continued success depends on that fragment of the market retaining its luster as the world's economies turn downward. BMW has no commercial-vehicle business to tide it over when passenger-car buyers are feeling poor. Other than cars and some small marine engines, all the company makes is a line of fast motorbikes that is neither particularly countercyclical nor secure against Japanese competition.

To help keep exports growing, BMW has been reinforcing its overseas sales operations. It now has its own distributorships in ten leading export markets. One is the U.S., where the company wants to add another 50 dealers, mostly in the Midwest, to the 400 it already has. Even Japan is a growing market. BMW expects to sell 4,000 cars there this year.

BMW was founded in 1916 to build engines for German warplanes, including "Red Baron" Manfred von Richthofen's fighters. These origins are commemorated

in the BMW trademark—a whirling propeller in the white and blue colors of Bavaria. BMW first turned to making cars in 1928, when it bought the plant of a defunct auto company in Eisenach. The first car to wear the BMW badge was the Dixi, a sort of Teutonic MG. The six-cylinder BMW 327/328 two-seater sports cars of the late Thirties rank among the most beautiful automobiles ever built.

Hitler's rearmament program put BMW back into virtually full-time production of aircraft engines. The company made the air-cooled radial engines that powered Luftwaffe aircraft as diverse as the work-

horse Ju 52 transport and the fast-climbing Focke-Wulf 190 fighter. One of the world's first combat jets, the Messerschmitt 262, flew with a BMW engine. Bombs flattened the company's Munich plant during the war, and after it ended, the BMW auto plant at Eisenach proved to be in the Russian zone.

The company started from scratch after 1945, literally beating cylinder heads of unfinished engines into pots and pans. Motorbikes followed. By the mid-Fifties, in an effort to get going in cars again, BMW's management embarked on a near-fatal effort to work both sides of the street. The company turned out a few expensive models harking back to the prewar cachet of BMW sports cars, while producing in volume a cheap "bubble car" that looked something like a washing machine on wheels. Unfortunately, the real market proved to be in the middle of the road. Germans were ready for something more than basic transportation, but couldn't yet afford luxurious cars.

By 1959, BMW was deeply in the red, its stock was on the floor, creditors were howling, and a group of banks was preparing to administer the *Gnadenschuss*, or death blow, by selling the remains of the company to Daimler-Benz. Some dissident stockholders and dealers approached one of Germany's wealthiest men, Herbert Quandt (see box, page 84), seeking to have him save the company. Quandt bought 13% of the stock, and his half brother Harald took up an equal amount, giving them effective control of BMW. The size of their initial investment has never been revealed, but was probably less than \$1 million.

With the Quandt millions behind the company, its credit was restored. The new owners put in fresh management, with instructions to get out a new middle-range model as quickly as possible. The BMW 1500 appeared in 1961, to the cheers of the German motoring public. Two years later, the company paid its first dividend in 20 years.

Herbert Quandt came to regard BMW as his *Lieblingskind*—favorite child. When

*continued*

## Three Cylinders for the City

"The energy shortage is going to be topic A for the rest of our lives," says Eberhard von Kuenheim, BMW's chief. But his customers demand performance—and that, he believes, requires a straight-six engine. Even the smaller BMW models that are now powered by four cylinders will be given six before long. Von Kuenheim counts on innovations in both diesel and gasoline engines to enable BMW buyers to enjoy six-cylinder performance with four-cylinder fuel economy.

Many BMW models already boast a microcomputer that constantly adjusts ignition timing and fuel injection. Von Kuenheim believes that this system, plus advances still on the drawing board, "can cut fuel consumption, noise, and pollution by tens of percents, with no loss of performance." BMW is a partner in an Austrian plant that will turn out 100,000 newly designed six-cylinder turbodiesel engines a year, beginning in 1982. The company is close to bringing out a fuel-saving gasoline engine that develops maximum power at a lower-than-usual number of revolutions per minute. Further down the road is a six that uses only three cylinders in city traffic. The others cut in on the open road.

In ten years as boss of BMW, Prussian aristocrat Eberhard von Kuenheim, 51, has made the Bavarian company's performance as lively as that of its cars. Sales have quadrupled and profits have multiplied even faster.

Harald demurred at raising their joint stake in the company, Herbert went ahead alone, building up a majority holding in his own name. After Harald's death in 1967, Herbert Quandt acquired his brother's share, making him owner of about two-thirds of the stock. The remaining third is widely held.

Quandt handpicked Eberhard von Kuenheim in 1969 to run the company, with instructions to transform it into a major power in the quality-car market. Or, as von Kuenheim prefers to put it, "from a German- into a European-sized company." A Prussian aristocrat whose bearing is agreeably unmilitary, he carries his forebears' penchant for understatement to extremes. He gives his place of birth simply as "East Prussia." In fact, he was born on his family's estate, Juditten, one of the largest in East Prussia. Both of his parents were killed by the Russians; von Kuenheim, then in his teens, had earlier escaped by sea to what is now West Germany.

### Man with a license

Ending up in Stuttgart, he worked as a trainee at Bosch after the war and took a mechanical-engineering degree in 1954. As a rising young executive at a Hannover machine-tool company, he met Harald Quandt, who persuaded him to join his staff in 1965.

For four years, von Kuenheim served as a top-level troubleshooter in the Quandt group of companies. These include Varta, Germany's leading maker of batteries (annual sales: \$755 million); Altana, a food and pharmaceuticals company (\$500 million); and smaller companies that make everything from air filters to Mauser pistols. Von Kuenheim says that when he was put in charge of BMW, he had only one qualification for running an automobile company: "I had a driver's license."

He embarked on a bold program of expansion and stuck to it even when the opening of a second assembly plant near Munich in 1974 coincided with the first major postwar slump in the European au-

tomobile industry. As principal shareholder, Quandt has backed von Kuenheim's judgment with well over \$100 million of his own money. The capital of BMW has been increased a number of times, from the equivalent of \$25 million in 1969 to \$300 million today. Quandt has kept the family's share of the company at around two-thirds.

He has fared well with the investment. Like other successful German companies, BMW prefers to squirrel profits away as reserves rather than distribute them as dividends. So the best—though indirect—measure of BMW's growth in earnings is the rise in corporate income taxes paid. These went up nearly ninefold, to \$219 million, between 1970 and 1979. Thanks to management's frugality, BMW's balance sheet is solid. Interest earned on liquid funds last year surpassed interest paid on borrowed money. Until now, the company has financed most new investment internally, out of a healthy cash flow. All

this solidity is mirrored in the BMW share price of about \$90, which makes Herbert Quandt's stake worth over \$500 million.

Von Kuenheim has kept the management lean—only 150 managers for more than 40,000 employees, which, as one of the 150 puts it, "means you can't hide." A stickler for punctuality, von Kuenheim maintains a certain distance from his subordinates, and first names are not used, up or down. Instead of memos, he prefers verbal reports delivered in crisp general-staff fashion. Aides who wander get reminded of the boss's Prussian heritage—he cuts them off.

### "You do your job"

Von Kuenheim shows an engineer's impatience with the loftier forms of management theory. "At BMW," he says, "we don't practice management by this or that. You do your job and then you can philosophize about it afterwards." He adds: "Leadership can't be learned. You have to





## On the Lookout for Good Sons-in-Law

have the nose to smell what's going on. You have to have ideas, to take initiatives, and you have to get up one hour earlier than the others." His day in the office starts at 7:30 A.M. and usually goes on to 8 or 9 P.M. He has no deputy on the eight-man management board. The average age of the board members is only 50. "However," von Kuenheim comments wryly, "as the board's membership is stable, it is getting older every year."

Von Kuenheim has budgeted more than \$2 billion for expansion during the next five years—the company's most ambitious capital-investment program ever. Among the projects will be a new assembly plant, BMW's third, probably near the Bavarian-Austrian border. Its output—eventually 150,000 cars a year—will be needed if the company is to hit its annual sales target of around 500,000 cars by the mid-Eighties. More than half those cars are slated for export.

### Be right the first time

By the Nineties, von Kuenheim believes, "production costs in Germany will be too high for small, cheap cars." Others—including General Motors' executives—speak of the "world car," but von Kuenheim believes such a car will be "limited by the modifications required to meet uncoordinated national regulations." He concedes that large volume spreads development and tooling costs, but he notes that quality-car manufacturers can more easily recover their costs through price than can volume producers. He reckons optimum plant output to be between 800 and 1,100 cars a day, just BMW's range, and he notes that a smaller company can adapt quickly to changing conditions.

With limited resources, he says, "we have to be right the first time," and that's what he expects BMW to be. "German automobile technology has always been the best in the world," he declares, with a patriot's pride. With a manager's optimism, he adds: "What I see for the Eighties is a worldwide overcapacity in the automobile industry, but a shortage of BMWs." **E**

Herbert Quandt, 70, the man who owns most of the stock of BMW, bears a name that ranks high on any list of powerful German industrial dynasties. The Quandt family's holdings in BMW and other companies are worth well over \$1 billion.

The fortune was founded by Günther Quandt, Herbert's father, a textile-company owner who held various government posts during World War I. During the inflationary postwar years, Günther shrewdly bought companies with borrowed money. He lost many of his assets in World War II, but was able to rebuild his fortune before his death in 1954. He left everything in equal portions to his two sons, born of different mothers.

Günther Quandt's will created a sort of enforced partnership between two very dissimilar personalities. Herbert, the elder son, has been almost blind since adolescence. Always introspective and judicious, he was given a thorough business training by his father. Harald, 11 years younger than Herbert, was the son of Günther's second wife. She divorced Günther in 1931 and married Joseph Goebbels; Harald grew up as the stepson of Hitler's propaganda minister. Fun-loving and mercurial, Harald died in 1967 in the crash of a plane he was piloting from Germany to the Riviera.

### A deal with Kuwait

Despite the dissimilarities, Herbert and Harald worked well together. They bought a substantial stake in Daimler-Benz on a 50-50 basis in the late Fifties and in 1960 shared in the purchase of 26% of BMW. Later, Herbert bought more BMW shares on his own.

In 1973, Herbert swapped most of his Daimler stock for his late brother's stock in Varta, a big battery company, and BMW. Harald's heirs—his widow and five daughters—then sold their entire stake in Daimler, 12.5% of the company, to Kuwait. They've never said how much they got, but it was probably around \$500 million. They put most of the money into non-industrial investments, including U.S. real estate. Harald's widow died 18 months ago,



Herbert Quandt

and the five daughters now control the fortune.

Herbert Quandt—with the help of his principal lieutenants, Count Hans von der Goltz, 53, and Eberhard von Heusinger, 54—redeployed his assets after he got Harald's shares in Varta. The company had become something of a conglomerate, and he split it into three independent public companies: Varta, Altana (food and pharmaceuticals), and CEAG (air filters, pollution-control equipment).

From three marriages, Quandt has four daughters and two sons. The eldest daughter is in her 40s, the younger son is 14. Last year, Herbert settled all his Varta stock on the children of his second marriage—two daughters and a son—so that they, in his words, "can begin to shape their own future." He has given up his full-time post as chief executive of Varta, and his elder son, Sven, 23, has joined the company's supervisory board.

Quandt's shares in BMW, Altana, CEAG, and a fourth public company, IWKA (which makes guns, as well as industrial machinery), presumably will pass, at least in part, to the children of his first and third marriages. Quandt once commented that of course he hopes his sons will follow in his footsteps, but he "wouldn't mind good sons-in-law either." None of his daughters are married.



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