

K100

The New 1000 Four from BMW

Water cooling, ohc and fuel injection are features of an in-line engine laid north-south and flat in the chassis.

Europe's most advanced motorcycle represents an investment of £100m — and an act of faith — by BMW

"The truth is that the flat-twins, admirable in so many ways, were beginning to have a vintage, almost primitive, look and sound"

IT IS entirely consistent with the legend of German excellence, some say superiority, in design and engineering that the adoption by BMW of a straight-four engine, cylinders in line with the wheelbase, for its new motorcycle should be accepted as, somehow, inevitable. About two minutes in the company of a technically well-primed BMW executive is long enough for any averagely suggestible outsider to be persuaded that such a layout represents the best — the *natural* — form and arrangement of a top-class motorcycle engine and that only the crass commercial instincts of the far-off mass producers, who are of course devoted to the profit motive and, hence, such inferior designs as across-the-frame fours and vees, have kept it out in the cold for so long.

However, the background to the five-year gestation of the new models does not support such olympian views of BMW's ways. There was at the beginning more than a hint of an understandable desire to be different. From the Japanese, that is. Flat fours were considered,

and vee fours, across or in-line with the frame, and transverse fours — even "something like the Ariel Square Four" — and all had been dismissed as falling short of BMW criteria in one way or another*. But the implication was clear too that such designs — Mr Turner's vintage effort excepted, presumably — had been tainted by Japanese endeavours and thus rendered unworthy of development by Europe's largest producer. A question at the press launch in Cannes as to whether the K100 project would have been abandoned at any time in the past five years had it been known that a Japanese company was working along similar lines was given much thought before, finally, a BMW man said "No."

The Japanese are seen by BMW as the villains in international motorcycling. Indeed this has been the case for 20 years or more but previously the Germans, with famed discretion, have refrained from airing their views in any arena more public than bar or restaurant, and then at best informally or, when speaking to journalists, with something of an "off the record" prohibition. But now, as their research highlights the year-old and continuing slump in motorcycle sales in Europe, they have no hesitation about indicting the Japanese makers for their "ruinous cut-throat competition".

valves and crank, and a straight path for a drive shaft to the rear wheel. The Page four was of around 700 cc, had pushrod-operated valves, fan-ducted air cooling, and a single carburettor. In other respects, even to the then-rare self-starter, it followed the lines taken up by BMW 20 years later. Engine and transmission were fitted into a barely modified Leader chassis. With the usual side panels in position there was little to distinguish the prototype from a standard two-stroke Leader. It was, we believe, the first motorcycle of its type — and the only one until the arrival of the K100. See the leading article for more background.

*It is, however, reasonable to wonder if the BMW men had seen anything of the English designer Val Page's straight-four of 1959. Page had recently finished his epoch-making Ariel Leader. The straight-four was his final effort for Ariel, by then controlled, and being squeezed out of existence, by a BSA management which had little time for Ariel initiatives. It reached the prototype stage. Experience with the Square Four had convinced Page that a multi had to be in-line. With unique flair, he saw that if the block was canted on one side, crankshaft in line with the wheelbase, the advantages would be low-down weight, unbeatable access both to

Over-production by the Big Four in recent years, leading to huge stocks of unsold motorcycles and consequent price-cutting, with deleterious knock-on effects on dealers' profit margins, and customer service, carries heavy responsibility for downturn in what BMW characterises rather well as "the quality of the motorcycling experience." The Japanese, continue BMW, revving up a little, have "robbed many of their pleasure in riding by irresponsible production and price policies."



"Incontrovertibly a BMW"

However as BMW are in the business of making motorcycles, and the present recession in sales caught them three years into an extremely costly new-model programme, it would be naive to expect them to be all gloom and doom. They see the K100 as an essential part of a "leisure and hobby market" which appears set to double by the 1990s — as kingpin of a range based on 800cc boxer twins which will fulfil BMW's realistic self-assessment as a small maker in a field of mass producers. Jealous of a splendid reputation world-wide — and, especially, of leadership in 750cc plus sales in several European countries — BMW declare they are ready to take on the Japanese, not in the context of ever-increasing power outputs or what is seen as technology for technology's sake but "in the struggle to preserve motorcycling pleasure."

Our experience in examining, then riding, the new K100 confirms that motorcycling pleasure has been preserved. Or even, to adopt BMW's modest prose style, enhanced . . .

But first — why was it considered necessary to have a new BMW? It is well known that Bayerische Motoren Werke are not addicted to change. It could be argued that a design which had served them through 60 years had shown itself well able to manage at least another 10 years . . . indeed any number of years into the

SEE THE NEW BMW K100 AT L&C, TUNBRIDGE WELLS.

For BMW motorcycle fans, it promises to be the greatest launch of the 80's. Did we say BMW fans? Every motorcyclist has something to look forward to in the K100.



BMW House, St. Johns Road, Tunbridge Wells, Kent.
Telephone: (0892) 39355.



THE ULTIMATE RIDING MACHINE



The BMW Club has looked after the interests of BMW riders for over 30 years.
It is a club of real enthusiasts, riders, racers and restorers.
When you buy your new (or second hand) bike ask for BMW Club details or write to the General Secretary:

64 Cavalry Drive, March, Cambs PE15 9EQ





Fighting talk: "Europe's largest motorcycle manufacturer accepts the challenge of the Japanese two-wheel industry dominating the market worldwide" (From BMW's press releases)



Views of the K100 in standard and RS (faired) form. Test riders on the twisting Cannes-Fréjus road constitute what might be termed the MCS/BMF axis. Competition time. What is the combined age of the three? No, forget that. Make it, what is their combined riding experience? Prizes of no particular value may go to correct, or near-correct, replies



future or for as long as the i.c. engine and / or the powered two-wheeler may be tolerated. Some part of the old guard among BMW owners said as much, and pointed to the 120 mph potential of past and current models in a world of sub-80 mph limits — to the undeniable simplicity and uniqueness (pace some imitative efforts from farther East) of the air-cooled boxer twin — to the still-glittering reputation of the old design, and the pitfalls awaiting attempts to achieve similar standing with a new design.

All this was to ignore some factors which (because we haven't the remainder of this issue available to spell them out) may be overlooked at this point too in favour of emphasising a very pertinent principle, on the inevitability of falling back in any attempt to do no more than stand still. And standing still, despite opportune tinkering from time to time with cc, brakes and rear suspension, is what BMW had been doing, with their boxer range, for years. No matter that the majority of motorcyclists apparently do not relish motorcycling at 70 mph for more than a couple of miles — and BMW twins will cruise at 70 across continents — or that digital read-outs, multi-cylinders and an extra gear may be irrelevant in urban situations.

These facts might have some validity in a realistic (duller) world where motorcyclists would assess their requirements on the basis of use or opportunity, and presumably be satisfied into eternity with BMW's 70 bhp twins. The truth is that these admirable motorcycles were beginning to have a vintage, it might be said primitive, look and sound. And thinking ahead to conditions which the BMW analysts foretell for the last decade of the century — only seven years away, remember — when "top" motorcycles are seen as part of the "growing leisure market", with little use as day-to-day transport, there can be no doubt that large-capacity, carburetted h.o. twins would then strike an even more archaic note among the sophisticated imports from Japan. Obviously there had to be a change. The reasons behind the choice of engine and layout for the K100 . . . apart from conjectures contained in the opening paragraph . . . are set out elsewhere, together with other independent assessments of the new BMW on the road.

As far as this correspondent is concerned, to ride the K100, faired or unfaired, was to be convinced in the first half-dozen miles that the h.o. series had had its day. The K100 is faster, smoother (of course) and altogether more in keeping with the times. If it has more than a passing similarity in the manner, if not the ultimate speed, of its going with the best of the

Japanese then that is, we suggest, inevitable and the makers should not grieve over the comparison, for there is much else about the K100 to identify it incontrovertibly as "BMW", with all that the name has come to mean in terms of design, engineering and general high quality.

"Culture shock. There is no other way to describe the reaction to the K100 of a motorcyclist who rides a BMW because he likes simplicity . . . two cylinders . . . and old-fashioned styling."

THERE are two kinds of motorcyclists who will be interested in the new K100: present BMW owners and potential ones. As this reporter has been a BMW owner for 25 years, he most certainly falls into the former category. What follows are the impressions of someone who has been told for the past 15 years that change was coming. . . .

Cultural shock. There is no other way to describe the reaction to the K100 of a traditional motorcyclist who rides a BMW because he likes simplicity, no more than two cylinders and old-fashioned styling. It is an act that BMW have got together perfectly since their re-launch in 1969, keeping up with the rest by offering the same thing in continually refined packages, with first electric starters, then disc brakes, five speeds, and later electronic ignition. All of these refinements, and many others, tended to come later rather than sooner. Caution, conservatism, or just plain commonsense? Whatever it was, it helped BMW maintain a very small niche in the market, retaining the faithful BMW owner and winning new friends when they could finally afford a BMW. One of the few safe refuges for the owner who really wants to buy British and can't, but who is still very reluctant to buy Japanese. Not for any reasons of prejudice but because, no matter how many different engine configurations come from the orient, to some riders Japanese bikes still seem to have the same bland flavour. Perhaps such an attitude says more about the owners than the bikes, but there are still a great many people around who take this view.

So how is a confirmed traditionalist to cope with this new BMW? It is everything that the BMW we are used to isn't. It has four cylinders, breaking new ground by running from front to back, but lying down so that all four sparking plugs are on the left and the sump is on the right.



A confirmed "traditionalist" coping with the new BMW

Not one but two inboard computers, one to control fuel and the other ignition. Overhead-camshaft valve operation, futuristic styling, even a digital gear indicator. It is all too much, and it takes a considerable mental effort to remember that this is BMW, who have spent 60 years resisting all efforts to change their basic philosophy, who have turned our world upside down!

We have all lived with rumour and "fact" about the new BMW. As recently as October of this year a letter from a BMW owner appeared in the owners' club magazine categorically assuring other club members that the writer had a friend in Munich. "There was no possibility of an engine of the configuration popularly supposed, that is, four cylinders mounted horizontally and longitudinally, appearing with a BMW badge on the tank." Incidentally, just what are we going to call the new design? A flat-four? A flat straight four? An in-line straight four? An in-line flat four? Yes, we know that it really is "a horizontally and longitudinally mounted four," but it is a bit of a mouthful for a quick description. Perhaps we will have to invent a new name for the K100 . . . any ideas?

Development cost of the new-series BMW is final proof, if any were needed, that the chances of any new British manufacturer starting afresh are slim, to say the least. A cool £125 million was earmarked for development and promotion of the new BMWs. They must have an awful lot of confidence to have committed that much loot to designing and producing a motorcycle, although as the bike is being made in the same factory as the flat twins at Spandau in Berlin there are beneficial tax advantages.

The philosophy behind the design of the new K series is, in spite of the apparent complexity of the machine, traditional BMW. The twin aims of lightness and low centre of gravity had to be achieved. If we take this as a basic starting point, the reasons behind the new design become more clear. By rotating the engine from the conventional upright position, weight is lowered

TO LOOK AT BMW's NEW K100, LOOK NO FURTHER THAN OUR SHOWROOM.

THE ULTIMATE RIDING MACHINE



Our showroom offers you a rare opportunity to see the newest BMW stationary. After all, we are talking about a bike that reaches 60 mph in 3.8 seconds and has a top speed of 133 mph. This performance is made possible by a new 4 cylinder engine and made smoother by electronic fuel injection.

Traditional standards, however, have not been overshadowed for the sake of mere speed. Far from it.

The K100 still handles like a bike half its size. Which isn't surprising when you consider it's the lightest 4 cylinder 1,000 cc in the world.

And, like all BMWs, it is exceptionally easy to service. (Undo 5 bolts to remove the engine; allow yourself 3 more minutes to remove the rear wheel.)

So come and see it today. The K100 is here.

HUGHES 222 TOOTING HIGH ST., LONDON SW17
☎ 01-672 3077



and with it the centre of gravity. By mounting the engine longitudinally, the crankshaft was retained in the traditional BMW style, that is, with the axis of rotation in the direction of travel. The end product is a drive train that is basically similar on both the new and the old BMWs, to a shaft via a five-speed gearbox without, as BMW call it, "power reducing deviations". The system used on the new machines is called the BMW Compact Drive System.

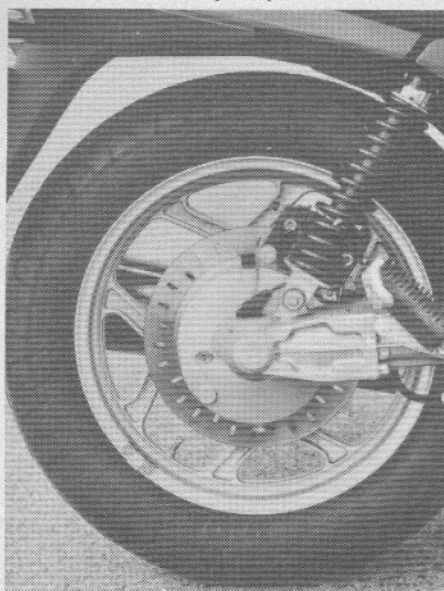
To delve a little deeper into what BMW mean by this... The power is transmitted directly from the crankshaft to the input shaft via oblique primary gearing. It rotates in the opposite direction to the crankshaft which, together with a contra rotating alternator, clutch and universal shaft, say BMW, fully compensates for the engine's reverse torque without additional weights. Power to the rear wheel is continued via a single-plate dry clutch, as indeed is the case on the R series BMWs. From here it is taken via a five-speed three-shaft gearbox, with dog clutches and a torsional vibration damper, in the input. This is intended to reduce the impact stresses on sudden load changes. There are additional dampers in the transmission system to help. The first is located before the clutch and the second is a part of the completely redesigned shaft.

The four-cylinder engine is, of course, completely new for never before has a BMW motorcycle used such a unit. However the car division are not exactly strangers to this type of engine. There was a great deal of experience of designing such units already within the company, including experience in Formula 2 car racing. It was from this that they decided that, although they had successfully used four-valve heads in racing, the advantages of ease of maintenance and weight saving were greater for the applications in a motorcycle engine. From there we move on to the remainder of the engine. A light-alloy cylinder head is used with two overhead camshafts, both mounted on five bearings. A relatively small 190 valve angle is used, permitting compact combustion chamber design and relatively straight alignment of inlet and exhaust ports for uninhibited flow. A single roller chain operates the valves and has bucket tappets, with shims accessible from above for easy servicing. Clearly, much time has been spent trying to keep the necessarily complex design as simple as possible, and the camshaft chain, located at the front of the engine, can be removed without disturbing the crankshaft, using the tools provided in the toolkit.

At the other end of the engine, the crankshaft has five bearings with balance weights on seven

crank webs. The eighth and last crank web was designed as a spur wheel to drive the secondary shaft and the clutch. To keep the length of the engine down and with it the wheelbase the engine has a fairly long stroke, 70mm and a bore of 67mm, making 987 cc. The effect visually is almost that of looking at a water cooled flat twin so perhaps old habits do die hard?

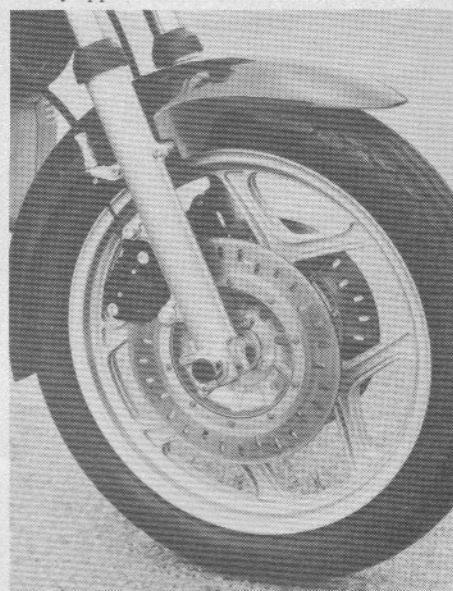
Once an engine uses liquid cooling there is necessarily more complexity, and even BMW



Single arm and suspension unit in GS/ST style

describe their oil and water cooling system as "elaborate". The oil system is multi-force feed which is said to provide sufficient oil to the crank and valves by a cog-wheel-driven pump. The oil pump casing also houses the coolant pump. This is also driven by the front end of the output shaft and pumps 2.8-litres of coolant through the cross-flow light metal radiator. When the temperature of the coolant reaches 103°C an electric fan sited behind the radiator automatically cuts in. The starter motor is conveyed over a gear on the secondary shaft and the immensely powerful generator, a whopping 460w, is driven directly by the secondary shaft. It is hard to imagine ever needing every one of those 460 watts but the use of three 60w front lights, rear lights, indicators, and all of the electronic gubbins will put the electrical needs above the 280w that is available on the R series so there is, perhaps, a need for such high electrical output.

It is a temptation to be dismissive about the use of computers or electronics on motorcycles. After all, our forebears managed with a cigarette paper and a good ear. Sometimes. Modern motorcycles have, alas, progressed beyond that stage and BMW, hitherto content, perhaps, to run just a pace behind, in one bound have moved right up with the leaders. Of course it is fashionable to poo-poo electronics and computers on motorcycles and even those who wholly approve of them can sometimes be heard



Front discs are stainless-steel, 285mm

wondering what happens if there is, in the idiom of the day, a malfunction. The answer to that is fairly simple — the machine stops and it will quite likely be quite an expensive operation to have it repaired. There is another aspect to consider, though. Modern silicon chips seem to be well nigh indestructible and modern technology is such that, because there are few if any moving parts, things just don't wear out. We hope.

The four sparking plugs are served by a digital control unit installed in a protected place just below the fuel tank. We'll quote from the press handout: "This not only keeps the ignition timing as a function of vacume and engine speeds on a graph preprogrammed in exhaustive test series but it triggers the pulse for the solenoid valves of the injection system, reduces the ignition advance to limit engine speed at approximately 8,750 rpm and switches off the injection at 8,750 rpm, thus avoiding causing

TO LOOK AT BMW's NEW K100, VISIT OUR SHOWROOM.



Our showroom offers you a rare opportunity to see the newest BMW stationary. After all, we are talking about a bike that reaches 60 mph in 3.8 seconds and has a top speed of 133 mph.

This performance is made possible by a new 4 cylinder engine and made smoother by electronic fuel injection.

Traditional standards, however, have not been overshadowed for the sake of mere speed. Far from it.

The K100 still handles like a bike half its size. Which isn't surprising when you consider it's the lightest 4 cylinder 1,000 cc in the world.

And, like all BMWs, it is exceptionally easy to service. (Undo 5 bolts to remove the engine; allow yourself 3 more minutes to remove the rear wheel.)

So come and see it today. The K100 is here.

THE ULTIMATE RIDING MACHINE

pineways motor cycle co ltd

226 Whitehorse Rd, Croydon, Surrey, CR02LB

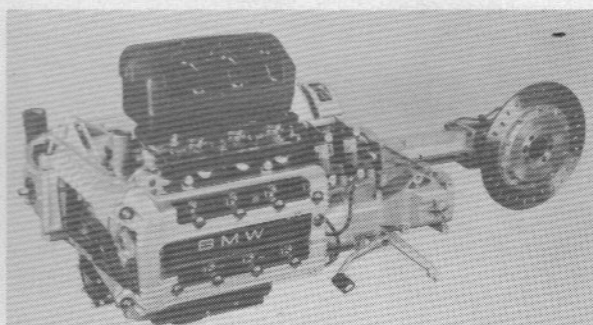
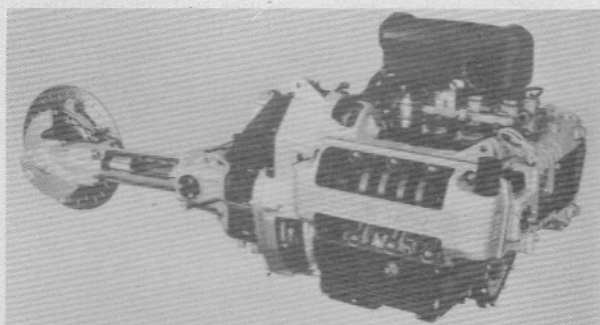
Motorcycle Sales: 01-689 5904

Service & REPAIRS: 01-683 0240



engine damage by false operation". Quite a function for a little black box, and the days are most certainly past when the DIY owner could have a little tweak to bring the fine tune back. In fact the machine to service the computers comes as part of a kit that will be a requirement of all BMW dealers.

Running in tandem with the ignition computer, the Bosch LE-Jetronic, which has been given a thorough testing in BMW cars, provides optimum fuel mixture. Installed below



The 987cc four has electronic ignition and injection. Direct drive to the rear wheel is cushioned by torsional damping. Starter and generator are mounted above the engine

the seat, this digital computer, known as the LE2, controls, again quoting the book, "in a specially economic manner the quality and duration of the injection as a function of the temperature intake air and the coolant, of the quality of the air just sucked in and the engine speed. The exact dosage of fuel at any operating condition not only leads to reduced fuel consumption but less pollution in the exhaust. A fuel cut-off down to 2,000 rpm provides additional fuel saving. The routine maintenance of the injection system is limited to a check-up of the idling synchronisation."

As the power unit is fed by an injection system a fuel pump is needed. This electrical unit is hidden in the aluminium tank and, once the rider's ear has become attuned to the unaccustomed noise from the K100 the pump can be heard operating. It can easily be removed for service by way of a large aperture around the filler cap.

It does not take an old-fashioned BMW owner to recognise that BMW really have changed direction. Having set off along the road of change, the path was clear to BMW engineers. The end product will occasion much discussion among motorcyclists and doubtless many BMW owners will throw up their hands in horror at the difference. BMW owners are not used to great change, they like their modernisation in small doses, and swallowing the new K series package all in one go might take a little digesting. It will come as a relief to those who reverre tradition to

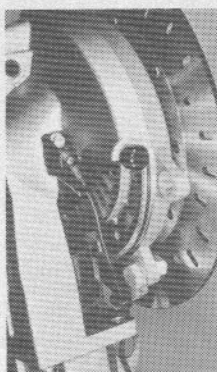
know that the R series boxers are secure for at least five years, although before long the capacity will be no more than 800cc. The plan is to make 8,000 Ks this year and 20,000 next year, with some 10,000 boxers also being made in 1984. As both machines will be using the same production line, the facility exists to adjust the balance according to demand. If, for example, the K was to go down like a lead balloon then the whole of the production could conceivably go back to R types. Such a happening would, in

reality, be unthinkable for the capital investment in the K is such that failure could put the whole motorcycle operation at risk. Believe us, it won't happen for, as you will read, the K is likely to attract a whole new breed of BMW owners while BMW say that they expect 60 per cent of new K buyers to come from the ranks of existing BMW owners. We doubted this until we heard that there had been over 1,000 applications for tickets to a closed-to-BMW Club open day at Bracknell with the chance to try the new bikes. That kind of interest will not displease the people at BMW!

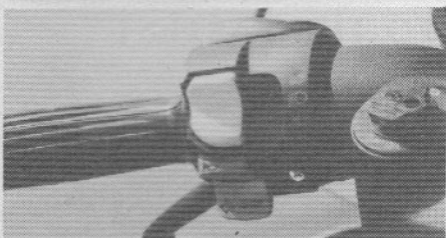
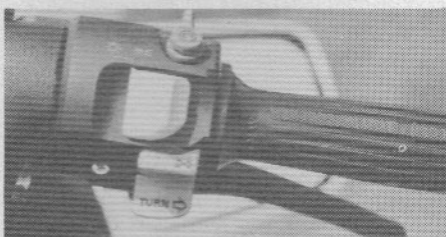
Looking at the photographs of the new

technical description followed by an even longer marketing discussion and then a good look at the stationary object, left even hardened motorcycle writers eager to throw a leg across the new machines. So eager, in fact, that some of us were up and ready at 7.30 in the hope of being able to get in the maximum amount of miles.

The questions about the new model were tumbling out of our minds more quickly than we could rationalize them. Would it sound like a BM? Answer, no. Would it lose the distinctive BMW character? Answer, yes and no; of that more later. Would we like it? Answer, not at first but it grew on us. Would we buy one?

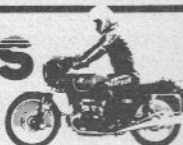


Cutaway shows rear-drive unit



Turn signal control is by large, separate buttons, low set for easy reach by thumbs. An automatic cancelling system is incorporated, with manual override

COOMBS
of Guildford



Portsmouth Road,
Guildford, Surrey,
GU2 5DU.
Tel: 0483 62907/69944

COME AND SEE THE BIRTH OF A LEGEND

at Surrey's largest BMW dealer
K100 demonstrations available

Plus full range of 1983 BMW's

Also large selection of
quality used BMW's

BMW 

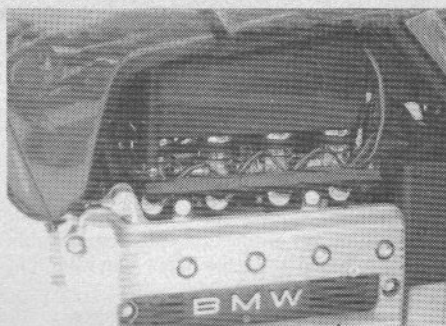
Answer, still undecided except that we would if the boxer was ever discontinued and we could afford it. Would it be expensive? Answer, £3,290 for the K with another £1,000 for the RS. A very acceptable price, considering what we had somehow imagined it would be.

The test route was pre-arranged. About 20 miles along a road that was good, bad and deceiving and then back along the motorway with the speed of the Ks making what we had previously imagined was a straight road into one with seemingly tight bends. Except that we were being whisked along at 120 mph and the bike was behaving as though it was doing 80.

The road up was almost designed to make us take it easy and get to know the K100. Our first trip was on the basic model, which had, for BMW, fairly wide handlebars. First impressions were perhaps deceiving. It was unmistakably a four, of that there was no doubt. The engine was silky smooth and yet there was still that slight tingle that comes from all fours that I have ever tried. In this case it showed, briefly, at about 3,000 rpm. Response was at a level we BMW owners have never lived with before. Frantic, said some, thrilling said others. Funny thing, the tempo of the four cylinders gave the impression of more speed than we were actually doing. This became evident when Mike Nicks of *Classic Bike* came past when we thought we were really motoring. He was on a R1000CS! It was the suspension that took a little getting used to. It broadly follows the pattern set by the GS/ST series in that a single righthand suspension leg serves to operate as the rear suspension. The idea works, that is for sure, and not only saves weight but makes it a doddle to remove the rear wheel. That is the case, too, with the K. Unfortunately, in their wisdom, BMW's service people had decided, not unreasonably, that the bikes were going to be given a rare old thrashing and they had therefore set up the suspension at its hardest to try to reduce the risk of some of the wilder of our numbers digging in and throwing the new machines over the side of a mountain. It was based on sound experience, for the previous day's visitors, from another part of the world, had managed to destroy two of the machines!

For us, though, it meant that the rear was too hard and determined riding seemed to be rewarded with a hopping rear wheel when the slowing-down bit came. Somehow it all seems to be to do with bravery or, as we would prefer to put it, commonsense.

The electronic sophistication of the K was no more evident than when sitting in the dual seat. The instrumentation was comprehensive. An oil / battery / choke / coolant cluster of lights starts the ball rolling. A warning light comes on and stays on until both brakes are operated, confirming that the rear / stop light is working. If it doesn't go out, the light is kaputt. Two lights warn of the fuel situation. A yellow light says 7L and a red 4L when there are these many litres left. We never had the bike long enough to discover if this is more reliable than the fuel gauges on other bikes. It seems that this system



Where are the Bings of yesteryear?

was chosen because conventional gauges are so unreliable. Tank capacity, incidentally, is 4.8 gallons and that first warning light comes on when there is still 1½ gallons left. As the fuel consumption of the Ks is said to be in the 45/50 mpg region (it was not possible to check, as the bikes were always refilled by BMW people) the yellow light comes on something like 70 miles before expiry. Too soon.

Still more warnings are offered. A light for side lights, another for main. Another for side stand. So many lights and so much information, in fact, that we were well into our second lap before we realised that there was even a digital gear indicator! We like to think we don't need such things. A digital clock completes the centre console. The indicator operation left us with mixed feelings. At last someone has had the sense to put the controls where the rider's thumbs rest, that is, under the lever assembly. BMW have chosen to have two switches, left for left and right for right. Both are self-cancelling, silicone chip-controlled by time and the passage of the speedometer, especially as there is a manual over-ride. It was getting used to the two-handed operation that we found difficult.

The left assembly houses the horn and light switch and the right the kill switch, with the starter button a part of this on top of the control. That fooled us for a moment. Also here is the light on / off switch and the indicator cancel switch. The centre console houses the ignition switch and hazard warning lights. The hydraulic fluid is on the right brake assembly.

One would have imagined that all this electronic wizardry would have made riding the K100 a complex job. Not after the first few miles, for we are sufficiently advanced up the road of technology to appreciate ample information being made available and one soon becomes accustomed to different switching. At least the gear lever is still on the left and the foot brake on the right!

The engine, which is common to all three of the new Ks, the K100 available now, the K100RS coming soon and the K100RT to be introduced next year, forms an integral part of the chassis which follows racing practice by being mainly of straight tubes. It is open at the bottom and weighs just 11.3kg (24.9lb). The engine / gearbox housing is held in place by five bolts, making for a very rigid structure (but, alas, posing a few headaches for those of us who

couldn't help thinking what a good sidecar bike this would make. Whispers say that Mike Krauser is planning something along these lines...). So confident are BMW's engineers that the whole chassis design will retain its stiffness that they have installed the bearings of the rear-wheel monolever in the gearbox housing. That most certainly does not leave much room for flexing.

How nice to see that BMW have taken the plunge and decided to use stainless steel for the exhaust system, ensuring that, all other things being equal, this will last the life of the machine. The price to be paid is a yellowing of the steel when it gets hot, and BMW (GB) people opined that *their* bikes would not be as yellow as the barely run-in but hard-used test models. To us it is a small price to pay and at least one can always polish stainless steel [as an aside, the stainless-steel silencers on B.P.'s R60/2 are now 25 years old — Ed.]. The silencer did not exactly meet with universal approval. Oh yes, it worked well and the noise level of the new bikes was enough to even satisfy the futuristic levels required by our lords and masters of the EEC. It was not beautiful and the addition of a cover over the silencer did nothing to enhance it. What will happen is that BMW will improve this in years to come and then we will all say how nice the old ones were, just as we did with the Trident.

There was so much of a technical nature to side-track us on the new K100 that the first few laps served to provide us with a series of little delights and surprises. The brakes, double-acting twin-disc front and single-disc rear, are now as good as those on the best Japanese bikes. Brembo provide the units and they are quite superb — except for that annoying rear-wheel hop which will, we are confident, be eliminated when we can tune the suspension to rider weight. The power was about as much as we needed; 90 hp at 8,000 rpm is, truth to tell, readily available from half a dozen sources and for the sporting rider more might eventually be needed. Such is the flexibility and forgiving nature of the new K series engine, that to provide more at the expense of pleasure would have been daft. It is our guess that those who want extra power will not find it hard to obtain. Using it is not going to be so easy, though, for the top speed of the unfaired bike is given by BMW, who do not tend to overstate things, as 133.5 mph while the RS, with the benefit of a fairing, will reach 136.7. We never quite achieved that, running out of road and courage before we ran out of power, but the haste with which the RS version topped 120 mph made it clear that this indeed was not an exaggerated top speed. Perhaps of equal concern is that this engine would happily pull from 1,500 rpm. Response from even this low range is a testimony to the effectiveness of the fuel injection.

One of the first questions that the lady in my life asked when I returned home was, "What was the seat like?" My reply was that I had never given it a thought! One only tends to notice bad



**BILLY BEEMER KNOWS HOW TO GET CLOSE TO THE FASTEST
BMW ON THE THE ROAD
BOOK YOUR TEST RIDE NOW AT**

TONY'S of PRESTATYN, 8 SANDY LANE

RING (07456) 3455



or uncomfortable seats, and although the styled seat on the Ks looks uncomfortable I don't think it was. Perhaps I was enjoying myself too much to notice? The handlebars on the unfaired machine were, even for a rider who has come to prefer larger bars, not so much too wide as not right. It was not until we took the RS out after lunch (fortified by one glass of wine) that the bike really felt right. The RS's engine and chassis are identical to the K100 — in fact, only the fairing and the necessarily smaller handlebars are different — but what a transformation. The whole bike felt tighter, more precise and faster. Remember that we had no idea what was being done to the suspension, so that could also have been different. The fairing looks skimpy but takes all of the wind pressure off the rider at speed. Proof of this came on our umpteenth dash along the now familiar motorway. At 110 mph the wind was tearing at our helmet, as it always does, yet a slight readjustment of riding position, lowering our head a touch, had the effect of closing the door. Almost-silence prevailed, the rider now part of a high-speed vacuum that removed all the strain and much of the sensation of going fast. The angled deflector on the screen certainly helped here. The fairing is quite an addition to the specification, and the price tag of £1,000, seemingly high, is justified, say BMW, by the expensive paint job.

Over 150 miles had been covered on the K100 and the K100RS. It was not going to be possible to put off a verdict any longer. Was it as good as the boxers? Er, um, well . . . It depends. Had the verdict been required after just trying the unfaired machine, we think the boxers would have won hands down. The RS went a long way towards changing our minds. It will take some getting used to. It is not an attempt to create the same lazy style as the much-loved flat twins have; in fact there has been a clear move not to draw any comparison between the two. Whereas the boxers were not really in competition with the Japanese exotica, there can be no doubt that the K100 is. It is right up alongside the Z1300s, CBXs, Katanas and XS1100s in performance and sophistication and not all that far in front on price. It has one thing none of the others can ever have. Tradition behind it. That blue and white badge on the tank has been around for a long time and translates into class with a capital C. Previously people who shied away from BMWs did so because they did not want to step back in time, or they imagined that was what was going to happen. They also, perhaps, wanted to be right up-to-date with their motorcycles. Now they can have the best of both worlds. The tradition of BMW and the sophistication that has previously been the province of the Orient. We have all but lost the British motorcycle industry. The fact that our EEC partners in Germany are fighting back with such vigour to recapture some of the market lost to Japanese technology and skill will not be regarded as unwelcome by a large number of riders who think European but buy Japanese because it offers them what they need. Now at last there is a choice.

What of my choice? I don't find it so easy. I have owned a BMW flat-twin for the best part of my motorcycling life. I understand them and respond to them. At this moment I feel I need to learn to live with and love the new K series and that takes time. I liked the K series, liked it a lot. I love the boxer. I'd feel guilty if I deserted it now. Anyway I have a garage full of bits and pieces. . . .

"The faired K100RS is so far removed in behaviour (from the standard model) as to be a totally different bike. Why should this be? The fairing is superb, narrower than the RS fairing on the old twins, but offering even better aerodynamic stability"

ALL that the carefully orchestrated build up (carefully leaked photos and technical information, followed by the fanfares and trumpets of the press launch itself) did was to leave me with the most profound sense of disappointment when I finally rode the K100 on the twisting bumpy mountain roads between Cannes and Frejus. Was this really what the ballyhoo was all about? Oh, certainly the way in which the engine had been made "mechanic-friendly", to borrow from computer jargon, was impressive. Honda's latest technological vee-twins practically require the disassembly of the frame before the tappets can be got at, but here at least was a motor where every single moving engine (but not gearbox) component could be replaced without taking the engine out of the frame. Excellent. No, what startled me was its behaviour on the bumpy bends and the vibration that assailed the bike at rpm from 6,000 up.

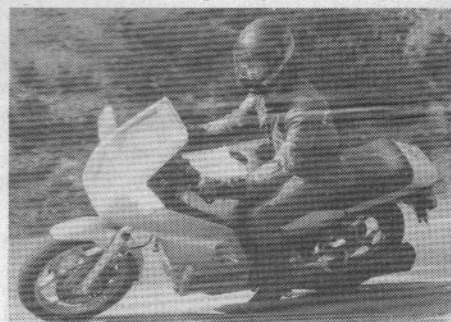
It *Hondled*. (That's my new pet word to describe the behaviour of most large Oriental fours.) That is to say, it behaved perfectly happily until one started using it hard on back roads. And the handlebar started shimmying slightly, and the familiar wobble would set in. Not as bad as some, admittedly, but there nonetheless. And it *vibrated*. On the first naked K100 I tried at certain rpm the entire light-alloy tank started thrumming horribly.

I came across another Brit as he was pausing to take some picture of his K100, and we compared notes, both reaching the same conclusion: it felt like a UJM with vibration. As we were talking one of the gentlemen from the American magazines also pulled over. "Hey, guys, it's a Seiko Nine Hundred!" was his opening line. We swapped bikes, as he complained that his vibrated through the footpegs. It did. When we reached the end of the mountain road and turned onto the autoroute to blast back to base the second short-coming became evident: the handlebars. The naked K100 is equipped with an R80ST type handlebar, and after a few miles of high-speed running I backed off out of sympathy for my neck and arm muscles. After a moment's rest I opened the throttle again, and was rewarded with a slipping clutch. Oh dear. I cruised gently back to La Napoule, took out yet another K100 in unfaired form, and had my suspicions confirmed. It was, barring the serviceability of the engine, a totally unremarkable four. Well, maybe that's not fair. Unlike most Jap fours, this one is tuned for torque, and it rolls on in top gear like an XS1100, and in my book at least, I can forgive a bike an awful lot if it charges forward without any need to drop down through the gearbox. This new BMW does very well indeed.

And the faired K100RS is so far removed in behaviour as to be a totally different bike. Why should this be? The fairing is superb: narrower than the RS fairing on the old twins, but offering even better aerodynamic stability. The screen is just the right height to avoid the helmet buffeting that I always found a problem on the

boxer RS, and if you do find the windblast hits your helmet, you have an adjustable lip at the top of the screen to deflect it further. Excellent. But the differences went further: the RS handled perfectly under all conditions. No shimmy on the bends at all. Not only that, but it goes like the clappers, and all the performance is *usable*. On one of the motorway bends there was a sign recommending a 100 kph (62 mph) maximum. The French are always pessimistic about their warning signs, and I reckoned 150 kph would be a safe maximum. The RS hurtled round, way, way over, with 190 kph on the dial, and with nary a trace of a wobble. It's a marvellous all-rounder. The torque makes it an easy town bike, the fairing lifts it straight into the top echelon occupied by the true Grand Tourers — lifts it right to the top, if you ask me — and it's a bike that really gets the adrenalin flowing in most un-BMW like fashion. It isn't just fun: it's *exciting*. And it has character, mostly endowed by the pull of that lovely engine and by the decidedly different exhaust note: like a cross between an XJ650 and a Honda 400 Four, with the whistle of the one from the mechanicals, and the muted rasp from the pipe of the other.

So back to the original question. Why is one



"The RS version . . . most-desirable"

so much better than the other when they both share the same engine and chassis? I mean, the RS didn't even seem to vibrate.

I think the fairing has everything to do with it. It *must* be that: what else could it be? The fairing has been very carefully tailored to the bike, to enhance and improve it. To a certain extent the bike relies on it as a crutch to bolster its stability. Another thing is that removing the fairing changes the ratio of sprung to unsprung weight, increasing the proportion of the latter to the bike as a whole, and this may be significant. The addition of the fairing may also alter the critical frequency at which the bike starts to vibrate in sympathy with the engine. Finally, and possibly most important of all, I cannot believe that the bars on the naked version help. The RS has a traditional BMW (or MZ) type of bar: very flat and narrow, and *not* dropped like that of the old boxer RS, and the change of riding position changes the weight distribution already affected by the fairing. Whatever, it makes the K100RS the best, most desirable bike that I've yet sampled. I *want* one. Its price is about that of the Laverda RGS, and for that you get the same performance, greater low down torque, a better fairing, just the same ting of excitement, shaft drive, the BMW finish, and probably a longer lasting engine. Certainly a more sophisticated one. In my book, no contest. But on the basis of the naked K100S I rode (and they can't all have been rogues) anyone wanting a fast shaft-drive unfaired tourer need look no further than the Kawasaki GT750, at a saving of £1,000 or so over the BMW.