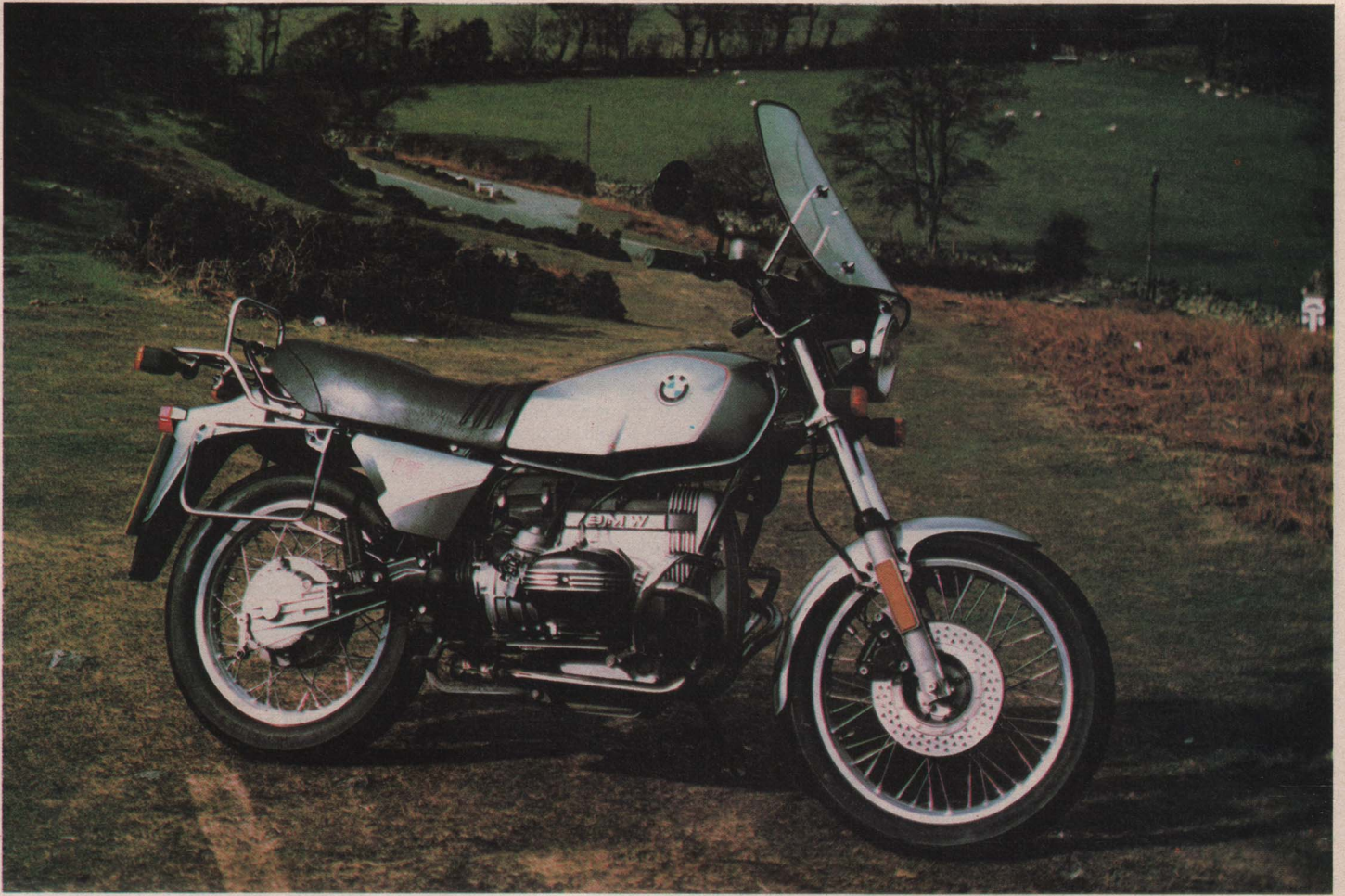


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BMW R80ST

The rationale behind the R80ST has been to capture the handling qualities of the big trail bike in a roadster of almost equally light weight

On the eve of the launch of the K5, BMW's first venture beyond two pots, pushrods and some other elementals in motorcycle circles, we publish an appraisal of the company's most up-to-date twin. Ironically, the 80ST — light, a fine handler, relatively simple, powerful enough for most out of reach of the home country's autobahnen — impresses as the most persuasive argument yet advanced by BMW in support of its policy of keeping the dizzier heights of Jap-style hi-tech out of motorcycle design.

SELLING flat-twins at upmarket prices has become heavy going for BMW. While the Japanese response to falling sales has been a plethora of new technical designs, the men at Munich have until this year sought new ways of packaging the familiar. Example: the controversial R80GS which came on the scene in 1979. Heavy and expensive for the rough (and particularly the tumble) of green laning, in its off-road role, its handling on the tarmac came as a revelation. Better than the road BMWs, some said . . . A road-going version of an off-road machine seems a roundabout development. Those seeking in the ST a replacement for the popular R80 series 7 that BMW chose to withdraw (this time against the advice of the press) may be disappointed. The R80ST, launched in the last months of 1982, is a side-shoot rather than an evolution of what has gone before, but as such BMW have given us an interestingly different kind of motorcycling. It fits nowhere in any recognised category.

Our justification for including an 800 cc contender in this 750 series is that the extra 50 cc hardly takes it out of reach of the opposition. The ST is physically smaller, slower, yet more expensive than either the Kawasaki Z750GT or Honda's VF750 vee-four so far featured in this series. Clearly it aims in a different direction. The rationale behind the R80ST has been to capture the handling qualities of the big trail bike in a roadster of almost equally light weight, using the same monolever rear suspension. Yet even BMW publicity men seem unsure of its role, describing it modestly in a press handout as "especially suitable for undemanding sports tours, even with a pillion rider" and, later "a motorcycle in the weekend style without being a chopper." The customer brochure tries harder, proclaiming the R80ST as "a speed machine, corner-cutter, chopper, tourer — it's up to you". We'll see.

Kerbside, BMW's ST would pass as a 500 in size, slim and neatly turned out as it is in subdued "spheric silver". It does not look like a superbike or draw questions as to "What'll it do?". The answer, anyway, would be humbling for an 800. The off-road ancestry shows through in many ways, with high ground clearance, wide bars and the distinctively naked rear wheel of the GS, as seen from the left, which detaches when three wheel nuts have been unscrewed.

Even a motorist could do it. Another unorthodoxy is the tucked-away two-into-one exhaust, retained (presumably) for weight-saving. Its high-rise silencer is surrounded by ventilated panels, where it cannot be cleaned to prevent rust, and causing the "touring cases" fitted to our demonstrator to be of unequal width to preserve overall symmetry. The pipes had already gone blotchy blue and the collector box, behind the gearbox, was positively purple. Blueing could even be seen extending upwards towards the silencer. One merit of the system is that it doesn't cook the soles of pillion boots, as the twin-exhaust R80 RT manages to do. The left rear footrest, incidentally, is mounted



directly to the exhaust system.

Chrome crash bars are standard on this model. The "mousetrap" type return sprung propstand makes a comeback and the bike rocks on its mainstand, on which it is, without panniers, perfectly balanced. The old-fashioned handlebar lock is fiddly and obstructed by badly routed electrical wiring. The plain front mudguard that hugs the tyre is from the smaller R45 and R65 models, which also contribute the large, conventional speedo and rev counter. As extras, the press bike had voltmeter and clock pods tagged on at the sides, plus a chrome luggage rack to supplement the panniers already mentioned, and of course a touring windshield. Another extra, the most valued during a cold spell, was heated handlebar grips neatly activated by a switch to the left of the BMW motif between the bars. More worthwhile than Liquid Crystal? We show our age.

It is worth mentioning though that the standard specification is basic compared with Honda's VF750 tourer, for example, particularly the instrumentation. Even without its extras, the R80ST totals out at around £2,700, compared with the Honda's £2,525 complete with its sophisticated water-cooled vee-four engine, air suspension and "overdrive". You pay your money and takes your choice, but certainly this latest contender widens that choice in a new direction. We could call it the art of underkill.

It doesn't sound very exciting, and in some ways it isn't. However, BMW have done well to prune a shaft-drive 800 down to 404 lb dry. That is only 23 lb heavier than the GS, but more telling in a road context is that the new machine is trimmer than the R80/7 at the kerb by no less than 42 lb. Compared with Honda's vee-four, the difference is over 90 lb. In one respect this is as well, for the BMW's seat height is greater than either of the Japanese multis' at 33 inches, although the ST is not as intimidating in this respect to smaller riders as the GS, thanks to a 19in (instead of 21in) front wheel and a slightly abbreviated monoshock strut. The sit-up riding position will not please everyone, with almost RT-type wide bars from an American export version of the R65. Wind pressure on the rider is reduced by the optional screen but this was not entirely satisfactory, as it was too far forward of the rider and generated eddying noises around the helmet. Taller riders would like a taller screen. Experiments with an open-face helmet were not a success. In gusty conditions, the lightweight ST with its front sail gets moved around more than conventional BMWs on either of the Japanese multis in our comparison.

Deleting half a rear suspension and claiming a 50 per cent increase in torsional rigidity makes one wonder what the other half did wrong? No doubt the thick-section L-shaped monolever tube is immensely strong, and it may be significant that the monoshock acts directly upon the main frame, the bolted rear sub-frame now supporting only the dualseat, mudguard and panniers. Far from being a gimmick, the new suspension transforms the bike. Gone is the solid Teutonic character that used to be BMW . . . an R80 / 7 owner might not know from feel and sound what make he was riding, except for the giveaway gearbox whine and the clicking of tappets.

Since ride and handling are the bike's forte, we will describe these first. Neither the frame nor suspension is quite the same as on the GS, with almost an inch off the wheelbase, an inch

less travel on the front suspension and three-quarters of an inch less at the rear. The suspension feels supple and soft — softer at both ends than the old R80 road bike and the present Budget tourer, the R80RT. The gas-filled monoshock has a progressive action with ample reserve. There are three spring preload positions the adjustment of which is less ready than the older-style permanent levers on BMW rear shocks. On the ST one must unclip the flimsy side panel, unlock the removable dualseat to fetch the Honda-type sickle spanner, which then needs an extension to obtain the necessary leverage. In practice this is not often needed. Even with a 10-stone pillion the rear did not bottom out with the softest setting, whereas the stiffest notch the maximum payload is no less than the biggest Bee Ems.

One would expect a light motorcycle to handle easily and the ST is truly superb in its flickability. Its reflexes to right and left show up the Japanese multis, and it has impeccable steering to match. The bugbear of rocker covers kissing the road surface has been cured, thanks to the raised engine position, and it is very difficult even to scrape the stand. Straight-line stability is excellent over all surfaces except when speeds rise into the 90s when the steadiness of the heavier R80/7 is missed. This was, we felt, partly a function of the windscreen and the wide bars; the panniers didn't seem to make much difference.

Conventionally, a soft ride and precise handling have been mutually exclusive, certainly with heavy bikes. In true trailbike fashion, the R80ST gets better the rougher the going. Its secret lies in keeping both wheels in contact with the road at (nearly) all times. It wins no prizes for the smoothest ride. There is plenty of movement. The suspension soaks up all kinds of irregularities and never seems to float or rob the rider of that all important feel of the road, much aided by Metzeler tyres of a new profile. This is truly a motorcycle that fulfils the adage of cornering at the rider's thought, rather than needing "to be cornered" as such. In two

Holiday scene backdrop for the R80ST

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respects — though relatively minor ones — the ST has not improved the breed. Nosedive under braking is more obvious, and rebound becomes lively when accelerating in low gears over humps and bumps, owing to added lift from the shaft drive. This quirk, faintly noticed with the pro-link VF750, becomes disconcerting if the preload is stiffened unnecessarily in relation to the load carried. Short of a touring holiday situation, the first notch answers most needs.

So, in the battle with air suspensions, which of our contenders so far emerges best? Neither Kawasaki 750GT nor Honda's vee-four shaftie have such responsive handling, but the Kawasaki takes a lot of catching through the corners and not until big suspension movements are encountered would the BMW maintain its handling above the Kawasaki standard. For ride, the Kawasaki is firmer but the lighter 80ST suffers a greater amplitude of vertical movement although its ride remains impressive because road shocks never seem to "get through". Overall the Honda vee-four wins here, as soft and level on normal roads, but even on maximum suspension settings one could never motor the Honda over pot-holes and ridges at anything like the speed of the BMW without fear of hurting itself. It's too big.

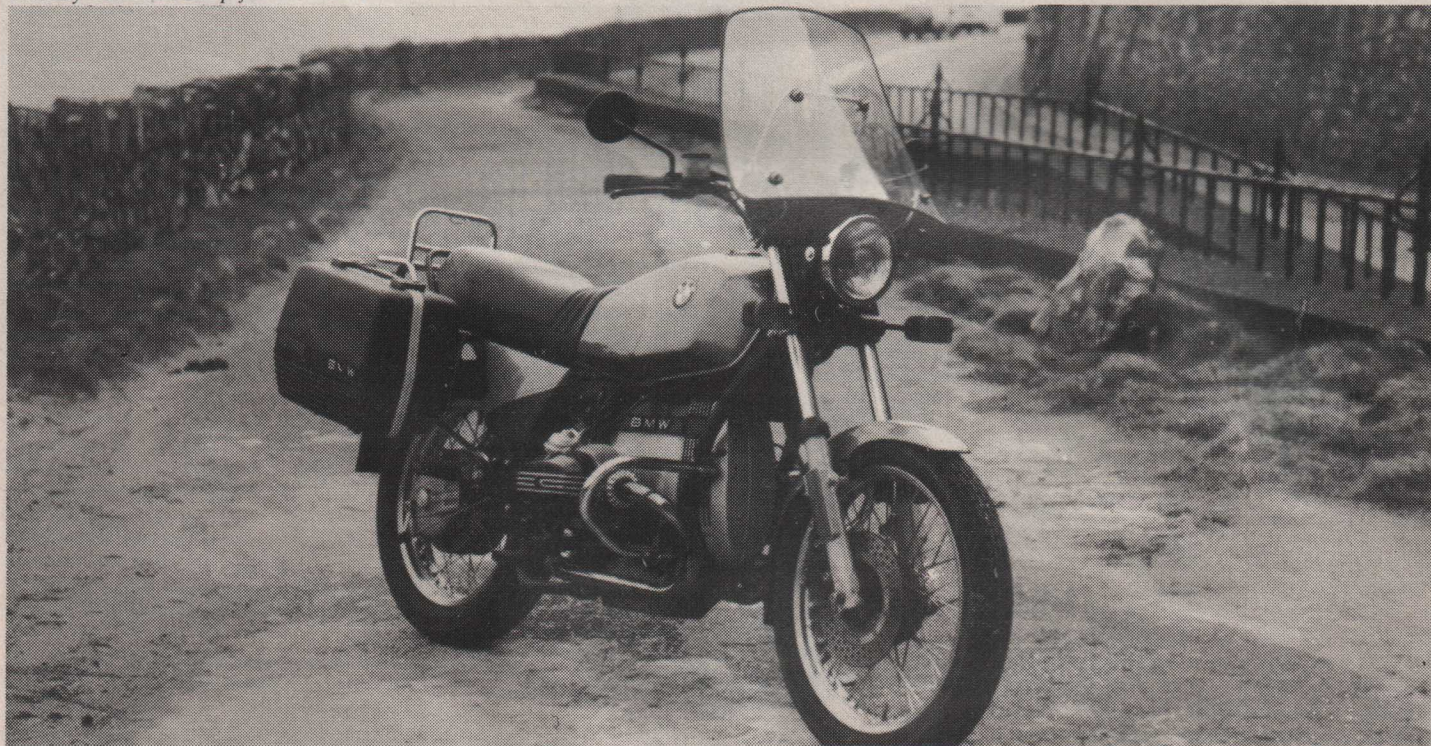
Such comparisons are academic to a point since most corners have straight bits in between

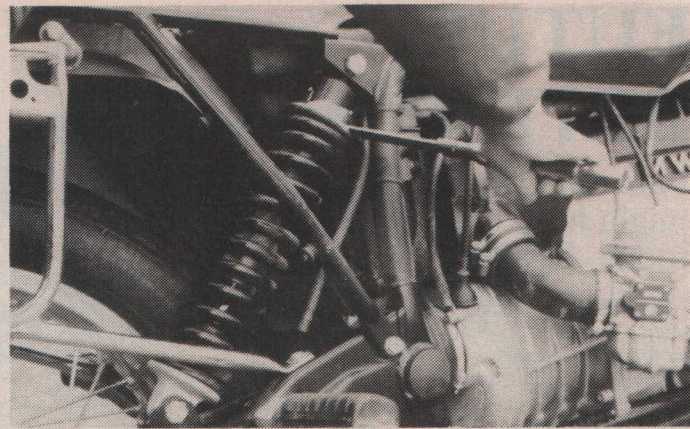
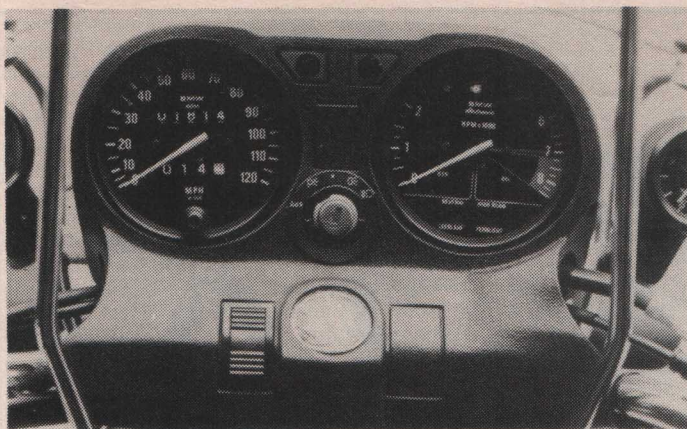
and here the Japanese bikes win hands down. One of the less likely off-road features to be retained from the GS is the mildly tuned motor. Even the old R80 / 7 managed 55 bhp but now with only an 8.2:1 compression ratio, the ST has given away five horsepower it can ill afford to lose, thus conceding 30 bhp to its Japanese 750 rivals and 40 bhp to the latest Honda vee-four sportster.

BMW have sought to uprate acceleration with low overall gearing. Genuine wheelies are available in first gear, through a high torque to weight ratio, but thereafter the boxer twin has no means of turning heads in surprise. The emphasis is on a low-speed tractability. Pickup from low revs in each gear is brisker than we remember from the R80/7, because of the later bike's weight advantage and lighter flywheel. By BMW's standards the engine is smooth and reasonably quiet, in a bland manner. It goes better than a mere 50 bhp would suggest, but still sounds and feels well behind the Japanese fours. In a top-gear acceleration contest from 20 mph, the flat-twin would get in front of its Japanese competitors briefly, but the contest would soon be over. Both Honda and Kawasaki fours can go to beyond 125 mph. Our BMW would be lucky to break 100 mph in touring trim. Unscreened, 104 mph might be possible but this is beyond the point of peak power, with the motor entering the 7,000 rpm warning zone.

Accelerating through the gears is a similar story. Standing-start quarter-miles take over 14 seconds compared with less than 13 for the Honda and Kawasaki 750 tourers. Poor performance for money will not endear the ST to young riders — mechanically, the BMW just isn't an exciting bike.

If you do not believe in unrealistic speeds, and count low engine revs, longevity and flexibility as long-lost virtues, you will be one of a minority to whom this model might appeal. One could add that its 5,000 and 10,000 service intervals are longer than most Japanese machines require. The Honda VF750 tourer is nearly as good, but the servicing demands are more intricate when





Conventional instruments, to usual, high, BMW standard; and, right, difficult adjustment of mono shock rear suspension

they come (at every 8,000).

It is a pity that the R80ST hasn't an old-fashioned fuel consumption. It gets away with 2 star petrol, just, but we found it hard to better 47 mpg at speeds at which a BMW 1000 would well exceed 50. Ridden really hard, the ST reduces to the low 40s. While this is slightly better on paper than the VF750, the Honda flew consistently faster. The range of only 150 miles before going to reserve probably does not please BMW men, either. The tank holds 4.2 gallons and as there is only one tap, not all the reserve is accessible. The handbook offers the advice that in emergency the machine can be tipped onto its left side to release the last dregs. (Equally quaint these days, but welcome, is the ability to pick the bike up single-handed afterwards).

In fact the ST has much the same top gearing as the vee-four Honda's 'overdrive'. This is low for a relatively big BMW and partly explains the fuel-consumption figures. The busier flat-twin is noticeable in town owing to a sudden vibration — on our model anyway, at 2,500 rpm. On the open road it is not over obtrusive and doesn't hum, soprano like, as the transverse fours do, although its engine noise is considerably louder. It didn't seem to object to cruising at 90 mph at 6,000 rpm, probably its upper limit. The transmission is fine, with a light clutch and gear change. All three 800 models use the same

gearbox ratios but the final drive on the ST, with shorter legs than the RT, gives maxima in the first four gears of approximately 36, 55, 79 and 94 mph.

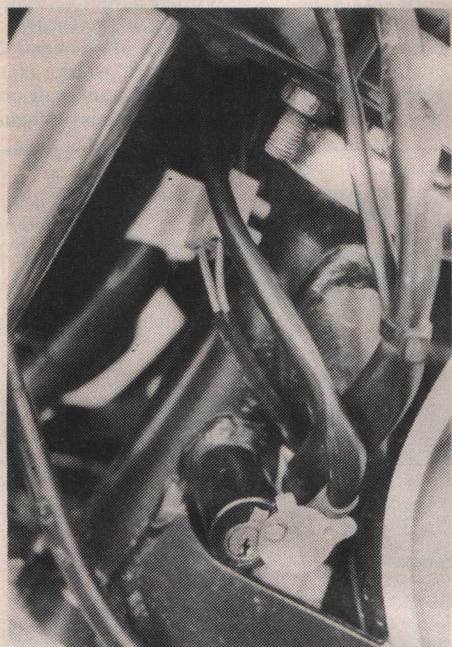
A single front disc has been easy prey for the journalist; the choice of mountainous Sicily for the press launch did show up a shortcoming here. The front hub is from the GS and the alloy spoked rims from the CS, so a second front disc cannot be fitted. The solitary front Brembo is responsive, the rear drum very powerful. There is nothing wrong with stopping distances, even if front lever pressures are not finger-light. So for ordinary usage, no problems, but mountain passes could prove another story. Lighting (also from the GS) is more effectively beamed than the current crop of rectangular headlamps from Japan, but the small rear light is a bit of a twinkle compared with twin-bulb units. Activation from the ignition switch is cheaper but less convenient than a separate switch and the single tone "poop" is also disappointing at the bike's price.

As an essay in lightness, the R80ST brings worthwhile results. Its ease of handling and remarkable suspension opens a new chapter. Surely all future BMWs will use the monolever rear suspension, unless the conventional exposure of the rear wheel dissuades buyers — we heard a number of mutterings from

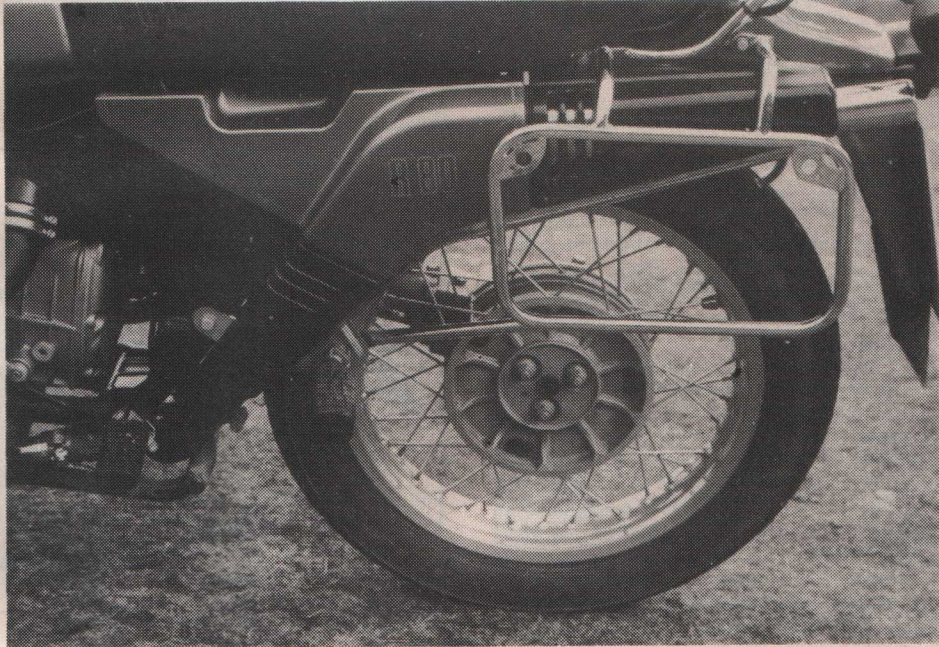
"conservatives" along these lines. Yet as a total package this rider remains to be convinced as to whom it is for. It tends to fall between two stools. As a sports bike, the wide bars spoil it and the performance is altogether too bland to keep up with handling. An owner of the earlier R80/7 may regret the lower gearing, the narrower and shorter dualseat and lack of that reassuring solidity that has been BMW for so long. The basic R100 looks good value alongside.

It is not easily comparable with Japanese bikes in our 750 series, past or future, we freely admit. But the fascination of riding a suspension like this continues long after the sensation of high performance has passed. Even so, we cannot help wanting both! How about an R100S using the same frame with drop bars and an extra 20 bhp to propel much the same weight, with the addition of a second front disc and a less stifling two-into-one exhaust system? Even Ducati owners might sit up, leaving the forthcoming K series fours to the tourers, to which a long wheelbase will surely be better suited.

Our thanks to unfailingly helpful BMW Bracknell for loan of the demonstrator, and to Tony's of Prestatyn for liaison and for providing 'bed and breakfast' for our regular steed during our time with the ST. R.P.



Steering lock obstructed by wiring



"Naked" rear wheel as seen from left