

Unidentical twins

On the road with the new BMW R80ST and the bike it was bred from, the R80GS. Testers: Jim Lindsay and Colin Taylor.



ANYONE remember the R90S? It shouldn't be too hard. BMW introduced the 90S eight years ago in 1975 and it would be accurate enough to say that it was their first attempt at producing a sporting boxer, albeit a mainly cosmetic attempt.

The 90S came and went, winning a small but committed band of admirers and after a few vacant years, that particular niche in the BMW range was filled by the R100CS in 1981.

It was on that particular model that I finally overcame my prejudice against the Munich twins during the course of putting together a roadtest of the CS for the Largest-Selling Motorcycle Paper in the Known Universe (no prizes for guessing which one). But even after 1000 very enjoyable miles with the CS, I could not bring myself to believe in its sportster name tag. Like all BMWs, its long travel suspension with low damping and spring rates caused the bike to pogo under heavy acceleration and deceleration.

The twitchy characteristics of the shaft driven rear end were exacerbated not just by the long, soft suspension but also, probably, by the fact that the rear subframe to which the tops of the twin shock absorbers were attached was bolted to the main frame rather than being an integral part of it. Ergo, it could well have been the frame was more than usually susceptible to the forces fed into it from the driveshaft.

That's not to say that it wasn't possible to ride the CS (or any BM) fast over twisty roads. It just required good planning when approaching bends because the bike did not like ultra-late braking, last minute downshifts, sudden changes of line or mid-bend deceleration. You couldn't just throw it about.

Enter, in 1980, the R80GS, of which a brief appraisal appears later. The bolt-on rear subframe was still in evidence but all it had to do was hold the seat and a few other ancillaries. The meaty spring/damper unit of the monolever rear suspension was attached not to the subframe but directly to the main frame bridle at the top, righthand rear corner.

Things were getting better. With the forces generated at the rear wheel being fed directly into the frame, the handling was improved. More forgiving and less troublesome for riders not used to the riding styles that BMWs respond to best.

No doubt that is why the press raved about the bike with lines like, "the best handling BMW ever". Best is perhaps not the right word. We've recorded some very respectable lap times at Snetterton with an R100CS. Different, easier, more forgiving would perhaps be better adjectives. But lexicography apart, the GS was definitely an easier bike to throw



around although still twitchy at the back end due to the long travel, trail bike suspension.

Which brings us finally, by a long but interesting route to the R80ST and at this point I'll stick my neck out by saying that the ST is not simply the best sporting bike that BMW have ever produced; it is the first, and so far the only sporting bike that BMW have produced. Their past efforts, the 90S and the CS, were worthy attempts but when it comes down to scratching, they're not at all in the same league as the ST.

The ST frame is virtually identical to that of the GS but the ST is definitely the better handling of the two machines. No doubt the shorter travel of the suspension and the firmer damping and springing play a large part in the improvement. The bike sits up less (hardly noticeable in fact under acceleration and squats less under deceleration so the rear end is far better behaved all round meaning that you can leave braking and gearchanging much later into a corner.

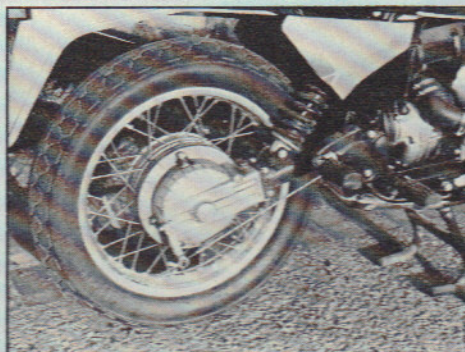
The Metzeler tyres, of course, give better grip on tarmac than do the trail tyres of the GS. The centre of gravity on the ST is slightly nearer the ground due to the lower seat height and this actually makes the rider feel more secure. The wheelbase is just one inch shorter but presumably accounts to some extent for the fact that the R80ST's steering is detectably quicker than that of the GS, or any other BMW for that matter.

The icing on the cake is the ST's weight which, with the full quotas of fuel and oil on board, runs out at 198kg (437lb). For an 800, that is light.

All this adds up to a bike that is excitingly easy to ride fast on twisting roads.

The roadtest period was dogged by the illness of my baby daughter. The necessity of making numerous trips by car to the local hospital meant that the ST spent most of its days parked on my drive. So I had to make a conscious effort to put on the miles that I

The ST's monolever rear end works well.



would have normally clocked up in the course of doing my job.

Weekend scratching was the order of the day and by chance, while wandering aimlessly around some Northamptonshire back lanes on a cold but dry Sunday afternoon, I discovered a lovely stretch of by-road just about wide enough for a single car but flat, free of hedges and graced with a long series of testing bends.

So controllable was the ST that on the first run through, I was seriously underestimating the bike's capabilities and braking for the corners far earlier than I needed to. The last of the three runs I made over the same section of road was much better, braking later and harder and simply pushing the bike down into the curves with little or no ceremony. Caught out by my own exuberance a couple of times, I had to roll off the throttle and even change down once to alter my line but this caused no problems. The ST responded quickly and without fuss. It is a good scratcher.

With a claimed power output of 50 bhp driving an all up weight of 437 lb plus rider, the single front disc brake and the rear single leading shoe drum brake are plenty adequate. Heavy braking does induce the lefthand fork

leg to walk some of the way round the right-hand fork leg but certainly not to the extent that it interferes with machine control and you do not really notice it at all after the first few times.

Unlike the 1000cc variants, the R80 engine does not feel strained when running on the red line and it is quite satisfying to accelerate hard from standstill through the gears. But, continually buzzing the motor on the gearshift to keep the revs up is not very satisfying at all unless you're scratching hard down a bending lane. With all the midrange torque available, it seems a shame not to make use of it.

Laying into the BMW gearchange is no longer a roadtester's treat as all the bugs have now been ironed out. The change has more of an engineer's than a watchmaker's feel to it but it is quiet, precise and quick enough to satisfy most riders.

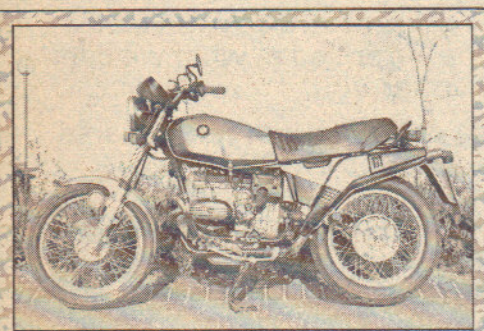
Many folks rate the 800cc boxer as the smoothest and, therefore, most likeable, of all BMW's engines. I agree that a bore of 84.8mm and a stroke of 70.6mm does seem to be the smoothest combination for a flat twin but I prefer the extra oomph of the larger engine (which does not vibrate that much in any case) and I think that it would make the ST an even better bike although you'd probably need to add another front disc to the braking system.

How about an R1000ST fitted with Krauser heads, even?

During the test I had occasion to make a long round trip, half of it heavily laden with secondhand Kawasaki spares, to rendezvous with Colin Taylor in North Leicestershire before heading home to Peterborough. The first part of the journey was necessarily slow (you try riding along with one leg hooked over an exhaust system that's strapped along the whole length of one side of the bike). The second half of the trip was much quicker, on one of the best biking roads hereabouts, the A6006 from Rempstone to Melton Mowbray followed by the A606 from Melton to Stam-

ford, stirring stuff, with good visibility and plenty of fast corners. And on this jaunt, the R80ST proved as comfortable seatwise as any other BMW I've ridden.

The upswept bars put you up in the wind somewhat, which gets tiring after a while but they do give you the ideal position on this machine for piloting it quickly through bend



BMW R80ST PERFORMANCE

Maximum speed	
sitting up	97.24mph
prone	106.29mph
Standing start 1/4-mile	14.19s/92.39mph
Fuel consumption	
average	48.6mpg
worst	33.02mpg

ENGINE

Type	Horizontally opposed, ohv, 4-stroke twin
Bore x stroke	84.8 x 70.6mm
Piston displacement	797.5cc
Compression ratio	8.2:1
Fuel system	2 x 32mm Bing V64
Ignition system	electronic

TRANSMISSION

Gear ratios	1st 4.40, 2nd 2.86, 3rd 2.00, 4th 1.67, 5th 1.50
Primary drive	gear
Final drive	shaft
Final reduction	3.36:1
Clutch	single plate diaphragm

ELECTRICS

Generator	280W alternator
Battery	12V 16A/h
Headlight	H4 55/60W

CHASSIS

Front tyre	100/90 H19
Rear tyre	120/90 H18
Front brake	10.23 inch disc
Rear brake	disc
Front suspension	telescopic fork
Castor	N/A
Trail	N/A
Rear suspension	Monolever, single shock

DIMENSIONS

Wheelbase	1433mm (56.4 inches)
Overall length	2180mm (85.8 inches)
Overall width	790mm (31.1 inches)
Dry weight	404lb (183kg)
Fuel capacity	4.2 gal (19 litres)

PRICE

Warranty	£2699
Importer	12 months/unlimited mileage
	BMW (GB) Ltd, Ellesfield Avenue, Bracknell, Berks, RG12 4TA

TESTER'S VERDICT

Good points	style, comfort, low weight
Bad points	none worth mentioning
Performance	fine for a twin
Economy	a bit average
Handling	excellent
Comfort	BMW standard
Braking	adequate
Equipment	excellent
Value	mmmm!

after bend.

The two-into-one upswept exhaust is quiet without being insipid and is thoughtfully provided with an effective heat shield so that you don't flash fry your passenger's left shin (a problem on the GS).

And what about the styling? For BMW, whose bikes are attractive but very functional and restrained in appearance, the R80ST is almost outrageous with its rakish lines, upswept silencer neatly covered by the sidepanel and that almost fat Metzeler adorning the rear wheel. By Munich standards, it's radical stuff.

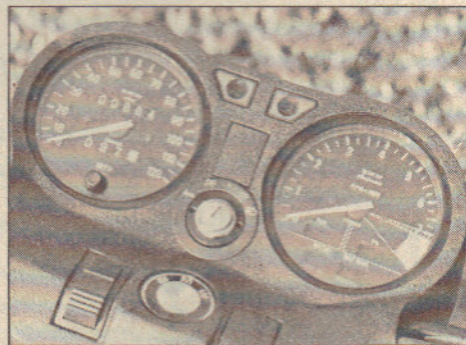
Colin Taylor January '82: "These are real motorbikes. You get the feeling that they'll still be running well in ten years time."

He's probably right. An R80ST will probably outlast all Japanese bikes. So is it worth the asking price of £2699? I suppose it depends how you look at it. Recently, for example, I bought an all singing, all dancing automatic washing machine. It cost me £200 and it will probably last ten years. Were there a machine



that cost me £300 but which would last, say 20 years, I would probably have forked out the extra cash without complaint.

Part of the true worth of the ST, or of any other BM, will only become apparent when it's still looking and performing almost as well after you've been using it for six years as it did when you first bought it. Its resale value will, proportionally speaking, also be considerably higher than a Japanese model of the same age. If you look at it like that, it's worth the money.



Typically neat instruments on the ST.

If, on the other hand, you buy it one year and sell it the next, you might possibly have been able to spend less cash for the same effect elsewhere.

Be that as it may, the R80ST is a delightful motorcycle, with enough of everything in the right proportion. Ageing the engine design may be, old hat the ST most certainly is not. Don't wrap it thanks, I'll eat it here.

Jim Lindsay

WHEN, a couple of years ago, the R80GS first came roaring in on the unsuspecting bike buying world, road-riders and dirt freaks alike viewed the brute in wide-eyed disbelief. Was this really a roadster? Was it supposed to be an enduro iron? BMW answered with the story that it was intended to be a road bike with limited capability off-road. The main limitation of the bike which prevented it from being an acceptable performer in either of the riding disciplines, were its tyres. They still are. As off-road rubber they are a joke on any but the hardest and grippiest of trails. As road tyres they don't inspire confidence.

If the GS was conceived in a moment of mental aberration in the Munich design department, what defeats me is why they didn't go the whole hog and specify that the bike be fitted with their biggest engine. It was no time for compromise once the decision had been taken to make what was and still is the largest capacity dual purpose bike going. Surely the thing to have done was to use the one litre version of their ubiquitous twin.

To be quite honest the R80GS has, for some time, been one of my favourite bikes. I now still like it but its limitations, which had previously been seen through rose tinted specs are now so evident as to make them obvious even with sunglasses on!

To own one you'd be asked to hand over more than £2500. "So what!" you might say. For the sort of quality that the name BMW is synonymous with, you would expect to pay proper money. "True" says I, but you would also surely expect to get for your money a bike which, if ridden in the rain and maybe parked outside overnight, does not have a rusting exhaust and a speedo which you can't read properly because water leaks into it. Add to these the fact that the pillion has to be mindful not to burn his left shin bone on the exposed portion of the silencer and you might really begin to wonder if the bike is a BM after all.

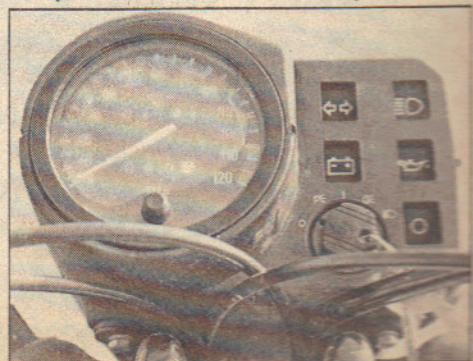
If, however, you consider the GS as a logical development stepping stone to the ST, then it would seem that most of the nasties on the GS have been taken care of on that model.

If I were lucky enough to own a GS, I would have the whole exhaust system plated rather than put up with the excuse for a heat-proof paint job that it gets from the works and a heat shield fitted around the danger area of the left rear footrest. Quite how to stop the water getting into the speedo would require more thought. At the factory, they have reported found that sticking the trip indicator rubber cover to the glass does the trick. The water has the habit of accumulating on the inside of the glass, whereupon it obscures the dial from clear view.

With regard to the tyres, well that's a bit of a poser. Fit outright, non-road legal, moto-cross knobbles and I'm quite certain that the bike would be far more off-road rideable than it is with either the Michelin T61 or Conti Twinduro tyres (both of which I tried on the bike) fitted.

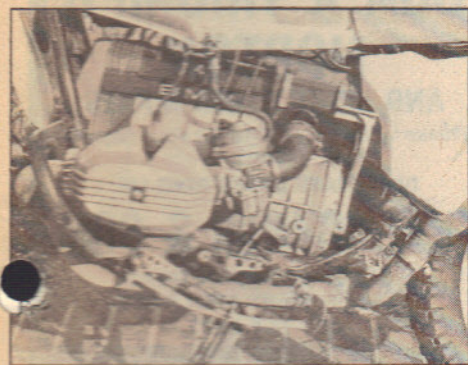
I went for an off-road comparison ride with

GS speedo lets in water too easily.



Jim Lindsay (the boss). He rode his own Honda XR200R. We took a blast along a nearby forest track. The R80GS showed that, on this type of terrain, it is a match for a proper enduro bike. It was possible to reach speeds of over 60mph as long as the surface was hard enough to allow grip. Steering in ruts was a bit of a laugh, however.

When we continued for the second part of the comparison the R80 was hard pushed to maintain forward progress at all. To be fair the local moto-cross practice circuit was very water-logged and the tyres were inflated to road pressure. Still so were they on the forest trail. Immediately the grooves of the shallow tread pattern filled with mud and I was soon having to get off the bike and push it on what was an



Power plant is common to both bikes.

almost flat surface.

On the road the bike is quite a lot of fun. Every other BM that I've ridden has either featured handlebars styled for a semi-crouched (ideal for high speed Motorway) riding position or else has had sit-up-and-beg bars but with a large RT type full fairing also fitted. The GS competition style bars mean that you can ride a BMW differently. You can weave in and out of traffic with ease but don't forget that the engine is almost as wide as the bars. The bike will stand on its back wheel with just a tweak of the throttle. Stopping, whilst it does not stand on its front wheel, it will pull up smartly, should you choose not to ride over the top of the occasional car which gets in your way! You do, in the fashion that has become the norm with all BMWs, have to squeeze hard on the brake lever to get the brake to work. The bike has ample ground clearance, which results in a high seat. If, like you are quite short in the leg, high kerbs are a boon to stop-start riding!

The addition of a passenger tended to accentuate the tendency for the front end to aviate and thus judicious use of the controls is

essential in town. Riding away from the lights on the back wheel might look spectacular but it is not really that sensible, to say nothing of being a sure way of getting an endorsement.

In terms of economy the bike does about 45 miles to a gallon. With such a large capacity engine in a bike which, by large bike standards, is quite light and low geared, it is possible to 'chug' around in a high gear in traffic and then pull away when a space appears. Indeed this is one of the areas where the GS is really nice to ride. You can ride along at 20mph in fourth gear, in traffic, then crack open the throttle and accelerate smartly to 90 without changing gear.

The seat is in the normal BMW super-comfort class, as is the quality of the controls and the general engineering. Thumbs down for the clip on side panels though. They do not stay put that reliably. As neither the forks nor the crank-cases have a smooth surface finish, road dirt and salt has a hey-day with them. It soon gets ingrained to make the bike look quite second-hand when there are only a few miles on the clock. It would not cost a fortune to polish the fork legs at least. Smooth surfaces are that much easier to clean. The self retracting (spring loaded) sidestand is a good idea. I found it quite convenient to clamber aboard the bike whilst it was on this stand and to then lift it upright (whence the stand would fold up) before riding off. It is not that easy to get the GS onto its centre stand, particularly on smooth concrete. The stand is, however, positioned right 'on' the point of balance between the front and rear wheels. As such if you want to turn the bike round whilst it is on the stand you can do so with the very minimum of effort. Switchgear and lighting are the normal very high quality which make BMWs last a long time.

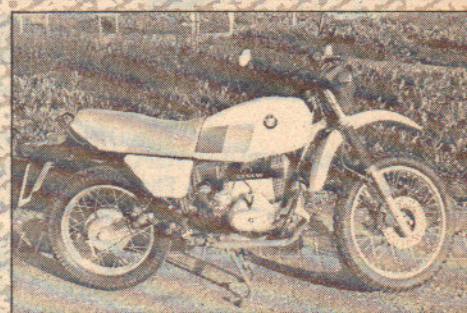
In terms of on-road riding the tyres are what stop the GS being the easiest to ride of the BMWs, prior to the ST. They are not all that bad. On dry roads you can, by virtue of the large ground clearance, crank the bike over to silly angles. In the wet the front and rear tyres seem to let go at roughly the same moment, which can be quite exciting, to say the least. Before concluding, it would be remiss of me not to mention the tools that are supplied with the bike. They are to the normal superb BMW standard and there is a tyre inflator as well as two tyre levers. I used the levers and although they are only about six inches long they are adequate for the removal and re-fitting of the 800's rear tyre.

At the start of the GS road test I thought that it was going to be rather like getting what I'd always dreamed of. Now, in retrospect it does seem fitting that the position of the GS as the

radically different BMW should be usurped by a model which combines all the good things which the GS introduced and forgets the pretensions of being a dirt machine, which it should really never have had.

Though I'm sad to say it, the ST is much the better bike of the two.

Colin Taylor



BMW R80 GS PERFORMANCE

Maximum speed	
sitting up	96.55mph
prone	104.95mph
Standing start 1/4 mile	13.61s/92.49mph
Fuel consumption	
average	45.2mpg
worst	41.7mpg

ENGINE

Type	horizontally opposed pushrod four stroke twin
Bore x stroke	84.5 x 70.6mm
Piston displacement	798cc
Compression ratio	8.2:1
Fuel system	V64 CD carburettors
Ignition system	electronic

TRANSMISSION

Gear ratios	1st 4.40, 2nd 2.86, 3rd 2.07, 4th 1.67, 5th 1.50
Primary drive	gear
Final drive	shaft
Final reduction	3.36:1
Clutch	single plate diaphragm

ELECTRICS

Generator	280 watt alternator
Battery	12v 16A/hr
Headlight	5.5in H4 halogen

CHASSIS

Front tyre	3.00 x 21
Rear tyre	4.00 x 18
Front brake	10.2in disc
Rear brake	7.9in drum
Front suspension	telescopic fork
Castor	61° 15min
Trail	116.8mm (4.6 inches)
Rear suspension	monolever single swingarm

DIMENSIONS

Wheelbase	1465mm (57.7 inches)
Overall length	2230mm (87.8 inches)
Overall width	820mm (32.3 inches)
Dry weight	381lb (173kg)
Fuel capacity	4.3gal (19.5 litres)

PRICE	£2,570
Warranty	12 months unlimited mileage
Importer	BMW (GB) Ltd, Ellesfield Ave, Bracknell, Berks RG12 4TA

TESTER'S VERDICT

Good points	rideability
Bad points	rusty exhaust, leaky speedo & tyres
Performance	sufficient
Economy	acceptable
Handling	super (on road)
Comfort	super
Braking	good enough
Equipment	well made
Value	slightly overpriced

