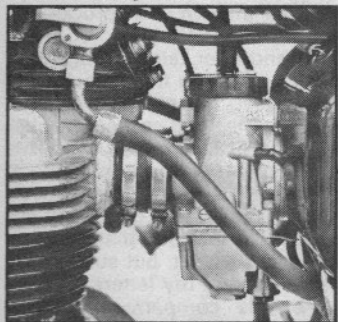




R45

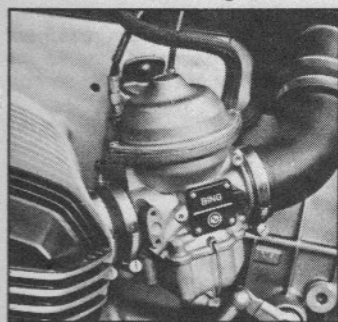
WELL-known carburettor manufacturer IMI Amal of Witton, Birmingham, have become the sole UK distributors of Bing Carburettors and spares.

This agreement, which came into effect at the beginning of 1983, will see Amal supplying the complete range of Bing products including carburettors, lift pumps and filters for motorcycle and industrial engines.



Amals are to Triumph...

Amal had a tentative link-up with Bing in 1981 when the former used Bing c.v. carburettors on export Triumphs to overcome the stringent US exhaust emission regulations. At about this time Bing hinted that they were looking to change their UK representative and that's how the talks with Amal began.



... what Bings are to BMW

Fritz Hintermayr of Nürnberg, makers of Bing components, have been in operation for over 50 years and their equipment is fitted to many European motorcycles including BMW, Puch, NSU, Maico, KTM, Zundapp, Husqvarna and Sach.

Amal's carburettor range goes from about 10mm up to 40mm diameter, while Bing's range goes slightly larger to 44mm.



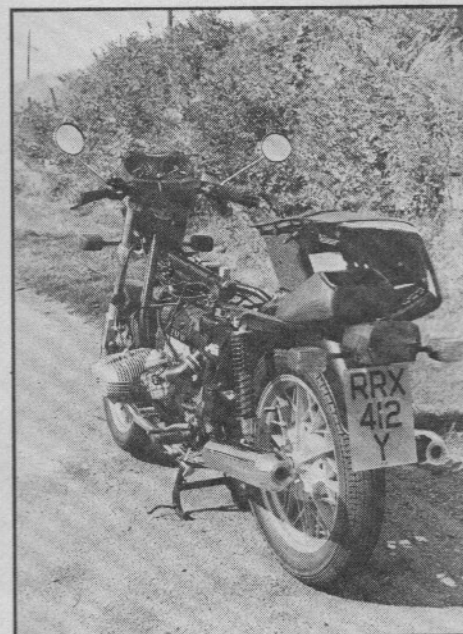
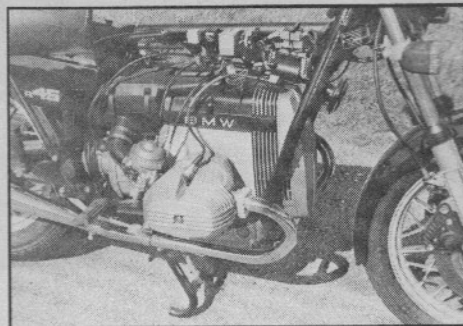
58 BMW R80ST BMW R80GS

Full test of BMW's fine handling new 800cc roadster. It's almost radical. Also, a brief reappraisal of the bike it was developed from, the R80GS.



47 MKM 1000

Six grands-worth of exotically dressed, 1000cc BMW plus an evaluation of Krauser's long-awaited four-valve cylinder heads.



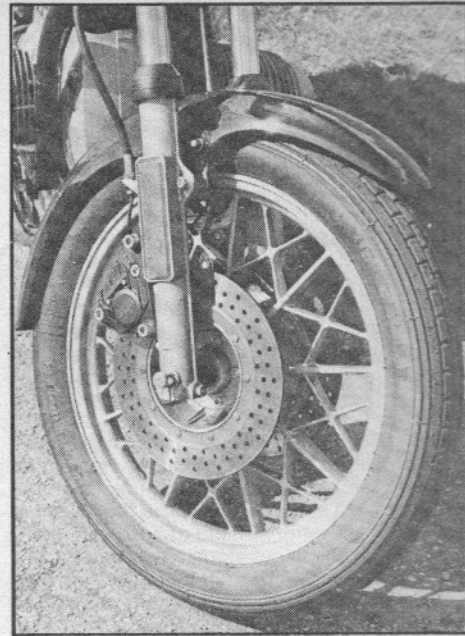
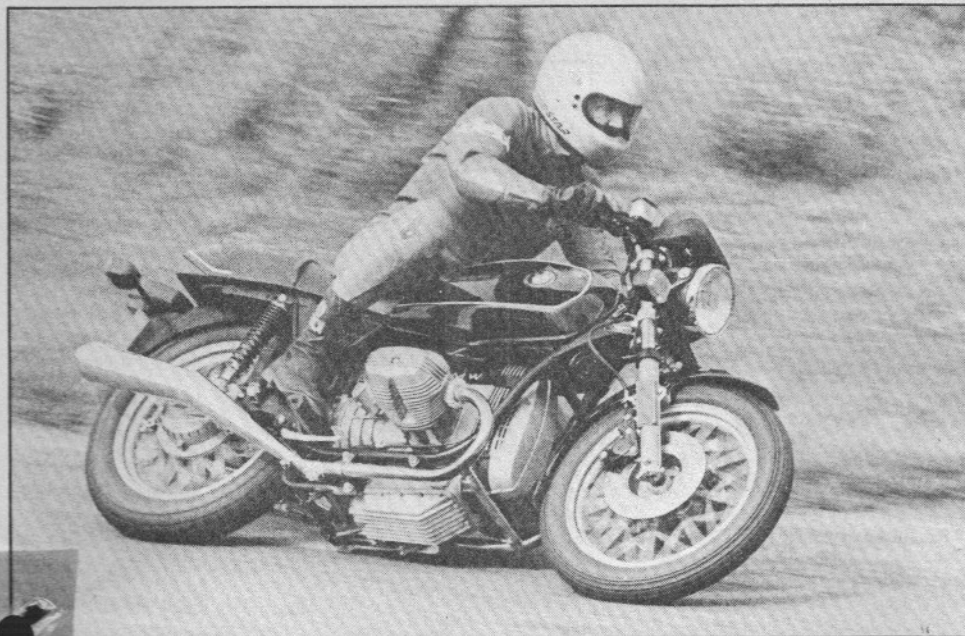
BMW R45

It is quite difficult to describe the R45. The trickiest part is to explain *how it is good*, rather than *how good* it is. When one starts with the premise that the bike is the bulkiest of the 400s we tested, the most expensive and also the slowest, albeit only just, then yer average potential punter ain't going to part with his readies mister!

However in so saying, the customer for this, the smallest of the BMW range, is not the rider who is impressed by outright top speed and catapult-like acceleration. No, he or she will appreciate the finer points that set a motorcycle aside from run of the mill bikes; as such this model, just like any other BM, provides plenty to be appreciated.

In this group test, all the writers rode all the other bikes at least once. A comment from the *Mechanics* staff photographer, who had been snapping off each of the bikes as we rode them round for the track test session, sums up the R45. There they all were. The Honda with its outright top speed and more than its fair share of good looks. The new XJ 400 Yamaha which looks a whole lot better than the old XS 400 and corners just like any Yam. The Z440 Kawasaki which easily cracks the 105mph barrier and has all the appearance of being really comfortable to ride and there was the R45 BMW, with its dated, horizontally opposed flat motor and quiet exhaust note. All those to choose from and 'our' Martyn said "I'd really like a ride on that BMW" (He had a ride too — see the photos).

Now why should he have said that I asked myself. Why too did our editor eulogise about it when I dropped round to No. 35 for a brew of tea, when I was running the bike in. To analyse the reasons it must have something to do with the appearance because neither of those two people had ridden the bike and yet they could



Top left: The physical size of the engine unit belies the cylinder volume. Only the side panel tells that the bike is less than half a litre. Left: Stripped of its fuel tank the craftsman constructed frame can be appreciated. Top right: Twin front brakes by Brembo do their job without fuss. Higher than average Japanese lever effort is needed however. Right: The cornering capability to the left is restricted by the side stand (see the sparks). But 'our' photographer seems unworried as he enjoys the civilised ride that the R45 provides.



both appreciate the quality of it immediately.

All BMWs look much the same, regardless of their cylinder size. As the swept volume increases the excitement of riding them does too, in direct proportion. The smallest of them, this one, might not be all that thrilling but it is just as comfortable as its bigger family members and has all of their pedigree breeding. Originally I was listed to test a Suzuki twin. We delayed the test to accommodate the late arrival of that bike because the importers at the time were having trouble getting the bike ready in time for the test. In skimming through the other motorcycle publications which are in our office it came to my attention how few Suzuki tests there were. A few words with other road testers for the weeklies and the monthlies all reach the same conclusion. Well, as we had half expected anyway, the 400 Suzuki was not going to be ready. I would be out of the test I thought, but no, I was to test the BMW instead. Not a bad alternative but I was very interested to test the Suzuki twin to compare it with the GSX 400F which I tried for *Motorcycle Mechanics* last year (I can still remember the sparks!). Still some other time perhaps.

The BM had only 2 miles on its clock when I collected it, so some gentle breaking in was called for. The pre-delivery inspection had been carried out, the bike had been gassed up and was waiting for me to ride it away. It rode just the way other BMWs do after they've been 'run in' and serviced. Straight from the crate this bike performed like a well oiled and properly made piece of machinery should. The brakes bedded in by the time I'd ridden 50 miles and with the specific exception of the cold starting and tickover, the bike behaved faultlessly throughout the test.

Where other manufacturers go for outright volume production, with evidence that can be seen in the finished product, BMW do not. They are not ashamed to admit that the

Japanese manufacturers turn out many more bikes than they do. BMW weld their frames by hand, it shows. The comparative output figures for bikes make interesting reading too: for every bike that BMW make Yamaha make 68. Suzuki make 45 and Honda crank out a staggering 86. A production volume 86 times greater, phew!

So how does a bike of such comparatively low production volume compare with its mass produced counterparts?

It is rather like comparing an off-the-peg suit with one that's been bespoke tailor made. They both fit but the latter fits that little better. All the loose ends are beautifully finished off so that when the mass produced factory item starts to get frayed and tatty the other just needs a good dry clean to bring back its former glory.

Engineering wise the BMW has not had any corners cut to compete with its full-of-Eastern promise rivals. They all fight amongst themselves to get the biggest share of their market whilst BMW turn out the same hand-crafted solid flat twin that they have for many years. Ride-wise it is very precise in its steering, even I can choose a line for a corner, aim the bike for it and know that regardless of knee-out and weight shifting antics the bike will do its level best to stay on line. At the track we found that there was little point in hanging on to the gears until the red line was reached. The bike is so tractable that 'up' gear shifts at 4,500 revs were the order of the day. The handling of the bike, with its craftsman aligned and inspected

frame geometry, was so good that it was possible just to touch down the right-hand side rocker cover. Not uncommon on the bigger models but quite a surprise to me with this one whose engine is that much narrower. The Metzlers obviously played their part in the taught feel of the bike. The front end stability was remarked on by most of those who rode it. At the speed test strip, the futility of red-lining the motor showed up, in both the 440 yard dash times and the top speed runs.

Flat out, flat-on-the-tank the R45 did 96.79mph and pulled a SS ¼ mile in 15.79sec. The fastest of the bikes we tested 'Against' the BM did the quarter nearly two seconds faster and could go nearly 18 miles further in an hour flat-out. Well it should go that much further but I just wondered if it would. You see the BM's 96 does not exploit the engine's safe maximum rev limit; whereas the Honda, for instance, was revving past the red zone in top gear to get its maximum speed. Although I reckon the Honda would go further in an hour, I also feel that the rider would be a whole lot more drained, to say nothing of his petrol tank which would doubtless need a refill before 60 mins. had elapsed. Not so the BMW. It had been thought out to make re-fuelling a far less common occurrence than with the other bikes. Normal riding around allowed you to do over 200 miles before you had to stop for fuel. To balance the BM's bulky engine unit a large fuel tank is fitted.

One thing about BM's is that you almost have to look at the side panels to decide what

capacity the motor is. One person even remarked that he could not believe that such a big engine was only a 450cc. The physical engine size is not apparent when riding the bike. Apart from the track test the BMW was not left behind by the others. It was not totally eclipsed at the track either. Its loping gait was not just quite right for the twisty circuit. Indeed on the street — and that's where it will be ridden by the public — it was always up with the rest. I swapped with John Robinson, he had the BMW and I had the Honda that he was testing, on our way back from MIRA. I immediately realised that although the BMW was miles an hour slower it was somehow less trouble to ride. All the other bikes on test were of similar vertical twin design and they all thrived on revs (except the Yamaha which fell victim to over-revving).

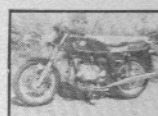
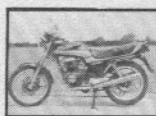
The BMW, as previously mentioned, does not. It prefers to be asked to pull. To slog along in one of the higher of its five ratios is where it's happiest. It is thus plain to see that in town driving, where there are lots of potential stops and starts, you can get along almost as swiftly as the traffic light Drag Race boys, by just keeping in the flow of traffic in say third gear and trying to time the lights just right. Whilst riders of other bikes are shifting their gears several times you can proceed at almost the same pace in just one.

Posterior comfort-wise, the BMW is alone in this class, as in most of the others in which it features; one day I'll discover why this is, the BMW seat initially is very firm to the feel, somehow or other it manages to give the rider the very minimum of cramp trouble. Personally I feel that the handlebar position is not quite right, but then I'm rather short in the torso. To people of my build the riding position tends to be too inclined forward and thus, if I was lucky enough to be able to own a BMW, I would have some different handlebars on it. Not as sit-up-and-beg as the RT bars but somewhere between them and ones this model features. The controls are all crafted to the same standard as the rest of the bike — the highest — the horn button is too small for my liking but it's the same on all the BMWs. As with all the other BMWs you need a deal of lever pressure to make the Brembo brakes work. The drum rear brake works well and being shaft driven, the final transmission drive is not something that the owner is going to have to look at each week.

To conclude the R45 BMW is a bike that does dare to be different. It will not be hurried. Gear shifting is very easy and accurate, provided you don't try to race. If you do you miss every other gear. It handles precisely. It is not very quick and not very thirsty. It stops very well and looks much bigger than it is. Its cornering capability is drastically restricted to the left by the silly side stand, it digs in very easily just the same as it does on all its bigger brothers. To the right you've enough clearance to indulge yourself as far as you feel prudent. The bike comes equipped with a comprehensive tool roll and first aid kit.

If you are looking for a bike to do high mileages with the minimum of fuss, that's not very demanding to ride, look no further. If you want a super quick whizz box that'll soon start to rattle and burn oil don't look at this one.

Colin Taylor



	HONDA CB400N	KAWASAKI Z440HI	YAMAHA 400	BMW R45
PERFORMANCE				
Max speed (estimated due to blow-up)				
Prone	113.9mph	107.85mph	105mph	96.79mph
Upright	103.6mph	94.54mph	95mph	87.2mph
Standing start ¼ mile	13.7s/95.1mph	14.8s/89.45mph	14.8s/88mph	15.57s/81.68mph
Fuel consumption				
Worst	35.3mpg	40mpg	43.8mpg	44mpg
Best	48.2mpg	48.8mpg	58mpg	52mpg
ENGINE				
Type	sohc, three-valve, twin cylinder	sohc, in-line 2 cylinder, air-cooled 4-stroke	dohc, vertical twin, 4-stroke	push rod flat twin, horizontally opposed
Bore x stroke	70.5 x 50.6mm	67.5 x 62mm	69 x 53.4mm	70 x 61.5mm
Piston displacement	395cc	443cc	399cc	473cc
Compression ratio	9.3:1	9.2:1	9.7:1	9.2:1
Fuel system	two VB31B Keihin	two Keihin CV36 carburettors	2 x 34mm Mikuni CV	2-Bing V64 constant depression carbs
Ignition	CDI	battery and coil (transistorised)	transistorised	electronic, transistorised
TRANSMISSION				
Primary drive	gear	Hy-Vo chain	gear	helical gear
Final drive	520 chain	chain	530 chain	cardan shaft
Primary reduction	3.125	2.434	3.068	
Final reduction	2.25	2.866	2.376	3.89
Clutch	wet, multiplate	wet, multiplate	wet, multiplate	single dry plate with diaphragm spring
ELECTRICS				
Generator	150W alternator	12V a.c. generator	12V alternator	280W alternator
Battery	12V, 12Ah	12V, 12Ah	12V, 12Ah	28Ah/hr
Headlight	12V, 60/55W	35/35W	12V 60/55W	H4 halogen 60W
CHASSIS				
Front tyre	3.60S 19	3.60S 19 4PR	3.00S 18	3.25S 18
Rear tyre	4.10S 18	4.10S 18 4PR	4.10S 18	4.00S 18
Front brake	twin disc	single disc	single disc	dual 260mm drilled discs
Rear brake	sls drum	drum	sls drum	sls drum
Front suspension	5.5 inch travel	telescopic fork	telescopic fork	6.9 inch travel
Rear suspension	3.8 inch travel	Showa twin shockers, five position spring pre-load adjustment	swingarm, single shock	4.4 inch travel
Castor	63 deg	27 deg	26deg 15 min	n/a
Trail	3.9 inch	4 inch	3.74 inch	n/a
DIMENSIONS				
Wheelbase	1390mm (54.7 inch)	1375mm (54.1 inch)	1375mm (54.13 inch)	55.1 inch
Overall length	2115mm (83.3 inch)	2105mm (82.8 inch)	2130mm (83.86 inch)	83.1 inch
Overall width		785mm (30.9 inch)	730mm (28.74 inch)	27.1 inch
Dry weight	173kg (381lb)	166kg (366lb)	166kg (366lb)	408lb
Fuel capacity	14 litres (3.1gal)	16.3 litres (3.59gal)	20 litres (4.74gal)	4.8gal
PRICE	£1260	£1169	£1299	£2055
Warranty	12 months, unlimited mileage	12 months, unlimited mileage	12 months, unlimited mileage	12 months, unlimited mileage
Importer	Honda UK, Power Road, Chiswick, London	Kawasaki Motors (UK), 748/749 Deal Avenue, Trading Estate, Slough	Mitsui Machinery Sales Oakcroft Road, Chessington, Surrey	BMW (GB) Ltd, Ellesfield Avenue, Bracknell, Berks
TESTER'S VERDICT				
Good points	handling and all-round performance	economy and comfort	light, slim	sheer class
Bad points	tank size	transmission	twitchy at speed	left side clearance
Performance	best of the group	very average for class	not as good as the Honda	stodgy
Economy	not so hot	scores well here	not bad	acceptable
Handling	excellent	could do better	OK to 70mph	definite
Comfort	good riding position; hard suspension	not at all bad	OK for size	definite (seatwise)
Braking	light, powerful	effective for performance	adequate	see text
Equipment	universal Japanese	basic by today's standards	stock Japanese	sufficient
Value	top of the 400 class	reasonable	same as the others	like any BM
				to the discerning only