



R65 REVAMPED

Five extra horses help this light middleweight take on the heavyweights . . .

EVOLUTION is better than revolution. Gradual change enables the good to be retained and the bad to be discarded or improved upon. Such is the philosophy within BMW and their constant search for improvement.

At first glance the 1981 R65 appears identical to its predecessor. On closer inspection, a change in instrumentation, handlebar mounted choke lever, twin disc front brakes with handlebar mounted hydraulic reservoir are noticed . . . a lower seat and restyled seat tail are almost imperceptible to all but the most discerning bikers.

Superficial cosmetic and mechanical changes are not all that have taken place between last year's model and the latest product from the Spandau factory. This middleweight 'boxer' now has an extra five horse power punch!

R80/7 replacement

The R80/7 is dead; long live its R65 replacement. With reasonably detailed but simple engine modifications such as lighter clutch, larger valves for improved breathing and electronic ignition, the R65 now develops 50bhp at 7250rpm compared with the 45bhp of its predecessor and 55bhp at 7000rpm of the old R80/7. Being lighter, the R65 is able to stay with its older but bigger brother on acceleration and with its slightly slimmer profile has the edge in maximum speed by a few miles-per-hour.

A comparison between the old and the new R65 . . . well, there is no comparison. Over the standing quarter mile there is almost two seconds and six miles-an-hour terminal speed difference; and on maximum one-way speed, there is a seven miles-an-hour improvement for the latest model. Riding the new R65 is very different to last year's bike.

What was pronounced a 'nice' but sluggish middle-of-the-road middleweight

has come alive. Pushrod 650cc twins that top 110mph at a crouch and turn 14-second quarter miles may not be in the warp factor league, but they're man enough for the more-than-average commuter, week-end tourer.

After climbing from our 'hack' GSX750-four onto the BMW R65, it felt as though a whole new lightweight world of motorcycling had become available. Okay, so there wasn't that urgency in the engine note or that stretching of the forearms as the motor got into its stride. But there was that exciting affinity with a motorcycle that felt right.

Immediate response to steering with any chosen line taken and held at low, medium or high speed, developed a confidence in the bike that allowed bends to be taken five to ten miles-an-hour faster than other bikes of equal or larger capacity. It was an experience to be enjoyed and one that would be relived repeatedly during the precious couple of weeks we had the machine on test.

By now it would not be hard to assume that I was enthusiastic about the latest BMW R65, but, as with any other motorcycle we have on test, we must subdue our initial reactions and coolly analyse all aspects of the machine. As I was soon to learn, the BMW R65 is not perfect and still has inherent faults that cannot be eradicated without redesigning the 'boxer' motor.

For example; without a countershaft the in-line crankshaft motor still suffers the torque reaction which causes the bike to dip to one side when blipping the throttle at standstill. Fortunately, this isn't noticeable and has no adverse effect when on the move.

Also, in spite of reduction gearing to the gearbox and in-built torsion dampers on both the gearbox input shaft and drive shaft to the rear wheel, gearbox action is still on the slow side due mainly to the engine speed, single plate clutch. However, it must be stated that gearchanging on the current

machines is a vast improvement over the early BMWs, which were renowned for their motor jarring clonks. Even first gear can now be eased in to engagement with a barely perceptible click and providing gearchanges aren't rushed and the engine/road speeds are balanced with perfect use of the throttle, cog swaps up and down the five ratios are smooth and quiet. An experienced rider can also make clutchless gearchanges without problems or excessive strain on the transmission.

One other failing which came as a complete surprise and may only have applied to our particular test machine, was a severe vibration period which began at the footrests at 4500rpm, was transmitted to the handlebars at 5000rpm and gradually died away after approximately 5500rpm. Unfortunately, this vibration period coincided with top gear road speeds of between approximately 70 and 90mph and not only made rear view mirrors totally useless between these speeds, but also made cruising over long distances uncomfortable.

Ride at below 70mph, great . . . above 90mph, fantastic! In between? Well, not very pleasant, especially if the throttles were fully opened when real harshness set in and it also felt as though there was a flat spot in the carburation at around 5000rpm. Have any R65 owners experienced this trouble? We'd like to know.

Electrical reliability

The winter weather of our test highlights the failings of many a machine, especially in the electrical department. Driving rain can short out HT leads and freezing, oil-thickening cold can make starting difficult if not impossible. The BMW R65 came through with flying colours.

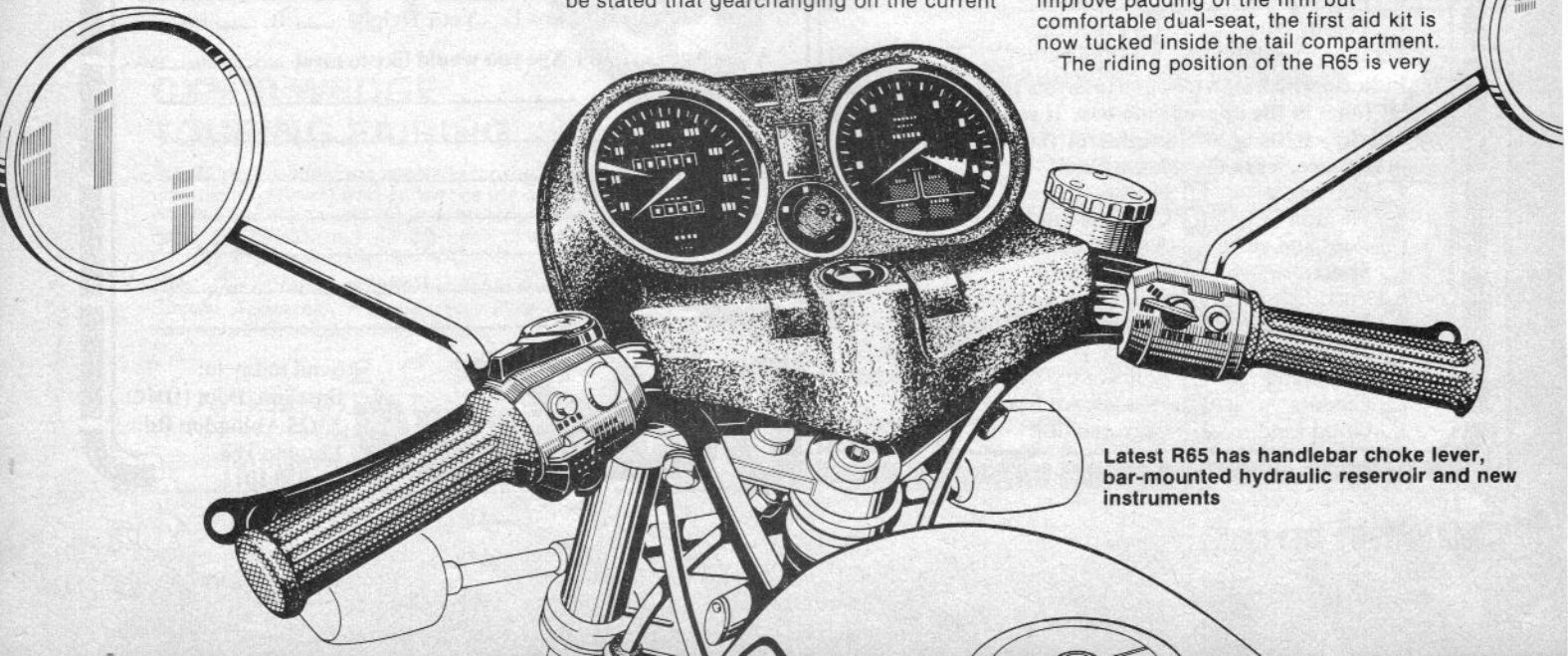
With fuel and ignition on and handlebar choke lever set, the first few turns of the starter motor brought life to the flat twin. The result was the same with hot or cold motor. Starting was faultless.

Astride the machine, the slightly lower seat height was apparent and the gentle, forward leaning position to the handlebars promised a comfortable touring stance once on the move. The new, revised sidestand locks into position when the bike is rested upon it and doesn't immediately spring back when the bike is set upright. A long stretch with tippy toe on the left can just about tuck it out of harm's way. There is no fail-safe, automatic retractor as on the latest Jap bikes.

In fact, trimmings such as automatic steering lock, helmet lock, self-cancelling indicators, gear indicators and vacuum operated fuel tap are not even in the R65s inventory.

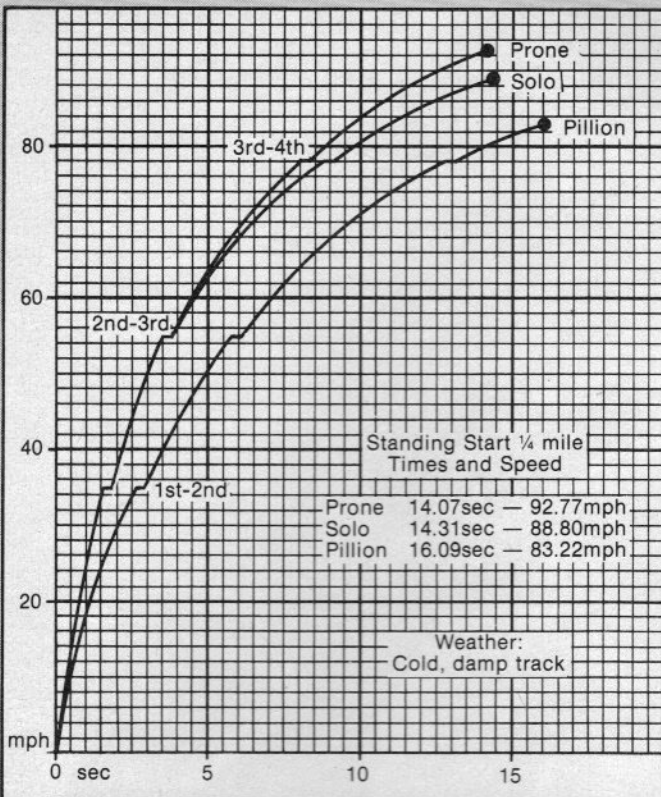
However, a very substantial toolkit with useful tyre pump and first aid kit are and to improve padding of the firm but comfortable dual-seat, the first aid kit is now tucked inside the tail compartment.

The riding position of the R65 is very



Latest R65 has handlebar choke lever, bar-mounted hydraulic reservoir and new instruments

PERFORMANCE



Performance figures obtained at: M.I.R.A. Test Track, Nr. Atherstone, Warks. Test Riders: Charles Deane, Neil Millen.

MAXIMUM SPEEDS and SPEED RANGES

Gear		mph max	mph min	mph 1000rpm
1	solo	39.29	4.87	5
	pillion	90.40	"	"
2	solo	61.86	7.77	8
	pillion	101.40	12.96	13
3	solo	82.71	10.63	10
	pillion	101.40	"	"
4	solo	95.92	14.48	14
	pillion	107.57	"	"
5	solo	87.14	"	"
	pillion	"	"	"

Best one way speed: 111.75mph

SPEEDO

ind	true
30	28
40	37
50	47
60	56
70	65
80	75
90	85

Millometer

Accurate

FLEXIBILITY IN TOP GEAR(sec)

mph	30-50	40-60	50-70	60-80	70-90	80-100
solo	6.88	7.78	10.33	14.99	—	—

MPG

Best	68
Worst	34
Overall	51

BRAKES(both)

mph	solo ft	pillion ft
30	33	39
40	59	64
50	99	104
60	149	156
70	189	201

Oil used

Negligible

good, although pillion passengers' feet do get uncomfortably close, especially on the righthand side, where the cylinder is offset further back towards the rider's foot. In fact, studied from above, it can be seen that the rider sits with his left foot further forward than the right and, even then, the right shin still brushes against the induction pipe to the carburettor.

Once the positions of the handlebar controls are memorised, they fall readily to either thumb. The horn button set above the main/dip/headlight flash switch seems awkward to reach, but considering that the indicators are probably used far more often on any trip, their location would seem more logical. The engine kill switch, starter button and lighting switch are all on the right handlebar, with the ignition switch in the centre of the instrument console controlling the ignition, riding and parking lights.

Warning lights for oil pressure, main beam, neutral and indicators are contained within the rev counter which 'red lines' at 7500 through to 7750rpm. Both speedometer with built-in tripmeter and rev counter are easily read by day or night by the unobtrusive night light glow. Accuracy of the instrumentation was reasonable with the speedo complying with the 10 percent legal discrepancy.

Okay, so far we've talked about the easy starting, the accessories or lack of them, the layout of the handlebars... but what

was the beastie really like to ride?

Great... just great! Forget the annoying vibes; just dial in to that exhilarating, soul freeing transport. The flat twin is flexible. From 2000rpm in fifth (top) gear the pistons start to pump power to the back wheel. Nothing exciting at first but enough to know that greater things are to come.

Tread the gear lever down a couple of ratios and wind the motor above the 5500rpm vibe period and things begin to happen in a reasonably lively manner. The shaft winds up the bevel gear, the bike lifts its tail and, by using the red line limit from first to fifth gears, it scoots over the 440 yards in 14 seconds indicating around 94mph on the speedometer.

On the open road (German Autobahns... woulddyabelieve?) a constant 90mph can be maintained for as long as the rider can stand the wind pressure. High average speeds can be maintained, but at a price. Fuel consumption increases quite dramatically once the 70mph barrier has been passed. At MIRA on the test track, where the throttle stop takes one hell of a hammering, the fuel figure at its very worst plummeted to 34mpg. In fact, even on the open road when late for a Kawasaki press conference at the NEC in B'rum, we only averaged 44.10mpg.

Cruising sedately home from MIRA, while trying to stay with Millen on the 1000CS, showed an improvement to 51mpg. But

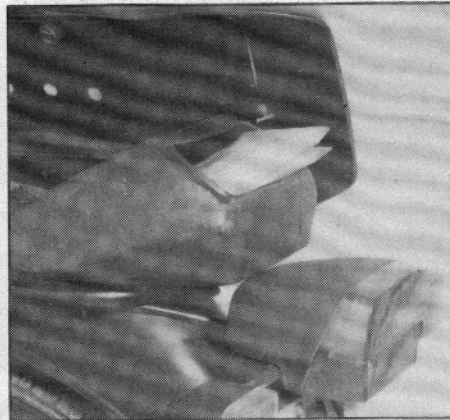
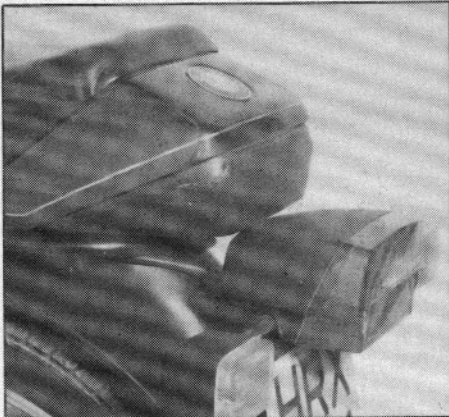
used sensibly, any average rider should be able to achieve 60 to 65mpg when sticking to the legal speed limits.

Maybe it was the sheer exhilaration of riding the R65 at a lively pace which brought about our lowly fuel figures. But to be quite honest, it was the roadholding and handling which instilled a feeling of security that enabled high average speeds

COMPARISONS

Make	Speed prone	SS 1/4 mile prone	Dry weight	Claimed bhp	mpg	Price inc. VAT
BMW R65 (1981)	108mph	14.07sec/93mph	408lb.	50 @ 7250rpm	51	£2194
BMW R65 (1979)	104mph	15.43sec/84mph	408lb.	45 @ 7250rpm	47	£2149
Yamaha XJ650	120mph	12.46sec/101mph	454lb.	66 @ 9000rpm	41	£1650
Yam XS650 Spec.	101mph	14.39sec/89mph	416lb.	45 @ 7000rpm	51	£1480
Honda CB650	110mph	13.61sec/94mph	437lb.	63 @ 9000rpm	41	£1549
Kawasaki Z650B	123mph	12.95sec/100mph	465lb.	64 @ 8500rpm	46	£1399





The R65's new seat tail lifts . . . to reveal a moulded compartment containing . . . documents and first aid kit with tools in a separate tray

to be maintained, even on wet roads. Although the Metzlers showed a dislike for white lines and ridges in the wet and could be felt to be drifting slightly on corners, the balance of the bike made one feel in perfect control at all times.

The suspension, with its long travel, coped very well with solo or two-up riding providing the rear pre-load was adjusted to suit the weight. Heavy braking caused the front end to dip quite sharply, especially during brake tests at MIRA. However, there was no hint of snaking at the front and on every occasion the bike came to a halt in a straight and controlled line.

It required fairly heavy leverage on the front brake to obtain maximum, tyre squealing effort from the Italian Brembo twin discs now fitted to the latest BMWs, while the rear drum gave controllable support without fear of locking too easily. There was no heart-stopping time lag from the twin-drilled discs in wet weather.

Handling, roadholding and braking are all highly commendable. The R65 might have to work that little bit harder to stay with the 1000cc superbikes, but it's nimble and quick through the turns to make up for that acceleration and top speed it might lose out on the straights.

When it comes to night riding, then it

must be among the best of the bikes on the road. Its H4 quartz-halogen headlight burns its way through the dark with perfect cut-off on dipped beam and a searing main beam with minimum of scatter and maximum penetration. Bright direction indicators and a large rear stop/tail light which can be clearly seen by day or night give added security. The Japanese can teach BMW nothing about motorcycle electrics. If only all were as good as those fitted to BMW machines.

When it comes to the general finish of a motorcycle, which includes chromium plating and paintwork, the BMW has always stood out among its contemporaries as being one of the best. The company takes particular pains to grind off all welding flash before stove enamelling frames and tanks, etcetera. And yet, in spite of gleaming, deep shine paintwork, our test bike had quite tatty exhaust pipes, a rusting rear wheel spindle and alloy showing signs of oxidation after a mere 2600 miles.

Summary

This R65 is so much better for those extra five brake-horse-power that allow a middleweight to retain the characteristics of a lightweight in handling and roadholding

but take on the heavyweights (almost) in performance.

Vibration spoils an otherwise marvellous motorcycle which, with further evolution to improve the trimmings, could become an even better machine. If asked whether I would consider buying an R65 for personal use, the answer must be, yes, even at £2194.

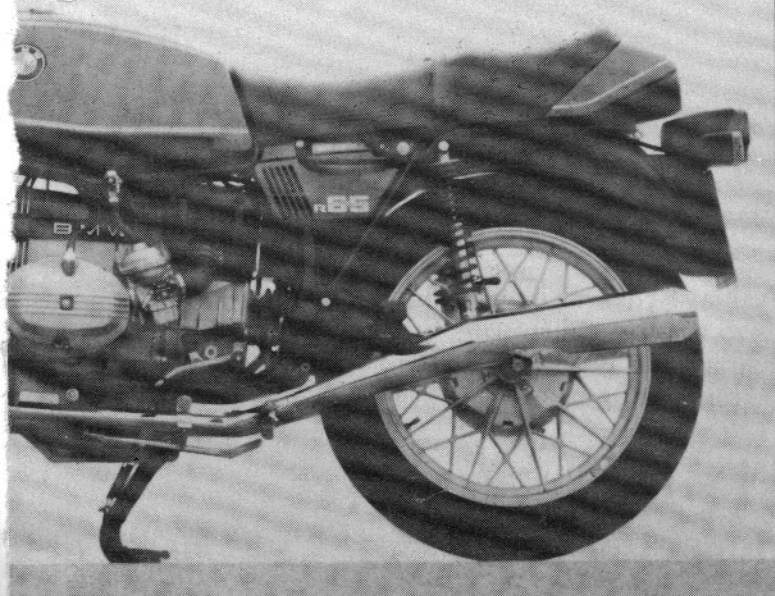
Charles E. Deane

STAR RATINGS

Our star system gives a quick reference to the standard reached in performance and engineering. The standard is:-
* = Poor; ** = Below average; *** = Average; **** = Above average; ***** = Outstanding

Performance	***
Handling and Ride	****
Servicing	****
Engine	***
Transmission	****
Frame and Forks	****
Wheels and Brakes	***
Electrics	****
Dimensions	****
Equipment and Finish	***
OVERALL	****

Crisp new styling and paintwork distinguish BMW's latest 650, and hint at its improvements



TECHNICAL SPECIFICATIONS

Engine

Type: Air-cooled, pushrod OHV, twin-cylinder four stroke.
Bore x stroke: 82 x 61.5mm.
Displacement: 649.6cc.
Compression ratio: 9.2:1.
Carburettors: Twin Bing 64/32/11, 32mm constant vacuum.
Max. horsepower: 50bhp @ 7250rpm.
Max. torque: 5.33kg.m (38.59ft.lb.) @ 6500rpm.
Lubrication: Wet sump. Capacity 2 litres (3.5 pints).

Transmission

Type: Five-speed, constant mesh gearbox.
Final reduction ratio: 3.44:1 (9/35 teeth crownwheel and pinion).
Overall gear ratios: 1st 15.14, 2nd 9.84, 3rd 7.12, 4th 5.74, 5th (top) 5.16:1.
Clutch: Dry, single-plate, diaphragm unit.
Drive: Enclosed drive shaft in swinging arm with spiral bevel follower to pallid bevel gears. Torsion damper in drive shaft.

Frame and Forks

Frame: Double tube steel frame with bolted on rear section.
Front suspension: Telescopic fork with hydraulic damping.
Rear suspension: Swinging arm with twin, three position pre-load spring suspension units, hydraulically damped.

Front travel: 175mm (6.9in.).
Rear travel: 110mm (4.3in.).
Trail: 96mm.
Fork oil capacity: 190cc each leg (0.33 pint).

Wheels and Brakes

Front tyre size: 3.25S18.
Rear tyre size: 4.00S18.
Front brake: Twin hydraulically-operated, 260mm (10.2in.) dia. discs.
Rear brake: Full width hub, 200mm (7.9in.) single-leading-shoe drum.

Electrics

Ignition: Transistorised CDI with mechanical advance/retard, twin coils.
Battery: 12V, 16Ah.
Alternator: Bosch 280W.
Headlight: H4 60/55W.
Tail/stop lamp: 5/21W.
Indicators: 21W.
Warning lights: Main beam, oil pressure, neutral, battery charge and turn indicators, 1.2/3W.

Dimensions

Seat height: 810mm (31.9in.).
Length: 2110mm (83.1in.).
Width: 688mm (27.1in.).
Height: 1125mm (44.3in.).
Wheelbase: 1400mm (55.1in.).
Ground clearance: 150mm (5.9in.).
Dry weight: 408lbs. (185kg.).
Fuel tank: 22 litres (4.84 gals.) including reserve.