

# A Very FLAT TWIN

THIS TEST HAS BEEN QUITE AN experience. Older readers may remember a test some years back in *Bike* where a Gold Star and a Venom were tested by our snappy testers. The result was general disapproval from anyone who had ever owned one and general snarling went on between the Old bike/New bike camps. Well lads, this is where we get our own back OK? The BMW R45 is a carefully designed and expensively engineered bike. It does not rattle, neither does it shake. After ten days of riding it got parked by the kerb, replaced by my battered old Venom. I just couldn't stand it any more. From my point of view it sums up, very neatly, the problem with bikes today. Carefully designed, expensively engineered — and boring. No worse than that, but deadening and deadly. Like screwing using a Durex, taking Valium, and listening to rock 'n' roll while using an electric drill. The whole myth about the machine taking care of itself so you don't have to worry.

Now I fully realise that lots of normal people don't quite see things this way; that my attitude is all wrong no matter which newspaper you read, and that in any case using a Velocette as a comparison is useless unless you happen to have ridden one. So it's necessary to do it the hard way and actually consider this package in detail.

First the design. Flat twins are a great idea for the engineers for the well-known power impulse balance reasons, and, of course, the centre of gravity tends to be lower. From the biker's point of view they can be a hassle, catching on the road and passing vehicles during minor errors of judgment. This flat

**One BMW is very much like another — or so we thought until we gave their new 450 to Royce Creasey. Photography Duncan Cubitt.**

twin is interesting in that it's very oversquare but still a heavy flywheel engine. The result is that it 'runs-on' well on a trailing throttle, reducing the sometimes excessive engine braking found on multis, produces a moderate amount of stomp in mid range, and then gets all crisp and urgent in the last thousand rpm before the redline.

In general, the motor is remarkably like a two-stroke. There's the same induction roar from low speeds, moderate torque, tingly vibes, fin ringing and even exhaust note. Above 4,000 rpm this effect decreases; the exhaust begins to sound like a four-stroke and the tappet noise, one pair under each ear, becomes audible. At 7,000 rpm, especially in the very noisy fourth gear, it sounds like a V12 in terminal dive. Engine speed is restricted by the valve gear which gets progressively more out of hand as the redline is invaded. There's no danger of the rider not hearing it. At higher engine speeds, there's almost total freedom from vibration, the motor does not intrude apart from sheer noise.

The transmission has five gears, fourth and fifth being very close and quite good for motorway hills, headwinds, etc. The gear-change is light, fast and almost foolproof. The neutral light is necessary as there is little feel in the pedal. Unfortunately the clutch and the new transmission shock absorber both cause problems. The single plate dry clutch is much

too sudden. Although light and totally unaffected by abuse, it's almost impossible to ease the clutch home while looking over one shoulder and contemplating a U-turn. You have to sort of freeze in place and then concentrate totally on the clutch lever. Silly. Makes low speed traffic trickling impossible, ditto riding on ice. Even fast changes at speed result in a brutal clonk unless the revs are just right. It means that if you really blow a gear-change the back wheel will be locking up before you've finished moving the lever. I didn't get used to it in over 600 miles but maybe I'm spoilt when it comes to clutches.

The transmission shock absorber is a great idea that used to appear on all but the really nasty bikes (still true?). The idea is that it damps out transmission vibration without allowing the engine to surge — a question of careful compromise and precise tuning for a particular transmission. The BMW one allows startlingly severe transmission vibrations, especially from low engine speed, and at the same time permits the engine to surge enough under hard acceleration to get the bike pitching on its suspension. This effect is not minimised by the small but noticeable rear suspension movement in power on/power off situations, caused by the final drive pinion climbing up and down the crown wheel. This jacking is typical of this type of final drive and BMW seem to have less of it than some.

The power train in general, apart from these very few functional problems, is well made and an example of how tidy machinery can be. There were minor oil leaks from the pushrod tunnels, keeping the stand lubri-





cated, but oil consumption could be described loosely as nil. Starting, using the excellent car type choke which increases engine speed as well as richening the mixture, was pretty reliable, particularly from stone-cold. I couldn't honestly say it was good, it's just that it only failed to start once, and that was at least partly my fault. When the battery does give up, jumping the nearest car battery works splendidly. There is no kick-start.

Fuel consumption varies a lot according to whether you ride like the official consumption test (62.7mpg) or yours truly (45.8). In the summer I should imagine that really enthusiastic use would see the number get even smaller. The engine characteristics generally add up to a moderate but fairly quiet and very smooth touring ability, coupled to an impressive and useful last thousand revs for blasting down the autoroutes. Noise and background vibration is too intense for this to be pleasant for long.

The cycle is a tidy collection of very good components. Most impressive is the suspension. Apparently aimed at comfort above all else, it succeeds triumphantly in removing any suggestion that there is a road down there, while at the same time keeping the wheels in line and the bike pointed where you last left it. The front forks in particular caught my attention. With 6.9 inches of movement they would probably make it as an enduro unit but even heavy braking failed to produce significant flexing. Coupled with this was an almost complete lack of stiction, allowing all bumps from the smallest to the biggest to be swallowed painlessly. Unfortu-

nately, they are substantially underdamped, on plunge and particularly rebound, and the result is that any change of speed causes the front end to sink or lift several inches.

The result is a limitation in the speed with which a series of curves can be taken and it's necessary for all the braking and acceleration to be timed so that the fork movement isn't happening when steering is needed. Stopping in traffic can almost bottom the forks out, which then recover some five or six inches, neatly lifting both feet off the ground. The rear suspension is really good, the spring pre-load adjusters on the struts are easy to use and produce the desired effect. Apart from the pitching caused by the front end, the handling is viceless. The steering neither 'falls in' nor needs pushing into corners, it just needs steering. Personally, I prefer steering that needs pushing slightly, it's easier to tell what's going on. In the case of the BMW, this very light, very dead steering coupled with the sideways torque reaction and motorway winds led to a really strange feel at the front end. Mainly it felt disconnected, maybe on autopilot and OK so far. Comfy though, and no effort to steer at any speed. The cycle might make a great moto crosser.

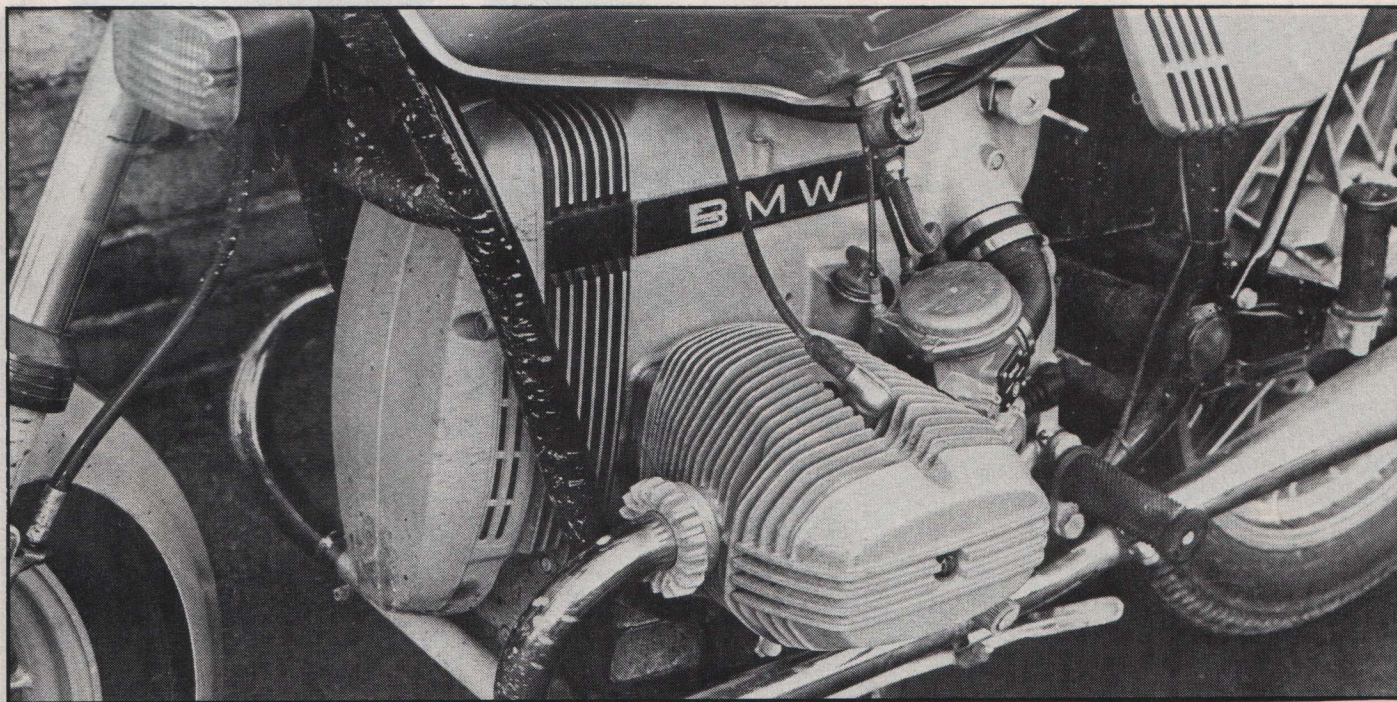
Brakes are good; that is, either brake is capable of locking its wheel if you squeeze hard enough. The front in particular, although difficult to use because of fork plunge, is smooth, sensitive and progressive.

**Below: When are BMW going to give us a new engine so that hacks like us can write something different? I suppose we should be grateful that they changed the tank.**

The rear, although suitably powerful is disappointingly soggy, and difficult to use for control purposes. Wet weather at speed causes a slight and transitory reduction in power at the front but is no problem. In town this is more serious, maybe amounting to a 40 per cent reduction which occurs at the rear as well. Dry-out on the disc is accompanied by an anguished howl so there is little chance of accidentally locking the wheel. The twistgrip is one of these types that does not use a drum — the cables come out in line with the handlebar. As usual, there is some slack in the closed position, but the operation, like all the controls, is light, smooth and convenient.

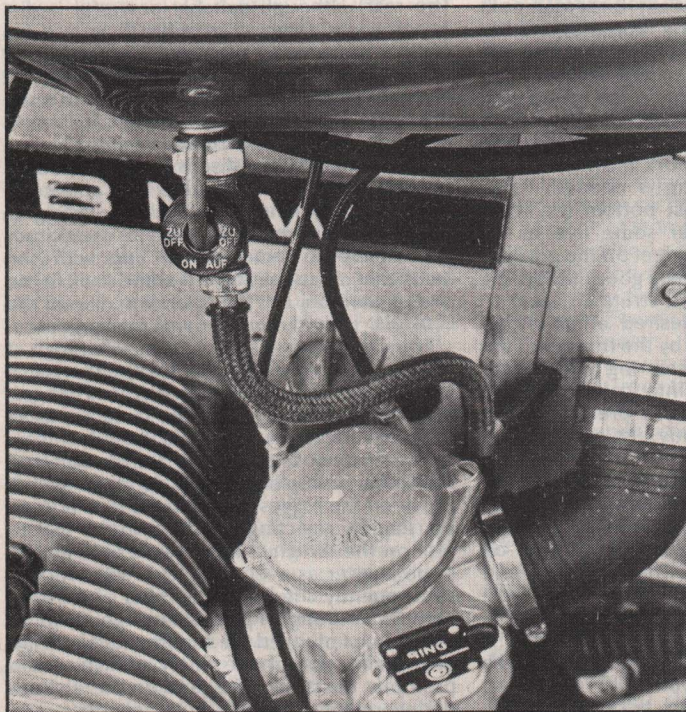
From the rider's seat, set somewhat high at 30+ inches, a restrained but complete set of instruments and switches is visible. The ignition switch, usefully using the same key as all the other locks, also controls the lights, leaving secondary selection for the uncluttered handlebar complexes. This ignition switch provided the biggest laugh of the test. It froze up. Rapidly rejecting standing on the seat to piss on the switch, I soon came up with the same answer as everybody else with whom I subsequently checked. A number of presumably sexist thoughts passed through my mind every time I plugged the superheated key into the frozen slot of the BMW, which would promptly burst into life (and lie there shuddering quietly . . . etc, etc). I suppose sub-zero temperatures are rare enough to render a switch heater gimmickry, but it's the sort of thing the BMW could do, and I understand that Germany gets quite cold.

Another sort of gimmick that I found less amusing is the indicator bleeper. Loud

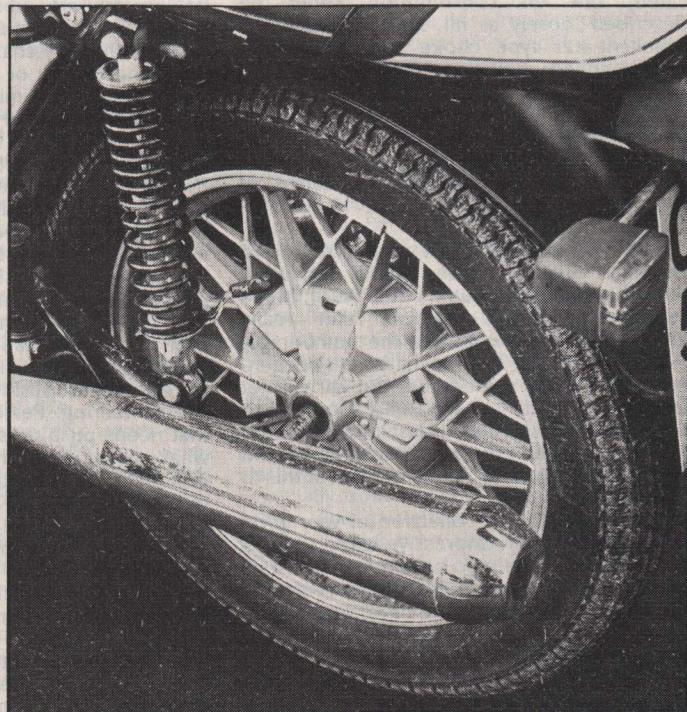




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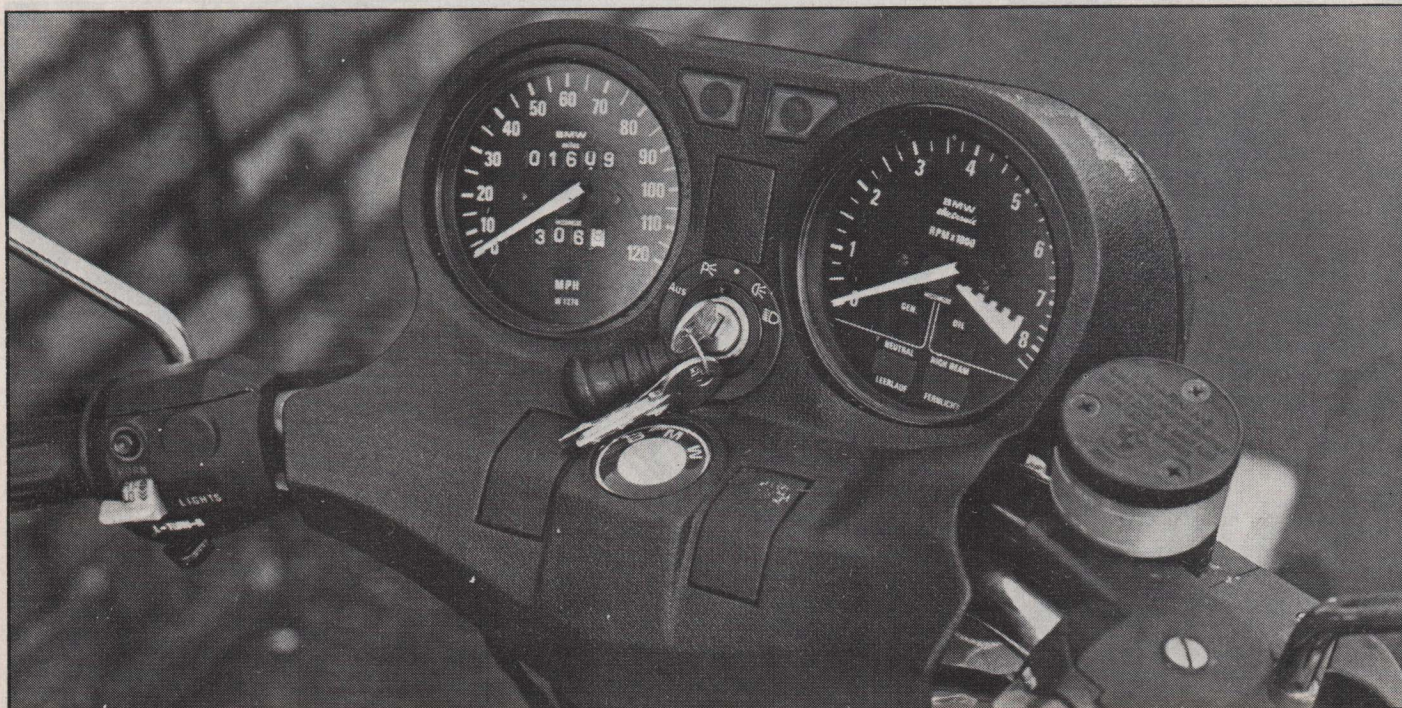


Above: Oil filler continues BMW tradition of inaccessibility and needs a funnel for spill-free filling. Carburettor is dreaming of a white Christmas.



Below: Seems the factory are using old car fascias to give that touch of class. High beam warning light is so bright that reading dials at night is difficult.

Above: Cast alloy wheel designed by I. K. Brunel? Metzeler tyres are now out of date as factory has gone bust. Chef square-shape indicators look like a good indicator should look.





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enough to frighten cars, it certainly distracted me until I found the connectors under the tank. I consider these things stupid and dangerous. If you don't, you'll be pleased to know that it cuts out in neutral thus reducing embarrassment at the lights. The switchgear is undoubtedly very good in bike terms. I could have done with a more positive off position for the indicator switch, and the main beam warning light is somewhat bright, but these are minor points. I guess one day someone will notice that all the fingers lie under, not behind, the grips, and then we'll get switches as easy to use as the average car.

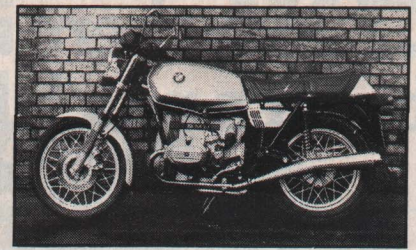
Weather during the test varied between snow, ice, salt and fog. There were two dry days. The resultant coating of salty mud produced corrosion on the very exposed exhausts at the front curve, and the wheel spindles. The exhausts could be an expensive problem but greasing the spindles would keep them free for rapid wheel removal. Otherwise the bike is a remarkable piece of weather proofing. I had expected the clutch cable, exposed at the lever, and the electrics, exposed to the front under the instrument moulding, to give trouble. Neither happened at all; the clutch cable appears to be rustproof, and the wiring, although clearly coated with salt, continued to be reliable.

So here it is. A very comfortable, safe and surprisingly fast 450. Heavy, manufactured to a high quality, and incorporating all the fashionable modern tweaks to make the biker's lot a little happier. There are strong similarities in the paper performance with a lot of mid-weight English classics although the late seventies have provided useful advances

such as working lights, suspension, and oil seals.

In the face of these facts and the state of the ageing wreck that I normally use, I guess it would be quite reasonable to ask what it is I've got against it. Quite simply, I'm into exciting bikes. Those machines where the quality of the experience makes mere technical matters irrelevant. Why do you think all those people spend so much time struggling with usually obsolete, always esoteric bikes, usually English, but lately increasingly Italian? Because riding the things is so exciting. Let's face it, sitting in a rainstorm at 80mph is a pretty harsh physical experience. However smooth the bike, it's still possible to get cold and wet so a little excitement is really all the trip's got going for it. The difference between this BMW R45 and that sort of bike comes down to feel. The BMW is so soft, so dedicated to elegant comfort, that there's no feedback from the road. I guess it all gets efficiently dealt with on the way through. In computer slang, the BMW runs in *open loop* with its rider. It's quite possible to give it instructions, but the only way to check progress is to watch, carefully, what happens next. I like bikes that interact constantly with their riders in *closed loop*. This feel could probably be screwed into the BMW quite simply by fitting real tyres and stiffening the damping both in suspension and transmission.

Since the test started, I've been trying to think of a convincing reason for someone buying this bike, apart from simple surrender to marketing pressures. Now I don't have to ride it anymore. I've stopped trying.



## BMW R45

Engine .....	ohv flat twin
Bore x stroke.....	70 x 61.5mm
Capacity.....	473cc
Compression ratio .....	8.2:1
Carburation.....	2 x 28mm Bing
Bhp at rpm.....	35 at 7250
Max torque at rpm .....	24.5ft/lb at 5500
Primary drive .....	Direct
Clutch .....	Dry, single plate
Gearbox.....	5-speed
Electrical system ....	280w alternator, 12v battery/coil ignition
Lighting .....	60/55w H4 headlight

## DIMENSIONS

Wheelbase .....	55in
Seat height .....	30in
Overall width.....	27in
Ground clearance .....	6in
Weight (with 1gal fuel) .....	460lb
Fuel capacity.....	4.8gal

## EQUIPMENT

Indicators.....	Yes
Electric starter .....	Yes
Trip mileometer ....	Yes
Steering lock.....	Yes
Helmet lock.....	Yes
Headlight flasher ...	Yes
Others.....	Twin mirrors, cast wheels

## CYCLE PARTS

Tyres	
(front).....	3.25 x 18in Metzeler
(rear).....	4.00 x 18in Metzeler
Brakes	
(front).....	10.2in disc
(rear).....	7.9in drum

## PERFORMANCE

Top speed	
(prone).....	95.64mph
(sitting up).....	91.57mph
Standing ¼ mile ....	15.09secs
Speedometer error	
(at indicated 30mph).....	28.2mph
(at indicated 60mph).....	56.1mph
Fuel consumption	
(overall).....	56.2mpg
(ridden hard) .....	51.6mpg
Braking distance	
(from 30mph).....	29ft
(from 60mph).....	126ft

PRICE (inc. VAT)...	£1,699
Guarantee .....	12 months/unlimited mileage
Supplied by .....	BMW Concessionaires

