

7 JULY 1955 EIGHTPENCE

THE MOTORCYCLE

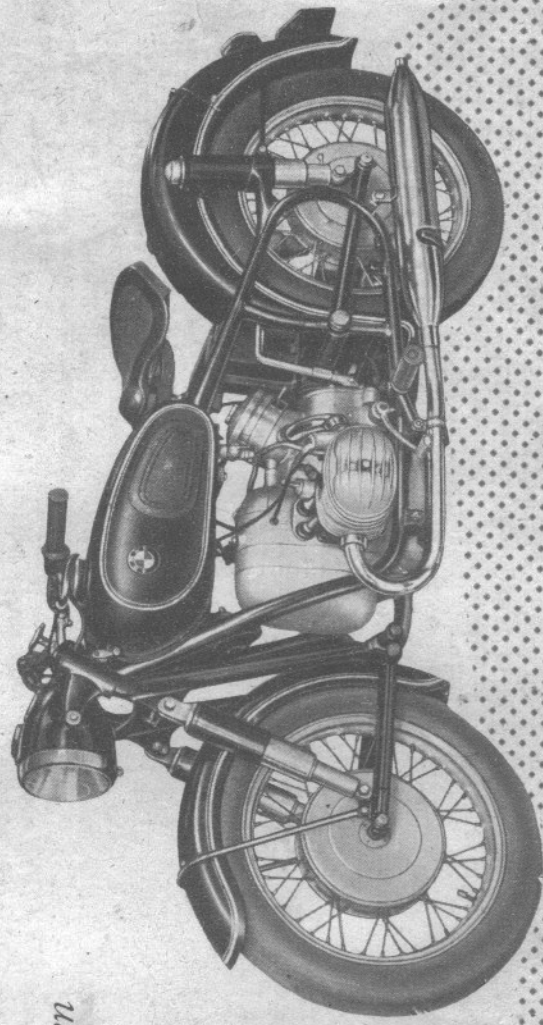
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ROAD TEST REPORT

R50

*Ein Testbericht
der führenden englischen
Fachzeitschrift*



ROAD TESTS OF NEW MODELS

494 C.C. B.M.W. R 50

Vibrationless Flat Twin with Shaft Drive : Exceptional Comfort, Quietness and Cleanliness : Outstanding Braking, Steering and Roadholding

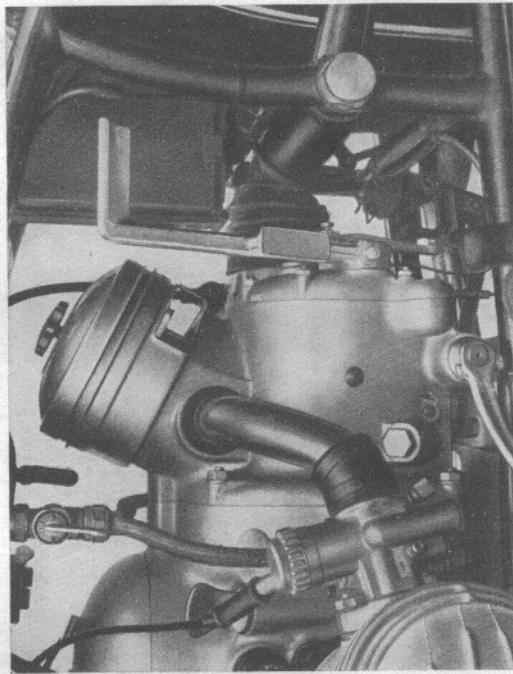
FOR more than 30 years B.M.W.s have pinned their faith to the flat-twin engine with its almost perfect balance and its excellent cooling when transversely mounted. During that period the famous German marque has also earned renown for allegiance to shaft transmission, cleanliness of power units and high quality of workmanship. On a number of occasions B.M.W.s have been among the pioneers of new trends in design. Specific instances include the adoption of welded frame construction and hydraulically damped, telescopic front forks. The latest R 50, a high-performance touring five-hundred, introduced at the 1955 Brussels Show, abundantly maintains the makers' reputation for up-to-date design, first-class engineering and outstanding all-round performance.

The new model features pivoted-fork springing at front and rear, and the transmission shaft is enclosed in the right-hand member of the rear fork. Road behaviour of the R 50 is extremely gentlemanly. Indeed, it is difficult to visualize a machine of conventional conception being more smooth, quiet, comfortable and clean to ride. Except during inclement weather, the machine could be ridden in ordinary walking clothes without any fear of their becoming soiled.

At all speeds from normal tickover to valve float the engine was turbine-smooth in operation. Only when the unit was idling extremely slowly was there a trace of lateral judder. Flywheel inertia is high and contributes to the exceptional sweetness of the transmission. On its low bottom-gear ratio of 16.95 to 1, the R 50 would trickle along at moderate walking speed with the clutch fully engaged and would accelerate smoothly from that speed merely as the result of the twistgrip being opened.

An ingenious twistgrip design gives a graduated rate of opening of the two throttles. A bevel gear on the twistgrip sleeve actuates a similar gear which operates both throttle wires through a cam

When the air strangler is closed, the twin carburettors are fed with filtered air from inside the crankcase casting

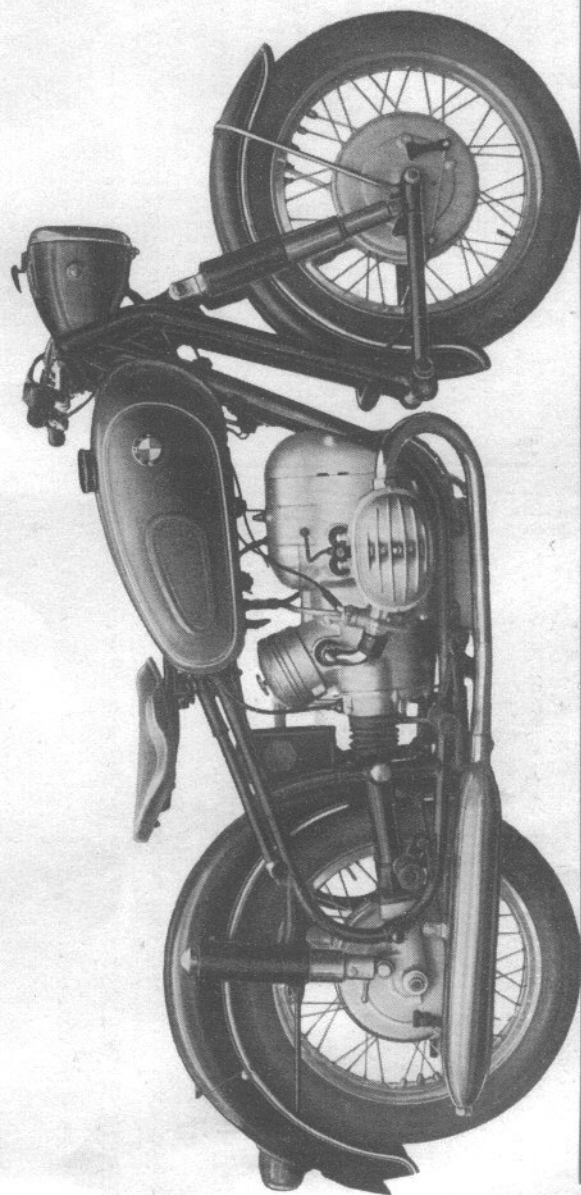


device. As a result, twistgrip action is slow in the lower ranges of throttle opening and becomes progressively more rapid as the degree of opening is increased. The delicacy of throttle control thus afforded enhanced the smooth operation of engine and transmission and removed much of the irritation from negotiation of heavy traffic.

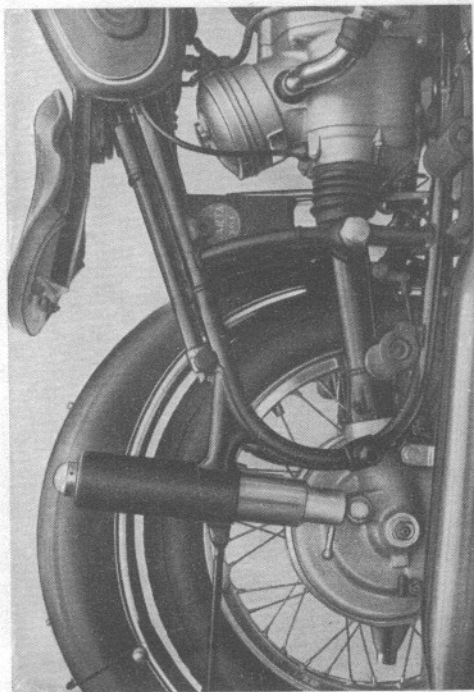
Engine starting was effortless and certain. Preliminary requirements were merely to close the strangler, momentarily depress each float tickler and switch on the ignition. With the twistgrip set for a fast tickover, the engine invariably came to life at the first depression of the kick-starter. The starter pedal moves in a transverse plane and it was a simple matter for the rider to operate it with his right foot while standing on the left of the machine.

When the strangler is closed the carburettors are fed with filtered air from inside the crankcase casting. During the moderately warm weather which prevailed for the test period, the strangler was opened as soon as the engine fired. Idling was slow and reliable whether the engine was hot or cold.

One of the most outstanding characteristics of the power unit was its quietness of operation. The level of mechanical noise was probably as low as that of any air-cooled, poppet-valve engine. There was never more than the subdued rustle of well-oiled machinery. The pleasant hum from the interconnected exhausts reflected the fact that exhaust noise is controlled by legislation in Germany. Indicative of the unusually high standard of mechanical and exhaust quietness achieved by the B.M.W.



Sleek and businesslike, the R 50 B.M.W. is finished in black and chromium. The pivoted front fork has provision for adjustment of trail. The front brake is of twin-leading-shoe design.

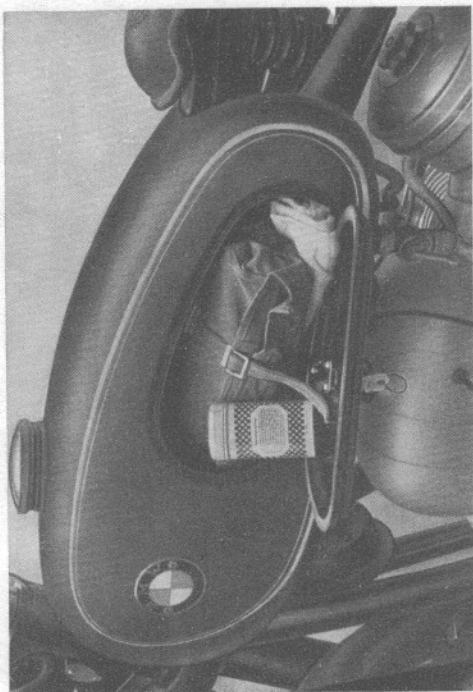


The driving shaft is enclosed in the right-hand pivoted-rearfork member. Shock-absorber top mounting is unorthodox

engineers is that the noise which was most perceptible to the rider at a level-road speed of 40 m.p.h. in top gear was that made by the front tyre on the road.

Acceleration was zestful without being tigerish, but was chiefly notable for its sweetness whether the engine speed was high or low. When ridden in built-up areas, the R 50 provided silky, unobtrusive travel at 30 m.p.h. in top gear. On the open road there was no mechanical consideration such as engine vibration, noise or lack of riding comfort to influence the rider's choice of cruising speed. With the rider normally seated, any indicated speed from 11 to 90 m.p.h. was equally pleasant and comfortable, except that there was an almost-imperceptible "hardness" in power delivery at about 57 m.p.h. in top gear.

The transverse disposition of the engine results in most efficient air cooling of the cylinders and cylinder heads, and sustained



Fitted with a lock, the left-side knee-grip hinges down to reveal a capacious tool box let into the tank

cruising at about 80 m.p.h. failed to evoke the slightest sign of distress from the power unit. When checked for accuracy, the Speedometer proved to read fast by approximately 10 per cent at all speeds.

Wide spacing of the gear ratios and a relatively heavy engine-speed clutch combined to make clean gear changes difficult. For upward changes the technique which was most effective in minimizing clashing of the dogs was to apply firm upward pressure to the gear pedal before the clutch and throttle controls were operated, so that the gears were shifted as soon as the clutch was slipped and the twistgrip eased. Because of high flywheel inertia it was necessary to re-engage the clutch gently if a slight lurch of the machine was to be avoided. Downward changes were best effected with a firm, quick pedal movement and an appreciable increase in engine speed.

Engagement of bottom gear with the engine idling slowly was usually quiet and neutral was easily located from bottom or second gears. A green light in the headlamp shell indicates that neutral is selected. Take-up of the drive was confined to a relatively small range of movement of the clutch lever but it was by no means difficult to ensure a smooth getaway.

Slightly heavy at ultra-low speeds, the steering was otherwise superb. Though the steering damper was never brought into play, straight-ahead steering was rock steady. For test purposes the rider's hands were removed from the handlebar at maximum speed with complete confidence. Bend swinging and cornering were equally delightful. The machine could be heeled over

Information Panel — 494 c.c. R 50 B.M.W.

SPECIFICATION

ENGINE: 494 c.c. (68 x 68 mm) overhead-valve, horizontally opposed twin. Fully enclosed valve gear, magneto and dynamo. Aluminium-alloy cylinder heads. Crankshaft supported in ball bearings. Roller big-end bearings. Compression ratio, 6.8 to 1. Semi-dry-sump lubrication; oil capacity, 4 pints.

CARBURETTORS: Bing, with twistgrip throttle control. Air filter incorporating strangler.

IGNITION and LIGHTING: Noris magneto with auto-advance. Separate Noris 60/90-watt dynamo with automatic voltage control. Varta 6-volt, 8-ampere-hour battery. Bosch 6½-in-diameter headlamp with pre-focus light unit and 35/35-watt main bulb.

TRANSMISSION: B.M.W. four-speed gear box in unit with engine; positive-stop foot control. Gear ratios: bottom 16.95 to 1; second, 9.6 to 1; third, 6.49 to 1; top, 4.9 to 1. Single-plate dry clutch incorporated in engine flywheel; fabric friction linings. Final drive by enclosed shaft and helical bevel gears. Engine r.p.m. at 30 m.p.h. in top gear, 1,965.

FUEL CAPACITY: 3¾ gallons.

TYRES: Firestone Phoenix, 3.50 x 18in front and rear.

BRAKES: Bin diameter; twin-leading-shoe front and single-leading shoe rear; finger adjusters.

SUSPENSION: B.M.W. pivoted-fork front and rear springing employing multi-rate coil springs and hydraulic damping. Two-position adjustment for load on rear shock-absorbers. Two-position trail adjustment at frontfork pivot.

WHEELBASE: 56in unladen. Ground clearance, 6½in unladen.

SADDLE: Cantilever type, pivoted at nose; rubber top. Unladen height, 30½in.

WEIGHT: 413 lb fully equipped and with full oil sump and one gallon of petrol.

PRICE: £305. With purchase tax (in Great Britain only) £366.

ROAD TAX: £3 15s a year; £1 0s 8d a quarter.

MAKERS: Bayerische Motoren Werke A.G., Munich, Germany.

BRITISH CONCESSIONAIRES: A.F.N., Ltd., Falcon Works, London Road, Isleworth, Middlesex.

PERFORMANCE DATA

MEAN MAXIMUM SPEED: Bottom: * 29 m.p.h.

Second: * 52 m.p.h.

Third: * 76 m.p.h.

*Valve float occurring.

HIGHEST ONE-WAY SPEED: 94 m.p.h. (conditions: moderate tail wind and rain; rider wearing two-piece riding suit and overboots).

MEAN ACCELERATION: 10-30 m.p.h. 20-40 m.p.h. 30-50 m.p.h.

Second ... 3.6 sec 3.4 sec 3.3 sec

Third ... 5 sec 5 sec 5 sec

Top ... — 8 sec 7.8 sec

Mean speed at end of quarter-mile from rest: 76 m.p.h.

Mean time cover standing quarter-mile: 16.8 sec.

PETROL CONSUMPTION: At 30 m.p.h., 95 m.p.g. At 40 m.p.h.,

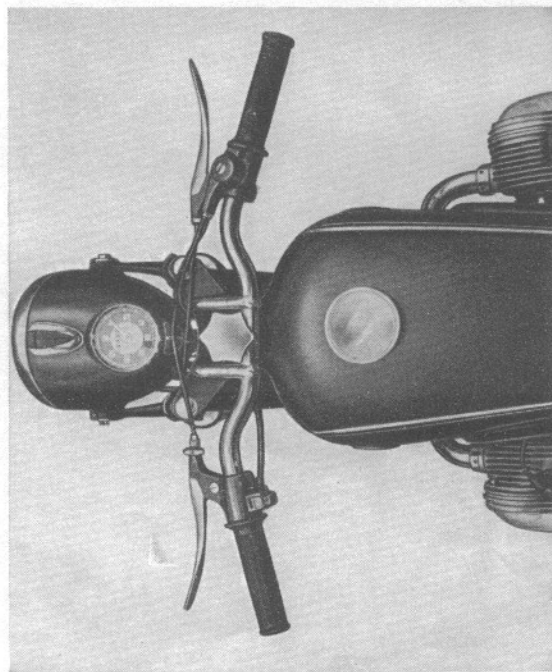
80 m.p.g. At 50 m.p.h., 65 m.p.g. At 60 m.p.h., 60 m.p.g.

BRAKING: From 30 m.p.h. to rest, 27ft (surface, dry concrete).

TURNING CIRCLE: 16ft.

MINIMUM NON-SNATCH SPEED: 11 m.p.h. in top gear.

WEIGHT PER C.C.: 0.83 lb.



Incorporated in the headlamp shell are the combined lighting and ignition switch, speedometer and neutral-indicator lights

stylishly on slow or fast curves in the sure knowledge that it would follow the chosen line faithfully. No components fouled the road however steeply the R 50 was banked. The centre-stand extension—on many machines an offender in this connection—is neatly recessed into the underside of the left-hand silencer. For all practical purposes the effects of torque reaction (during

acceleration and deceleration) arising from the transverse mounting of the engine were unnoticeable.

With a comparatively rearward footrest setting, the riding position is such as to render long periods of high-speed riding untriring to the rider. The slight forward crouch involved did not prove to be uncomfortable for low-speed work in town. To match the offset of the cylinders, the B.M.W.'s footrests are staggered slightly, but the effect ceased to be noticeable after the first few moments spent in the saddle. Though the gear pedal is not adjustable for position and the handlebar grips, complete with their built-in control clusters, can be rotated only on the bar, the siting of every control was just about perfect.

Front and rear pivoted-fork springing combined to furnish leech-like roadholding at all speeds and a high degree of insulation from bumps. The action of the front fork was rather firm at low speeds but was ideally suited to fast riding. Pivoted at its nose, the pan-type saddle further enhanced the rider's comfort.

High road performance necessitates good brakes. Those fitted to the R 50 (both are of 8 in diameter and the front has two leading shoes) were not only uncommonly powerful but they also matched the behaviour of the remainder of the machine in their smoothness of operation. The strength of the return springs in the front-brake mechanism made initial operation a trifle heavy, but the brake was delightfully controllable except on its first application in humid weather, when it had a tendency to grab. Because front-brake torque is transmitted through the fork arm, application of the brake raises the front of the machine and stiffens the fork action. The efficiency of both brakes was unimpaired by hours of rain and no brake adjustments were required during a test of nearly 1,000 miles.

The electrical equipment of the B.M.W. functioned most efficiently. The horn was clearly audible to other drivers at all speeds. The rubber-mounted headlamp threw a wide, flat beam which illuminated both sides of the road for a sufficient distance ahead to permit speeds up to 80 m.p.h. to be used on unlit main roads in perfect safety after dark.

Not a smear of oil appeared on the outside of the power unit although the R 50 was ridden hard for many hundreds of miles. In filthy weather, the mudguardings was found to furnish above-average protection.

Maintenance requirements have been reduced to a minimum on the R 50; those which remain can be carried out with great ease. Valve-clearance adjustments are extremely accessible after removal of the rocker covers, each of which is retained by three nuts. Two captive nuts secure the cast-aluminium front cover to the crankcase. Removal of the cover exposes the contact breaker and dynamo brush gear.

From stem to stern, the R 50 is endowed with features which indicate that it was designed by knowledgeable motor cyclists for connoisseurs. Both wheels are quickly detachable and both have polished, light-alloy rims, straight spokes, full-width hubs and chromium-plated balance weights attached to appropriate spoke nipples. Front-fork trail and shock-absorber mountings are readily adjustable for sidecar-work. Two-position preloading of the rear shock-absorber springs for pillionwork is effected by hand.

The key which operates the steering lock fits the tool box which is concealed behind the left knee-grip. A quick-release rubber strap secures the battery on its platform, while rubber grommets prevent the ingress of water to the carburettors at the points of entry of the throttle cables. Firmly mounted in a reasonably clean position, the tyre pump is fitted with a rubber cap to exclude grit. In the modern continental trend, knurled clutch and front-brake cable adjusters are incorporated in the handlebar pivot lugs.

Finnish of the R 50 is in serviceable black and white enamel, with a generous use of chromium plating and many light-alloy parts highly polished. In short, the latest R 50 is one of the most outstanding contemporary models, combining to an admirable degree high performance, silky running, quietness, comfort, cleanliness and ease of maintenance. Its high engineering quality gives real pleasure to the knowledgeable and should add appreciably to pride of ownership.

BMW is holder of 21 World Speed Records*)

Sidecar 500 c. c.

1 Kilometer to 24 Hours

Fastest Sidecar of the world with **280 km/h**

Winner: T. T. Isle of Man 1955/56/57/58

Sidecar 500 c. c.

Winner: World Championship 1954/55/56/57/58

Sidecar 500 c. c.

Winner: Manufacturer World Championship 1955/57/58

Sidecar 500 c. c.

Winner: German Championship 1954/55/56/57/58

Solo and Sidecar 500 c. c.

Winner: German Trials Championship 1955/56/57/58

Solo 500 c. c.

*) Stand: January 1959