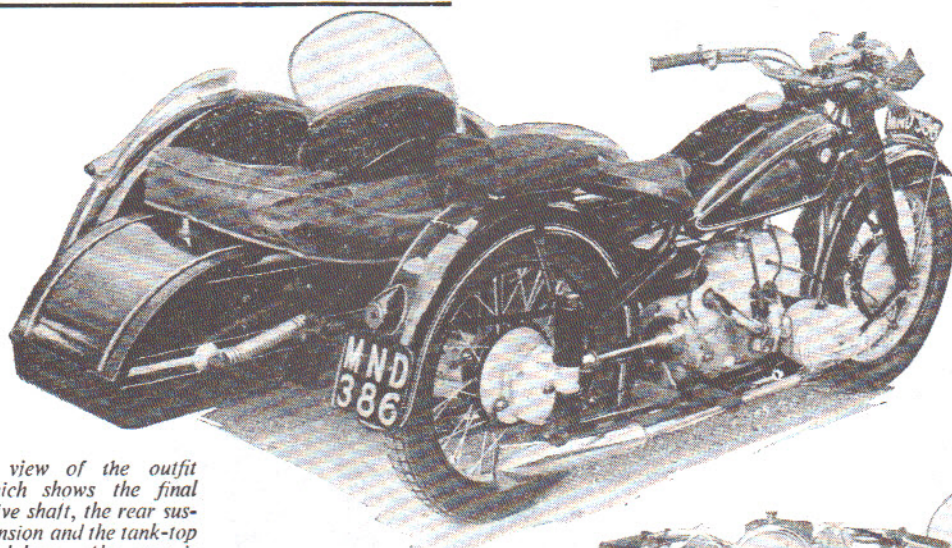


Road Tests of Current Models

The 590 c.c. o.h.v. Twin Model R 67/2 **B.M.W.** and **STEIB** Type S500L SIDECAR



A view of the outfit which shows the final drive shaft, the rear suspension and the tank-top tool box. Also seen is the large sidecar locker.

A German-built Sports Outfit with Shaft-drive and Many Unique Features

It is almost inevitable that the name of Steib should be coupled with that of B.M.W. when sidecar outfits are under discussion, for in many years, this German-built motorcycle has been harnessed to this German-built sidecar so frequently that the immediate reaction on seeing another make of "chair" attached to the machine would be one of surprise.

By courtesy of Mr. B. G. North, a director of Kings of Oxford, Ltd., a model R 67/2 B.M.W., to which was attached a sports single-seater S500L Steib sidecar, was lent to "Motor Cycling" for an extended test. It had but 400 miles registered on the speedometer. During the three months the outfit was in our hands, it was used for routine "hack" journeys and, on several occasions, for "express" runs from London to Birmingham. "Express" is a suitable word to use for, from door to door, the motorcycle proved to be a faster means of transport than the train.

"Dream" Features

As most people know, the B.M.W. is a unique motorcycle; it possesses many of the features that appear in specifications "dreamed up" by an enthusiast in his search for the ideal model. Neat in appearance, the transverse, h.o.-twin engine, with car-type clutch, a unit gearbox and shaft drive, looks compact. Few external auxiliaries live outside the light-alloy castings which form so much of the engine and in fact, they number but two—the pair of German Bing carburetters.

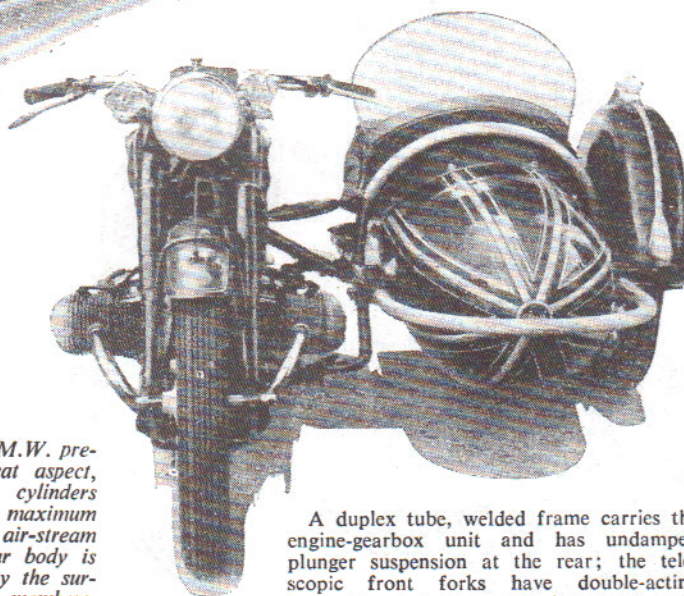
Basically simple in conception, the main casting is virtually a box into which the crankshaft is inserted at approximately mid-height. Above the crankshaft—which runs on ball bearings—is a single camshaft driven by helical gears. On to the sides of the

Head-on, the B.M.W. presents a very neat aspect, the transverse cylinders deriving the maximum benefit from the air-stream while the sidecar body is well protected by the surrounding chassis members.

box are bolted the cylinder barrels of cast iron with light-alloy heads. Push-rod operated, the rockers pivot in pedestals bolted to the cylinder heads and the push-rod seat, at the centres, in flat-base, large-diameter tappets. Light-alloy covers enclose the inlet and exhaust valves and also the rocker gear.

The magneto, with stationary windings, and the 60-watt dynamo, are driven respectively by extensions of the camshaft and the crankshaft. Thus there are three compartments within the outer skin; a central area in which crankshaft and cams work, a forward annexe for the camshaft and oil-pump drives and, at the extreme front of the engine, a third compartment in which are located the electrical components. The base of the central compartment forms the oil sump, closed by a simple, shallow, pressing.

The drive is taken through a single-plate clutch to an "all indirect" gearbox and finally to a helically toothed crown-wheel and pinion via a shaft which has a rubber coupling at its forward end and a mechanical universal joint immediately in front of the bevel housing.



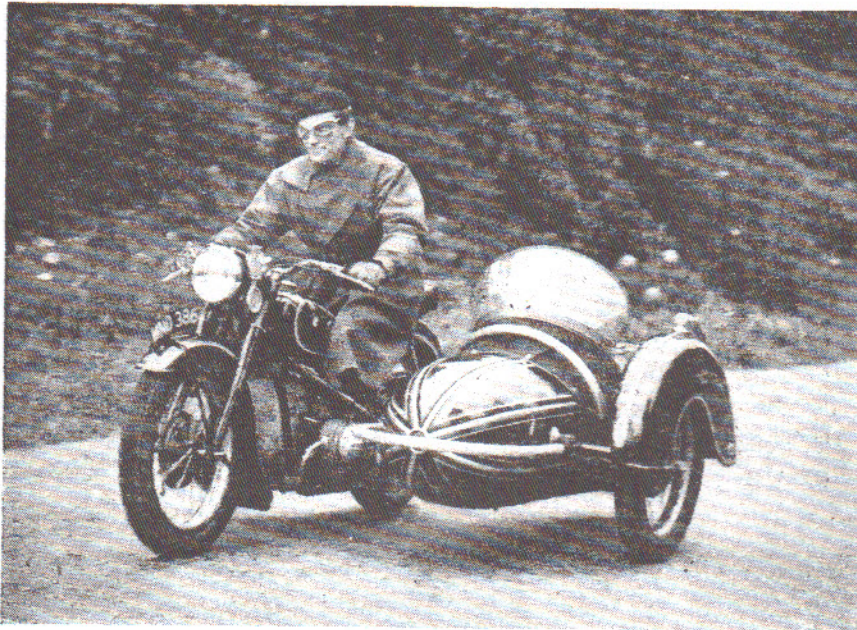
A duplex tube, welded frame carries the engine-gearbox unit and has undamped plunger suspension at the rear; the telescopic front forks have double-acting hydraulic damping. An important and, to-day, unusual virtue is that all three wheels are not only quickly detachable, but interchangeable as well.

Several features are unusual to British eyes. Positive-stop gear changes are made with a short pedal on the left-hand side and the kickstarter, also on the left-hand side, works transversely.

On the machine in question, integral lugs for the sidecar were fitted to the off side and the Steib had, therefore, to be attached to "made-up" fittings. After an initial settling down period, these, once re-adjusted, gave no trouble and the outfit proved rigid enough. A simple suspension, involving a trailing arm and coil spring, is fitted to the sidecar wheel and the outfit is therefore fully sprung.

A "flash-back" to the impressions received when the tester first drove the combination may be of help.

Initially, certain details had to be memorized: foot brake on the right; gear change on the left; ignition switch combined with light switch—push in to turn on the "sparks" when red indicator light goes on together with a green "neutral" gear indicator light. Turning this switch to the right brought in the tail and "dim" lights;



turning to left produced the full driving light. The dip switch, combined with the horn button, was found on the left-hand bar.

Fitted on the left, the sidecar chassis rail is apt to be knocked and scraped when the kick-start lever is pushed down and this prevents full use of the starter which could, with advantage, be geared higher. For some reason, the machine did not always react to well-established routine when starting from cold. In nine attempts out of ten, immediate response was forthcoming when the carburettors were flooded and the air-control, on the gearbox casing, was closed; the tenth attempt finished with a "wet" engine and almost full throttle opening had to be given. When warm, a push with the hand on the pedal was sufficient and, indeed, used frequently for demonstration purposes.

Gear Changing

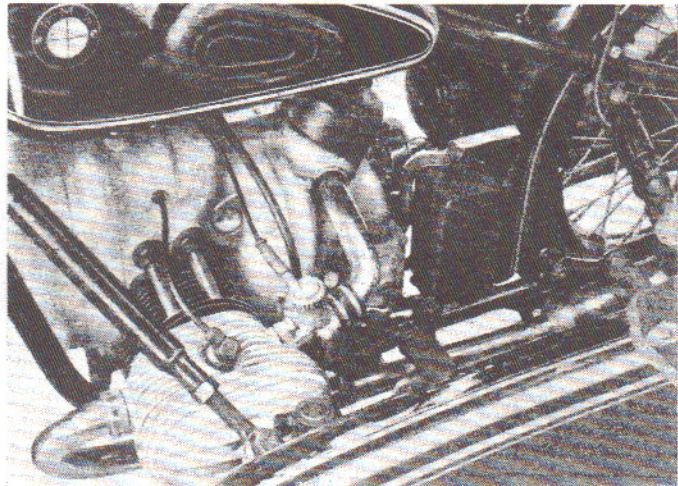
With first gear engaged—silently if the very light clutch was withdrawn quite fully—the green indicator light goes out. The drive is taken up quickly but smoothly once the short movement of the clutch had been appreciated. At no time during the test was there any sign of clutch slip whatsoever.

Considerable experimentation was necessary before silent upward gearchanges could be made. Without due deliberation—and always if the rider was in a hurry—a tell-tale "clonk" resulted. Downward changes were invariably accompanied by some noise; in this case, the quicker they were made, the quieter they proved to be. This noise appears to be inseparable from units with an engine-speed clutch-to-gearbox mainshaft. It is thought also, that a twist-grip with a quicker action and less backlash would assist materially on downward changes.

Perhaps insufficient time was allowed for the engine to settle itself for, when cold, slight piston slap noise came from one cylinder. This disappeared when the engine warmed up, returning if the unit was run slowly for any length of time. A tight gudgeon pin was the snap diagnosis but it interfered little with the performance of the

(Above) The tester was most impressed with the handling of the outfit on the road. It revealed a quality of "tautness" despite the fact that all wheels are sprung.

(Right) A "close-up" of the near side of the B.M.W. engine. The unusual, transverse kick-starter, the fulcrum of the gear-change pedal and the battery mounting will be seen.



machine and was outstanding only because of the lack of noise generally.

This general mechanical silence was undoubtedly one of the most endearing features of the B.M.W. Other than for the exhaust burble—a reasonably subdued note—milestones passed in silence, for valve-gear, gearbox and transmission were quite inaudible.

With the ability to rev. freely and with a comparatively low compression ratio, the performance characteristics were unusual. It was quite possible to force a long pull in top gear without sign of distress and yet the engine would turn smoothly in "third" at over 50 m.p.h. Although the machine was almost devoid of vibration, there was one small period which made itself felt, however, and this was on the over-run at approximately 40 m.p.h. in top gear, equaling about 3,000 r.p.m. When driving through this speed, the tremor was almost indistinguishable.

Many miles were covered at a cruising speed of between 55-60 m.p.h. In fact, this proved to be the gait at which the machine was usually driven, for it seemed effortless. Above 60 m.p.h., a certain fussiness

became apparent and it was considered inadvisable to hold 60-plus for any length of time. Gearchanges were made early, without any attempt to let the engine revs. rise, for results were as good, if not better, if "top" was engaged at just over 40 m.p.h.

Although the footrests can be moved vertically, the riding position cannot be varied much and those with long legs may find the pipes from the carburettors to the in-built air-cleaner rather too close to the shins. The locations of neither gear-change pedal nor brake pedal can be altered. The general degree of comfort is augmented by the use of a front-pivoted saddle with adjustable spring tension.

"Firm" Suspension

At first the suspension was thought to be a trifle "firm" although, as the mileage increased, the ride softened. High-frequency bumps were unsettling, particularly to the sidecar passenger, for whom the "chair" springing, on cobbles and uneven stone setts, did not always absorb the bumps.

No doubt this firm riding was responsible for the taut feel of the outfit as a whole and, if the passenger did not always enjoy the

vigorous manner in which the outfit could be handled, it was a delight to the driver. In spite of a body that appears slim, the width of the outfit, owing to the protruding off-side cylinder, seems wider than most. Violent cornering methods would not induce the sidecar wheel to lift—in fact, all three wheels slid before this would occur when a passenger occupied the sidecar seat.

Both brakes were excellent, particularly with respect to their continued efficiency. Little adjustment was necessary and throughout the period of test the only non-standard feature was a squeak from the front drum on a wet day. Later this disappeared and left brakes which could hardly be faulted.

Lights were quite adequate for the machine, the dynamo serving to keep the battery well charged.

Maintenance of the B.M.W. is absurdly simple. Ignition and lighting machinery are both housed beneath a light-alloy cover secured by two screws and are easily approached, while tappet adjustment, at the rockers, is but a matter of minutes. Both gearbox and bevel casing were checked for lubricant by removing the easily reached

BRIEF SPECIFICATION OF THE MODEL R67/2 B.M.W. AND STEIB S500L SIDECAR

Engine: Horizontally opposed, o.h.v. twin set transversely in frame; bore 72 mm., stroke 73 mm. = 590 c.c.; C.R. 5.6 to 1; cast-iron cylinder barrels, light-alloy cylinder heads; built-up crankshaft mounted on ball bearings; steel connecting rods with roller bearings; single central camshaft gear driven; gear-type oil pump feeding to collector rings on crankshaft for big ends, to helical gear drives and to left cylinder barrel; camshaft and tappets lubricated by splash; two 24 mm. Bing 1/24/15.6 carburettors; ignition by Noris stationary coil magneto with automatic spark control.

Transmission: Gearbox bolted up to form unit with engine; single-plate dry clutch interposed between engine and four-speed gearbox; gear-change mechanism foot operated with auxiliary hand lever, neutral indicating lamp on headlamp shell; ratios 5.69, 7.45, 10.42 and 17.52 to 1; top ratio has spring cushioned drive on layshaft; final drive by shaft to crown-wheel and pinion on rear hub, rubber coupling at front of shaft, universal joint at rear.

Lighting: Noris 6-volt 60-watt dynamo to battery mounted behind gearbox; Bosch headlight with integral ignition switch, ignition warning light and neutral indicator.

Frame: Welded duplex tube frame with undamped coil-spring plunger rear suspension; telescopic hydraulically damped B.M.W. front forks with thief-proof lock.

Wheels: Quickly detachable and interchangeable; 3.50-in. by 19-in. tyres, front and rear.

Brakes: B.M.W. internal-expanding brakes 7 1/2-in. diameter front and rear with finger adjustment.

Tanks: Welded steel petrol tank, capacity 4 1/2 gallons; oil container integral with crankcase, capacity 4 pints.

Finish: Black enamel with white line on petrol tank.

Equipment: 120 m.p.h. speedometer, internally illuminated; electric horn; tool kit in tank-top built-in box.

Price: £354 plus £98 6s. 8d. P.T. = £452 6s. 8d.

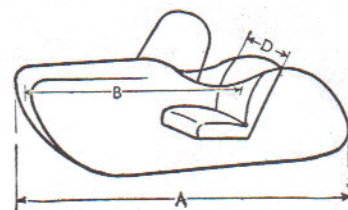
Makers: Bayerische Motoren Werke, A.G., Munich 13, Germany.

Agents in Great Britain: A.F.N., Ltd., Falcon Works, Isleworth, Middlesex.

The Sidecar

Chassis: Steib single-loop of steel tube; body suspended on two coil springs in tension with adjustable attachment.

Wheel: Mounted on coil spring suspended trailing arm; quickly detachable; 3.25-in.



by 19-in. tyre; mudguard pivoted at rear to facilitate wheel removal.

Body: Steib sports single-seater panelled in steel; hammock-type seat upholstered in blue plastic cloth, rear luggage compartment fitted with coach lock.

Dimensions: A = 72 ins.; B = 47 ins.; D = 18 ins.

Finish: Exterior finished in black; fold-down hood with stowage bag in waterproof cloth.

Price: £95 plus £25 6s. 8d. P.T. = £120 6s. 8d.

Extras: Hood £9, tonneau cover £3 10s.

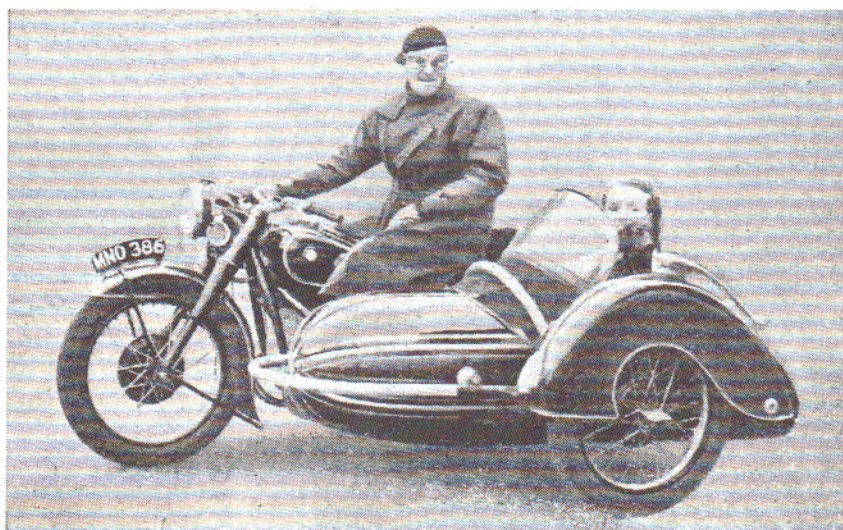
Makers: Spezialfabrik Fuer Seitenwagen, Nürnberg, Germany.

Agents in Great Britain: A.F.N., Ltd.

hexagonal caps, but required none. Perhaps some improvement is possible where the engine is concerned, for the oil-filler orifice is rather small.

Other than for the specific conditions mentioned earlier, the Steib sidecar is comfortable and the luggage space good. On one particular trip, using unconventional stowing methods, a vast amount of luggage and stores were carried, only an army pack, strapped to the locker lid, looked unusual. The wind-screen deflected air effectively, and although the hood took some minutes to erect, it remained watertight. As a sporting single-seater, this sidecar is admirable.

Traditionally an oil-tight machine, the R67/2 maintained this tradition throughout our temporary ownership, and was displaying only two smears of lubricant when the machine was returned. These occurred at the off-side (right) gearbox cover-plate and at the juncture of the first and second main engine castings. The exhaust pipes, each blued at the sharp bend in front of the port, were the only other disfigurements to a clean and remarkably handsome machine.



MOTOR CYCLING

TESTER'S ROAD REPORT

MODEL 1952 590 c.c. R67/2 B.M.W.
S 500L STEIB SIDECAR

Maximum Speeds in:-

Top Gear (Ratio 5.69 to 1) 68 m.p.h. = 4975 r.p.m. 51 secs.
Third Gear (Ratio 7.45 to 1) 58 m.p.h. = 5648 r.p.m. 23 1/5 secs.
Second Gear (Ratio 10.42 to 1) 42 m.p.h. = 5745 r.p.m. 8 1/5 secs.

Speeds over measured Quarter Mile:-

Flying Start 66.7 m.p.h. Standing Start 42.45 m.p.h.

Braking Figures On TARRED GRAVEL Surface, from 30 m.p.h.:-

Both Brakes 38 ft. Front Brake 60 ft. Rear Brake 72 ft.

Fuel Consumption:-

30 m.p.h. - 68 m.p.g. 50 m.p.h. - 44 m.p.g.

Oil Consumption:-

2200 m.p.g.

Above:
Family party. The Steib sidecar offers considerable comfort and is well weather proofed. The domestic dachshund fits appropriately into this product of the Fatherland.

On the left appears an epitome of the results of our test also indicated on the right in the form of a graph.

