

ROAD TESTS OF
NEW MODELS

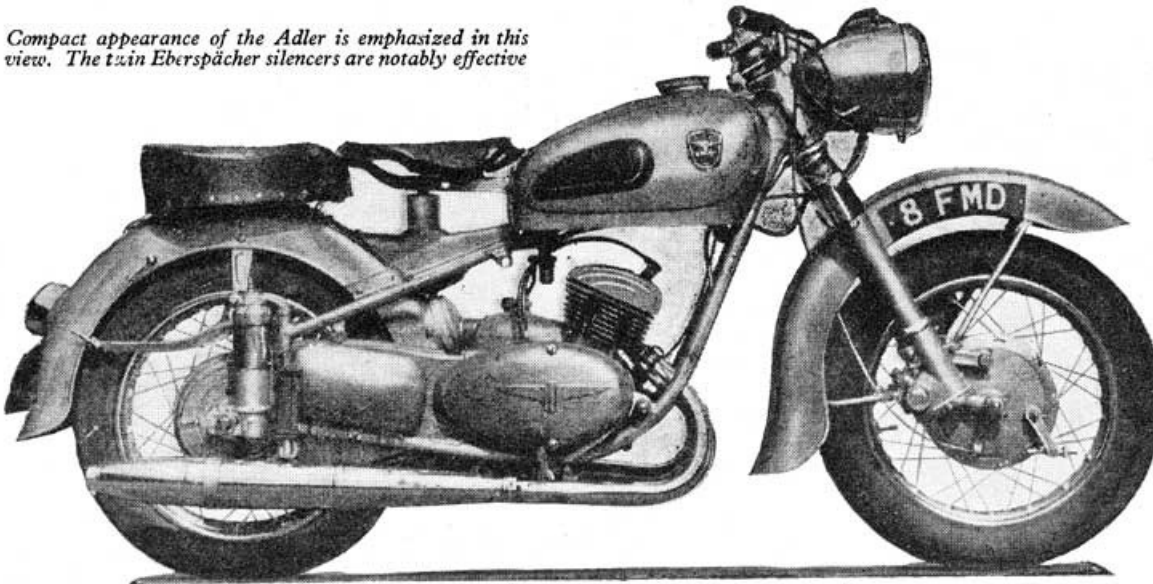
247 c.c. Adler Twin

*A High-performance Two-stroke Parallel Twin from Germany
which Sets a High Standard in Exhaust Silencing*

THE 247 c.c. Adler MB250 two-stroke twin has achieved the distinction of being the fastest two-fifty standard roadster yet tested by *The Motor Cycle*. What earned even higher admiration (and is considered more important) was the quiet and unobtrusive manner in which the performance could be obtained. Among two-strokes, the Adler sets a very high standard in exhaust silencing. At 20 m.p.h. in top gear the machine was so quiet that on one occasion the rider could hear that the engine of a following car was in need of tappet adjustment! At 30 m.p.h. the deep, mellow drone from the twin Eberspächer silencers combined with a faint whine from the helical-gear primary drive to produce a most pleasant sound. When the needle of the magnetic speedometer floated steadily past the 40 mark, only the noise of rushing air assailed the rider's ears.

Achieved during a number of two-way runs through the

Compact appearance of the Adler is emphasized in this view. The twin Eberspächer silencers are notably effective



measured quarter-mile, the mean maximum speed was no less than 72 m.p.h. The highest speed in one direction was 74 m.p.h. At that speed and at ultra-high engine r.p.m. in the indirect gear ratios some vibration was felt through the handlebar. There was virtually no vibration when the machine was cruised for long periods with the speedometer registering 65 m.p.h., a speed which the engine was ever willing to accept without any sign of overworking. On a run from central London to Birmingham an overall average speed of more than 40 m.p.h. was easily accomplished. The engine never evinced the slightest sign of being driven hard. There was not a trace of oil on the outside of the unit and no gas leakage occurred anywhere in the exhaust system. At the end of the test, the left-hand exhaust pipe showed the merest trace of discoloration near the port.

High averages were just as easy to achieve on secondary roads where the going was hilly and winding. What the engine lacked in slogging power it more than made up for with astonishing acceleration when high engine r.p.m. were employed. The full effect of twin-two-stroke torque could be felt when the twistgrip was wound open from around 20 m.p.h. in second gear or from 30 m.p.h. in third: a smooth surge of rapid acceleration was instantly forthcoming. From a standing start, 30 m.p.h. could be attained in 4.2 seconds and 50 m.p.h. reached in nine seconds.

As already implied, the exhaust note remained absolutely inoffensive even under conditions of the hardest acceleration. The model was as useful for threading unobtrusively through city traffic during peak hours as it was for gobbling up miles on the open road.

Stopping power more than sufficient for any emergency was available from the brakes, which measure $7\frac{1}{8} \times 1\frac{3}{8}$ in and are set in full-width, finned hubs. The front brake was smooth and progressive in action; the rear brake was somewhat fierce and called for delicate use of the pedal. During the test, the knurled finger-screws for each brake were used only for slackening off the adjustment slightly.

The Adler's fleet performance is enhanced to a considerable degree by the efficient front and rear suspensions. It was impossible to fault the bottom-link front fork. Possessing a long, soft action, the fork proved sensitive to light road shocks yet dealt satisfactorily with the most severe impacts when badly broken-up tarmac surfaces were traversed at high speed. Under those conditions the rear-wheel suspension, which was also sensitive around the static-load position, bottomed lightly yet silently. Even so, the rear springing afforded a very comfortable ride generally and was considered to represent near-perfection in the sphere of plunger-type suspension.

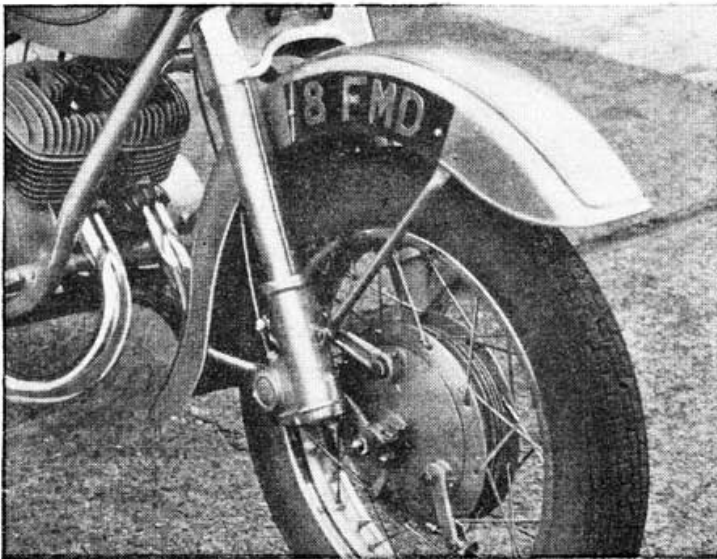
Both front and rear springing are hydraulically damped. The upper end caps on the rear plunger units can be screwed down by hand to increase the pre-loading of the

springs and thus stiffen the action, such as for pillion work. A trifle heavy at low speeds, the steering was steady and positive at any velocity of which the machine was capable. Above 50 m.p.h. a satisfying taut quality was noticeable and, as far as the steering was concerned, the model could be placed to an inch when bend swinging. A limiting factor, however, was that the centre-stand peg and both silencers could fairly easily be grounded. With the machine ridden solo, some improvement was achieved with the rear springing adjusted to its two-up setting.

The relative positions of the saddle, handlebar and footrests resulted in a straight-arm riding posture which enabled the rider to exercise full control. The knee angle was a shade too acute by contemporary British standards, but only to an extent that was noticeable to a rider of average stature after a full day in the saddle.

Handlebar controls were satisfactory as to layout and operation except that the twistgrip throttle control had a rather slow action; furthermore, undesirable backlash was present even after the cable had been adjusted.

In delivery trim, the gear-change rocking pedal and the brake pedal were positioned with their pads close to the footrests. This suited a riding style in which the ball of the foot was placed on the rest. However, it was easy to obtain a more orthodox



Layout of the leading-link front fork and brake torque linkage

setting since both the gear pedal and the adjustable stop on the brake-pedal cross-over shaft are mounted on serrations. After adjustments had been carried out, the setting of both pedals was ideal with the rider's insteps on the footrests.

Upward gear changes are made by lifting the forward end of the pedal with the toe or depressing the rear end with the heel. Downward changes are made by depressing the forward end of the pedal. Neutral is located not between second and bottom gears but below bottom; hence finding neutral was simple in the extreme. A green neutral-indicator light set in the speedometer dial alongside a red ignition-warning light obviated any possibility of the rider mistaking neutral for bottom gear after a quick succession of downward changes. Clean, silent upward changes could be achieved if the pedal was moved with deliberation; equally clean downward changes could be effected rapidly

provided that engine speed was increased sufficiently during declutching.

Engine starting earned full marks for ease of accomplishment. For the first start of the day fairly liberal flooring of the carburettor and full closure of the air strangler were required. The unit invariably burbled into life at the first or second swing of the kick-starter. For the rider's shoe to avoid fouling the left-hand footrest it was necessary to use the ball of the foot; another satisfactory method was to face to the rear of the machine and operate the pedal with the right foot. Starting with the power unit warm called for no special precautions.

When warm, the engine would settle down to a moderately slow, uneven, though quite reliable tickover. The engine was quiet mechanically; the only obtrusive sound at tickover with the gear box in neutral was a whirring noise from the primary drive.

Spread and intensity of the headlamp main beam were sufficient for all night-riding requirements. Vertical adjustment of the reflector can be carried out while the machine is in motion. A normal dip-switch is fitted. Calibrated in m.p.h., the speedometer is recessed neatly in the headlamp; the instrument registered fast by 2 m.p.h. at an indicated 30, 3 m.p.h. at 40, 4 m.p.h. at 50, 5 m.p.h. at 60, 7 m.p.h. at 70 and 9 m.p.h. at 80. No trip-mileage recorder is incorporated.

Integral locks are fitted to the steering head and tool box. The shank of the combined ignition and lighting switch can be withdrawn when the switch is off or in the parking-lights position. Other refinements are a two-level fuel tap incorporating a gravity-type filter, a tyre pump which needs no adaptor, and quickly detachable wheels. The tool kit is of excellent quality. A similar high standard is apparent in the comprehensive instruction book supplied with the machine.

Mounted in the lid of the battery box, the horn is screened somewhat by the rider's left leg. The centre stand would raise either wheel clear of the ground but required a certain amount of knack to operate it.

In appearance the Adler is very stylish. The carburettor and the rear chain are enclosed and the mudguards deeply valanced. The test model was attractively finished in ice-blue enamel and lavishly chromium plated; indeed, even such items as the tyre pump and headlamp were plated. Without question, the Adler is a machine to give much pleasure to the connoisseur.

Information Panel

SPECIFICATION

ENGINE: Adler 247 c.c. (54 x 54mm) twin-cylinder two-stroke. Flat-crown, die-cast aluminium-alloy pistons. Double-row roller big-end bearings; mainshaft supported by three roller bearings. Separate cylinder barrels with detachable, light-alloy cylinder heads. Compression ratio, 5.7 to 1. Petroil lubrication.

CARBURETTOR: Bing single lever, with twistgrip throttle control. Wet air filter and silencer incorporating strangler.

TRANSMISSION: Four-speed gear box in unit with engine. Positive-stop rocking-pedal control. Gear ratios: bottom, 19.26 to 1; second, 10.5 to 1; third, 7.6 to 1; top, 6.3 to 1. Primary drive by helical gears. Multi-plate clutch running in oil. Rear chain $\frac{3}{8}$ x $\frac{1}{4}$ in, fully enclosed. R.p.m. at 30 m.p.h. in top gear, 2,850.

IGNITION and LIGHTING: 60/90-watt dynamo mounted on right-hand end of crankshaft. Ignition coils, contact-breakers, condensers and voltage-regulator unit housed in same crankcase compartment. 6-volt, 6-ampere-hour battery. $6\frac{1}{2}$ -in-diameter headlamp with adjustable reflector; 35/35-watt main bulb. Ignition-warning and neutral-indicator lights.

PETROIL CAPACITY: 15 litres (3.3 gallons).

TYRES: Firestone, 3.25 x 16in front and rear.

BRAKES: $7\frac{1}{2}$ -in-diameter x $1\frac{1}{4}$ -in wide in full-width, finned, light-alloy hubs front and rear.

SUSPENSION: Leading bottom-link front fork, hydraulically damped. Plunger-type rear springing, hydraulically damped and adjustable for load.

WHEELBASE: 49 $\frac{1}{2}$ in. Ground clearance, 6 $\frac{1}{2}$ in unladen.

SEAT: Brunighaus saddle with single enclosed coil spring. Unladen height, 29 $\frac{1}{2}$ in.

WEIGHT: 304 lb fully equipped and with approximately $1\frac{1}{2}$ gallons of petrol.

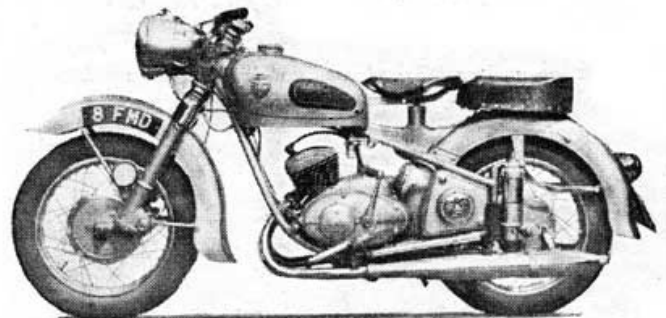
PRICE: £175 2s. With purchase tax (in Great Britain only), £210.

ROAD TAX: £1 17s 6d a year; 10s 4d a quarter.

DESCRIPTION: *The Motor Cycle*, 3 March 1955.

MAKERS: Adlerwerke, Frankfurt am Main, Germany. British Concessionaires: Avon Autos, 165, Uxbridge Road, Hanwell, London, W.7.

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PERFORMANCE DATA

MEAN MAXIMUM SPEED: Bottom: 28 m.p.h.
Second: 49 m.p.h.
Third: 62 m.p.h.
Top: 72 m.p.h.

HIGHEST ONE-WAY SPEED: 74 m.p.h. (conditions: light three-quarter wind, rider lightly clad).

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

Bottom	...	...	...	...
Second	...	...	3.8 sec	3.2 sec
Third	...	...	8 sec	4.8 sec
Top	...	...	...	14 sec
Top	...	...	...	11.5 sec

Mean speed at end of quarter-mile from rest: 62 m.p.h.
Mean time taken to cover standing quarter-mile: 19.5 sec.

FUEL CONSUMPTION: At 30 m.p.h., 98 m.p.g. At 40 m.p.h., 80 m.p.g. At 50 m.p.h., 70 m.p.g.

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

TURNING CIRCLE: 12ft.

MINIMUM NON-SNATCH SPEED: 18 m.p.h. in top gear.

WEIGHT PER C.C.: 1.23 lb.