

## ROAD TESTS OF 1956 MODELS

### THE 997 cc 4G ARIEL SQUARE FOUR

*A Multi from Selly Oak with Exhilarating Power*

*and Speed plus Car-type Docility*

**B**Y reason of its very design, the 997 cc Ariel "Square Four" enjoys the distinction of being the only machine of its type in the world. It proudly heads the Selly Oak marque of four-strokes and is the largest capacity motorcycle at present produced in this country.

A unique sense of power is derived from piloting this one-litre "four"; few, if any, other types of machine provide the same feeling of exhilaration. The driver of a "Square" has four cylinders and 1,000 cc at his fingertips, waiting to respond to his every whim. Therefore, it is not surprising that, while this model can outstrip most other vehicles in terms of performance and treats severe gradients as though they were not there, it is also docility itself when choked city by-ways demand such behaviour.

On the model tested recently, top gear performance spanned no less than 92 mph — from a mere 10 mph snatch-free dawdle to its on-the-level maximum of 2 mph over the "ton."

#### Speedo 90 sitting-up

Cruising speeds — the word is used relatively — were normally in the upper seventies, but on the rare stretches of highway that were suitable for high-speed work the speedometer needle could be held at the 90 mph mark until road conditions or fatigue from wind-buffeting compelled the rider to reduce speed to more reasonable gaits. Even

when the model was "pottering along" in excess of a mile a minute, a twist of the throttle produced vivid acceleration up to the 80 mph region and there was still plenty left.

At the other end of the scale, hard acceleration from a standstill would provoke wheelspin on dry road surfaces; one could not afford to forget this point in adverse weather conditions! This ability to accelerate quickly was a boon for safe overtaking and, of course, there was nothing raucous about the "Square's" song. The machine's power could be used to the full for mile after mile; the power-unit voiced no complaints and eight pints of oil in circulation ensured adequate internal lubrication.

#### Impeccable brakes

With such an abundance of power and speed at one's disposal, the subject of stopping quickly and safely becomes one of prime importance. The magnificence of both the Ariel's brakes cannot be exaggerated. The functional-looking full-width alloy front brake was fade-free, delicate in operation and completely trustworthy under hard application and in all circumstances. During the initial stages of the road-test, a couple of "clicks" of the patent fulcrum brake-shoe adjuster were needed to cater for the bedding down of the linings. The 8-in diameter rear brake, which is of the single-sided pattern, proved to be eminently satisfactory; neither brake was affected by rain. A spanner

to fit the fulcrum adjustment devices is included in the toolkit.

At the very high speeds which the Ariel was capable of attaining and sustaining, road-holding came in for some criticism. When the model was banked at speed on an uneven road surface, disagreeable yawing symptoms set in which could not be counteracted by screwing down the steering damper. Source of the trouble may have been the short-link swinging-fork rear suspension system which, being undamped, was over-lively on occasions. The front telescopic hydraulically damped forks had a long, smooth action and behaved commendably.

### Gearbox gronchings

The clutch and gearbox worked in perfect harmony to give clean changes and smooth take-off. Actually, the best upward gear change results were obtained if the engine revs were allowed to build up before the next ratio was selected. Downward changes were not quite so clean and required careful timing in relation to engine speed. No clutch drag was noticed and the clutch never had to be "freed" after standing.

A nail in the rear tyre necessitated the removal of the wheel, but this was an easy task. In order to gain enough clearance between the rear wheel and rear stand, the mudguard stay bolts had first to be released so that the guard could be pivoted upwards. Five studs with dome nuts retain the wheel to the back of the brake drum. These were quickly removed with the aid of the box spanner supplied in the toolkit. After the large centre spindle had been unscrewed at its offside end, it was withdrawn, leaving the wheel free and the chain, sprocket and brake assembly undisturbed.

Raising 435 lb of solo motorcycle onto its rear stand is not so difficult as it might seem, so long as the correct procedure is adopted. To work one's way hazardously to the

### TESTER'S ROAD REPORT

#### Maximum Speeds in:—

	Top Gear (Ratio 4.36 to 1)	102 mph	5550 rpm	36 secs
Third Gear (Ratio 5.46 to 1)	80 mph	5800 rpm	17 secs	
Second Gear (Ratio 7.4 to 1)	64 mph	6000 rpm	8 <sup>3</sup> / <sub>5</sub> secs	

#### Speeds over measured Quarter Mile:—

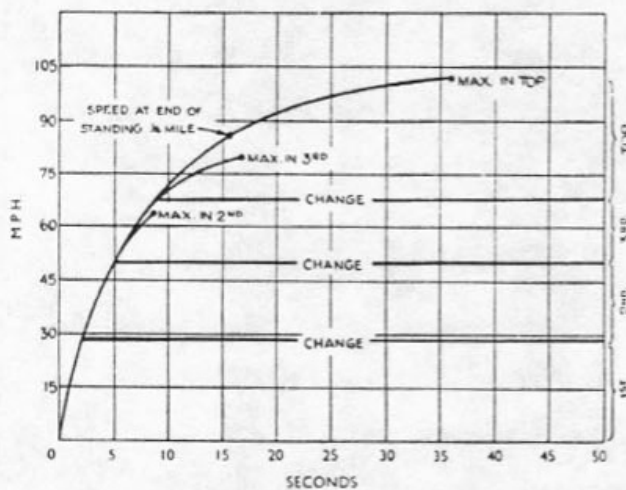
Flying Start	98 mph	Standing Start	58.4 mph
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#### Braking Figures On DRY TARRED CHIPPIUS Surface, from 30 m.p.h.:—

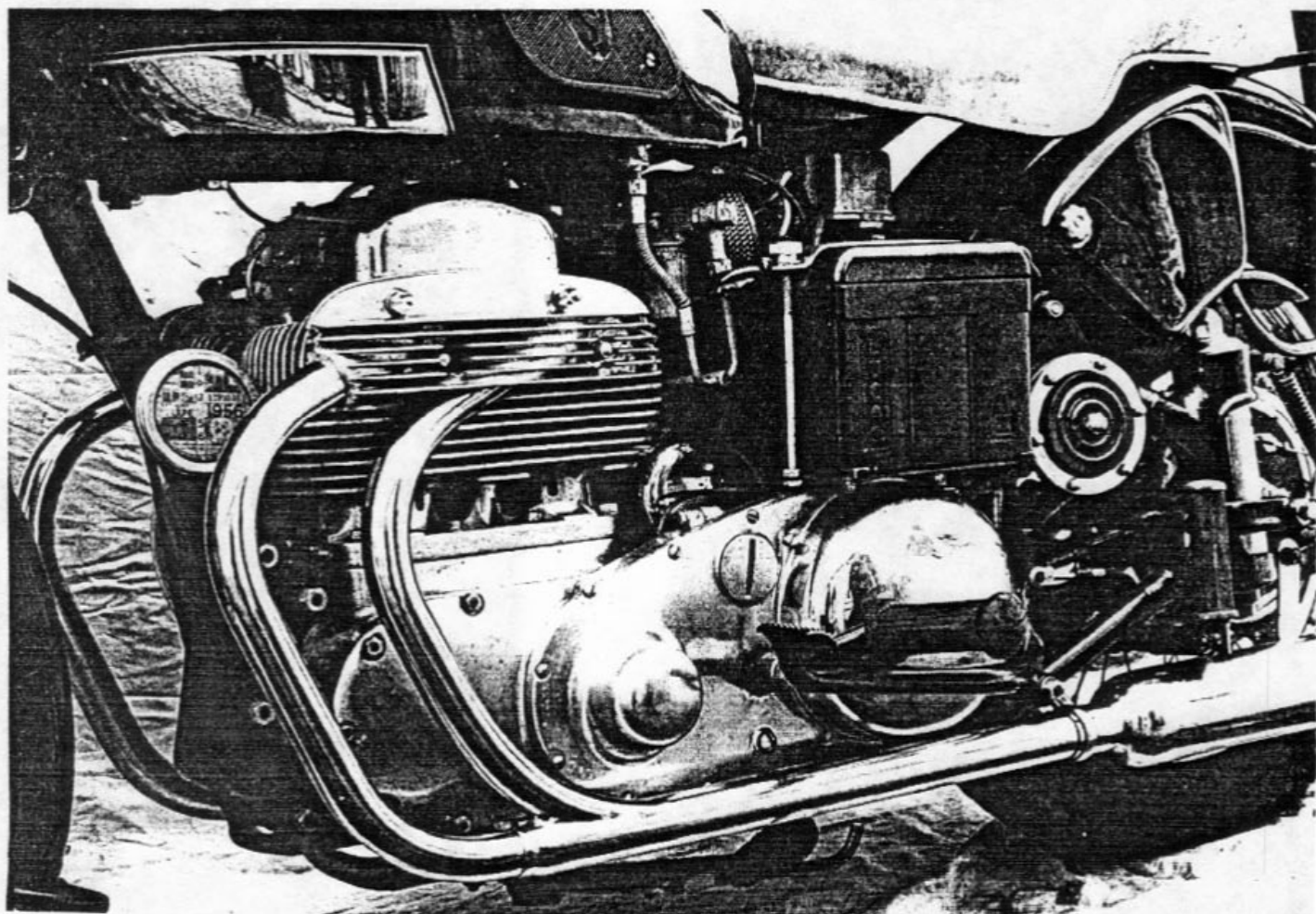
Both Brakes	29 ft.	Front Brake	37 ft.	Rear Brake	54 ft.
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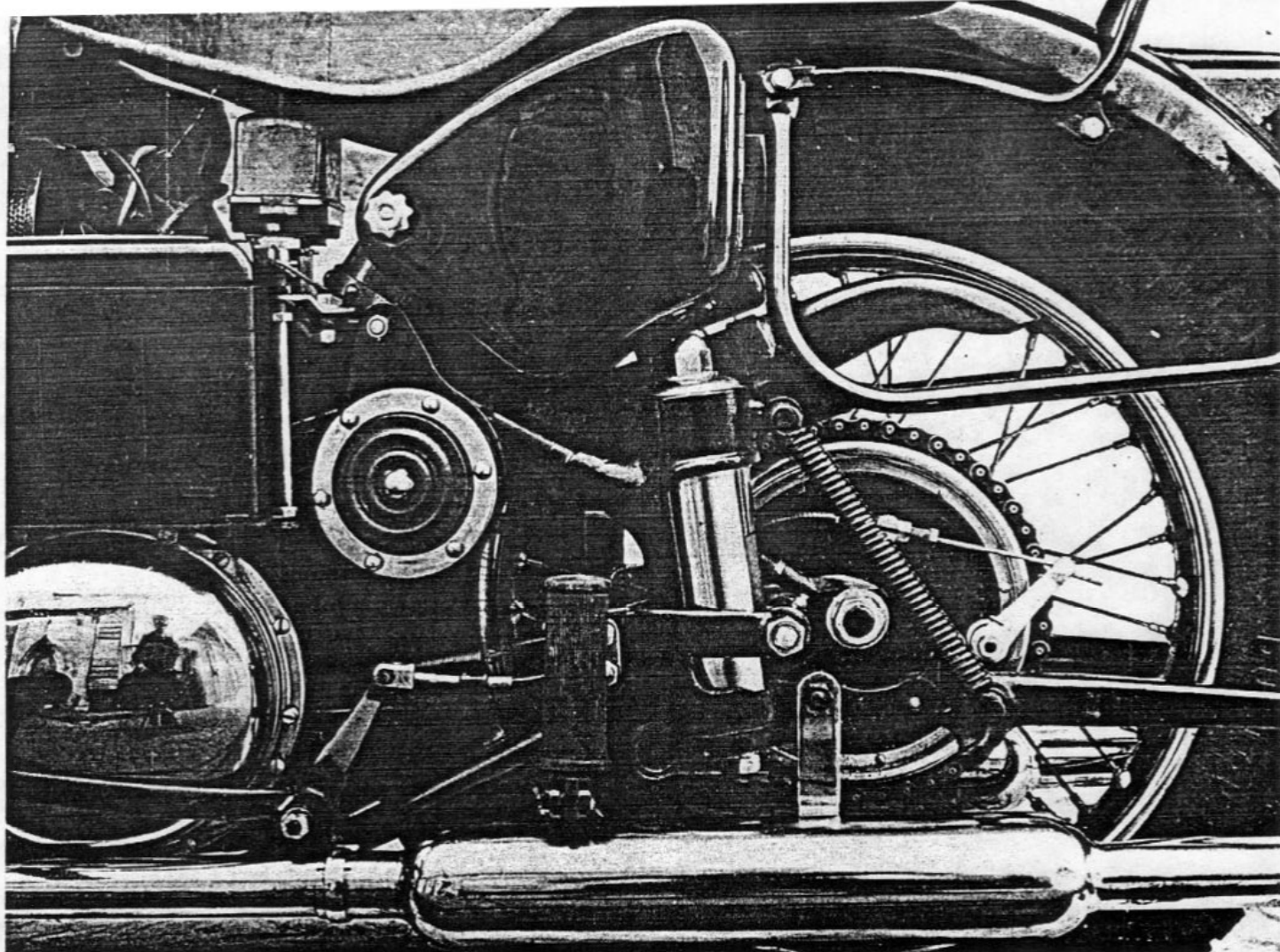
#### Fuel Consumption:—

30 m.p.h.	78 m.p.g.	40 m.p.h.	64 m.p.g.	50 m.p.h.	50 m.p.g.
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Extensive use of light-alloy, including cylinder head and block, kept the 4G weight down to 435 pounds. Coupling gears unite the twin crankshafts whilst the rear one drives the dry clutch via an oilbath chain. Note big Lucas 20 ampere hour battery, exclusive to the Square Four. Carburetter is an SU which means Skinners Union. Date stamp on the licence disc, expiring 30 June 1956, is clearly readable as 10 May so Selly Oak probably built this example during the first week of May





Roadtest photograph taken, according to reflection on chrome-plated clutch cover, by glassplate camera on wooden tripod with focussing under a black shroud

rear of the machine and then give it an almighty heave with both hands grasping the lifting handle, is to tackle things the hard way. The better method is to stand on the model's nearside and, holding the stand on the ground with the left foot, raise the machine with the left hand under the mudguard stay and the right on the lifting handle. There is also a prop-stand for quick parking. In the form in which the "Square Four" was taken over, it provided a good riding position except for the footrests, which were set too high. These, like all the other controls, were readily adjustable for personal preference. The yellow hide-covered dual seat was well-shaped, but could have been softer.

### Properly sized tank

Carrying its full fuel supply of five gallons, the model could cover nearly 300 miles at average cruising speeds before refuelling became necessary.

Lucas coil-ignition is used for the 4G and the system never failed. The key-operated switch is located on the offside of the frame immediately beneath the dual seat; when it is in the "on" position, a red light shows in the ammeter face. The beam from the 7½-in diameter headlamp could only be described as first-class. The horn push-button was the only component that did not come up to scratch; the entry of water impaired its efficiency.

The Ariel has just undergone one test, but another, of a more severe nature, is in store. George Buck, the Wednesbury dealer, is waiting to hitch it to a "chair" to do a spot of rallying in Belgium this month. If it goes as well for him as it did for us, he should have a successful trip.

### ROAD TEST BRIEF SPECIFICATION

**Engine:** 997 cc four-cylinder four-stroke; bore 65 mm by stroke 75 mm; alloy cylinder; alloy head; overhead valves, push rod operated; C.R. 7.2 : 1. Claimed bhp 42; 5,800 rpm; variable choke S.U. carburetter with air cleaner, type MC2.

**Transmission:** Four-speed gearbox; positive-stop foot-change; ratios, 4.36, 5.7, 7.4 and 11.55 : 1; primary drive by chain ½ in by .305 in; final drive by chain ¾ in by ¾ in.

**Frame:** Full cradle type.

**Wheels:** WM2-19 front, WM3-18 rear rims, carrying Dunlop tyres; 3.25-in by 19-in ribbed front; 4.00-in by 18-in Universal rear; hubs incorporate 7-in full-width brake at front, 8-in at rear, both with fulcrum shoe adjusters.

**Lubrication:** Dry-sump lubrication with double-plunger type oil pump; oil tank, 8 pints capacity.

**Electrical Equipment:** Lucas coil ignition system; 70W dynamo; 20 a.h. battery; CVC unit; distributor with automatic ignition control; 7½-in diameter headlamp; stop-tail light and reflector; dipswitch; electric horn; illuminated ammeter and speedometer.

**Suspension:** Telescopic front forks of Ariel design, controlled by hydraulic damping; rear springing by short trailing link with plunger units incorporating compression and rebound springs; spindle adjustment by means of abutment screws.

**Tank:** Welded steel fuel tank of 5-gal capacity.

**Dimensions:** Wheelbase, 56 in; ground clearance, 5½ in; unladen seat height, 31 in; dry weight, 435 lb.

**Finish:** Deep claret enamel; chrome flutes and panels on petrol tank; engine and gearbox polished alloy; wheels, exhaust system and other bright parts chrome-plated.

**General Equipment:** Full kit of tools; tyre pump; 120 mph Smith's speedometer; pillion footrests.

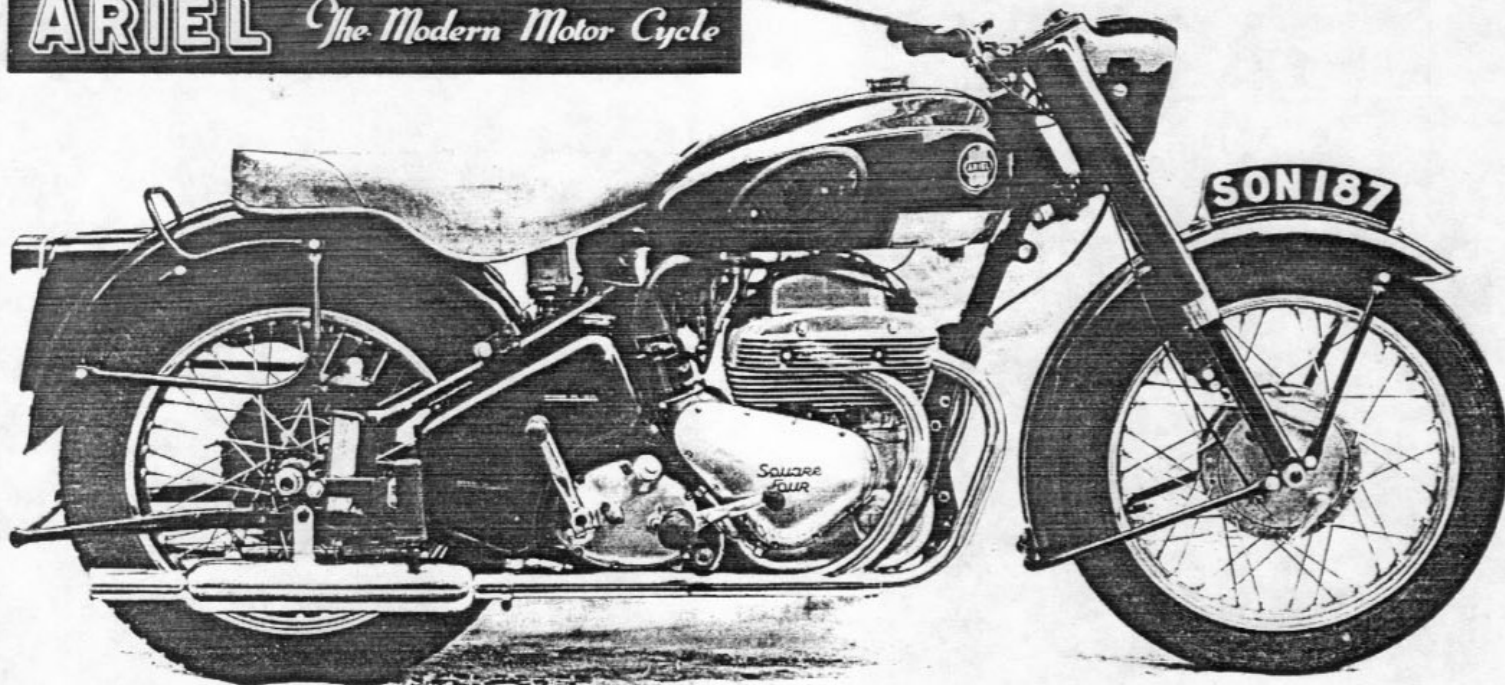
**Price:** £260 plus £62 8s PT - £322 8s.

**Annual Tax:** £3 15s, quarterly, £1 0s 8d.

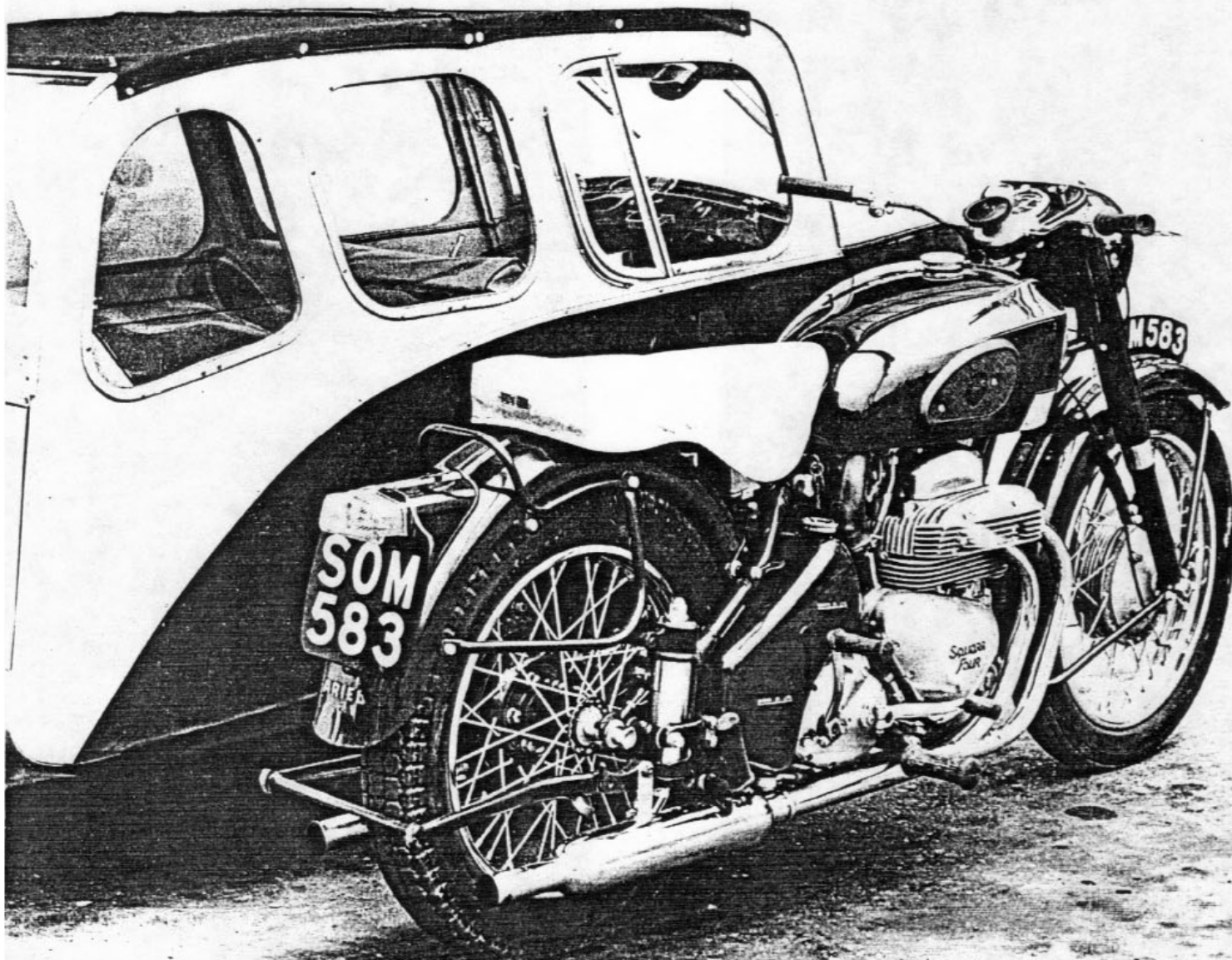
**Makers:** Ariel Motors Ltd., Selly Oak, Birmingham 29.

more Ariel overleaf

# ARIEL *The Modern Motor Cycle*

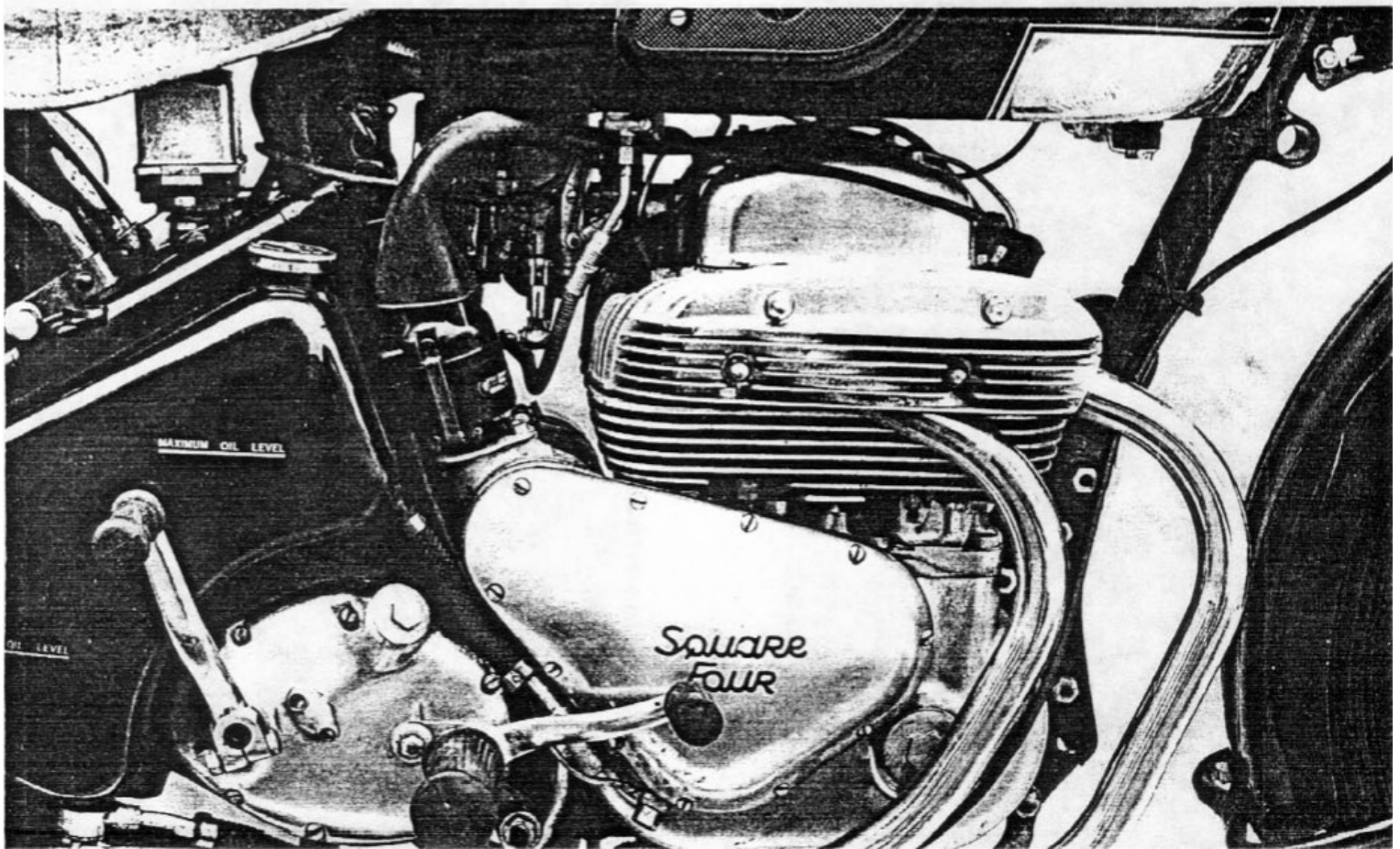


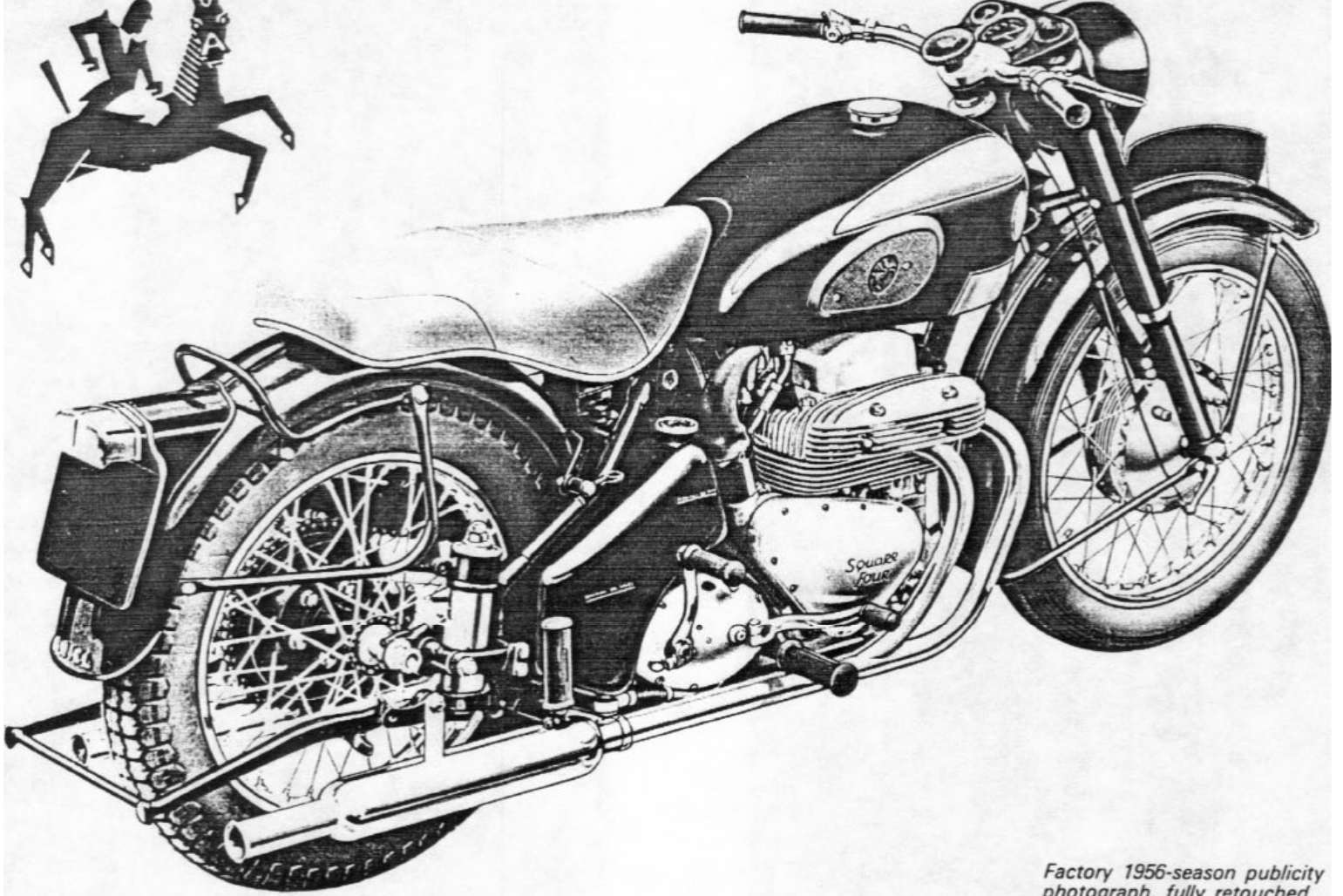
Two editorial pictures. (Above) The May 1956 roadtest solo. (Below) The riding-story 4G used by JPG. The fact that the sidecar primemover has the new-for-1956 front brake and that the SOM series of Birmingham registrations did not begin until October 1955, makes it clear that this too is a 1956-season model. Both are shod with Dunlop Universal 4.00 x 18-inch studded-tread rear tyres. The addition of these sidecar pictures to a solo roadtest should aid restorers as well as being interesting in their own right



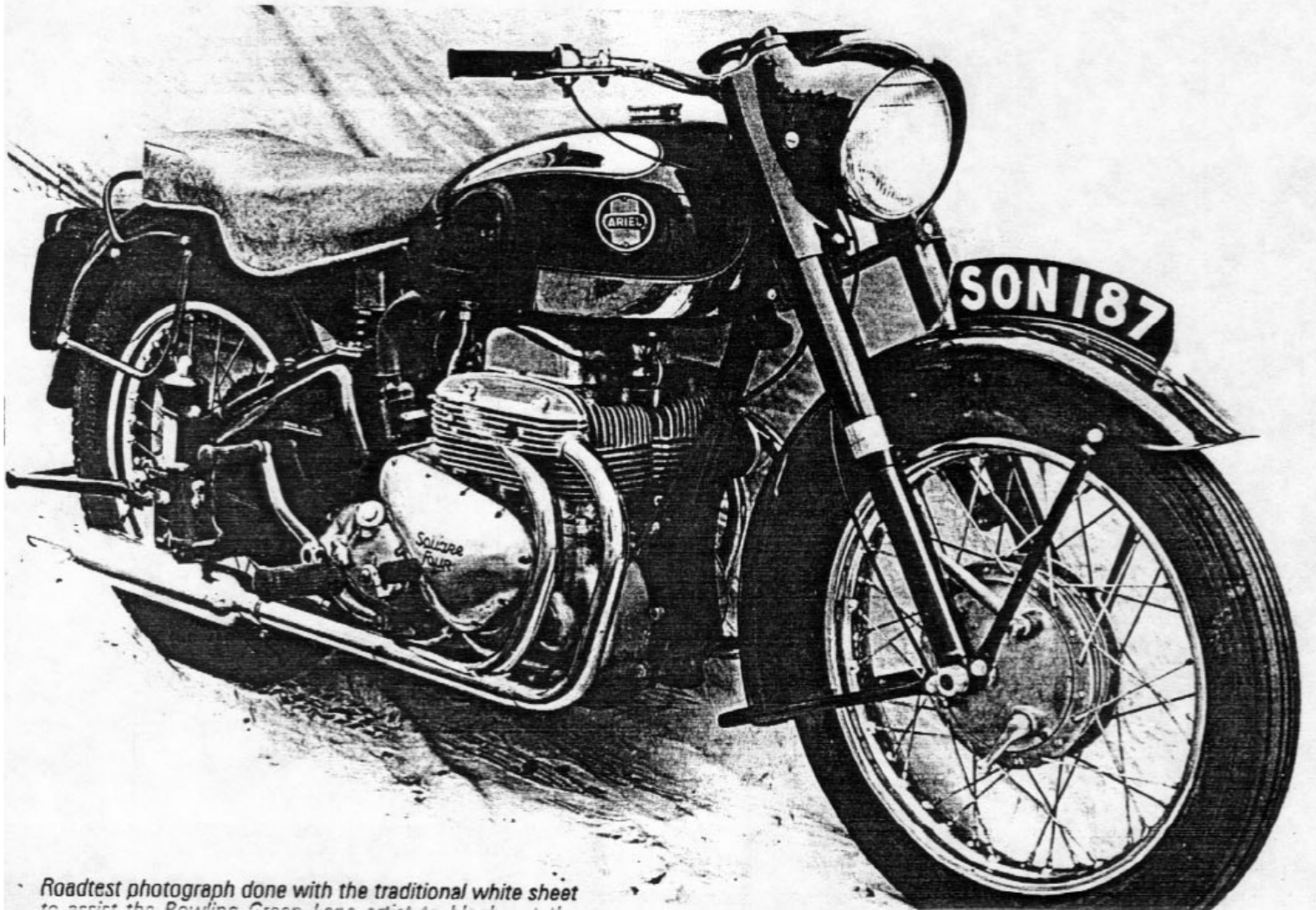


(Above) Midlands Editor Bernal Osbourne aboard the roadtest machine, wearing a Gannex riding coat and a Corker helmet. Comparison of this 1956 editorial photograph with the factory's own on the previous page reveals few differences. Pillion footrest rubbers are flat on one, round on t'other; volatage control lid is polished alloy or black; two styles of seat-cover stitching appear; other comparisons show discrepancies in the word Ariel on the tail of the rear mudguard. (Below) Editorial photograph of the power unit and massive one-gallon oil tank shows tank transfers for both oil levels lower down than on maker's publicity picture

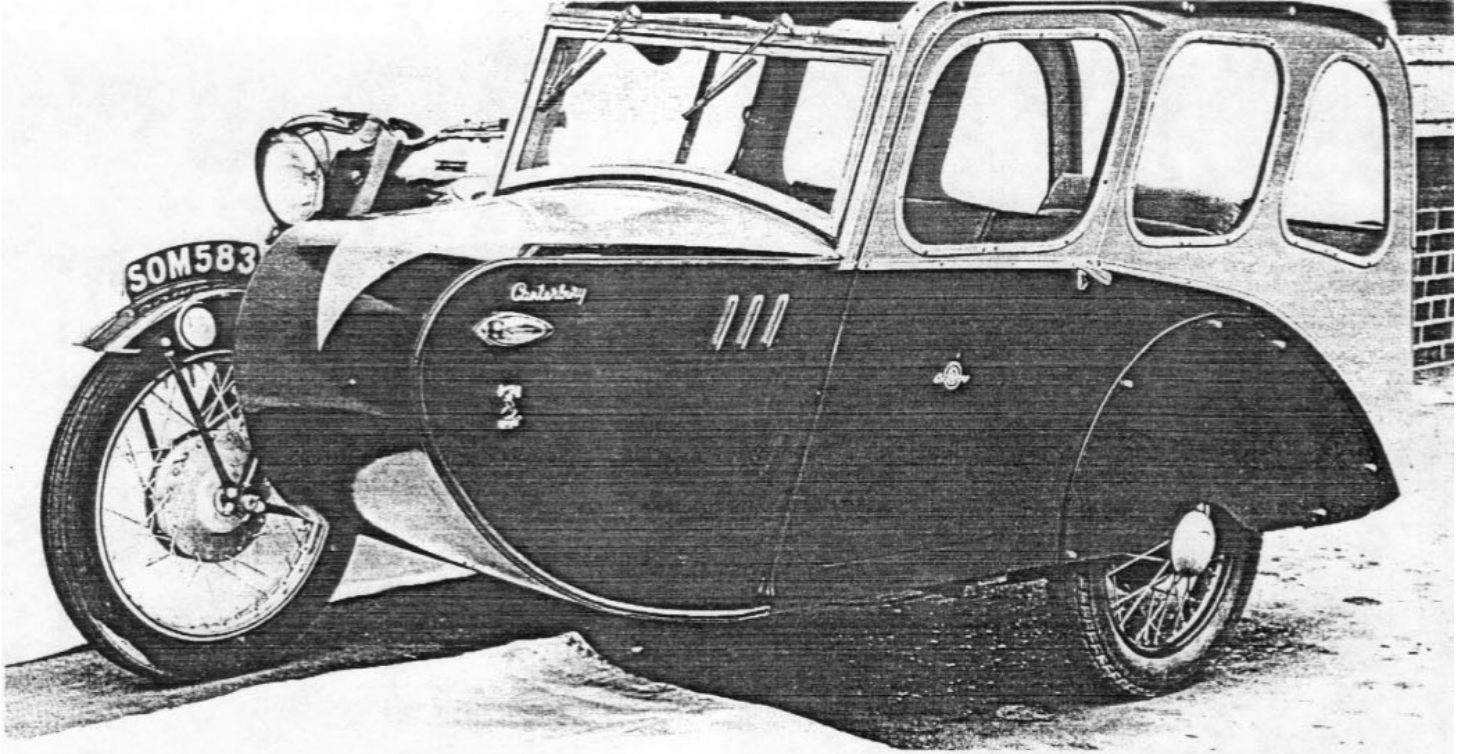




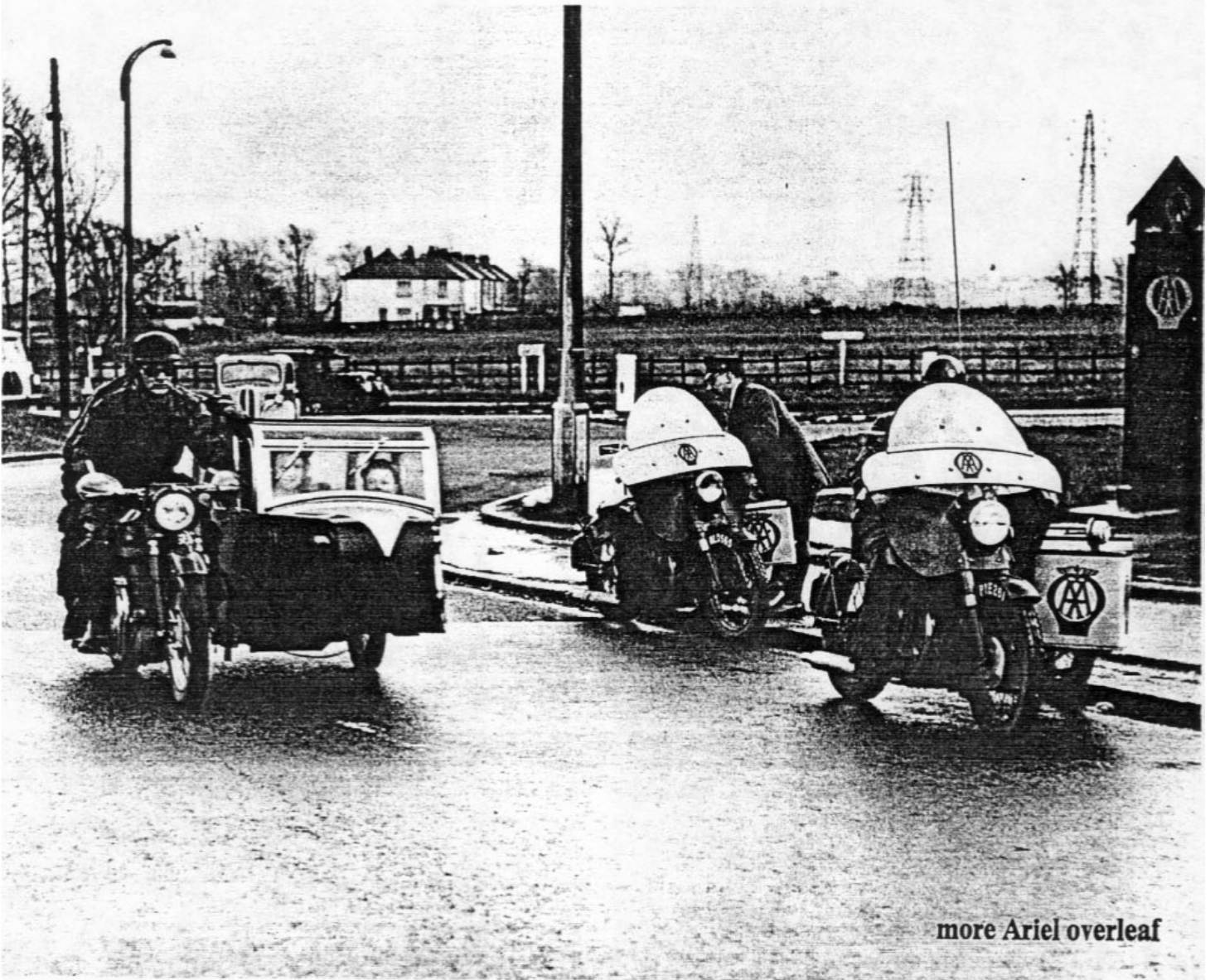
*Factory 1956-season publicity photograph, fully retouched*



*Roadtest photograph done with the traditional white sheet to assist the Rowling Green Lane artist, Mr. H.*



The late John Griffith, Motor Cycling staffman, had during 1955 a Squariel for a riding story done with the Jacobs Brothers of Canterbury Sidecars. They fitted their Carmobile which featured a double-adult bench seat at the front and a single-adult seat behind. Both photographs are editorial ones, that (above) in the Bowling Green Lane studio and that (below) en route to Southend. At the kerb are two M21's made by Ariel's parent company, BSA



more Ariel overleaf