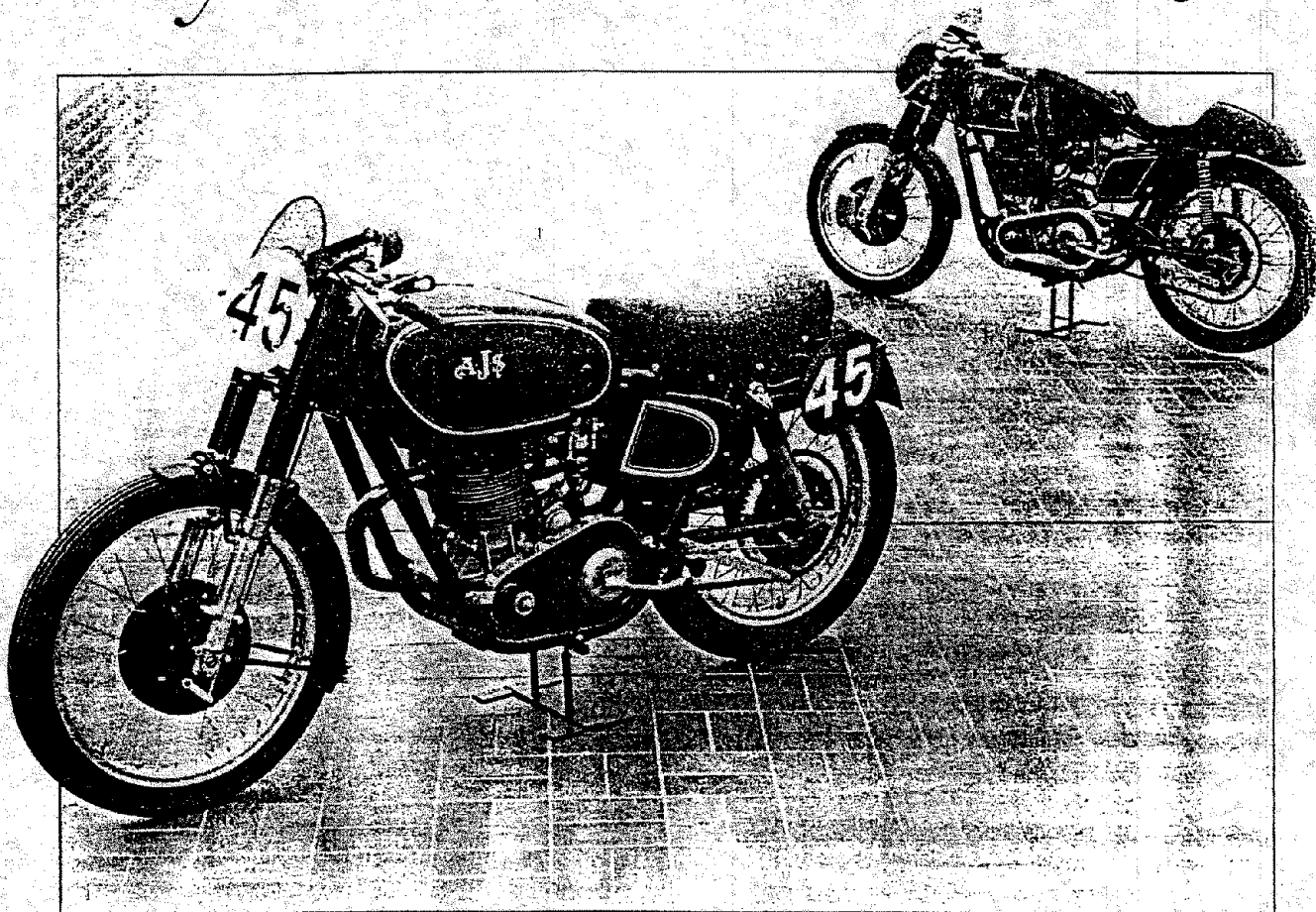


This month, Bob Currie traces the history of Plumstead's much-loved Junior-class racing mount. Photography by Jim Davies

Boy Racer—The 350cc 7R AJS

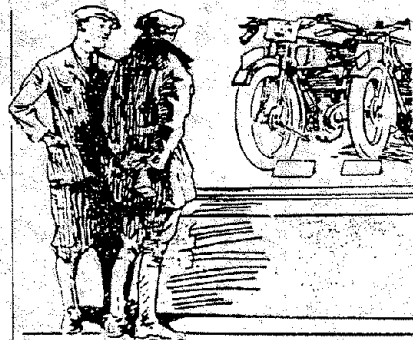


TRUE it may be that Plumstead's overhead-camshaft road racing three-fifty, the 7R Ajay, fell a little way short of being a world beater. But there again, nobody ever intended it to be a world beater. No, it was simply a "bike for the boys", something that would give the enthusiastic private owners who made up the bulk of any programme a reasonable chance of getting into the prize money; and indeed, within a couple of weeks of its initial launch, the 7R was already known far and wide as the "Boys' Racer", or "Boy Racer".

That was in February of 1948, and the firm's sales manager, racing star Jock West, explained the logic behind the model to a gathering of keen Cambridgeshire clubmen.

Why was it a three-fifty? Because, said Jock, prestige (and, in consequence, sales of the firm's range as a whole) in the European market was very largely dependent on success in the short-circuit meetings so commonly found on the Continental Circus beat. For that, a light and handy three-fifty was a more practical proposition than a more powerful, but heavier and less manoeuvrable job.

Because privateers often had to service their models in grassy, possibly muddy, paddocks with no better shelter than a tar-



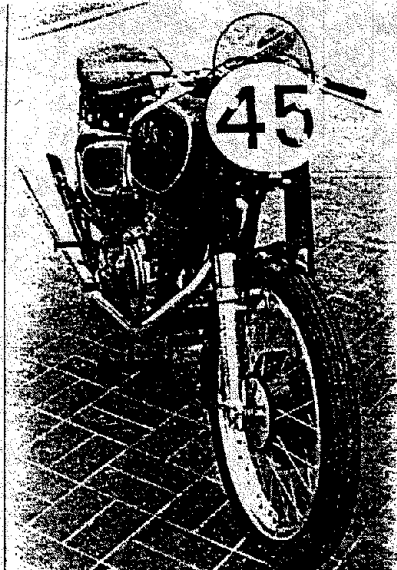
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paulin, design had to be kept simple. That's why the new AJS racer was single-cylinder, and why it was single-ohc, not double-knocker. And although in the present day and age a power output of nothing more than 31bhp at 6,500rpm would be considered derisory, it has to be remembered that in

1948 and for several years to come Britons were condemned to the dreaded 72-octane "Pool" petrol. Which is why the 7R had at first to make do with a modest compression ratio of 8.45 to 1.

There had been, it was true, chain-driven-ohc AJS racers in pre-war times, their ancestry going right back to 1926. It could even be said that the duplex-cradle-frame, plunger-rear-sprung "Model 7, Racing" of 1939 was at least an inspiration, if not a direct begetter, of the post-war 7R. But in fact there was little in common between the pre-war and post-war models, other than the use of a chain (tensioned by a Weller spring blade) to drive the overhead camshaft, and a vernier adjustment at the driven end of that camshaft which was an echo of the magneto-timing device featured on AJS models from around 1911 onward!

In other respects, the 7R was a brand-new design from the drawing board of Associated Motor Cycles' chief engineer Phil Walker, even if Vic Willoughby (in his book, *Classic Motorcycles*) hinted that it was something of a Cockney copy of the Velocette Mk.VIII KTT, with the KTT's 74 x 81 mm bore and stroke, eccentric rocker-spindle adjustment, and magnesium-alloy conical wheel hubs. Nevertheless, the Ajay was considerably



Wire-mesh flyscreen, and Teledraulic forks (with top covers) similar to those used on post-war AMC roadsters, gives the 1948 AJ's 7R a very "period" look.

lighter than the KTT, thanks to the extensive adoption of magnesium-alloy for the crankcase, timing chest, and camshaft-drive covers, too.

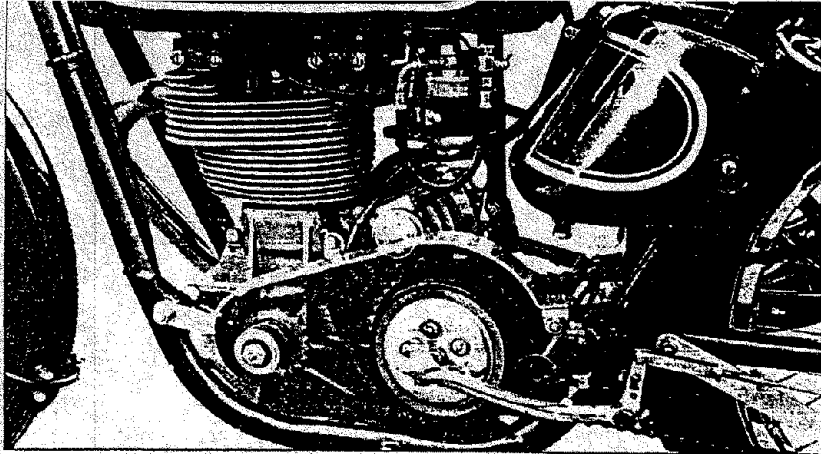
Incidentally, the distinctive gold finish applied liberally to the alloy parts of the 7R engine, though certainly very decorative, has nothing to do with smartness of appearance. The unfortunate fact is that magnesium-alloy is highly subject to corrosion, so the gilding is essentially a chemical anti-corrosion treatment.

The production span of the 7R was from 1948 to 1962, an extraordinary length of life for a racing model, but of course during its 14-year lifetime the machine was refined and modified in a number of ways. Luckily for enthusiasts the National Motorcycle Museum has preserved not one but two examples of the 7R - respectively from 1948 and 1962 - displayed side-by-side and presenting a unique opportunity of studying how the machine developed over that period.

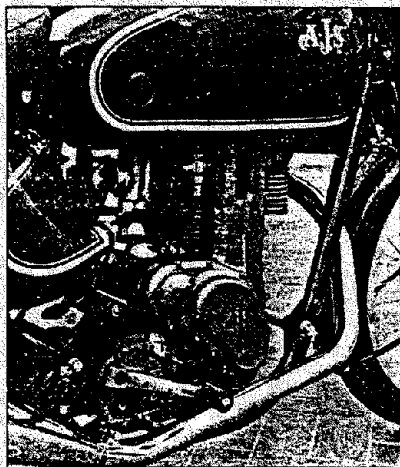
To a motor cycle sporting world that had been starved of race-model news for virtually nine years, the February, 1948, press announcement was a portent that the war really was at an end! Smart in AJ's black, with bold gold lining and lettering on the tank sides, all-welded duplex frame, and an exhaust megaphone that looked capable of swallowing a double-decker bus, the 7R was truly an eye-catcher.

Production had already begun (as *The Motor Cycle's* editor, Harry Louis, confirmed after dropping in at the Plumstead factory) and limited numbers would be available in good time for the 1948 racing season. However, the first sight the eager public had of the new model was not at a road-race circuit at all, but at Brand's Hatch (at this time the south-east's biggest and fastest grass track venue) where Jock West took it around for a few brave laps.

From the moment the machine had been announced the racing fraternity had been forming an orderly queue (metaphorically speaking) outside the Plumstead factory's door, cheque-books in hand, and among the



Engine number 48/7R 582 stamped on the crankcase identifies this machine as being from the first year of post-war production. A simple top cover suffices for the primary chain. The float chamber is mounted by clip to the saddle tube of the frame.



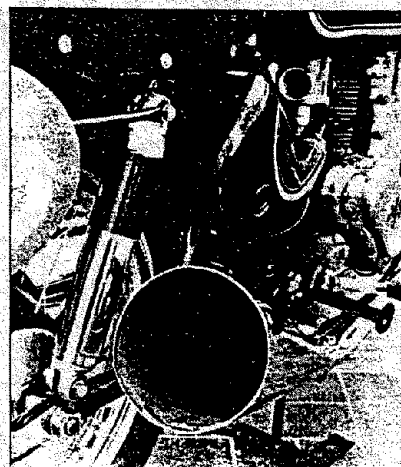
The AJ's motif is prominent on the cast-magnesium-alloy chain cover of the 1948 model, but was later discarded - because the same casting was employed also on the 500cc Matchless G50.

first to receive the promised models were Ernie Lyons, Maurice Cann, Syd Barnett, Les Dear, Bill Doran - and Eric McPherson, who had been nominated as Australia's representative in the 1948 Junior TT.

Baptism of fire for the new machine came in late April at Schaffhausen, Switzerland, where globe-trotting Ferguson Anderson took it to third place in the 350cc class of an international meeting. Ernie Lyons, too, had one of the earliest machines of the batch, in nice time for him to take the 350cc class of Leinster 200, in the first week in May.

Still, those who were still awaiting delivery had no need to fret, because the factory was turning out the 7R-like shelling peas, and no fewer than 22 machines were ready for the Junior TT - three of them ridden by the works team of Jock West, Les Graham, and Ted Frend. Teething troubles were remarkably few, and for a brand-new design to finish 5th (private owner Maurice Cann), 7th (Les Graham) and solidly from 10th right down to 16th places was a very good showing indeed. Even more spectacular was Geoff Murdoch's fourth place, on a 7R, in the Senior TT!

Two other happenings in 1948 were the arrival of Ike Hatch, the former Blackburne



"Can you hear me, mother?" - but there is no truth in the story that a moped once disappeared down a 7R's megaphone. In later years a much more modest trumpet was employed.

designer, as Plumstead's race-shop development chief, and Birmingham dealer Frank Cope's reduction of a 7R to 250cc (by fitting a new barrel and head) for the Manx Grand Prix!

Changes over the next few years were gradual rather than spectacular, and mean time the 7R built up an enviable reputation for reliability. It served, also, to bring latent racing talent to the fore - perhaps the best example of that being Bob McIntyre who, in 1952, not only won the Junior Manx Grand Prix by a wide margin, but in the same week and on the same machine finished second in the Senior MGP.

Ike Hatch's major contribution to the story of the Junior AJ's was the triple-camshaft engine which gave New Zealander Rod Coleman victory in the 1954 Junior TT. An even more advanced version, in which the three camshafts were operated by shaft and bevel drive instead of by chain, was built and tested (it was said to deliver 39 to 40bhp at 8,000rpm), but before it could be built into a racing frame the AMC bosses dropped the portcullis. Road-racing, they reckoned, was becoming far too expensive a pastime. Specials, even if they could be considered to

be part of the development programme, were out. Plumstead would continue (for a while anyway) to support a racing team, but their bikes would be ordinary production models.

Sadly, Ike Hatch died in October of 1954, but already AMC had a worthy successor as Chief Development Engineer in the person of Jack Williams (ex-Raleigh, and ex-Vincent), who had been working on the now-shelved shaft-and-bevel three-valver. From now on, the 7R would be his baby; but dwindling finances meant that the firm could give him only minimal backing, and development had to be on the thinnest of shoestrings.

When Jack inherited the production model, it was turning out 37bhp at 7,500rpm, yet by the time production was brought to an end in 1962 the output had been pushed up to 42bhp at 7,800rpm – without losing any of the reliability that had always been the 7R's strong point. The secret, if such it be, was in meticulous attention to the engine's breathing. Experiments were carried out on port shapes and angles, and the path of the gas across the cylinder head; on the squish pattern of the piston crown and cylinder head; on the inhibition of detonation.

So compression was pushed up more and more, eventually to 12.2 to 1; and yet for all the increase in power, fuel consumption had actually been reduced, a tribute to the markedly improved volumetric efficiency.

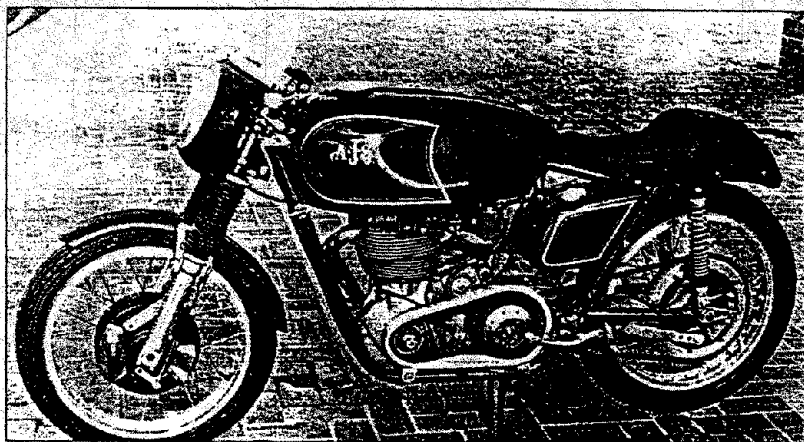
Externally, the appearance of the 7R had been changing, too. For 1953 there had been a completely new frame with a narrower cradle to carry the engine and flanged bushes, welded through the frame tubes, for the bottom engine mounting and gearbox pivot bolts, giving a much more rigid assembly than before. In place of the original through-bolted fuel tank there was now a 5½-gallon tank located to the frame by rubber-bushed pegs and secured by a spring-loaded metal strap.

For 1956, the basic engine dimensions were changed, and instead of the old "Velocette" bore and stroke, there were near-"square" figures of 75.5 x 78mm. That year, works entry Derek Ennett on what was virtually a same-as-you-can-buy model without even the benefit of a fairing finished a magnificent second in the Junior TT behind the streamlined works Moto-Guzzi of Ken Kavanagh; and with Frank Peris and Gavin Dunlop also well-placed, AJS gained the Manufacturers' Team Award.

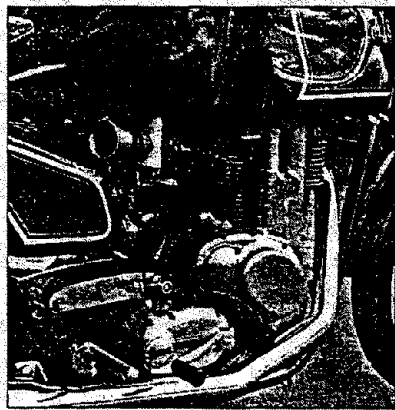
It was, however, the company's swan song, for an announcement later in 1956 brought dismay to British road-racing fans. Together with Norton (now part of the AMC fold, anyway), AJS were withdrawing from racing, and the team would be disbanded forthwith. Production of the 7R for private owners would continue, though without the feedback from works participation it was inevitable that development would taper off.

Ironically, it was as the 7R ran into its final years of production that stirring things began to happen. Like Alan Shepherd holding John Surtees (on the works MV Agusta four) in the 1960 350cc Ulster Grand Prix until, of all things, the 7R's camshaft drive chain snapped – a calamity so rare as to be unheard-of! So fast was Alan's Ajay that, after the race, the MV Agusta camp put in an official protest and demanded that the engine be measured. That was duly done – and it came out at 349.08cc; so sucks, boo to you, too!

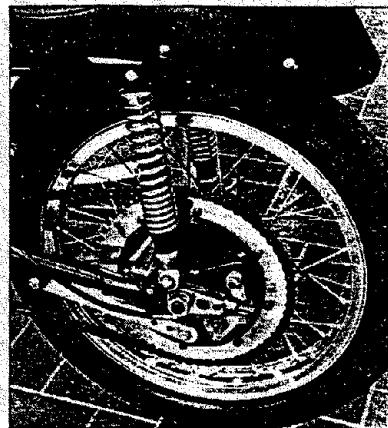
And like Mike Hailwood's sensational



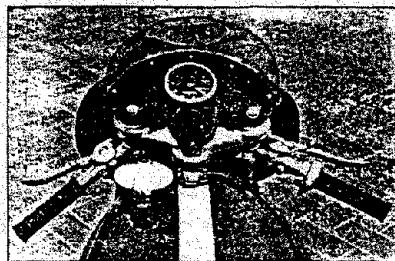
Drive side of the 1962 Model 7R presents a most businesslike appearance. The tank is longer, the riding position further astern than originally.



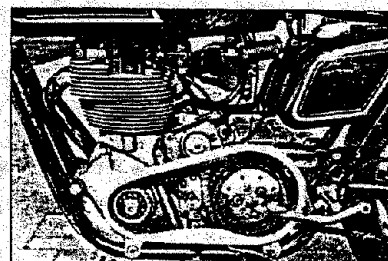
The much-loved AJS 7R in its final production form, and comparison with the 1948 model shows how it had changed in many subtle ways over the years. New gearbox with reversed pedal, humpy backrest to the seat, bigger carburettor with longer intake, and much else...



AMC's own shock struts were abandoned long ago, and by 1962 Girling damper units were in use – but with special fork-ended lower mountings, to suit the AJS type of swinging-arm. Seat shows evidence of neat stitching at the seams.



Business end of the 7R had been tidied-up considerably by 1962 – and the rev-meter now reads up to 9000rpm. The reshaped tank is held down by a longitudinal metal strap.



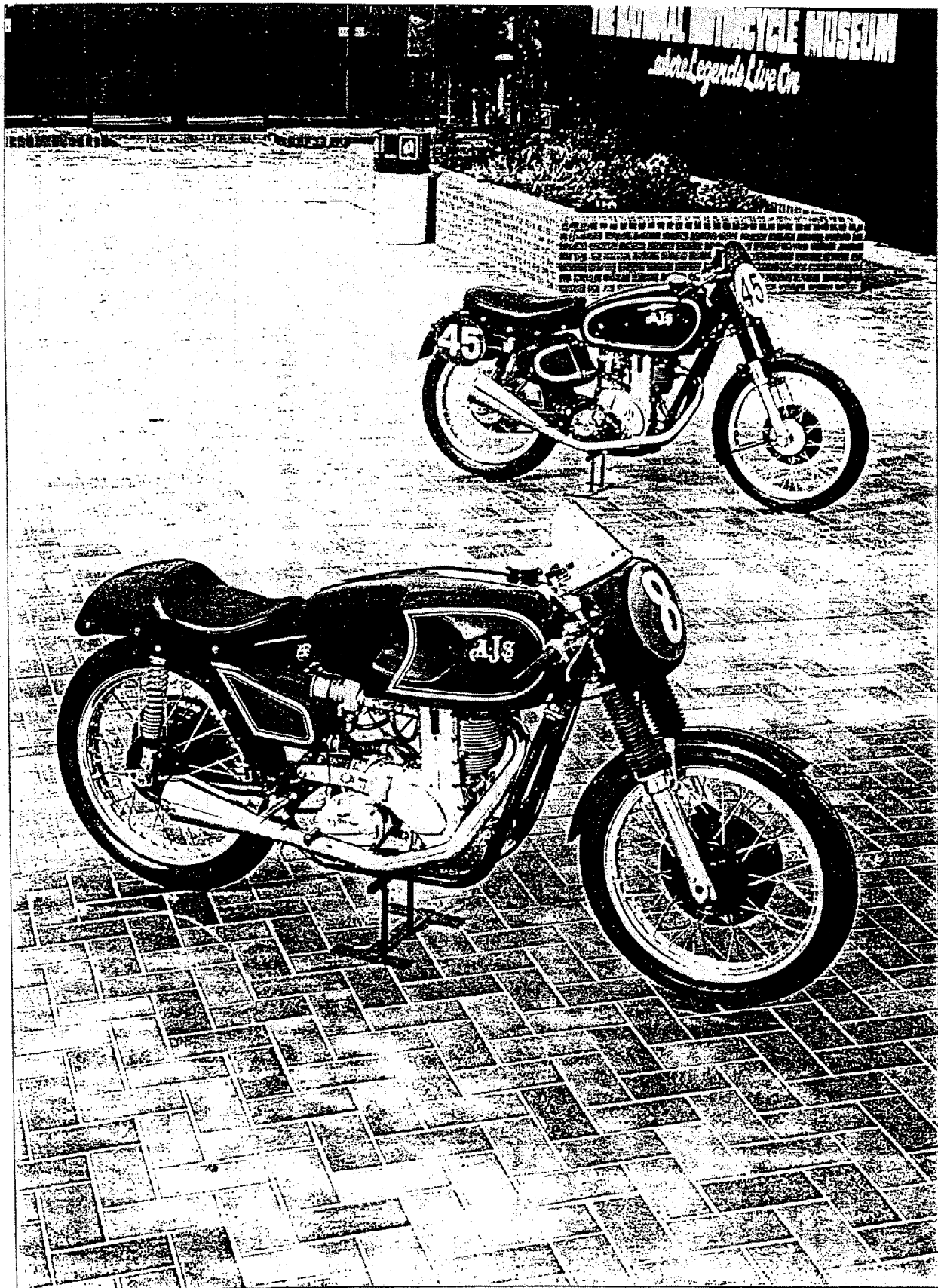
Very apparent is the redesigned crankcase on the 1962 version. The seat down-tube has disappeared, as has the engine-shaft shock absorber, and there is a complete guard for the primary chain.

ride in the 1961 Junior TT on a privately-owned 7R, where he had been lapping around 97mph – quicker than any 350cc single had travelled around the Island before – only to have victory snatched from his grasp when the gudgeon pin broke, just 15 miles from the chequered flag.

Later the same year, Mike shattered the Oliver's Mount, Scarborough, race and lap records, and a few weeks later AJS 7Rs finished 1-2-3 in the Junior Manx Grand Prix.

But the writing was on the wall. With the

money situation growing ever more desperate, AMC decided that production of the 7R (and its big brother, the G50 Matchless) was a loss-making exercise that, however prestigious, they could no longer afford. A press announcement late in January, 1962, disclosed that 50 more 7Rs (and 25 G50s) would be built, with the specification as before. Whether or not all fifty of that final batch were completed cannot be said, because before many more months had passed the Plumstead competitions shop had closed its doors.



In the foreground is the 1962 7R (surely the most aesthetically pleasing of the post-war racing singles) while the 1948 model stands to the rear.