

AJS

Ivan Rhodes'

349 cc

1928 ohc

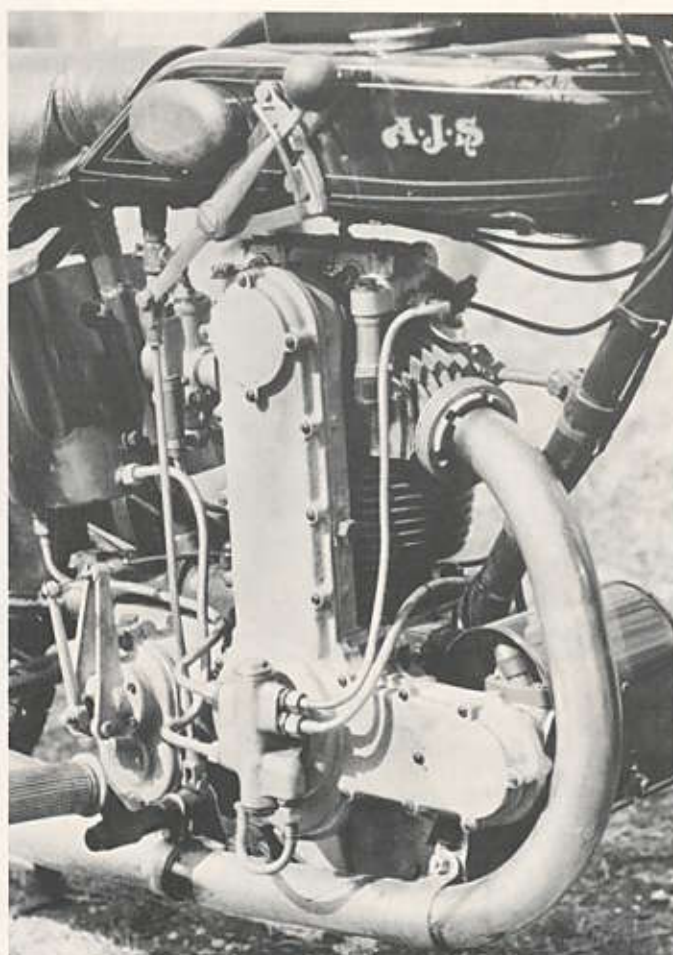
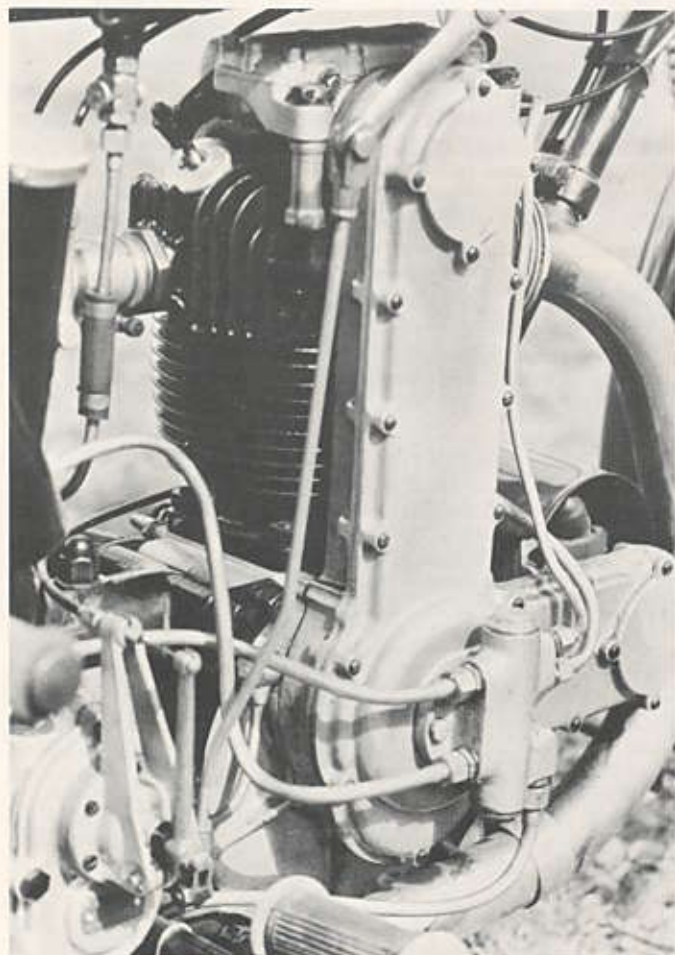
AJS K7

MUSIC to an enthusiast is the exhaust note of a well-tuned single and such music reached its peak in the mid-Twenties. No decibel meters then. Providing there was some impediment in the silencer to stop a bobby poking his truncheon right through, you could get away with exhaust notes detectable in the next county.

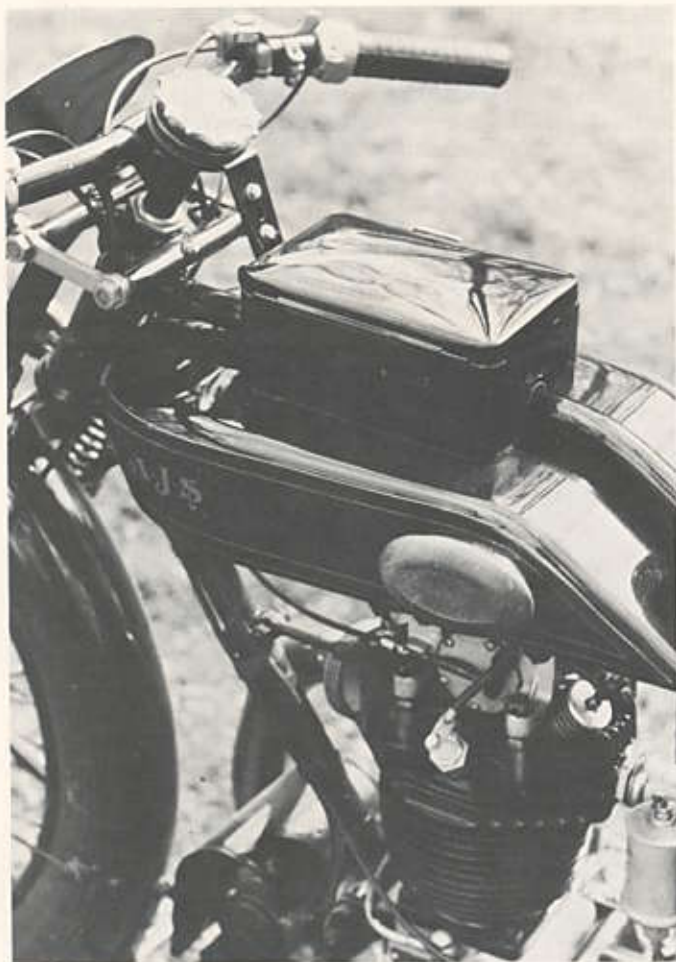
The most beautiful note I have yet encountered goes with a 1928 cammy AJS, a note with a twang in it as pure and as fascinating as the song of a zither. Capable of such range, of such modulation in response to the twistgrip, as to provide an interest beyond mere motorcycling. The note is

reminiscent of the cammy Ajay's less exotic cousin, the pushrod Big Port. This is to be expected for the exhaust system (and indeed the rest of the machine apart from the means of operating the valves) is identical. There's just something about the timing that makes the cammy's note that trifle more mellifluent.

Perhaps the efficiency of the ohc mechanism means the valves follow more precisely the path prescribed by the cams. That undoubtedly is the reason why, all things being equal, the cammy job is not quite so rapid as the pushrod one...



The massive camchain tower dominates the right side of the K7 and houses a spring-loaded slipper of the Weller tensioner type familiar on the latterday 7R and G50 racing singles. The oilpump is externally mounted and provides a drysump facility with exterior metal piping. Included is a positive supply to the overhead cam gear via the exhaust side. Other details visible are the distinctive circular finning on the exhaust gland nut, a shaped magneto shield, vertical rod to the gear change and a massive clutch operating-arm abutment. A rubber section in the fuel pipe safeguards against vibration failure



All things, apart from the valve gear, are as equal as no matter with the pushrod model featured in *The First Vintage Roadtest Journal*. Even the owner is the same — Ivan Rhodes, ace restorer, tuner and race rider of vintage machinery. So the standard of presentation can be taken as read! Actually the 350 was untouched after a troublefree flagshowing trip to Brussels and back to England.

When you come to look at a cammy AJS you cannot help but wonder why every other designer did not go for chain drive of an overhead camshaft. It's so cheap, simple and straightforward...Straightforward because the pull of the chain is at right angles to the shafts, none of the end thrust generated by bevel gears. None of the whine of too tight meshing or the chatter of slack teeth. Only snag is variation in tension caused by expansion and contraction of the cylinder and head plus the thrash caused by the intermittent load of the camshaft.

Camshaft control

The way out A.J. Stevens adopted was the patent Weller tensioner, a length of flat clock spring pulled into the shape of a bow by a tension spring acting as a bow string. The bowed spring presses on the slack side of the chain taking up the play and damping the dreaded thrash.

If there is another snag about the chain-drive scheme it is that the big flat chain case blanks off cooling air from its side of the cylinder barrel and means the cooling fins are close shaved on that side. This is a consideration perhaps with the old cast-iron vintage motors but not one for worry when the layout was revived for the postwar 350 cc 7R Boy Racer AJS with its all-alloy motor.

As seen from the saddle

The machine is, I have said, virtually identical with its pushrod counterpart already tested...would be even more identical with the heavier 1928 pushrod model. The same taut but not exactly comfortable ride determined by the short and sharp action of the twin-side-spring forks. Same narrow, old-fashioned flat tank to encourage the racing

push-bike feel though today there is a separate racing-type oil tank on the seat tube.

Everything about the machine looks disturbingly small and frail. But not fragile as I pointed out before. It is an example of instinctive design on the what-looks-right-is-right principle.

The brakes don't seem as if they would stop a moped but are quite adequate for the low weight of this Ajay. Likewise the gearbox and clutch. If the bike were heavier the simple cork-lined single-plate clutch might not cope nor the puny gears in the tiny three-speed gearbox. In fact the sliding pinion which provide the middle ratio suffers from early dental decay. So the clutch is light and smooth to operate and the handgear change needs but two fingers.

No more breath

However the engine is the thing that matters, especially in the feel and the manner of its going. Rhodes says it is not as fast as his pushrod job...five mph down he says, which puts the maximum of the cammy at about 75 per. In the absence of a speedometer or timing equipment I would not quarrel with this. It lacks the second wind that the pushrod one gets at the top end but at the same time it gains in sweetness and mechanical silence. Feels nicer somehow, more solid, happier when revved. Has the elusive camshaft feel of rotating rather than reciprocating movement.

Plus a more musical though to present-day ears rather too fruity an exhaust note.

Cam profiles

It seems that the Stevens brothers found that fitting the camshaft above the valves did not necessarily make the engine go faster — it was rather the reverse until cam design caught up and provided the longer opening periods to which over-revved pushrod engines had been helping themselves.

After running cammy models in 1927, Jimmy Simpson coming third in the Junior TT, and winning three Continental GPs, AJS reverted to pushrod racers for 1928. Simpson got fastest lap in the Junior but blew up and thereafter the AJS marque always had chain-driven ohc for racing, even on the prewar supercharged V-fours.

Somehow the chain-drive tradition of the cammy Ajays softened the hearts of the Collier Brothers when they absorbed AJS into their Matchless motorcycle concern. Though Isle of Man pioneers themselves they had earlier



(Top) the upper tank rail is exposed by the flat tank. Small kneegrips and accessible toolbox. (Above, and preceding page) Tester Allen in a lakeside brown study

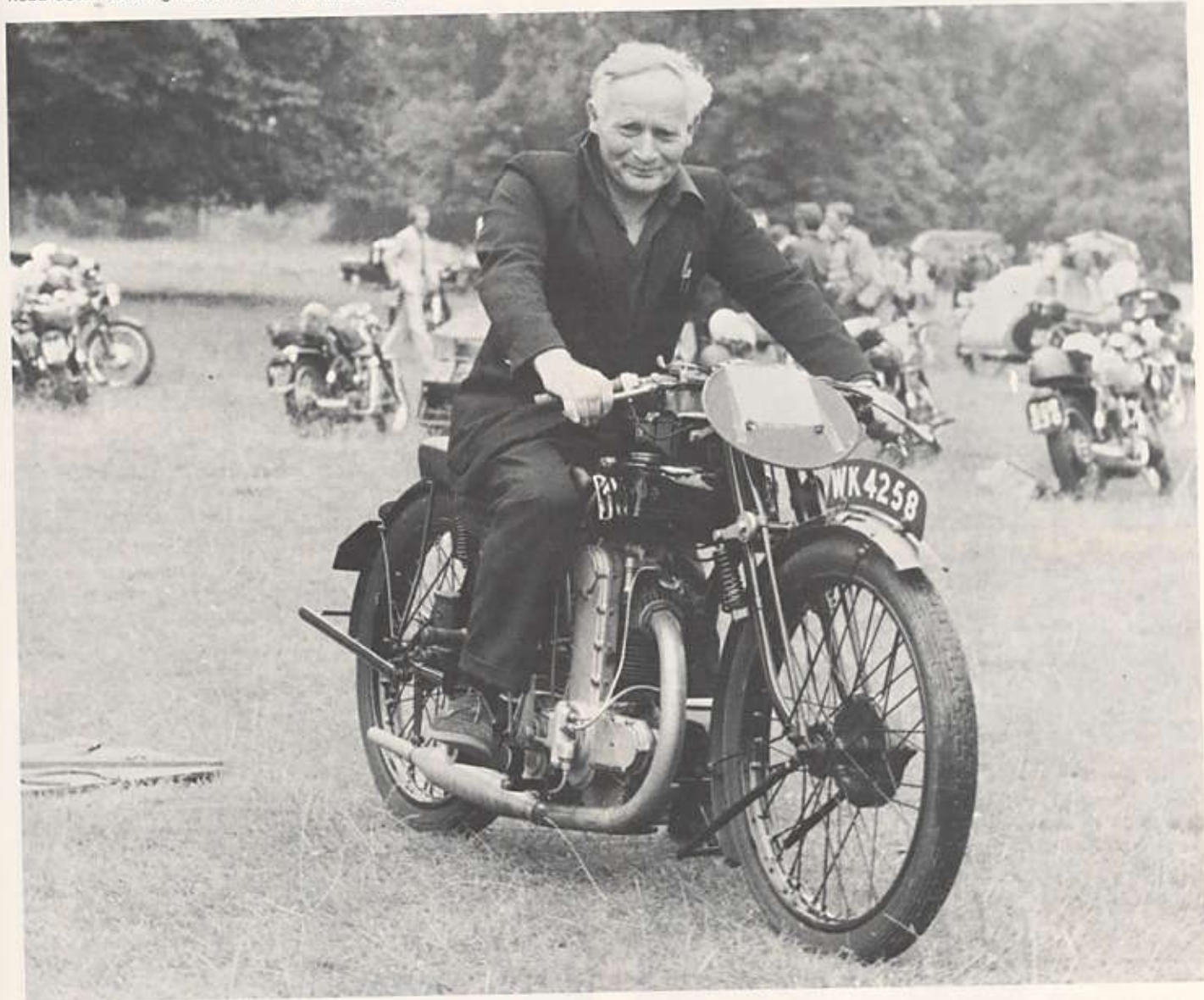
turned against racing. But when Geo Rowley, the most dedicated of AJS riders — he never raced another make — was caught playing truant racing a Cammy AJS at Brooklands, they relented.

The greatest Island success on the vintage camshaft Ajay was Jimmy Guthrie's win in the 1930 Lightweight TT with specially-built never-repeated baby version. The 250 cammy was never seen in a road-race again but many years later

ruled the roost in its class at Brands Hatch when Brands was a Kentish grasstrack.

The chain drive to the camshaft became such an AJS tradition that it would have been unthinkable to use another method and so the postwar AJS the 7R and the G50 Matchless bravely maintained the tradition, it being a layout eminently suited to a single overhead camshaft rather than a double-knocker.

Stranger in the Velocette Owners camp. CEA gives Ivan Rhodes' K7 an airing at a rally at Stanford Hall, near Rugby, home of Britain's largest museum of important motorcycles of which he is co-Curator. Gear lever, here in neutral, operates up for first, down for the two higher ratios. Front forks, with the twin low-mounted springs typical of this marque at that period, are of the Druid type. Pillion rests are more useful as head-down battling irons rather than passenger aids



DATA

Engine: AJS 349 cc aircooled singlecylinder fourstroke. Two overhead valves operated by chaindriven overhead camshaft with straightline rockers. Weller springloaded camchain tensioner. 74 x 81 mm bore and stroke. Roller main and bigend bearings.

Lubrication: Dry sump with external oilpump on camshaft chaincase cover.

Ignition: Chaindriven magneto in front of crankcase.

Carburation: Normally a Special Binks, but AMAC on test machine.

Transmission: AJS three-speed gearbox with tankside hand lever. Close-ratio sliding-pinion gears. Single-plate cork clutch with single clamping spring and hand control. Chain primary and secondary drives with top-run guards.

Frame: Diamond type with upper and lower tank rails. AJS Druid-type girder forks with side springs and built-in friction shock absorbers.

Wheels: Wired rims for 3.00 x 26-inch tyres. Internal expanding brakes. Rear wheel quickly detachable.

Tanks: Flat fuel tank, capacity 2 Imperial gallons. Oil tank on seat tube and holding 3 pints.

Dimensions: Saddle height 28 inches. Handlebar width 29 inches. Weight approximately 240 pounds.

Original finish: All black, including wheel rims and handlebars. Tank black, lined and lettered in gold. Exhaust system and small parts nickel plated.

Performance: On top gear approximately 75 mph. On middle gear 55 to 60 mph. On bottom gear 30 to 35 mph. Fuel consumption 80 miles per Imperial gallon.