

Flat Out

VIC WILLOUGHBY EASILY

Have you ever been haunted by a yellow line? Or a black-and-white line? I'm haunted by both—103 miles of them. My dreams they stretch endlessly through my field of vision from top to bottom, mesmerizing me, mocking me. Broken yellow, broken yellow, broken black-and-white: the sequence never changes. And all the time an inner voice urges: "Down, down, it's only for an hour. So long as you can see those lines you're on the beam."

Baseless dreams? Not a bit of it. Simply the fascinating memory of an exhilarating hour's dash around the 2.82-mile triangular outer circuit at the Motor Industry Research Association's proving ground in the Midlands on a standard, fully equipped sports model—a 592 c.c. Matchless Sports Twin. An hour in which the audacious Matchless from a standing start annihilated 102.926 joyous miles and, from a flying start at the end of the first lap, covered 103.133 miles. And if that doesn't speak volumes for a six-hundred roadster, I'll never tweak another grip.

It is one thing for a roadster to reach a three-figure speed. Another to record a 100 m.p.h. mean of two runs in opposite directions over a short distance. But something quite outstanding to maintain more than 100 m.p.h. for a full hour. Possibly the Matchless I used can claim to be the first fully equipped production model to do so?

It was a bright, dry afternoon but devilishly chilly. And those lines monopolizing my gaze throughout my swiftest hour on wheels were my guides, my friends. Along the straights the broken

yellow kept me on course as, with chin thrust into a patch of Sorbo glued to the tank top and eyeballs swivelled to the very top of their sockets, I peered past the headlamp shell. When eye and neck muscles jibbed at such inhuman treatment I pressed my mouth and nose against the Sorbo and glanced to the left. There to reassure me were the yellow dashes, bright on the black tarmac background, flashing by beneath the handlebar. Softly but clearly above the roar of the wind was a sweet, clean song—a symphony of eager power—the music of 39.5 b.h.p. played at a 6,000 r.p.m. tempo and channelled by the siamesed exhaust pipes through a single silencer.

Suddenly the yellow line would become continuous while the background changed to white concrete. The Matchless was entering a banked turn. For a few seconds the exhaust hum would be forgotten while I lifted my face from the tank top to get a better range of vision for the curve. But you don't crank a model over on the banking the way you would for a full-bore bend on the road—not if you want to stay out of trouble. Gently and precisely, like a tightrope walker, you tilt it a trifle as the track falls away to the left and rises on the right. A degree too much and you must "hold off" for the remainder of the curve like a fighter pilot using top rudder to keep the nose on the horizon during a tight turn.

Each time the Matchless hit the concrete another line whipped into view, a broken line with alternate dashes of black and white. Painted on the turns only and half way between the yellow line

and the top rim of the banking, it appeared under the twistgrip. Together with the solid yellow line it prescribed my chosen path: above the yellow, which marks the border of the high-speed circuit, but not above the black and white—not at a mere 100-odd m.p.h. anyway.

Strangely the Matchless felt faster in the turns, though the rev-meter belied the impression. Why the delusion? Partly because centrifugal force pressed me harder on the machine and the machine harder on the track, partly because of the tilting of both track and Matchless, but mostly, I think, because of the way the concrete seemed to sweep under my wheels from above—as if I were rocketing up a slope of ever-increasing gradient.

Half way round the south banking, indeed, I repeatedly felt the Matchless slow a trifle and the rev-meter reading eased back to 6,000 r.p.m. We were heading slap into a gusty east-nor'east wind and speed was down to 102 m.p.h. There it stayed for three-quarters of a mile along the next straight. Once or twice, as the wind strengthened, we slowed to a level 100 m.p.h. But on the next curve but one the wind was astern. Briefly the engine speed mounted to 6,200 or 6,300 r.p.m., giving 107 to 108 m.p.h. (though the speedometer tended to boast rather more). So it went on for 38 laps except for a momentary flutter of anxiety on the last two. Along the back straight the engine hesitated, then coughed a time or two before resuming full song. I groped for the petrol taps. They were wide open but fuel was getting low and occasionally starving the carburettor.

When Bob McIntyre told me the story of his wonderful record-

shattering 141 miles in an hour at Monza last November he left an overall impression of mental boredom and physical strain. My aims were more modest. After all, the fleetest six-hundred roadster is a vastly different weapon from a streamlined racing Gilera four. And the M.I.R.A. bankings are silky smooth compared with Monza's. But an hour is an hour in any country when you are screwed up like a ball to cheat the wind, and I feared my hour of full chat, like Bob's, would seem the longest ever. To my utter amazement it seemed more like 20 minutes.

In the first place, I had no need to fight the Matchless as Bob did the Gilera. Then there was the occasional interest of passing

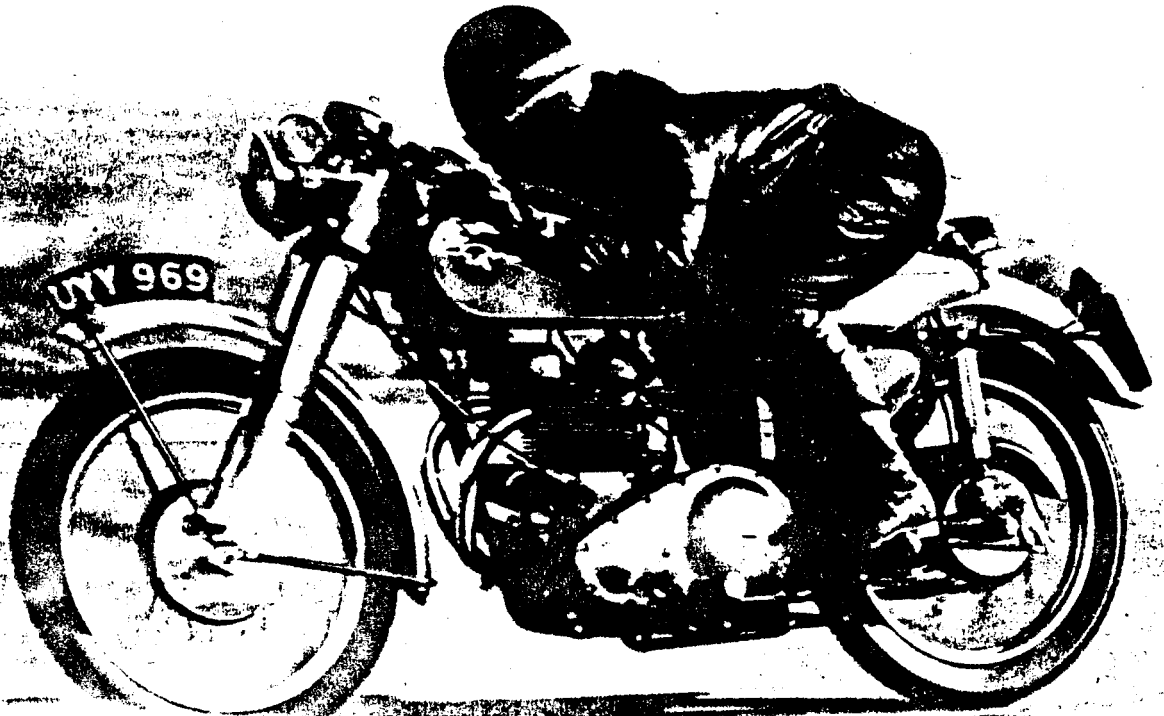
Accent on time. Jack Williams consults a brace of stop-watches while Sidney Pett uses a wrist watch. Alfred Simmons, resident Dunlop technician at M.I.R.A. (right), and his assistant, Albert Garland, just wait



all the Way

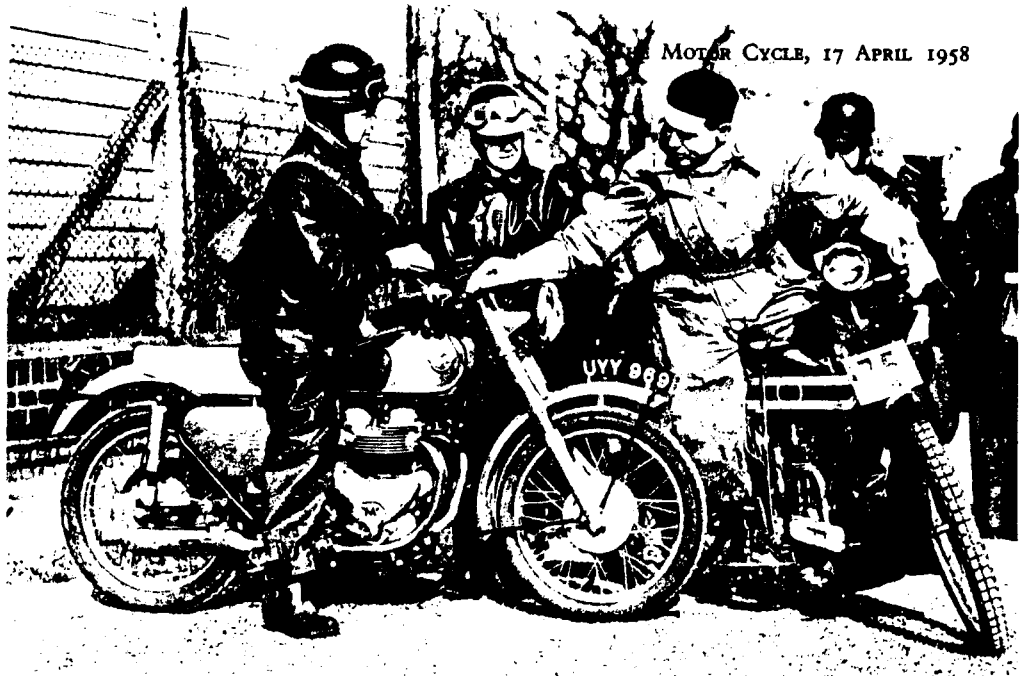
COVERS OVER 100 MILES IN AN HOUR WITH A FULLY EQUIPPED MATCHLESS SPORTS TWIN

At top speed on one of the straights, Vic Willoughby squints past the headlamp to maintain course alongside a broken yellow line





In the warmth of his car, international timekeeper Stan Nicholls checks the Sports Twin's progress. Right: Ancient and modern. Before the start of the Pioneer Run, the author and his wife chat with Harry Louis who rode a 1911 A.J.S.



other traffic, for the M.I.R.A. circuit is no closed race track but part of a comprehensive proving ground for the motor industry. Indeed, it was because of the high density of traffic in the morning (coupled with the fact that passing is prohibited on the bankings) that I delayed my ride till lunchtime. Again, the bankings are of different lengths (up to a quarter-mile) and so provide a mite of variety. And of the straights one is half a mile long and flat while the other two measure about three-quarters of a mile and undulate a trifle.

Another mild distraction was the bump—where the track has been disturbed for cable laying near the end of one of the longer straights. It was fun to wait for the Sorbo pad to jolt my chin without my seeing the bump in advance. A long, slow front-fork pitching was set up but faded out just before the south turn. All those things helped to keep boredom at bay, as did my attempt to keep count of the laps—I was one out in the hour.

But the biggest help of all was a signal every three laps. In a bay part way down one of the long straights, international timekeeper Stan Nicholls worked his Swiss chronometers watched by A.M.C. development engineer Jack Williams and racing mechanic Jack Emmott. From information supplied by Nicholls, Emmott

Cheeks distorted by the wind and head raised a trifle for vision on the banking



showed me the growing improvement on our minimum target of a 100 m.p.h. average from a standstill.

It was coming up to one o'clock when Nicholls motioned to me with one finger and I dropped the Matchless clutch. Not a rearing, transmission-caning getaway. Just an urgent, full-bore start. "Change up at 6,500 r.p.m." was Williams' final advice. The changes were deliberate rather than super-slick for we had over-tightened the twistgrip friction adjuster to prevent the throttle from easing back. Second gear was notched at 45 m.p.h., third at 66 m.p.h. and top at 92 m.p.h. From that instant the throttle stayed wide open till the 38 laps were done.

The Sports Twin was already at full gallop when we swept on to the first banking and the standing start cost us 10 seconds. Time for the opening lap was 1m 48s—equal to a speed of 93.9 m.p.h. It took the Matchless only three laps to fetch the average up to the magic ton. Another three laps and Emmott's signal read "102." From then on it was "2.2," "2.4," creeping up eventually to "2.9" and punctuated by "j" (time), "j," "7 laps to go" and "last lap."

Times for the flying laps were remarkably consistent. The majority took 1m 38s dead (103.5 m.p.h.) and most of the others deviated from that figure by only the odd fifth of a second. Fastest of all was 1m 37.6s—103.9 m.p.h. The overall consistency has nothing to do with judgment. It merely reflects the fact that the Matchless was on full chat from start to finish. The slight inconsistencies were due to fluctuations in wind strength from 10 to 20 m.p.h. Only the last two laps failed to conform to the general pattern: they took 1m 39.8s and 1m 40.2s as a result of the short bouts of fuel starvation.

It was not until the finish that I realized how cold I was. But there was absolutely no tiredness—the soft springing of the Matchless and the smooth M.I.R.A. surface saw to that. I expected to feel stiff after an hour's crouching but the only ache was a mild one inside the thighs and that soon vanished. Shades of the days of solid frames and girder forks!

And how did the Matchless finish? As clean as a whistle from stem to stern, save for a slight smear of oil around the filler cap and the expected spatter of grease thrown off the driving chain on to the rear-wheel rim. The Lucas dynamo was charging normally, the note from the horn was as strident as ever and all the lights worked except that the lead to the rear lamp was broken inside the bulb holder. There was no spillage from the battery, nothing was loose and the tool kit and tyre pump were still in place. The mileage recorder, however, had notched up nearly 10,000 miles.

The engine had consumed about three gallons of petrol (Shell premium) and a pint of oil (Mobiloil D). Wear of the Dunlop racing tyres (3.00 x 19in front, 3.25 x 19in rear) was negligible. Indeed, apart from topping up the tanks, all we did to the Matchless before it was ridden back to London was to slacken the twistgrip friction adjuster and turn the handlebar the right way up (we inverted it for the one-hour dash to give me a more com-

comfortable arm position). Not even the plugs (K.L.G. FE 100s) were changed. Next day I ran the rule over the Sports Twin before using it to get out and about at Easter, but all I could find to do was to adjust the rear chain. Primary chain setting was spot on and the chaincase oil level correct.

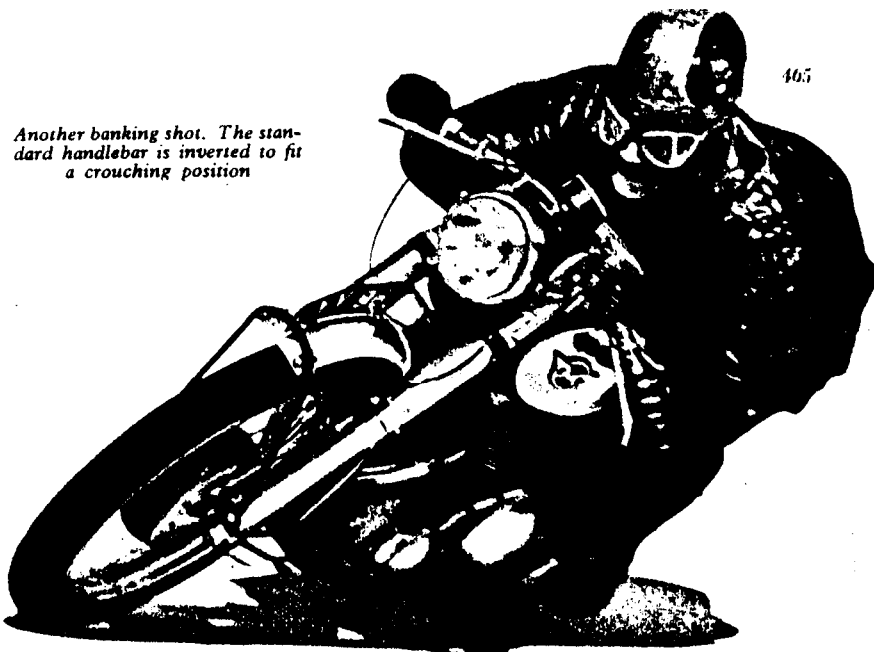
I can hear the cynics bleating: "Come now; this is too good to be true. What was special about UYY 969?" The answer is "Nothing." In fact, I rode it from south London to M.I.R.A. the previous afternoon and crossed the great metropolis diagonally when it was choc-a-bloc with rush-hour traffic. True, the gearbox sprocket was one tooth larger than standard, thus raising top-gear ratio from 4.64 to 1 to 4.42 to 1. But that was merely to prevent the engine from over-revving when I was flat down on the tank top. Oh, sorry. I asked Jack Emmott to lower the pillion foot-rests 1½ in by welding on extensions to give me a wider hip angle when using them.

The large sprocket raised bottom gear from 11.84 to 1 to 11.27 to 1. But so tractable is the engine that, even with a pillion passenger, there was nothing tricky about the getaway. I am the first to agree, however, that the standard gearing is better for ordinary fast road work. That gearing was fitted when I first borrowed the Sports Twin in mid-March. I used it for the cross-London journey from home to office, for following Harry Louis, the Editor, on his 25 m.p.h. A.J.S. in the Pioneer Run to Brighton and for fast touring. And I must say it impressed me tremendously from the start.

I half expected a rorty, clattering device but found the Sports Twin to be quiet mechanically; and the exhaust note, though healthy, had the pleasant tone characteristic of siamesed pipes. Starting was dependable, even on full advance, and the engine idled with the best. But its most exciting trait by far was its eager response to throttle opening: the slightest movement of the twistgrip brought instantaneous results. From tickover right up the scale the pulling power was extraordinarily beefy. It was obvious right away that cylinder filling and combustion were very efficient at all speeds. So it came as no surprise to learn that the chief avenues of Jack Williams' development of the engine have so far been cam and port shapes with the joint aims of enhancing volumetric efficiency and induction turbulence.

The Sports Twin was, of course, introduced last year primarily for the American market and was not released on the home market until the autumn. Basically the model comprises a scrambler frame and a pepped-up G11 engine. Tyre equipment is optional according to the purpose for which the model is required. A quickly detachable lighting set is available. Compression ratio is 7.8 to 1 and both cylinders are fed from a single Amal Monobloc carburettor. The camshaft is of G11 pattern "rubbed a little

Another banking shot. The standard handlebar is inverted to fit a crouching position



here and there." (The G45 racing camshaft is a flop in the muffled Sports Twin engine.)

When Jack Williams first turned his attention to the Sports Twin engine it was producing 34 b.h.p.—on separate exhausts. Apart from saving weight and improving transmission accessibility, the siamesed layout bumped up the output by 2.5 b.h.p. Work on the inlet ports and cams gave a further 3 b.h.p. and enabled ignition advance to be cut back from 37 degrees to 34. Peak power occurs at 6,000 r.p.m. but even at 6,500 r.p.m. the output drops by only half a horsepower. Specific fuel consumption is 0.55 pints per b.h.p. hour at full power and is below 0.6 pints from 4,250 to 6,500 r.p.m.

But Williams is shrewd as well as meticulous. He knows the value of low-speed torque. Speaking of roadsters and racers alike, he says: "I would always trade 2 b.h.p. at the top for one at the bottom." So you may be sure the 39.5 b.h.p. peak is only part of the Sports Twin story. He likes his power curves "really fat in the middle." And, after my short acquaintance with UYY 969, so do I.

With obvious sincerity Williams protests that he has only just got to grips with the Sports Twin and development continues apace. Further progress should be well worth watching!

(N.B. Immediately after the Easter holiday our Technical Editor, Alan Baker, took the Matchless to the factory where he acted as witness while the engine was stripped down and inspected. "Nitor" comments on his findings on pages 484 and 485.)

Below left: The 592 c.c. Matchless Sports Twin is a high-performance yet tractable roadster. This picture was taken during the ride from London to the M.I.R.A. proving ground. Below right: Bert Willow checks tyre pressures before the start

