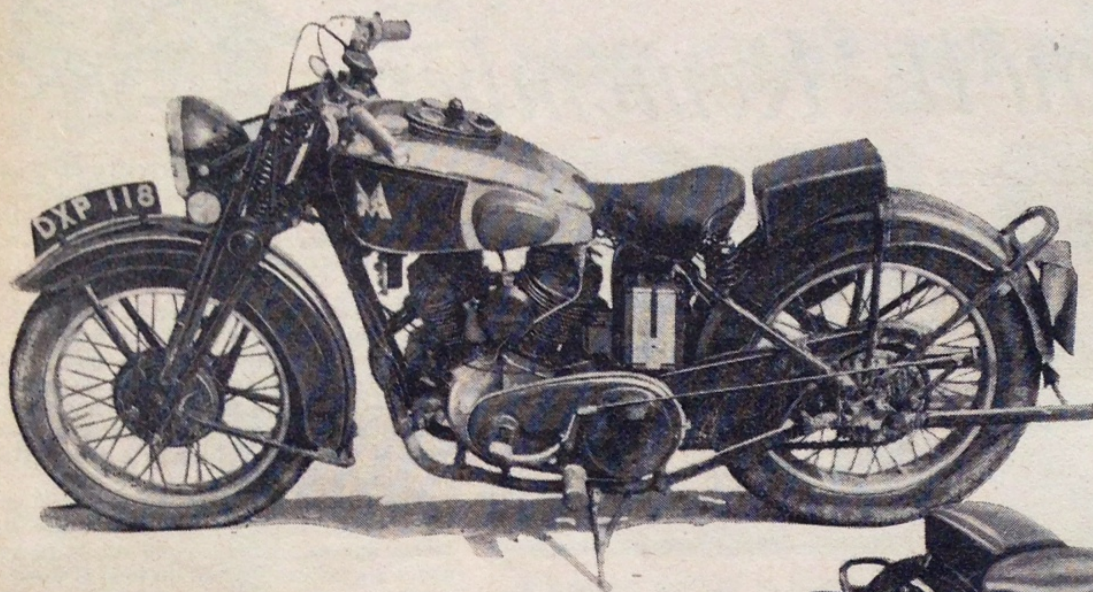


The 990 c.c. "Sports"



(Left) The prop-stand in action. The standard equipment includes an air cleaner, voltage-control unit and a four-gallon petrol tank

(Below) It is only the twin-cylinder engine that makes the Matchless look a big machine, for in other dimensions it compares favourably with the average 500 c.c. model



IN the past big-twin machines have been regarded by many riders as suitable only for sidecar work, and, in fact, they have usually been designed with that purpose in view. The Matchless Company, however, has produced for 1937 a 990 c.c. machine that has been designed primarily for solo riding—indeed, it has a wheelbase that is shorter than that of many 500 c.c. machines.

As a result of the short wheelbase the machine is extremely compact, and with the new large petrol tank and neat exhaust system it is undoubtedly a very good looker. And, apart from appearance, the Model 37 X Matchless is on a par with many modern five-hundreds as regards road-holding and steering.

As soon as the machine is on the move the rider forgets that he is astride a heavyweight machine. The Matchless could be ridden feet-up at speeds well below the register of the speedometer without any juggling with the handlebars. At slightly higher speeds the steering was comfortably light, but even when the machine was being cruised at over 60 m.p.h. it did not become so light as to necessitate use of the damper.

Effortless Cornering

At all times the machine held the road well. Throughout the test the fork dampers were done up slightly; without any tension on the dampers the forks tended to clash on rough going.

The excellent road-holding of the Matchless probably accounted to some extent for the effortless way in which it could be cornered. The big machine could be laid well over on fast corners without any sign of snaking or wandering.

On wet roads the Matchless was perfectly stable. Wet tramlines caused the rider no tremors, and on none of the slippery surfaces encountered was a skid experienced. On particularly greasy surfaces the steering tended to become rather light, but this was more a feeling than a fact, for the model never showed any tendency to get out of control.

As regards the brakes, the front one was extremely powerful and could be used at full pressure on dry roads without locking the wheel, while the rear one was well up to its work and was as smooth as a rear brake should be. Criticism could be levelled at the position of the rear brake pedal, which is such that the rider has to remove his foot from the rest to apply the brake. With both brakes used together the machine could be brought to rest from 30 m.p.h. in 28 feet—a figure that is truly remarkable.

Except that the petrol tank is rather wide, the riding position is nearly ideal for fast and comfortable cruising. Certainly for a tall rider the saddle, footrests and handlebars are very well placed, and even a long-legged rider can grip the knee-grips. The handlebars are rather higher than usual, but the riding position as a whole is one that inspires confidence and invites the rider to corner neatly and with absolute safety.

All the controls are well placed. The long brake and clutch levers come easily to hand, and the ignition lever could be used without the rider removing the hand from the bar.

The four-speed gear box was reasonably silent in the intermediate gears, and the clutch showed no sign of drag. Actually, the clutch tended to stop too quickly

Tourist" Matchless

if the lever was withdrawn fully. All that was necessary to make perfect changes up or down was to ease the clutch slightly while moving the gear lever.

So much for the cycle parts of the machine. The engine proved just as intriguing. A couple of hearty kicks would always start the engine from cold, and when the engine was warm a lazy dig on the kick-starter, using the exhaust lifter, was sufficient.

As is often the case with a vee-twin engine, the idling was not perfect, but the engine would run smoothly at low speeds with the ignition retarded. And with the throttle stop adjusted correctly the engine never stalled or stopped involuntarily. Until the engine was warm, use had to be made of the air lever, and it was found advisable to run with the air slide only half open for the first few miles.

When the engine was warm its performance was delightful. It would pull the machine along in top gear (4.3 to 1) on full advance at less than 20 m.p.h., and from this speed could be accelerated hard without a trace of snatch. With the ignition retarded the model would run smoothly at 10 m.p.h. At speeds of 30 m.p.h. and over it was unnecessary to use the gear box, for the acceleration was far better than that of nearly all other types of vehicle.

If the gear box was used the acceleration was little short of colossal, and from a standing start

(Below) In spite of the short wheelbase all the components are mounted neatly in the frame without crowding



PERFORMANCE DATA.

Gear.	Maximum Speeds.	Acceleration	
		15-30 m.p.h.	20-50 m.p.h.
First (11.4)	34	3 secs.	—
Second (6.7)	51	3½ secs.	7½ secs.
Third (5.4)	67	4 secs.	8 secs.
Top (4.3)	80.3	5 secs.	9½ secs.

Speed attained over ¼ mile through gears from standing start: 70 m.p.h.
Braking from 30 m.p.h. in top gear: 28 feet.
Fuel consumption at a maintained 40 m.p.h.: 45.6 m.p.g.
Minimum non-snatch speed in top gear: 10 m.p.h.

a speed of 70 m.p.h. was reached in a quarter of a mile. Accelerating from 15 to 30 m.p.h. in top gear took only five seconds, and from 20 to 50 m.p.h., 9½ seconds. Between the same speeds in third gear (5.4 to 1) the times taken were 4s. and 8s. respectively.

With the rider "lying down" the maximum mean timed speed was 80.3 m.p.h. At this speed the speedometer was reading very slightly slow. Maximum speeds attained in second (6.7 to 1) and third gears were respectively 51 m.p.h. and 67 m.p.h. Petrol consumption at a maintained 40 m.p.h. worked out at 45.6 m.p.g.

The engine proved exceptionally quiet both mechanically and as regards the exhaust. On one occasion during the test the rear piston of the almost new and somewhat tight engine dried up. The piston was eased and no further drying-up was experienced.

Throughout the test the power unit remained absolutely free from external oil leaks. This, combined with the excellent protection afforded by the heavily-valanced mudguards, kept the machine free from excess road dirt and made it easy to clean down after a wet run.

Finally, mention must be made of the very efficient prop-stand. It can be operated by one foot and flies up again immediately the machine is brought back to the vertical; moreover, it can be used either up or down the road camber. The stand can be said to be typical of the machine as a whole, for the Model 37/X comes in that aristocratic class of motor cycles that are "riders' mounts."

SPECIFICATION

TYPE: "Sports Tourist"—Model 37/X.

ENGINE: 85.5 × 85.5 mm. (990 c.c.), twin-cylinder, side-valve Matchless, with dry-sump lubrication and total enclosure of the valve gear.

CARBURETTOR: Amal with twist-grip control.

GEAR BOX: Burman four-speed, with positive-stop foot gear change.

TRANSMISSION: Chain, with primary oil bath and rear chain guard with back plate.

IGNITION: Lucas magneto.

LIGHTING: Lucas 6-volt, with voltage control. Separate dy-

namo, with chain-drive running in an oil bath.

FUEL CAPACITY: 4½ gals.

TYRES: Firestone: Front, 3.25—19 (26 × 3.25 in.); Rear, 19—4.00 (27 × 4 in.).

GROUND CLEARANCE: 5½ in.

WEIGHT: 453 lb. in full touring trim.

PRICE: £74 15s. with full electrical equipment and speedometer. (Pillion seat extra.)

MAKERS: Matchless Motor Cycles (Colliers), Ltd., 44/45, Plumstead Road, London, S.E.18.