Zebra Crossings

Marked Reduction in Accidents to Pedestrians

INTERESTING facts are disclosed about zebra crossings and accidents to pedestrians by the Department of Scientific and Industrial Research. When zebra crossings were introduced last autumn, three important policy changes came into effect. In the first place, the road surface at all uncontrolled pedestrian crossings was marked with alternate black and white stripes—the "zebra" marking; secondly, the number of uncontrolled crossings was reduced; thirdly, the legal precedence of pedestrians at light-controlled traffic intersections was abolished.

Changes in road behaviour by both motorists and pedestrians were immediately apparent. More motorists gave way to pedestrians at the uncontrolled (zebra) crossings. At three crossing which had been previously observed (in 1949) the proportions of motorists giving way to pedestrians increased by 60 per cent, 400 per cent, and 800 per cent respectively. Further, it was noted that more pedestrians used the zebra crossings.

The number of accidents to pedestrians in each of the first two months after the policy changes was higher than in the corresponding months of the previous year. In the third month—that is, January, 1952—the number of casualties was almost the same as in January, 1951. During succeeding months, up to July, 1952, pedestrian casualties were fewer than in the corresponding months of 1951. The average reduction during these succeeding months—February to July inclusive—was 8 per cent for all pedestrian casualties and 14 per cent for fatalities.

It is thought that the increase in casualties in the first two months after the introduction of zebra crossings resulted from two main causes. In the first place, traffic density had increased and rainfall was heavier (November, 1951, was the wettest month in Great Britain since 1869, and statistics show that rain in winter is associated with a higher rate of pedestrian accidents). Secondly, there was some initial confusion in the minds of road users as to their rights and duties in relation to the new policy. However, the subsequent large and continuing reduction in casualties cannot be explained by changes in weather conditions or by changes in the traffic density. It is possible that better street lighting is a factor, bearing in mind that lighting restrictions were eased during last winter.

The economic saving to the nation resulting from the reduction in pedestrian accidents is clear when it is realized that an eight per cent decline in casualties is between two and three per cent of all casualties from road accidents, the total cost of which has been estimated as £100 million a year. It is realized that, for a short period after the introduction of zebra crossings, there was a marked increase in "damage only" accidents, in which one vehicle, in stopping rapidly to give way to a pedestrian, was hit by a following vehicle. The "national" cost of these accidents was relatively small compared with the estimated savings by the reduction in pedestrian casualties mentioned earlier.

A.B.J. Programme

One Cyclemotor—the Auto-Minor—a Motor Cycle and an Autocycle for 1953

THE A.B.J. range of lightweights will be continued without any change for 1933. As at present, chief emphasis will be on the Auto-Minor, the new 49 c.c. two-stroke cyclemotor announced in *The Motor Cycle* for July 31 last. Designed for front-fork mounting, the engine has a bore and stroke of 42 × 63mm and a compression ratio of 6 to 1. The entire engine unit, complete with its half-gallon-capacity petroil tank and quickly detachable shield, weighs 20lb, and is grouped about the steering head.

The cylinder of the cyclemotor engine is manufactured in cast iron, it is deeply spigoted into the crankcase and lies horizontally, with the head facing forward. The cylinder head is a light-alloy die casting; it incorporates a compression-release valve which discharges through a drilling into the exhaust port. The control for the compression-release valve is one of the only two which are fitted; the other is that for the throttle.

Porting in the A.B.J. engine is so designed that the transfer charge is given a forward and upward swirl into the combustion chamber. In order to improve the mixture flow, separate brass deflectors are fitted at the outlets of the transfer ports. Carried on a fully floating gudgeon pin and a plain bronze small-end bearing, the die-cast, flat-top piston is in low-expansion alloy and fitted with two compression rings in the normal way. The connecting rod is a steel stamping in EN38 (65-ton nickel steel).

Exceptional robustness is a feature of the lower half of the engine. A needle roller big-end bearing is employed. Drop-forged in EN8 carbon steel, the crankshaft is carried in a 17mm diameter ball-bearing and a needle-roller bearing both of which are fitted with compressed felt seals in a steel pressing. The carborundum roller which drives the front tyre by friction, is carried on a steel sleeve, socket-clamped to the crankshaft by Allen screws.

An Amal single-lever carburettor which incorporates an air filter with a rotating shutter is mounted direct to the induction port. Ignition and lighting are by means of a Miller flywheel magneto. A pancake-type expansion chamber is mounted immediately beneath the engine unit.

The unit can be locked in either the drive or the disengaged position by means of a self-locking cam operated by a shifting lever fitted to the rear of the crankcase.

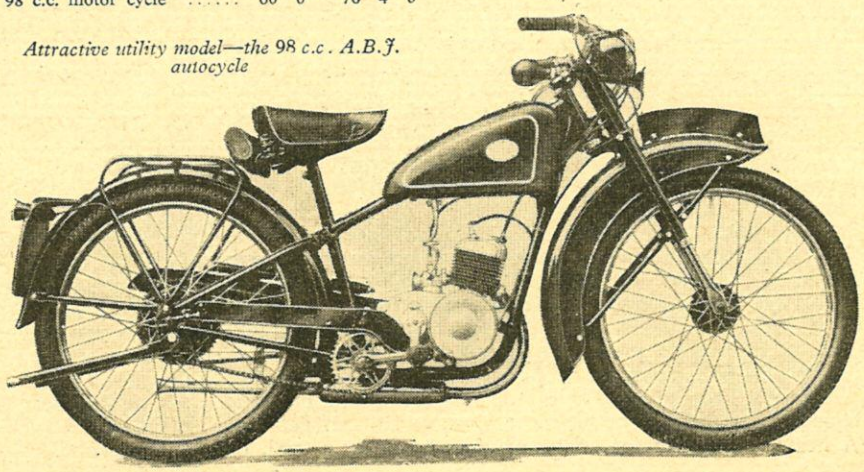
A.B.J.s also produce a cycle which has been specially designed for use in conjunction with the power unit. Special features of the machine are oversize tyres, heavy gauge spokes and internal expanding hub brakes.

The other two models in the A.B.J. programme are the 98 c.c. lightweight motor cycle and the 98 c.c. autocycle. In the case of the motor cycle, the engine is a Villiers Series 1F unit incorporating a two-speed gear; for the autocycle, power is provided by a Villiers Mark 2F engine. For ease of production, both models have much in common. Both frames are of the full-loop type, and both employ an identical telescopic fork which incorporates two separate springs in each leg; one operates on compression and the other on rebound. The total weight of each machine is stated to be in the region of 140lb.

The makers are A. B. Jackson (Cycles), Ltd., 300, Icknield Port Road, Birmingham, 16. Prices (in which total price includes Purchase Tax, payable only in Great Britain) are are follows: —

	Basic Price £ s	Total Price £ s d
Auto Minor (and single-speed bicycle)	39 0	41 18 4
Auto Minor (with bicycle fitted with three-speed hub)	40 5	43 9 2
98 c.c. autocycle	52 10	66 13 6
98 c.c. motor cycle	60 0	76 4 0

Attractive utility model—the 98 c.c. A.B.J. autocycle



New Montesa

A NEW 125 c.c. Montesa two-stroke is announced from Spain. The new model is of the sports type, closely resembling the well-known racing machines. As on the racers, the front fork is extended downward below the wheel spindle; the downward extension houses the oil reservoir for the hydraulic damping. The frame is of the full-loop type and incorporates plunger-type rear springing.

Bore and stroke of the engine are 51.5 × 60 mm, giving a stroke-to-bore ratio of 1.165 to 1. Power output is said to be 5 b.h.p. at 5,400 r.p.m. The compression ratio is given as 7.2 to 1. In appearance, the cast-iron cylinder closely resembles that used for the racing two-strokes, and it has the carburettor mounted on its left-hand side. Ignition and lighting are by flywheel magneto. Transmission is through a primary chain enclosed in a light-alloy, oil-bath chaincase, and a three-speed gear box with rocking-pedal control. The engine-to-gear box reduction ratio is 2.37 to 1 and the gear box to rear wheel reduction is 3.36 to 1.

Features of the Montesa are light-alloy, conical-type brake drums; brake shoe dimensions are 22 × 125 mm; fuel capacity is 12 litres (2.64 gallons). The wheelbase is 1,260 mm (50½in). Saddle height is 740 mm (29in). Ground clearance is 190 mm (7½in). The total dry weight is given as 74 kg (159.17 lb).