

# **BL Motorcycles Ltd**

*Professional Workshop Manual - English Translation*

## **MZ - MZ\_ES\_175\_250\_1957\_Manual\_de\_reparatie**

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**FOREWORD** The motorcycles from the state-owned motorcycle factory in Zschopau are manufactured using the best possible materials and according to the latest design guidelines. MZ motorcycles are known as economical and reliable motor vehicles. This constant operational readiness naturally depends on regular, professional monitoring as well as proper maintenance and careful care.

The factory is interested in ensuring that all motorcycles built in Zschopau remain in good and reliable condition for a long time for their owners. With the help of the extensive network of authorized workshops, it is possible to maintain the value of every MZ motorcycle for a long time through professional repairs using original spare parts.

Despite proper maintenance and compliance with all regulations issued by the factory, repairs will be unavoidable. This repair manual is intended to help the authorized workshops to work properly, quickly and with the least amount of time on the most important repairs that arise. It should also avoid repeat repairs, which, in addition to renewed costs for the customer, require another need for spare parts. The use of special tools for installing the original spare parts is particularly important when repairing MZ motorcycles. With the help of these tools, it is possible to carry out the work with minimal time and maximum precision. Every authorized workshop must endeavor to work only with these special tools, some of which can be made themselves. This repair manual should be a particularly good aid to our authorized workshops in training young talent. Every member of an authorized MZ workshop must be aware of the important task that falls to them within the framework of our overall economy and in the preservation of valuable national property. He should always remember that through his perfect work he complements the efforts with which designers, technicians and workers of the state-owned industry built the vehicles that are entrusted to him for repair. Repair manual for MZ motorcycles ES 250/175 <http://www.mz-b.de/miraculis/aw/mz/text/es250r/es250rep.html>

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### 1 General Description

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With the two vehicle types ES 250 and ES 175, new paths have been taken in terms of engine and chassis design at the Zschopau motorcycle factory. With these two machines, motorcycles have been created that will conquer a large circle of MZ friends at home and abroad thanks to their compelling driving characteristics and good mechanical performance. During the development of these machines, attention was paid to manufacturing according to the most modern design features. The greatest possible driving comfort should be offered for the driver and passenger. In addition, an attempt was made to create a partially faired machine with the ES 250. Thanks to the wide front fender and the fairing of the rear part of the chassis, the users of the machine are largely protected from dirt. The adjustable spring hardness of the front and rear shock absorbers, adjustable by means of a ring adjusting nut, makes it possible to select the correct spring hardness for solo, passenger or sidecar operation.

### Picture 1. ES 250 (from left) Repair manual for MZ motorcycles ES 250/175

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### Picture 2. ES 175 (from right)

operation. The large spring travel of the shock absorbers - 142 mm at the front and 115 mm at the rear - gives the vehicles a safe road holding and allows full use of the available engine power even in the worst road conditions.

The robust two-stroke single-cylinder engines operate on the principle of reverse scavenging. The power is 14.5 HP for the ES 250 and 10 HP for the ES 175, at a speed of 5000 rpm in each case. These engine power outputs allow speeds of 114 km/h for the ES 250 and 95 km/h for the ES 175. The cylinder body, which is made of light metal, encloses the cylinder liner made of gray cast iron.

The split engine housing accommodates the crank mechanism in its front part and the gearbox in the rear part. The gearbox has 4 gears and is operated with the left-hand foot shift lever. The gears are constantly engaged. The gears are shifted by moving the gear wheels with the help of a cam roller and shift forks. This brings claws into ring grooves and shifts the individual gears.

New is the fixed headlight, which together with the fuel tank and the rear fairing of the motorcycles creates a harmonious line. The reflector of the headlight is adjustable to change the height of the light beam under heavy load. The generously sized central brakes with a diameter of 160 mm offer maximum safety. The lining of the brake shoes is glued on using a special process developed by Cosid. By eliminating the riveting of the brake linings, maximum use of the available braking surface is achieved. The machines are equipped with 16" wheels.