

## **MZ - MZ\_ES\_175\_250\_Manual\_de\_intretinere**

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Dear MZ Friend! Please do not put this operating manual aside unread, assuming you already know everything in it. Most people are familiar with vehicle technology these days, but even an old motorcycle veteran can still learn something from time to time!

For four decades, motorcycles have been built in Zschopau. Therefore, all the prerequisites are factory-provided so that your vehicle is reliable and safe to operate - whether it remains so now depends on you. This does not mean that you should treat your ES like a raw egg, but if you follow what we recommend below regarding breaking in, correct operating fluids, maintenance and care, you will find that your ES is indestructible. Therefore, take our advice to heart, your ES will thank you for it! We wish you a good journey!

VEB MOTORRADWERK ZSCHOPAU

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Image 1. ES 175/2 - ES 250/2

- 1. Technical Data
  - 1.1. Engine

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ES 175/2 ES 250/2

Operating Principle Two-stroke reverse scavenging Two-stroke reverse scavenging

Cooling Type Air (Wind Blast) Air (Wind Blast)

Number of Cylinders 1 1

Stroke/Bore 65/58 65/69

Displacement 172 cm<sup>3</sup> 246 cm<sup>3</sup>

Compression Ratio 9:1 8.5:1

Power at 5500...5600 RPM 13.5 DIN HP = 9.9 kW 17.5 DIN HP = 12.9 kW

Max. Torque 1.85 kpm at 4800 RPM 2.5 kpm at 4500...4700 RPM

Lubrication Mixture Lubrication 33:1 (Hyzet Oil) Mixture Lubrication 33:1 (Hyzet Oil)

Connecting Rod Bearing

(on Crank Pin and Piston Pin) Caged Needle Bearing Caged Needle Bearing

Crankshaft Main Bearing 2 Bearings 6305 c 003 f 2 Bearings 6305 c 003 f

1 Bearing 6302 1 Bearing 6302

Lubrication of Crankshaft Main Bearings through Transmission Lubricant through Transmission Lubricant

Fuel VK 'Normal' (OZ 79) VK 'Normal' (OZ 79)

## 1.2. Carburetor

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ES 175/2 ES 250/2

BVF 26 N 1-1 (Starting Carburetor) BVF 28 N 1-1 (Starting Carburetor)

Carburetor Values:

Orifice in mm 26 28

Main Jet 100 107

Needle Jet 65 67

Part Throttle Needle No. K2 with 6 Notches K1 with 6 Notches

Needle Position from Above 4...5 \*) 4...5 \*)

Starting Jet 90 100

Idle Jet 40 40

Idle Air Screw 2...3 Turns Open 2...3 Turns Open

Air Filter Dry Air Filter in Intake Noise Suppressor

\*) Always Observe the Spark Plug Appearance!

## 1.3. Electrical System

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ES 175/2 ES 250/2

Ignition Battery Ignition with Centrifugal Governor Battery Ignition with Centrifugal Governor

Ignition Timing 3.5 mm BTDC, with Fully Extended Flyweights 3.0 mm BTDC, with Fully Extended Flyweights

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Breaker Contact Gap 0.3 mm 0.3 mm

Spark Plug Isolator M 14/260 Isolator M 14/260

Electrode Gap 0.6 mm 0.6 mm

Alternator DC, 6V, 60W, briefly 90W DC, 6V, 60W, briefly 90W

Charging Indicator Lamp (Red) in Speedometer (Red) in Speedometer

Regulator RSC 60/6, under the Left Side Panel RSC 60/6, under the Left Side Panel

Battery 6V, 12 Ah (Lead-Acid Flat Battery)

Ignition Coil 6V, under Left Fairing

Headlight Fixed - Light Emission 170 mm

Dimmer Switch on Handlebar Left

Tail Light Combined with Light Emission 95 mm

Brake Light Contact on Rear Brake Lever

Turn Signals on Both Sides at Handlebar End (Switch on Handlebar Right)

Flasher Relay in Headlight Housing

Horn under Fuel Tank

High Beam Activated by Push Button under Dimmer Switch

## 1.4. Transmission

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ES 175/2 ES 250/2

Clutch on the Left Crankshaft Stump - in Oil Bath (5 Friction Plates with Cork Portions)

Shifting Foot Shifting

Number of Gears 4 4

Gear Ratios

1st Gear 2.77:1

2nd Gear 1.63:1

3rd Gear 1.23:1

4th Gear 0.92:1

Neutral Indicator Electric Indicator Lamp (Green) in Speedometer

## 1.5. Power Transmission

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ES 175/2 ES 250/2

Gear Ratio Engine-Transmission 2.43:1 through Helical Spur Gears 28:68 Teeth

Gear Ratio Transmission-Rear Wheel 2.65:1 = 17:45 Teeth 2.14:1 = 21:45 Teeth

through Roller Chain 12.7 x 7.75 x 8.51 mm = 1/2 x 5/16 Inch (With Sidecar: 2.65:1 = 17:45 Teeth)

## 1.6. Chassis

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ES 175/2 ES 250/2

Frame Single Tube Frame, Welded. Elastic Engine Mounting in Rubber Blocks

Type of Suspension Front and Rear Swing Arm Front

Shock Absorber with Oil Damping, 142 mm Travel

Rear Shock Absorber with Oil Damping, 115 mm Travel, Spring Hardness Adjustable

Wheels Wire Spoke Wheels with Uncranked Spokes

Rim Size Front 1.85 B x 16

Rear 2.15 B x 16

Tires Front 3.25 - 16

Rear 3.50 - 16

Tire Air Pressure (at Overpressure)

Front 1.4 at 1.4 at

Rear 1.9 at for Solo Riding 1.9 at for Solo Riding

Rear 2.1 at for Passenger Riding 2.1 at for Solo Riding and Sidecar Operation

2.6 at for Sidecar Operation with Passenger

Brakes Full Hub Brakes Full Hub Brakes

## 1.7. Dimensions and Weights

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ES 175/2 ES 250/2

Wheelbase 1325 mm

Length 2090 mm

Width with Mirror 862 mm

Height 1060 mm

Ground Clearance, Loaded 170 mm

Empty Weight 155 kg 156 kg