

BL Motorcycles Ltd

Professional Workshop Manual - English Translation

MZ - MZ_ES_175_250_1966_Manual_de_intretinere

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Dear MZ Friend! Please do not put these operating instructions aside unread, assuming you already know everything that is in it. Although most people are familiar with vehicle technology these days, even an old motorcycle hand can still learn something new from time to time!

Motorcycles have been built in Zschopau for four decades. Therefore, all the prerequisites are factory-set so that your vehicle is reliable and safe to operate - but whether it stays that way 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 break-in, correct operating fluids, maintenance and care, you will find that your ES is indestructible.

Therefore, take our advice to heart, and your ES will thank you for it! We wish you a good ride!

VEB MOTORRADWERK ZSCHOPAU

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9. Where is the Fault?

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2. 2 Red Indicator Light Does Not Go Out
3. 3 Engine Runs Rough
4. 4 Engine Does Not Accept Throttle
5. 5 Fuel Consumption Too High
6. 6 Battery Does Not Hold Charge
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Spare Parts Procurement

Customer Service

Lubrication Chart

Maintenance Schedule

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

1. Technical Data

1. 1 Engine

ES 175/1 ES 250/1

Operating Principle Two-stroke loop scavenging Two-stroke loop scavenging

Cooling Type Air (wind) Air (wind)

Number of Cylinders 1 1

Stroke/Bore 65/78 65/70

Displacement 172 cm² 250 cm²

Compression Ratio 9:1 8.5:1

Power at 5200 rpm 12 HP 16 HP

Max. Torque at 4000 rpm 1.7 kpm 2.3 kpm

Lubrication Mixture lubrication 33:1 (Hyzet oil) Mixture lubrication 33:1 (Hyzet oil)

Connecting Rod Bearing: Cage-guided needle bearing Cage-guided needle bearing

2 pieces Bearing 6305 2 pieces Bearing 6305

Crankshaft Main Bearing: 1 piece Bearing 6302 1 piece Bearing 6302

Lubrication of the Crankshaft Main Bearing: Through transmission lubricant Through transmission lubricant

Fuel VK extra (yellow, RON 78) VK extra (yellow, RON 78)

1. 2 Carburetor

ES 175/1 ES 250/1

BVF 25.5 KN 1-2 (Two-lever round slide, with needle guide) BVF 28.5 KN 1-1 (Two-lever round slide, with needle guide)

Carburetor Values:

Passage in mm 25.5 28.5

Main Jet 100 120

Needle Jet 70 77

Part Load Needle No. 3 with 7 notches 11 with 7 notches

Needle Position from Above 5th notch 5th notch (4th after break-in period)

Idle Jet 45 45

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Slide Cutout 4.0 mm 4.0 mm

Idle Air Screw approx. 2.5 turns open approx. 2.5 turns open

Fuel Level 28 + 1 mm 28 + 1 mm

Air Filter Wet air filter with intake noise damper Wet air filter with intake noise damper

1. 3 Electrical System

ES 175/1 ES 250/1

Ignition Battery ignition with centrifugal advance Battery ignition with centrifugal advance

Ignition Timing 4.0 mm before TDC with fully extended centrifugal weights 3.3 mm before TDC with fully extended centrifugal weights

Contact Gap 0.4 mm Contact Gap 0.3 mm

Spark Plug Isolator M 14/240 Isolator M 14/240

Electrode Gap 0.6 mm 0.6 mm

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

Charging Indicator Light (red) in the speedometer (red) in the speedometer

Regulator RSC 60/6, under the side panel

Battery 6V 12 Ah (lead-acid flat battery)

Ignition Coil 6V, under the fuel tank

Headlight Fixed - light emission 160 mm

Taillight Combined with light emission 95 mm

Brake Light Contact on the rear brake lever

Turn Signals on both sides of the handlebar end (switch on the right handlebar)

Flasher Relay in the headlight housing

Horn under the fuel tank

High Beam activated by push button under dip switch

1. 4 Transmission

ES 175/1 ES 250/1

Clutch Multi-plate clutch in oil bath Multi-plate clutch in oil bath

Shifting Foot shift Foot shift

Number of Gears 4 4

Gear Ratio

1st gear 2.77:1 2.77:1

2nd gear 1.63:1 1.63:1

3rd gear 1.23:1 1.23:1

4th gear 0.92:1 0.92:1

Neutral Indicator electrical indicator light (green) in the speedometer

1. 5 Power Transmission

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Engine/Transmission Ratio 2.43:1 2.43:1

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through helical spur gears 28:68 teeth 28:68 teeth

Transmission/Rear Wheel Ratio 2.65:1 = 17:45 teeth 2.25:1 = 20:45 teeth

through roller chain 12.7 x 7.75 x 8.51 mm (1/2 x 5/16 inch) 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

ES 175/1 ES 250/1

Frame Single-tube frame, welded Single-tube frame, welded

Suspension Type Swing arm front and rear Swing arm front and rear

front Suspension strut with oil shock absorber, 142 mm travel Suspension strut with oil shock absorber, 142 mm travel

rear Suspension strut with oil shock absorber, adjustable, 115 mm travel Suspension strut with oil shock absorber, adjustable, 115 mm travel

Wheels Wire spoke wheels Wire spoke wheels

Rim Size

front 1.85 B x 16 1.85 B x 16

rear 2.15 B x 16 2.15 B x 16

Tires

front 3.25 - 16 3.25 - 16

rear 3.50 - 16 3.50 - 16

Tire Pressure

front 1.4 atm 1.4 atm

rear 1.9 atm for solo riding 1.9 atm for solo riding

rear 2.1 atm for passenger riding 2.1 atm for passenger riding and sidecar

2.6 atm for sidecar operation with passenger

Brakes Central brake Central brake

1. 7 Dimensions and Weights

ES 175/1 ES 250/1

Wheelbase 1325 mm 1325 mm

Length 2035 mm 2035 mm