Ignition Systems for Russian Motorcycles
Part IV-6: Handlebar Control (Advance / Retard, Dimmer, and Signal Horn) Switch
(Also See Part IV - 1: PM-05 Breaker/Distributor)

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Handlebar P-45 Control Switch
(Переключатель Света П45)
(Advance / Retard, Dimmer, and Signal Horn)

• On Older Russian Motorcycles (M-72, K-750), on the Left Handlebar Is a Combination Switch P-45 (П45), Which Combines Such Functions: Ignition Timing Lever, Horn Button, and Light Switch

• The Ignition Timing Lever Has a Cylindrical Part on Which, When Rotated, a Cable Is Rolled Up (Bowden Cable), Which Pulls the Disc of the Ignition Circuit Breaker (PM-05). To Prevent Spontaneous Movement of the Ignition Lever Under the Force of the Return Spring of the Breaker, a Spring Shaft in the Lever Body Inhibits It

• Functionality
  – Advance / Retard Lever Control of PM-05 Manual Spark Advance
  – Push-Button for Signal Horn (Ground Contact)
  – High / Low Beam Control of Headlight
    • Slider SPDT Switch

• Usage: Mated with PM-05 Ignition Breaker
  – Ural: M-72, M-72K, M-72M, M-61 and Early M-62s
  – Dnepr: M-72, M-72N, and Early K-650s, K-750, K-750M, MB-750, MB-750M, MT-9, and MT-12s

• Size: Fits 25mm Diameter Handlebars

Part#: 72185 fits a 25mm diameter Handlebar

Part #: 72185
www.oldtimergarage.eu
**Table I: IMZ (ИМЗ) - Ural (Урал) Model/Year vs. Electrical System**

<table>
<thead>
<tr>
<th>Model</th>
<th>Year</th>
<th>Engine Size</th>
<th>Voltage</th>
<th>Generator/Alternator</th>
<th>Regulator</th>
<th>Ignition Coil</th>
<th>Breaker/Distributor</th>
<th>Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-72</td>
<td>1941-56</td>
<td>750cc</td>
<td>6-Volt</td>
<td>G-11, G-11A (1952)</td>
<td>PP-1, PP-31 (1950)</td>
<td>KM-01, B2B, IG-4085B (1950)</td>
<td>PM-05</td>
<td>3MT-7 (7A-hr) or 3MT-14 (14A-hr)</td>
</tr>
<tr>
<td>M-72M</td>
<td>1956-61</td>
<td>750cc</td>
<td>6-Volt</td>
<td>G-11A (1952)</td>
<td>PP-31A</td>
<td>KM-01</td>
<td>PM-05</td>
<td>3MT-12 (12A-hrs)</td>
</tr>
<tr>
<td>M-72K</td>
<td>1954-60</td>
<td>750cc</td>
<td>6-Volt</td>
<td><em>Magneto</em></td>
<td>None</td>
<td>-</td>
<td>PM-05</td>
<td>3MT-6 (6A-hrs) or 3MT-12 (12A-hrs)</td>
</tr>
<tr>
<td>M-63 (Ural-2)</td>
<td>1965-80</td>
<td>650cc</td>
<td>6-Volt</td>
<td>G-414 (1957)</td>
<td>PP-302, PP-302A</td>
<td>B201, B201A</td>
<td>PM-302, PM-302A</td>
<td>None</td>
</tr>
</tbody>
</table>

Notes:
1. M-64 (1961) and M-65 (1965) were prototypes.
3. M-73 (1976) was an M-72 (750cc) with engageable sidecar wheel.
4. M-75 (1943) was experimental model with 500cc engine (6-Volt) on M-72 frame. M-76 (1947) was experimental (820cc).
5. Г-424 alternator (150 Watts) has external relay/regulator (PP-302 or PP-330). 14.3771 and Nippon Denso alternators have internal regulators.
### Table II: KMZ (KMЗ) - Dnepr (Днепр) Model/Year vs. Electrical System

<table>
<thead>
<tr>
<th>Model</th>
<th>Year</th>
<th>Engine Size</th>
<th>Voltage</th>
<th>Generator/ Alternator</th>
<th>Regulator</th>
<th>Ignition Coil</th>
<th>Breaker/ Distributor</th>
<th>Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-72</td>
<td>1951-56</td>
<td>750cc</td>
<td>6-Volt</td>
<td>G-11A (1952)</td>
<td>PP-31 (1950)</td>
<td>KM-01, B-2B</td>
<td>PM-05</td>
<td>3MT-7 (7A-hr) or 3MT-14 (14A-hr)</td>
</tr>
<tr>
<td>M-72N (H)</td>
<td>1957-59</td>
<td>750cc</td>
<td>6-Volt</td>
<td>G-11A (1952)</td>
<td>PP-31A (1956)</td>
<td>KM-01</td>
<td>PM-05</td>
<td></td>
</tr>
<tr>
<td>K-750</td>
<td>1956-63</td>
<td>750cc</td>
<td>6-Volt</td>
<td>G-11A (1952)</td>
<td>PP-31A (1956)</td>
<td>IG-4085</td>
<td>PM-05, PM-11A</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. MT-14 (1977) was a prototype.
2. MB-650 is military version of MT-16 and MB-750 is a military version of the MT-12.
4. MT-11 and MT-16 remained in production until 1991 when they were re-named the Dnipro-11 (Dnepr-11) and Dnipro-16 (Dnepr-16).
5. Model #’s: H = N, MW = MB = MV
7. Г-424 alternator (150 Watts) has external relay/regulator (PP-302 or PP-330). 14.3771(350 Watts) alternator has internal regulator.
Dimmer (high/low beam) switching is designed to work via a Bowden cable with a mechanical "switch" that is mounted inside the headlamp cavity. The control switch also contains an advance / retard control for the PM-05 breaker points, and a push-button switch for the signal horn.

A Bowden cable is a type of flexible cable used to transmit mechanical force by the movement of an inner cable (most commonly of steel) relative to a hollow outer cable housing.
M-72, K-750, MB-750, Early MT-9 and MT-12 Handlebar Control

1. Advance/Retard Lever
2. Horn Signal Button
3. Hi/Lo Beam Lever

Переключатель Света П45 (Control Switch P-45)

1. Clutch Lever
2. Lever
3. Line Coupling
4. Cable Sheath
5. Rubber Shell Grips
6. Handlebar
7. Button Signal to Horn
8. Ignition Advance Lever
9. Hi/Lo Beam Lever
10. Horn Signal Lead
11. Wedge-Shaped Biscuit
12. Screw biscuit
Lever switch 29 controls near and far beam, through the cable connected to the switch in the headlight cavity. Moving the lever from one extreme to another, switches between the driving and passing beams.
The handlebar control switch changed for later MT-9’s and MB-650’s, losing the advance/retard function, but retaining the horn button and hi/lo beam function.
The PM-05 is controlled by the ignition lever on the left handlebar, while the later PM-302 centrifugal regulator, provided an automatic change of ignition timing depending on engine speed.
Why Advance/Retard Ignition Timing?

- "Timing Advance" refers to the number of degrees Before Top Dead Center (BTDC) that the spark will ignite the air-fuel mixture in the combustion chamber during the compression stroke.
- Retarded timing can be defined as changing the timing so that fuel ignition happens later than the manufacturer's specified time.
- Timing advance is required because it takes time to burn the air-fuel mixture. Igniting the mixture before the piston reaches Top Dead Center (TDC) will allow the mixture to fully burn soon after the piston reaches TDC.
- As the engine speed increases, the time available to burn the mixture decreases, but the burning itself proceeds at the same speed. It needs to be started increasingly earlier to complete (advanced) in time.
- In a classic ignition system with breaker points, the basic timing can be set statically using a test light or dynamically using a timing light.

Ignition timing is the process of setting the time when a spark will occur during the compression stroke relative to piston position and crankshaft angular velocity.
Use of Handlebar Timing Lever (CossackPower (b-Cozz))

- On the Open Road: Full Advance
- Going Up a Steep Hill: Retard a Bit
- Show-Off (slow thumpy idle when stopped): Full or Almost Retard
- If Bike Stalls (like a kill switch) when Pulled to Full Retard:
  - Probably Due to Cable Stretch
  - Retarding Too Far
- Never Ride on Full Retard
- When Spark Advance Is Increased (point when the ignition spark occurs, BTDC of the compression stroke) we Get More Power, but Also More Heat
- There is a point after which we get lots more heat and very little extra power. (STOP before we get to this point!)
- With Engine at Normal Operating Temperature and Idling, Advance Timing Slowly (Engine Will Speed Up)
- Move Timing Back and Forth, Advancing and Retarding to Get Highest Engine Idling Speed
- Back It Off (retard) a Bit
  - Engine Speed Slows Down Just a Little (Still idling, don't touch the throttle)
- Take Short Ride to Make Sure Engine Does Not “Ping” under Load
- Check Color of Spark Plugs to Make Sure Not Running Too Hot

The manual control of spark advance is controlled by a handlebar lever connected to a PM-05 breaker/distributor.
M-72 Dimmer (Hi/Lo Beam) Switch

14. Dimmer (Hi/Lo Beam) Switch to Handlebar Control Switch

FG6-3711500
www.henriksson.ee

14. Dimmer Switch with Bowden Cable
Dual-Filament (High and Low) Headlight
High/low beam switching is designed to work via a Bowden cable with a mechanical "switch" that is mounted inside the headlamp cavity.
Headlight Lamp Switch (переключатель света фар лампа) for M-72, K-750, MB-750

Headlight Lamp Switch
List Price: 1423 rubles
(zapchasti.liviv.ua)
Typical Application of Handlebar Control Switch
(Ural (Урал) M-72K, M-72M, and M-61)

- 4. Hi/Lo Beam Lamp
- 8. Hi/Lo Beam Switch
- 10. Hi/Lo Beam Lever
- Handlebar Control Switch (P-45)
- Bowden Control Cable
- Manual Spark-Advance Cable
- Hi/Lo Dimmer Switch
- Turn Signal
- Generator (Г-11А)
- Battery (3MT-6 or 3MT-7)
- Breaker/Distributor (PM-05)
- Signal Horn
- Ignition Coil (B2B)
- Regulator

Foot Brake-Light Switch
1. Headlight Cavity
2. Hi/Lo-Beam Switch
3. Central Switch
4. Ignition Switch
5. Charge Light
6. Safety Fuse
7. Sidecar Running Lamps (no turn signals)
8. Signal Horn
9. Generator (Г-11)
10. Battery
11. Relay Regulator (РР-1/РР-1)
12. Rear Bike Lamp
13. Ignition Coil
14. Breaker Points
15. Distributor
16. Spark Plug (candle)
17. Horn Button Switch
18. Spark Advance Lever
19. Hi/Lo-Beam Dimmer Lever

- Cable from Spark Advance Lever to PM-05 Breaker/Distributor
- Cable from Dimmer Lever to Hi/Lo Beam Switch in Headlight Cavity
- Hi/Lo Beam Switch
- Hi/Lo Beam Lever
- Handlebar Control Switch (P-45)
- Left Handlebar Spark-Advance Lever
- Signal Horn
Ural (Урал) М-72 with Voltage Regulator PP-1 (thru 1949)

1. generator: Г-11
2. relay-regulator: PP-1
3. rechargeable battery
4. valve
5. breaker/distributor: PM-05
6. ignition coil: KM-01
7. spark plugs (candles)
8. signal
9. lamp
10. the driving lamp and low light
11. the parking light bulb
12. tail light
13. tail light sidecar
14. front light sidecar
15. control lamp
16. ignition switch
17. key
18. fuse
19. switch beam and dipped beam
20. lever switch near and far light
21. horn button signal
22. Ignition control stick
23. fuse lamps
24, 25 and 26 - high voltage wires
27, 28, 29 and 30 - bundle of low voltage wires
31 and 32 wire lanterns sidecar

Positive-Ground

Battery

Regulator (PP-1)

Generator (Г-11А, 1950+)

Ignition Coil (KM-01)

Sidecar Fuse

20. Hi/Lo Beam Lever

Breaker/Distributor (PM-05)

21. Horn Button

22. Manual Spark Advance

23. Bowden Control Cable to PM-05 Spark Advance

24. Bowden Control Cable to Hi/Lo Beam

Handlebar Control Switch (P-45)
Ural (Урал) M-72 with Voltage Regulator PP-31 (1950+)

1 – generator: Г-11А
2 - relay-regulator: PP-31
3 - rechargeable battery
4 – valve
5 – breaker: PM-05
6 - ignition coil: B2B
7 – spark plugs (candles)
8 – signal
9 – lamp
10 - driving lamp and low light
11 - the parking light bulb
12 - tail light
13 - tail light sidecar
14 - front light sidecar
15 - control lamp
16 - a central switch
17 – key
18 – safety
19 - switch beam and dipped beam
20 - lever switch near and far light
21 - button signal
22 - Ignition control stick
23 - fuse lamps
24, 25 and 26 - high voltage wires
27, 28, 29 and 30 - bundle of low voltage wires
31 and 32 wire lanterns stroller
1941 Dnepr (Днепр) M-72, K-750, K-750M and MT-12
with PM-05 Distributor/Breaker Points

2. Hi/Lo Beam Lamp

16. Distributor/Breaker (PM-05)

- Ignition Coil (KM-01)
- Horn
- Generator (Г-11)
- Regulator (РР-1)
- Battery

Hi/Lo Beam Switch

Bowden Control Cable to Hi/Lo Beam

Hi/Lo Beam Lever

Handlebar Control Switch (P-45)

1. Headlamp/Dash
2. High and low beam
3. Parking light
4. Fuse
5. Key
6. Dimmer switch
7. Horn
8. Generator charge indicator
9. Mechanical dimmer switch lever
10. Primary switch
11. Horn button
12. Speedometer bulb
13. Condenser
14. Spark plugs A8Y
15. Points and distributor
16. Front side car fender light
17. Ignition coil
18. DC generator
19. Battery
20. Horn
21. Regulator
22. Connector
23. Stop light switch
24. Rear side car fender light
25. Rear light
26. Rear light

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Early Ural (Урал) М-72 (1942) Part# 72185

Handlebar Control Switch (P-45) 72185

- Manual Spark Advance
- Hi/Lo Beam Lever
- Horn
- Generator (Г-11)
- Regulator (PP-1)
- Battery
- Ignition Coil (KM-01)
- Breaker/Distributor (PM-05)
- G-11 Generator
- PP-1 Regulator
- KM-01 Coil
- PM-05 Breaker/Distributor
- 3MT-7 Battery
Dnepr (Днепр) Later M-72 (1955), with rear Horn

Handlebar Control Switch (P-45) 72185

Manual Spark Advance

Hi/Lo Beam Lever

Generator (G-11A)

Ignition Coil (IG-4085B)

Breaker/Distributor PM-05

Positive Ground

Battery

G-11A Alternator
PP-31A Regulator
IG-4085B Coil
PM-05 Breaker/Distributor
3MT-14 Battery
Ural (Урал) M-72
with Г-11A generator and PP-31 regulator

11. Manual Spark Advance
12. Bowden Control Cable to Dimmer Switch
13. Horn Button
14. Distributor
15. Spark plugs
16. Ignition coil
17. Points
18. Horn
19. Generator
20. Sidecar taillight
21. Relay automatic controller (RR-1)
22. Battery
23. Taillight

3. Hi/Lo Beam Lamp
3. Hi/Lo Beam Switch
12. Bowden Control Cable to Dimmer Switch
11. Manual Spark Advance

1. Headlight
2. Parking light bulb
3. High and Low beam bulb
4. High beam/low beam electrical switch
5. Central switch
6. Fuse
7. Indicator light
8. front light of the sidecar
9. Sidecar lights fuse
10. Ignition key
11. Ignition setting lever with actuator cable
12. High beam/low beam mechanical actuator with cable
13. Signal button

Note: Positive-Ground
M-72 with Front Horn

- Manual Spark Advance
- Hi/Lo Beam Lever
- Handlebar Control Switch (P-45) 72185
- Horn

Рис. 35. Монтажная схема № 2 электрооборудования мотоцикла
Application of Handlebar Control Switch (Днепр (Днепр) К-750, К-750М, MT-12 and Урал (Урал) М-61)

- Handlebar Control Switch (P-45)
- Hi/Lo Beam Switch
- Hi/Lo Dimmer Switch
- Bowden Control Cable
- Manual Spark-Advance Cable
- Ignition Coil (B2B)
- Generator (Г-414)
- Battery (3MT-6 or 3MT-7)
- Foot Brake-Light Switch
- Turn Signal
- 7. Breaker/Distributor (PM-05)
- 10. Hi/Lo Beam Lever
- 11. Manual Spark Advance
- 19. Bowden Cable
- 25. Foot Brake-Light Switch
- 28. Horn Button
Dnepr (Днепр) Early K-750 and K-750M
(with Ignition Coil B2B and Distributor PM-05 for Manual Control of Firing Angle)

1 - lamp high and low beam, 2 - key 3 - fuse 4 - lamp, 5 - central switch, 6 - “ground” wire, 7 - high voltage wire, 8 – spark plugs, 9 - high voltage 10 - ignition coil, 11 - front light sidecar, 12 – horn, 13 - wire front canopy sidecar, 14 - tail light sidecar, 15 - tail lamp of motorcycle, 16 - gauge stoplight, 17 - Relay-regulator, 18 – generator, 19 – battery, 20 - Low voltage wiring loom, 21 - battery ground wire, 22 - breaker, 23 - valve, 24 - high voltage wire and 25 – horn signal button contact 26 - wire signal 27 - advance ignition lever; 28 - cord switch hi/lo beam, 29 – hi/lo light switch, 30 - control lamp, 31 - parking light bulb, 32 - lamp illuminated; 33 - Connecting Jack wires, 34 - cable sidecar lamps, 35 - wire from the sensor to Stop lamp, 36 - wire from the connector to the lamp lighting plate
Dnepr (Днепр) Early K-750
with PP-31A Regulator, PM-05 Breaker/Distributor and B2B Ignition Coil

- Handlebar Control Switch (P-45)
- Manual Spark Advance
- Hi/Lo Beam Lever

- G-11A Generator
- PP-31A Regulator
- B2B Ignition Coil
- PM-05 Breaker/Distributor
- 3MT-7 Battery

Breaker/Distributor (PM-05)

Battery

Horn
Dnepr (Днепр) Early K-750 and K-750M
with PP-302 Regulator, PM-05 Breaker/Distributor and B2B Ignition Coil

- G-414 Generator
- PM-302 Regulator
- B2B Coil
- PM-05 Breaker/Distributor
- 3MT-6 Battery

- Handlebar Control Switch (P-45) 72185
- Manual Spark Advance
- Hi/Lo Beam Lever

- Horn (C-37)
- Generator (Г-414)
- Regulator (PP-302)
- Battery
- Ignition Coil (B2B)
- Breaker/Distributor (PM-05)
- 72185
Early K-750M, with PM-05 Ignition and Handlebar Control

1. Hi/Lo Beam Lamp

28. Hi/Lo Beam Lever

26. Horn Button

Breaker/Distributor (PM-05)

Bowden Control Cable to Hi/Lo Beam

Handlebar Control Switch (P-45)
K-750M, with PM-05 Ignition and Handlebar Control

Early K-750, MB-750

- Breaker/Distributor (PM-05)
- Handlebar Control Switch (P-45)
- Bowden Control Cable to Hi/Lo Beam
- Hi/Lo Beam Switch
- Hi/Lo Beam Lamp
- Horn Button
- Bowden Control Cable to PM-05 Spark Advance
- Ignition Coil
- Breaker Points
- 8. Horn

Diagram showing electrical connections and components for Early K-750, MB-750 model.
Dnepr (Днепр) Early MB-750, MT-12 (1961)

- Battery (3MT-12) 72172
- Voltage Regulator (PP-302)
- Generator (Г-414)
- Ignition Coil (B2B)
- Handlebar Control Switch (P-45) 72185
- Manual Spark Advance
- Hi/Lo Beam Lever
- G-414 Generator
- PP-302 Regulator
- B2B Coil
- PM-05 Breaker
- 3MT-12 Battery

- Horn
- Distributor/Breaker (PM-05) 72172

Rис. 29. Монтажная схема электрооборудования мотоцикла
Dнeр (Днeпр) Early MT-12 with PM-05 (Manual) Spark Advance

17. Hi/Lo Beam Lamp

19. Dimmer Switch in Headlight Cavity

28. Horn Button

Breaker/Distributor (PM-05)

Handlebar Control Switch

Bowden Control Cable to PM-05 Spark Advance
Dnepr (Днепр) Early K-650
with PM-05 Breaker/Distributor and B2B Ignition Coil

7&8-Oil Pressure Sensor (MM-106) and Emergency Light
15- Spark Plug (Candle) (A8)
16-Interrupter/Distributor (PM-05)
18-Horn (C37A)
22-Foot Brake-Light Switch (BK854)
23-Regulator (PP-31A)
24- Generator (Г-414)
25-Battery (3MT-12)
27-Horn Button
29-Dimmer Lever

29. Dimmer Switch in Headlight Cavity

Distributor/Breaker (PM-05)
Ignition Coil (B2B)
Generator (Г-414)
Battery (3MT-12)
Regulator (PP-31A)
Handlebar Control Switch (P-45)
Dnepr (Днепр) Early K-650 and MT-9
with PM-05 Breaker/Distributor and B2B Ignition Coil

1. Headlamp/Dash
2. Hi/Lo Beam Lamp
3. Parking light
4. Fuse
5. Key
6. Dimmer Switch in Headlight Cavity (P-45)
7. Oil Pressure Sensor (MM-106A)
8. Generator charge indicator
9. Mechanical dimmer switch lever
10. Primary switch
11. Horn Button
12. Speedometer bulb
13. Oil Pressure Switch
14. Condenser
15. Spark plugs A8Y
16. Points and distributor
17. Front side car fender light
18. Ignition coil
19. DC Generator
20. Battery 3-MT-12
21. Horn C37A
22. Regulator
23. Connector
24. Stop light switch BK854
25. Rear side car fender light
26. Rear light

11. Horn Button
9. Dimmer Lever

1968 K-650, Dniepr MT-9

wykonal:
Carl Allison

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Later K-650’s and MT-9s Replaced the Handlebar Control When the Manual Spark Advance (PM-05) Was Replaced by the PM-302 Automatic Spark Advance.

No More Bowden Cables When the P-25 Switch Replaced the P-45 Control.

Later K-650’s and MT-9s replaced the handlebar control when the manual spark advance (PM-05) was replaced by the PM-302 automatic spark advance. No more bowden cables when the P-25 switch replaced the P-45 control.
Dнепр (Днепр) Later K-750
(with Breaker PM-11A, PP-302 and B201 for Automatic Control of Firing Angle)

Dimmer Switch in Handlebar Control (P-25), No Spark Advance Lever

1. Hi/Lo Beam Lamp

Oil-Pressure Sensor (MM-106A)

Breaker/Distributor (PM-302)

Ignition Coil (B201)

Generator (Г-414)

Battery

Regulator (PP-31A)

Foot Brake-Light Switch

14. Horn

27. Horn Button

29. Hi/Lo Beam Dimmer Switch

28. Signal Wire to Horn
(Switch “Grounds” Lead to Energize Horn)
Early MT-9 with Manual (PM-05) Spark Advance
(Dimmer Switch (34) in Headlight Cavity)

16. PM-05 Manual Spark Advance

27. Horn Button

29. Hi/Lo Beam Lever

18. Horn

Handlebar Control Switch (P-45)

Переключатель Света П45 (Light Switch P-45)

electrical equipment and colour of wires:
1 — far and passing beam lamp A6 32+32;
2 — lamp A6-15; 3 — turn light УП223; 4 — ignition key; 5 — fuse 15A; 6 — control light ПД.20; 7 — oil low-pressure warning light A6-1; 8 — oil low-pressure pick-up ММ 106A; 9 — central switch; 10 — wire connector; 11 — direction indicator switch 25A;
12 — side lamp A6-2 of sidecar front light; 13 — sidecar front light ПФ200; 14 — plug shell;
15 — spark plug A8Y; 16 — distributor-and-contact breaker unit ПМ05; 17 — ignition coil Б2B; 18 — horn С37A; 19 — tail ФП230;
20 — lamp A6-15 of A6-3 of tail light; 22 — stop light switch BK854; 23 — regulating relay PP302; 24 — direct-current generator 1+14; 25 — storage battery 3МТ-12; 26 — speedometer brightening lamp А6-2; 27 — horn button; 28 — turn light blinker РС419; 29 — timing angle adjustment lever; 30 — neutral position pick-up (contact plug); 31 — dim-switch cable; 32 — control light ПД-20Г; 33 — lamp А6-1, indicating neutral position of gearshift mechanism; 34 — dim-switch П45; 35 — storage battery charge control lamp А6-0.25; 36 — parking lamp A6-2; 37 — head lamp ФГ116; 1 — black; 11 — white; 111 — red;
IV — green; V — brown; VI — yellow; VII — blue; VIII — violet; IX — grey
Early MT-9, with PM-05 Ignition and Handlebar Control

Dnepr (Днепр) Early MT-9 with Manual Control of Firing Angle (B2B Ignition Coil and PM-05 Breaker/Distributor)

- Oil Pressure Sensor (MM-106A)
- Handlebar Control Switch (P-45)
- Ignition Coil (B2B)
- Generator (Г-414)
- Regulator (PP-302)
- Breaker/Distributor (PM-05)
- Horn (C-37A)
Later K-650 (MT-8), with Hi/Lo Beam Dimmer Switch in Handlebar, and not in Headlight Cavity

1. Hi/Lo Beam Lamp

24. Horn Button

25. Hi/Lo Beam Lever

Handlebar Dimmer Switch (P-25)
Later MT-9 with Automatic (PM-201) Spark Advance
(Dimmer Switch(P-25) in Handlebar Control, No Spark Advance Lever)

Fig. 8. Diagram of electric equipment and colour of wires:

I — far and passing beam lamp А6-32; 2 — lamp А6-15; 3 — turn light УП-223; 4 — ignition key; 5 — fuse 15А; 6 — control light ПД-20; 7 — oil low-pressure warning light А6-1; 8 — oil low-pressure pick-up ММ106А; 9 — central switch; 10 — wire connector; 11 — direction indicator switch П201; 12 — lamp А6-3; 13 — sidecar front light ПФ-232; 14 — plug shell; 15 — spark plug АУ8; 16 — ignition coil Б201А; 17 — contact breaker ПМ-302; 18 — horn С37А; 19 — sidecar tail light ПФ-210; 20 — lamp А6-21+3; 21 — stop light switch ВК854; 22 — motorcycle tail light ПФ-217; 23 — regulating relay РР-302; 24 — direct current generator Г-414; 25 — storage battery 3МТ-12; 26 — speedometer brightening lamp А6-2; 27 — horn button; 28 — turn light blinker РС419; 29 — dimmer switch П25; 30 — neutral position pick-up (contact plug); 31 — control light ПД-20Г; 32 — lamp А6-1 indicating neutral position of gearshift lever; 33 — generator switching control lamp А6-0.25; 34 — parking lamp А6-2; 35 — head lamp ФГ-116;

I — black; II — white; III — red; IV — green; V — brown; VI — yellow; VII — blue; VIII — violet; IX — green.

Note. In case the motorcycle is used with a sidecar the lamps designated in the drawing with * are disconnected.

29. Переключатель Света П25 (Light Switch Р-25)
MT-9 with Automatic Control of Timing (PM-302)

With the Advent of Automatic Spark Advance Came the Much-Simpler P-25 (Π-25A) Handlebar Control
Later Handlebar Control P-25A
(Куплю переключатель п-25А)

Horn Button

Hi/Lo Dimmer Control