Russian Motorcycle Schematics and Wiring Diagrams
Part XIII: Ural Schematics, Wiring Diagrams and Part Lists

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Differing Electrical Schematics on the Same Model of a Russian Motorcycle

- Within the Same Model (such as within a M-72 or within a MT-12), There Can Be Several Different Schematics for the Same Model (Early/Later), depending on:
  - Ignition System on Dnepr K-750 or on MT-12, Ural M-62 or on M-63
    - Manual Spark Advance on Early Version: PM-05/PM-11
    - Automatic Spark Advance on Later Versions: PM-302
  - Alternator Upgrade on a Ural “650” or “750” Series
    - Hitachi 18-Amp (‘98)
    - Russian Hand-Grenade (14.3771) 35-Amp (’98-1/2)
    - Nippon Denso 55-Amp (’04)
  - Voltage Regulator
    - Mechanical-to-Later Mechanical on Dnepr MT-12, MT-16 or on Ural M-62
      - PP-31/PP-31A (’50/’56)
      - PP-302/PP-302A (’63)
    - Mechanical-to-Solid-State on Dnepr MB-750M, MT-11, MT-16 or on Ural MT-63, 8.103 “650” Series
      - PP-330 (’63) Mechanical
      - 33.3702 (’92) Solid-State
  - Brake Lights
    - No Brake Lights on Early Russian Bikes
      - Original M-72’s and early K-750’s
    - Rear Foot-Pedal Brake-Switch
      - Started in Late 1950’s with M-72M’s and later K-750’s
  - Directional Turn Signals
    - Early M-61, M-62: No Directional Signals
    - Later M-61, M-62: Directional Signals and PC419 Flasher Unit
  - Ignition Coil Upgrade
    - Improved Model on a Ural M-72: From a KM-01 to a B2B

Notes for Model and Component Numbers
- Model Designations:
  - MV (cyrillic MB) = MB = CF
    (Example: MB-750 = MV-750, CF-650 = MB-650)
- Component Designations:
  - ВП = VP  (Example: ВП48801 = VP48801)
  - H = N  (Example 72H05121 = 72N05121)
Ferreting Out Data on Old Russian Bikes

• It Takes a Bit of Courage to Post Information
• You Are Subject to “Helpful” Advice
  – It Helps If Offered in the Right Spirit
  – For Example: Received Some Good Advice about the M-72 Headlight Assembly. Not Being a M-72 kind of Guy, I Simply Looked at All the International Postings I Could Get, Sorted thru Them All and Came Up with a Few Rules
• Take Advise from the Old Farts: Been Around the Block a Few Times
• Trust the Old Manuals and Schematics First
• Trust the Illustrated Parts Diagrams Next
• Trust the Component Dealers Labels Next
  – These Are Good for Commonality and Later Re-Fitting
• Trust the Bikes Ads Last
  – Folks Have a Devil of a Time Figuring Model or Year of Bike They Own
  – Folks Purchase Bikes “Restored” to Something Less than Original
• Reasons for Differing Views
  – Ivan Took a Break for Some Refreshments
  – Ran Out of One Particular Part and Had a Few Old Parts Lying Around
  – Wanted to Get the Improved Parts into the Hands of the Customers
  – Replica Parts Made for Maximum Replacement for Some Other Industry
  » Replaced an Electric Starter on My 2003 Patrol. Replacement Starter Fit Like a Glove. Life was Good, until I Noticed that the Starter Was about One Inch Longer than the Original. Starter Lever Couldn’t Move More than ¼ Range, Due to Slicing the Starter. No Problem for the Major Supply (i.e. Russian Outboard Motors)
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>Chassis Polarity</th>
<th>Generator/Alternator</th>
<th>Regulator</th>
<th>Ignition Coil</th>
<th>Breaker/Distributor</th>
<th>Battery</th>
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</thead>
<tbody>
<tr>
<td>M-72</td>
<td>1941-56</td>
<td>750cc</td>
<td>6-Volt</td>
<td>Pos</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>1956-60</td>
<td>750cc</td>
<td>6-Volt</td>
<td>Pos</td>
<td>G-11A (1952)</td>
<td>PP-31A</td>
<td>KM-01</td>
<td>PM-05</td>
<td>None</td>
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<tr>
<td>M-72K</td>
<td>1954-60</td>
<td>750cc</td>
<td>6-Volt</td>
<td>-</td>
<td><em>Magneto</em></td>
<td>None</td>
<td>-</td>
<td>PM-05</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: IMZ (ИМЗ) - Ural (Урал) and KMZ (КМЗ) - Dnepr (Днепр) Brake Switches

<table>
<thead>
<tr>
<th>Mfr</th>
<th>Model</th>
<th>Year</th>
<th>Engine Size (cm² / inch³)</th>
<th>Hand (Front) Brake-Switch</th>
<th>Foot (Rear) Brake-Switch</th>
<th>Voltage</th>
<th>Brake Lamp</th>
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<tbody>
<tr>
<td>Ural</td>
<td>M-72</td>
<td>1941-56</td>
<td>746 / 45.3 SV</td>
<td>-</td>
<td>- Later: ВК854Б</td>
<td>6-Volt</td>
<td>A6-15</td>
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<tr>
<td></td>
<td>M-72K</td>
<td>1954-60</td>
<td>746 / 45.3 SV</td>
<td>-</td>
<td>- Later: ВК854Б</td>
<td>6-Volt</td>
<td>A6-15</td>
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<td>1956-60</td>
<td>746 / 45.3 SV</td>
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<td>- Later: ВК854Б</td>
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<tr>
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<td>M-61</td>
<td>1958-60</td>
<td>649 / 39.4 OHV</td>
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<td>ВК854Б</td>
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<tr>
<td></td>
<td>8.1037 “750” Series</td>
<td>2003-present</td>
<td>745 / 45.2 OHV</td>
<td>IMZ-8.102-17048</td>
<td>IMZ-8.102-17048</td>
<td>12-Volt</td>
<td>A-12-21</td>
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<td>Dnepr</td>
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<td>K-750</td>
<td>1959-63</td>
<td>746 / 45.3 SV</td>
<td>-</td>
<td>ВК854Б, Later: 65018950</td>
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<td>MB-750</td>
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<td>1968-91</td>
<td>649 / 39.4 OHV</td>
<td>13.3720</td>
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<td>MT-12 (Dnepr-12)</td>
<td>1974-85</td>
<td>746 / 45.3 SV</td>
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<td>MT-16 (Dnepr-16)</td>
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<tr>
<td>Mfr</td>
<td>Model</td>
<td>Year</td>
<td>Engine Size (cm³/inch³)</td>
<td>Neutral-Gear Sensor</td>
<td>Voltage</td>
<td>Signal Lamp</td>
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<td>1941-56</td>
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<td>M-61</td>
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<td>M-63 (Ural-2)</td>
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<td>K-750</td>
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<td>MT-16 (Dnepr-16)</td>
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<tr>
<td>Mfr</td>
<td>Model</td>
<td>Year</td>
<td>Engine Size (cm³ / inch³)</td>
<td>Oil-Pressure Sensor</td>
<td>Voltage</td>
<td>Signal Lamp</td>
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<td>M-66 (Ural-3)</td>
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<td>M-67</td>
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<td>MM106A (later models)</td>
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<td>K-750M</td>
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<td>746 / 45.3 SV</td>
<td>MM106A (later models)</td>
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<td>MB-750</td>
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<td>K-650/MT-8</td>
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<td>MM106A (later models)</td>
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<td>MB-650</td>
<td>1968-91</td>
<td>649 / 39.4 OHV</td>
<td>MM106A</td>
<td>12-Volt</td>
<td>A12-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MB-750M</td>
<td>1973-77</td>
<td>746 / 45.9 SV</td>
<td>MM106A, MM126</td>
<td>6-Volt</td>
<td>A6-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MT-10</td>
<td>1973-76</td>
<td>649 / 39.4 OHV</td>
<td>MM106A, MM126</td>
<td>12-Volt</td>
<td>A12-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MB-650M</td>
<td>1974</td>
<td>649 / 39.4 OHV</td>
<td>MM126</td>
<td>12-Volt</td>
<td>A12-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MT-10.36</td>
<td>1975-87</td>
<td>649 / 39.4 OHV</td>
<td>MM126</td>
<td>12-Volt</td>
<td>A12-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MT-12 (Dnepr-12)</td>
<td>1974-85</td>
<td>746 / 45.3 SV</td>
<td>MM126</td>
<td>6-Volt</td>
<td>A6-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MT-11 (Dnepr-11)</td>
<td>1985-2005</td>
<td>649 / 39.4 OHV</td>
<td>MM126</td>
<td>12-Volt</td>
<td>A12-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MT-16 (Dnepr-16)</td>
<td>1986-2005</td>
<td>649 / 39.4 OHV</td>
<td>MM126</td>
<td>12-Volt</td>
<td>A12-1</td>
<td></td>
</tr>
</tbody>
</table>
**Table V: Ural (Урал) and Dnepr (Днепр) Master Battery Switches**

<table>
<thead>
<tr>
<th>Mfr</th>
<th>Model</th>
<th>Year</th>
<th>Engine Size (cm³/inch³)</th>
<th>Voltage</th>
<th>Master Battery Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ural</td>
<td>M-72</td>
<td>1941-56</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>M-72K</td>
<td>1954-60</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>M-72M</td>
<td>1956-60</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>M-61</td>
<td>1958-60</td>
<td>649 / 39.4 OHV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>M-62</td>
<td>1961-65</td>
<td>649 / 39.4 OHV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>M-63 (Ural-2)</td>
<td>1965-68</td>
<td>649 / 39.4 OHV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>M-66 (Ural-3)</td>
<td>1968-72</td>
<td>649 / 39.4 OHV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>8.1037 “750” Series</td>
<td>2003-present</td>
<td>745 / 45.2 OHV</td>
<td>12-Volt</td>
<td>Not Used (electric-start)</td>
</tr>
<tr>
<td>Dnepr</td>
<td>M-72</td>
<td>1952-56</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>M-72N</td>
<td>1956-59</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>K-750</td>
<td>1959-63</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>K-750M</td>
<td>1963-77</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>MB-750</td>
<td>1964-73</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>MB-650</td>
<td>1968-91</td>
<td>649 / 39.4 OHV</td>
<td>12-Volt</td>
<td>46.3710</td>
</tr>
<tr>
<td></td>
<td>K-650/MT-9</td>
<td>1971-74</td>
<td>649 / 39.4 OHV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>MB-750M</td>
<td>1973-77</td>
<td>746 / 45.9 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>MT-10</td>
<td>1973-76</td>
<td>649 / 39.4 OHV</td>
<td>12-Volt</td>
<td>46.3710</td>
</tr>
<tr>
<td></td>
<td>MB-650M</td>
<td>1974</td>
<td>649 / 39.4 OHV</td>
<td>12-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>MT-10.36</td>
<td>1975-87</td>
<td>649 / 39.4 OHV</td>
<td>12-Volt</td>
<td>46.3710</td>
</tr>
<tr>
<td></td>
<td>MT-12 (Dnepr-12)</td>
<td>1974-85</td>
<td>746 / 45.3 SV</td>
<td>6-Volt</td>
<td>Not Used</td>
</tr>
<tr>
<td></td>
<td>MT-11 (Dnepr-11)</td>
<td>1985-1995</td>
<td>649 / 39.4 OHV</td>
<td>12-Volt</td>
<td>46.3710</td>
</tr>
<tr>
<td></td>
<td>MT-16 (Dnepr-16)</td>
<td>1986-1995</td>
<td>649 / 39.4 OHV</td>
<td>12-Volt</td>
<td>46.3710</td>
</tr>
</tbody>
</table>
### Table VI: IMZ (ИМЗ) - Ural (Урал) Electric Horn

<table>
<thead>
<tr>
<th>Model</th>
<th>Year</th>
<th>Engine Size</th>
<th>Voltage</th>
<th>Signal Horn</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-72</td>
<td>1942-56</td>
<td>750cc</td>
<td>6-Volt</td>
<td>SM-01 or SM-02, C-35 (72186-A1) after 1950, C-37A (72186-A3)</td>
</tr>
<tr>
<td>M-72K</td>
<td>1954-60</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-37</td>
</tr>
<tr>
<td>M-72M</td>
<td>1956-60</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-37</td>
</tr>
<tr>
<td>M-61</td>
<td>1958-60</td>
<td>650cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
</tr>
<tr>
<td>M-62</td>
<td>1961-65</td>
<td>650cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
</tr>
<tr>
<td>M-63 (Ural-2)</td>
<td>1965-68</td>
<td>650cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
</tr>
<tr>
<td>M-66 (Ural-3)</td>
<td>1968-72</td>
<td>650cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
</tr>
<tr>
<td>M-67</td>
<td>1973-75</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B, C-38A</td>
</tr>
<tr>
<td>M-67.36</td>
<td>1976-95</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B</td>
</tr>
<tr>
<td></td>
<td>8.103 and 8.107 Series “650”</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B (IMZ 8.101-186006-20, 3721000), C-304</td>
</tr>
<tr>
<td></td>
<td>8.103, 8.103X, 8.123, 8.123X, “650 &amp; 750” Series</td>
<td>750cc</td>
<td>12-Volt</td>
<td>C-205B, C-304 (20.3721000-09)</td>
</tr>
<tr>
<td></td>
<td>2004-2006</td>
<td>750cc</td>
<td>12-Volt</td>
<td>LEBK91- White Zinc or Black</td>
</tr>
<tr>
<td></td>
<td>2007-present</td>
<td>750cc</td>
<td>12-Volt</td>
<td></td>
</tr>
</tbody>
</table>

### Table VII: KMZ (КМЗ) - Dnepr (Днепр) Electric Horn

<table>
<thead>
<tr>
<th>Model</th>
<th>Year</th>
<th>Engine Size</th>
<th>Voltage</th>
<th>Signal Horn</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-72</td>
<td>1952-56</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-35A (72186-A1)</td>
</tr>
<tr>
<td>M-72N (H)</td>
<td>1956-59</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-35, C-35A</td>
</tr>
<tr>
<td>K-750</td>
<td>Early 1956-60</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-35A, C-37A (72186-A3)</td>
</tr>
<tr>
<td></td>
<td>Later 1960-63</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-35, C-35A, C-37 (72186), C-37A</td>
</tr>
<tr>
<td>K-750M</td>
<td>1963-77</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
</tr>
<tr>
<td>MB-750</td>
<td>1964-73</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
</tr>
<tr>
<td>MB-750M</td>
<td>1973-77</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
</tr>
<tr>
<td>K-650/MT-8</td>
<td>1967-70</td>
<td>650cc</td>
<td>6-Volt</td>
<td>C-37, C-37A (72186-A3)</td>
</tr>
<tr>
<td>K-650/MT-9</td>
<td>1971-74</td>
<td>650cc</td>
<td>6-Volt</td>
<td>C-37, C-37A (72186-A3)</td>
</tr>
<tr>
<td>MB-650</td>
<td>1968-91</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B (3721000) / C-304 (3721000)</td>
</tr>
<tr>
<td>MB-650M</td>
<td>1985-late 90's</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-304</td>
</tr>
<tr>
<td>MT-10</td>
<td>1973-76</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-38</td>
</tr>
<tr>
<td>MT-10.36</td>
<td>1975-87</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-38</td>
</tr>
<tr>
<td>MT-12 (Dnepr-12)</td>
<td>1974-82 2WD, 1982-85 1WD</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-204B</td>
</tr>
<tr>
<td>MT-11 (Dnepr-11)</td>
<td>1985-1995</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B (3721000) / C-304 (3721000)</td>
</tr>
<tr>
<td>MT-16 (Dnepr-16)</td>
<td>1988-1995</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B (3721000) / C-304 (3721000)</td>
</tr>
</tbody>
</table>
**Figure 1A: 6-Volt Electrical Systems**

### Motorcycle
- Ural: M-72, M-72M, M-61
- Dnepr: M-72, M-72N

### Generator
- Г-11/11A: 45 W (1941/1952)
- Г-414: 65 W (1957)

### Regulator
- PP-1 (1941)
- PP-31/PP-31A (1950/1956)
- PP-30

### Ignition Coil
- UG-4085B (1950) and B-11
- B-2Б
- PR-302/302А (1963/197X)

### Breaker/Distributor
- PM-05 (1954) (with manual spark advance)
- PM-11A or PM-301/PM-302/PM-302A (with automatic spark advance)

### Generators
- PM-05 (1954) (with manual spark advance)

### Motorcycle
- Ural: M-72, M-72M, M-61
- Dnepr: M-72, M-72N

### Generators
- Г-11/11A: 45 W (1941/1952)
- Г-414: 65 W (1957)

### Regulator
- PP-1 (1941)
- PP-31/PP-31A (1950/1956)
- PP-30

### Ignition Coil
- UG-4085B (1950) and B-11
- B-2Б
- PR-302/302А (1963/197X)

### Breaker/Distributor
- PM-05 (1954) (with manual spark advance)
- PM-11A or PM-301/PM-302/PM-302A (with automatic spark advance)
Figure 1B: 12-Volt Electrical Systems

Motorcycle
- Ural: M-67, M-67.36, IMZ 8.103 Series
- Dnepr: MB-650, MT-10, MT-10.36, MT-11, MT-16

Alternator

Regulator
- (Relay-Regulator)
  - PP-330 (1941)
  - 33.3702 (1992)
  - Internal to Alternator (JYA212A11E)

Breaker - Ignition Coil
- B-204A
- Type I
- Type II
- Contact-less
- Type III
- Type IV
- Raceway Services Power Arc

Contact-less (Relay-Regulator)
- PM-302/PM-302A

Internal to Alternator
- Ducati (2006)
  - None
- Dnepr: None

Internal to Alternator (JYA212A11E)
- IMZ 8.1037 Series (2004-present)
  - None
- Dnepr: None
  - None
- Dnepr: None

Contact-less
- Ducati (2006)
  - None
- Dnepr: None

  - IMZ 8.103 Series (2004-present)
  - IMZ 8.1037 Series (2004-present)
  - None
  - Dnepr: None
Simplified Diagram of Early Wiring
1. Battery
2. Ignition Key
3. Ignition Switch
4. Charge Lamp Indicator
5. Generator
6. Regulator
7. Low-Voltage Primary Winding
8. High-Voltage Secondary Winding
9. Ground Point
10. Contact (Breaker) Point
11. Center Contact
12. Contacts fro Spark
13. Spark (Candle) Plug
14. Condenser (Capacitor)

Note: Early M-72’s had positive-ground.
Ural (Урал) early M-72 with Voltage Regulator PP-1 (through 1949)

1 - Generator: Г-11
2 - Voltage Regulator: PP-1
3 - Rechargeable Battery
4 - Distributor: PM-05
5 - Breaker: PM-05
6 - Ignition Coil: KM-01
7 - Spark Plugs (candles)
8 - Horn
9 - Lamp
10 - Driving Lamp and Low-Beam
11 - Parking Light Bulb
12 - Tail Light
13 - Sidecar Tail Light
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 Beam
21 - Horn Button
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 for Sidecar Lights

Manual Spark Advance

Hi/Lo Beam Switch

Horn Button

Breaker/Distributor (PM-05)

Spark Plug (candle)

Sidecar Fuse

Spark Plug (candle)

Ignition Coil (KM-01)

Generator (Г-11А, 1950+)

Regulator (PP-1)

Positive-Ground

Battery
Ural (Урал) early M-72 (1948 Owner’s Manual)
Ural (Урал) M-52, M-72, and M-61
with PM-05 Distributor/Breaker Points

10. Distributor/Breaker (PM-05)

11. Horn Button

9. Hi/Lo Beam Switch

12. Speedometer bulb

13. Horn button

14. Condenser

15. Spark plugs A8Y

16. Points and distributor

17. Front side car fender light

18. Ignition coil

19. DC Generator

20. Battery

21. Horn (C-37A)

22. Voltage Regulator (PP-1)

23. Connector

24. Stop light switch

25. Rear side car fender light

26. Rear light

1. Headlamp/Dash

2. High and low beam bulb A6-32 + 32

3. Parking light bulb A6-2

4. Fuse

5. Key

6. Dimmer switch

7. Generator charge indicator lamp A6-0.25

8. Mechanical dimmer switch lever

10. Primary switch

24. Rear brake light switch

29. Horn button

16.
M-72 Headlight Cavity

10. Safety Fuse

12. Generator “Charge” Warning Light

Headlight Lamp Cover

Bowden Cable to Left Handlebar Control Switch

5. Dual Filament (Hi/Lo) Headlight Lamp

4. Parking Lamp

14. Dimmer Switch with Bowden Cable

Ignition Switch

Master Switch to Handlebar Control Switch

5. Dual Filament (Hi/Lo) Headlight Lamp

10. Safety Fuse
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 (Γ-11)
10. Battery
11. Relay Regulator (RR-1/PP-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

Left Handlebar Spark Advance Lever

Cable from Spark Advance Lever to PM-05 Breaker/Distributor
Ural (Урал) Later M-72 with Voltage Regulator PP-31 (1950+)

1 - Generator: Г-11
2 - Voltage Regulator: PP-31
3 - Rechargeable Battery
4 - Distributor: PM-05
5 - Breaker: PM-05
6 - Ignition Coil: B2B
7 - Spark Plugs (candles)
8 - Signal Horn
9 - Lamp
10 - Driving Lamp and Low-Beam
11 - Parking Light Bulb
12 - Tail Light
13 - Sidecar Tail Light
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 Beam
21 - Signal Horn Button
22 - Ignition Control Stick
23 - Fuse Lamps
24, 25 and 26 - High Voltage Wires
27, 28, 29 and 30 – Beams and Low Voltage Wires
31 and 32 Wire for Sidecar Lights
Ural (Урал) Later М-72 with Г-11А Generator and PP-31 Voltage Regulator

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
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

Note: Positive-Ground
Ural (Урал) later M-52, M-61, M-72M, and M-72K with PP-302 Regulator

1. Turn Signal
2. Foot Brake Light Switch
3. Flasher Unit
4. 15. Generator (Γ-11A)
5. 24. Voltage Regulator
6. 17. Ignition Coil (B2B)
7. 27. Horn
8. 10. Hi/Lo Beam Switch
9. 11. Manual Spark Advance
10. 7. / 18. Breaker/Distributor PM-05
11. 22. Battery (3MT-6 or 3MT-7)
12. 25. Foot Brake-Light Switch
Ural (Урал) M-72 and M-61

1. Turn Switch (П-201)
2. Battery (3MT-6 or 3MT-7)
3. Flasher Unit (PC-419)
4. Lamp (A6-32+21 or A6-32+32)
5. Lamp (A6-2)
6. Lamp (A6-2)
7. Breaker / 16. Distributor (PM-05)
8. Horn
9. Lamp (A6-2)
10. Hi/Lo Beam Switch
12. Fuse (15A)
13. Generator (Г-11А)
14. Lamp (A6-2)
15. Generator (Г-11А)
16. Lamp (A6-0.25)
17. Ignition Coil (KM-01 or B-2B)
18. Ignition Switch
19. Lamp (A6-15)
20. Foot Brake-Light Switch
21. Lamp (A6-15)
22. Battery (3MT-6 or 3MT-7)
23. Lamp (A6-15)
24. Voltage Regulator (PP-302)
25. Horn
26. Lamp (A6-2)
27. Horn
Circuit diagram of motorcycle:
1 - incendiary spark 2 - breaker with automatic ignition timing 3 - incendiary spark 4 - breaker with automatic ignition timing 5 - incendiary spark 6 - incendiary spark 7 - incendiary spark 8 - incendiary spark 9 - incendiary spark 10 - incendiary spark 11 - incendiary spark 12 - incendiary spark 13 - incendiary spark 14 - incendiary spark 15 - incendiary spark 16 - incendiary spark

Eyeliner and colors of the wire:
I - to the ignition coil (red); II - lantern for motorcycle (black); III - on "weight" (brown); IV - breaker to the (red); V - to lanterns stroller (black); VI - from the generator to the terminal; JS relay control (green); VII - terminal of the generator (green); VIII - filament lamp to dim light (black); IX - to high beam filament lamp (green); X - signal from the button to the spotlight (yellow); XI - to switch light (blue); XII - to the signal (black); XIII - the signal to the headlight (yellow); XIV - B relay to terminal controller (blue); XV - from relay control terminal W generator (brown); XVI - the battery (Blue)

(3MT-6 or 3MT-12)
Ural (Урал) M-63 (Ural-2)

Wiring diagram in the spotlight:

I-B to the terminal controller relays (blue); II-to reel zazhigniya; III-I to the terminal of the generator (green); IV-to the signal (black); V-on signal to the spotlight; VI-switch to light (blue); VII-signal from the button to the headlight (yellow); VIII-filament lamp to dim light (black); IX-to high beam filament lamp (green); X-on "weight" (brown); XI-bike to the lantern (black); XII-to lanterns stroller (black)

I-to terminal B relay control (blue); II-to coil; III-I to terminal of generator (green); IV-to-signal ratio (black); V-signal from headlamp; VI-to light switch (blue); VII-a button signal to lamp (yellow); VIII-filament lamp to dim light (black); IX-filament lamp to beam (green); X-on “ground” (brown); XI-bike to lamp (black); XII-lanterns to sidecar (black)
Ural (Урал) M-63 (Ural-2)

1. Spark Plug
2. Breaker Points (PM-302)
3. Hammer breaker
4. Anvil breaker
5. Cam plugs
6. Condenser
7. Battery (3MT-6 or 3MT-12)
8. Headlight
9. Ignition contact
10. Ignition switch
11. Ignition coil (B-201)
12. Spark plug, 2 - circuit breaker, 3 - hammer breaker, 4 - anvil breaker, 5 - cam plugs, 6 - condenser, 7 - battery, 8 - headlight, 9 - ignition contact, 10 - ignition key, 11 - ignition coil, 12 - spark gap, 13 - secondary winding, 14 - primary winding
Ural (Урал) М-63 (Ural-2)

1. Headlight Cavity
2. Sidecar Front Light
3. Sidecar Front Light
4. Motorcycle Tail Light
5. Rear Brake-Light Switch
6. Voltage Regulator (PP-302)
7. Generator (Г-414)
8. Headlight Hi/Lo and Horn Button
9. Horn
10. Breaker/Distributor (with Automatic Advance)
11. Breaker/Distributor (with Automatic Advance)
12. Spark Plug
13. Battery
Ural (Урал) M-63 (Ural-2) to M-66 (Ural-3)

Ural (Урал) M-62, M-63 and M-66

Breaker Points (PM-302)
Ignition Coil (B201)
Battery
Regulator (PP-302 / PP-302A)
Horn
Horn
Turn Signal

Fig. 49. Laying and Colour of the Wires:
1 — front side lamp; 2 — tail lamp; 3 — headlamp; 4 — storage battery; 5 — tall lamp; 6 — generator; 7 — stop light transmitter; 8 — regulating relay; 9 — spark plugs; 10 — distributor; 11 — ignition coil; 12 — horn; 13 — lights turn knob; I — white; II — black; III — brown; IV — blue; V — green; VI — yellow; VII — red
Fig. 44. Circuit Diagram of Electrical Equipment and Colouring of Wires:

1 — side-car front lamp; 2 — lamp bulb A12-21-6 of side light and stop light on the tail lamp of the side-car; 3 — direction indicator lamp bulb A12-21; 4 — side-car tail lamp; 5 — direction indicator switch; 6 — right-turn direction indicator lamp; 7 — direction indicator breaker; 8 — regulating relay; 9 — right-turn rear direction indicator lamp; 10 — stop light switch; 11 — speedometer lighting and pilot lamp bulbs A12-1; 12 — direction indicator performance pilot lamp; 13 — far-reaching and bright light lamp bulb 12 V 45-40 W; 14 — side lamp and parking lamp bulb 12 V 4 W; 15 — headlamp; 16 — generator performance pilot lamp; 17 — safety fuse board; 18 — speedometer lighting lamp socket; 19 — generator; 20 — switch; 21 — storage batteries; 22 — motorcycle stop light lamp bulb A12-15; 23 — motorcycle licence number plate lighting and side light lamp bulb A12-3; 24 — motorcycle tail lamp; 25 — left-turn rear direction indicator lamp; 26 — master switch; 27 — left-turn front direction indicator lamp; 28 — horn; 29 — head lights turn-knob; 30 — ignition distributor; 31 — ignition coil; 32 — high tension wire; 33 — spark plug terminal; 34 — spark plug.

Colouring of wire insulation:

I — orange; II — violet; III — brown; IV — black; V — green; VI — red; VII — yellow; VIII — blue; IX — grey.
1. Lamp of the left index of turn
2. Lamp A12-21
3. Headlight
4. Bulb A12-4 of parking light and parking light
5. Bulb A12-45-40 far and passing beam
6. Lamp of the right index of turn
7. Speedometer
8. Speedometer lamp A12-1
9. Turn indicator lamp
10. Emergency oil-pressure lamp
11. Lamp of a control lamp of a headlight
12. Generator lamp
13. Neutral indicator lamp
14. The panel of devices
15. Central switch;
16. Turn indicator switch
17. Breaker of direction indicators
18. Contact plug
19. Emergency oil-pressure sensor
20. Light switch
21. The front lamp of the stroller
22. Sidecar parking and brake light A12-21
23. Fuse block
24. Generator
25. Horn
26. Relay-controller
27. Brake light switch
28. Master ground switch
29. Battery
30. Breaker
31. Ignition coil
32. High voltage wire
33. Tip of spark plug
34. Spark plug
35. Rear sidecar light
36. Motorcycle lantern
37. Lamp A12-15 of a signal of braking
38. Bulb A12-3 of the vehicle registration light
Ural (Урал) 1998 Deco Classic, Italia, Tourist, Sportsman, Solo, Utility (IMZ 8.103-10 or -40 (Deco or Tourist))
1-select "day-night" with ignition safety switch, 2-side marker light bulb on sidecar A12-8, 3-lamp indicators of A-12-21-3, 4-light front sidecar, 5-Rear sidecar, 6-bulb marker light and a braking signal in a wheelchair A12-212 5, 7-relays, lights, 8-contact (switch controls lamp neutral) 9-switch braking signal handbrake, 10-flashers, 11-driving lamp and low beam headlights A12-45 +40, 12-illumination speedometer A12-1, 13-light control switch neutral A12-1: 14-lamp control indicators A12-1, 15-dashboard; 16-Rear, 17-bulb marker light and license plate illumination A12-5, 18-brake signal A12-21-3, 19-switch braking signal; 20-rechargeable battery; 21-ground switch; 22-generator; 23-ignition coil, 24-horn; 25-fuse box, 26-light beam control A12-1, 27-generator lamp A12-3, 28-headlight; 29-side marker lamp and parking lamp SWERA in A12-4, 30-Index left turn; 31-ignition switch; 32-light switch and indicator lamps; 33-chopper; 34-spark plug; 35-tip of plug; 3 -high voltage wire, and A-option to connect two batteries 3MT6.
Horn Button

Ural 650 (IMZ-8.103-10 and 8.103-40)

Wiring diagram

Copyright by Lars Lassen

27.12.95
1. Motorcycle head lamp
2. High-low beam headlight bulb
3. Side and parking bulb in headlight
4. Turn indicator bulb
5. Neutral gear indicator bulb
6. Speedometer
7. Speedometer illumination bulb
8. Generator
9. Highbeam indicator lamp
10. Left turn indicator
11. Turn signal flasher
12. Sidecar front bulb
13. Sidecar side bulb
14. Traffic indicator bulb
15. Front brake light switch
16. Fuse plate
17. Ignition lock
18. "Day-night" switch with emergency "ignition out" switch
19. Horn
20. Light and turn indicator switch, horn button
21. Distributor
22. Induction coil
23. Spark plug
24. Spark plug cap
25. Neutral gear indicator switch
26. Generator
27. Ignition module
28. Voltage regulator
29. Earth disconnect switch
30. Sidecar rear lamp
31. Sidecar lamp
32. Sidecar side and brake bulb
33. Battery
34. Left rear turn signal
35. Foot brake signal switch
36. Motorcycle rear lamp
37. Brake light
38. Side bulb and number plate illumination bulb
Ural (Урал) 2006 (750сс)
Notice the Addition of Diodes, Allowing the Use of LEDs
Схема электрическая для мотоцикла IMZ-8.1235 “ВОЯЖ”
Ural (Урал) IMZ-8.1237 (Wolf)

Flasher

Battery

Ignition Switch

Turn Signal

1 - правый указатель поворота;
2 - фара;
3 - левый указатель поворота;
4 - спидометр;
5 - реле поворотов;
6 - блок предохранителей;
7 - замок зажигания;
8 - кнопка стартера;
9 - выключатель света;
10 - аварийный выключатель двигателя;
11 - датчик стол-сигнала от тормозов;
12 - датчик стол-сигнала от заднего фонаря;
13 - переключатель дальнего/ближнего света;
14 - кнопка звукового сигнала;
15 - звуковой сигнал;
16 - схема заземлений;
17 - датчик нейтрали;
18 - генератор;
19 - катушка;
20 - микропроцессорный блок зажигания;
21 - реле стартера №1;
22 - реле стартера №2;
23 - стартер;
24 - правый указатель поворота;
25 - датчик стол-сигнала от заднего фонаря;
26 - аккумуляторная батарея;
27 - задний фонарь;
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<th>#</th>
<th>Part #</th>
<th>Description</th>
<th>Notes</th>
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<tr>
<td>1</td>
<td>IMZ-8.1037-18016-12</td>
<td>Motorcycle wire harness</td>
<td>Used thru 2005</td>
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<td>2</td>
<td>IMZ-8.103-18042</td>
<td>Indicator Lamp</td>
<td>Specify lamp type when ordering (Neutral, high beam, charge, turn)</td>
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<td>3</td>
<td>IMZ-8.103-18050</td>
<td>Ignition lock</td>
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<td>4</td>
<td>IMZ-8.1037-17151</td>
<td>Dashboard</td>
<td>Specify color when ordering</td>
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<td>5</td>
<td>IMZ-8.103-18041-10</td>
<td>Headlight bucket</td>
<td>Does not include lamp</td>
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<tr>
<td>5a</td>
<td>H6024</td>
<td>Sealed Halogen Beam</td>
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<tr>
<td>6</td>
<td>LB05FB</td>
<td>Spark plug cap - NGK</td>
<td>Installed thru 2006</td>
</tr>
</tbody>
</table>

Dashboard Indicators
- Battery (red)
- Neutral (green)
- Turn Signal (yellow)
- High Beam (blue)

Electric Starter

Nippon-Denso Alternator

Rear Brake-Light Switch

Front Brake-Light Switch

Battery

Speedometer

Flasher Unit

Horn

Fuse Box

Spark Plug
IMZ-8.103-10, 40 1 - switch "day-night" with the ignition safety switch, 2 - dimensional light bulb in a wheelchair A12-8, 3 - lamp indicators A-12-21-3, 4 - light front carriages, 5 - light rear carriages 6 - bulb marker light and Brake light on a carriage A12-21+5-3. Relay controller 8 - contact (switch warning light neutral). 9 - Brake light switch parking brake 10 - chopper indicators, 11 - driving lamp and beam headlights A12-45 40, 12 - bulb illumination speedometer A12-1, 13 - light control switch neutral A12-1, 14 - lamp control indicators A12-1, 15 - dashboard, 16 - rear lamp, 17 - bulb marker light and license plate illumination A12-5, 18 - Brake light bulb A12-21 3, 19 - Brake light switch, 20 - Rechargeable Battery, 21 - switch the "masses" 22 - Generator 23 - ignition coil, 24 - audio signal 25 - Fuse Block, 26 - light beam control A12 1, 27 - lamp control of the generator A12 1, 28 - motorcycle headlight; 29 - marker lamp and parking lamp SWERA in A12-4, 30 - Index turn left; 31 - ignition lock; 32 - the light switch and indicator lamps, 33 - chopper; 34 - spark plug, 35 - tip the candle 36 - high tension wire, and A the option to connect two batteries 3MT6.
Ural 2014-2017 Ignition Wiring Diagram

ECU2
Cylinder 2 (Right) Engine Management Throttle Body

ECU1
Cylinder 1 (Left) Engine Management Throttle Body

Ignition Coil 2
Cylinder 2 Ignition Coil
SPARKPLUG2
Crankshaft Position Sensor
SENSOR1
Engine Flywheel

Ignition Coil 1
Cylinder 1 Ignition Coil
SPARKPLUG1

EJT32R
EJT32L