Russian Motorcycle
Signal Horns
(сигнал звуковой)
Part XXIII: Signal Horn Evolution

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Russian Motorcycle Signal Horn (сирена)

• Ural and Dnepr Horns Are Inexpensive Mechanical Devices
• Replacement Horns Are Cheap and Plentiful
  – Easily Find a Semi-Exact Replacement at Local Cycle Store
  or on Internet
• My first car was a 1960 Renault Dauphine ("princess" in French). Back in those days it was pronounced Renawlt, but today it sounds more French. It had a city horn, eep, eeepp! and a country horn, BEEP, BEEEPP! I used to beep that thing every chance I could. The horn on my Ural sounds like that Renault Dauphine.
• When your horn dies, use the metal mount strip that comes with the new horn, as it will allow the horn to vibrate better than the thicker original one, giving a louder honk. Mount the horn in the same spot as the stock one and adjust the metal mount strip to orient the horn so that the wires aren't stretched, and be prepared for a much louder sound.
### 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>CM-01 or CM-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-35A, 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>
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<tr>
<td>M-66 (Ural-3)</td>
<td>1968-72</td>
<td>650cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
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<tr>
<td>M-67</td>
<td>1973-75</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-38A, C-205B</td>
</tr>
<tr>
<td>M-67.36</td>
<td>1976-95</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B (C205B)</td>
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<tr>
<td>8.103 and 8.107 Series “650”</td>
<td>1994-98</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B (IMZ 8.101-18006-20, 3721000), C-304</td>
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<tr>
<td></td>
<td>2007-present</td>
<td>750cc</td>
<td>12-Volt</td>
<td>LEBK91- White Zinc or Black</td>
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</tbody>
</table>

### KMZ (KMЗ) - 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>
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<tr>
<td>M-72N (H)</td>
<td>1956-59</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-35, C-35A</td>
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<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></td>
<td></td>
<td>C-35, C-35A, C-37 (72186), C-37A</td>
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<tr>
<td>K-750M</td>
<td>1963-77</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
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<tr>
<td>MB-750</td>
<td>1964-73</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
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<tr>
<td>MB-750M</td>
<td>1973-77</td>
<td>750cc</td>
<td>6-Volt</td>
<td>C-37A (72186-A3)</td>
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<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>
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<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>
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<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>
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<tr>
<td>MT-11 (Dnepr-11)</td>
<td>1985-95</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B (3721000) / C-304 (3721000)</td>
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<tr>
<td>MT-16 (Dnepr-16)</td>
<td>1986-95</td>
<td>650cc</td>
<td>12-Volt</td>
<td>C-205B (3721000) / C-304 (3721000)</td>
</tr>
</tbody>
</table>
The evolution of Russian horns has been slow and very unexciting, mostly C-37/C-37A for 6-Volt bikes and C-205B/C304 for 12-Volt bikes.
The M-72 bike started the tradition of the “tinny horn.”

Ural: M-72
Dnepr: M-72, M-72N, K-750
Various 6-Volt Signal Horns

C-35
Ural: M-72
Dnepr: M-72N, K-750

C-35A
Ural: M-72
Dnepr: M-72N

C-37
Ural: M-72, M-72K
Dnepr: K-750, MT-8, MT-9

C-37A
Ural: M-61, M-62, M-63, M-66
Dnepr: K-750, K-750M, MT-8, MT-9
Various 12-Volt Signal Horns

- **C-38**
  - **Ural:** MT-10, MT-10.36
  - **Dnepr:** MT-9

- **C-205B**
  - **Ural:** M-67, M-67.36, MT-11, 8.103 & 8.107 “650” Series
  - **Dnepr:** K-750M, MT-9

- **C-205B / C-304**
  - **Ural:** MW-650, MT-11, MT-16
  - **Dnepr:** MW-650, MT-11, MT-16

- **C-304**
  - **Ural:** MT-11, MT-16
  - **Dnepr:** MT-11, MT-16

**Voltage:** 11-to-15-Volts
**Current at Rated Voltage:** 3A @12V
**Loudness:** 105-to-125 dB
**Frequency:** 350-to-450 Hz @12V
**Russian Horn Specifications**

<table>
<thead>
<tr>
<th>Horn</th>
<th>C-35</th>
<th>C-35A</th>
<th>C-37</th>
<th>C-37A</th>
<th>C-38</th>
<th>C-38A</th>
<th>C-205B</th>
<th>C-304</th>
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<tr>
<td>Part Number</td>
<td>72186</td>
<td>72186-A1</td>
<td>72186-A3</td>
<td>72186-A3</td>
<td>20.3721</td>
<td>20.3721</td>
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<tr>
<td>Acoustic Volume</td>
<td>95 dB</td>
<td>95 dB min (@10.5V, 1 m)</td>
<td>95 dB min (@10.5V, 1 m)</td>
<td>105-118 dB (@ 2 m)</td>
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<tr>
<td>Rated Voltage</td>
<td>6-Volt</td>
<td>6-Volt</td>
<td>6-Volt</td>
<td>6-Volt</td>
<td>12-Volt</td>
<td>12-Volt</td>
<td>12-Volt</td>
<td>12-Volt</td>
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<tr>
<td>Operating Voltage</td>
<td>5.2 to 7.4-Volts</td>
<td>10.5 to 14-Volts</td>
<td>10.5 to 14-Volts</td>
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</tr>
<tr>
<td>Current Consumption</td>
<td>3-Amp max</td>
<td>2-Amp max</td>
<td>2-Amp max</td>
<td>3-Amp max</td>
<td></td>
<td></td>
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<tr>
<td>Frequency</td>
<td>330-400 Hz @6V</td>
<td>330-400 Hz @12V</td>
<td>330-400 Hz @12V</td>
<td>350-450 Hz @12V</td>
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<tr>
<td>Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.35 kg</td>
</tr>
</tbody>
</table>
M-72 Claxon (Signal Horn) Differences

C-37A  C-35 A  CM-2

Claxon's used on M72
Adjust: Probably get horn to work by just giving a light tap or two with a hammer and then fiddling with the adjuster bolt/nut on the back which will get the device to more or less squawk. Loosen the locknut (7 mm) on the adjustment screw locknut and hold the horn button. Back it off and it will probably work. Turn adjusting screw to achieve a clean and loud sound signal, and then lock down the jam-nut. The adjuster is pretty touchy and can be combined with loosening or tightening the center bolt on the horn can (older models). If not, the horn should be replaced.
There are hundreds of horns to choose from your local bike-shop or off the internet, most with a mounting bracket similar to that of the Ural/Dnepr.
C-37A Signal Horn

- Installed on K-750M, MB-750, K-650, MB-750M and MT-9
- Operation in a DC Circuit with a Voltage of 6 ≈ 7 volts
- Horn Activated When Ignition Is Switched On and Horn Button Pressed
- Contacts in Horn’s Electrical Circuit Allow Current, to Pass thru Electromagnet Winding
- Core Magnet Attracts the Membrane (16) Mounted on the Housing Flange
- Under the Influence of the Magnet’s Attraction Force, Membrane Bends Downwards and the Armature Plane Presses the Textual Plate
- As a Result, Horn’s Vibrator Contacts Open and Current Stops Passing thru the Electromagnet’s Winding
- The Core is Demagnetized, and Membrane, without Experiencing the Attraction Forces, Returns to Its Original Position
- In This Case, the Textual Plate Closes the Vibrator Contacts and the Current Again Passes thru the Electromagnet’s Winding, and Cycle of Operation Is Repeated
- Vibrating Membrane Causes Sound
- The Sounding Tone Depends on the Design of the Resonator (20)
- The Sound Power Is Controlled by the Screw Located on the Back of the Horn Body
Ural (Урал) Early М-72 (1942)

- G-11 Generator
- PP-1 Regulator
- KM-01 Coil
- PM-05 Breaker/Distributor
- 3MT-7 Battery

- Manual Spark Advance
- C-35A Signal Horn
- Hi/Lo Beam Switch
- Generator (Г-11)
- Regulator (PP-1)
- Positive Ground
- Battery
- Breaker/Distributor (PM-05)
- Ignition Coil (KM-01)
The horn is attached to the tubular jumper at the front of the frame. It is drilled through and the signal bar attached by a bolt. Another option is the installation under the seat, on the bracket welded to the seat tube, as it was for some M-72’s in the 40s.
Chang Jiang CJ750

• Earliest Changs Were Virtually identical to the Soviet M-72M
• That Included the Mounting Location for the Horn, Just Aft of the Hand Shifter
• Interestingly, Photos Don’t Support German R71s Were Built This Way, Although Some May Have Been
• Since Most M-72s Had Sidecars, It’s Difficult to Find Photos Showing Where the Horn Is Mounted
• On Solo Bikes, It’s Hard to Miss

Replacements for the M-72 can also be found on Chang websites.
Dnepr (Днепр) Early K-750

with PP-31 Voltage Regulator, PM-05 Breaker/Distributor and B2Б Ignition Coil

G-11A Generator
PP-31A Regulator
B2Б Ignition Coil
PM-05 Breaker/Distributor
3MT-7 Battery

C-37A Signal Horn

Hi/Lo Beam Switch

Battery
14. Signal Horn (задний фонарь коляски) С-37А

10. Single-Leaded Ignition Coil (В2Б)
Dnepr (Днепр) K-750M

- Generator (Г-414)
- Hi/Lo Beam Switch
- Regulator (РР-302)
- PM-302 Regulator
- B2B Coil
- PM-05 Breaker
- 3MT-6 Battery
- Ignition Coil (B2Б)
- Breaker/Distributor (PM-05)
- Battery
- C-37A Signal Horn
Dnepr (Днепр) MB-750, MT-12

- **G-414 Generator**
- **PP-302 Regulator**
- **B2B Ignition Coil**
- **PM-05 Breaker**
- **3MT-12 Battery**

- **C-37A Signal Horn**
- **Ignition Coil (B2B)**
- **Distributor/Breaker (PM-05)**
- **Generator (Г-414)**
- **Voltage Regulator (PP-302)**

*Rис. 29. Монтажная схема электрооборудования мотоцикла*
The early K-650 Dnepr used a single-lead output ignition coil (В2Б) and a C-37A signal horn.
The later K-650 Dnepr used a dual-lead output ignition coil (B-201), but retained the C-37A signal horn.
Horn consists of a steel stamped housing (4), yoke with an electromagnet core (9), electromagnet winding (10), vibrator pin (7), textual plate (8) with a lower movable pin mounted on it, contact screw (6) for adjusting contacts with return spring (5) mounted on it, terminals (2), wires (12) connecting the winding with terminals, membrane (16) with gaskets (13), resonator (20), armature (14), resonator adjustment hinges (15), body cover (3), and screw hinges (1) of the cover with spring washers (2)
Dnepr (Днепр) MT-9 with Manual Spark Advance and Single-Lead Output Ignition Coil

- Oil-Pressure Sensor (MM-106A)
- Generator (Г-414)
- Single-Leaded Ignition Coil (B2B)
- C-37 Signal Horn
- Breaker/Distributor (PM-05)
- Regulator (PP-302)
The early MT-9 Dnepr used a single-lead output ignition coil (В2Б) and a C-37A signal horn.
Днепр (Днепр) МТ-9
with Automatic Spark Advance and Two-Lead Output Ignition Coil

Oil-Pressure Sensor (MM-106A)

Breaker (Г-414)
Generator (Г-414)
Regulator (ПП-302)

C-37 Signal Horn
Two-Leaded Ignition Coil (В-201)
Dnepr (Днепр) MT-9 with a Two-Lead Output Ignition Coil

18. Signal Horn (сигнал звуковой) C-37A

16. Two-Leaded Ignition Coil (B-201)
Dnepr (Днепр) MT-10
(Г-424 Alternator, PP-330 Regulator, B-204 Ignition Coil, and PM-302 Breaker)

- Alternator (Г-424)
- Voltage Regulator (PP-330)
- Ignition Coil (B-204)
- Breaker (PM-302)
- Battery (2X 3MT-6)
- Oil-Pressure Sensor (MM-106A)
- C-38 Signal Horn
17. C38-3721000 Signal Horn
33. Signal Horn (сигнал звуковой) С205Б
Dnepr (Днепр) МВ-650, MT-11 and MT-16
with 33.3072 (solid-state) regulator

- Г-424 Alternator
- 33.3702 Regulator
- B204 Coil
- PM-302A Breaker
- 3MTS-9 Battery
- C205B/C304 Horn
- MM-126A Oil-Pressure Sensor

Horn (C-205Б/С-304)

Flasher
Turn Signal
8. Signal Horn (звуковой сигнал) C-37А
13. Signal Horn (звуковой сигнал) С205В (С205Б)
Ural IMZ-8.103

Signal Horn IMZ-8.101-18006-20
Ural (Урал) IMZ 8.103-10, 8.103-30, 8.103-40 and 8.123

25. Signal Horn (звуковой сигнал) С-304
Unless you have a desire to tinker, it’s best to simply replace a broken or cantankerous horn.
CM-02: First Signal Horn
Comparison Between CM-02 and Bosch (Used on BMW): No Difference
M-72 C-35 Signal Horn
Signal (Сигнал) C-23 vs. C-35 vs. C-35A
C-35A (6-Volt, 1957 & 1958)
C-37 (6-volt)

C-37 signal horn (Сигнал) for the M-72 and K-750.
Signal Horn C-205B (Рабочий звуковой сигнал С-205-Б)

C 205-B Horn
Dnepr, MB-650
Item: 000.799
List Price: 19.50€
(www.oldtimergarage.eu)

Сигнал звуковой
12В С205-Б
List Price: 250 rubles
(motaki.ru)

C205B
List Price: 500₽
(www.avito.ru)

C-205B
(moto-boxer.com)
List Price: 4.00€
(osta-ee.postimees.ee)

C-205-Б
List Price: 15 rubles
(arc.violity.com)
C205B-3721000 / C304-3721000 Signal Horn

Signal Horn
C205B-3721000/C304-3721000
Fits: Dnepr MT-11/16
List Price: $7.35
(dnepr-kiev.com)
C-304 Signal Horn

Signal Horn
12V (C304-3721000)
List Price: 40 rubles
(www.olx.ua)

Signal Horn
12V (C304-3721000)
Fits: Dnepr
List Price: 7.70 EUR
(www.intermoto.ee)
C-304 Signal Horn (Звуковой сигнал)

1 - membrane
2 - fixed contact holder
3 - diffuser
4 - ring
5 - movable contact plate
6 - housing
7 - core
8 - adjusting screw
9 - spring of adjusting screw
10 - bridge
11 - plate of horn fastening
12 - yoke
13 - armature
Modern Ural Signal Horn

  - Horn K91/H 12V, Black

- **Vintage Signal Horn:**
  - Vintage Chrome Retro Manual Horn 1“ (25.4 mm)

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**IMZ-8.1236-18006-01**
List Price: $29.80 (www.uralnw.com)

**Vintage Chrome Retro Manual Horn**
Size: 1“ (25.4 mm)
Length: 180 mm
List Price: 12.50€
(ural-france.fr)
# Modern Ural Signal Horns

<table>
<thead>
<tr>
<th>Model</th>
<th>Year</th>
<th>Part #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 - 2017</td>
<td>Gear-Up, T</td>
<td>IMZ-8.1037-18006-01</td>
<td>Horn K 91/H 12V, black</td>
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<tr>
<td>2010 – 2014</td>
<td>T</td>
<td>IMZ-8.1037-18006-01</td>
<td>Horn K 91/H 12V, black</td>
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<tr>
<td>2015 - 2017</td>
<td>cT</td>
<td>IMZ-8.1037-18006-01</td>
<td>Horn K 91/H 12V, black</td>
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<td>2010 - 2012</td>
<td>Patrol</td>
<td>IMZ-8.1236-18006-01</td>
<td>Horn K 91/H 12V, zinc plated</td>
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<tr>
<td>2013 - 2017</td>
<td>Patrol</td>
<td>IMZ-8.1037-18006-01</td>
<td>Horn K 91/H 12V, black</td>
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<tr>
<td>2010 - 2012</td>
<td>Tourist</td>
<td>IMZ-8.1236-18006-01</td>
<td>Horn K 91/H 12V, zinc plated</td>
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<tr>
<td>2013 Last Year of Tourist</td>
<td>Tourist</td>
<td>IMZ-8.1037-18006-01</td>
<td>Horn K 91/H 12V, black</td>
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<tr>
<td>2010 - 2012</td>
<td>Retro Sidecar</td>
<td>IMZ-8.1037-18006-01. IMZ-8.1236-18006-01</td>
<td>Horn K 91/H 12V, black, Horn K 91/H 12V, zinc plated</td>
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<tr>
<td>2013 - 2017</td>
<td>Retro Sidecar</td>
<td>IMZ-8.1037-18006-01</td>
<td>Horn K 91/H 12V, black</td>
</tr>
<tr>
<td>2010 – 2013 Last Year of Patrol T</td>
<td>Patrol T</td>
<td>IMZ-8.1037-18006-01</td>
<td>Horn K 91/H 12V, black</td>
</tr>
</tbody>
</table>
• 26 IMZ-8.101-18006-20 Horn 1 26 LEBK91-White Horn - Italian Zinc Installed from 2007 1 26 LEBK91-Schwarz Horn - Italian Black Installed from 200