

A Russian police officer in a dark uniform and peaked cap sits on a blue motorcycle. A yellow sign with the word 'TAXI' in blue letters is attached to the front. The background shows a city street with yellow taxis and buildings.

Russian Police Motorcycles Part I: Introduction and Identification

(see also Parts II – VII)

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Plan-of-Action

- **Identification Is Important**
 - **Identification By:**
 - **ID Plate on Front Fork**
 - **Size of Engine and Valve Covers**
 - **Electrical Items: Generator / Alternator, Ignition, Horn**
 - **Shape, Depth and Brackets of Fenders**
 - **Louvers in Sidecar**
 - **Presence of Siren and Extra Lights**
 - **Sidecar Frame, Medallion and Spot-Light Mounting Holes**
 - **Example ID: Aleš Nosek at www.oldtimersworld.com**
- **Quick Review of Russian Police Motorcycle History**
- **Future of Ural for Police Motorcycles**
- **Divided into Six Parts for Police Motorcycles**
 - **Part I: Introduction and Identification**
 - **Part II: Ural M-100**
 - **Part III: Ural M6X (M-63, M-66, M-67, M-67.36)**
 - **Part IV: Ural IMZ-8.903 and IMZ-8.923**
 - **Part V: Ural IMZ-8.1233**
 - **Part VI: Sirens**
 - **Part VII: Russian Police Motorcycles in the Movies**
- **Do Not Be Confused by Use of Word “Militia” for Police Motorcycles**
- **Many Motorcycle Have ГАИ (GAI) Printed on Front**
 - **ГАИ, an Acronym for State Automobile Inspectorate**
 - **Russian Department of Ensuring Road Traffic Safety**

Identification of the Ural model of heavy motorcycle is important, so that you can match the proper maintenance manuals and replacement parts.

Ural Police Model Comparison

<i>Model</i>	<i>M-100 Patrol (P)</i>	<i>M-63P (Ural-2)</i>	<i>M-66P (Ural-3)</i>	<i>M-67P</i>	<i>M-67.36P (IMZ-8.101)</i>	<i>IMZ-8.903</i>	<i>IMZ-8.923</i>	<i>IMZ-8.1233 Solo "DPS"</i>
<i>Year</i>	<i>1963-1969</i>	<i>1963-1970</i>	<i>1968-1975</i>	<i>1973-1978</i>	<i>1976-1983</i>	<i>1984-1994</i>	<i>1984-1994</i>	<i>2003-</i>
<i>Engine Size</i>	<i>1040 cc</i>	<i>649 cc</i>	<i>649 cc</i>	<i>649 cc</i>	<i>649 cc</i>	<i>649 cc</i>	<i>649 cc</i>	<i>745 cc</i>
<i>Power</i>	<i>56 Hp / 42 kW</i>	<i>32 Hp / 23.5 kW</i>	<i>32 Hp / 23.5 kW</i>	<i>32 Hp / 23.5 kW</i>	<i>36 Hp / 26.5 kW</i>	<i>36 Hp / 26.5 kW</i>	<i>36 Hp / 26.5 kW</i>	<i>45 Hp / 29 kW</i>
<i>Max Speed: Solo</i>	<i>150 km/h (93 mph)</i>	<i>105 km/h (65 mph)</i>	<i>125 km/h (78 mph)</i>	<i>125 km/h (78 mph)</i>	<i>130 km/h (81 mph)</i>	<i>125 km/h (78 mph)</i>	<i>125 km/h (78 mph)</i>	<i>145 km/h</i>
<i>Max Speed: With Sidecar</i>	<i>120 km/h (75 mph)</i>	<i>95 km/h (59 mph)</i>	<i>105 km/h (65 mph)</i>	<i>105 km/h (65 mph)</i>	<i>105 km/h (65 mph)</i>	<i>105 km/h (65 mph)</i>	<i>105 km/h (65 mph)</i>	<i>145 km/h (90 mph)</i>
<i>Carburetor</i>	<i>E-300 (K-38 counterbored diffuser to 34 mm)</i>	<i>K-301</i>	<i>K-301B (Б) (48 mm)</i>	<i>K-301G (Г) or 28 mm Mikuni</i>	<i>K-301G (Г)</i>	<i>K-301G (Г)</i>	<i>K-301G (Г)</i>	<i>Keihin L22 AA</i>
<i>Timing</i>	<i>PM-11</i>	<i>PM-11A</i>	<i>PM-302</i>	<i>PM-302</i>	<i>PM-302</i>	<i>PM-302</i>	<i>PM-302</i>	<i>Ducati</i>
<i>Generator / Alternator</i>	<i>G-424, 12V, 150 Watt</i>	<i>G-414, 6V, 65 Watt</i>	<i>G-414, 6V, 65 Watt</i>	<i>G-424, 12V, 150 Watt</i>	<i>G-424, 12V, 150 Watt</i>	<i>G-424, 12V, 150 Watt</i>	<i>G-424, 12V, 150 Watt</i>	<i>Denso 12V, 500 Watt</i>
<i>Tire Size</i>	<i>4" X 17"</i>	<i>3.75 X 19"</i>	<i>3.75 X 19"</i>	<i>3.75 X 19"</i>	<i>3.75 X 19"</i>	<i>3.75 X 19"</i>	<i>3.75 X 19"</i>	<i>3.5" X 18"</i>
<i>Front Suspension</i>	<i>front wheel telescopic fork With 140 mm Stroke</i>	<i>Telescopic Fork with Hydraulic Double- Acting Shock Absorbers</i>	<i>Telescopic Fork with Hydraulic Double- Acting Shock Absorbers</i>	<i>Telescopic Fork with Hydraulic Double-Acting Shock Absorbers, Leading Link for Solo</i>	<i>Telescopic Fork with Hydraulic Double-Acting Shock Absorbers, Leading Link for Solo</i>	<i>Telescopic Fork with Hydraulic Double- Acting Shock Absorbers</i>	<i>Leading Link for Solo</i>	<i>Telescopic</i>
<i>Voltage Regulator</i>		<i>PP-302</i>	<i>PP-302</i>	<i>PP-302 or PP-330</i>	<i>PP-330</i>	<i>PP-330</i>	<i>PP-330</i>	<i>Internal to Alternator</i>
<i>Dry Weight (w/o fuel, inclg Sidecar)</i>	<i>405 kg</i>	<i>310 kg</i>	<i>320 kg</i>	<i>330 kg</i>	<i>320 kg</i>	<i>320 kg</i>	<i>Solo</i>	<i>234 kg Solo</i>
<i>Maximum Load</i>		<i>255 kg</i>	<i>255 kg</i>	<i>255 kg</i>	<i>260 kg</i>	<i>260 kg</i>	<i>-</i>	<i>384 kg</i>

Note: 260 kg represents a load of two passengers plus 30 kg.

The police version of the motorcycle, designated by a "P", had a specific yellow-blue color from 1969. The standard changed to white-blue in 1993.

Police Motorcycle History Began with Ural's M-100

- ***Ural's M-63 (Ural-2) Motorcycle Appeared in 1963***
 - ***After 1965 Completely Replaced the Previous Machine (M-62)***
 - ***New Frame with Pendulum-Type (Swing-Arm) Rear Suspension with Hydraulic Shock Absorbers***
 - ***Fuel Tank Shape Changed to Increase Volume***
 - ***Exhaust System Got a New Form***
 - ***Production Until 1970***
- ***Ural M-100***
 - ***In 1967, a Small Batch of M-100 Motorcycles Was Produced***
 - ***1040 cc, 50 h.p. Twin-Cylinder OHV (Overhead Valve) Engine***
 - ***Sent for Police Testing at the Moscow ORUD GAI (Road Traffic Management Agency of the State Automobile Inspection Agency)***
 - ***Did Not Become a Mass-Produced Product***
 - ***Engine Was Used for Design of M-63P (M-63II)***
 - ***Similar Road-Patrol Motorcycle, Released at End of the 1960's as a Small-Batch Run: Somewhat Over 300 Units***
 - ***Subsequent Production of Police Bikes Based on Mass-Production Models***
- ***M-63P (M-63II) (P-patrol)***
 - ***First Made in 1969 to early 1970's***
 - ***Produced as Solos and with Sidecars***
 - ***Equipped with Sirens, Signal Lights, Safety Tubes***
 - ***Yellow and Blue Coloring***
 - ***Just Over 300 Motorcycles Produced***

The police prototype version of Ural's motorcycle started as the M-100, but high start-up costs and schedule forced the police to drop back to the M-63P₄

Police Transition from Motorcycles to Cars

- ***For Many Years, Soviet Policemen Used the Heavy Motorcycle with a Sidecar***
 - ***Army Was #1 Customer of Russian Heavy Motorcycles***
 - ***Soviet Police Was #2 Customer***
 - ***Staff Patrols on Motorcycles with Sidecars Around Neighborhoods, Roads and Parks***
 - ***Drunken Offenders Were Taken Away in the Sidecar***
 - ***In Rain, Police Had to Manage with Sidecar on Slippery Pavement***
 - ***In Winter, Police Rode in Frost and Ice, Wrapped in a Uniform Coat and Boots***
 - ***Needed to Have Confidence in Cold-Weather, Air-Cooled Engine***
 - ***Law Enforcement Used Ex-Army, Mass-Produced M-72, then K-750***
- ***In the 70-80s, Police Sought to Replace Motorcycles with Patrol Cars***
 - ***Police Wanted a More Comfortable Ride***
 - ***Conversion Occurred at the Beginning of the XXI Century (2000)***
 - ***Minister of Internal Affairs of the USSR Introduced Bright Special Paint for Police cars and Motorcycles***
 - ***Combination of the Major Surfaces of Yellow and Blue Colors***



For environmental security and the need to keep-up with motorists, the police were ultimately forced to procure more cars than motorcycles.

M-63 Is Replaced by the M-67 and M-67.36

- ***Ural's M-66 (Ural-3) Motorcycle Appeared in 1968***
 - ***Externally the Machine Saw Practically No Changes***
 - ***Production Until 1975***
- ***Ural M-67P "Ural-3" (IMZ-8.103-10) Appeared in 1973***
 - ***Fully Re-Engineered Chassis with Unified Driver-Passenger Seat***
 - ***Rear Strut Mount Pendulum Fork Moved Back 20 mm***
 - ***Allowed for Removal of Gearbox and Replacement of Clutch Cardan without Removing the Engine from a motorcycle***
 - ***Increased Distance Allowed "Ural" Box with Reverse Gear***
 - ***Introduced Two-Lobe Front Brake***
 - ***Replaced 6-Volt Motorcycle Electrical System with Automotive 12-Volt System***
 - ***New 150-Watt Alternator with a Rectifier Unit and Mounting Bracket to Engine***
- ***Ural M-67.36 Motorcycle Appeared in 1976***
 - ***Changed Design of Cylinder Heads***
 - ***Changed to K-301G with Larger Diameter Diffuser***
 - ***Engine Power Increased from 32 Hp (23.5 kW) to 36 Hp (26.5 kW)***
- ***"Ural" IMZ-8.103 (1984-2002)***
 - ***Significant Improvement in Appearance***
 - ***Installed New Gearbox with Reverse Gear***
 - ***Drum Brake Added to Sidecar Wheel***
 - ***New Electrical Components***

Ural continue to improve the motorcycle design and engine with its M-67 and M-67.36.

Along Came Ural's IMZ-8.XXX Series Motorcycles

- ***Ural IMZ-8.903 Motorcycle Appeared in 1984***
 - ***Patrol Motorcycle with Sidecar***
 - ***Equipped with GAI Signal Lights, Electric Siren and Brackets for Mounting Special Equipment***
 - ***650 cc Displacement, 32 Hp (23.5 kW)***
- ***Ural IMZ-8.923 Motorcycle Appeared in 1984***
 - ***Police “Solo” Version of IMZ-8.103***
 - ***Last of Them Left the Assembly Line in 1994***
 - ***Equipped with GAI Signal Lights, Electric Siren and Brackets for Mounting Special Equipment***
 - ***650 cc Displacement, 32 Hp (23.5 kW)***
- ***Ural IMZ-8.1233 “DPS” (ИМЗ-8.1233 «ДПС») Appeared in 2003***
 - ***Based on Ural IMZ-8.1239***
 - ***750 cc Displacement, 45 Hp (29 kW)***
 - ***Improved Alternator: 12-Volt / 500-Watt***
 - ***Needed to Support Added Light and Sound Signals***

Maintainability has greatly improved for the Russian police motorcycle.

Generator / Alternator Evolution



Г-424 (L-424) Was Fitted to the M-67 onwards up to 1998, some last forever, and proved reliable, but Never Had Sufficient Juice (150-Watts).



Designated 14.3771: 300-Watt Alternator Was Fitted after 1998. Change it before it destroys your engine, Russian roulette for bikes (Russian hand-Grenade).



Nippon-Denso 500-Watt. Used from 2004 Onwards.

Alternators for Russian motorcycles have evolved from the Russian-made Г-424, which supplied only 150-watts to the Japanese N-D, which supplies 500-watts to power the starter and increased lighting.

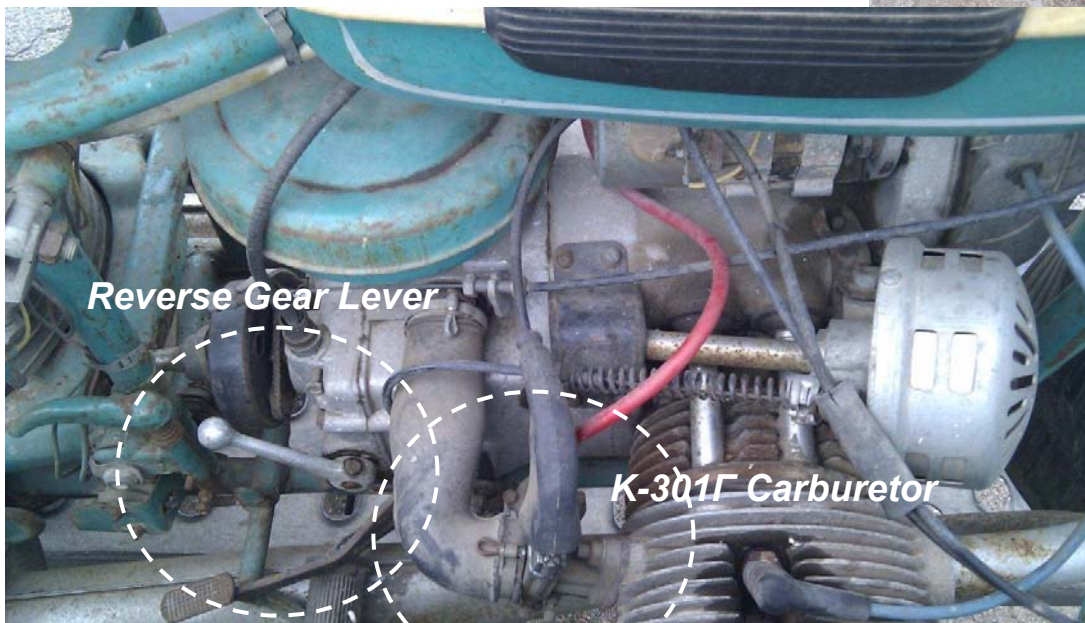
Types of Generators/Alternators for Ural (Урал) and Dnepr (Днепр)

Generator/ Alternator	Type	Vintage	Nominal Voltage	Current	Nominal Power	Motorcycles	
						Ural(IMZ)	Dnepr (KMZ)
Г-11 (G-11) (P/N: 72181)	DC Generator	1941- 1951	6-Volt (7-Volt)	7-Amp	45-Watts	M-72	Not Used
Г-11A (G-11A) (P/N: 72181-A)	DC Generator	1952- 1957	6-Volt (7-Volt)	7-Amp	45-Watts	M-72, M-72M , M-61	M-72, M-72N, early K-750
Г-414 (G-414) (P/N: 750181)	DC Generator	1957- 1974	6-Volt (7-Volt)	10-Amp	65-Watts	M-62, M-63, M-66	K-650, later K-750, K-750M, MB-750, MB-750M, MT-8, MT-9, MT-12
Г-424 (G-424) (P/N: 3701000)	Alternator (Built-in Rectifier)	1974- 1998	12-Volt (14-Volt)	14-Amp	150-Watts	M-67, M-67.36, IMZ 8.103 Series	MB-650, MB-650M, MT-10, MT-10.36, MT-11, MT-16
Hitachi (Limited Appearance)	Starter / Generator	1998- 1998.5	12-Volt (14-Volt)	18-Amp	300-Watts	IMZ 8.103 and 8.107 “650” Series	Not Used
14.3771 (RPOC) (P/N: 14.3771- 010)	Alternator (Built-in Rectifier & Regulator)	1998.5- 2004	12-Volt (14-Volt)	35-Amp	500-Watts	IMZ 8.103, 8.103X, 8.123, 8.123X “650 & 750” Series	Not Used
Nippon Denso (P/N: IMZ-8.1037- 18092)	Alternator (Built-in Rectifier & Regulator)	2004- present	12-Volt (14-Volt)	55-Amp	770-Watts	IMZ 8.103, 8.103X, 8.123, 8.123X “750” Series	Not Used

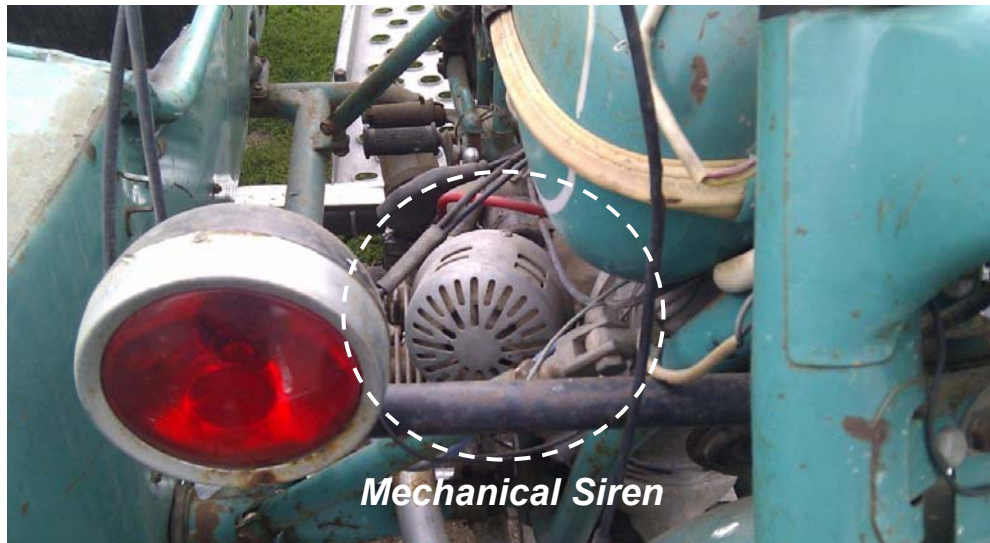
Notes:

- Nomenclature:** The Cyrillic letter “Г” transliterates (Russian-to-Latin) to “G” or “L” or “T.” Thus we see Г-414 or G-414 or L-414 or T-414, all for the same part.
- Cannot use Г-424 Alternator with discharged battery or without battery.**
- MB-750 = MW-750, MB-750M = MB-750M**
- The frame (case) of the Г-11/Г-11A generator is positive (positive-ground).**
- Г-414 Generator: P/N: 750181 6-Volt (negative ground), whereas P/N: 750181-A (positive-ground) for fitting Г-11A’s into early K-750’s.**

Example for Identification: Aleš Nosek at www.oldtimersworld.com



Identifying the carburetor may be the biggest clue.



Accessories include siren, flashing red lights and front sidecar hole.



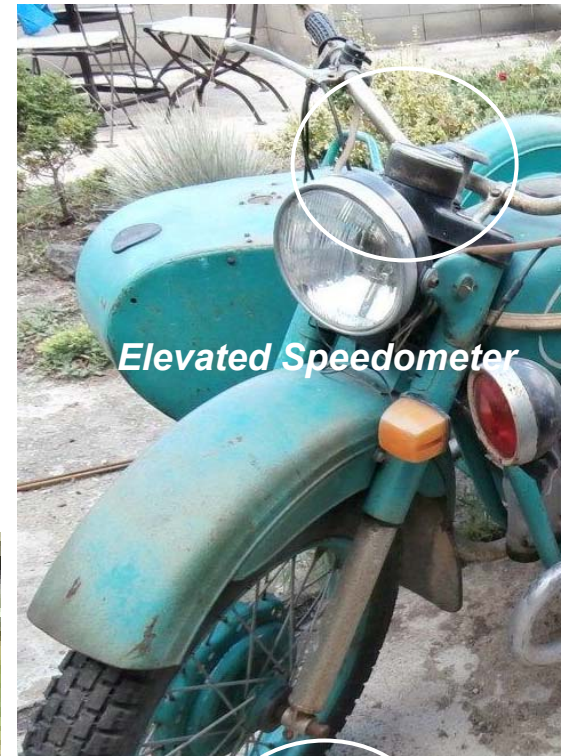
The plugged hole is for a spotlight. Notice the sidecar is vented for the extra battery.

Headlight Cavity and Speedometer



Elevated Speedometer

**Notice the Elevated
Speedometer Apart from
the Lamp Holder
(Not M-67.36)
Notice the Turn Signals**



Elevated Speedometer



Ural IMZ-8.903-10 (patrol)



*M-63P Has Speedometer
in Headlight Cavity*



1991 IMZ-8.903 Patrol "DPS"



M-67P

Ural (Урал) M-67



The M-67 was the first Ural to have 12-Volts.

Ural Headlight Cavity and Dash-Panel



1970's Urals (M-63 and M-66) have a very nice simple light with the speedo set into it and the ignition key just in front.



Later Ural Motorbikes, have a modern dash panel set above the light, with more warning lights than before and ignition key relocated to the left-hand head light support bracket. Square warning lights replaced round ones in about 1998.



Speedometer Separate from Headlight Cavity

**Alternator
"Charge" Alarm**

Turn Signal

Russian Motorcycle Front Fenders



Early Ural Motorcycles All Had High-Mounted Mudguards Made of Three Individual Pressings Welded Together to Form Two Side Seams. The Guard Hangs from the Yoke and Does Not Move.



Later Ural Solo, Front Guard Were Attached to the Fork Lowers and Thus Move with the Wheel.

Front Fender



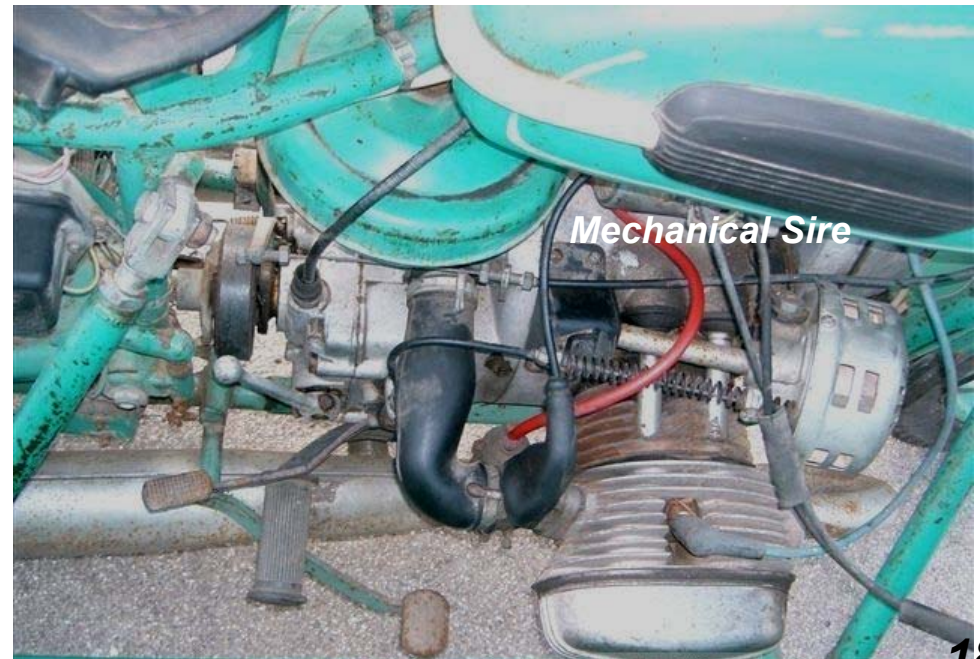
1991 IMZ-8.903 Patrol "DPS"



Restored 1982 Ural M67.36



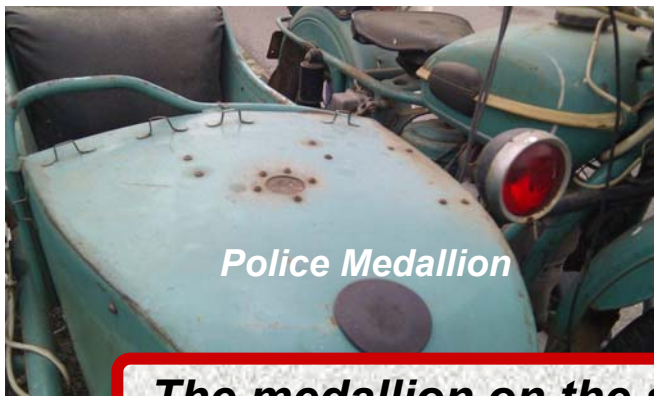
1980 Ural M-67 Police Sidecar



Sidecar Features



Foot-Step on IMZ-8.903 Sidecar



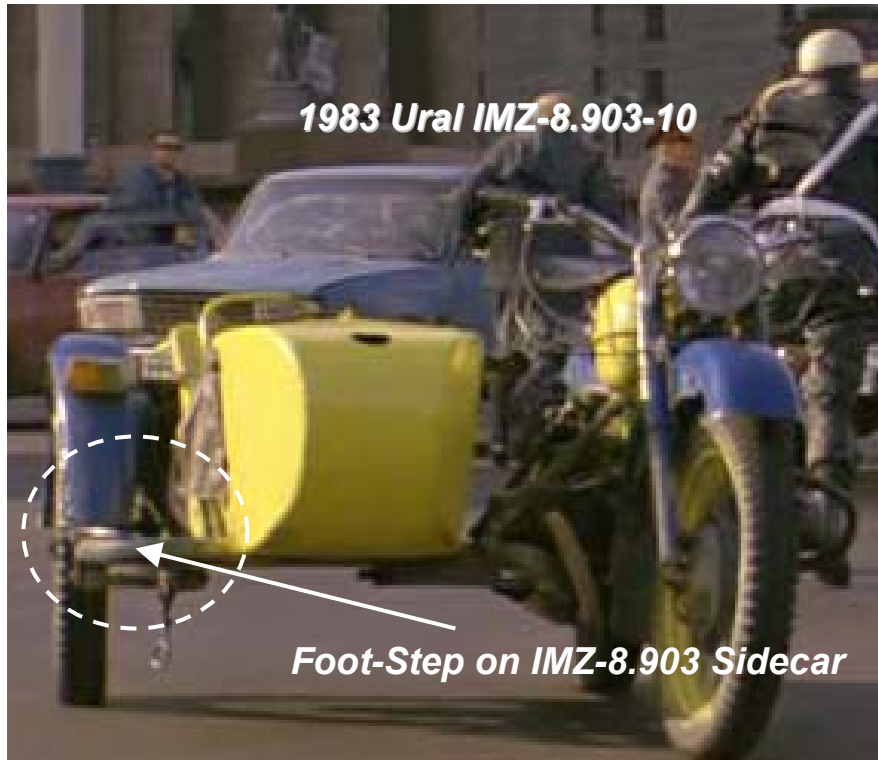
Police Medallion



No Foot-Step on M-67P Sidecar

The medallion on the sidecar nose was present in the 63, 66, and 67P's.

Sidecar Features (cont.)



It turns out that it doesn't much matter whether it's a M-67P or IMZ-8.903 because very little changes occurred between them. Therefore most components will fit both.

Carburetor and Air Filter



K-301 Carburetor

Reverse Gear Lever



K-301 Carburetor

1991 IMZ-8.903 Patrol "DPS"



K-301 Carburetor

IMZ/Ural M67-36 OHV 650cc Engine (1985),
M67-35 Engine Used in IMZ-8.103 Series (8.903)



Restored 1982 Ural M67.36

**Aleš's carburetor is a K-301, which preceded the 28 mm Mikuni used in later M-67P's and early IMZ-8.903's (IMZ-8.103 series bike).
Ural" IMZ-8.103 installed a new gearbox with reverse gear.**

Future of Ural Sidecars with Police

- ***With Improved Vehicles and Roads, Police Need Faster Motorcycles***
- ***Motorcycles with Sidecars Are Inherently Slower***
 - ***Maximum Speed with Sidecar: About Two-Third Speed of Solo***
- ***Government Budgets Are Shrinking***
- ***Prices for Imported Solo Vehicles from Japan, and Now China, Are Less than Domestic Urals***
 - ***Only One-Third of Ural's Sales Are Domestic (within Russia)***
 - ***Primary Sales Are to U.S. Where Sidecar Is a Novelty***
- ***Despite Modernization, Virtually No Demand in Russia for Ural Motorcycles Due to High Price and Obsolete Design and Construction***
- ***High Price Explains the Widespread Use of Quality Foreign Components and Low Volume Production***
 - ***Reduced from 130,000 in 1990 to only 800 Motorcycles in 2010***
 - ***Adversely Affects the Cost of Production***
- ***Currently, Largest Market for Ural Motorcycles is the U.S.***
 - ***Motorcycle Brand "Ural" Well Known in the World Market***
 - ***Before the Global Crisis, Ural Sold about 650 motorcycles with Sidecars a Year (60% of Production) to the U.S.***
 - ***IMZ Has Developed a Dealer Network (58 dealers)***
 - ***In 2010 IMZ Sold 39% More Motorcycles in the U.S. than in the Previous Year***
 - ***Demand at Home Continues to Decline***
 - ***Russia Had Bought Only 20 of the 800 Issued Motorcycles in 2010***

Future of Ural Sidecars with Police (cont.)

- ***Production***
 - ***In 2010, Ural Produced about 800 Motorcycles, 900 in 2011, and 1,200 in 2013***
 - ***Currently (January 2011), the factory employs 155 people***
 - ***In Soviet Times, Ural Employed 9,000 people***
 - ***Before That, Motorcycles Were Not Assembled from Imported Parts***
 - ***There Was a Pipeline (Assembly Line), Rather than Manual Assembly***
- ***Largest Sales Market "Ural" - USA.***
 - ***In 2013, 604 Motorcycle Sold***
 - ***In 2011, the U.S. Bought 496 Motorcycles***
 - ***Whole Plant Produced 900 Motorcycles in 2011, the Vast Majority Were Sidecars***
- ***Since 2003, the Factory Pays Special Attention to the Qualitative Characteristics of the Motorcycle***
 - ***Many Changes in the Design of the Bike and Its Individual Components, as Well as the Technology of Manufacturing Parts***

Modern Patrol or Escort Police Motorcycles

(Эскортные мотоциклы ДПС)



With the lower price of imported bikes, we see more Russian police gravitating towards Yamaha.

KMZ / Dnepr 955 (KM3 / Днепр 8-955)

•Traffic Police Version: "GAI Patrol" ("Патрульный ГАИ") with Full Fairing



KMZ produced the Dnepr-955 from the late 90's to early 2000's.

Motorcycle Dnepr-955 (Мотоцикл «ДНЕПР-955»)

- **Motorcycle Single Patrol and Escort “Patrol GAI”**
- **Motorcycle Model: Dnepr 955 - Motorcycle Patrol for GAI (CMH 8-955)**
- **Overall Dimensions: (L x W x H): 2270 X 900 X 1530 mm**
- **Wheelbase: 1,530 mm**
- **Gross (Complete) Weight: 260 kg**
- **Maximum Load: 170 kg**
- **Engine Type: 155-01010 Gasoline, 4-Stroke**
- **Engine Displacement: 649 cm³**
 - **Compression Ratio: 8.5:1**
 - **Maximum Power: 23.5 kW (5200 rpm)**
 - **Maximum Torque: 47.0 Nm (4200 rpm)**
 - **Carburetor: K-65T**
 - **Fuel: A-95**
- **Transmission: 1st: 4.11, 2nd: 2.28, 3rd: 1.70, 4th: 1.30**
 - **Main Gear: CMH Conical Couple with Circular Tooth Gear Ratio: 3.89, or 4.62**
- **Suspension: Front: Hydraulic Rod with Double-Acting Shock Absorbers, Rear: Lever, Pendulum Type with Spring-Hydraulic Shock Absorbers**
- **Saddle: Single**
- **Braking System: Front: Hydraulic Disc, Rear: Mechanical Drum**
- **Fuel Tank: 19 Liter**
- **Ignition System: Contact**
- **Maximum Speed: 115 km/hr**
- **Tires: Front: 3.50” X 18”, Rear: 4.00” X 18”**
- **Special Equipment: Red and Blue Lights, Beacon, Siren and Radio**



**Since demise of USSR, the Dnepr factory has fallen on very hard times.
Production decreased to only remnants of former glory.
All shops were closed, and machine tools were taken out of the city limits. 26**