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Russian & Soviet 7.62x54r

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Return to Ammunition Index

Follow the links below to the sections on cartridges, bullets, individual factories, letter date codes and packaging on this page. For all headstamp, cartridge, and bullet pictures available on 7.62x54r.net in a single location see the 7.62x54r Master Cartridge Reference page. Thanks to Hendere for providing many of the cartridges pictured.

Cartridges and Case Heads | Bullets | Petersburg (П) | Tula/Yuryuzan (T, 38)
Lugansk/Frunze (Л, 60) | Podolsk (ППЗ, ПП, П, 17) | Ulyanovsk (С, У, ЗВ) | Klimov/Novosibirsk (188)
Miscellaneous Factories (46, 58, 179, 270, 529) | Date and ShKAS Letter Codes | Packaging

Introduction

Along with the Mosin Nagant rifle a new "small caliber" cartridge was adopted by Russia known as the Three Line (7.62mm) Rifle Cartridge, Model of the Year 1891. Later known as the 7.62x54R, it utilized the relatively new smokeless powder ignited by a Berdan primer to fire a 13,73 gram (212 grain) round nosed bullet at approximately 615 meters/second (2020 feet/second). The rimmed case with cupro-nickel jacketed lead core bullets first went into production at the St. Petersburg cartridge factory in 1891. The cartridge factory at Tula, which was a private company at the time, received a contract shortly thereafter and likely began production in 1893. The Lugansk plant was constructed in 1894 and began full production in 1895. During the Russo-Japanese War contracts for ammunition were given to factories in Germany, Austria and Belgium to supplement domestic production. In 1908 the new pointed "spitzer" bullet known as the "L" for light was adopted which weighed 9,6 grams (147 grains) and had a muzzle velocity of 855 meters/second (2800 feet/second). The increased velocity required the addition of the recoil crossbolt and a new rear sight leaf for the original rifles. During WWI, contracts were given to Winchester, Remington, Western, and the U.S. Cartridge Co. in the United States and Kynoch, Eley Brothers, Greenwood & Batley, Birmingham Metal and Munitions, Royal Laboratory and Government Cartridge Factories in England. Germany again produced cartridges during this time, but for it's own use in captured Mosin Nagant rifles.

The revolutions of 1917 lead to the end of production at St. Petersburg in 1918 and the equipment and workers were used to begin the plants at Simbirsk in 1919 and Podalsk in 1920. The Simbirsk factory used a C (Cyrillic S) for it's headstamp mark until 1924 when the city was renamed Ulyanovsk after Vladimir Ulyanov, better known by the pseudonym Lenin, who was born there. At this time the headstamp mark was changed to a Y (Cyrillic U). In fact, the plant had been named Volodarsky, the pseudonym of the revolutionary Moisei Goldshtein, in 1922 but didn't begin using the 3B (Cyrillic ZV) for Zavod (Factory) Volodarskogo until 1928. During WWII it was designated Plant #3 and began using the number on the headstamp. It is generally referred to as Ulyanovsk at this time. Podalsk ultimately became Plant #17 and was moved to Barnaul during WWII.

In 1930 the D heavy ball weighing 11,8 grams (182 grains) was adopted and produced along with the Type L. In the same year the B-30 armor piercing and T-30 tracer bullets were adopted and began production. The B-32 armor piercing incendiary followed shortly, but the B-30 continued production into the late 1930s. In 1930 the case head was changed from a rounded shape to a bevel and tombac jacketed bullets began to replace the cupro-nickel bullets in the early 1930s. Copper washed steel cases made an appearance in 1934 being first used with the special purpose ShKAS aircraft machine gun cartridges including the new PZ exploding bullet. However, brass cases were also used for ShKAS cartridges and still used at some factories for certain loads until the '50s and even beyond for specialty ammunition.

During the Great Patriotic War (WWII) most of the ammunition factories were relocated and many new ones were opened, sometimes in the same location that had been evacuated only a year or two prior. This lead to a wide range of headstamps and cartridge variations during this era. Many of the new plants were short lived, closing down at the end of hostilities. During this time the T-46 tracer was developed at Factory #46, not in the year 1946. Plain steel cases were also used at some plants to expedite production and cut costs. In 1953 both the L and D rounds were replaced with the LPS steel core light ball. It remained in production until 1991 although it was superceded in 1988 by the ST-M2 which remains in production as the standard ball today.

Ulyanovsk (#3) ended military production of 7.62x54R in 1969 and Frunze (#60) in 1991 when the Soviet Union dissolved as it is located in Bishkek (formerly Frunze), Kyrgyzstan. Only Barnaul (#17, formerly Podolsk) and Novosibirsk (#188, formerly Klimov) remained open into the 21st century as military facilities. Current production is several types of specialty ammo such as armor piercing, tracer, sniper, and the ST-M2 steel core light ball. The BP armor piercing and SNB armor piercing sniper bullets both entered production in 1999 to take this venerable cartridge into it's third century of continuous military use. Tula, Ulyanov, and Klimov continue to produce 7.62x54R cartridges for the commercial market as do Barnaul and Novosibirsk. With such a long history and continued production this caliber should hold the interest of collectors for decades to come.

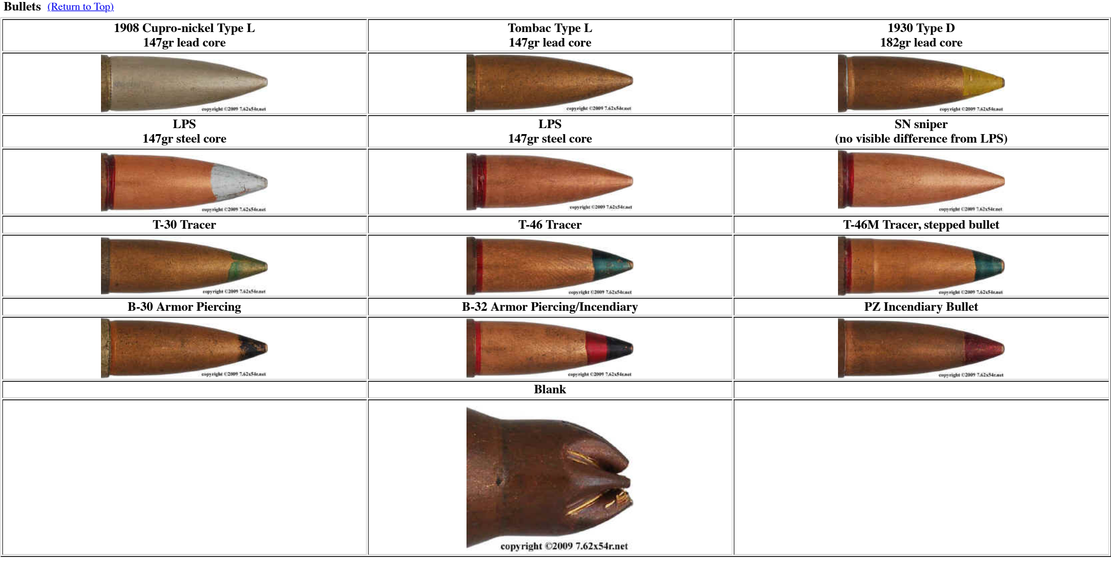
Cartridges (Return to Top)

Description	Index Number	Picture
Brass case (BC) 1908 Type L cupro-nickel bullet	57-N-321	
BC 1908 Type L tombac bullet	57-N-322	
Copper washed steel case (CWSC) 1908 Type L tombac bullet	57-N-323	
BC 1930 Type D bullet	57-D-422	
CWSC 1930 Type D bullet	57-D-423	
CWSC LPS bullet Ballistic evaluation	57-N-323S	
CWSC LPS bullet, no color code Ballistic evaluation	57-N-323S	
CWSC SN sniper bullet Ballistic evaluation	7N1	
BC T-30 tracer bullet	57-T-322	
CWSC T-46 tracer bullet	7T2	
CWSC T-46M tracer bullet	7T2M	
BC B-30 AP bullet	57-B-222	
BC B-32 API bullet	57-BZ-322	
CWSC B-32 API bullet	57-BZ-323	
CWSC ShKAS B-32 API bullet	57-BZ-425	
CWSC ShKAS PZ incendiary bullet	57-PZ-425	
CWSC blank	57-X-323	

Case heads

Round, 1891-1930	Beveled, 1930-1970s	Impressed stamp on inner ring, 1970s-current

Bullets (Return to Top)



1908 Cupro-nickel Type L 147gr lead core	Tombac Type L 147gr lead core	1930 Type D 182gr lead core
LPS 147gr steel core	LPS 147gr steel core	SN sniper (no visible difference from LPS)
T-30 Tracer	T-46 Tracer	T-46M Tracer, stepped bullet
B-30 Armor Piercing	B-32 Armor Piercing/Incendiary	PZ Incendiary Bullet
	Blank	

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Designation	Transliteration	Meaning		Color Code	Production Years (approximate)
Л	L	Light ball (lead core)		none	1910-1954
Д	D	Long range (heavy ball lead core)		yellow tip	1930-1953
ЛПС	LPS	Light ball steel core		silver tip/none	1953-1991
Б-30	B-30	Armor Piercing with 1930 bullet		black tip	1930-1941
Б-32	B-32	Armor Piercing (Incendiary) with 1932 bullet		black over red tip	1932-1969
Б-32М	B-32M	Armor Piercing (Incendiary) with modernized 1932 bullet		black over red tip	1955-current
БС-40	BS-40	Armor Piercing (Incendiary) with 1940 bullet		black tip over red bullet	1940-1941
БТ	BT	Armor Piercing Tracer		purple tip	1932-1937
БТ-90	BT-90	Armor Piercing Tracer		green tip	1998-current
БЗТ	BZT	Armor Piercing Incendiary Tracer		purple over red tip	1935-1940
ЗБ-46	ZB-46	Armor Piercing Incendiary Tracer		purple over red tip	WWII?
ПЗ	PZ	Incendiary	Different designations for essentially the same bullet	red tip	1935-current
ЗП	ZP	Incendiary		red tip	1935-current
З	Z	Incendiary		red tip	1935-current
Т-30	T-30	Tracer with 1930 bullet		green tip	1930-1938
Т-46	T-46	Tracer with factory #46 bullet		green tip	1938-1974
Т-46М	T-46M	Tracer with modernized factory #46 bullet		green tip	1974-1995
Т-46М1	T-46M1	Tracer with modernized factory #46 bullet		green tip	1995-current
СН ПС	SN PS	Sniper (early 7N1 mark)		none	1967-1999
ПС	PS	Sniper (late 7N1 mark)		none	1967-1999
СНБ	SNB	Sniper/Armor Piercing (7N14 mark)		none	1999-current
УЗ	UZ	"Increased Charge" proof load		black bullet	1970s-current
ВД	BD	"High Pressure" proof load		yellow bullet	1970s-current
УС	US	Reduced Velocity		green bullet	1939-1941
Ц	Ts	Match		?	1954-1992
УЧ	UCh	Training		?	1950s-current
ПП	PP	Penetrating		none, green case	1993-current
БП	BP	Armor Piercing		black tip?	1999-current
СТ-М2	ST-M2	Light ball steel core		none	1988-current
Х	Kh	Blank		not applicable	1926-current

Factories and Headstamps

Petersburg, established in 1869, equipment moved to establish Simbirsk and Podolsk plants in 1918/19 (Return to Top)
Year at 12 o'clock, Cyrillic P (Petersburg) at 9 o'clock, Tri-mester of year at 6 o'clock, Letter code for brass supplier at 3 o'clock; P moved to 6 o'clock and brass supplier code dropped in 1914; Cartridges from 1900/10s without designation thought to be from Petersburg.

91 П К I | 92 П P | 92 P III
93 П Ф III | 94 П Г III | 96 П Т I

99/П/Р/П (paper bullet blank made with reused case) | 07/П/Т/I Model 1891 | 07/П/Ч/III
09/III | 15/П 1908 Type L | 17/П 1908 Type L

Tula/Yuryuzan, established in 1880, likely began 7.62x54r production 1893 (Return to Top)
Designated Plant No. 38 in 1938. Moved to Yuryuzan in 1941/42 as Plant No. 38. Re-established at Tula in 1942/44 as Plant No. 539.
2 digit year until 1899, 3 digit year until 1908/09, Single digit year in 1920s, tri-mester at 9 o'clock in late 1910s and early 1920s.

П ТУЛЬСКIЙ З 93 | П ТУЛЬСКIЙ З 907 | Т 09

T/17 1908 Type L | T/3/19 1908 Type L (polished) | T/1/20
T/3(1923) 1908 Type L | T/3/4(1924) 1908 Type L | T/25 1908 Type L
T/27 1908 Type L | T/28 1908 Type L | T/*/*/34 Blank (likely made in US)

Ш is an abbreviation for the ШКАС (ShKAS) aircraft machine gun as seen on two of the headstamps on the following row. These cartridges are specially made only for use in the ShKAS and should not be fired from rifles. They are further identified by the red color and ring crimp of the primer.

T/35 1908 Type L | 38/Ш/39 ShKAS B-32 | 38/Ш/39 ShKAS PZ

Lugansk/Frunze, established in 1892, began production 1895 (Return to Top)
Designated Plant No. 60 in 1928. Moved to Frunze in 1941/42 as Plant No. 60. Re-established at Lugansk in 1942/44 as Plant No. 270.
Year at 12 o'clock, Cyrillic L (Lugansk) at 9 o'clock, Tri-mester of year at 6 o'clock, Letter code for brass supplier at 3 o'clock; 2 digit year until 1899, 3 digit year until 1919; Tri-mester and brass supplier dropped, L moved to 12 o'clock and year to 6 o'clock in 1914; Tri-mester returns with year in 1920s.

95 Л Р III | 97 Л Г III | 99 Л Г

99/Л/K/III (paper bullet blank made with reused case) | 904/Л/Р/III (paper bullet blank made with reused case) | 905/Л/Р/III (paper bullet blank made with reused case)

901 Л К II | 911 Л Ф I | Л 916
Л 21-II | Л 22-3 | Л 2-24

Л/1-26 1908 Type L | Л/1-27 1908 Type L | 60/28 1908 Type L
60/29 1908 Type L | 60/30 1908 Type L | 60/35 1930 Type D
60/35 1930 Type D | 60/38 1908 Type L | 60/39 1908 Type L
60/39 PZ | 60/41 1908 Type L | 60/49 1908 Type L
60/E(1954) LPS | 60/И(1955) LPS | 60/78 LPS
60/81 Blank | 60/83 LPS | 60/86 LPS

Podolsk/Barnaul, established in 1920 with equipment from Petersburg (Return to Top)
ППЗ and ПП marks in 1920, П mark from 1921 to 1927, Designated Plant No. 17 in 1928, moved to Barnaul in 1941, Re-established at Podolsk in 1942/44 as Plant No. 710.

20/ППЗ | 20/ПП | П/26 1908 Type L
17/31 1908 Type L | 17/32 1908 Type L | 17/35 1908 Type L
17/36 1908 Type L | 17/36 T-30 | 17/36 B-32
17/36 1908 Type L | 17/37 1908 Type L | 17/37 B-30
17/38 1908 Type L | 17/39 1908 Type L |

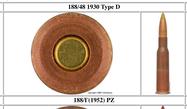
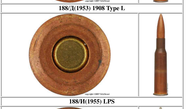
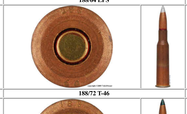
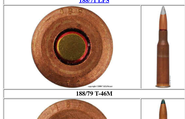
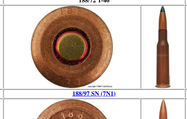
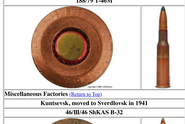
Ш is an abbreviation for the ШКАС (ShKAS) aircraft machine gun as seen in the headstamps on the following row. These cartridges are specially made only for use in the ShKAS and should not be fired from rifles. They are further identified by the red color and ring crimp of the primer.

17/Ш/39 ShKAS B-32 | 17/Ш/39 ShKAS PZ | 17/Ш/40 ShKAS B-32
17/40 1908 Type L | 17/45/10(November) 1908 Type L | 17/49 B-32
17/50 1908 Type L | 17/Г(1952) B-32 | 17/И(1955) B-32
17/76 B-32 | |

Ulyanovsk, established in 1919 (Return to Top)
C mark (Cyrillic S for Simbirsk, original name of the town) from 1919 to 1924, У mark (Cyrillic U for Ulyanovsk, new name of the town) from 1925 to 1927, Designated Plant No. 3 in 1928, but used the ЗВ mark (Cyrillic ZV for Zavod (Factory) Volodarskogo) from 1928 to 1941, 3 mark from 1942.

20/C | 25/У 1908 Type L | 29/ЗВ 1908 Type L
ЗВ/35 1908 Type L | ЗВ/36 1908 Type L | ЗВ/37 1908 Type L
ЗВ/37 1908 Type L | ЗВ/38 1908 Type L | ЗВ/38 B-30
ЗВ/39 1908 Type L | ЗВ/40 1908 Type L | ЗВ/41 1908 Type L

Klimov/Novosibirsk, established in 1934 near Podolsk (Return to Top)
Designated Plant No. 188/Klimov in 1940, moved to Novosibirsk in 1941, Re-established in Klimov in 1942/44 as Plant No. 711.

188/46 1908 Type L	188/48 1930 Type D	188/51 1908 Type L
		
188/1 (1952) 1930 Type D	**188/1 (1952) PZ**	**188/3(1952) 1908 Type L**
		
188/5 (1954) 1908 Type L	**188/5 (1954) LPS**	**188/10 (1955) LPS**
188/K (1956) T-46	**188/63 1908 Type L(?)**	**188/63 LPS**
188/63 T-46	**188/64 LPS**	**188/67 BO**
		
188/71 LPS	**188/72 T-46**	**188/77 Dummy**
		
188/79 T-46M	**188/97.SN (7N1)**	
		

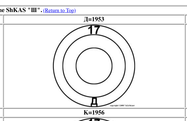
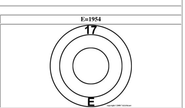
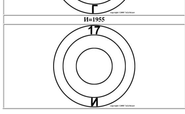
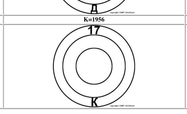
Miscellaneous Factories (Return to Top)

Kuntsevsk, moved to Sverdlovsk in 1941	Voroshilova (Moscow), cases only in 1930s	Novosibirsk, 1940-41 only
46/III/46 SbKAS B-32	**58/36 1908 Type L**	**179/41 1908 Type L**
Lugansk after 1942/44	**New Lyalya, WWII only**	
276/48 Type L	**529/III/44 SbKAS B-32**	

Not Pictured

No. 44, Moscow (experimental cartridges)
No. 54, Nytva
No. 304, Kuntsevsk after 1942/44
No. 539, Tula after 1942/44
No. 540, Irkutsk
No. 541, Cherlyabinsk
No. 543, Kazan
No. 544, Gkarov
No. 545, Chkalov
No. 710, Podolsk after 1942/44
No. 711, Klimov after 1942/44

Soviet 1950s date letter codes. The Е should not be confused with the SbKAS "III". (Return to Top)

Е=1952	Д=1953	Е=1954
		
И=1955	**К=1956**	**III=SbKAS**
		

Packaging (Return to Top)

Bullet Designations (immediately following caliber on crates and tins, see pictures below)

Designation	Transliteration	Meaning	Color Code	Production Years (approximate)
Л	L	Light ball (lead core)	none	1930-1954
Д	D	Long range (heavy ball lead core)	yellow tip	1930-1953
ЛПС	LPS	Light ball steel core	silver tip/none	1953-1991
Б-30	B-30	Armor Piercing with 1930 bullet	black tip	1930-1941
Б-32	B-32	Armor Piercing (Incendiary) with 1932 bullet	black over red tip	1932-1969
Б-32М	B-32M	Armor Piercing (Incendiary) with modernized 1932 bullet	black over red tip	1955-current
БС-40	BS-40	Armor Piercing (Incendiary) with 1940 bullet	black tip over red bullet	1940-1941
БТ	BT	Armor Piercing Tracer	purple tip	1932-1937
БТ-90	BT-90	Armor Piercing Tracer	green tip	1998-current
БТЛ	BTL	Armor Piercing Incendiary Tracer	purple over red tip	1935-1940
ЗБ-46	ZB-46	Armor Piercing Incendiary Tracer	purple over red tip	WWII?
ПЗ	PZ	Incendiary	red tip	1935-current
ЗП	ZP	Incendiary	red tip	1935-current
З	Z	Incendiary	red tip	1935-current
Т-30	T-30	Tracer with 1930 bullet	green tip	1930-1938
Т-46	T-46	Tracer with factory #46 bullet	green tip	1938-1974
Т-46М	T-46M	Tracer with modernized factory #46 bullet	green tip	1974-1995
Т-60М1	T-60M1	Tracer with modernized factory #46 bullet	green tip	1995-current
СН ПС	SN PS	Sniper (early 7N1 mark)	none	1967-1999
ПС	PS	Sniper (late 7N1 mark)	none	1967-1999
СНБ	SNB	Sniper/Armor Piercing (7N14 mark)	none	1999-current
УЗ	UZ	"Heavy Charge" proof load	black bullet	1970s-current
ВД	BD	"High Pressure" proof load	yellow bullet	1970s-current
УС	US	Reduced Velocity	green bullet	1939-1941
Ц	Ts	Match	?	1974-1992
УЧ	UCh	Training	?	1950s-current
ПП	PP	Penetrating	none, green case	1995-current
БП	BP	Armor Piercing	black tip?	1999-current
СТ-М2	ST-M2	Light ball steel core	none	1988-current
Х	Kh	Blank	not applicable	1928-current

Cartridge Case Type Abbreviations (immediately following bullet designation on crates and tins, see pictures below)

Designation	Transliteration	Meaning
ГЛ	GL	Brass cartridge case
ГЖ	GZh	Bimetallic (copper washed steel) case
ГС	GS	Lacquered steel case

Miscellaneous Terms, Abbreviations, and Symbols (various locations on crates, tins, and wrapping)

Term	Meaning
В обоймах	On stripper clips
без обоймы	Without stripper clips
герм упаковка	Hermetically sealed
гермоупаковка	Hermetically sealed
ВВ-АС	(for) the SbKAS aircraft machine gun
ВВ-ПС	Propellac, for the SbKAS aircraft machine gun
винтовочные	(for) Rifle(s)
снайперские	(for) Sniper (rifles)
холостые	Blank
увеличенный заряд	Increased Charge
высокое давление	High Pressure
тестовые	Match
учебные	Training
поверочные	Verifying?
образцовые	Model?
шт.	Quantity

Lot Number, Factory, and Date Conventions (various locations on crates and tins, see pictures below)

Pattern	Examples				Meaning
	1930s to 1950s				
Single letter with two digit number followed by one, two, or three digit number or "ДВ"	В25-3	Г14-46	И51-188	В19-ДВ	Lot series (letter), Lot number, Factory code
Roman numeral followed by two digit number	IX-44	XII-51	I-42	V-43	Month and year of production
	1960s and later				
Single letter with two digit number followed by two digit number followed by one, two, or three digit number	С59-75.188	К10-60.188	Г20-98.17	А10-01.188	Lot series and number, Year of production, Factory code
Single letter with two digit number followed by two digit number	Р13-85	Ж01-97			Lot series and number, Year of production

Color codes (painted stripes on crates and tins, usually corresponding with the bullet color codes)

Yellow	Black	Black and Red	Red	Green	Silver
Long range (heavy ball)	Armor Piercing	Armor Piercing Incendiary	Incendiary	Tracer	Steel core (light ball)

Crates, tins, boxes, and bundles

WWII type packaging
1948 Franzi#90 Type L light ball on stripper clips in 15 round boxes. 20 boxes/60 clips/900 rounds per tin, 2 tins per wooden crate. Galvanized tin soldered closed with pull tab.

1970s packaging
1971 Novosibirsk#188 LPS light ball in 20 round paper bundles. 22 bundles/440 rounds per tin. Two per wooden crate. Stamped painted tin.

Ballistic evaluation

1980s packaging
1983 Franzi#90 (unmarked) LPS light ball in 20 round paper bundles. 22 bundles/440 rounds per tin, 2 tins per wooden crate. Stamped painted tin.

1990s packaging
1997 Novosibirsk#188 (unmarked) 7N1 sniper cartridges in 20 round paper bundles. 22 bundles/440 rounds per tin, 2 tins per wooden crate. Stamped painted tin.

Ballistic evaluation

Opener for stamped tins

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Acknowledgements:
Russian 7.62-mm Rifle Cartridge, History and Evolution by R.N. Chunuk
An article by Andrey at Mosnicon.org
110 Years of the 7.62x54r by Grew Whitehead at MosinNagant.net
Small Caliber Ammunition Identification Guide, Volume 1, Defense Intelligence Agency
Many cartridges provided by Hawkeye at CartridgeCollectors.org and 7.62x54r.net Forums
Trooklan, EOD and Jonnet at CartridgeCollectors.org

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