History of Soviet Union Aviation

Synopsis

From the beginning of age, humankind wanted to fly. In Greek mythology, Icarus flew to the sun with his wax wings. Unfortunately, his wings melted. The Chinese did kite flying hundreds ago.

During the Renaissance period, Leonardo da Vinci had more concrete ideas on how to remain a man in the air. Humans tried flying by developing wings and jumping from cliffs. They failed. The chest muscles of the human body are undeveloped to handle the load.

In the 18th century, the Montgolfier brothers created the hot air balloon. Almost at the same time, the hydrogen gas was discovered. Hydrogen is lighter than air and thus offers the opportunity to fly.

Experiments with gliders offered valuable insights into heavier-than-air dynamics. Cayley, Otto Lilienthal and Octave Chanute were front runners. This follows the groundbreaking work of the Wright brothers in 1903.

Similar efforts exist in Imperial Russia. The origins of Imperial Russian aviation can be traced back to the work of Nikolai Kibalchich and Alexandrer Mozheysky. Their work was further enhanced by Konstantin Tsholl skovsky. It is worth to mention Mozheysky assembled an aircraft. The aircraft could not fly due to poor engine power. Many years later, it proved the plane could fly with an increase in engine capacity. In Imperial Russia, similar independent efforts were applied. Igor Sikorsky toured Europe and came in contact with the Wright brothers concepts.

Purpose

The purpose of the exhibition is to demonstrate the development of the aircraft in each category.

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AIR-1

IL-18

History of Soviet Union Aircraft between 1882 to 1914

Moshaysky (1882)

Grizdubov no-2 (1910)

Moshaysky could be seen as the pioneer of Russian Aviation. In 1882, he built an aircraft that possessed the capability to fly, but the engine was under power.

Sikorsky Rossiya-A (1910)

Sikorsky toured to Europe and came into contact with the Wright brothers ideas. He implemented these prinsipals successfully. Sikorsky later emigrated to America. There, he developed the helicopter.

Sikorsky Russky Vityaz (1913)

Grigorovich M-5 Flying Boat (1914)

Series philatelic information

Issued	1974-12-25
Perforation	Comb 11½ x11¼
Print technology	Photogravure
Paper	Coated
Watermark	None

History of Soviet Union Aircraft between 1911 and 1913

Gakkel VII Biplane (1911)

Gakkel IX Monoplane (1912)

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Dybovski (Dolphin) (1913)

Gakkel was the first to develop an monoplane. In 1912, Gakkel flew from Saint Petersburg. His average height above ground level was 4 000 at a ground speed of 57 mph.

Ilya Muromet (1914)

The Dybovski was assembled out of wood. It had no straight lines. According to some sources the aircraft was aerodynamic ahead of the time.

Series philatelic information

Issued	1976-11-04
Perforation	Comb 11½x 12½
Print technology	Offset lithography and Recess
Paper	Coated
Watermark	None

History of Soviet Union Aircraft between 1914 and 1930

P-IV-BIS Biplane (1917)

Aleksandrov Kalinin AK-1 (1924)

R-3 (ANT-3) (1925)

TB-1 (ANT-4) (1925)

Polikarpov R-5 (1929)

Sh-2 Amphibian (1930)

Series philatelic information

Issued	1977-08-16
Perforation	Comb 11¾ x 12¾
Print technology	Offset Lithography and recess
Paper	Coated
Watermark	None

Note the routes flew of the AK-1, R-3 and ANT4.

History of Soviet Union Aircraft between 1928 and 1934

U2 (PO-2) (1928)

K-5 (1929)

TB-3 (ANT-6) (1930)

STAL-2 (1931)

MBR-2 (1932)

I-16

Series philatelic information

Issued	1978-08-10
Perforation	11¾ x 11½
Print technology	Offset Lithography and recess
Paper	Coated
Watermark	None

History of Soviet Union Aircraft – Transport

Tupolev TU-154 (1968)

Antonov AN-28 (1972)

The TU-154 made its first flight on 4 October 1968.

The AN-28 was a multi-role aircraft. It could carry cargo, passengers or used as an air-ambulance.

Ilyushin IL-76 (1971)

The IL-76 made its first flight in 25 March 1971. It was a multi-role aircraft. It had the electronic warfare capability.

The YAK-42 was a short range transport aircraft.

Yakovlev YAK-42 (1975)

Ilyushin IL-86 (1976)

The IL-86 was not very economical. Access to the passengers cabin and the cargo bay was from the back of the aircraft.

Series philatelic information

Issued	1979-05-16
Perforation	Harrow 11½ x12
Print technology	Photogravure and recess
Paper	Coated
Watermark	None

History of Soviet Union Aircraft – Gliders

TsAGI-2 (1934)

Stakhanovets (1939)

The G-11 glider could carry eleven troops. It was constructed out of wood and was destroyed after landing.

Red Star (1930)

A-9 (1948)

A-15 (1960)

LAK-12 (1979)

Philatelic information

	Stakhanovets & G11	Red Star & TsAGI	A9, A15 & Lak12
Issued	1982-02-20	1982-02-20	1983-02-10
Perforation	Comb 11¼	12½ x12	Comb 12½ x12
Print technology	Offset Lithography	Offset Lithography	Offset Lithography
Paper	Coated	Coated	Coated
Watermark	None	None	None

History of Soviet Union Aircraft – Gliders

Mastyazhart (1923)

The Mastyazhart glider was developed by Ilyushin.

KAI-12 (1957)

Simonov was the developer of the KAI-12 gliders.

SA-7 (1970)

The SA-7 glider was developed by the Bureau for Sports Aviation

Philatelic information

Issued	1983-02-10
Perforation	12¼ x 12
Print technology	Offset lithography
Paper	Coated
Watermark	None

History of Soviet Union Aircraft – Civil Aviation

ANT-2 (1924)

PO-2 (U-2) (1927)

ANT-9 (1929)

ANT-20(1935)

TsAGI-1-EA (1936)

TU-104 (1965)

The ANT-20 was developed by Tupolev Design Bureau. The aircraft was equipped with broadcasting equipment, printers, photographic laboratory and could carry 72 passengers.

Mi-10 (1960)

IL-62 (1963)

The M-10 was a flying crane. Special cargo containers wheeled underneath the helicopter. On the same principle a passenger container was fixed to the helicopter.

Series philatelic information

Issued	1969-12-25
Perforation	Harrow 11½ x 12
Print technology	Photogravure and recess
Paper	Coated
Watermark	None

History of Soviet Union and the Republic of Russia Aircraft

Yak-54 (1975) Passenger

The Yak-54 is a two-seat sport and training aircraft. It replaced the Yak-52. The aircraft was a further development of the single-seat Yak-55M. Production started in 1994. The Saratov Aviation Facility, in cooperation with Joint Stock Venture Gorky U-2, produced the aircraft. In 2005, production moved to the Arsenyev Aviation Company "Progress" facility in Arsenyev. The main landing gear is retractable. The tail wheel is not retractable.

Yak-42 (1975) Training

Design work on the Yak-42 short- to medium-range aircraft started in 1972. The plane should have been capable of carrying 100 to 120 passengers. Authorities rejected the initial design. The first of three prototypes made its maiden flight in 1975.

Series philatelic information

Issued	1986-11-25
Perforation	11½ x 12
Print technology	Offset Lithography
Paper	Coated
Watermark	None

History of Soviet Union Aircraft – Mig

MIG-3 (1941)

The MIG-3 was a fighter aircraft. The aircraft's disadvantage was that it could not engage in fights below 5000 feet.

MIG-15 (1949)

The MIG-15 was the answer to the North American Sabre. It was first seen in the Korean war.

MIG-21 (1957)

The Soviet Union had the requirement to develop an aircraft capable of flying at Mach 3 for reconnaissances purposes. The MIG-25 was the answer. The aircraft was built of stainless steel.

The MIG-21 could reach speeds of Mach 2.06. It had good performances characteristics. The aircraft was extensively used in the South Africa and Angola war.

MIG-25 (1964)

MIG-29 (1977)

The MIG-29 was an improvement in the MIG-25 however it was used in a combat role. The fuselage was not made of stainless steel. The aircraft could maintain a maximum speed of 2 450 km/h

Series philatelic information

Issued	2005-07-06
Perforation	Comb 12
Print technology	Offset lithography
Paper	Coated
Watermark	None

History of Soviet Union Aircraft – Ground Attack Aircraft

PE-2 (1939)

The PE-2 proved to be an outstanding attack aircraft and a heavy fighter. The aircraft has two machine guns and two cannons. During WW2, the Soviet Union realised the need for a heavy bomber. The Petlyakov team convert a PE-2 within 45 days. Unfortunately, the aircraft were never test in combat conditions.

IL-2 (1940)

IL-2 pilots used to fly at an altitude of 10 meters to the target. When reaching the target they do a near vertical bomb dive. When approaching tank target the pilots would fly. When approaching tank target, the pilots would fly in s-shape curves at an altitude 100 to 150 meters to release their bombs in s-shape curves at an altitude 100 to 150 meters to release their bombs

LA-5 (1942)

The LA-5 was a fighter aircraft. It underperformed. Stalin decided to convert the factories suitable for YAK-1 and YAK-7. Lavochkin however, continued to developed the aircraft. Comparing the aircraft with its German aircraft was underperforming.

YAK-3 (1942)

The YAK-1 performances was very low. Yakovlev redesign the aircraft into the YAK-3. It was light weighted and had good manoeuvrability. In 1944, the Luftwaffe instructed pilot to refuse to fight against the YAK-3.

Series philatelic information

Issued	2011-04-1929
Perforation	13¾ x 13¾
Print technology	Offset Lithography
Paper	Coated
Watermark	None

History of Soviet Union Aircraft – Sport

Y-1 (1927)

The first flight of the Y1 was on 12 May 1927. The same pilot later flew a 15 and a half hour flight with the same aircraft. He covered a distance 773 miles.

UT-2 (1935)

The UT-2 was prone to enter into a spin. A number of modifications were done to eliminate the problem.

YAK-18 (1946)

The YAk-18 together with the PO-2 were used to perform night raids in the Korean Ware.

YAK-50 (1972)

The Yak-50 was operated by the Soviet Union National Aerobatics team. The aircraft was scrapped after 50 flights. The airframe could not handle the stress during such flights.

YAK-55 (1981)

Under the leadership of Yakovlev he designed the YAK-55. The aircraft dominated the World Aerobatics Championship.

Series philatelic information

Issued	1986-11-25
Perforation	11½ x 11¼
Print technology	Photogravure
Paper	Coated
Watermark	None

History of Soviet Union Aircraft – Kamov Helicopters

Top left to right

NI Kamov (Designer)	KA10 (1953)	KA-22 (1959)

Kamov studied the the works and requirement of the Juan de la Cierva and Lomonosov. He built several autogyros. To counter the rotating effect Kamov added a second main rotor that rotate in the opposite direction of the first.

Bottom left to right

KA-26 (1966)	KA-27 (1978)	KA-50 (1982)

Series philatelic information

Issued	2002-08-08
Perforation	12¾ x 12
Print technology	Offset lithography
Paper	Coated
Watermark	None

History of Soviet Union Aircraft – Helicopters

YAK-24 (1952)

The Mil Design Bureau submitted a double rotor design capable of caring 12 passengers. While, the Yakovlev Bureau's design was also a double rotor design but would be able to carry 24 passengers. The latter was choose.

MI-6 (1957)

The major requirement for the MIL-6 helicopter was the ability to lift 6 tons of cargo over distance of 240 kilometres.

Mi-8 (1962)

The MI-8 used kerosene during take-off and landing liquefied petroleum gas during the flight. It could carry 24 passengers.

KA-26 (1956)

Like most of the Kamov designed helicopters the KA-26 had main rotors. The helicopter configuration was in such away that containers could be fitted behind the cockpit and below the rotors engine. The helicopter could carry 900 kilograms. The helicopter was used for various uses like crop spraying, evacuations, passengers transport, etc.

Series philatelic information

Issued	1980-05-14
Perforation	12¾ x 12
Print technology	Offset Lithography
Paper	
Watermark	None

History of Soviet Union Aircraft – Modern

LI-2 (1936)

AN-8 (1955)

AN-12 (1957)

KA-22 (1959)

TU154 (1968)

AN-2 (1975)

YAK-42 (1975)

IL-114 (1986)

IL-96-300 (1988)

The above aircraft and other units were exported to various countries like Uzbekistan and Cambodia.

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Watermark	None

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Print technology	Offset Lithography	Offset Lithography	Offset Lithography
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Watermark	None	None	None

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Paper	Coated
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Perforation	11½ x 11¾
Print technology	Photogravure
Paper	Coated
Watermark	None

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Top left to right

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Bottom left to right

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Series philatelic information

Issued	2002-08-08
Perforation	12½ x 12
Print technology	Offset lithography
Paper	Coated
Watermark	None

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Series philatelic information

Issued	1980-05-14
Perforation	12¼ x 12
Print technology	Offset Lithography
Paper	
Watermark	None

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