

Iliouchine IL-10

L'Iliouchine Il10 est un avion d'attaque au sol soviétique mis au point à la fin de la Seconde Guerre mondiale par les bureaux de constructions Iliouchine. En 1943, Iliouchine a commencé à travailler sur un nouvel avion, Il10, qui devait être un mono ou biplaces lourds blindés de combat et d'interception, destinée principalement à la lutte contre les bombardiers et les avions de transports. L'Il10 était similaire de conception à l'Il2, mais plus moderne et compact, et alimenté par un nouveau moteur Mikulin, le PM-42. Mais l'armée de l'air avait dans l'idée que ces avions d'assauts n'étaient pas adéquats pour l'interception des bombardiers, en raison de leur faible vitesse, insuffisante pour l'interception.

En conséquence, elle décida d'utiliser cet avion pour l'attaque au sol. À cette époque, Iliouchine avait également terminé un prototype d'avion d'attaque au sol plus lourd, l'Il-8, avec le même moteur, plus étroitement dérivé du design de l'Il2. Il transportait plus de charge utile (1000 kg), mais avait des performances plus faibles que les Il10. Les deux types ont effectué leurs premier vol en avril 1944, l'Il10 se révèle très supérieure à l'Il8, qui a une mauvaise maniabilité. L'Il10 a passé avec succès les essais d'État au début de Juin 1944. Le 23 août 1944, l'Il10 a été ordonnée sur la production en série, par décision du Comité de défense de l'État (GKO), comme un nouvel avion d'attaque au sol. Son armement était similaire au premier modèle de fin de l' Il-2, avec deux canons de 23mm et de deux mitrailleuses dans les ailes, et une de mitrailleuse 12,7 mm pour un tireur arrière , et de 400 kg ou 600 kg de bombes maximum. À la différence de l'Il2 et D-6, il n'a pas été initialement conçu pour transporter des roquettes. En Octobre 1944, le premier Il10 est entré en service dans des unités de formation dans la VVS.

En Janvier 1945, le premier Il10 est entré en service dans une unité de combat, le 78e régiment de gardes d'assaut. Toutefois, trois autres unités d'IL-10 ont réussi à prendre part aux actions de combat final de la Seconde Guerre mondiale en Europe. Après l'URSS s'engagea dans la guerre contre le Japon, avec l'invasion de la Mandchourie. À partir du 9 août 1945, une unité d'Il10, le 26e régiment d'aviation d'assaut de la marine du pacifique, a été utilisé pour des combats dans la péninsule coréenne, en attaquant des navires japonais et les transports ferroviaires.

Iliouchine Il10 :

- Moteur Mikulin AM42
- 2000 Ch
- 551 Km/h
- 2 Canons 23 mm 1 Mitrailleuses 12.7 mm 600 Kg de charges offensives
- 6380 Kg en charge
- 7500 m de plafond pratique
- 800 Km en distance franchissable
- 2 Equipiers





version anglaise

The **Ilyushin Il-10** ([Cyrillic](#) Илью́шин Ил-10, [NATO reporting name](#): "**Beast**") was a [Soviet ground attack aircraft](#) developed at the end of [World War II](#) by the [Ilyushin](#) construction bureau. It was also [license-built](#) in [Czechoslovakia](#) by [Avia](#) as the **Avia B-33**.

Development

From the start of [Eastern Front](#) combat in World War II, the [Soviet Air Force](#) (VVS) used the successful ground attack aircraft [Ilyushin Il-2](#) Sturmovik, powered by the [Mikulin AM-38 inline engine](#). As the war progressed, the Soviets laid plans for that aircraft's successor. The main goal was to increase speed and maneuverability at low altitudes, mainly to evade small-caliber [anti-aircraft artillery](#), which was the main threat for ground attack aircraft, and to remove some of the Il-2's faults. The most promising project was a modern, light and maneuverable close assault aircraft, the [Sukhoi Su-6](#), developed by [Pavel Sukhoi](#)'s bureau from [1942](#). At the same time, [Sergei Ilyushin](#) developed a heavier aircraft, the **BSh M-71**, (**Il-8 M-71**), derived from the Il-2 design, on which it was partly based, to be powered by the prototype [Tumansky M-71 radial engine](#), which did not enter production.

In [1943](#), Ilyushin started work on a new aircraft, **Il-1**, which was to be a 1- or 2-seat [heavily armoured fighter](#)-interceptor, meant mainly for fighting enemy [bombers](#) and transports. The Il-1 was similar to the Il-2 design, but was more modern, compact, and powered with a new Mikulin engine: the AM-42. But the VVS gave up the idea of heavy armoured fighters, due to their low speed, which was not enough to [intercept](#) modern bombers. As a result, Ilyushin decided to turn the Il-1 into a two-seat ground attack plane, with the designation changed to **Il-10** in early 1944 (odd numbers were reserved for fighters).

At that time, Ilyushin also finished a [prototype](#) of a heavier ground attack plane, the **Il-8**, using the same engine, and more closely derived from the Il-2. It carried a higher payload (1,000 kg/2,204 lb), but had lower performance than the Il-10. Both types first flew in April 1944, the Il-10 proving greatly superior to the Il-8, which had poor handling. The Il-10 successfully passed trials in early June 1944.

The third competitor was a new variant of the [Sukhoi Su-6](#), also powered by the AM-42 engine. After comparative tests, the Il-10 was considered the winner and was chosen as the new ground attack plane, despite some opinions that the Su-6 was a better aircraft, notwithstanding inferior performance and payload, with better gun armament. Notably, the Su-6 prototype was tested with maximum payload, causing lowered performance, while the Il-10 was tested with normal payload. Some advantages of the Il-10 came from its technical similarity to the Il-2.

Production



Avia B33 in the [Polish Aviation Museum](#)

On 23 August 1944 the Il-10 was ordered into serial production by decision of the State Defense Committee (GKO) as a new ground attack plane. Its armament was initially similar to late model Il-2s, with two 23 mm [VYa-23 cannons](#) and two [ShKAS machine guns](#) in the wings, and a 12.7 mm [UBT](#) machine gun for a rear [gunner](#), and 400 kg, or a maximum 600 kg of bombs. Unlike the Il-2 and Su-6, it was not initially meant to carry [rockets](#).

Production of the Il-10 started in [Kuybyshev's](#) factories No. 1 and No. 18. The first production aircraft flew on 27 September 1944 and 99 aircraft were produced by the end of 1944. Early series aircraft showed teething problems, most notably engine faults and fires. Most problems were eliminated by 1945. Aircraft produced from April 1945 onwards could carry four unguided [air-to-ground rockets](#). Aircraft produced from 1947 onwards were fitted with stronger armament, consisting of four 23 mm [NS-23](#) cannons in the wings and a 20 mm cannon for the rear gunner. Il-10 production ended in 1949, after a run of 4,600 aircraft; in the last two years, they were produced in factory No. 64.

Between 1945 and 1947, 280 [Ull-2](#) or [Il-10U trainer](#) variants were produced. The rear gunner's cockpit was replaced with a longer instructor's cockpit with dual controls. Its performance and construction were similar to the combat variant apart from armament, which was reduced to two cannons, two rockets, and a standard load of bombs.

In 1951, the [Czechoslovak](#) firm [Avia](#) secured a license to make Il-10s, with the designation **B-33**. The first one flew on 26 December 1951. Initially, their engines were Soviet-built. From 1952 onwards the engines were also produced in Czechoslovakia as the M-42. Besides the combat variant, a Czechoslovak trainer variant also entered service under the designation **CB-33**. In total, 1,200 B-33s were built by 1956.

In 1951, due to experience acquired during the [Korean War](#), the Soviet Air Force decided that [propeller](#) ground attack aircraft might still be useful, and decided to renew Il-10 production in a modified variant, the **Il-10M**, which first flew on 2 July 1951. It was slightly longer, with a wider wingspan, and larger control surfaces, with a fin under the tail. Four of the more recently developed [NR-23](#) cannons were mounted in the wings, while the payload stayed the same, and newer navigation equipment was installed, giving partial all-weather capability. Speed decreased slightly, but handling improved. Between 1953 and 1954, 146 Il-10Ms were made, all but 10 in [Rostov-on-Don's](#) factory No.168.

In total, 6,166 of all Il-10 variants were made, including those built under license.

Trials of Il-10s mounted with more powerful AM-43 and AM-45 engines took place, but proved unsuccessful. Ilyushin next designed a lighter [close support aircraft](#), the **Il-16**, with improved performance and similar armament. It first flew on 10 June 1945. A short run entered production, but the project was cancelled in 1946 due to the AM-43 engine's unreliability.

Design

The airframe was a one [engine](#) two-seat [monoplane](#), with a metal-covered [frame](#). It was [highly armoured](#). The front part of the [fuselage](#), with the [cockpit](#), was a shell of armour plates 4–8 mm thick; the thickest, 8 mm, were under the engine, there was no armour above the engine. The front [windshield](#) was made of armour glass 64 mm (2.5 in) thick. Also armoured were: the roof above the pilot, side window frames in the pilot's cab, the wall between crew seats, and the rear wall behind the cab. Total armour weight was 994 kg, including its attachment. The wing consisted of a central section, with two [bomb bays](#), and two detachable outer panels. The [undercarriage](#) was retractable. The main wheels folded to the rear after rotating by 86°.

Early Il-10s had two 23 mm [VYa-23 autocannons](#) (150 rounds each) and 2 7.62 mm [ShKAS machine guns](#) (750 rounds each) fixed in the wings, and a 12.7 mm UBT machine gun in a rear [gunner](#) station BU-8, with 150 rounds.

The horizontal angle of the rear machine gun field of fire was 100°. From 1947, the aircraft were armed with four [NS-23](#) 23 mm cannons in the wings (150 rounds each) and 20 mm B-20T cannon in a rear gunner station BU-9 (150 rounds). The IL-10M had four 23 mm [NR-23](#) cannons in wings (150 rounds each) and 20 mm B-20EN cannon in a rear gunner station BU-9M (150 rounds). Avia B-33 had four 23 mm NS-23RM cannons in wings and 20 mm B-20ET cannon in a rear gunner station BU-9M.

The normal bomb load was 400 kg, maximum load was 600 kg. This could be small fragmentation or anti-tank [bomblets](#), put in bomb bays, or four 50–100 kg bombs in bomb bays and externally under wings, or two 200–250 kg bombs attached under wings. Small bomblets were put directly on bomb bay floors, in piles. A typical load was 182 (maximum 200) 2 kg AO-2,5-2 fragmentation bombs, or 144 PTAB-2,5-1,5 anti-tank [HEAT](#) bombs. Apart from bombs, four unguided rockets [RS-82](#) or [RS-132](#) could be carried on rail launchers under wings. Avia B-33s were also fitted to carry other rocket types. Late Soviet aircraft could carry ORO-82 and ORO-132 tube launchers. In the tail section was a DAG-10 launcher with 10 anti-aircraft or anti-personnel grenades AG-2 (after being thrown, they would fall with parachutes and then burst, but were not widely used in practice).

The Il-10 engine was a 12-cylinder [inline V engine](#) Mikulin AM-42, liquid-cooled, power: 1,770 hp continuous, takeoff power: 2,000 hp. Three-blade propeller AV-5L-24 of 3.6 m diameter. Two fuel tanks in the fuselage: upper 440 L over engine, ahead of the cockpit, and lower tank of 290 L under the cockpit. The aircraft had a radio set and a camera AFA-1M in a rear section of the fuselage.

Operational history

In October 1944, the Il-10 first entered service with training units in the [Soviet Air Force](#). In January 1945, the first Il-10 combat unit entered service with the 78th Guards Assault Aviation Regiment, but it did not enter action due to unfinished training. However, three other Il-10 units managed to take part in the final combat actions of World War II in Europe. They were the 571st Assault Aviation Regiment (from 15 April 1945), the 108th Guards Assault Aviation Regiment (from 16 April 1945), and the 118th Guards Assault Aviation Regiment (on 8 May 1945). About a dozen aircraft were destroyed by [flak](#) or engine breakdowns, but the Il-10 appeared to be a successful design. One was shot down by an [Fw 190](#) fighter, but a crew of the 118th Regiment shot down another Fw 190 and probably damaged another. On 10 May 1945, the day after the official Soviet end of the war, ([Victory Day](#)), there were 120 serviceable Il-10s in Soviet Air Force combat units, and 26 disabled ones.

After the USSR reentered the war against the [Empire of Japan](#), with the [invasion of Manchuria](#), from 9 August 1945, one Il-10 unit, the 26th Assault Aviation Regiment of the Pacific Navy Aviation, was used in combat in the [Korean Peninsula](#), attacking Japanese ships in [Rasin](#) and rail transports.

After the war, until the early 1950s, the Il-10 was a basic Soviet ground attack aircraft. It was withdrawn from frontline service in [1956](#). At the same time, work on new [jet](#)-powered dedicated armoured ground attack planes (like the [Il-40](#)) was canceled, and the Soviets turned to multipurpose [fighter-bomber](#) aviation. The Il-10 and its licensed variant, the Avia B-33, became a basic ground attack plane of the [Warsaw Pact](#) countries. From 1949 to 1959, the [Polish Air Force](#) used 120 Il-10s (including 24 Ull-10), and 281 B-33s. In Poland, the B-33 was modified to carry 400 L fuel tanks under its wings. From 1950 to 1960, [Czechoslovakia](#) used 86 Il-10s, including six Ull-10s, and about 600 B-33s. From 1949 to 1956, the [Hungarian Air Force](#) used 159 Il-10s and B-33s. From 1950 to 1960, the [Romanian Air Force](#) used 14 Il-10s and 156 B-33s. [Bulgaria](#) also used these aircraft.

In the late 1940s, 93 Il-10 and Ull-10s were given to [North Korea](#). They were then used in the 57th Assault Aviation Regiment during the early phase of the [Korean War](#). They were initially used with success against the weak anti-aircraft defense of South Korean forces (following the US refusal to supply the south with "heavy weapons"), but then they suffered heavy losses in encounters against the [United States Air Force](#) fighters and were bombed on the ground themselves. After several weeks, about 20 remained. In the summer of 1950, North Korea received more aircraft from the USSR. The North Koreans claimed that they sank a warship on 22 August 1950 with Il-10s, but it was never confirmed.

From 1950, Il-10s were used by the [People's Republic of China](#), in two regiments of an assault aviation division. They were used in combat during a conflict with the [Taiwan](#), over border islands in January 1955. They remained in service until 1972 (replaced by the [Nanchang Q-5](#)). From 1957, [Yemen](#) used 24 B-33s.

Kemlitz incident

On 14 April 1951 a flight of Soviet Il-10 aircraft of the [16th Air Army](#) departed [Reinsdorf](#) for the bombing and strafing range at Lieberoser Heide. Thirteen aircraft crashed across a wide area in the vicinity of Kemlitz for the loss of 26 aircrew. The cause of the disaster – whether sabotage, a fueling error, or something else – remains publicly unknown. The aircrew are buried at the Soviet Cemetery Potsdam. In April 2011 a memorial stone was erected in the village square at Kemlitz.

Variants

Il-10

Initial production variant

Il-10M

Redesigned production variant

Il-10U

Two-seat operational trainer. Also known as **Uil-10**.

Avia B-33

Czechoslovakia-built variant of the initial Il-10

Avia BS-33

Czechoslovakia-built two-seat operational trainer

source : https://en.wikipedia.org/wiki/Ilyushin_Il-10