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Sukhoi Su-25T is beginning to trickle into Russian air force service

prototype Flanker As had rounded wingtips, while production Flanker B aircraft have wingtip missile-launch rails.

The first production-configuration Su-27 was flown on 20 April, 1981. Following extensive land-based testing, landing and ski-jump-assisted take-off trials took place aboard the carrier Admiral Nikolay Kuznetsov (then the Tbilisi) in late 1989. These involved a navalised Su-27K (Flanker B2), with moveable foreplanes, folding wings and tailplane, strengthened landing gear and an arrestor hook, but not the Flanker B's infra-red sensor. The first Su-27K squadron is now working up.

An Su-27 has been seen with one engine showing an advanced nozzle. It is claimed that this was to examine supersonic-footprint issues on the proposed Sukhoi/Gulfstream civil supersonic business-aircraft. Others have suggested it may be associated with thrust vectoring research.
Customers: CIS 500+, China 24+.

Sukhoi Su-30/Su-30MK The Su-30 may be intended to provide the Su-27 with a fighter controller aircraft, capable of handing off targets to other aircraft via a datalink. Two prototypes, Su-27PU's, were built in 1989, although it remains uncertain whether the aircraft has yet entered service with the PVO. Sukhoi is also developing the Su-30MK, a multi-role development of the Su-30, for the export market.

Su-34 Previously known as the Sukhoi Su-27IB (Istrebitel-bombardirovschik-fighter bomber), the side-by-side two-seat variant of the Flanker Interceptor, was exhibited at Minsk in February 1992. At least two aircraft 042, and 043, are flying with a further two believed to be in production. The role of the aircraft was initially confused. It was first seen making approaches to the carrier, *Kuznetsov*, but this was only to evaluate side-by-side seating suitability for carriers. The aircraft has no naval role and the example shown at Minsk had no arrestor hook or wing/tailplane folding. Weight is in the 35t class, hence the need for twin-wheel nose gear and twin-wheel main gear. The aircraft is intended as a direct line replacement for the Su-24 Fencer.

The aircraft at Minsk was displayed armed for the defence-suppression role, with two high-speed AS-17 Krypton anti-radar missiles carried under the fuselage, 500kg laser-guided bombs on the inner wing pylons and, outboard of them, television- and laser-guided AS-14 Kedge air-to-surface missiles. The outer pylons carried AA-11 Archer infra-red-guided air-to-air missiles and a 30mm cannon buried in the starboard chine. A retractable flight-refuelling probe is on the port side of the nose. This aircraft has a metal nose and no radar. Aircraft 043 also does not appear to have been fitted with a radar. The Su-34 is also associated with a rearward-facing radar

Su-35 In plan form, the aircraft is similar to the Su-27K, with moveable foreplanes and extended squared-off tips. The Su-35 is intended to provide the air force with an air-superiority fighter through until 2020. Around ten prototype aircraft have been built.

The aircraft is being developed to meet an air force requirement and is now under test. If funding is available, it will be ready to enter service by around 1996. The aircraft's radar, referred to as the Super Zhuk, has a claimed search range of up to 400km, and is believed to be associated with ultra-long-range air-to-air missiles now in development. The aircraft was first flown in 1985.

Sukhoi T-60 Sukhoi is working on an aircraft programme, sometimes referred to as the T-60, to replace the Tu-22M Backfire. The design bureau remains reticent about discussing this project beyond admitting its existence. This programme may have won favour over Mikoyan's Project 701 for the long range strike role.

TUPOLEV

Tu-22M Backfire China has expressed an interest in acquiring the aircraft to replace its Tu-16 Badger, a move which, if approved, could substantially escalate tensions in the region. Despite repeated rumours, Tupolev denies that it has supplied any Tu-22Ms to Iran. The Ukraine, however, has been looking to offload some Tu-22Ms.

The Backfire, although having almost nothing in common with the Tu-22 Blinder, was designated as a modernisation programme of the latter to ensure the availability of funding. A special decision of the Government and central committee of the Communist party would have been necessary to start development of a new aircraft, but a modernisation programme could be approved at a lower level. Tupolev and the Soviet air force paid the price, therefore, of pretending to develop a refined Tu-22M Blinder to start the work and there were no attempts to give the Backfire a new Soviet designation.
Customers: CIS 400+.

Tu-95/142 Bear Production of the Bear has now ceased, 40 years after the aircraft first flew. The latest version of the long-range four-turboprop Tu-95 bomber (NATO codename Bear), carrying the subsonic 3,000km-range AS-15 Kent cruise missile, entered service late in 1984. The Bear H carries at least four AS-15s, two under each inboard wing section, and may carry more internally. The Bear H was also intended to carry the long-range AS-X-19 cruise missile, although this programme has been cancelled.

Manufacture of the Tu-142 Bear F long-range maritime-patrol aircraft has also been discontinued. The Bear F was identified in 1973 and later aircraft have a magnetic-anomaly detector at the top of the fin. The Bear J is a VLF communications platform, based on the Bear F airframe, and small numbers are used by the CIS navy to relay data to submarines. India operates eight maritime-reconnaissance Tu-142Ms.
Customers: India 8, CIS 225+.

Tu-160 Blackjack A considerable question mark remains over how many Blackjack variable-geometry strategic bombers are in service with the long-range aviation fleet. Estimates vary between four and 20 aircraft. The Mach 2 aircraft became operational late in 1989, carrying 3,000km-range AS-15 Kent subsonic cruise missiles and AS-16 Kickback short-range attack missiles on an internal rotary launcher. Production has been halted far short of the expected 100 aircraft. Flight tests of the four-crew, four-engined Blackjack began in 1982. It has a maximum weight of 275t, 1,190kt maximum speed and an estimated 7,300km unrefuelled combat radius. Ergonomic and servicing problems were reported in 1989, and a readiness rate of only 30% was reported in 1991 by a group commander.
Customers: CIS 20+.

YAKOVLEV

Yak-38 Forger Four CIS Navy Kiev-class aircraft carriers were equipped with the Yak-38 subsonic V/STOL shipborne fighter, each vessel carrying single-seat Forger As and two two-seat Forger Bs. The aircraft has, however, now been withdrawn from service. The Forger is powered by a single 68kN Tumansky R-27V-300 thrust-vectoring turbojet. During the transition and hover, vertical lift is balanced by tandem 35kN Koliesov lift jets mounted aft of the cockpit. The Yak-38 has no internal armament, but has four underwing hardpoints for a maximum weapons load of some 2,000kg.

In the early 1980s, a group of Yak-38s was deployed to Afghanistan for a short-term field evaluation. The Forger's attrition rate is not as high as previously reported. According to Yakovlev, 36 aircraft have been lost in 15 years of operation; there were 31 ejections (18 automatic and 13 initiated by the pilot), all of which were successful.
Customers: CIS 231.

Yak-141 Freestyle Three prototypes, including an ground-test aircraft, were built of the advanced supersonic V/STOL Yak-141 naval fighter. Previously known as the Yak-41 and Ram-T by NATO, the programme has been cancelled by the navy. Two aircraft participated in flight tests, which began in about March 1989. One aircraft was badly damaged by fire in a deck-landing incident.

The Yak-141 has twin fins widely separated on flat-sided tailbooms, which extend well beyond the nozzle of the main engine.The Soyuz RD-79V-300 turbofan produces 88.25kN dry, 152kN with afterburning, while the two RKBM Rybinsk RRD-41 lift-jets each generate 40kN each. The aircraft is 18.3m in length and has a span of 10.1m, reduced to 5.9m with wings folded. Performance was announced as 970kt maximum speed, and a range of 1,400km, with vertical take-off, or 2,100km, with short take-off and external fuel. The maximum weapon load is quoted as 2,600kg.

In April 1991, the aircraft established 12 time-to-climb and altitude/payload world records, certified by the Fédération Aéronautique Internationale in Class H (Jetlift/VTOL). Yakovlev is looking for international partners for co-development, with particular hopes for Hindustan Aeronautics of India, in an attempt to keep the project alive.

Yak-44AEW Yakovlev defeated Antonov in winning the AEW programme for the navy's carriers. The Yak-44 project had reached the stage of a full-scale mock-up before a lack of funding brought it to a halt. The aircraft had a twin-turboprop configuration reminiscent of the Grumman E-2C AEW.