



The Russian Air Force Museum at Monino

One of the world's best collections of military aircraft is at the Central Museum of the Air Forces at Monino, about 25 miles from Moscow. Formerly an active Soviet airbase, the facility houses a large number of bombers, fighters, transporters, reconnaissance planes, helicopters, and historic WWII aircraft from Soviet/Russian design bureaus Tupolev, Ilyushin, Antonov, Mikoyan, and others. Author A.C. Frieden shares his impressions of the museum in this article.

The Myasischev M-50 was an advanced experimental supersonic bomber that first flew in 1959.

On a chilly, overcast December morning in Russia, spy novelist A.C. Frieden headed to the Central Museum of the Air Forces, one of the largest collections of Soviet and Russian military aircraft, located about 25 miles (40 km) east of Moscow. The day's key task was to research some of the most notable aircraft types used during the Cold War as well as those recently deployed in Syria.

Given its importance to Russian aviation, the museum complex sits near the Gagarin Air Force Academy, one of the leading military educational institutions tasked with preparing personnel for service in the Russian Air Force. Cadets and other visitors can walk next to the dozens of snow-covered prototypes and early production versions of Soviet/Russian Air Force fighters and fighter-bombers, types that are still flown by the Russian Air Force after various upgrades. Among these is a pre-production version of the Su-24, a variable-geometry supersonic fighter-bomber, similar to Su-24M shot down by a Turkish F-16 over the Turkish-Syrian border a few days before Frieden's visit to Monino. Many former Soviet Su-24s remain in service with Syria, Kazakhstan, and Ukraine, but the majority are modernized versions in the Russian military, which has over 350 serving with the Russian Air Force and several dozen with the Russian Navy. The Russian Air Force is gradually replacing the Su-24 with the state-of-the-art Su-34.

Among some of the most impressive aircraft on display is the Mil V-12 (NATO codename *Homer*), officially given the project number *Izdeliye 65*. The Mil V-12 is the largest helicopter ever built, measured both in terms of lift capacity and size. However, it never entered mass production. The first prototype was manufactured in late 1968 and flew in 1969. That year it flew a record-breaking cargo of 88,636 lb (44 tons) to a height of 7,000 feet. The Soviets needed this huge lift capacity to transport intercontinental ballistic missiles as well as certain medium-range missiles, but by the



A.C. Frieden stands next to a prototype of the Su-24 (NATO codename *Fencer*) supersonic fighter-bomber.



The Mil V-12 is the largest helicopter ever built, although it never entered mass production.



Ilyushin-10M was a Soviet ground-attack plane manufactured towards the end of World War II.



A Tu-95 (NATO name: *Bear*) strategic bomber on display.



The T-4 experimental supersonic bomber (also known as the Su-100) first flew in August 1972.

time a handful of such helicopter prototypes were fully tested, that requirement was no longer a priority.

Several bombers are on display at Monino. The most well-known in the West is the Tupolev Tu-95 (NATO codename *Bear*), a large, four-engine turboprop-powered strategic bomber, which also serves as a missile platform and reconnaissance aircraft. It was first flown in 1952 and entered Soviet Air Force service a few years later. Today, it is still used extensively to project Russia's nuclear deterrence capability. The Tu-95 is roughly com-

patible with the USAF B-52 and B-1 bombers and is powered by four Kuznetsov NK-12 engines with contra-rotating propellers (unique to Soviet aircraft), giving it significant speed and range.

Perhaps the most fascinating aircraft on display at Monino is the Tu-144, one of only two types of commercial supersonic aircraft ever manufactured (the other being the Anglo-French Concorde). The Tu-144 made its first flight on Dec. 31, 1968, two months before its smaller rival, the Concorde. The Tu-144 broke the sound barrier



The Su-17M3 was a Soviet fighter-bomber built in the late 1970s.



The Ilyushin Il-76 (NATO codename *Candid*) is a multi-purpose strategic airlifter that first flew in 1971.

This Soviet T-4 experimental supersonic bomber on display at Monino was flown only ten times before the project was cancelled in 1975.



the following year. It had several features that differentiated it from the Concorde, like its retractable canards, a longer fuselage, a larger wing, and more powerful engines.

The first production version of the aircraft, the Tu-144S, had a three-man cockpit crew and accommodated 140 passengers, though the seating configuration was rather cramped. Unfortunately, on June 9, 1973, the third production Tu-144 crashed during the Paris Air Show, killing all on board. The crash investigation showed that the pilots likely pushed the aircraft beyond its structural limitations, but there are still many conspiracy theories about the incident. The crash was a setback for the program, but the Tu-144's commercial failure was due mainly to the USSR not having a viable need for it, given its high main-

tenance cost and low passenger demand. The Tu-144 at Monino is the seventh example built out of a total production of seventeen aircraft.

Most of the aircraft at the museum are from the Cold War period, but there is a interesting small collection of World War II-era and other vintage aircraft in the hangars. These include an Ilyushin Il-10M, a powerful ground-attack aircraft built near the end of World War II as the Germans were being pushed out of Russia and Poland. There is also a fully restored Ilyushin IL-2 Sturmovik and a Yak-9Y, both also from World War II.

For spy novelist A.C. Frieden, who has been a private pilot since the 1990s, the museum tour was important both for his book research and to satisfy his passion for aviation. ⊕



The huge engine nozzles of a MiG-25 (NATO codename *Foxbat*) interceptor.



A Mil Mi-26 heavy transport helicopter.

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The Tu-144 supersonic airliner sits at Monino surrounded by several prototypes and production versions of the MiG-29.