

= Tupolev Tu @-@ 80 =

The Tupolev Tu @-@ 80 was a Soviet prototype for a longer @-@ ranged version of the Tupolev Tu @-@ 4 bomber built after World War II . It was canceled in 1949 in favor of the Tupolev Tu @-@ 85 program which offered even more range . The sole prototype was used in various test programs before ending its days as a target .

= = Development = =

The Tu @-@ 80 was designed as a modernized and enlarged Tu @-@ 4 with greater range . This was to be achieved by the use of more fuel @-@ efficient engines , better aerodynamics and adding fuel tanks . It was intended to have a range of 7 @,@ 000 ? 8 @,@ 000 kilometres ( 4 @,@ 300 ? 5 @,@ 000 mi ) and carry a maximum bomb load of 12 @,@ 000 kilograms ( 26 @,@ 000 lb ) with a top speed of 620 kilometres per hour ( 390 mph ) . Work began on the design in February 1948 and this was confirmed by a Council of Ministers order of 12 June that required the prototype be ready for State acceptance trials in July 1949 .

The forward portion of the fuselage was redesigned with an airliner @-@ style stepped windscreen and the fuselage was lengthened by almost 4 m ( 13 ft ) which allowed the bomb bays and their doors to be lengthened . The radar and its operator were moved into the forward pressurized compartment and the radar itself was located in the " chin " position in a new streamlined fairing . The wings were enlarged to a total of 173 square metres ( 1 @,@ 860 sq ft ) and the rubber deicing boots were replaced by more efficient and aerodynamic bleed air deicers . The engine nacelles were redesigned with smaller cross @-@ sections with less drag . Originally Shvetsov ASh @-@ 2TK or Dobrynin VD @-@ 3TK engines were considered , but neither engine was ready so the Shvetsov ASh @-@ 73TKFN was used . Fully feathering propellers were also used . All of these changes increased the lift / drag ratio to 18 from the 17 @.@ 0 of the Tu @-@ 4 .

Construction of the Tu @-@ 80 began in November 1948 , using as many Tu @-@ 4 components as possible to speed up construction , but the first flight wasn 't until 1 December 1949 , after the Council of Ministers had canceled the program on 16 September 1949 in favor of the Tu @-@ 85 which was expected to have much better performance . The Tu @-@ 80 became a research aircraft , testing reversible @-@ pitch propellers and structural deformation in heavy aircraft . It eventually became a target on a bombing and gunnery range .

= = Specifications = =

Data from The Osprey Encyclopedia of Russian Aircraft 1975 ? 1995

General characteristics

Length : 34 @.@ 32 m ( 112 ft 7 ¼ in )

Wingspan : 43 @.@ 45 m ( 142 ft 6 ? in )

Height : 8 @.@ 91 m ( 29ft 3 in )

Wing area : 167 @.@ 0 m <sup>2</sup> ( 1 @,@ 798 ft <sup>2</sup> )

Empty weight : 37 @,@ 850 kg ( 83 @,@ 444 lb )

Loaded weight : 51 @,@ 500 kg ( 113 @,@ 536 lb )

Max. takeoff weight : 60 @,@ 600 kg ( 133,598lb )

Powerplant : 4 x Shvetsov ASh @-@ 73FN 18 @-@ cylinder two @-@ row radial engine , 1 @,@ 977 kW ( 2 @,@ 650 hp ) each

Performance

Maximum speed : 545 km / h ( 295 kn , 339 mph )

Range : 8 @,@ 214 km ( 4 @,@ 436 nmi , 5 @,@ 104 mi )

Service ceiling : 11 @,@ 180 m ( 36 @,@ 680 ft )

Wing loading : 363 kg / m <sup>2</sup> ( 74 @.@ 3 lb / ft <sup>2</sup> )

Power / mass : 0 @.@ 13 kW / kg ( 0.079hp / lb )

Armament

Bombs : 12 @, @ 000 kg ( 26 @, @ 500 lb ) bombs