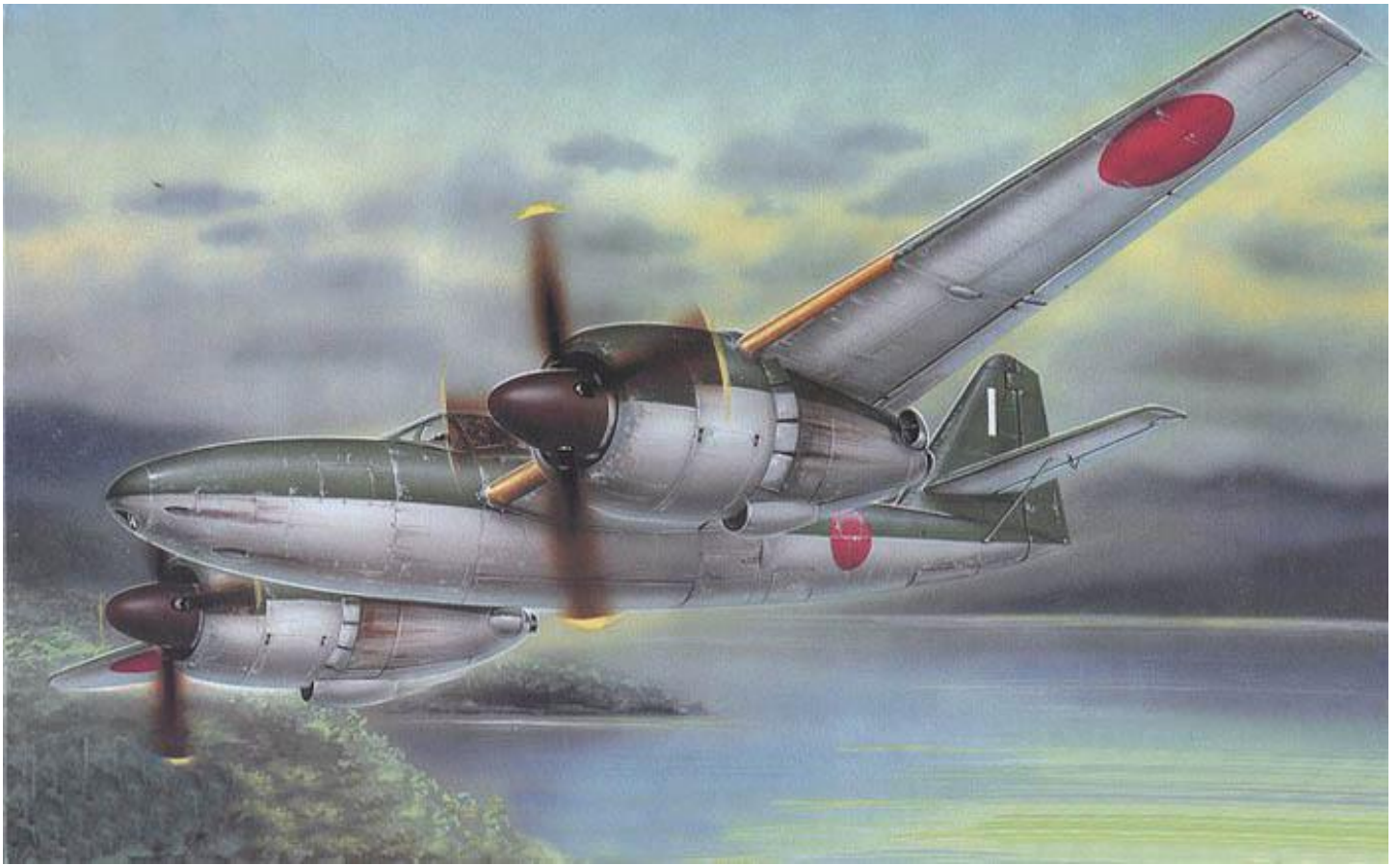


## Mitsubishi Ki-83

Durant la Seconde Guerre Mondiale, l'essentiel des chasseurs mis en ligne par le Japon, et par l'Armée impériale, était composé de modèles monomoteurs, légers et agiles. Mais comme de nombreux belligérants, le Japon aligna aussi des modèles plus lourds, et de conception bimoteur. Certains ne purent participer au conflit, car ils arrivèrent trop tardivement. Ce fut le cas ici pour le Ki-83.



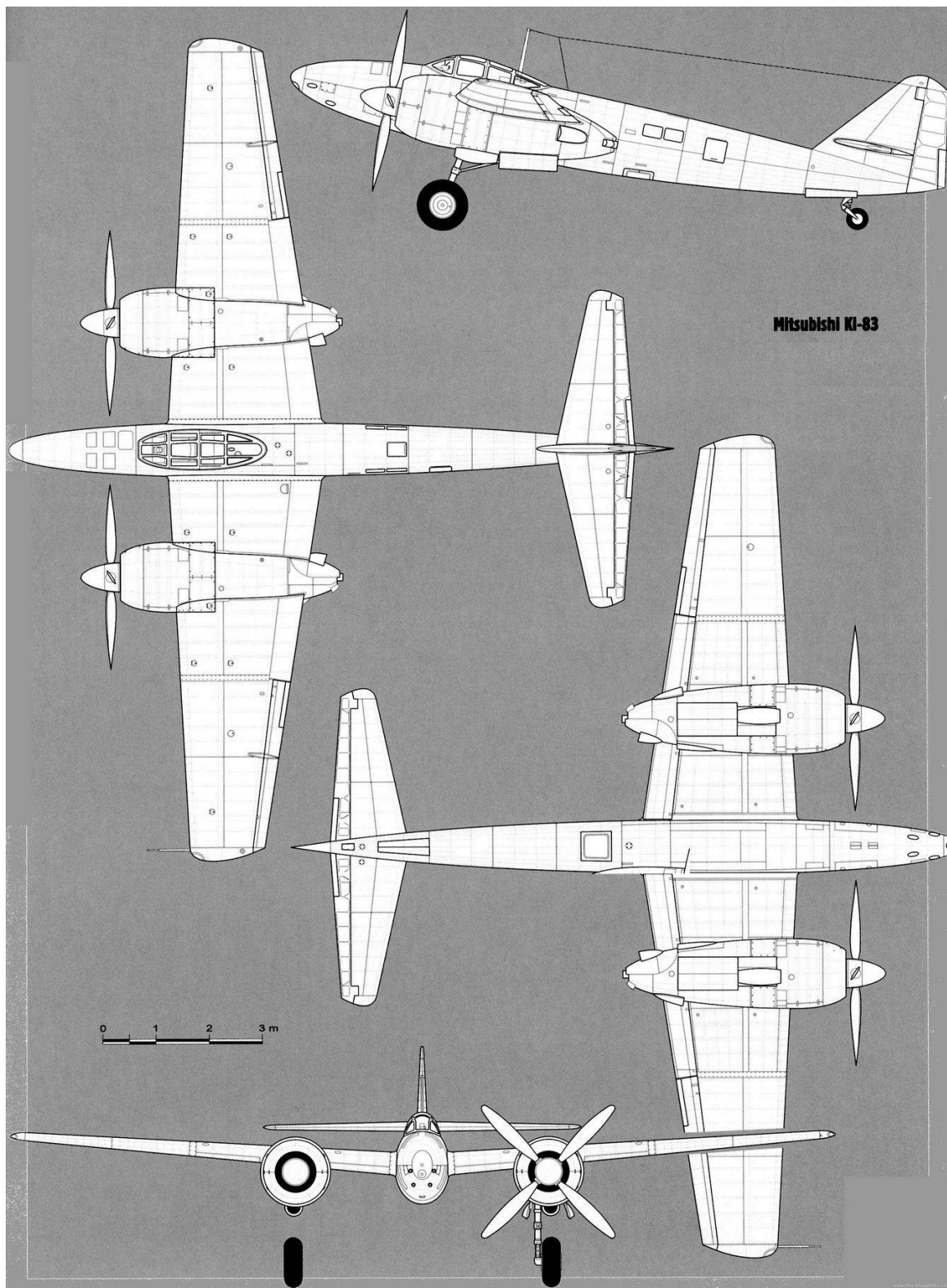
Durant l'année 1943, l'Armée impériale japonaise demanda le développement d'un tout nouveau chasseur à long rayon d'action. L'entreprise Mitsubishi décida de relever le défi, et chargea l'ingénieur Tomiô Kubo de sa réalisation. Kubo n'était pas un inconnu dans les sphères militaires japonaises. On lui devait notamment la conception du Mitsubishi Ki-46, l'appareil de reconnaissance standard des unités de l'Armée impériale.

Kubo se mit au travail, dans un contexte de plus en plus sombre pour le Japon. Malgré les bombardements de plus en plus fréquents et la désorganisation croissante de l'économie japonaise, il parvint à ses fins. Le 18 novembre 1944, le Mitsubishi Ki-83 effectua son vol initial. Il révéla d'emblée des performances très élevées, et suscita tout aussi rapidement l'intérêt des autorités. Cependant, le programme pâtit de la priorité officielle des autorités, à savoir d'abord remplacer les appareils détruits au combat par des modèles similaires. Le développement de tous nouveaux modèles était vu alors comme secondaire.



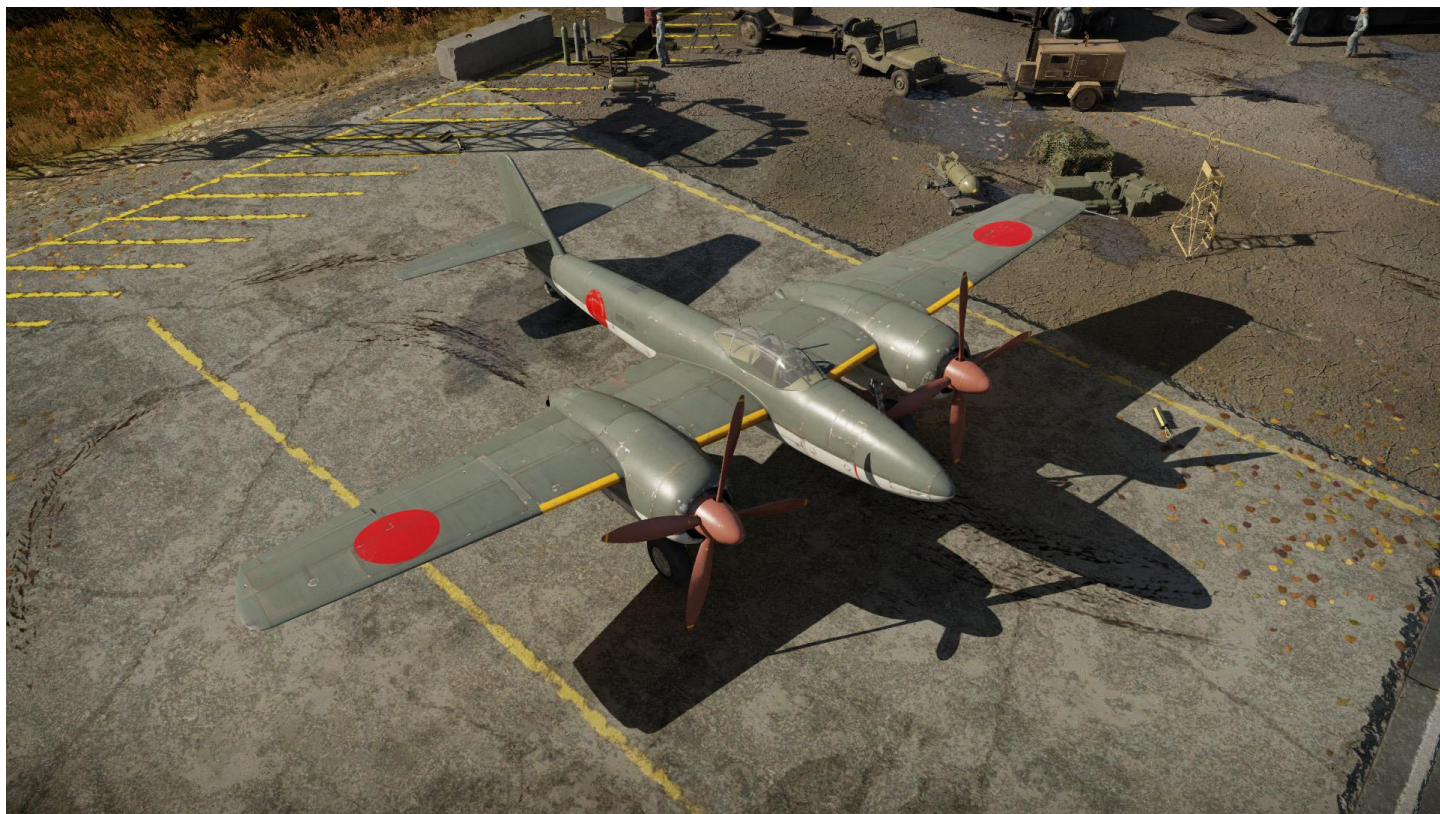
キ-83 試作遠距離戦闘機

Malgré tout, Mitsubishi mena le programme jusqu'à son terme, en produisant quatre prototypes, entre octobre 1944 et avril 1945. Les essais ne révélant aucun problème majeur, Mitsubishi se concentra alors sur la production en série du Ki-83, qui ne fut malheureusement pas lancée avant la fin de la guerre. Lors de leur arrivée au Japon, les militaires états-unis découvrirent le programme, dont ils ignoraient l'existence (ce qui explique que le Ki-83 ne reçut aucun surnom officiel de la part des services de renseignement alliés), et mirent la main sur les prototypes. Un seul d'entre eux était encore en état de vol, et il fut rapidement testé.



Le Ki-83 était un appareil d'une très grande élégance. Il se présentait sous la forme d'un grand bimoteur, à voilure médiane. Il reposait au sol sur deux grandes roues, assistées par une roulette de queue escamotable. Construit entièrement en métal, la structure bénéficiait d'un aérodynamisme très soigné et ne présentait aucune excroissance visible. Les nacelles des moteurs avaient ainsi été très soignées, avec une seule prise d'air et une seule tubulure d'échappement.

L'équipage comptait deux hommes. Le pilote était installé dans le cockpit, juste au-dessus de la voilure. Il bénéficiait d'une excellente visibilité, aussi bien à l'avant qu'à l'arrière. Son coéquipier, assurant la fonction de radio-navigateur, disposait quant à lui d'un petit emplacement, à l'arrière de la voilure, pourvu de deux petites fenêtres latérales de forme rectangulaire.



Pour la motorisation, les ingénieurs choisirent le Ha-211 Ru. Ce moteur, turbocompressé, délivrait une très grande puissance en vol (2 200 ch au décollage, 1 930 ch à 6 400 m d'altitude et encore 1 720 ch à 9500 m). Il entraînait une grande hélice quadripale métallique à vitesse constante. Son système de refroidissement par air le rendait plus fiable qu'un moteur à refroidissement liquide.

Conçu comme chasseur d'escorte, le Ki-83 fut doté d'un armement lourd. Quatre canons, deux de calibre 20 mm et deux de calibre 30 mm, furent installés dans la partie inférieure de son nez, de forme ogivale. Ainsi équipé, le Ki-83 aurait sans nul doute constitué un adversaire redoutable pour les bombardiers alliés, et sans doute aussi pour les troupes au sol. Il pouvait aussi recevoir deux bombes de 50 kilos, les deux étant installées dans une petite soute ventrale.

Les tests menés par les pilotes alliés surprirent grandement les responsables militaires. Le Ki-83 apparut comme un chasseur très manœuvrant et agile, capable de rivaliser avec les meilleurs chasseurs du moment. Ses performances en vol attirèrent également l'attention. En effet, les essais démontrèrent que le Ki-83 était l'équivalent sur bien des points du tout nouveau chasseur bimoteur états-unien, le Grumman F7F Tigercat.

Il faut toutefois nuancer ce tableau optimiste. Dans le Japon ravagé par les bombes de l'été 1945, il aurait sans doute été très difficile de lancer une production en série. De plus, le manque de carburant de bonne qualité, les déficiences de la main d'oeuvre japonaise, les problèmes rencontrés au niveau de la qualité des appareils finis et le manque de pilotes expérimentés, auraient sans doute grandement réduit l'efficacité théorique du Ki-83.

Cela n'en reste pas moins un appareil exceptionnel, sur bien des points.

Source : <https://aviationsmilitaires.net/v3/kb/aircraft/show/1063/mitsubishi-ki-83>

## Version anglaise

In May 1943, the Japanese Army Air Force issued a specification for a high altitude, long range heavy fighter. Led by Tomio Kubo, a team at Mitsubishi began to design the single-engine Ki-73 (Allied codename: Steve) to meet this specification. However, the aircraft's power plant, a 2,600 hp (1,939 kW) Mitsubishi Ha-203-II 24-cylinder "H" engine, suffered from severe developmental delays and was ultimately abandoned. As a result, the Ki-73 was abandoned as well.



*The Mitsubishi Ki-83 on a test flight with US markings on the fuselage. The brace from the horizontal stabilizer to the fuselage can barely be seen. The notch in the underside of the fuselage should be the access hatch for the second crew member. Apparently the hatch was missing on this flight, as a hatch made mostly of acrylic glass should be visible in other images.*

Kubo went back to the drawing board and created another designed based on his experience with twin-engine aircraft, including the Mitsubishi Ki-46 (Allied codename: Dinah). What Kubo designed was perhaps the most advanced Japanese aircraft built during World War II: Mitsubishi Ki-83.

The Ki-83 was an aerodynamically clean, all metal aircraft with two crew stations. Its mid-fuselage mounted wings were equipped with Fowler-style flaps. The pilot had a 360-degree view, and the radio operator/navigator was positioned in the aircraft's fuselage behind the wings. The second crew member had very cramped accommodations with small windows. However, the second crew member was not intended to be on every mission.

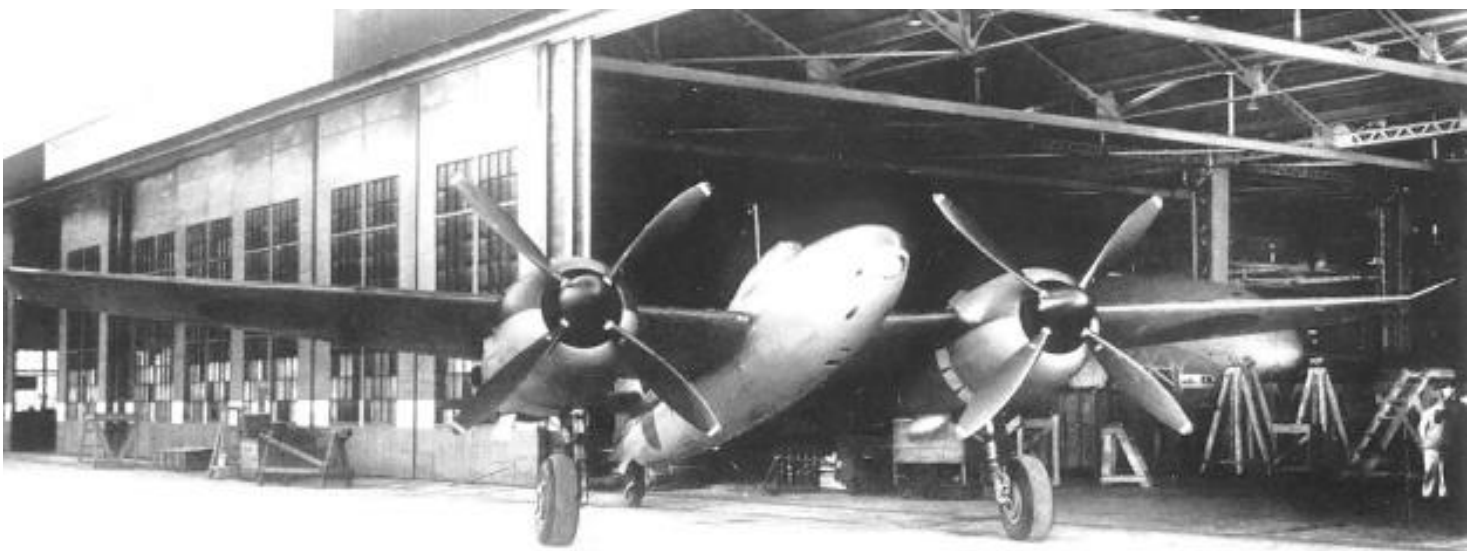
The aircraft featured fully retractable gear including the tailwheel. The main wheels retracted back into the engine nacelles. The Ki-83's armament consisted of two 30 mm Ho-105 and two 20 mm Ho-105 cannons, all housed in the lower nose. In addition, two 110 lb (50 kg) bombs could be carried on underwing hardpoints. Some sources say the bombs were carried internally, but this appears unlikely unless the bombs replaced the second crew member.



*The Ki-83 still in Japanese markings. The windows for the second crewman can be seen just above the tip of the horizontal stabilizer. Presumably, this is an early photo of the Ki-83, because the brace for the horizontal stabilizer appears to be absent.*

The Ki-83 was powered by two [Mitsubishi Ha-211-IRu \(joint designation \[Ha-43\] 12\)](#) air-cooled radial engines, each driving an 11.5 ft (3.5 m), four-blade propeller. The 18-cylinder engines had a bore of 5.51 in (140 mm), a stroke of 5.90 in (150 mm), and a total displacement of 2,536 cu in (41.6 L). The engine was turbosupercharged and produced 2,200 hp (1,640 kW) for takeoff and 1,750 hp (1,305 kW) at 31,170 ft (9,500 m). The turbocharger was placed in the rear of the engine nacelle. Fresh air would enter the turbocharger near the rear of the nacelle on the outboard side, be compressed, and then flow to the engine through an air box in the upper nacelle. The engine's exhaust was expelled from the turbocharger on the inboard side of the nacelle, and a wastegate was positioned at the end of the nacelle. The exhaust arrangement provided some additional thrust. An engine oil cooler was positioned under the nacelle.

The Ki-83 had a 50.85 ft (15.5 m) wingspan, was 41.0 ft (12.5) long, and weighed 13,184 lb (5,980 kg) empty and 20,790 lb (9,430 kg) maximum. A speed of 426 mph (686 km/h) was recorded at 26,250 ft (8,000 m), but top speed rose to 438 mph (705 km/h) at 29,530 ft (9,000 m). Cruise speed was 280 mph (450 km/h) at 13,125 ft (4,000 m). The Ki-83 could climb to 32,810 ft (10,000 m) in 10 minutes and had a ceiling of 41,535 ft (12,660 m). Normal range was 1,214 mi (1,953 km), and maximum range was 2,175 mi (3,500 km).



*Another early image of the Mitsubishi Ki-83 in Japanese markings. Curiously, there seem to be no oil coolers under the engine nacelles.*

The first Ki-83 prototype was completed in October 1944 and flew the following month on 18 November. Test flights were often interrupted by Allied bombing raids, but the Ki-83 demonstrated excellent maneuverability and performance. However, the prototype did experience tail and engine vibration issues and failures of the turbochargers. To cure the issues with the tail, an angled brace was added from the horizontal stabilizer down to the fuselage, and balance weights were added to the elevators. Based on the Ki-83's performance, the Japanese Navy expressed interest in the aircraft, and the Army agreed to give the Navy some examples after production had started. Reportedly, 39 Ki-83 aircraft had been ordered.

Three additional prototypes were built that incorporated changes to fix the first Ki-83's deficiencies. The second Ki-83 was completed in April 1945 and flew on 9 March 1945. The third and fourth prototypes had their first flights in the summer of 1945. However, the three additional prototypes were damaged (most likely destroyed) in Allied bombing raids. A fifth prototype was under construction at the end of the war.



*The captured Ki-83 while still in Japan. The wastegate exhaust is visible at the rear of the nacelle, and the air intake can be seen on the outboard side of the nacelle just below the trailing edge of the wing.*

With the war situation deteriorating for Japan, their limited resources were dedicated to the production of interceptor fighters, and the Ki-83 never entered production. At the end of the war, US forces were surprised to find the Ki-83 because it was an aircraft they knew nothing about. In addition, an advanced high-altitude interceptor version, the Ki-103, and a reconnaissance version, the Ki-95, were under development. The original and sole remaining Ki-83 was flight tested by the Allies at the Matsumoto Army Air Base in Japan. On one of those flights and with the aid of high-performance US aviation fuel, the Ki-83 reportedly achieved a top speed of 473 mph (762 km/h) at 22,965 ft (7,000 m) and could climb to 32,810 ft (10,000 m) in 9 minutes, but a definitive source reporting this impressive performance has not been found.

After flight testing, the Allies came to the conclusion that the Ki-83 was a very maneuverable and high-performance aircraft. In December 1945, the Ki-83 was shipped to the Alameda Air Station near San Francisco, California aboard the USS Tulagi escort carrier. The Ki-83 was given the Foreign Evaluation number FE-151 and flown some in the US. By February 1946, it was at the Middletown Air Depot (now Harrisburg International Airport) at Middletown, Pennsylvania and available for examination by the US aircraft industry. In September 1946, the Ki-83 was allotted to the Air Force Museum, but evidently these plans fell through. The Ki-83's last known whereabouts were at Orchard Field Airport (now O'Hare Airport) Special Depot in Park Ridge, Illinois in 1949. There are no further details of its fate and it is presumed to have been scrapped at Park Ridge in 1950.



*Mitsubishi Ki-83 under guard by US forces in Japan. The 30 mm cannons are in the lower nose with the 20 mm cannons above. The turbocharger exhaust can just be seen at the rear of the nacelle in the center of the image.*

Sources:

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  - [Japanese Army Fighters Part 1](#) by William Green and Gordon Swanborough (1977)
  - [Japanese Aircraft: Performance and Characteristics](#) by Edward T. Maloney (2000)
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