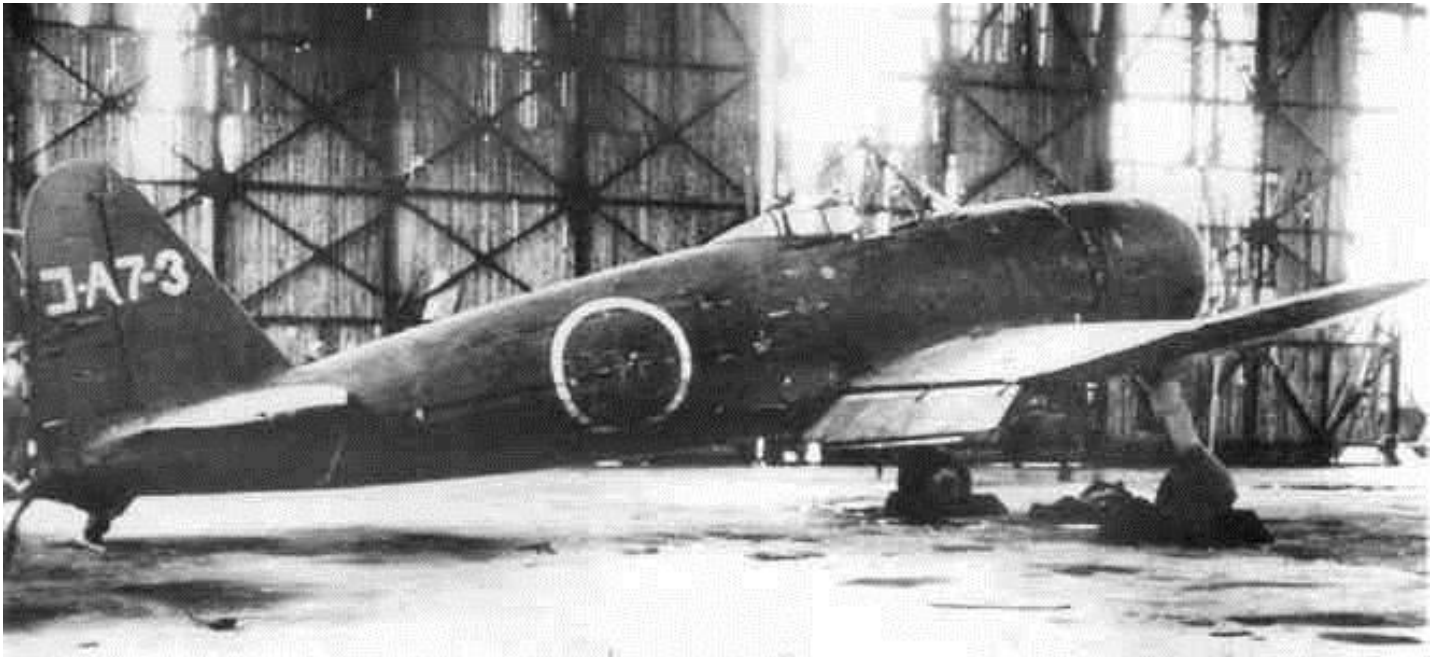


Mitsubishi A7M Reppu 'Sam'

Conçu selon un programme de 1940 pour succéder éventuellement au A6M Rei Sen (« Zeke »), le Reppu (Ouragan) fut retardé dans son élaboration car il n'était venu à l'esprit d'aucun Japonais l'idée de remplacer réellement l'excellent « Zero ». Quand Jirô Horikoshi, le concepteur de ce dernier, s'intéressa véritablement au nouvel appareil, au printemps 1942, il conclut que les sévères performances exigées nécessitaient l'emploi d'un moteur très puissant. L'avion devait en effet atteindre 640 Km/h à 6000 m, altitude acquise en moins de 6 mn, piquer à plus de 800 Km/h, avoir une autonomie d'au moins 1500 Km et posséder un armement nettement supérieur à celui de son prédécesseur. Le seul moteur pouvant convenir était le tout récent Mitsubishi MK9A de 2200 Ch qui commençait ses essais.



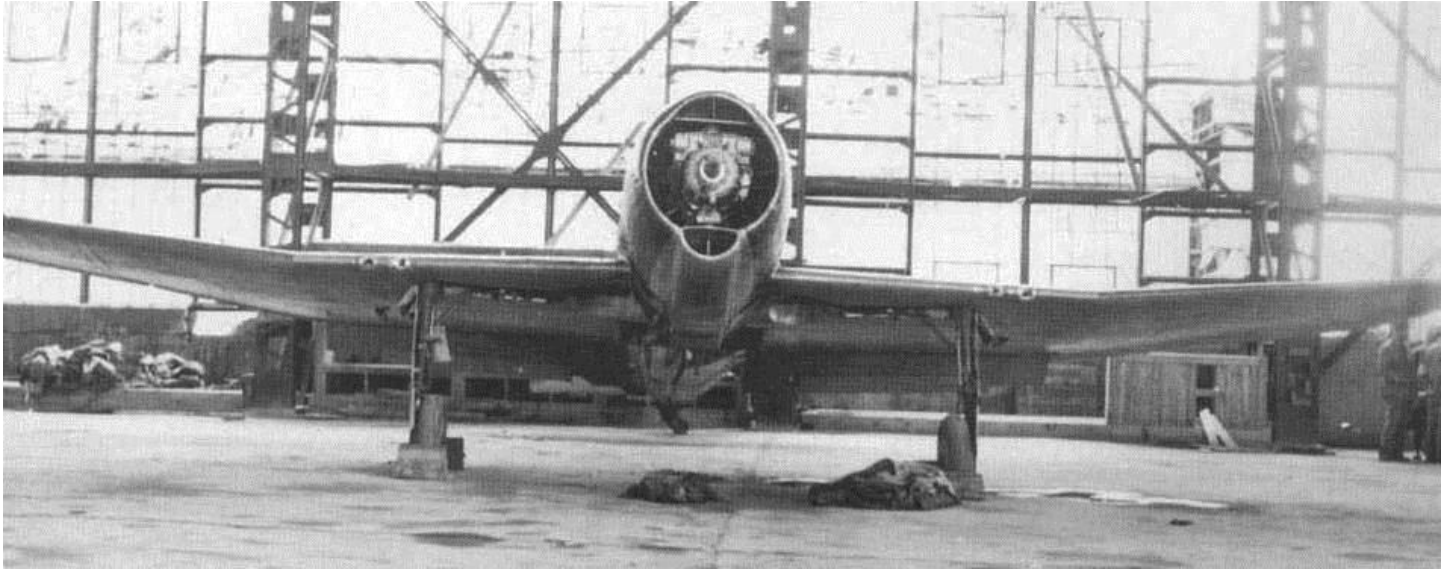
La défaite de Midway contraria ces études prévisionnelles et la Marine Impériale, affolée, obligea le constructeur à utiliser le Nakajima NK9K Homare 22, moins puissant (1990 Ch) mais disponible immédiatement, à blinder le pare-brise et le siège, et à adapter des réservoirs auto-obturants.

Mitsubishi A7M2 Reppū (Sam)

Carrier-borne Fighter



Le prototype du Reppu (« Sam » dans le code allié) reçut la désignation de A7M1 type 11 et vola pour la première fois le 6 mai 1944. C'était un monoplan aile basse entièrement métallique, destiné à l'embarquement sur porte-avions, à train d'atterrissage classique escamotable, lourd et armé de deux canons de 20 mm et de deux mitrailleuses de 13.2mm. Cependant, grâce à la sortie des volets de courbure en combat, sa maniabilité fut jugée équivalente à celle de l'A6M Rei Sen. Les perturbations grandissantes dues à la guerre et la disponibilité du moteur MK9A (Ha-211 pour l'Armée) firent abandonner les deux exemplaires du prototype A7M1 et permirent enfin à Mitsubishi de mettre au point le A7M2, plus puissant, armé de quatre canons de 20 mm, pouvant emporter deux bombes de 250 Kg ou un réservoir largable de 350 L et qui vola pour la première fois le 15 octobre 1944.



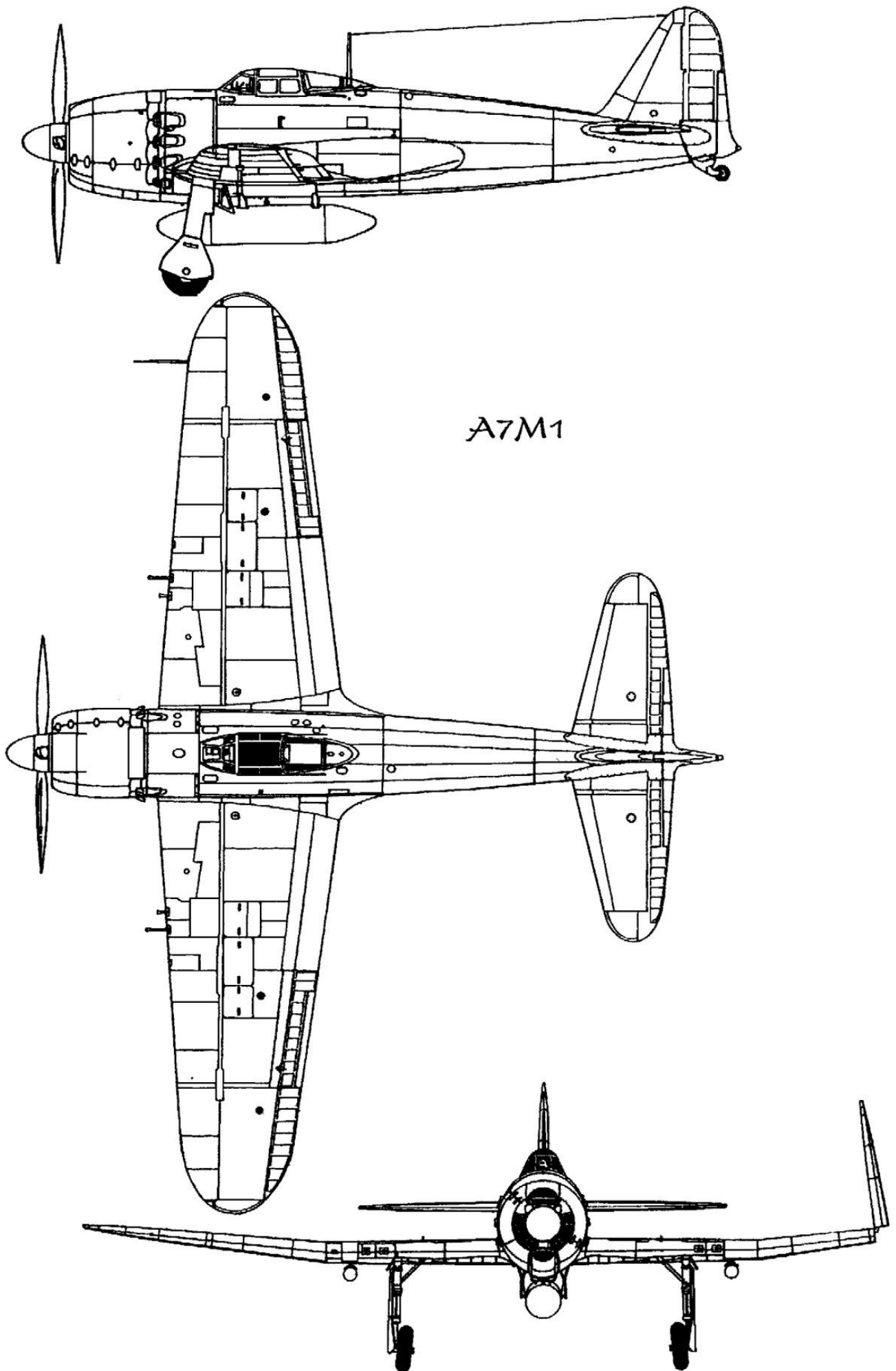
Peu de temps après, en décembre 1944, un tremblement de terre ravagea Nagoya, endommageant une partie des industries locales, dont l'usine de Daiko qui fabriquait le fameux MK9A. Quelques jours plus tard, un raid de B-29 Superfortress paracheva les destructions. Cependant, deux prototypes, cinq appareils de tests et de présérie et un A7M2 de série avaient été construits et portaient la production totale de Reppu à 10 exemplaires. Un des prototypes s'écrasa au cours d'essais et le deuxième fut détruit, ainsi qu'un appareil de présérie, par un bombardement.

Entre temps, Mitsubishi continuait l'élaboration d'un A7M3, équipé d'un moteur MK9C de 2200 Ch à compresseur mécanique à trois vitesses et armé de six canons de 20 mm, et envisageait un A7M3-J, basé à terre et muni de six canons de 30 mm dont deux obliques sur le dessus de l'engin. La firme étudiait par ailleurs un moteur MK9A-Ru à turbocompresseur qu'elle lui destinait.

A la capitulation, dans un épouvantable gâchis, les Américains capturèrent trois Reppu, les intercepteurs qui devaient devenir l'élite de la force aérienne nippone.



Modèle :	Mitsubishi A7M2 Reppu
Envergure :	14.00 m
Longueur :	11.00 m
Hauteur :	4.28 m
Motorisation :	1 moteur Mitsubishi MK9A (Ha-211) radial
Puissance totale :	1 x 2200 ch.
Armement :	4 canons de 20mm 2 bombes de 250 kg ou réservoir largable de 350 litres
Charge utile :	-
Poids en charge :	4720 kg
Vitesse max. :	620 km/h à 6000 m
Plafond pratique :	10900 m
Distance max. :	3 Heure(s) (2 h 30 en croisière et 30 mn en combat)
Equipage :	1



SOURCE : <http://www.avionslegendaires.net/avion-militaire/mitsubishi-a7m-reppu-sam/>
<http://milguerres.unblog.fr/mitsubishi-a7m-reppu-sam/>

version anglaise

The **Mitsubishi A7M Reppū** (烈風, "Strong Wind") was designed as the successor to the [Imperial Japanese Navy's A6M Zero](#), with development beginning in 1942. Performance objectives were to achieve superior speed, climb, diving, and armament over the Zero, as well as better maneuverability. To meet these performance specifications its size and weight were significantly greater than its predecessor. The A7M's allied codename was "**Sam**".

Design and development

Towards the end of 1940, the [Imperial Japanese Navy](#) asked Mitsubishi to start design on a carrier-based fighter, to meet specification *16-Shi* (a [designation](#) under a system using [regnal years](#) that indicated "1941" – the year in which the specification was formally issued). The fighter would be the successor to the carrier-based Zero. At that time, however, there were no viable high-output, compact engines to use for a new fighter. In addition, [Jiro Horikoshi](#)'s team was preoccupied with addressing early production issues with the A6M2b as well as starting development on the A6M3 and the *14-Shi* interceptor (which would later become the [Mitsubishi J2M Raiden](#), a land-based [interceptor](#) built to counter high-altitude [bombers](#)). As a result, work on the Zero successor was halted in January 1941.

In April 1942, the development of the A6M3 and the *14-Shi* interceptor was complete, and the Japanese Navy once again tasked Mitsubishi and Horikoshi's team with designing a new Zero successor to become the **Navy Experimental 17-shi Ko (A) Type Carrier Fighter Reppu**. In July 1942 the Navy issued specifications for the fighter: it had to fly faster than 345 kn (639 km/h; 397 mph) above 6,000 m (20,000 ft), climb to 6,000 m (20,000 ft) in less than 6 minutes, be armed with two 20 mm cannon and two 13 mm (0.51 in) machine guns, and retain the maneuverability of the A6M3.

As before, one of the main hurdles was engine selection. To meet the specifications the engine would need to produce at least 2,000 hp (1,500 kW), which narrowed choices down to Nakajima's NK9 ([Ha-45/Homare](#)), or Mitsubishi's MK9 ([Ha-43](#)); both engines still being under development. These engines were based on 14-cylinder ([Nakajima Sakae](#) and [Mitsubishi Kinsei](#), respectively) engines converted to 18-cylinder powerplants. The early NK9 had less output but was already approved by the Navy for use on the [Yokosuka P1Y Ginga](#), while the larger MK9 promised more horsepower.

With the larger, more powerful engine, wing loading became an issue. The Navy requested at most 150 kg/m², but wanted 130 kg/m² which complicated design considerations further. With the NK9 it could achieve 150 kg/m², but with the less power it would not meet the specifications for maximum speed. With the MK9 the engineers concluded it could fulfill the requirements; however, production of the MK9 was delayed compared to the NK9, and the Japanese Navy instructed Mitsubishi to use the NK9.

Work on the *17-Shi* was further delayed by factories prioritizing A6M and [Mitsubishi G4M](#) production as well as further work on A6M variants and addressing *Raiden* issues. As a result, the *17-Shi*, which became the **A7M1**, officially flew for the first time on 6 May 1944, four years after development started. The aircraft demonstrated excellent handling and maneuverability, but was underpowered as Mitsubishi engineers feared, and with a top speed similar to the A6M5 Zero. It was a disappointment, and the Navy ordered development to stop on 30 July 1944, but Mitsubishi obtained permission for development to continue using the Ha-43 engine, flying with the completed Ha-43 on 13 October 1944. The **A7M2** now achieved a top speed of 628 km/h (339 kn; 390 mph), while climb and other areas of performance surpassed the Zero, leading the Navy to change its mind and adopt the craft. The A7M2 was also equipped with automatic combat [flaps](#), used earlier on the [Kawanishi N1K-J](#), significantly improving maneuverability. In June 1945, ace pilot [Saburō Sakai](#) was ordered to Nagoya to test the prototype. He was favorably impressed.

Variants

A7M1 Reppū

First prototype powered by a 2,000 hp (1,500 kW) [Nakajima Homare](#) 22 engine, with a maximum speed of 574 km/h (356 mph). The armament consisted of two 13.2 mm (.52 in) [Type 3](#) machine guns and two 20 mm (.80 in) [Type 99](#) cannons in the wings. While featuring excellent manoeuvrability, the A7M1's Homare engine left it underpowered which resulted in its cancellation. Eight built.

A7M2 Reppū

Revised version powered by a 2,200 hp (1,600 kW) [Mitsubishi Ha-43](#) engine, with a maximum speed of 627 km/h (389 mph). Armament the same as previous model, or four 20 mm (.80 in) [Type 99](#) cannons. The A7M2 was to be the main production aircraft of the A7M series. Three were converted from A7M1. One massproduction type under assembling at the end of the war.

A7M3 Reppū

Proposed land-based fighter version powered by a 2,250 hp (1,680 kW) mechanically driven three-speed supercharged [Mitsubishi Ha-43](#) engine, with a maximum speed of 642 km/h (398 mph). The armament consisted of six 20 mm (.80 in) [Type 99](#) cannons in the wings. Prototype under construction but was incomplete prior to end of war.

A7M3-J Reppū-Kai

Proposed land-based interceptor version powered by a 2,200 hp (1,600 kW) turbo-supercharged [Mitsubishi Ha-43](#) engine including an inter-cooler, with a maximum speed of 648 km/h (402 mph). The armament consisted of six 30 mm (1.20 in) [Type 5](#) cannons, four wing-mounted & two oblique fuselage-mounted. Full-scale mock-up built, but no prototype.

Specifications (A7M2)

General characteristics

- **Crew:** One
- **Length:** 11.04 m (36 ft 3 in)
- **Wingspan:** 14 m (45 ft 11 in)
- **Height:** 4.28 m (14 ft 1 in)
- **Wing area:** 30.86 m² (332.2 sq ft)
- **Airfoil:** root: MAC361 mod; tip: MAC361 mod^[8]
- **Empty weight:** 3,226 kg (7,112 lb)
- **Gross weight:** 4,720 kg (10,406 lb)
- **Powerplant:** 1 × [Mitsubishi MK9C](#) (*unified* :Ha-43) 18-cylinder air-cooled radial piston engine, 1,600 kW (2,200 hp) for take-off
800 kW (1,070 hp) at 1,000 m (3,300 ft)
1,300 kW (1,800 hp) at 6,000 m (20,000 ft)
- **Propellers:** 4-bladed constant-speed metal propeller

Performance

- **Maximum speed:** 628 km/h (390 mph, 339 kn) at 6,600 m (21,700 ft)
- **Cruise speed:** 417 km/h (259 mph, 225 kn) at 4,000 m (13,000 ft)
- **Endurance:** 2 hours 30 minutes at cruise + 30 minutes combat
- **Service ceiling:** 10,900 m (35,800 ft) (12,000 m (39,000 ft) from Samurai)^[9]
- **Time to altitude:** 6,000 m (20,000 ft) in 6 minutes 7 seconds
- **Wing loading:** 152.9 kg/m² (31.3 lb/sq ft)
- **Power/mass:** 0.350 kW/kg (0.213 hp/lb)

Armament

- 2 × 13.2 mm (0.520 in) [Type 3 machine guns](#) in the wings (300 rpg) + 2 × 20 mm (0.787 in) [Type 99 cannon](#) in the wings (200 rpg) (A7M1)

or

- 4 × 20 mm (0.787 in) [Type 99 cannon](#) in the wings (200 rpg) (A7M2)

source : https://en.wikipedia.org/wiki/Mitsubishi_A7M