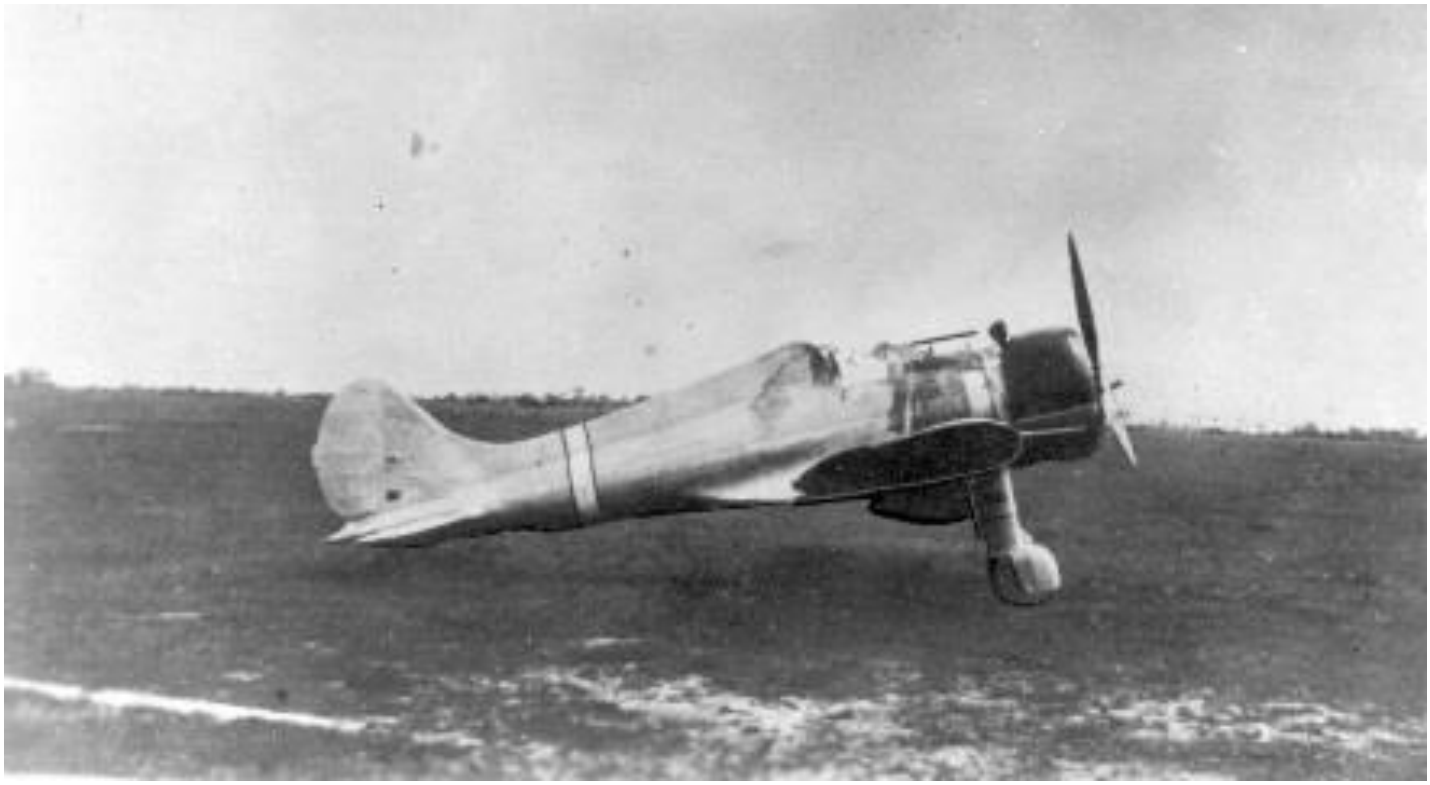
Mitsubishi A5M ‘Claude’

Par une directive de 1932, la Marine Impériale avait fait connaître son besoin d’obtenir un chasseur embarqué sur porte-avions capable de surclasser largement ses vieux biplans dépassés. Ce fut un échec, aucun constructeur n’étant en mesure de présenter un appareil correspondant au cahier des charges imposé. Une deuxième directive fut publiée en 1934, avec des spécifications plus sévères que celles de la demande précédente, comme la vitesse maximum qui devait atteindre 350 Km/h. Cette fois, Mitsubishi présenta un prototype qui pulvérisa toutes les exigences de l’état-major. Désigné Ka. 14, il effectua son premier vol le 4 février 1935 et atteignit la vitesse remarquable pour l’époque de 450 Km/h.



Le Mitsubishi A5M, code allié "Claude", est le précurseur du Zéro et son prédécesseur comme chasseur standard des porte-avions japonais. Un premier appel d’offres pour un chasseur embarqué avait échoué en 1932, faute de candidats valables. Les nouvelles spécifications émises en 1934 étaient encore plus sévères. Elles furent pourtant pulvérisées par la création de Jiro Horikoshi. L’armée s’y intéressa également, mais ne l’adopta pas, estimant la maniabilité plus importante que les performances. Il commence sa carrière opérationnelle en Chine lors de l’attaque contre Shanghaï en décembre 1937. En quelques semaines, ils donnent à la marine japonaise la maîtrise de l’air absolue le long des côtes de Chine. Même l’arrivée des Polikarpov russes avec pilotes chinois, supérieurs en performances pures, ne purent se mesurer à ce terrible chasseur. Ils participeront encore à quelques actions dans les Philippines au début de la guerre du Pacifique avant d’être relégués comme avions d’entraînement. Les six prototypes étaient désignés Ka-14. En 1941, les Alliés s’attendaient à voir apparaître une nouvelle version du Claude et lui réservèrent l’appellation Sandy. En réalité, cette version n’existait pas.

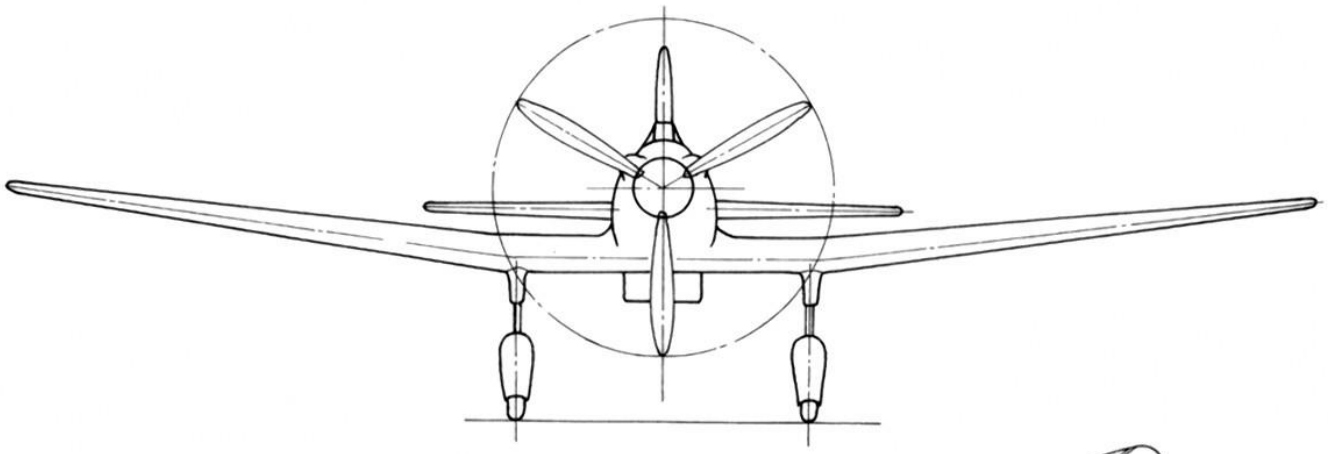
C’était un monoplan à aile basse elliptique, entièrement métallique à volets entoilés, à train d’atterrissage classique fixe et à cockpit ouvert. Pour conserver la vitesse ascensionnelle et la maniabilité des biplans, l’accent avait été mis sur la légèreté : structure fragile, pas de blindage ni de protection des réservoirs et un armement dérisoire.

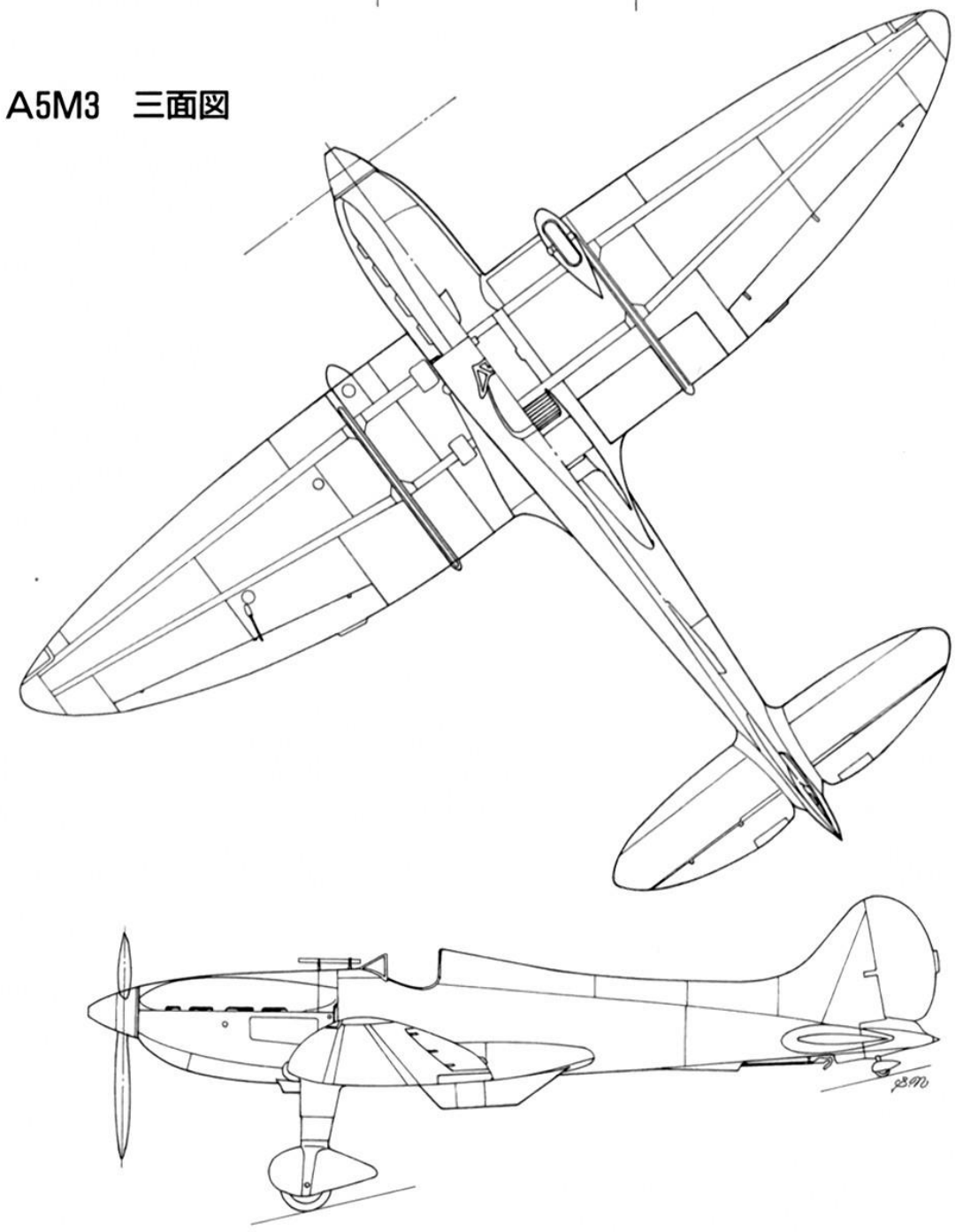
Après la construction de 6 prototypes aux motorisations diverses, l’appareil fut agréé par le haut commandement au début de 1936 sous la désignation de Chasseur embarqué de la Marine type 96 modèle 1 ou A5M1, et la production en série commença aussitôt.

Une nouvelle motorisation donna naissance au A5M2 qui commença sa carrière opérationnelle dans le conflit sino-japonais avec l'attaque sur Shanghaï en décembre 1937. Il y surclassa facilement ses adversaires, des Polikarpov I-16 Rata, pourtant plus performants. L'Armée Impériale s'intéressa à l'appareil et Mitsubishi construisit un prototype « terrestre » Ki. 18 et deux Ki. 33, plus puissants. Mais faisant passer la maniabilité avant les performances, l'armée refusa et préféra le Nakajima Ki. 27 Nate, son équivalent quasiment semblable.

Deux avions équipés de moteurs Hispano-Suiza à titre d'essai furent désignés A5M3, mais le modèle le plus abouti et le plus construit fut le chasseur A5M4 (code allié « Claude ») et sa version d'écolage et d'entraînement A5M4-K Standard de la marine, l'appareil était basé sur les porte-avions Akagi, Hosho, Kaga, Ryujo et Zuiho, et participa à la guerre dans le Pacifique jusqu'à l'été 1942. Dépassé, remplacé par leA6M Rei Sen (« Zeke », Zéro), il fut envoyé à l'arrière où il servit à l'entraînement. Dans les derniers mois de la guerre, il fut utilisé pour des attaques-suicide Kamikaze.

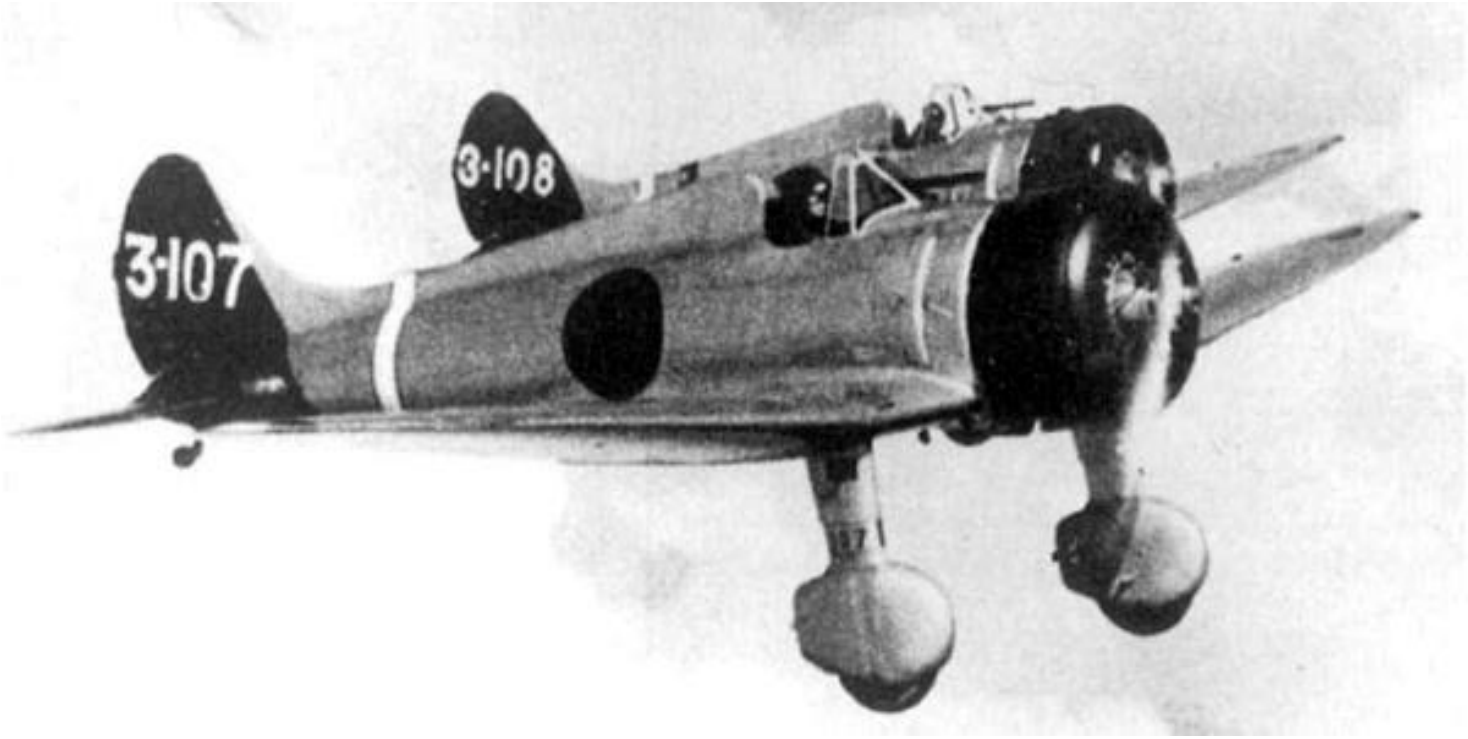
La construction du A5M « Claude » s'est répartie de la façon suivante. Par Mitsubishi : 6 prototypes Ka. 14 (1935-1936), 782 A5M1 à A5M4 (1936-1940), 1 prototype Ki. 18 (1935), 2 prototypes Ki. 33 (1936). Par Watanabe : 39 A5M4 (1939-1942). Par l'arsenal d'aviation navale d'Omura : 161 A5M4 (1939-1941), 103 A5M4-K (1942-1944). Soit un production totale de 1094 exemplaires.





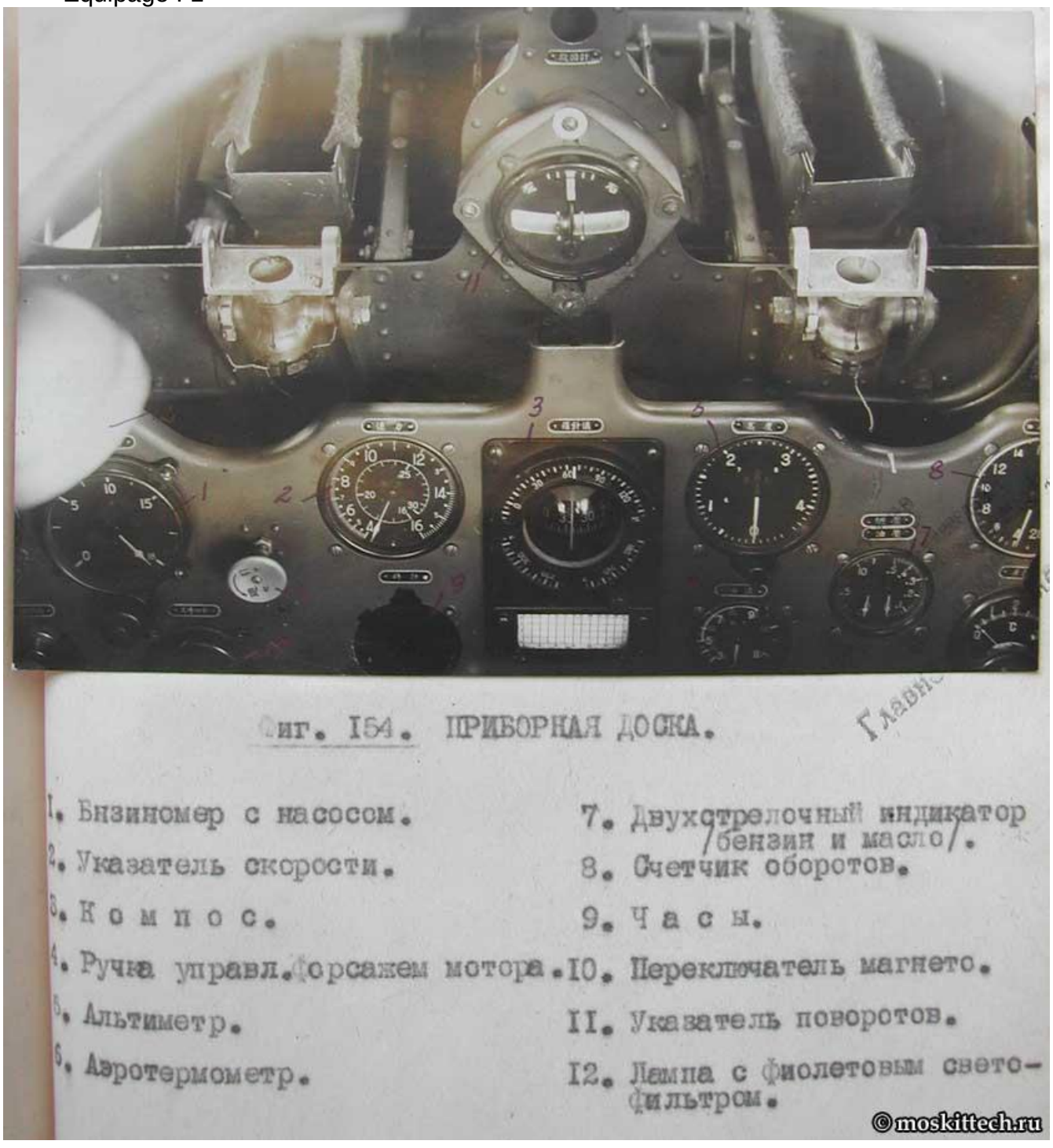
fiche descriptive

Appareil : Mitsubishi A5M 'Claude'
Constructeur : Mitsubishi Jukogyo K. K.
Désignation : A5M
Nom / Surnom :
Code allié / OTAN : Claude
Variante :
Mise en service : 1936
Pays d’origine : Japon
Catégorie : Chasseurs de la guerre 39-45
Rôle et missions : Chasseur embarqué



CARACTERISTIQUES

Modèle : Mitsubishi A5M4
Envergure : 11.00 m
Longueur : 7.56 m
Hauteur : 3.27 m
Motorisation : 1 moteur Nakajima Kotobuki 41 radial
Puissance totale : 1 x 785 ch.
Armement : 2 mitrailleuses de 7,7mm
2 bombes de 30 Kg
Charge utile : -
Poids en charge : 1700 kg
Vitesse max. : 435 km/h à 3000 m
Plafond pratique : 9800 m
Distance max. : 1200 Km
Equipage : 1



source : **http://www.avionslegendaires.net/avion-militaire/mitsubishi-a5m-claude/**
http://milguerres.unblog.fr/mitsubishi-a5m-claude/

version anglaise

The **Mitsubishi A5M**, formal Japanese Navy designation **Mitsubishi Navy Type 96 Carrier-based Fighter** (九六式艦上戦闘機), experimental Navy designation **Mitsubishi Navy Experimental 9-*Shi* Carrier Fighter**, company designation **Mitsubishi *Ka*-14**, was a WWII-era Japanese carrier-based fighter aircraft. It was the world's first low-wing monoplane shipboard fighter to enter service and the predecessor to the famous Mitsubishi A6M "Zero". The Allied reporting name was **Claude**.

Design and development

In 1934, the Imperial Japanese Navy prepared a specification for an advanced fighter, requiring a maximum speed of 350 km/h (220 mph) at 3,000 m (9,800 ft) and able to climb to 5,000 m (16,000 ft) in 6.5 minutes. This 9-*shi* (1934) specification produced designs from both Mitsubishi and Nakajima.

First prototype with inverted gull wing

Mitsubishi assigned the task of designing the new fighter to a team led by Jiro Horikoshi (original creator of the similar but unsuccessful Mitsubishi 1MF10, and later responsible for the famous A6M Zero). The resulting design, designated **Ka-14** by Mitsubishi, was an all-metal low-wing fighter, with a thin elliptical inverted gull wing and a fixed undercarriage, which was chosen as the increase in performance (estimated as 10% in drag, but only a mere 3% increase in maximum speed) arising from use of a retractable undercarriage was not felt to justify the extra weight. The first prototype, powered by a 447 kW (600 hp) Nakajima Kotobuki 5 radial engine, flew on 4 February 1935. The aircraft far exceeded the requirements of the specification, with a maximum speed of 450 km/h (280 mph) being reached. The second prototype was fitted with a revised, ungulled wing, and after various changes to maximize maneuverability and reduce drag, was ordered into production as the **A5M**.

With the Ka-14 demonstrating excellent performance, the Imperial Japanese Army Air Force ordered a single modified prototype for evaluation as the **Ki-18**. While this demonstrated similar performance to the Navy aircraft and hence was far faster than the IJAAF's current fighter, the Kawasaki Ki-10 biplane, the type was rejected by the army owing to its reduced maneuverability. The Army then produced a specification for an improved advanced fighter to replace the Ki-10. Mitsubishi, busy turning the Ka-14 into the A5M, submitted a minimally changed aircraft as the **Ki-33**, this being defeated by Nakajima's competing aircraft, which was ordered into service as the Ki-27.

Operational history

The aircraft entered service in early 1937, and soon saw action in aerial battles at the start of the Second Sino-Japanese War, including air-to-air battles with the Republic of China Air Force's Boeing P-26C Model 281 "Peashooters" in the world's first aerial dogfighting and kills between monoplane fighters built of mostly metal.

An A5M from the aircraft carrier *Akagi* in flight with an external fuel tank (1938 or 1939)

Chinese Nationalist pilots, primarily flying the Curtiss Hawk III, fought against the Japanese, but the A5M was the better of almost every fighter aircraft it encountered. Though armed with only a pair of 7.7 mm (0.303 in) machine-guns, the new fighter proved effective and damage-tolerant, with excellent manoeuvrability and robust construction. Later on A5M's also provided much-needed escorts for the then-modern but vulnerable Mitsubishi G3M bombers.

The Mitsubishi team continued to improve the A5M, working through versions until the final **A5M4**, which carried an external underside drop tank to provide fuel for extended range.

The A5M's most competitive adversary in the air was the Polikarpov I-16, a fast and heavily armed fighter flown by both Chinese Air Force regulars and Soviet volunteers. Air battles in 1938, especially on 18 February and 29 April, ranked among the largest air battles ever fought at the time. The battle of 29 April saw 67 Polikarpov fighters (31 I-16s and 36 I-15 bis) against 18 G3Ms escorted by 27 A5Ms. Each side claimed victory: the Chinese/Soviet side claimed 21 Japanese aircraft (11 fighters and 10 bombers) shot down with 50 Japanese airmen killed and two captured having bailed out while losing 12 aircraft and 5 pilots killed; the Japanese claimed they lost only two G3Ms and two A5Ms shot down with over 40 Chinese aircraft shot down.

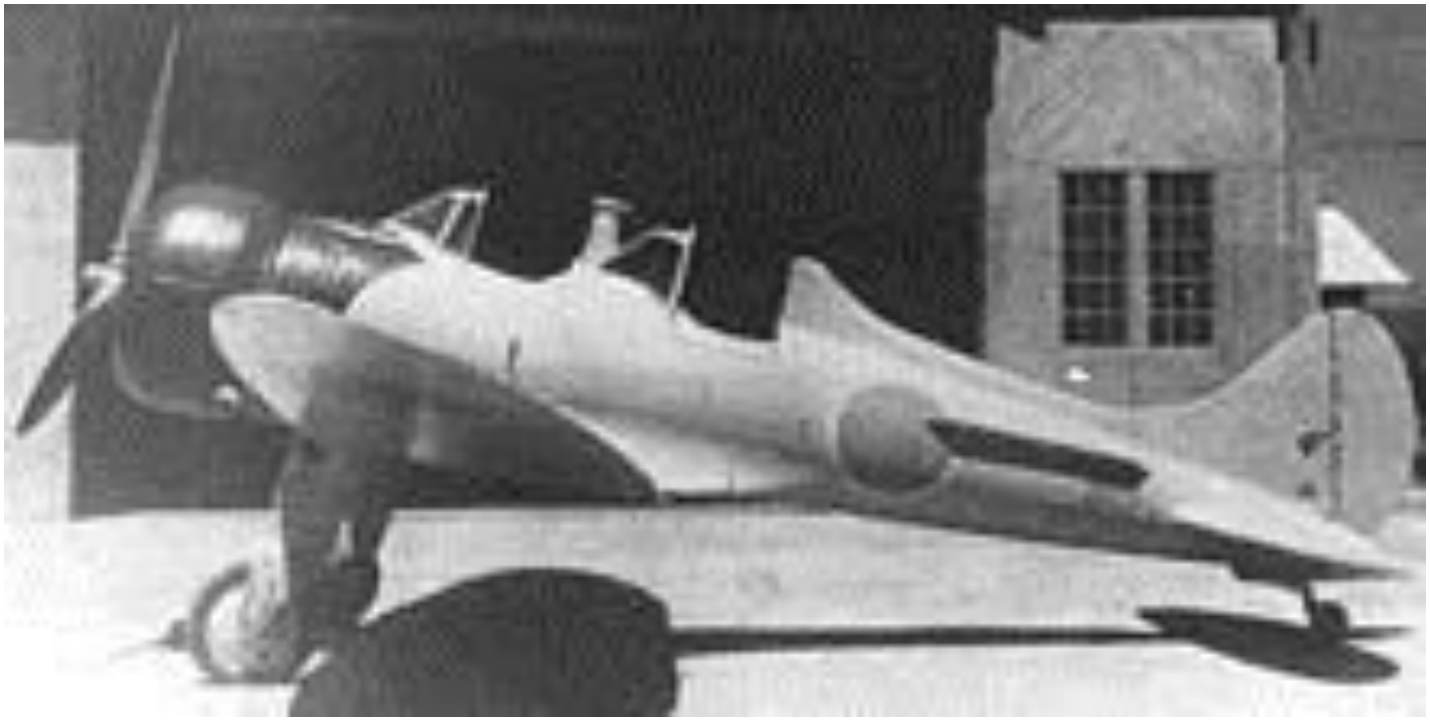
104 A5M aircraft were modified to accommodate a two-seater cockpit. This version, used for pilot training, was dubbed the **A5M4-K**. K version aircraft continued to be used for pilot training long after standard A5Ms left front-line service. Almost all A5Ms had open cockpits. A closed cockpit was tried but found little favor among Navy aviators. All had fixed, non-retractable undercarriage. Wheel spats were a feature of standard fighters but not training aircraft. The Flying Tigers encountered the Type 96, although not officially, and one was shot down at Mingaladon airfield, Burma on 29 January 1942.

Some A5Ms remained in service at the end of 1941 when the United States entered World War II in the Pacific. US intelligence sources believed the A5M still served as Japan's primary Navy fighter, when in fact the A6M 'Zero' had replaced it on first-line aircraft carriers and with the Tainan Kōkūtai in Taiwan.

Other Japanese carriers and Kōkūtai (air groups) continued to use the A5M until production of the Zero caught up with demand. On 1 February 1942, the US carrier *USS Enterprise* launched air-strikes at Japanese air & naval bases on Roi and Kwajalein Atolls in the Marshall Islands. During these actions, Mitsubishi A5Ms shot down three Douglas SBD dive-bombers, including the aircraft of Lt-Cdr Halstead Hopping, CO of VS-6 Squadron. The last combat actions with the A5M as a fighter took place at the Battle of the Coral Sea on 7 May 1942, when two A5Ms and four A6Ms of the Japanese carrier *Shōhō* fought against US aircraft that sank their carrier.

In the closing months of the war most remaining A5M airframes were used for *kamikaze* attacks.

Variants



A5M4-K

Ka-14
Six prototypes with various engines and design modifications.

A5M1
Navy carrier-based fighter, Model 1 : first production model with 633 kW (850 hp) Kotobuki 2 KAI I engine.

A5M2/2a
Model 21: More powerful engine.

A5M2b
Model 22: First production examples with NACA cowling and 477 kW (640 hp) Kotobuki 3 engine.

A5M3a
Prototypes with 448 kW (601 hp) Hispano-Suiza 12 Xcrs engine.

A5M4
Model 24 (ex-Model 4): The A5M2b with different engine, closed cockpit, additional detachable fuel tank. The last production models (Model 34) with Kotobuki 41 KAI engine.

A5M1-A5M4
780 constructed by Mitsubishi. 39 constructed by Watanabe, 161 manufactured by Naval Ohmura Arsenal.

A5M4-K
Two-seat trainer version of A5M4, 103 constructed by Naval Ohmura Arsenal.

Ki-18
Main article: Mitsubishi Ki-18

Single prototype land-based version for IJAAF, based on the A5M. 410 kW (550 hp) Kotobuki 5 engine.

Ki-33
Main article: Mitsubishi Ki-33

Two prototypes, a development of Ki-18 with a different engine, and closed cockpit.

Total Production (all variants): 1,094

General characteristics

- **Crew:** 1
- **Length:** 7.565 m (24 ft 10 in)
- **Wingspan:** 11 m (36 ft 1 in)
- **Height:** 3.27 m (10 ft 9 in)
- **Wing area:** 17.8 m^2 (192 sq ft)
- **Airfoil: root:** B-9 mod. (16%); **tip:** B-9 mod. (9%)
- **Empty weight:** 1,216 kg (2,681 lb)
- **Gross weight:** 1,671 kg (3,684 lb)
- **Powerplant:** 1 × Nakajima Kotobuki 41 or 41 KAI 9-cylinder air-cooled radial piston engine, 530 kW (710 hp) for take-off

  585 kW (785 hp) at 3,000 m (9,843 ft)
- **Propellers:** 3-bladed metal propeller

Performance

- **Maximum speed:** 435 km/h (270 mph, 235 kn) at 3,000 m (9,843 ft)
- **Range:** 1,201 km (746 mi, 648 nmi)
- **Service ceiling:** 9,800 m (32,200 ft)
- **Time to altitude:** 3,000 m (9,843 ft) in 3 minutes 35 seconds
- **Wing loading:** 93.8 kg/m^2 (19.2 lb/sq ft)
- **Power/mass:** 0.3161 kW/kg (0.1923 hp/lb)

Armament

- **Guns:** 2× 7.7 mm (0.303 in) Type 97 aircraft machine gun fuselage-mounted synchronized machine guns firing through the engine cylinders and propeller at about 1 and 11 o'clock.
- **Bombs:**
  - 2x 30 kg (66 lb) Type 99 high-explosive bombs *or*
  - 1x 160 L (42.27 US gal; 35.20 imp gal) drop-tank

source : https://en.wikipedia.org/wiki/Mitsubishi_A5M