

1/48 NAKAJIMA A6M2-N TYPE 2 FIGHTER (RUFÉ) FLOAT PLANE



Completed photo

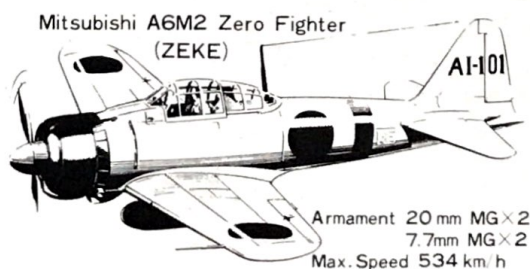

TAMIYA
1/48 SCALE ITEM 61017

Birth of the Type 2 Floatplane Fighter (A6M2-N)

In 1939, the Japanese Navy's Aviation Bureau considered a proposal to produce a prototype of a new kind of floatplane fighter. At the time, the Japanese Navy formulated their war plans based on the assumption that invasions would be carried out against islands in the Southern Pacific region. They considered stationing floatplanes in waterways and bays near the landing points in order to provide air defense for the invasion forces until permanent land bases could be constructed in the occupied territories. It was envisioned that such floatplanes would encounter enemy fighters in aerial combat, so they would have to be pure fighters with performance which could match that of their land-based opponents. Due to the fact that Nakajima E8N "Dave" floatplanes had successfully engaged and defeated Chinese fighters in aerial combat during the Second Sino-Japanese War, the Japanese Navy believed that floatplanes equipped with sufficient armament would be able to adequately take on land-based fighters. Therefore the Aviation Bureau decided to create a new prototype floatplane fighter in 1940 and the Kawanishi Aircraft Company, which was highly experienced in floatplane design, was chosen to develop the 15-Shi Floatplane Fighter (later known as the Kyōfu).

Meanwhile, Japan's international relations with countries such as the United States and Great Britain steadily deteriorated and the possibility of war increased with each passing day. Having determined that war was inevitable, the Japanese military operations command drafted a plan which called for an offensive toward the South Pacific. To ensure adequate air defense would be available while new frontline bases were established in the captured territories, the Navy's Aviation Bureau was requested to rush the development and deployment of floatplane fighters. With the 15-Shi

Floatplane Fighter still three years away from its anticipated 1943 deployment to combat units, another floatplane fighter was required to fulfill this requirement. Thus a proposal to modify the Mitsubishi A6M2 Model 11 Zero Fighter, which had proved its superb air combat capabilities in the skies over China, was submitted and accepted in early 1941. The responsibility for the development of this aircraft was given to Nakajima Aircraft Company, which was already assisting with the mass production of the A6M Zero Fighter. Like Kawanishi, Nakajima had a strong history of designing excellent floatplanes, such as chief designer Shinobu Mitsutake's E4N and E5N reconnaissance floatplanes. Led by Mitsutake, Nakajima's team, including young designers such as Atsushi Tajima, worked feverishly around the clock at the Koizumi Factory on the modified



A6M2 Model 11, which was temporarily designated Type 1 Floatplane Fighter. To speed up the development process, three existing A6M2 Model 11 airframes were utilized and the following modifications were implemented:

- ① The arresting gear for carrier deck landings was removed while a main float and right and left stabilizing floats were installed.
- ② To compensate for the reduced directional stability caused by the addition of the floats, a ventral fin was added and the area of the rudder was increased.
- ③ Waterproofing and rust-prevention treatment

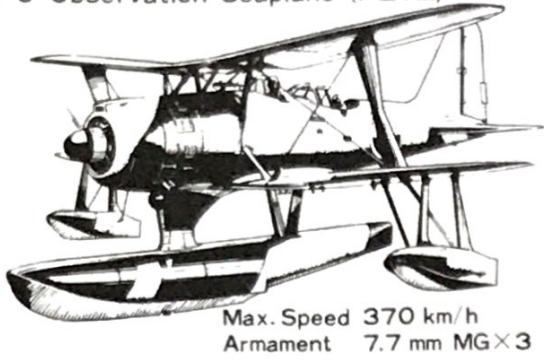
was carried out on the fuselage and wing. The shape of the main float was decided following tests conducted on models at the Naval Air Technical Institute, and on December 8, 1941, the same day as the beginning of the Pacific War and just one year after development started, the prototype's maiden flight took place at Kasumigaura Seaplane Base. Following deployment trials with floatplane units at Yokosuka and Oppama, the aircraft was officially accepted as the A6M2-N Type 2 Floatplane Fighter on July 6, 1942 and mass production commenced. Compared to a land-based Zero Fighter, the additional weight and aerodynamic drag of the floats degraded performance, with maximum speed reduced from 534km/h to 436km/h and range (without drop tanks) reduced from 2,220km to 1,778km. However, the aircraft retained the Zero's maneuverability, displayed exceptional seakeeping characteristics, and was powerfully-armed with two 20mm cannons and two 7.7mm machine guns. The A6M2-N was the right aircraft to fulfill the Japanese Navy's floatplane fighter needs until the Kawanishi 15-Shi Floatplane Fighter could be completed. Deployment of the A6M2-N began in mid-1942 and they were stationed at remote island bases in both the Northern and Southern Pacific, rendering valiant service in combat against Allied bombers and fighters in spite of their inherent handicap of being floatplanes. Even the U.S. forces respected the A6M2-N's capabilities and thought of them on the same level as land-based A6M Zeroes. The aircraft was given the Allied code name "Rufe."

The Solomon Islands Campaign

The Allied Forces began their counter-offensive in the Pacific at Guadalcanal in the Solomon Islands chain, an important point along the lines of communication between Australia and the United States. Japanese occupation of this island would enable them to achieve air superiority from New

Guinea to Australia, so it was seen as a critical threat by the Allies. The Japanese Navy was building Lunga Airfield (later renamed Henderson Field by the Allies) on Guadalcanal, which was 1,000km southeast of their major base at Rabaul, as well as Buin Airfield on Bougainville Island, an intermediary point. A seaplane base was

Type O Observation Seaplane (PETE)

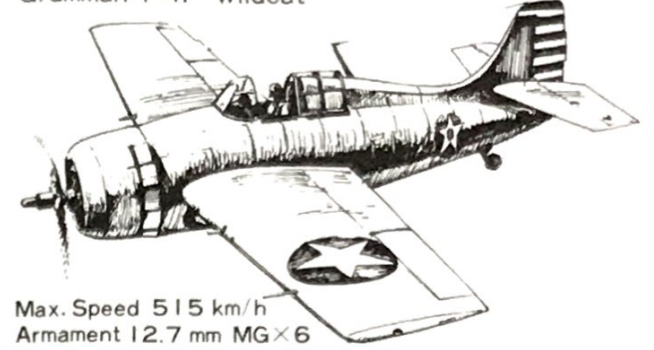


established at Tulagi, on the southern coast of Florida Island, to protect Lunga Airfield while it was being constructed, and the 4th Naval Air Group, the first unit to receive the A6M2-N, was deployed there from mid-June 1942. This unit was equipped with 12 A6M2-N as well as several Mitsubishi F1M "Pete" and Aichi E13A "Jake" reconnaissance floatplanes. On August 7th, U.S. forces landed on Tulagi and Guadalcanal to capture the newly completed airfield. The 4th Naval Air Group's 12 A6M2-Ns were loaded with one Type 3 bomb (A 30kg bomb containing white phosphorus bomblets. They were designed to be dropped from above a group of enemy aircraft and would be detonated by a timed fuse, scattering the phosphorus and potentially bringing down several aircraft at once.) under each wing to meet this attack. These bombs were used to disperse the Allied aircraft formations and the A6M2-Ns then attacked individual aircraft with gunfire from their 20mm cannons and 7.7mm machine guns. Despite inflicting losses on the Allied forces, the 4th Naval Air Group was completely destroyed

during the fighting on August 7th. In response to the Allied landings, the Japanese military dispatched army units from Rabaul to recapture Guadalcanal and naval aircraft were involved in escorting these forces as well as bombing Henderson Field. However, Guadalcanal was at the limit of the Rabaul-based Zero Fighters' range, making it impossible to conduct sufficient escort or attack missions. To rectify this, the Japanese Navy established a seaplane base on Shortland Island, 470km south of Rabaul, and stationed the 11th Naval Air Group there. This unit was composed of 19 A6M2-N, 54 Mitsubishi F1M "Pete," and 13 Aichi E13A "Jake" floatplanes from seven seaplane tenders, including the Kamikawa Maru. Utilizing the shoal off Shortland Island as a take-off and landing area, the unit intercepted Allied aircraft attacking from Henderson Field and escorted supply convoys to Guadalcanal. They also conducted bombing and reconnaissance missions to Guadalcanal by using Lekata on Santa Isabel Island as an intermediate base. From September 4th to November 9th, 1942, the 11th Naval Air Group was embroiled in fierce aerial combat in the skies above Kolombangara and the Shortland Islands with Allied bombers and fighters such as the Grumman F4F Wildcat. Over 150 Allied aircraft had been

engaged by November 7th and the unit claimed to have shot down 17 of them. One particular action which highlighted the courage of the floatplane fighter pilots took place on October 10th, when two A6M2-Ns piloted by Petty Officer First Class Kawai and Maruyama engaged 20 Grumman F4Fs and shot down four, including one by ramming,

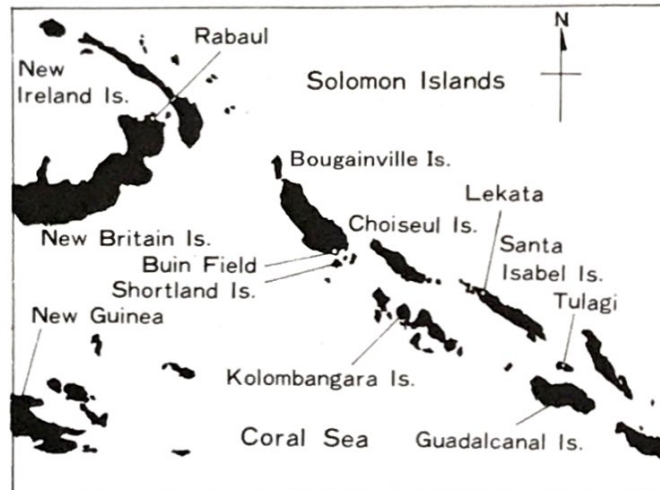
Grumman F4F Wildcat



before they were themselves overwhelmed and shot down.

《A6M2-N Type 2 Floatplane Fighter Specifications》

Powerplant: Nakajima Sakae 12 air-cooled two-row 14-cylinder radial engine (Take-off power: 940hp)
Propeller: Sumitomo Hamilton Standard constant-speed 3-bladed metal propeller
Wingspan: 12.00m
Length: 10.131m
Height: 4.305m
Fully-Loaded Weight: 2,460kg (Empty Weight: 1,921kg)
Maximum Speed: 436km/h (At 4,300m)
Maximum Range: 1,778km
Armament: 7.7mm Machine Gun x2 (Fuselage-mounted)
20mm Cannon x2 (Wing-mounted)
30kg to 60kg Bomb x2
Number Produced: 327

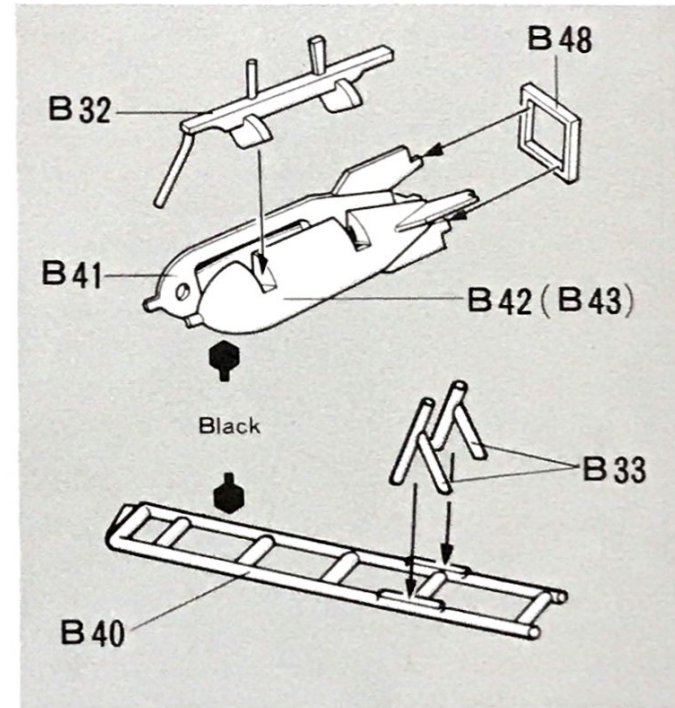
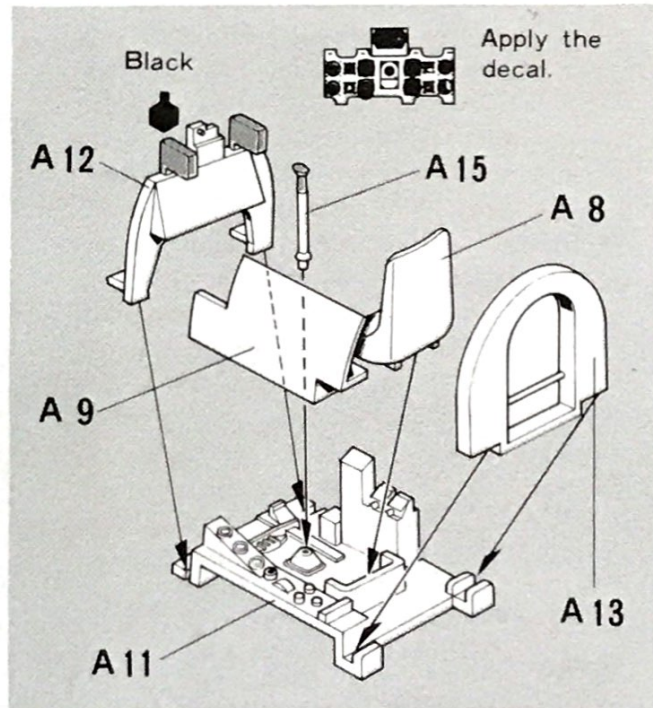


1 Construction of Seat, Bombs and Ladder

- Take care when removing parts from the plastic sprues. Use a hobby knife or a pair of nippers.
- Before applying glue, construct each part and section to ensure that you are fitting the parts correctly.
- After Fuselage has been painted, apply Decals with the transparent margin cut off.

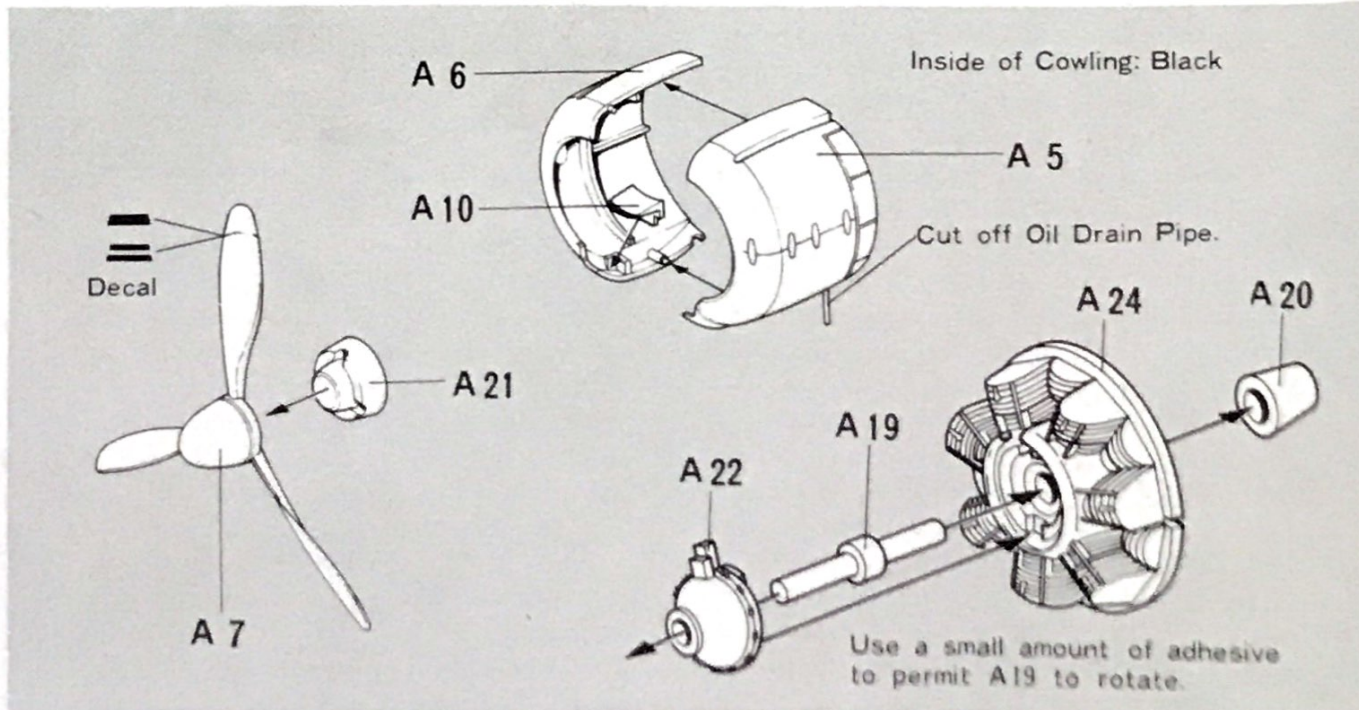
Cockpit Painting

Control Stick: Silver with Black top section
Seat: Silver Seatbelts: Green
Side Panel: Transparent Blue-Green on Silver undercoat
Instrument Panel: Blue-Green
Gunstocks: Black



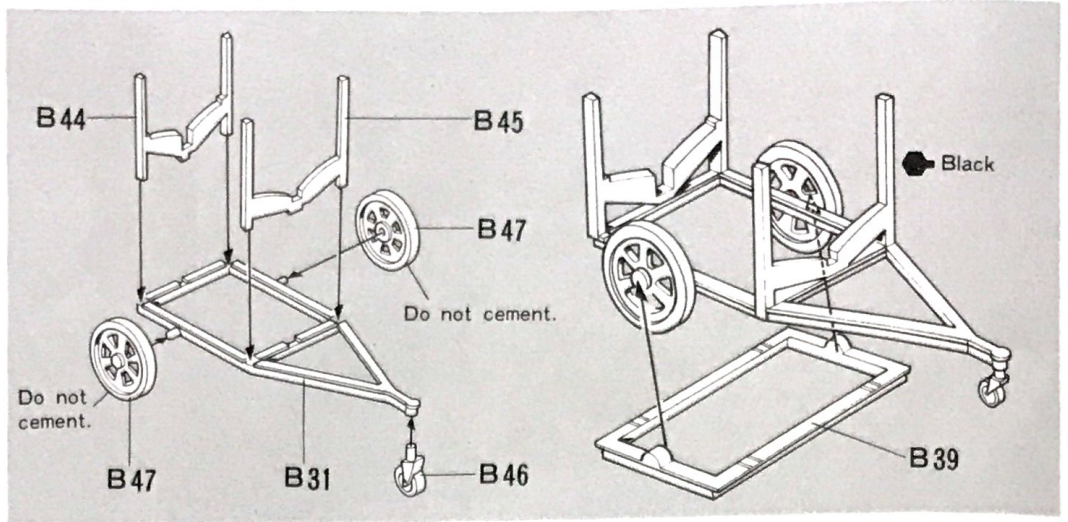
2 Construction of Propeller, Cowling and Engine

- Construct Propeller, Cowling and Engine. Carefully adjust seams with sand-paper or the like before applying paint.
- Propeller Shaft A19 is designed to rotate and must not be glued.
- Cut off Oil Drain Pipe of Cowling after Cowling has been constructed.
- For painting of Engine details, see the figure "Painting of Engine."



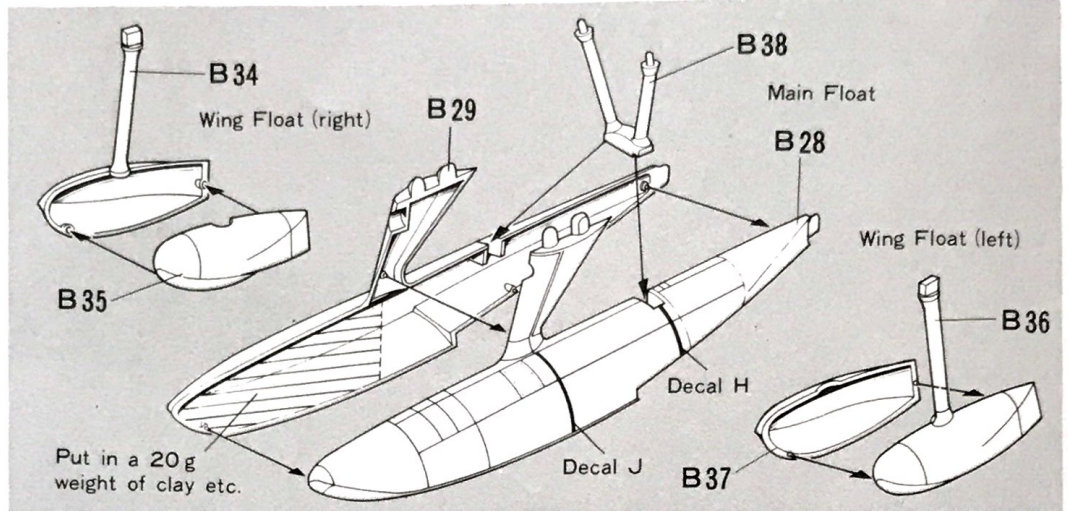
3 Construction of Trolley

- Be sure to fix Float Supports B44 and B45 in position.
- Do not glue Wheels B47. They should be held in position with Frame B39.



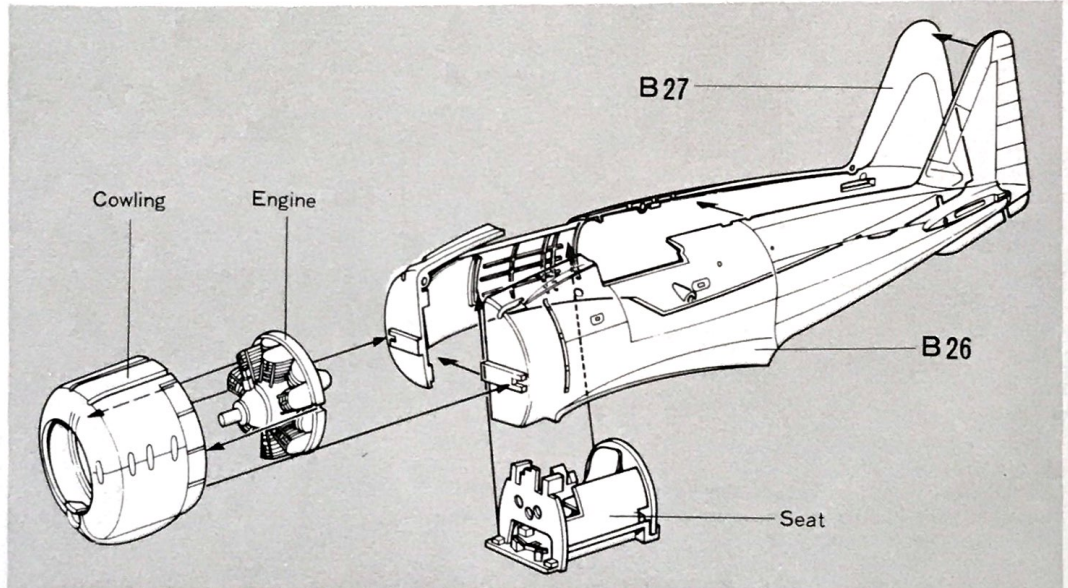
4 Construction of Floats

- Put a 20 g weight of clay etc. in the front part of Main Float to stabilize the plane. Use Stand (Transparent Part 5) when the weight is not put in.
- There are two Wing Floats, right and left. They should be fixed in such a way that they incline slightly outwards.



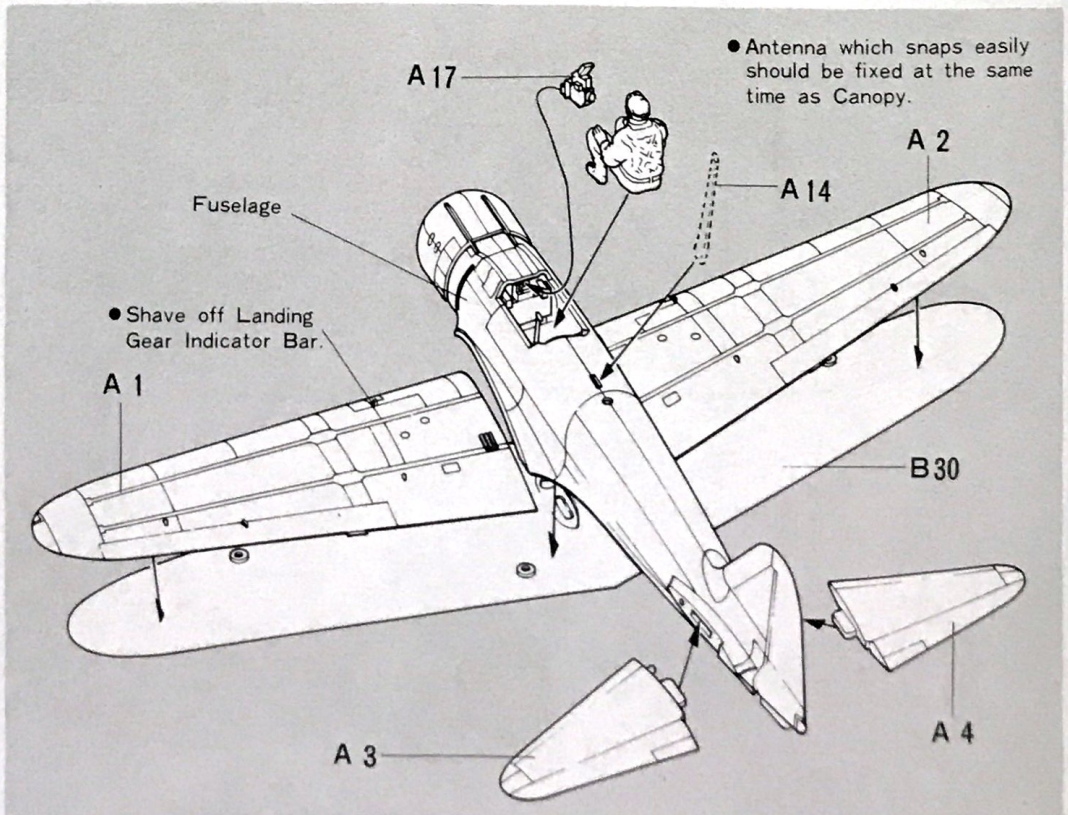
5 Construction of Fuselage

- Paint the inside before gluing Fuselage together.
- Install Seat after Fuselage has been glued together.
- Engine should be put into Cowling first and then fixed to Fuselage.



6 Construction of Wing

- Main Wings and Fuselage should be put together tentatively for adjusting joints before they are fixed together.
- Fixing of figure can be done in last stage.
- Fix the antenna A14 in last stage.



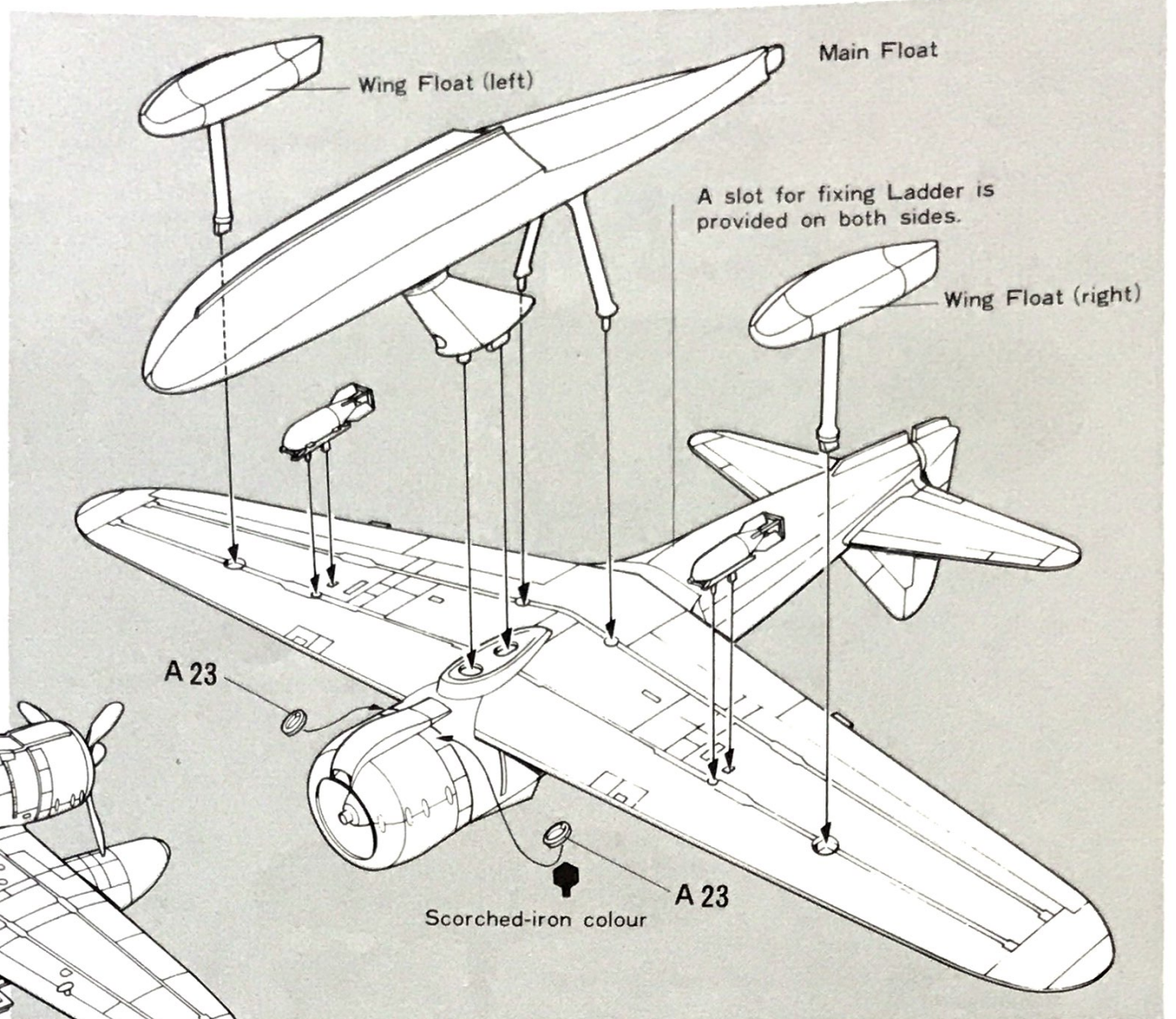
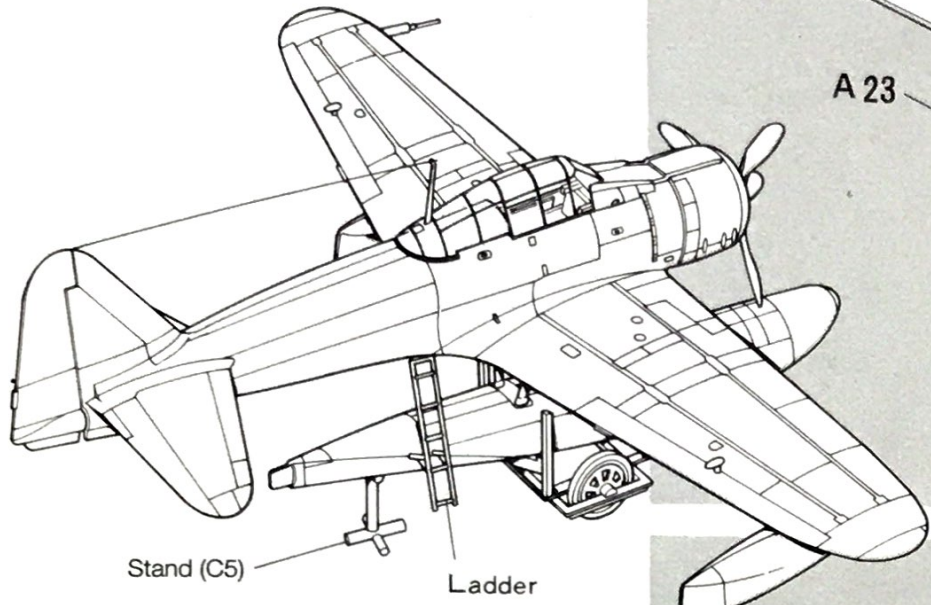
TAMIYA ACRYLIC PAINTS
 Need precise color matching?
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 paints. Engineered by modelers for
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 perfect results.

7 Fixing of Floats

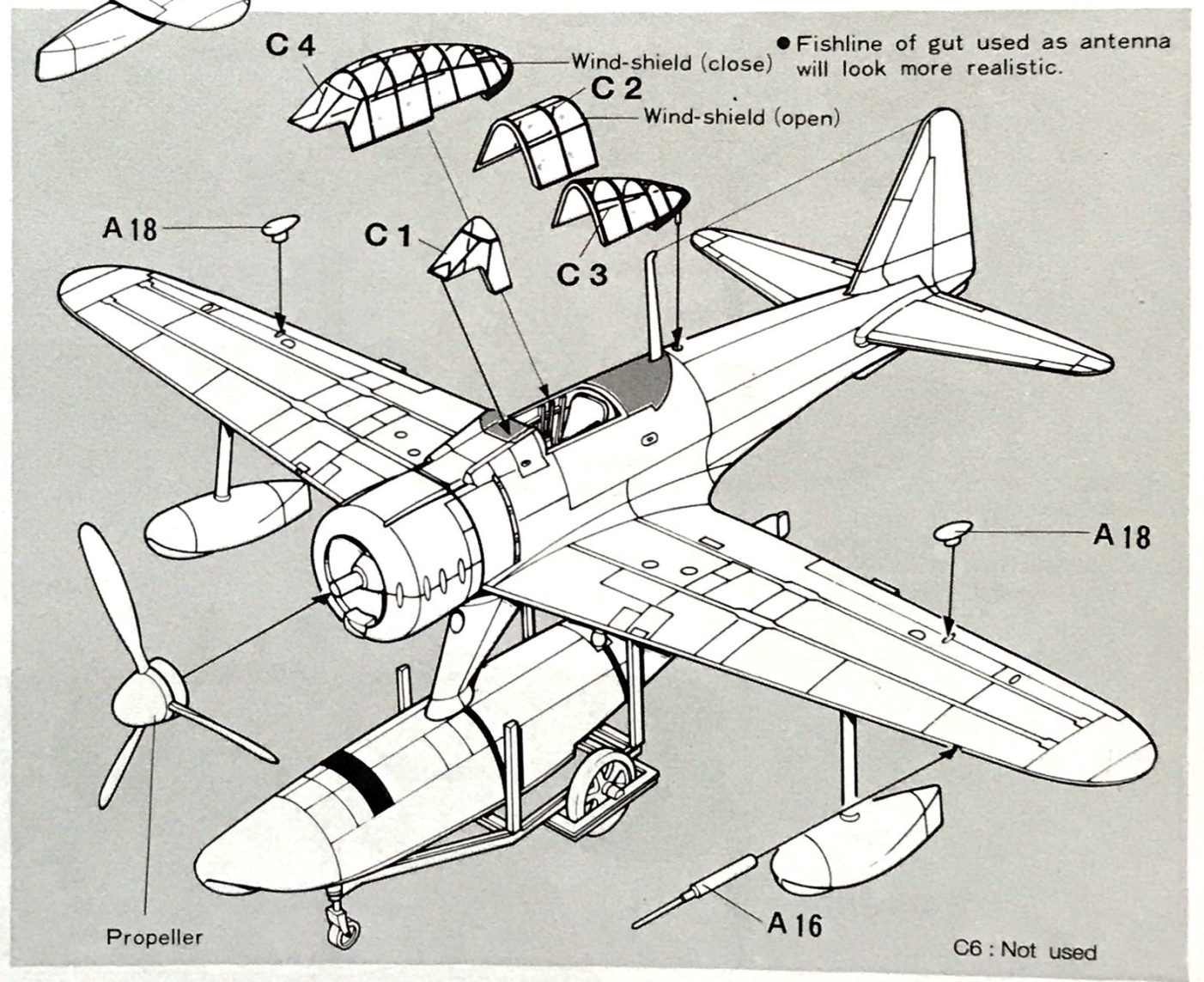
- Fix Main Float Wing Floats and Bombs. Wing Floats should be fixed in such a way that they incline slightly outwards.

8 Fixing of Ladder and Stand

- Use Stand as shown in the figure when the weight is not put in Main Float.



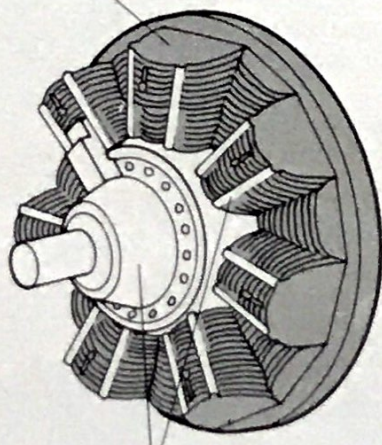
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- | | |
|---------------------------------|----------------------------------|
| 1. Upper Wing (Left) | 2. Upper Wing (Right) |
| 3. Horizontal Stabilizer (Left) | 4. Horizontal Stabilizer (Right) |
| 5. Cowling (Left) | 6. Cowling (Right) |
| 7. Propeller | 8. Seat |
| 9. Side Instrument Panel | |
| 10. Air-intake part | 11. Floor |
| 12. Instrument Panel | 13. Back Plate |
| 14. Antenna Support | 15. Control Lever |
| 16. Pitot Tube | 17. Sight Scope |
| 18. Hinge Cover | 19. Propeller Shaft |
| 20. Propeller Shaft Stopper | |
| 21. Spinner (Rear) | 22. Gear Case |
| 23. Exhaust Pipe | 24. Engine |
| 25. Foot Plate for Figure | |
| 26. Fuselage (Left) | 27. Fuselage (Right) |
| 28. Main Float (Left) | 29. Main Float (Right) |
| 30. Lower Surface of Main Wing | |
| 31. Trolley Frame A | 32. Bomb Mount |
| 33. Ladder Support | |
| 34. Right Wing Float (Outside) | |
| 35. Right Wing Float (Inside) | |
| 36. Left Wing Float (Outside) | |
| 37. Left Wing Float (Inside) | |
| 38. V-brace | 39. Trolley Frame B |
| 40. Ladder | 41. Bomb A |
| 42. Bomb B (Left) | 43. Bomb B (Right) |
| 44. Float Support (Rear) | 45. Float Support (Front) |
| 46. Trolley Front Wheel | |
| 47. Trolley Wheel | 48. Bomb C |

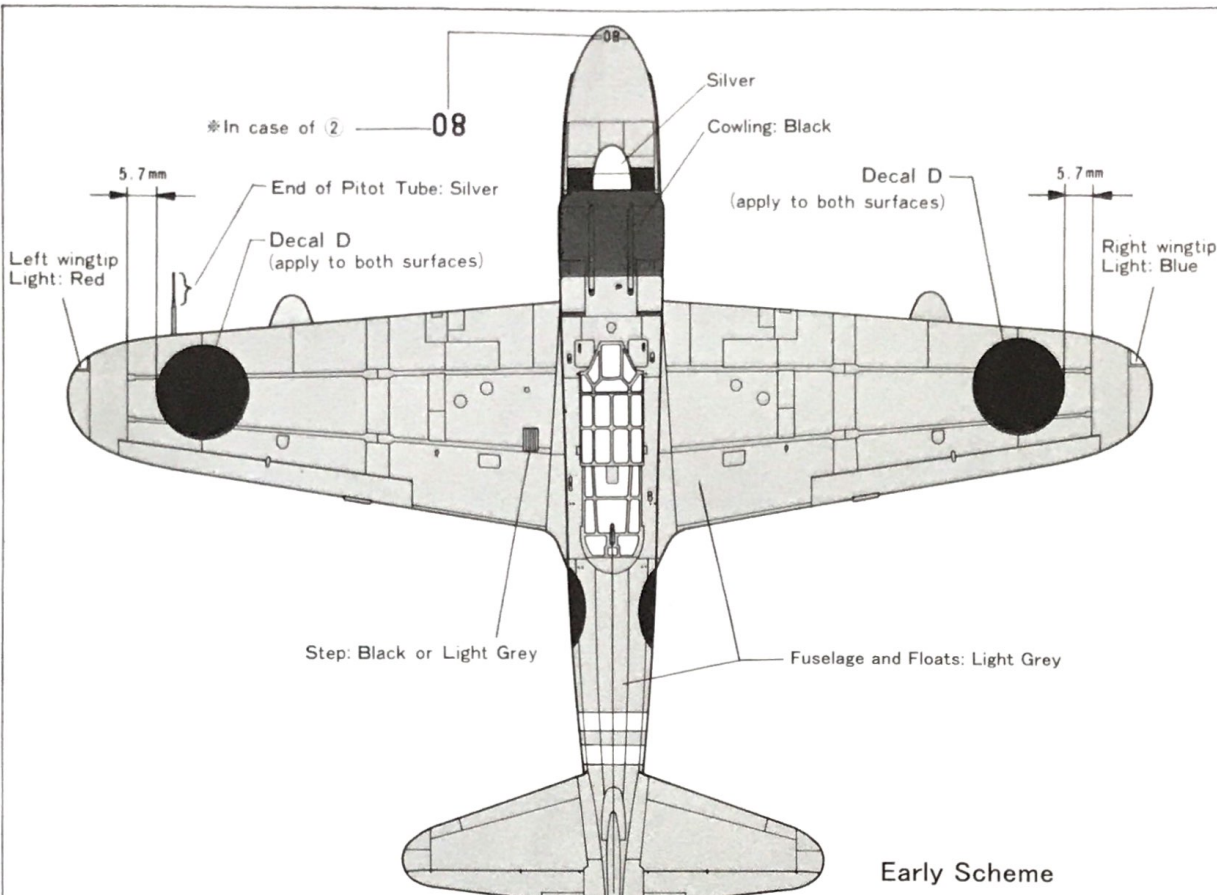
Painting of Engine

All of engine: Iron colour
(Black + Silver)



Painting of Figure





Painting & Markings

Early Scheme

This scheme saw the aircraft painted black. The front side of the propeller was painted brown. The reverse side of the propeller was painted black. Two red bands were painted on the propeller. Hinomaru national markings were applied to the upper and lower surfaces of the wings. A6M2-Ns up to the end of 1942.

Late Scheme

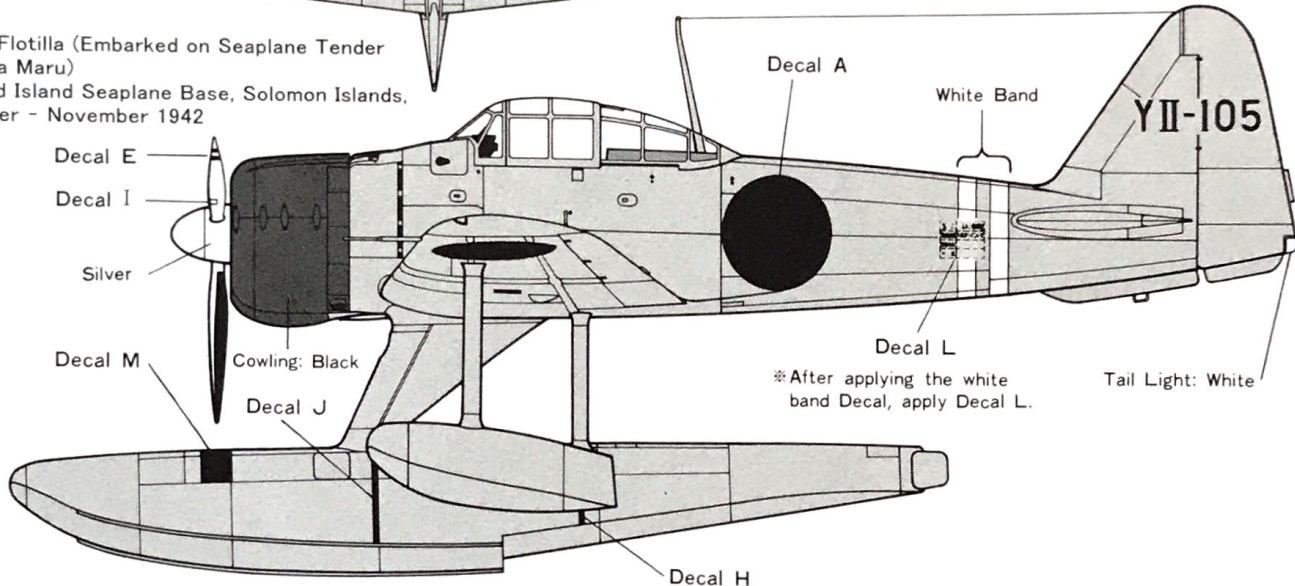
As the battle lines extended and the war progressed, the 3rd, 1943 to paint the upper surfaces of the aircraft in order to reduce the chance of detection over the South Pacific jungles. Further markings were painted on the wing leading edges from the late 1942. Also added to the Hinomaru national markings were the letters 'E' and '180' on the wing. Even before this order was issued, some of their aircraft dark green, although this was not a painting option (④ and ⑤).

It is said that aircraft which operated in the Pacific had upper surfaces with dark gray undersides.

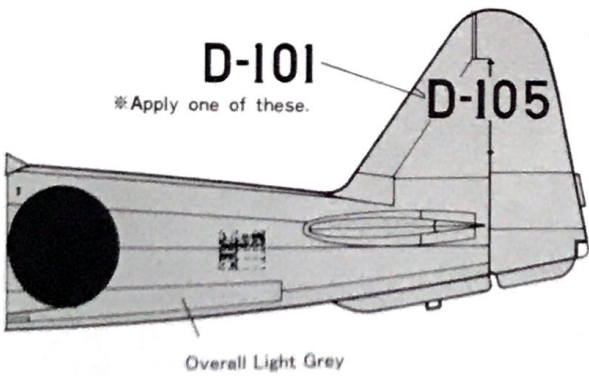
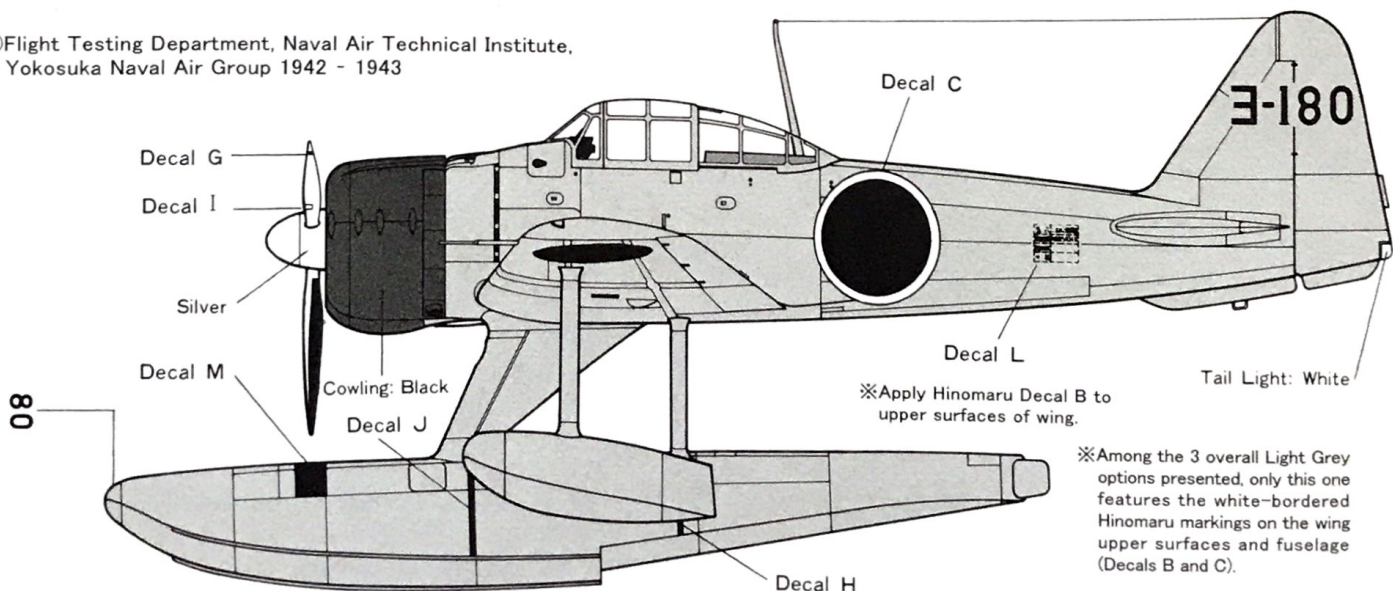
Other Painting Notes

The aircraft's interior was painted black. Some have said that a color similar to that used on U.S. aircraft was also used. For anti-camouflage, it was initially painted dark gray or black. Red bands were painted on the propeller and trolley attachment points. For more information on painting details.

① 11th Air Flotilla (Embarked on Seaplane Tender Kamikawa Maru) Shortland Island Seaplane Base, Solomon Islands, September - November 1942



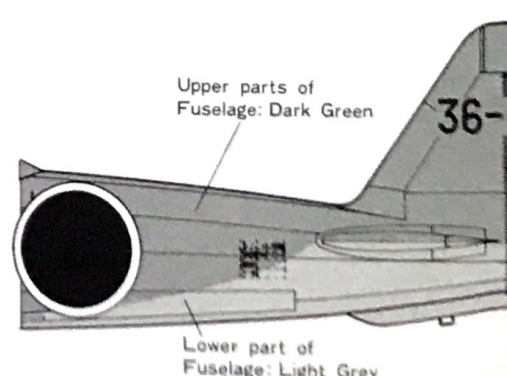
② Flight Testing Department, Naval Air Technical Institute, Yokosuka Naval Air Group 1942 - 1943



③ 5th Naval Air Group Kiska Seaplane Base, Aleutian Islands, August - November 1942

★Painting★
Early Scheme

It is said that some aircraft featured lilac-colored upper surfaces with dark gray undersides.

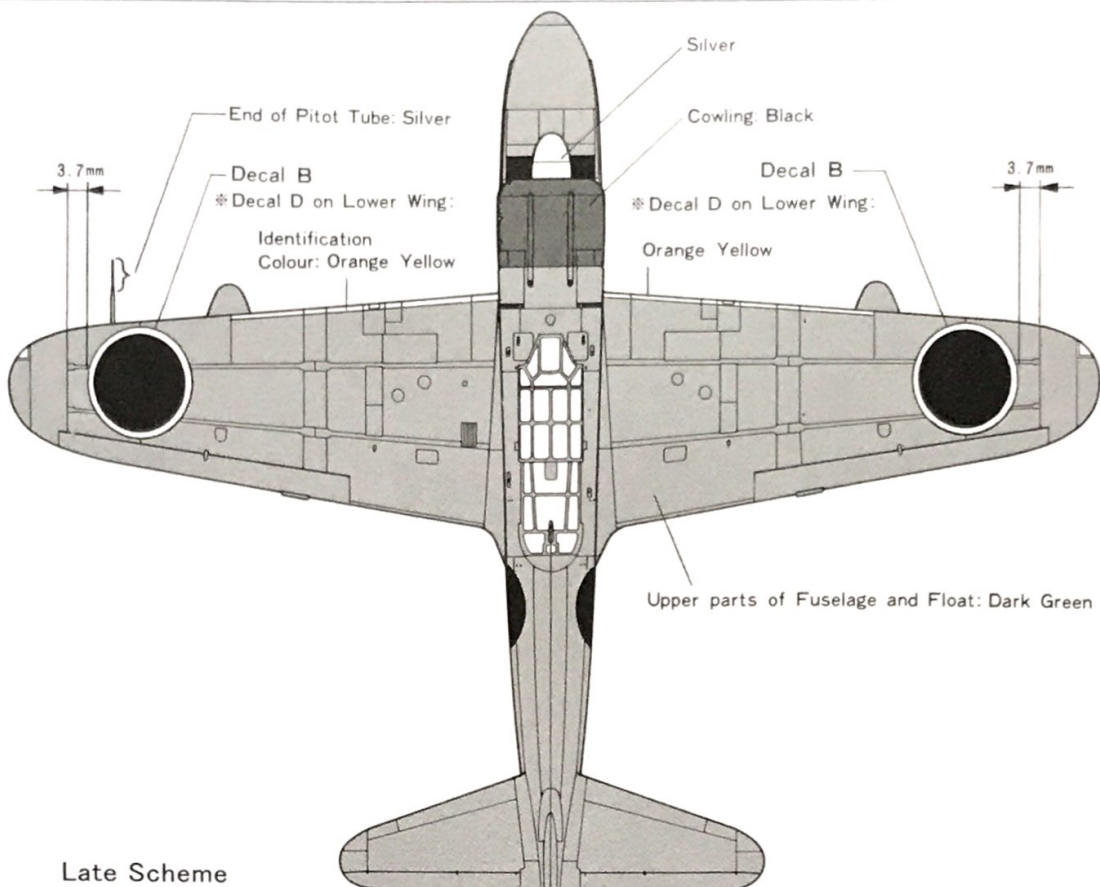


overall light gray, with the engine cowling propeller blades and the spinner were silver. The propeller blades were painted in either black or dark gray on the tips of the propeller blades. The identification bands were applied to both sides of the fuselage as well as the floats. This was the standard scheme applied to

As the fighting intensified, an order was given on July 1942 for the fuselage, wing, and floats a dark green being detected by enemy aircraft while flying over the sea. Orange yellow identification bands were applied to the fuselage to mid-wing. A white border was applied to the fuselage and the upper surface of the floats. In some units, some units had already hastily painted identification bands were not applied (see

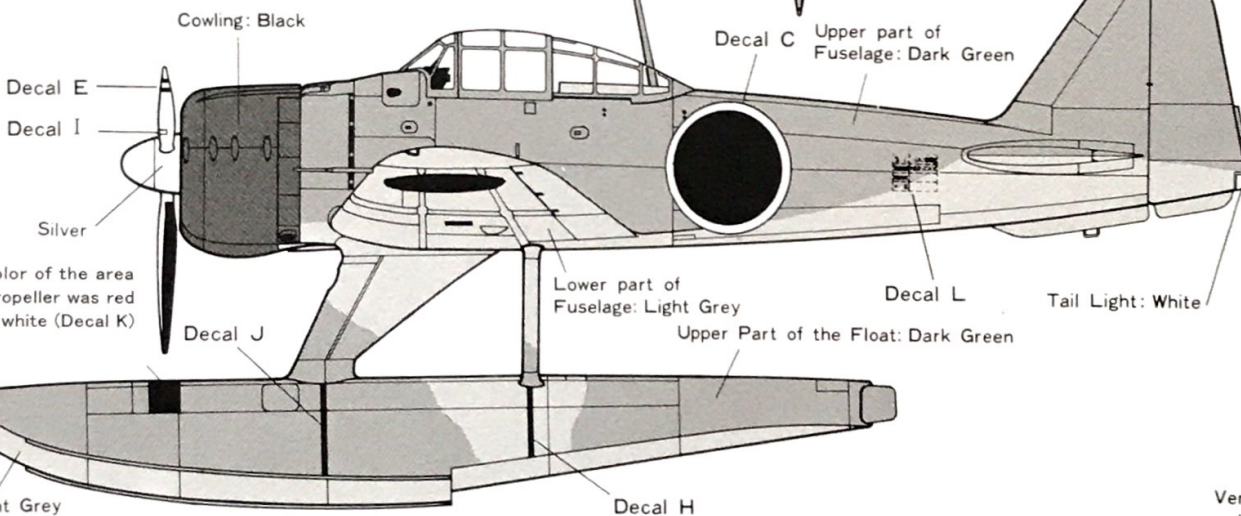
The Aleutian Islands featured lilac-colored identification bands.

The floats were painted a transparent blue-green color, although Zinc Chromate (yellow-green color used on floats for camouflage purposes, the inside of the canopy frame was painted white but this changed to dark green with the late scheme. On the main float to mark the area beneath the canopy. Refer to the instruction manual for



Late Scheme

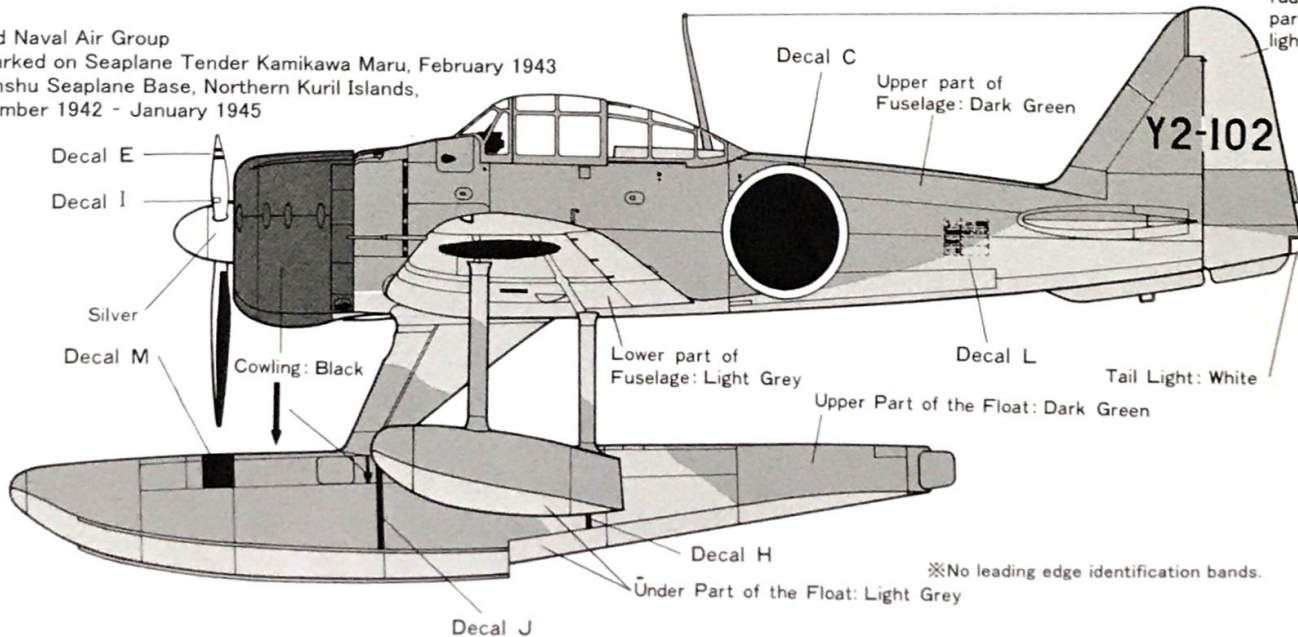
★Basic Painting Pattern for Dark-Green Top★



The official color of the area beneath the propeller was red (Decal M), but white (Decal K) was also seen.

Vertical stabilizer and rudder: Only canvas part should be painted light grey.

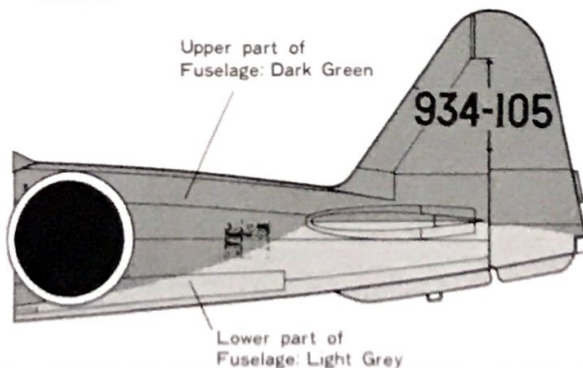
④452nd Naval Air Group
Embarked on Seaplane Tender Kamikawa Maru, February 1943
Shumshu Seaplane Base, Northern Kuril Islands,
November 1942 - January 1945



※No leading edge identification bands.

⑤36th Naval Air Group
Balikpapan Seaplane Base, Borneo,
June - November 1942

★Painting★
Late Scheme
No leading edge identification bands.



⑥934th Naval Air Group
Avon Seaplane Base,
November 1942 - October 1944

★Painting★
Late Scheme
Leading edge identification bands required.

日本海軍二式水上戦闘機 (A6M2-N)

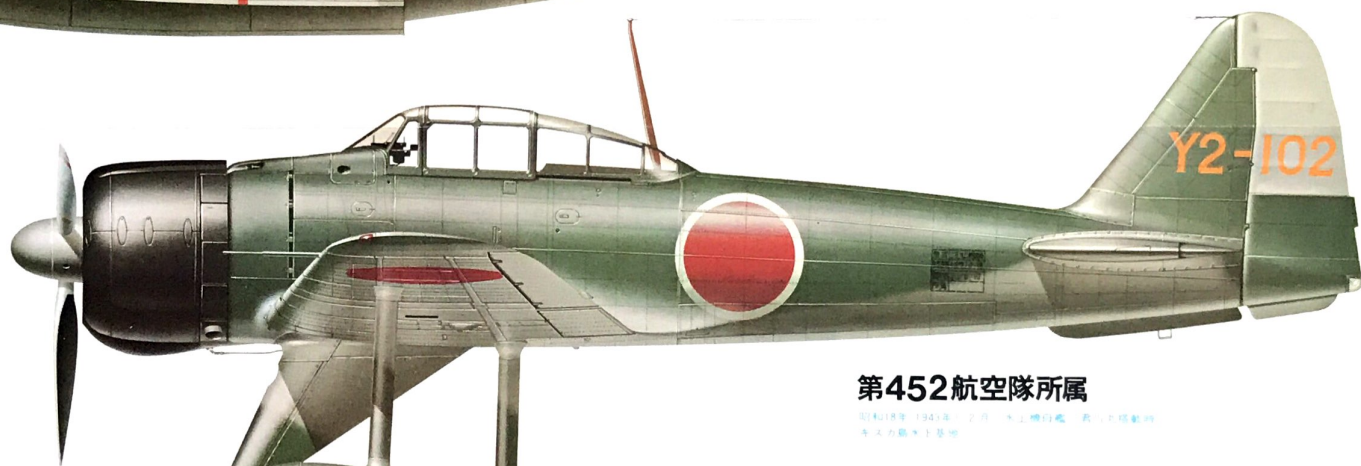
NAKAJIMA A6M2-N TYPE 2 FLOATPLANE FIGHTER (RUFE)



第11航空戦隊

水上戦闘機 陸上戦闘機所属 神宮寺海軍飛行場
昭和17年(1942年)5月4日 - 11月7日
124号機 静岡市 静岡市立中央公園

R. Watanabe



第452航空隊所属

昭和18年(1943年)7月 水上戦闘機 表1下機動隊
海軍工廠静岡工場

 **TAMIYA**
田宮模型 静岡市恩田原3-7