

eduard

LIMITED

Force



INSTRUCTION SHEET

1/48

DUAL COMBO

11171-NAV1

RUFE

Type 2 Seaplane Fighter
Nakajima A6M2-N
1942–1945



Photo: US Navy

by JAN BOBEK

This photo shows what is probably one of the first completed Nakajima A6M2-N floatplane. It was apparently distributed to Japanese troops to familiarize them with the new type of seaplane, as it was soon captured by the Americans and published in the enemy aircraft identification manual in 1943.

The Zero fighter became the symbol of the Japanese air power during WWII. The light and maneuverable fighter had the upper hand over Allied aircraft at early stages of the war in Pacific theatre, but gradually lost its advantage against newer opponents. During the war, other versions of the Zero came along, one of the most iconic being its floatplane version, known by the Allied codename Rufe.

During the 1920s and 1930s the Japanese aircraft industry was oriented towards the production of foreign aircraft built under licenses. However, the armed forces, especially the Navy, with regard to the specifics of the Chinese and Pacific battlefields, came up with requirements that foreign aircraft designs did not offer. Hence, Mitsubishi Heavy Industries developed the Type 96 naval fighter aircraft, better known as the A5M "Claude". The head of the design team was a young Japanese engineer, Jirō Horikoshi. Despite an engine that lacked some power, he managed to design a light and fast fighter with a fixed landing gear, which had no comparison in the world regarding maximum speed. In October 1937, Mitsubishi and Nakajima were approached to develop prototype 12-shi Carrier-based Fighter. The requirements were so extreme, and in some cases contradictory, that the two design teams investigated whether they could be less stringent. Nakajima eventually withdrew from the project, while the criteria for the prototype were even raised based on experience on the Chinese battlefield. In the end, Horikoshi's team managed to meet the technical specifications, not only thanks to the aerodynamic design and a new type of light alloy used for the aircraft's skin, but also thanks to the Nakajima Sakae 11 engine. During the flight tests, the wing surface suffered cracking during overload, and aileron control during high-speed maneuvers had also to be addressed. The new fighter had a powerful armament of two cannons and two machine guns, extremely long range (over 1,800 km) and excellent maneuverability. It reached top speed of 533 km/h at an altitude of 4,550 m. However, it lacked armor and other protective features and also had quite low structural speed limit of 600 km/h.

Surprising Zero

The new aircraft entered service in 1940 with the 940hp engine Sakae 12 and received the official designation Rei shiki Kanjō sentōki (Type 0 carrier fighter), with the "zero" being derived from the imperial year 2600 (1940). Japanese pilots usually abbreviated it as Rei-Sen. That was also the origin of the name Zero often used by Allied pilots instead of the official code name, derived from the male name Zeke. As part of the Navy's system, the new aircraft was given the type designation A6M, where A6 meant that it was the sixth type of carrier fighter to enter service, and M stood for the Mitsubishi company name. Zero fighters, specifically the A6M2 Type 11, had been successfully deployed on the Chinese battlefield since the summer of 1940, but their existence eluded Western intelligence because no one wanted to believe reports from China that suggested the Japanese had a world-class fighter. Further modifications to

its design were made during 1941, creating the A6M2 Type 21, which included several changes, the most visible of them being folding wingtips for easier handling on the decks. With the A6M2 Type 21 modified this way, Japan entered the war against the US and other Western nations. Mitsubishi needed to produce other aircraft in addition to the Zero, so the Nakajima company began licensed production in late 1941. Total of 740 A6M2 aircraft were produced by Mitsubishi by June 1942 with additional 800 delivered by Nakajima by February 1944. The gun armament was improved and variants with magazines for up to 150 rounds could be used on the Type 21. Such a Zero may have been designated as Type 21a.

Here comes the Rufe

Floatplanes are a very old idea. Fighters of this design had already been deployed in combat during the First World War. After the war, their priority gradually declined as the performance of these seaplanes fell gradually behind that of fixed landing gear machines. The Imperial Japanese Navy returned to the idea in 1933 during preparation for a new seaplane tender. IJN came up with a specification for a machine that was to protect a coastal base during its construction and was to be capable of reaching speeds of 200 knots. Kawanishi had been preparing a study of such a seaplane since 1934. It was to operate from a tender, or launch from a catapult, and be able to counter fighter aircraft. The prototype was not built, and preparations were halted in 1936. Subsequently, the concept of a two-seat machine was considered, but even this idea was abandoned.

In the late 1930s, the US Navy prepared a plan to build 2,000 flying boats. The Japanese decided to respond to this threat. Therefore, in September 1940, the IJN commissioned Kawanishi with the specification for the 15-Shi fast interceptor seaplane. Kawanishi had already been working on a fast floatplane reconnaissance aircraft (later designated the E15K Shiun) for several months, and the Navy hoped for synergy from this decision. However, at the same time, it feared certain delays because Kawanishi's aircraft carried a number of innovative features.

Therefore, the IJN decided to convert the Mitsubishi A6M2, which was currently undergoing combat test deployment in China, to a fighter seaplane. Mitsubishi was fully occupied with the production of Zeros and other types of aircraft. Therefore, the IJN turned to Nakajima, which began licensed production of A6M2 fighters at its Koizumi plant in late 1941. The company had some free design and production capacity and was therefore awarded with works on the seaplane.

Shinobu Mitsutake was appointed chief designer. His team tried to make the most of the A6M2 design. Some authors state that standard fighter seaplane was based on the A6M2 Type 11, which did not have folding wingtips. In fact, at least the first few dozen production machines had folding wingtips. On captured Rufes, this design feature is still documented on the 37th aircraft produced.

The designers added a metal central float to the fuselage. The pylon was mounted to the main wing spar and attached to the rear wing spar by a "V" shaped strut. The pylon, with incorporated the oil cooling system, was located roughly where the Zero had the auxiliary tank attached. The absence of the auxiliary tank was replaced by tanks in the float. The stabilizing floats were mounted on separate pylons. Hatches were added to the wing's skin to allow access to the internal wing structure and pylons.

This elegant solution for mounting the central float was already used on the F1M Pete biplane and contributed to the high aerodynamic purity of Mitsutake's design. The central float and its dynamic effects on the fuselage structure during take-off, high-G maneuvers and landing, necessitated the need to reinforce the fuselage structure in the cockpit area by additional metal sheets.

On the first few dozen machines, a system for purging the fuel tanks was installed on top of the central float. The fittings of this system, which protruded from the float at the top, were protected by a hemispherical cover. The float was also fitted with a rudder.

The last significant change from the Zero was an increase in the vertical tail area for the stability of the machine. Testing of the prototype began on the day of the Japanese attack on Hawaii and continued intensively during early 1942. The prototype was converted from the land-based version of the Zero fighter, the A6M2 Type 11 c/n (6)69. The next nine A6M2-N aircraft were to be produced at Nakajima by conversion from Mitsubishi A6M2 Type 21 carrier fighters, including the machines c/n (5)159 and (3)312, which took part in the attack on Hawaii aboard the aircraft carrier Shōkaku. However, the converted seaplanes suffered from corrosion. Therefore, the conversions of A6M2-N Nos. 8 and 9 were not carried out and No. 10 was already completely manufactured as a new machine.

The floatplane fighter did not exceed comparable seaplanes in performance. It did increase in weight due to the floats and design changes, but the Zero's landing gear and tailhook weight was missing. The machine had excellent maneuverability and stability at medium and higher altitudes and retained reasonably good flight characteristics even at lower altitudes.

Its empty weight increased by approximately 14 % over the A6M2 Type 21 and its speed was reduced to 234 knots at 5,000 meters from the original 275 knots at 4,400 meters of the Type 21. The seaplane had a range of 962 nautical miles and a maximum flight time of 6 hours.

Armament consisted, as with the A6M2, of two 20 mm cannons in the wing and two 7.7 mm machine guns in the fuselage. The aircraft could carry two 30 kg or 60 kg bombs carried under the wing. However, unlike the Zero Type 21, seaplane was not equipped with a circular directional antenna at the rear of the cockpit and did not have a headrest behind the pilot's seat. This fighter seaplane was first designated Rei-Shiki Ichi Gata Sujūō Sentōki (Type 0 Mk.1 Seaplane Fighter). In July, the aircraft was accepted by the IJN and entered service under the designation Ni-Shiki Sujūō Sentōki, or Type 2 Seaplane Fighter. It bore the abbreviated designation A6M2-N. Nakajima considered preparing another fighter seaplane, which was to reach a speed of 250 knots, but eventually abandoned its preparation.

Series production began in April 1942 and ended in July 1943, as production of the Kawanishi N1K Kyōfū (Rex) fighter seaplane began a month earlier. Nakajima produced a total of 258 A6M2-N seaplanes, with the highest number of machines (24) in a single month leaving the gates of the Koizumi plant in April 1943. As soon as the Allies observed this machine in aerial encounters, they assigned it the code name Rufe.

Aleutians and Kurils

The first unit to engage the enemy with Rufes was Tōkō Kōkūtai. Formed in late 1940, it was deployed at the start of the war in the Pacific during the conquest of the Philippines and the Dutch East Indies. In June 1942, with six H6K Mavis flying boats, this unit was deployed in the capture of Attu and Kiska Islands in the Aleutians. Protection for the invasion force was provided by floatplanes from the seaplane tenders Kamikawa Maru and Kimikawa Maru. The command soon recognized that to fight the Americans in the Aleutian area, fighter seaplanes needed to be deployed to protect the anchorages and bases under construction, as float-type observation aircraft were not ideal for this purpose. Moreover, both tenders got tasks in another part of the Pacific.

In early June a Rufe fighter unit was formed in Yokosuka under the command of Lt. Kuschichirō Yamada. Six machines were transported to Kiska by seaplane tender Chiyoda, and the unit was integrated into Tōkō Kōkūtai. Patrols were usually performed in pairs. Yamada's pilots first encountered enemy on July 8, 1942, during a Liberator raid on Kiska. First victory was achieved ten days later, one B-24 and one B-17 were claimed, but Americans lost only one Flying Fortress of the 28th Composite Bombardment Group.

In early August, Yamada's fighter unit was detached from the Tōkō Kōkūtai and became the 5th Kōkūtai, whose number of aircraft was expanded to twelve fighter seaplanes. During August it was also reinforced with observation floatplanes.

The fighters of the 5th Kōkūtai scored their first victory on August 7, 1942, during the shelling of the island by USN warships. In very unfavorable weather conditions one of the Rufe pilot attacked a destroyer and his colleagues claimed two USN observation planes. American troops landed on Adak Island on August 30 and built with incredible speed an airfield in the following weeks. For the Japanese on Attu and Kiska, this worsened the prospects of completing their own airfield.

An unequal battle occurred on September 15, 1942, when the submarine base at Kiska was attacked by fourteen heavy bombers from the 28th CBG, accompanied by



Photo: BUAEER Newsletter

One of the Yokohama Kōkūtai aircraft that USMC technicians took from Tulagi to NAS Alameda, USA.

fourteen Lightnings and the same number of Airacobras from XI. Fighter Command. This formation was engaged by four Rufe pilots, two of whom were killed. P02c Gi-ichi Sasaki scored four victories over fighter aircraft in this engagement and claimed one as probably destroyed, but his machine turned over on landing. At the end of the day only one Rufe remained operational. In late September, the Kimikawa Maru arrived at the island, bringing six Rufes and two observation aircraft. In the following week the unit faced significant odds on several occasions, and on October 4 was completely without fighter seaplanes.

At the beginning of November, the 5th Kōkūtai was redesignated Kōkūtai 452. In same period additional aircraft were supplied, but these were destroyed in the following days during a storm and in a strafing attack by Lightnings. In late December, Kimikawa Maru again brought in new Rufes. On the last day of 1942, Japanese fighters managed to shoot down a B-25, a P-38 and destroyed a Catalina that was forced to land.

The Kōkūtai 452 was still operating in extremely difficult conditions. Planes were anchored in Arctic temperatures at the seashore or in shallow water, their only protection being a tarpaulin stretched across the forward half of the fuselage. Yet unit's technicians managed to keep most of the seaplanes operational. Primarily they operated from Kiska Island, and spare planes were offloaded on Attu, where there was less danger from Allied aircraft.

On January 24, 1943, a patrol of two Rufes discovered five cargo ships with escort cruisers, which were securing the landing on the island of Amchitka. Rufes attacked with 60kg bombs and continued their strafings in late January and during February. American air defenses managed to shoot down several of the Rufes. Sasaki, who became the only Rufe fighter ace in the area, did not return from one of these dangerous missions. He was shot down by a Curtiss P-40 from the 18th Fighter Squadron.

This seaplane fighter unit, which changed designation three times during its operations, had shot down fifteen aircraft certainly and five probably since the summer of 1942. It lost twelve fighter seaplanes and ten pilots in aerial combat. Its remaining 23 machines were written off in the Aleutians due to defects and weather conditions.

At the end of March 1943, the remaining airmen of Kōkūtai 452 were evacuated by submarine to Japan. In May the unit was reorganized and received new Pete, Jake and Rufe seaplanes. Its fighter unit was commanded by Lt.(jg) Shunshi Araki. From July his unit was based on Lake Bettobu on the Kuril island of Shumshu, 11 km southwest of Kamchatka.

Their opponents were again the Liberator crews. Rufes engaged them for first time on July 19. In addition to the Rufe seaplanes, the sporadic fighting involved IJN observation aircraft as well as Army aviators with Ki-43 Oscars from the 54th Hikō Sentai.

The Kōkūtai 452 fighters achieved their last victories on September 12 in a battle with a formation of eight B-24s and twelve B-25s. They reported two B-24s shot down and one probable. However, Japanese Army fighters also joined the fight and the Americans suffered heavy losses. In addition to the two Liberators, they lost seven Mitchells and some crews made emergency landings in Soviet territory.

In early October 1943, the fighter Buntai of Kōkūtai 452 was disbanded and the unit continued to serve with reconnaissance aircraft in the Kuril Islands until the summer of 1944.



Photo: Naval History and Heritage Command

American soldiers in May 1943 at the wreck of the Rufe in Holtz Bay on Attu Island. Part of the oil cooling system is visible on the main pylon structure.

Anchorage at Tulagi

The first Rufes to engage enemy in the South Pacific belonged to the fighter Buntai, which was formed in May 1942 as part of the Yokohama Kōkūtai. The unit was led by Lt. Ri-ichirō Satō, who had previously served with the Yokosuka Kōkūtai. Twelve fighter seaplanes arrived to Rabaul in early June. A month later, they moved to Tulagi Island off Guadalcanal and encountered enemy machines almost daily. First victory was claimed on July 10 in a battle with Liberators of the 435th BS. A week later, B-17s from the same unit killed PO1c Hori. The same fate befell the Sea.1c Matsui in combat with a B-17 on July 23.

B-17s raided Tulagi on August 4, 1942. Seven Rufes attacked the heavies over their target. The gunners of the 26th BS, 11th BG claimed one seaplane as downed, but one Rufe collided with a B-17E commanded by 1st Lt. Rush E. McDonald. All of his crew and the Japanese pilot Sea.1c Kobayashi perished.

During the Allied landing on Guadalcanal in the morning hours of August 7, Wildcats from VF-71 attacked the anchorage at Tulagi and surrounding islands, destroying all seven H6K Mavis flying boats and six Rufes. One Rufe apparently escaped and joined two colleagues at Shortland Island off Bougainville.

Yokohama Kōkūtai personnel were engaged in ground combat at Tulagi and five fighter pilots were killed in action against the US Marines as early as August 8. Lieutenant Satō was killed with thirteen other men on September 19. Only one of his pilots was captured at Tulagi.

Patrol flights continued from Shortland for several days in late August under the command of Ensign Kofuji, but on September 2, 1942, the Yokohama Kōkūtai fighter unit was disbanded and the personnel and remaining Rufe seaplanes were taken over by the Kamikawa Maru.

Kamikawa Maru

In response to the Guadalcanal landing and in the absence of its own airfields between that island and the base at Rabaul, the IJN decided to establish a seaplane command in the area from August 28, 1942. It was given the name R-Hōmen Kōkū Butai (abbreviated R-Butai), R being the code name for Rabaul, i.e., R-Area Air Force. It was headed by Rear Admiral Takatsugu Jōjima, who had previously commanded several carriers, the last being Shōkaku. In late June 1942, he became commander of the 11th Seaplane Tender Division, which was the operational part of the newly formed R-Butai.

The seaplane tenders Chitose (with Pete and Jake planes), Sanyo Maru (Petes and Jakes), and Sanuki Maru (Petes) were the first ones under Jōjima's command. During September, they were joined by Kamikawa Maru (Rufes and Petes) and Kunikawa Maru (Petes). These units were tasked with defending the anchorages at Shortland and Rekata Bay off Guadalcanal. The Americans consistently attacked mainly Rekata Bay, where the Japanese were trying to establish a base. Its supplies were provided by the seaplane tenders Akitsushima, Chitose and Nisshin. The seaplanes from R-Butai could not stay overnight in Rekata Bay for safety reasons, so crews flew to this location from Shortland in the early morning hours.

The Kamikawa Maru was completed as a cargo vessel in 1936. The Imperial Navy took her over in 1937 and completed her conversion to a seaplane tender two years later. After deployment in war against China she took part in campaigns in the Malay Peninsula, Borneo and Java. In May 1942, Kamikawa Maru participated in the Japanese landing at Tulagi, took part in Battle of the Coral Sea, and supported the landings in the Aleutians.

In August 1942, the Kamikawa Maru air unit was joined by a fighter Buntai with Rufe aircraft under the command of Lt. Jirō Ōno, who had commanded a seaplane unit aboard the cruiser Chikuma during the attack on Pearl Harbor. Commanding the Kamikawa Maru was Captain Torahachi Shinoda, who had held that position since September 1941. The primary mission of the Rufe pilots was base defense and reconnaissance. However, they also took on the role of ground attack aircraft during the fighting on Guadalcanal.

The first victory was achieved by two pilots on September 13. The two Rufes took off from Rekata and were tasked with determining if Henderson airfield on Guadalcanal was back in Japanese hands. Although they did not spot Japanese forces at the base, they encountered a lone SBD Dauntless from VMSB-231. They managed to shoot it down and then attacked ground targets. Both Americans were killed, one of them a gunner who survived the Battle of Midway at VMSB-241.

The tables turned the very next day when, in the early morning hours, three Rufes under the command of Lt.(jg) Masashi Kawashima conducted another reconnaissance over Henderson Field. However, they encountered a force of eleven Wildcats from VF-5, and all Japanese were shot down and killed. During the afternoon of the same day, another Rufe pilot was killed by a VF-5 fighter in the same area.

The seaplane bases in Shortland area were attacked in the early hours of October 10 by Avengers and Wildcats from the USS Hornet (CV-8). There was very poor visibility over the target, and coincidentally two Petes from Sanuki Maru and two Rufes as their escort were in the air. They were tasked to cover the destroyers Oyashio, Kuroshio and Hayashio on their voyage to Guadalcanal. In sudden defense of their own base, they were credited with shooting down five fighter planes, but all four Japanese machines were shot down and all airmen were killed.

The Kamikawa Maru's fighter Buntai pilots scored 14 victories and had flown a total of 360 combat sorties in 211 missions by November 7, 1942. But nine of them were killed. After that date, remaining fighter planes and pilots were taken over by Kōkūtai 802.

The fight for the Solomon Islands

In mid-October 1942, R-Butai was reinforced by nine Rufes under the command of Lieutenant Toshio Igarashi of the 14th Kōkūtai. Original unit with this designation was armed with Zeros and fought against the Chinese armed forces until the fall of 1940. In April 1942, the 14th Kōkūtai was newly created as seaplanes unit. From Rabaul it soon moved to Shortland and later even to Rekata.

The unit encountered B-17s on October 13 and on following two days, losing one of its officers in the process. It achieved its first victory on October 17 when four Rufes downed a Dauntless from VS-71. The unit had its first encounter with Wildcats on October 29, when three Rufes from the 14th Kōkūtai and one Rufe and eight Petes from the Kamikawa Maru engaged US Marines from VMO-251 and VMF-212. The Americans claimed eight victories, but the Japanese lost only one fighter and one observation aircraft from Kamikawa Maru.

In early November 1942, the 14th Kōkūtai was redesignated Kōkūtai 802 and its fighter Buntai was led by Lt. Hideo Goto. This officer with four of his pilots got into a large-scale fight on November 7 when, together with four Petes from Kamikawa Maru, they were tasked to provide cover for destroyers enroute to Guadalcanal. Dauntless crews were also headed toward these vessels, escorted by Wildcats from VMF-121, 112 and Airacobras from the 347th FG. In this engagement, Goto and his colleagues were shot down and none of them survived. One Pete also fell victim to the Americans, who lost one Dauntless and three Wildcats, including the aircraft flown by the legendary fighter ace Joe Foss.

During December, the two remaining Rufe pilots of Kōkūtai 802 were still conducting patrols while preparations were underway in Japan to completely rebuild this unit.

In mid-January 1943, 15 new Rufes and 15 pilots arrived at Shortland under the command of Lt.(jg) Takeo Yokoyama, who had previously served as one of the officers of the Kamikawa Maru. His deputy was Lt.(jg) Keizō Yamazaki. During January and the first half of February, their unit began encountering Lightnings and Warhawks, facing frequent raids on Bougainville in the process.

Kōkūtai 802 did not fare badly in these engagements. Their most notable success was their part in the so-called Valentine's Day Massacre. This was the name given to the February 14, 1943, by American airmen after the attack on vessels in the Buin and Shortland area. Nine PB4Y-1 Liberator bombers from VB-101 flew to the target,

escorted by ten P-38Gs from the 347th FG and twelve F4U Corsairs from VMF-124. Thanks to Japanese patrols on the islands between Bougainville and Guadalcanal, the Japanese naval fighters got airborne in time. Waiting for the attackers were 13 Zeros from Kōkūtai 204, 18 Zeros from Kōkūtai 252, and Yokoyama with 11 Rufes. The Americans damaged two freighters but came under strong flak fire and faced attacks from well-prepared Japanese fighters. The Japanese lost only one Zero and two others were damaged. The Americans, however, lost two Liberators, four Lightnings and two Corsairs in fierce fighting. Yokoyama's unit claimed two bombers and one single-engine fighter.

To the coast of Australia

In mid-1942, the 36th Kōkūtai was formed in Balikpapan, Borneo. This unit was armed with Pete, Jake and Mavis seaplanes. In November 1942, its designation was changed to Kōkūtai 934, and in late February 1943 a fighter unit was formed. The unit operated first from Ambon and later from Maikoor, Indonesia. Its primary task, apart from defending own bases, was patrolling against Allied vessels. Patrols usually consisted of one Jake and one Rufe aircraft as fighter escort. The area of operations extended as far as the north-west coast of Australia, so Japanese airmen would face not only Hudsons and Beaufighters, but also Spitfires. By the end of 1943 the unit had achieved 21 victories with the loss of four pilots. In early 1944 it also deployed new NIK Rex seaplanes in combat, but in March its fighter unit was disbanded.

Pacific and Japan

In March 1943, the fighter unit of the Kōkūtai 802 led by Lt.(jg) Yamazaki moved from Shortland to Jaluit Island in the Central Pacific. In October it was integrated into Kōkūtai 902 based on Truk Atoll. The base was often attacked by B-24s, but a raid by American carrier planes on Truk in the early hours of February 17, 1944, had fatal consequences. The Japanese radar operators considered the incoming formation to be their own bombers, and Japanese naval land-based and seaplane fighters only took off during the bombardment. The Japanese lost 81 aircraft on the ground and 31 were shot down. The American airmen were impressed by the raid as if it were a Hollywood movie. Kōkūtai 902 sent eight aircraft and claimed five victories. However, four pilots were killed, and three others made emergency landings or parachuted. One of the pilots took off a second time, achieving one victory, but his machine was hit and had to make an emergency landing. In early March 1944, the fighter unit of Kōkūtai 902 was disbanded. Rufe aircraft were naturally used in Japan by Yokosuka Kōkūtai, whose main task was research and testing of new aircraft, weapons and technical equipment. Sasebo Kōkūtai performing patrol duties in Western Japan had its own Rufe unit. In May 1944, part of Sasebo Kōkūtai including Rufes led by Lt. Teijirō Yonemasu, moved to Chichijima Island for defense against the US Navy. They got into combat on July 4 and of nine Rufes, seven were shot down and four pilots were killed. Three victories, including two probables, were scored by the CPO Teruyuki Naoi. Towards the end of 1944, some airmen were transferred to land-based naval fighter units and the rest of the Sasebo Kōkūtai was incorporated into the anti-submarine Kōkūtai 951.

In Japan, Rufe aircraft served with several units tasked with training, and their assignments later expanded to include patrol operations. Training on Rufe seaplanes was usually a precursor to the more powerful NIK Rex fighter.

In April 1943, was formed Sukumo Kōkūtai, consisting of twelve fighter and twelve observation seaplanes. It used the base of the same name in Kochi Prefecture. In early 1944 its status changed to a combat unit, redesignated to Kōkūtai 453 and moved to Ibusuki Base in Kagoshima Prefecture. From February 20 it conducted anti-submarine patrols, but on that date its fighter section was disbanded.

Similarly, the Kashima Kōkūtai and Katori Kōkūtai training units were based in Chiba Prefecture. Their aircraft, including the Rufes, sporadically came into conflict with American aircraft. Among the pure training units that also used some Rufes was Kitaura Kōkūtai. In its case, several Rufe were reserved for instructors for the purpose of practice flights and maintaining skills in maneuver combat. One of them, CPO Tsuji, was killed in a dogfight with a Hellcat pilot on February 17, 1945. One of the seaplane units that participated in Kamikaze missions at the end of the war was the training unit Takuma Kōkūtai. It was established in mid-1943 and its main armament became the E7K Alf and H8K Emily seaplanes. Rufe fighters are documented with this unit as early as 1943.

The Nakajima A6M2-N Rufe fighter seaplanes were already outperformed by their opponents at the time of their introduction into service. But like the A6M Zero Type 21, from which their design was based, the Rufe seaplanes remained in first-line service until the end of the war. Sadly, no complete example of this beautiful floatplane survives to this day.

Colors and markings

Rufes had a grey paint coating on all surfaces, which was sprayed over a reddish-brown base paint. To prevent corrosion, the interior surfaces of the flap area were also painted grey instead of the Aotake paint that was common on A6M Zero fighters. Due to the change in the name of the aircraft, the fuselage identification stencil changed in July or August 1942. It occurred between approximately the 30th and 50th Rufe produced. From October 1942, the manufacturer stopped putting the date of manufacture on the stencil.

At the end of August 1942, Nakajima introduced a yellow identification stripe on the leading edge of the wing on A6M2-N aircraft, and at the same time introduced a white outline of Hinomaru on the fuselage.

In February 1943, naval fighter units were instructed to spray the aircraft with dark green on the upper surfaces. Ground personnel usually made use of paint that was available for maintenance on aircraft of other categories that already had green paint. In the case of the seaplane units, these were the Aichi, Mitsubishi and Kawanishi aircraft. The shades of their camouflage paint varied slightly depending on the paint supplier. The use of war booty paints, for example in Rabaul, or the use of paint designed for warships cannot be ruled out. When this paint was applied, the white outline of fuselage Hinomaru was often thinned or completely repainted. However, some aircraft were left in grey paint on all surfaces and are documented from as late as 1944.

In the final months of production, the new A6M2-N aircraft received a standard coat of D1 dark green paint on the upper surfaces, a shade specific to the Nakajima paint supplier. This change was accompanied by the introduction of white outline on the Hinomaru on upper surfaces. With combat units this white part was often thinned or completely repainted, which could also be done on the fuselage Hinomaru.

The coloring of the transport cart is often given as black, but this does not match contemporary photographs. More likely is the dark grey-blue color used for naval vehicles and technical equipment. The dark blue color used by the Imperial Navy, for example for workshop equipment, cannot be ruled out either. The construction of the cart was composite, with the vertical stabilizing parts and the parts on which the float was mounted being made of wood. The whole cart was painted in one color, but in service the paint naturally showed signs of wear and tear, the grey paint from the main float sometimes had worn off and remained on parts of the cart. ■

We would like to thank to Ryan Toews for his invaluable help.

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An image of the wreck of the seaplane Rufe from Kōkūtai 802 taken in 1944 at Emidj Island, Jaluit Atoll, in the Marshall Islands. The reddish-brown base paint is visible on the aircraft.

Kamikawa Maru anchored off Amoy (Xiamen), China in July 1939, with a deck load of Kawanishi E7K and Nakajima E8N float planes.



ATTENTION



UPOZORNĚNÍ



ACHTUNG



ATTENTION



注意



Carefully read instruction sheet before assembling. When you use glue or paint, do not use near open flame and use in well ventilated room. Keep out of reach of small children. Children must not be allowed to suck any part, or pull vinyl bag over the head.



Před započítím stavby si pečlivě prostudujte stavební návod. Při používání barev a lepidel pracujte v dobře větrané místnosti. Lepidla ani barvy nepoužívejte v blízkosti otevřeného ohně. Model není určen malým dětem, mohlo by dojít k požití drobných dílů.

INSTRUCTION SIGNS * INSTR. SYMBOLS * INSTRUKTION SINNBILDEN * SYMBOLES * 記号の説明

OPTIONAL
VOLBABEND
OHNOUSAND
BROUSITOPEN HOLE
VYVRTAT OTVORSYMETRICAL ASSEMBLY
SYMETRICKÁ MONTÁŽREMOVE
ODŘÍZNOUTREVERSE SIDE
OTOČITAPPLY EDUARD MASK
AND PAINT
POUŽIT EDUARD MASK
NABARVITPLEASE, CHECK THE LATEST VERSION OF THE INSTRUCTION ON www.eduard.com

PARTS



DÍLY



TEILE

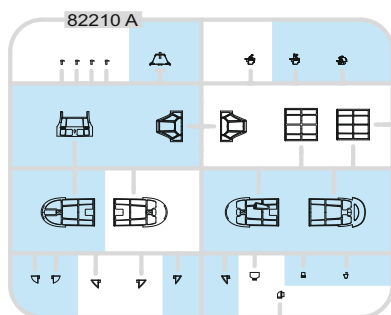
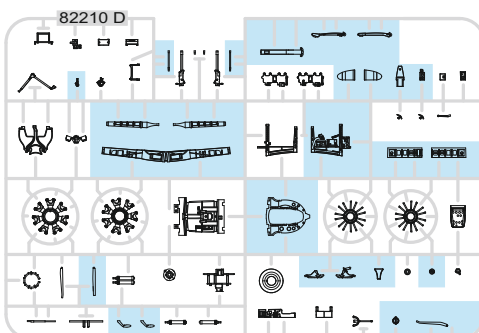
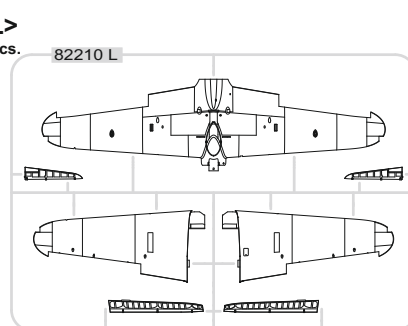
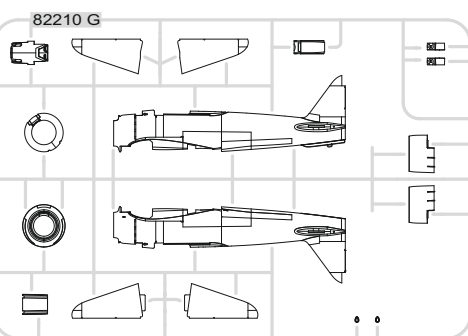
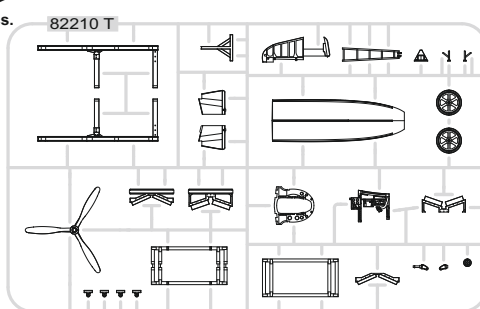
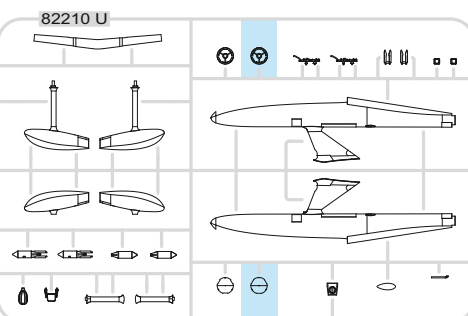


PIÈCES

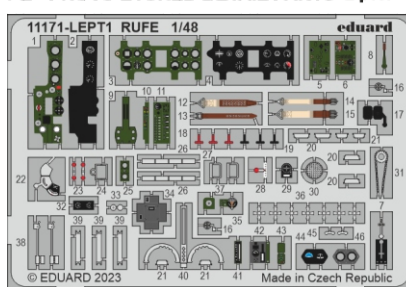
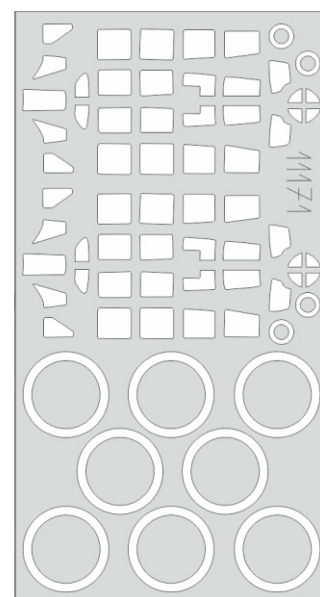


部品

PLASTIC PARTS

A>
2 pcs.D>
2 pcs.L>
2 pcs.G>
2 pcs.T>
2 pcs.U>
2 pcs.

PE - PHOTO ETCHED DETAIL PARTS 2 pcs.

eduard
MASK

-Parts not for use. -Teile werden nicht verwendet. -Pièces à ne pas utiliser. -Tyto díly nepoužívejte při stavbě. - 使用しない部品

COLOURS



BARVY



FARBEN



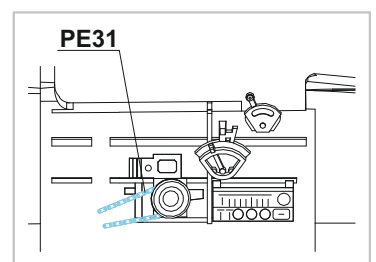
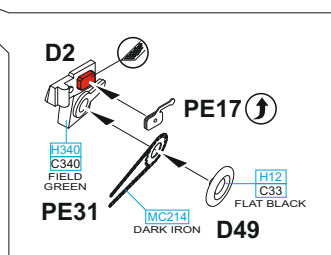
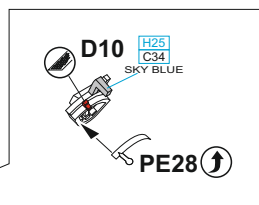
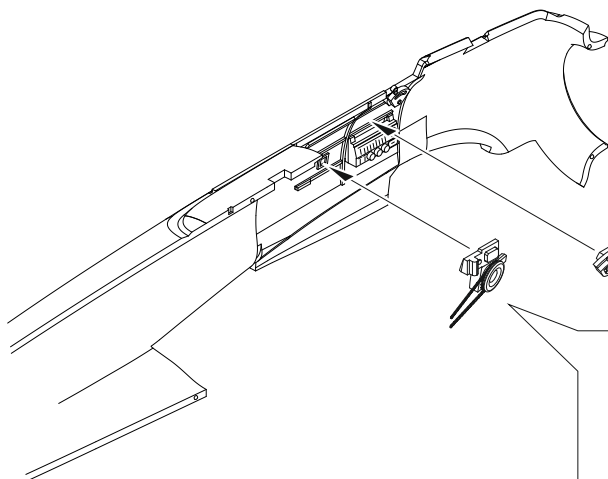
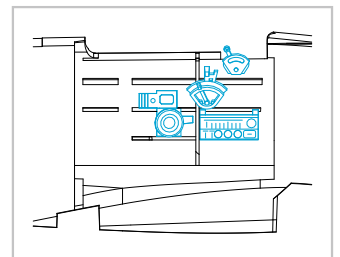
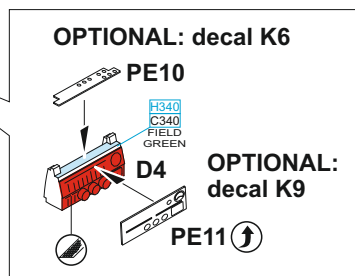
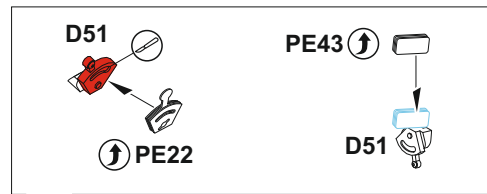
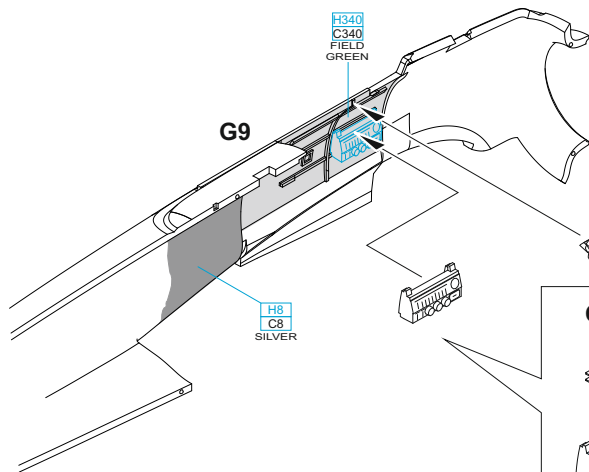
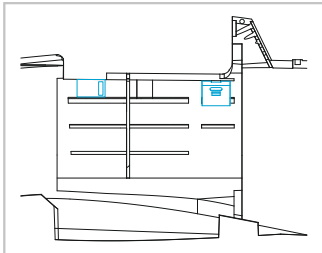
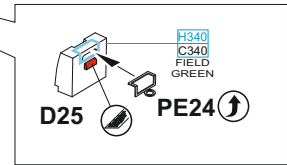
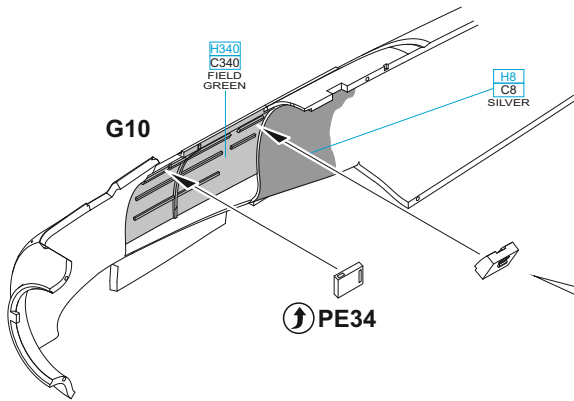
PEINTURE

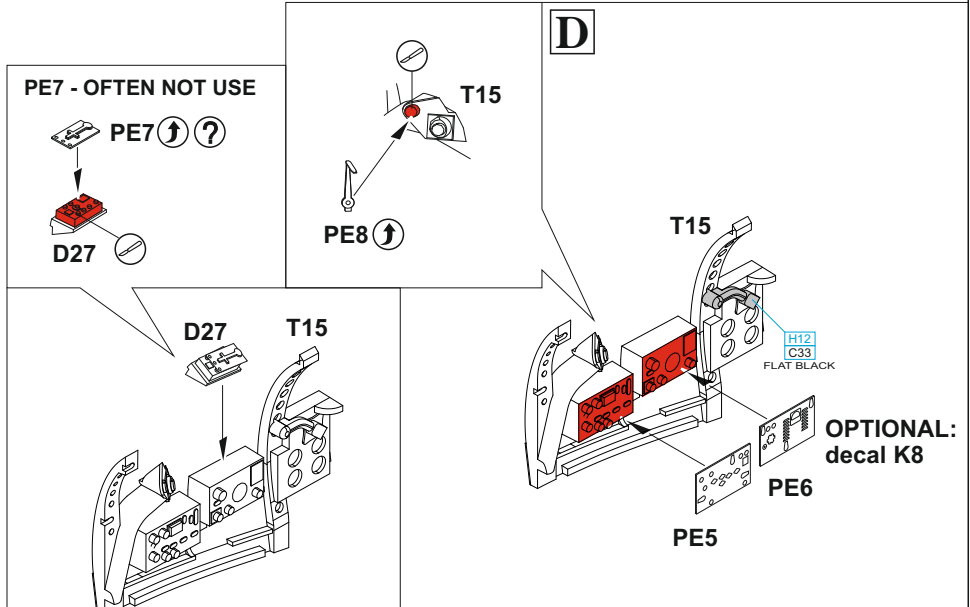
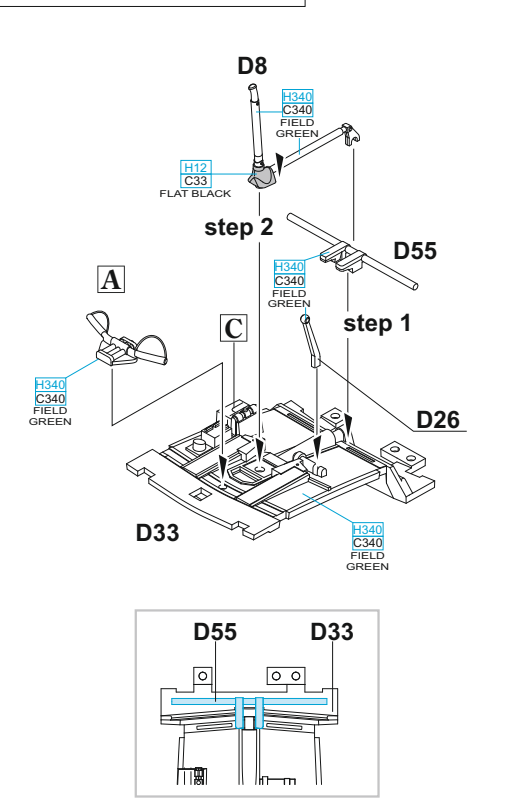
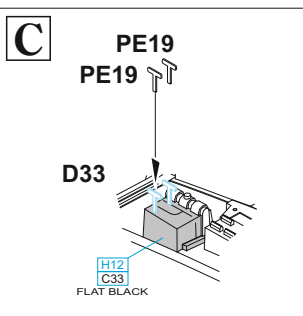
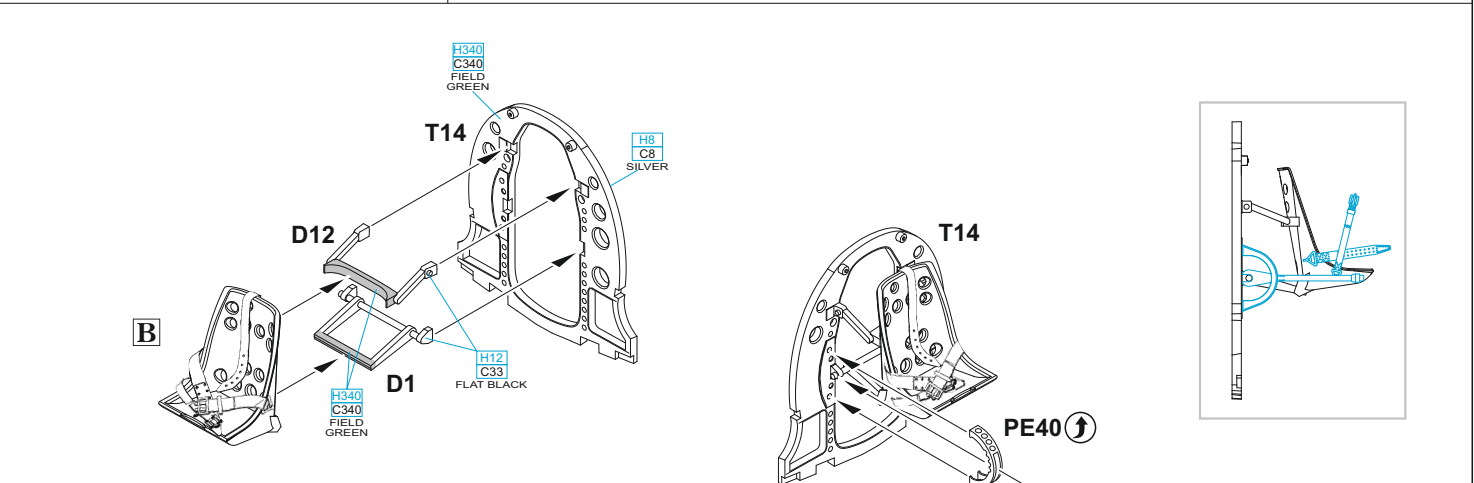
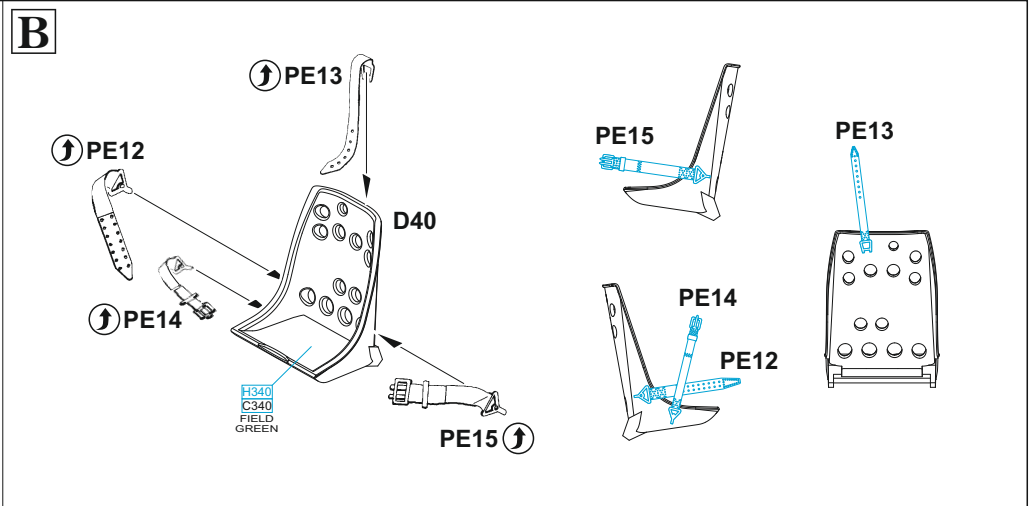
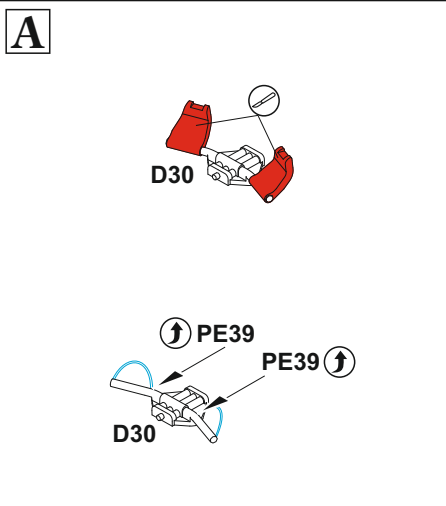


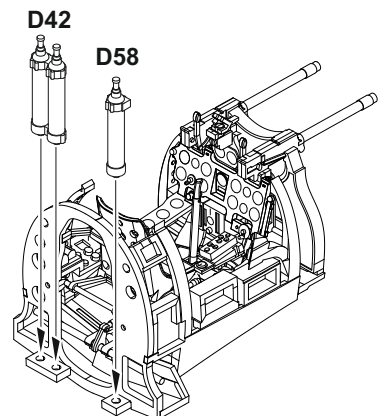
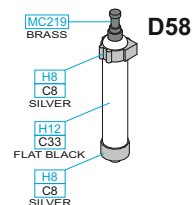
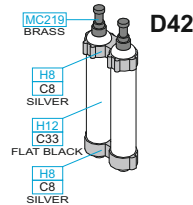
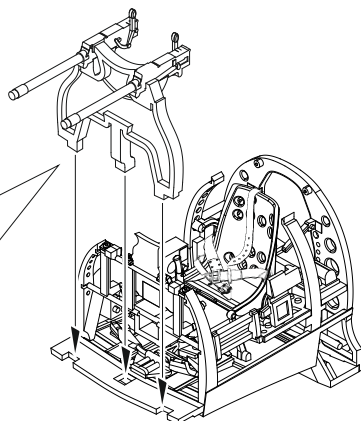
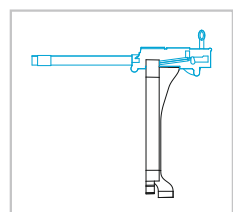
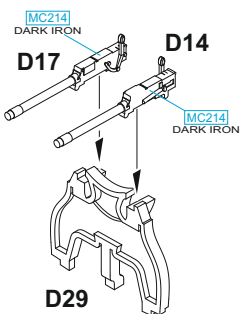
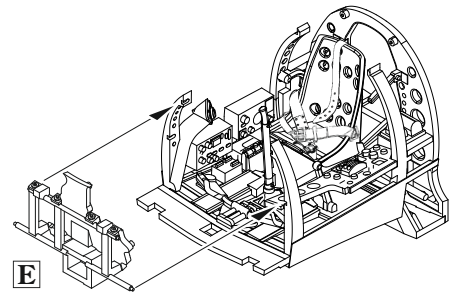
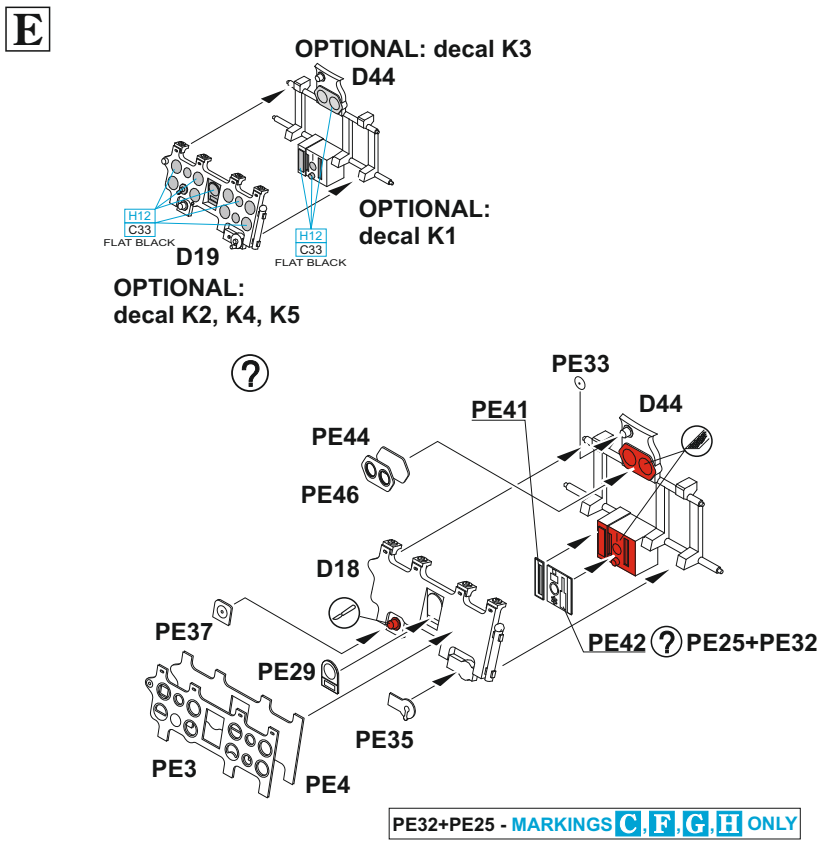
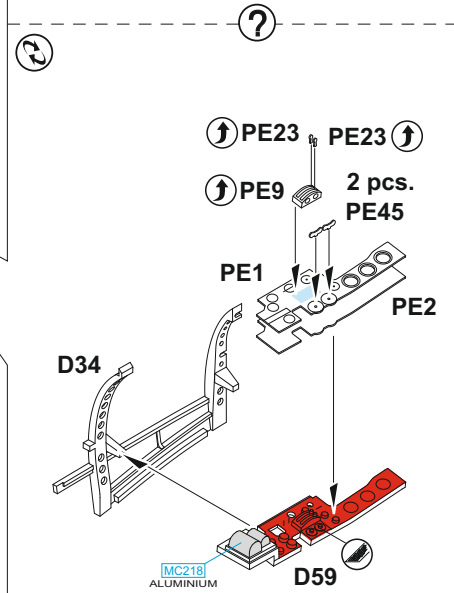
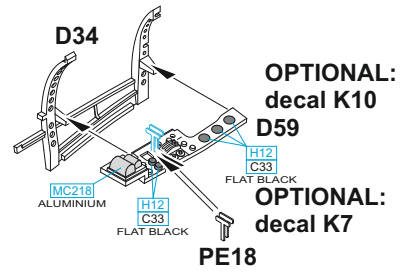
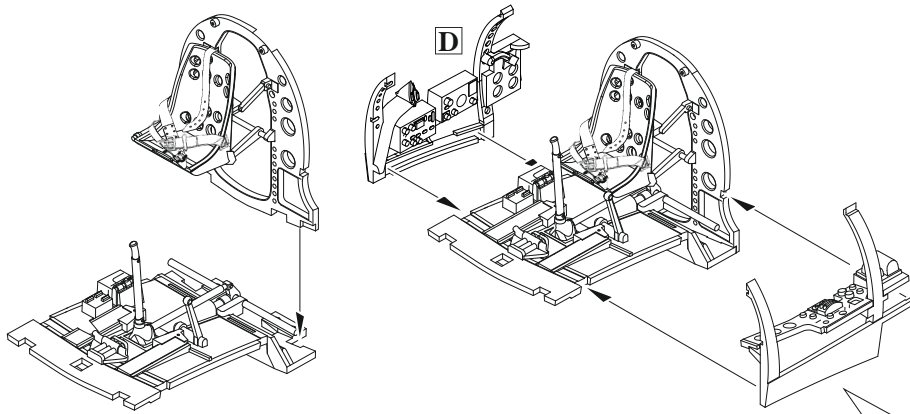
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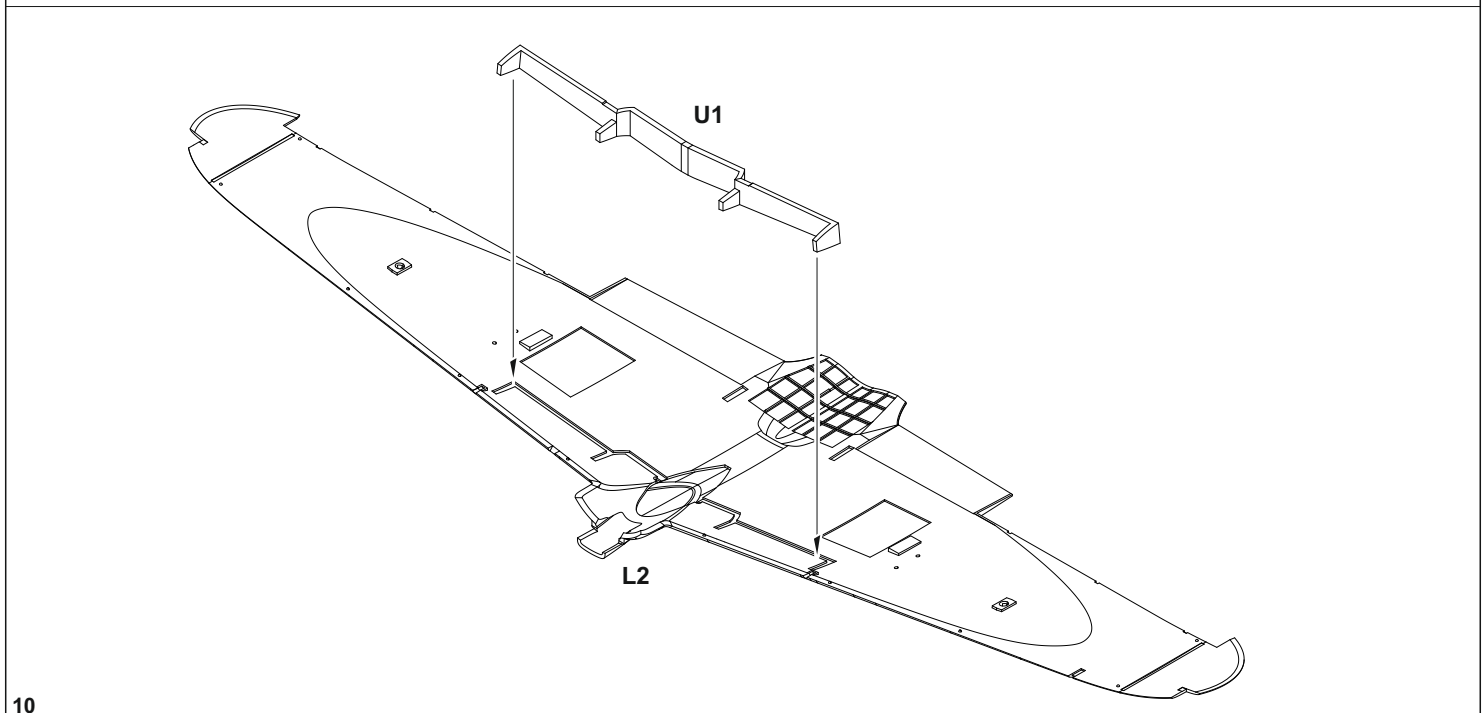
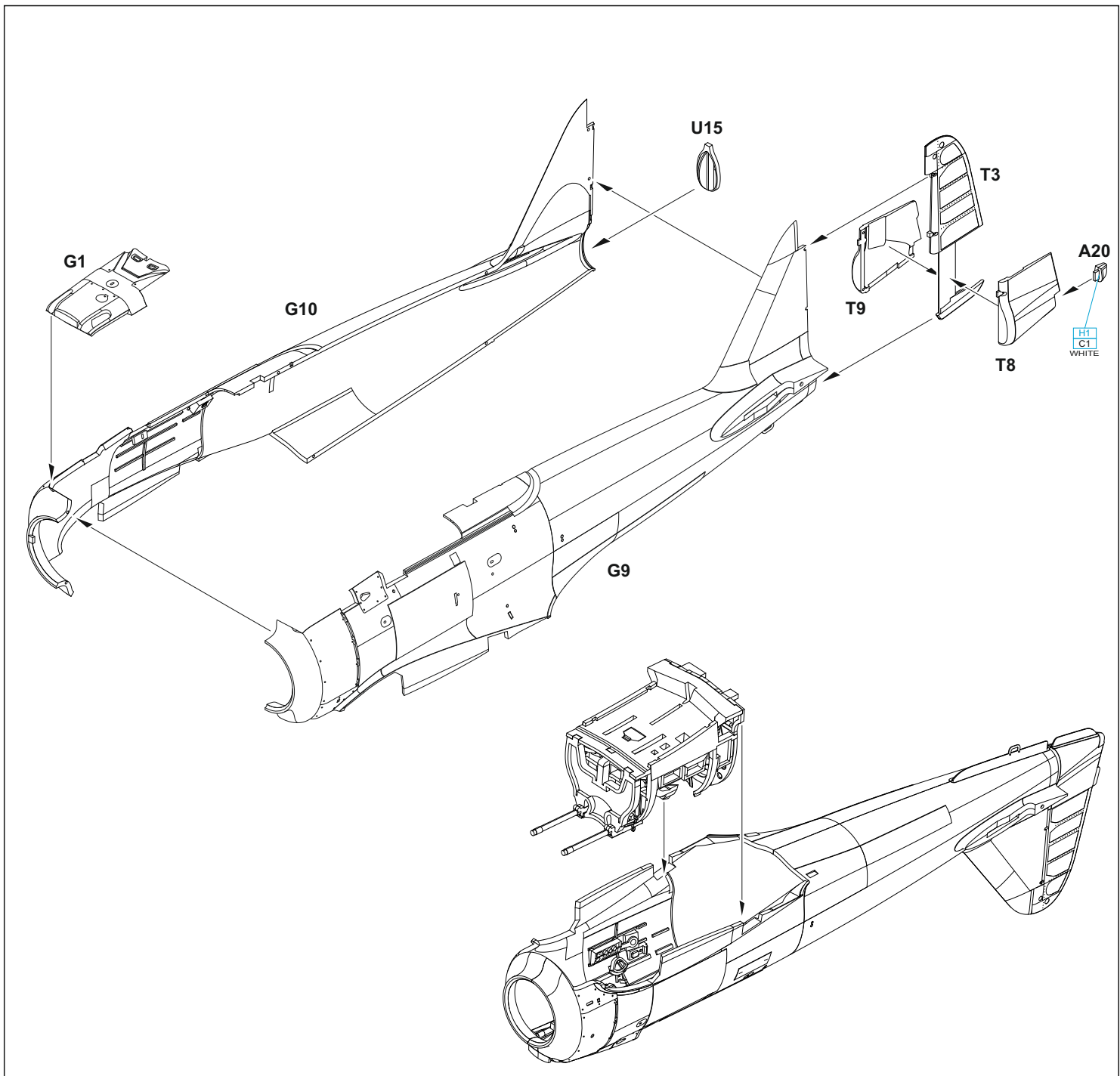
GSi Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H2	C2	BLACK
H3	C3	RED
H6	C6	GREEN
H8	C8	SILVER
H11	C62	FLAT WHITE
H12	C33	FLAT BLACK
H24	C58	ORANGE YELLOW
H25	C34	SKY BLUE
H47	C41	RED BROWN
H53	C13	GRAY
H59	C15	IJN GREEN
H70	C60	GRAY
H77	C137	TIRE BLACK
H90	C47	CLEAR RED

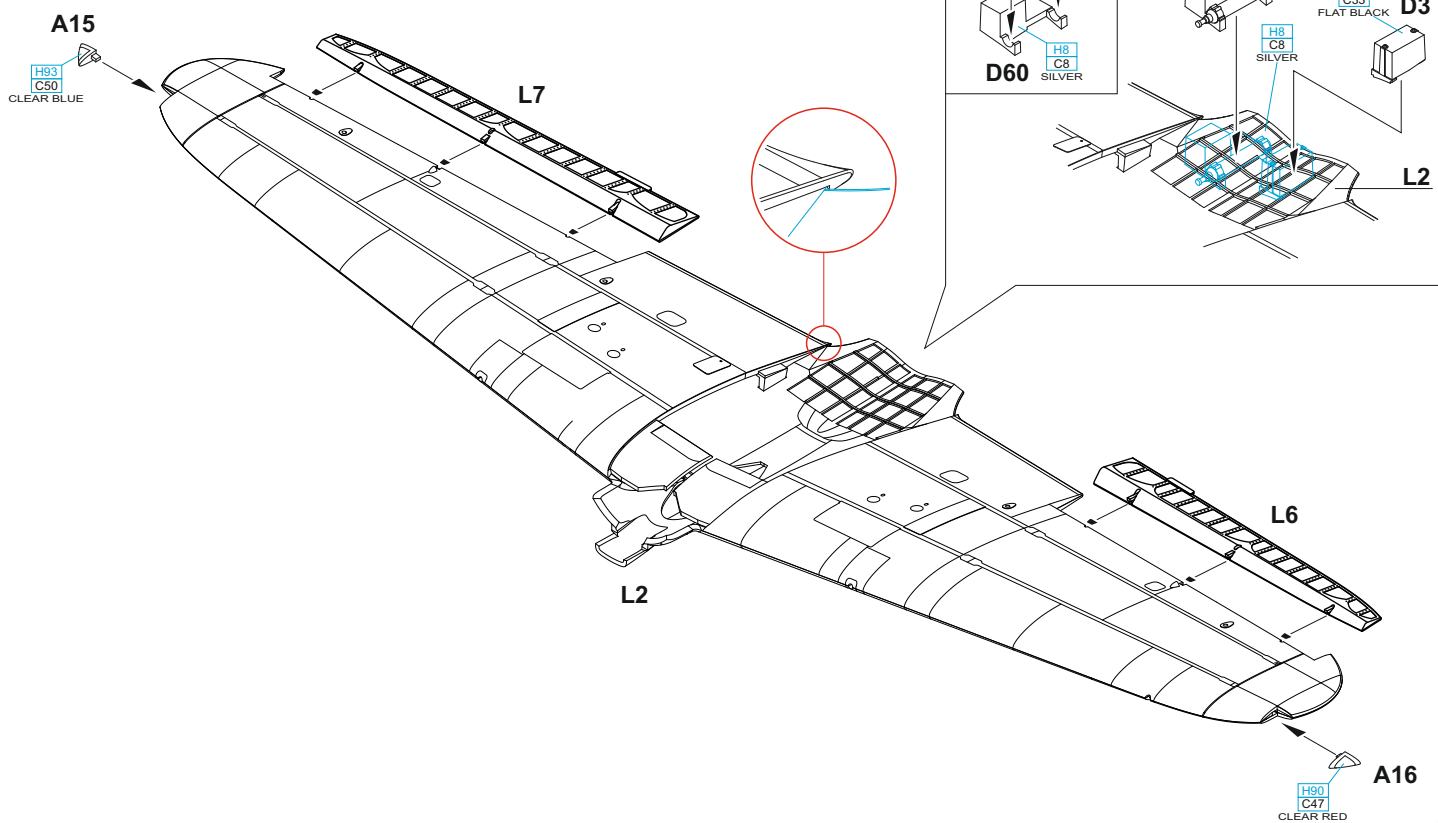
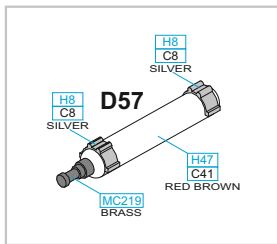
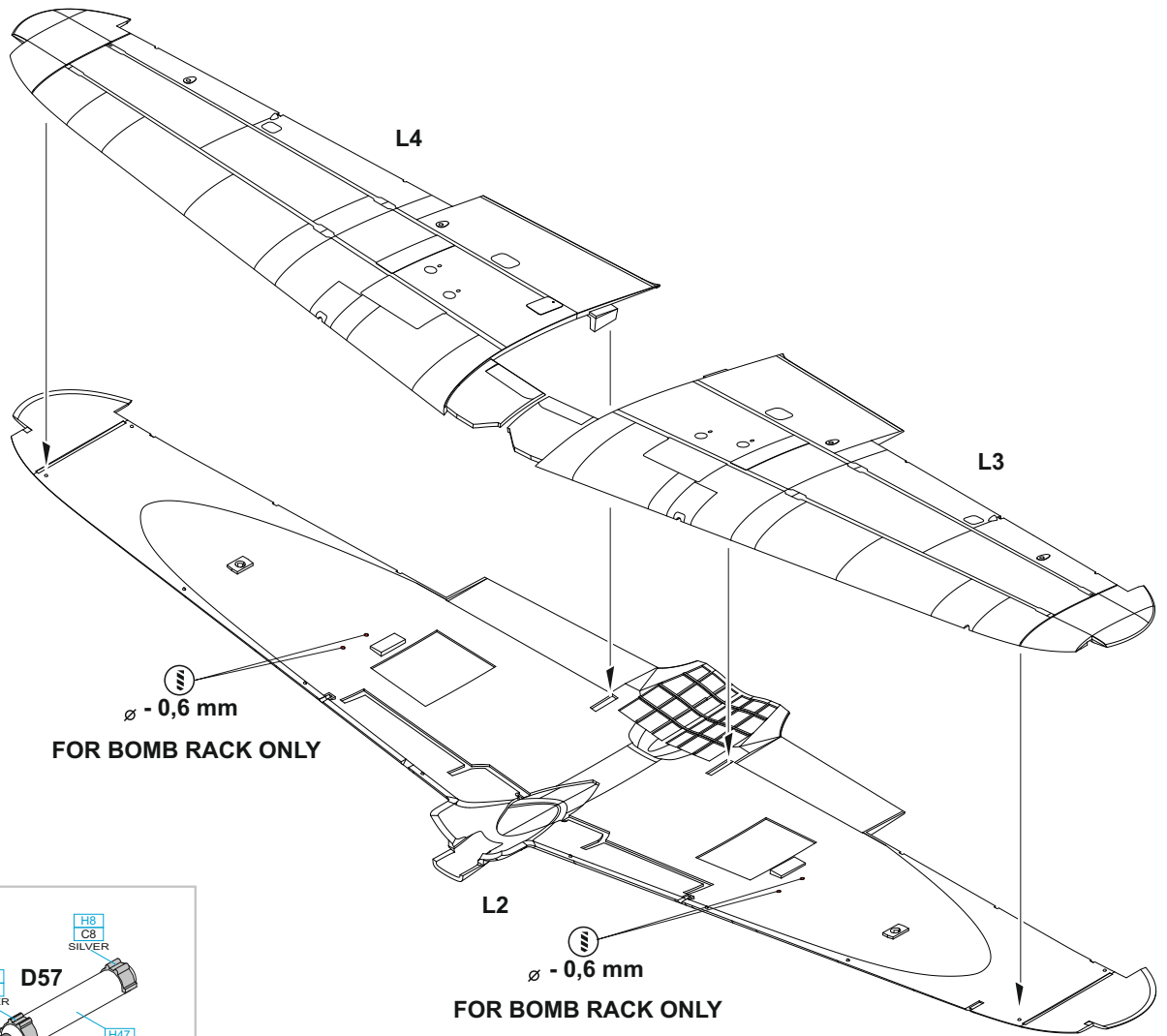
GSi Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H93	C50	CLEAR BLUE
H324	C324	LIGHT GRAY
H336	C336	HEMP
H340	C340	FIELD GREEN
H417	C117	LIGHT BLUE
	C125	COWLING COLOR
	C131	RED BROWN
Mr.METAL COLOR		
MC214		DARK IRON
MC218		ALUMINIUM
MC219		BRASS
Mr.COLOR SUPER METALLIC		
SM201		SUPER FINE SILVER

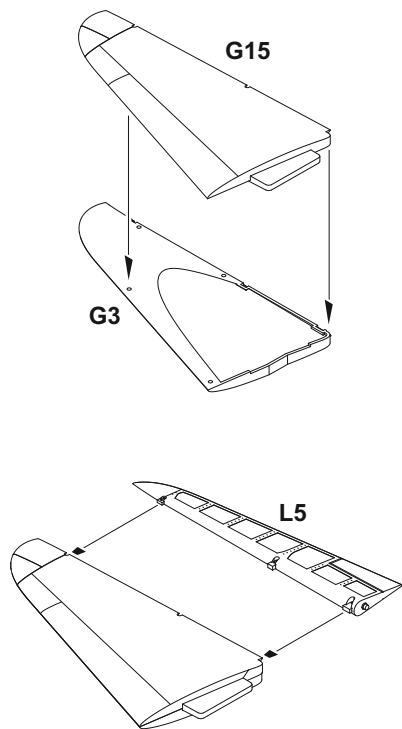
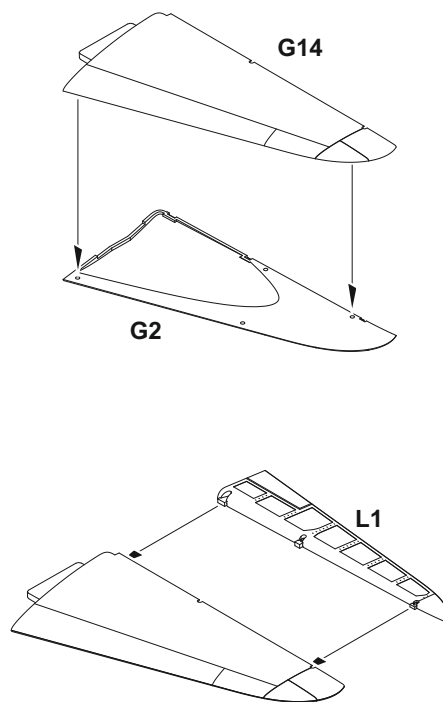
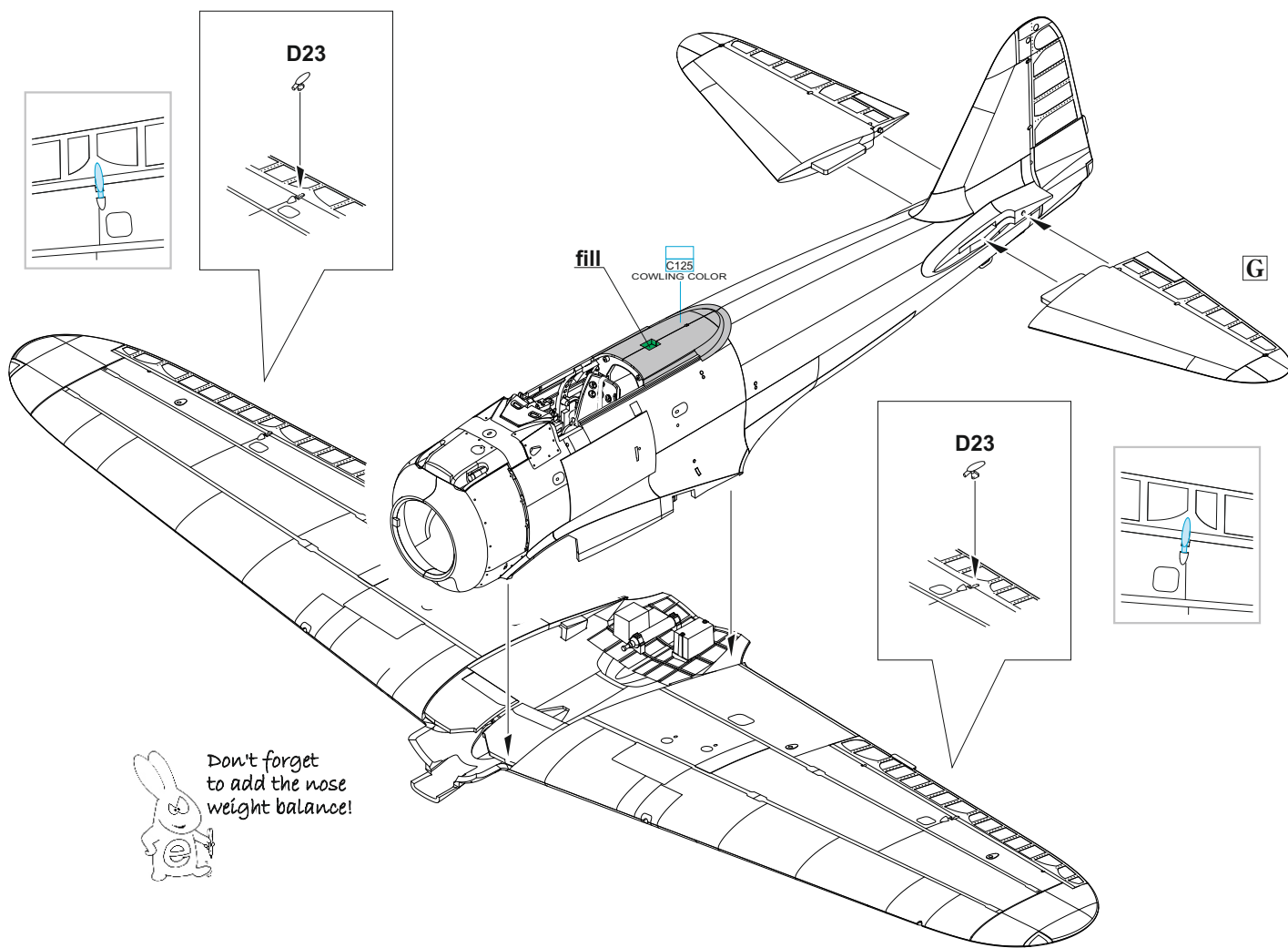






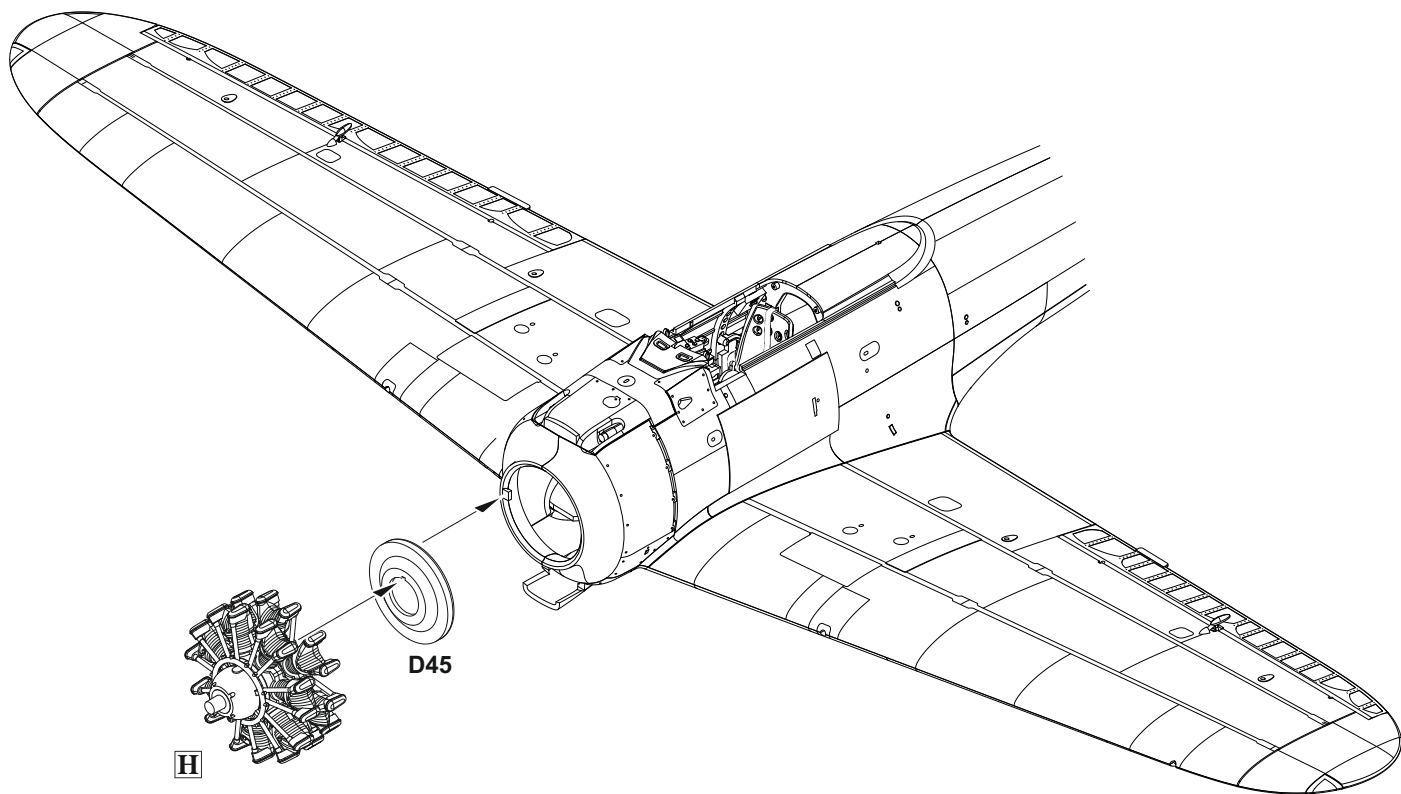
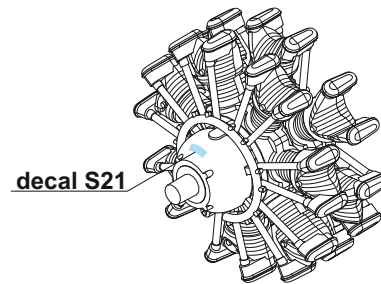
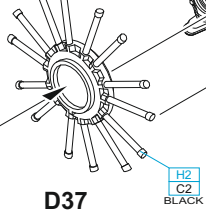
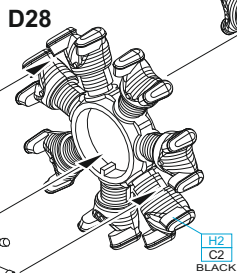
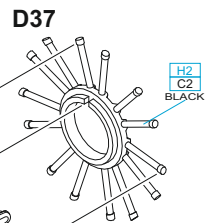
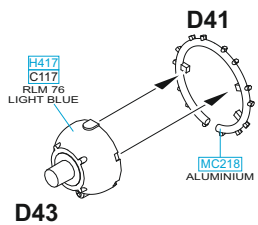




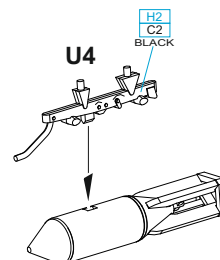
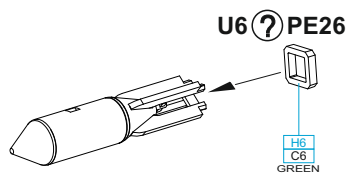
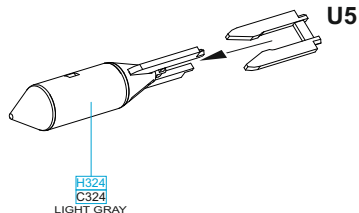
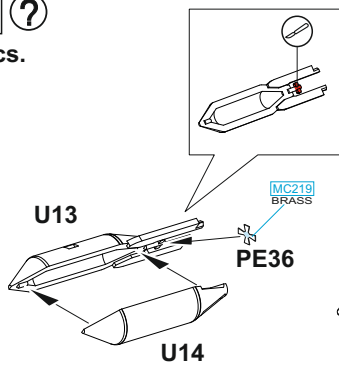
F**G****F**

Don't forget
to add the nose
weight balance!

H

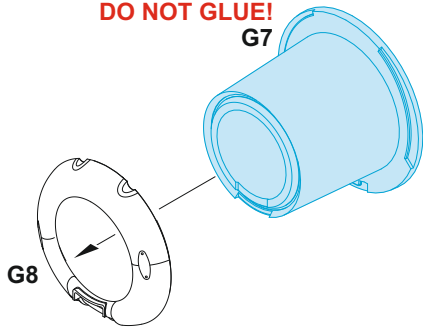


I ?
2 pcs.



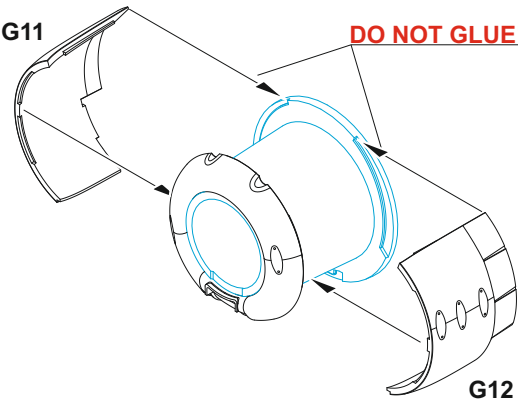
J

DO NOT GLUE!



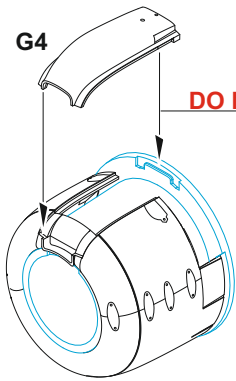
G11

DO NOT GLUE!

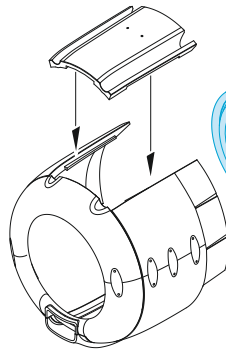


G4

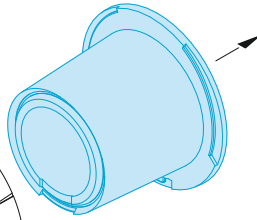
DO NOT GLUE!



step 2
G13



step 1
G7



G16

MC214
DARK IRON

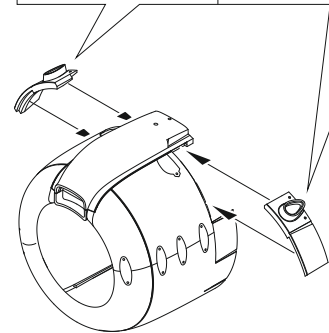
G6



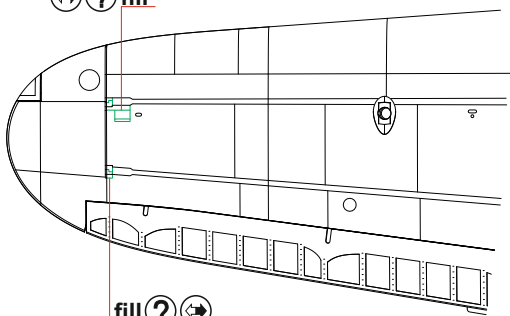
G17

MC214
DARK IRON

G5



fill ?

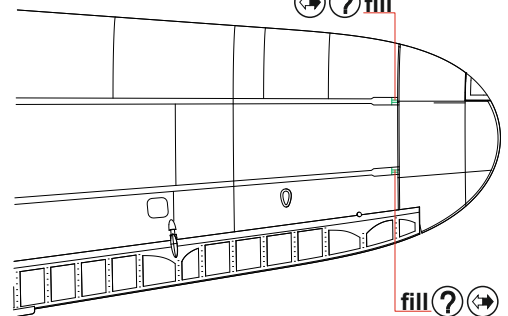


fill ?

fill - MARKINGS **C, F, G, H** ONLY

BOTTOM

fill ?

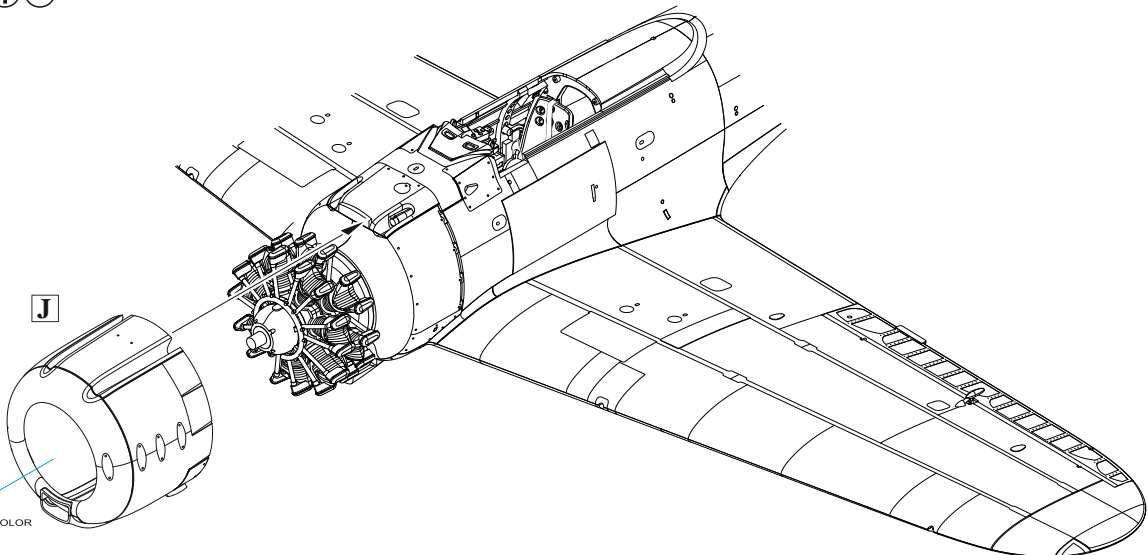


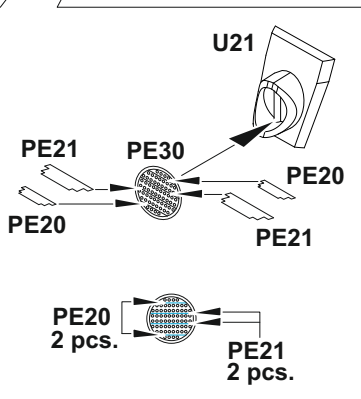
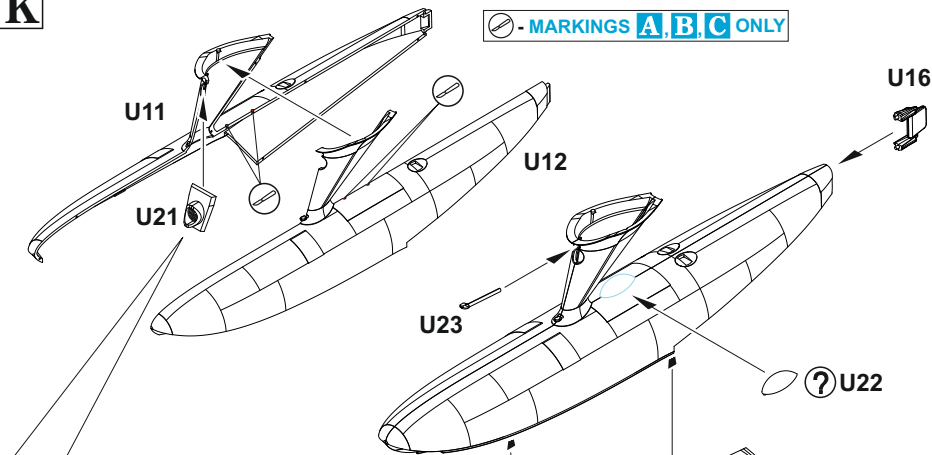
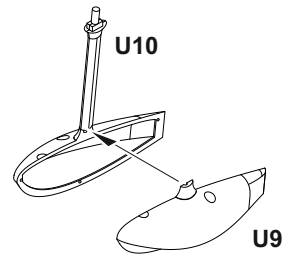
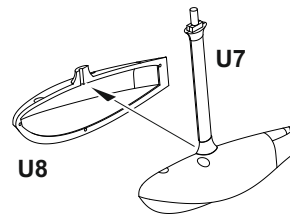
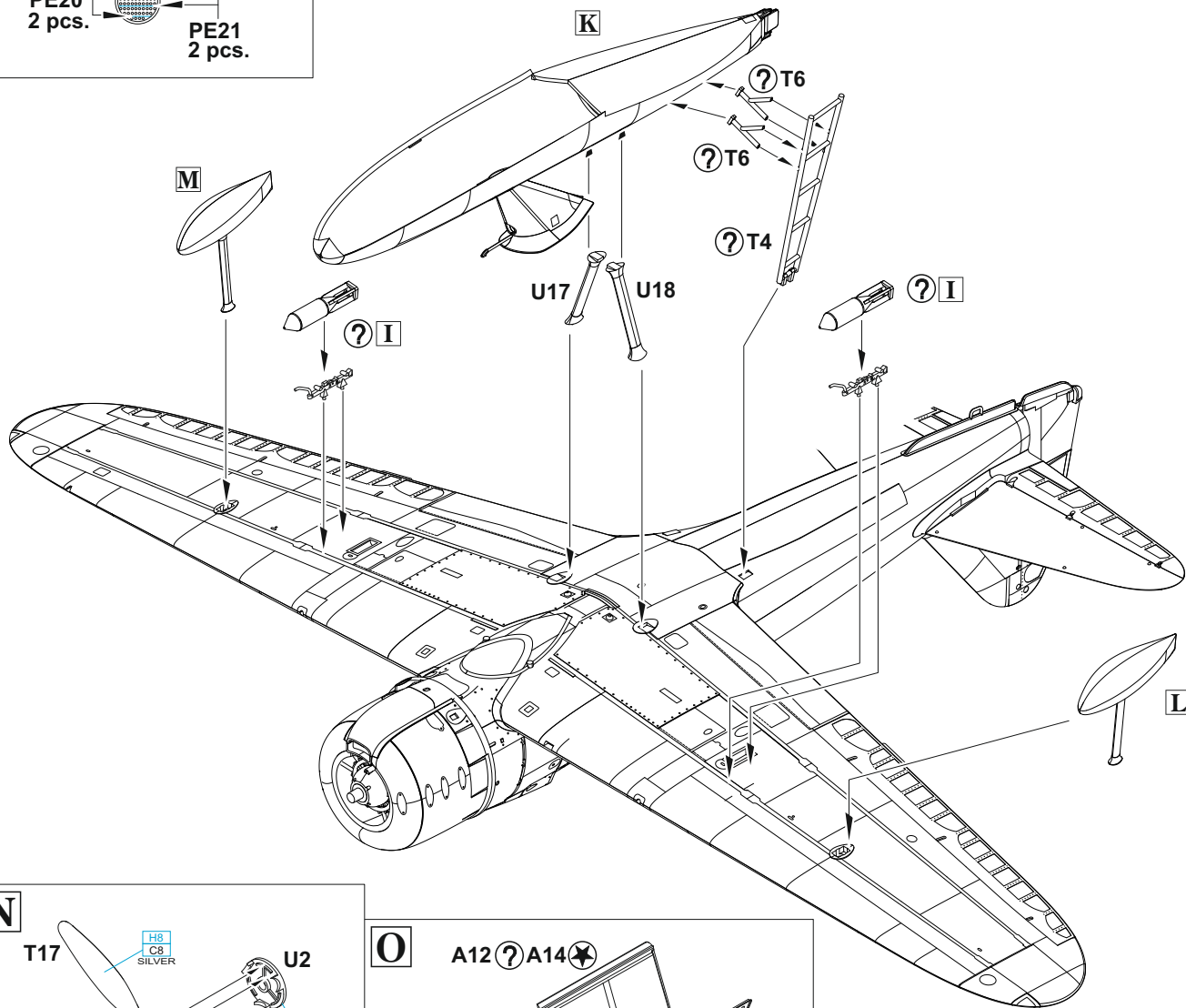
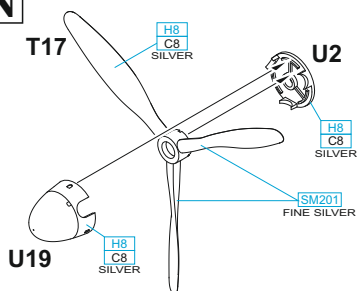
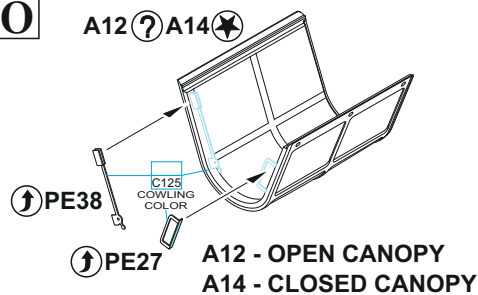
fill ?

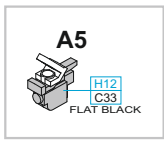
TOP

J

C125
COWLING COLOR

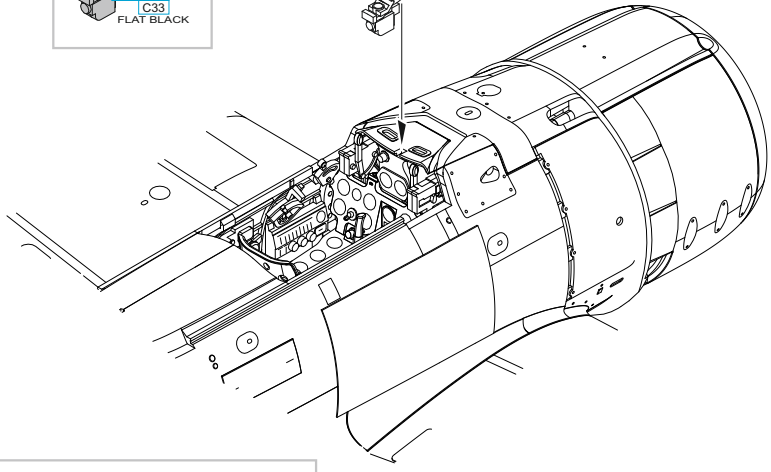


K- MARKINGS **A, B, C** ONLYU22 - MARKINGS **A, B, C** ONLY**L****M****K****N****O**A12 - OPEN CANOPY
A14 - CLOSED CANOPY

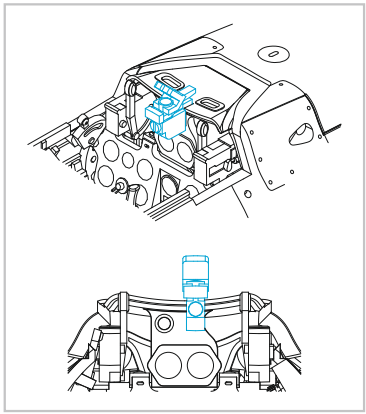
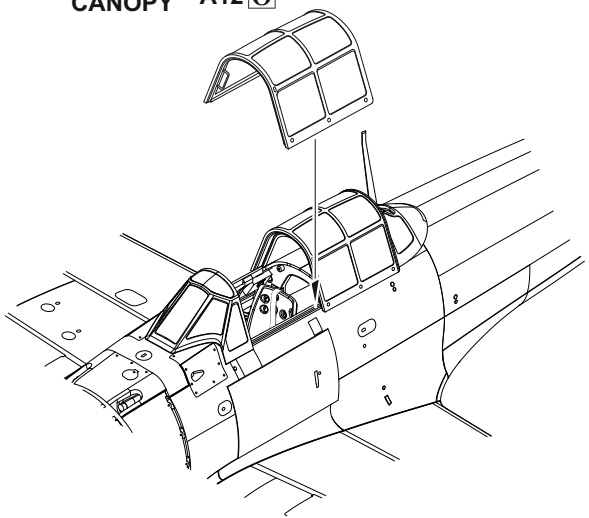


PE16
H12
C33
FLAT BLACK

A5

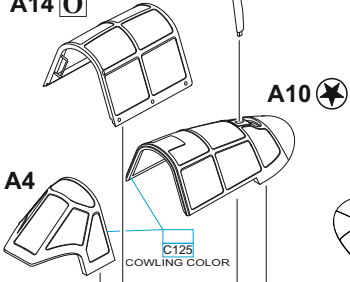


OPEN CANOPY A12 O



CLOSED CANOPY D53

A14 O



A1
H93
C50
CLEAR BLUE

A1
H93
C50
CLEAR BLUE

C125
COWLING COLOR

A1
H90
C47
CLEAR RED

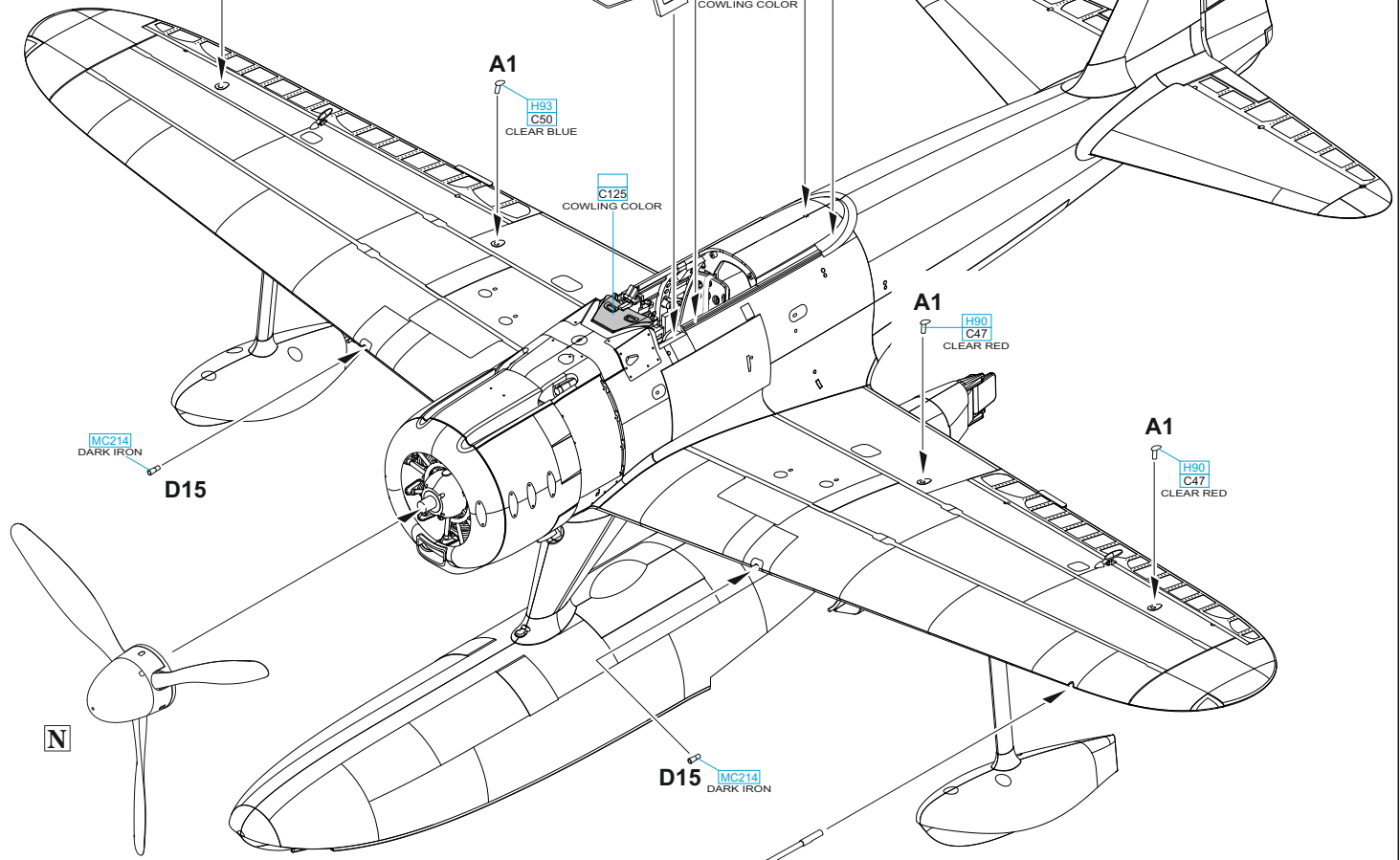
A1
H90
C47
CLEAR RED

MC214
DARK IRON

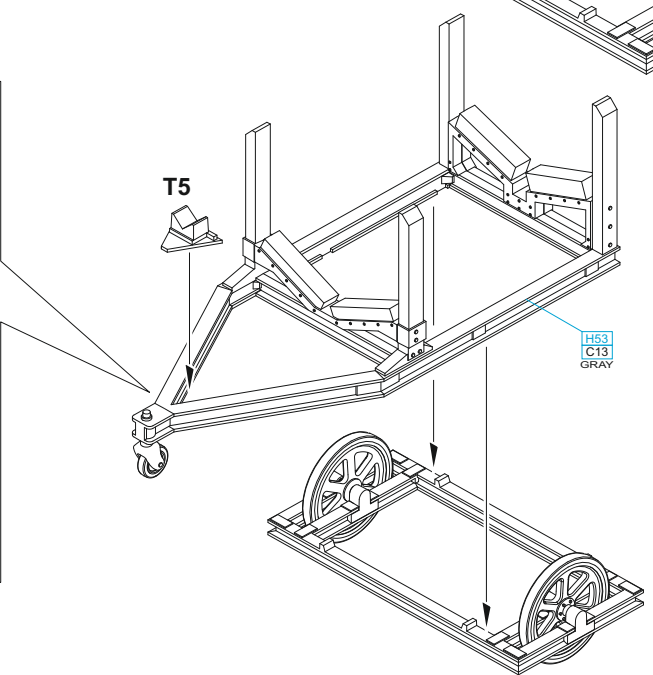
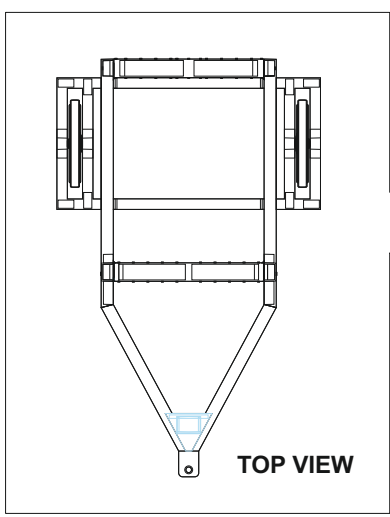
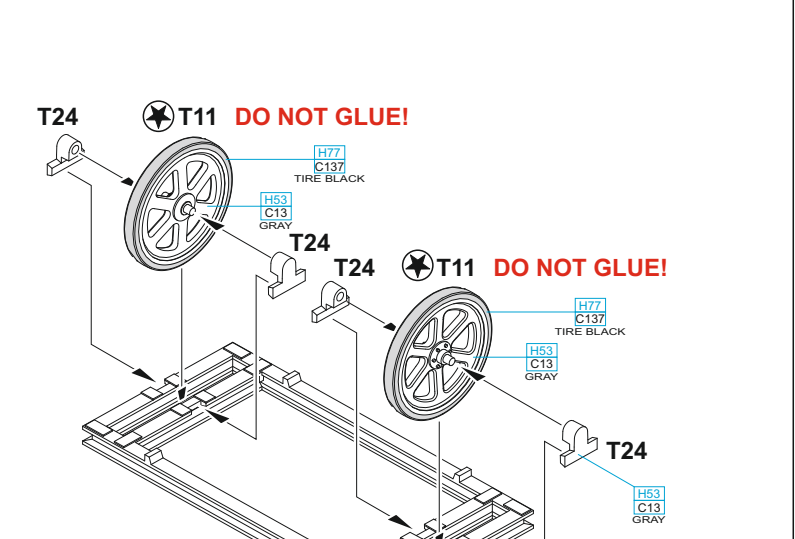
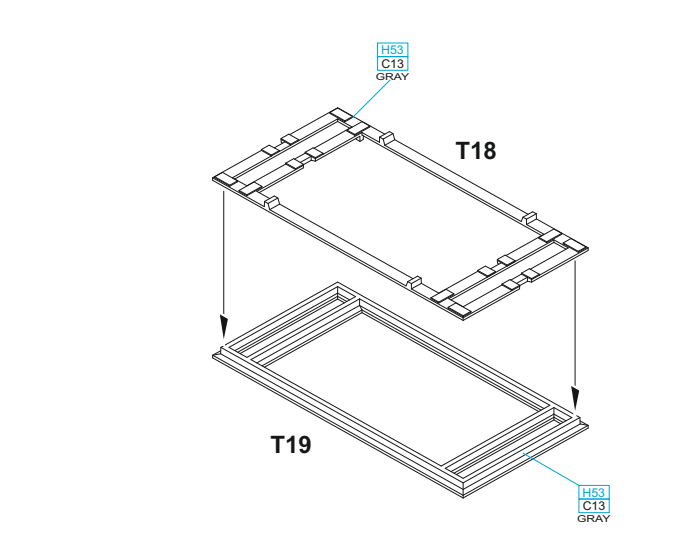
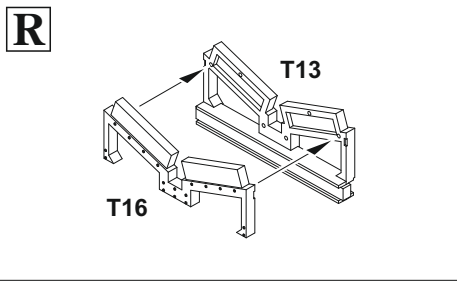
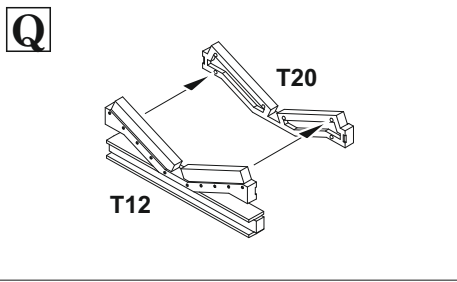
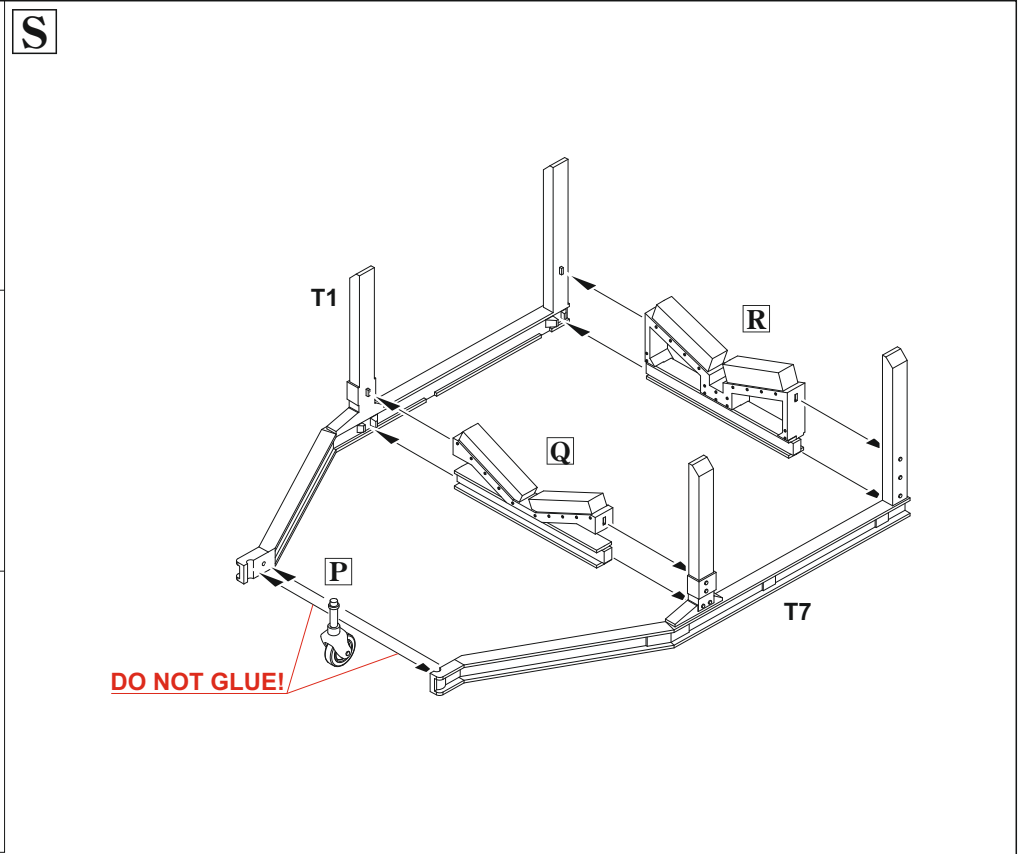
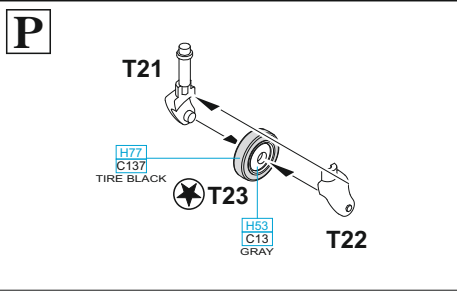
D15

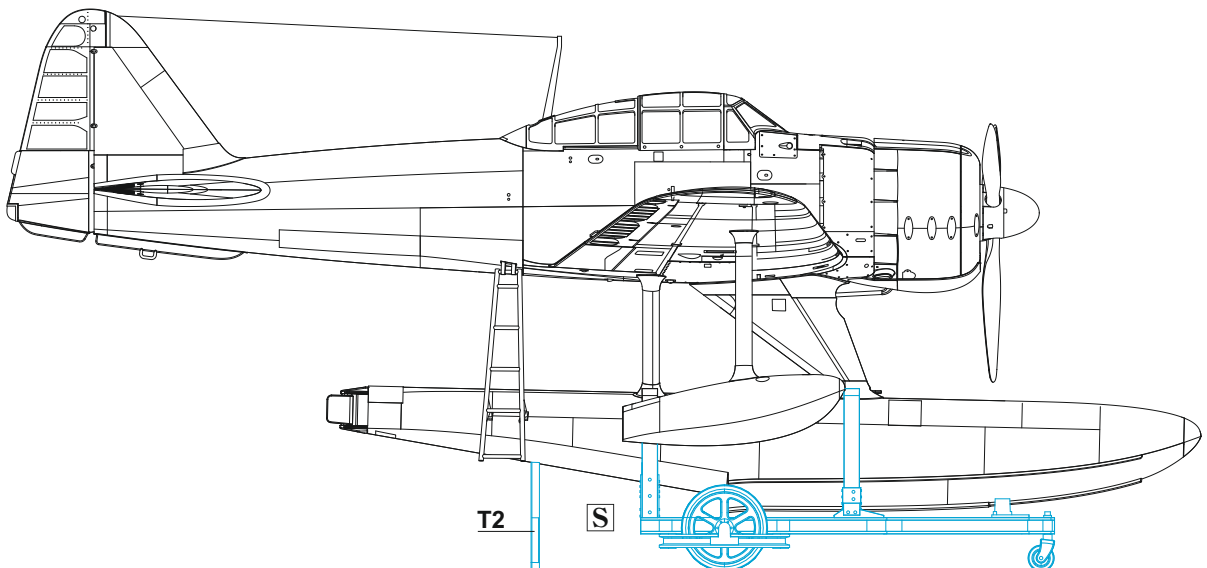
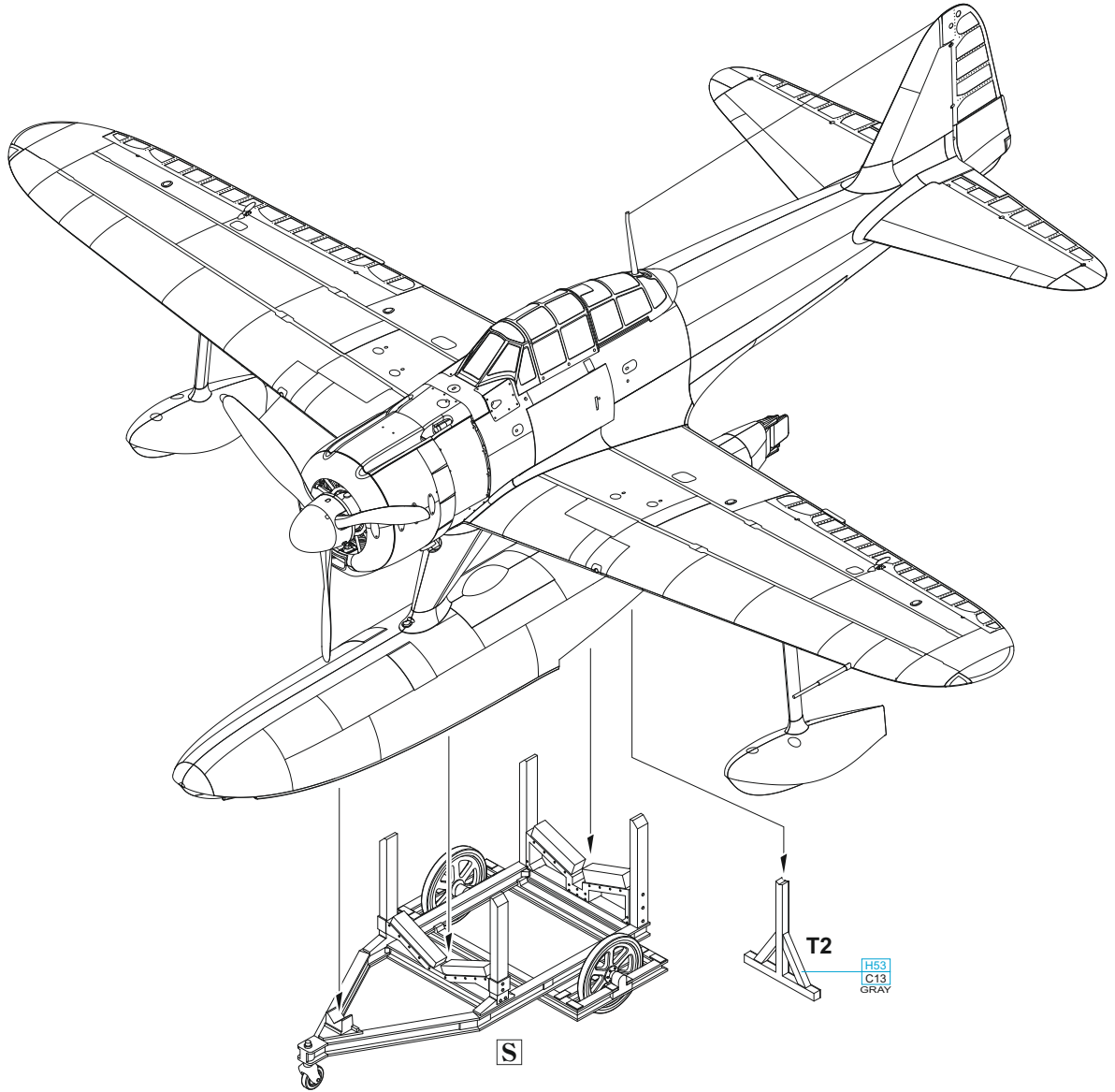
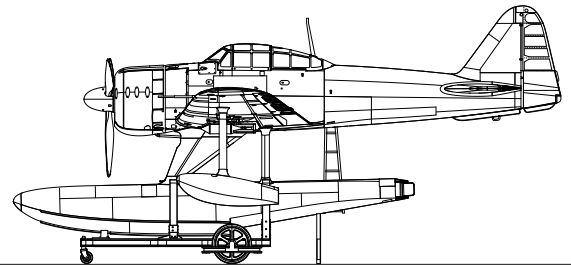
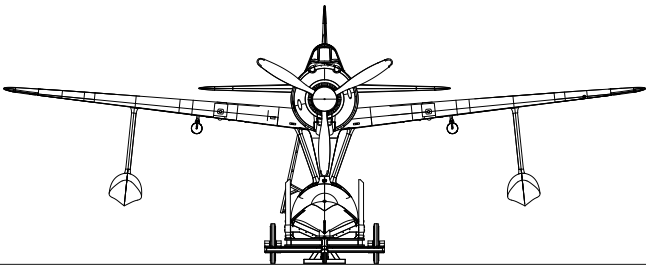
D15 MC214
DARK IRON

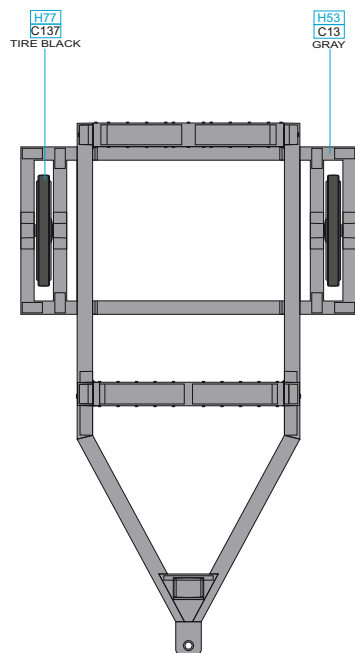
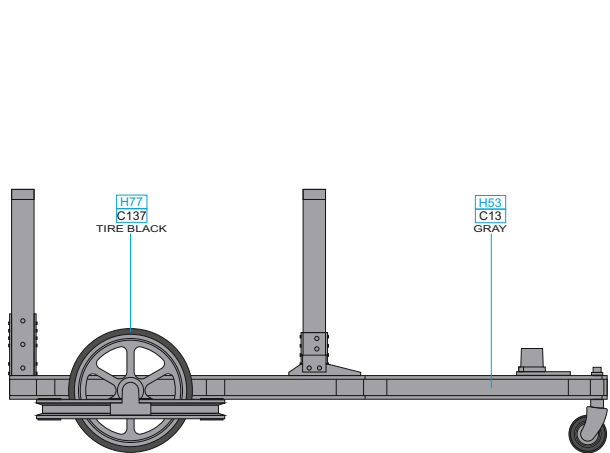
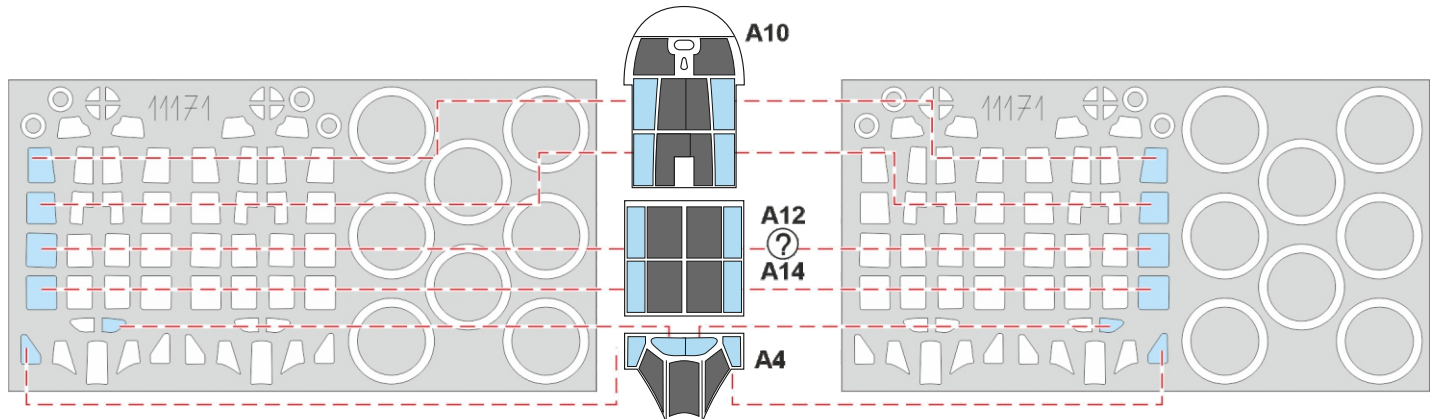
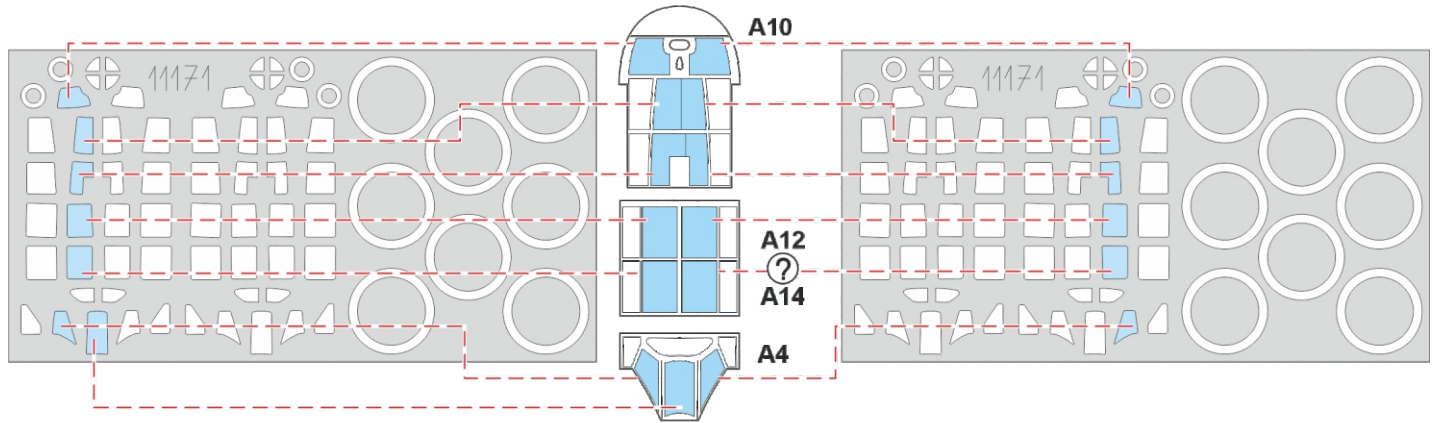
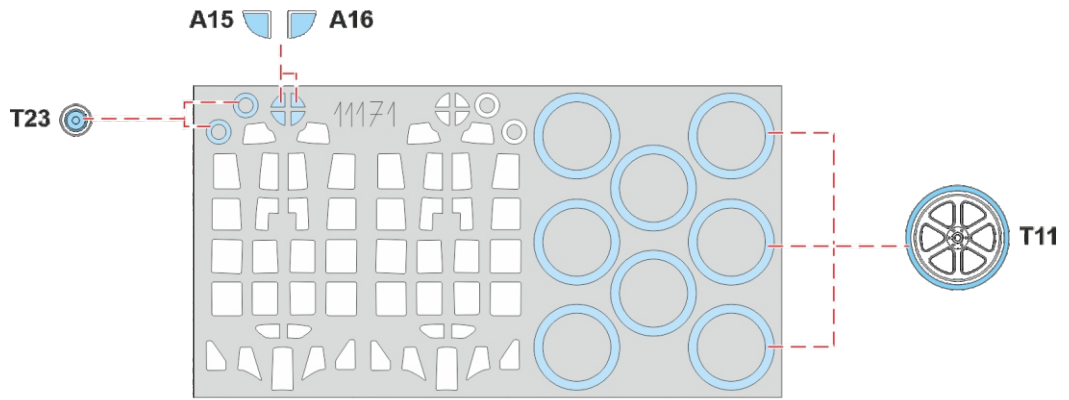
D52 MC218
ALUMINIUM



N

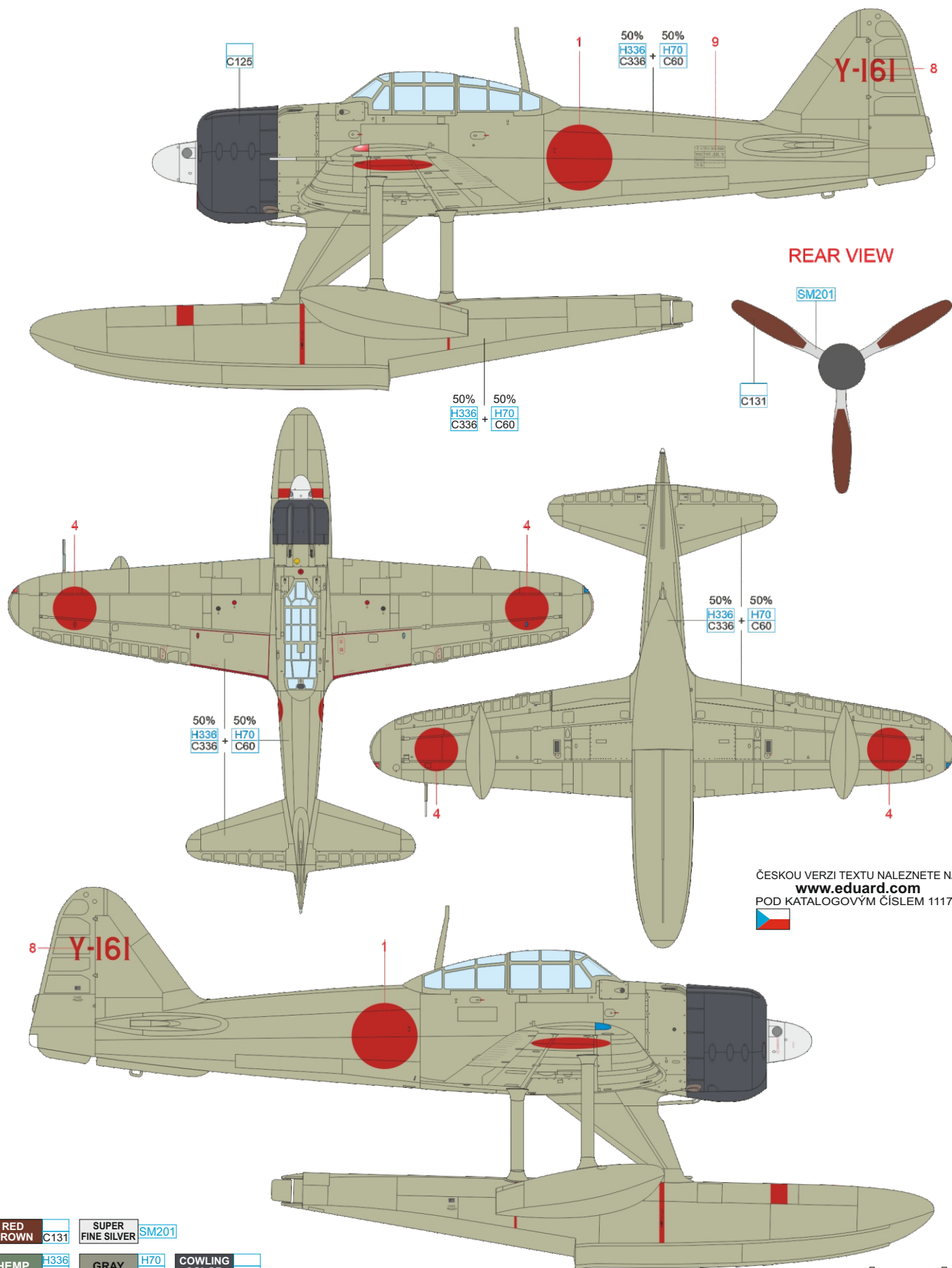






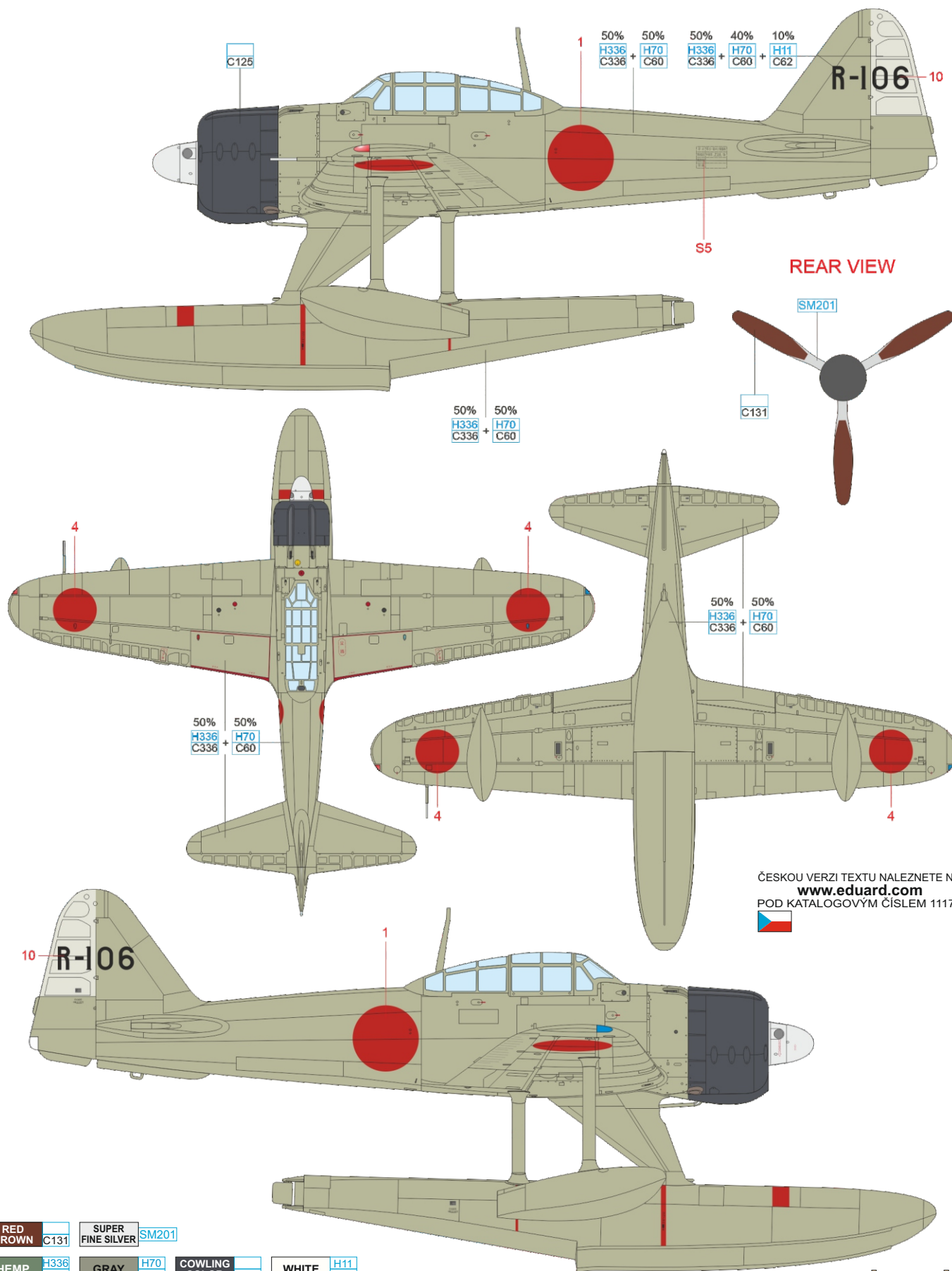
A Yokohama Kōkūtai, Tulagi Island, Solomon Islands, August 1942

This plane is early production Rufe with purge system cover on the top of the main float and with folding wingtips. The commander of the fighter unit, which was part of the Yokohama Kōkūtai, was Lt. Ri-ichirō Satō. He was born in Sendai, Miyagi Prefecture and graduated from Etajima Naval Academy in 1938 in its 66th class. He was promoted to Lieutenant junior grade in November 1940 and received rank of Lieutenant when he was assigned to the Yokohama Kōkūtai in May 1942. From early July his unit was based on Tulagi Island off Guadalcanal. Their adversaries were American Flying Fortress bombers and Liberators. His unit claimed five victories. Satō, in cooperation with other pilots, claimed one certain and one probable victory over a B-17. After the Allied invasion of Guadalcanal on August 7, 1942, most of the Yokohama Kōkūtai pilots were killed in ground combat, including Satō. USMC technicians found on Tulagi Island ten Rufe wrecks and took two, including the Y-161, to the U.S. Naval Air Station Alameda for research.



B 5th Kōkūtai, Kiska island, Aleutians, August 1942

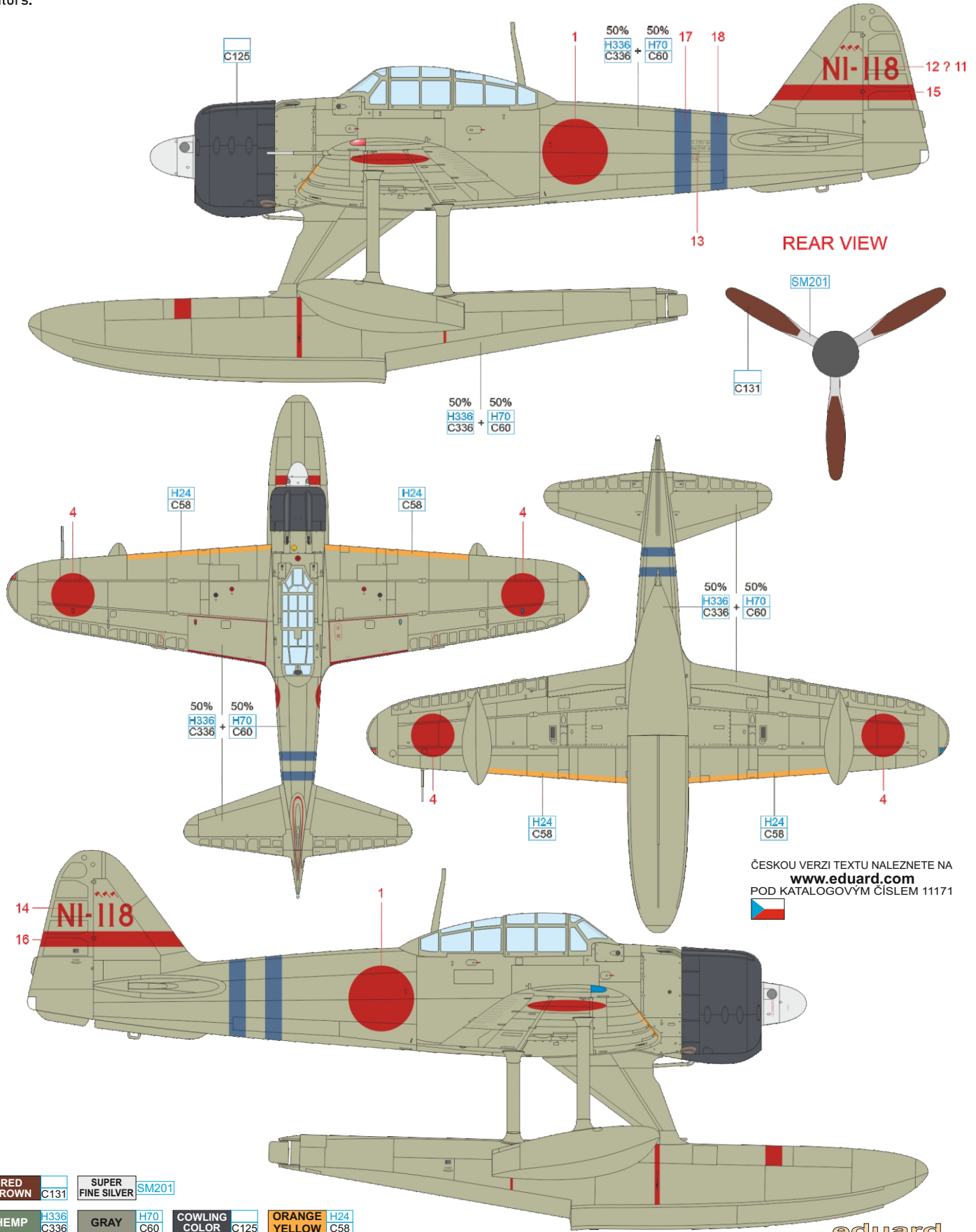
This plane is early production Rufe with purge system cover on the top of the main float and with folding wingtips. Rudder and probably other canvas-covered control surfaces had lighter color shade. The aircraft of this fighter unit successively bore at least four different markings on their tail surfaces, depending on how this unit was designated and subordinated to different commands. Its most successful fighter pilot was the CPO Gi-ichi Sasaki. He came from Miyagi Prefecture and joined the Navy in 1937. Sasaki became a pilot of two-seat float planes and participated in combat in China. He took part in the conquest of the Philippines and the Dutch East Indies on board of the Mizuho seaplane tender. After its sinking, he was assigned to the Tōkō Kōkūtai in the Aleutians, which was eventually renamed the 5th Kōkūtai and then to Kōkūtai 452. He achieved a total of four individual victories - five shared and one aircraft credited shared as probably destroyed. He was killed on February 19, 1943, over Amchitka Island in a dogfight with a Curtiss P-40 pilot.



- | | | | |
|---------------|--------------|-------------------|------------|
| RED BROWN | C131 | SUPER FINE SILVER | SM201 |
| HEMP | H336
C336 | GRAY | H70
C60 |
| COWLING COLOR | C125 | WHITE | H11
C62 |

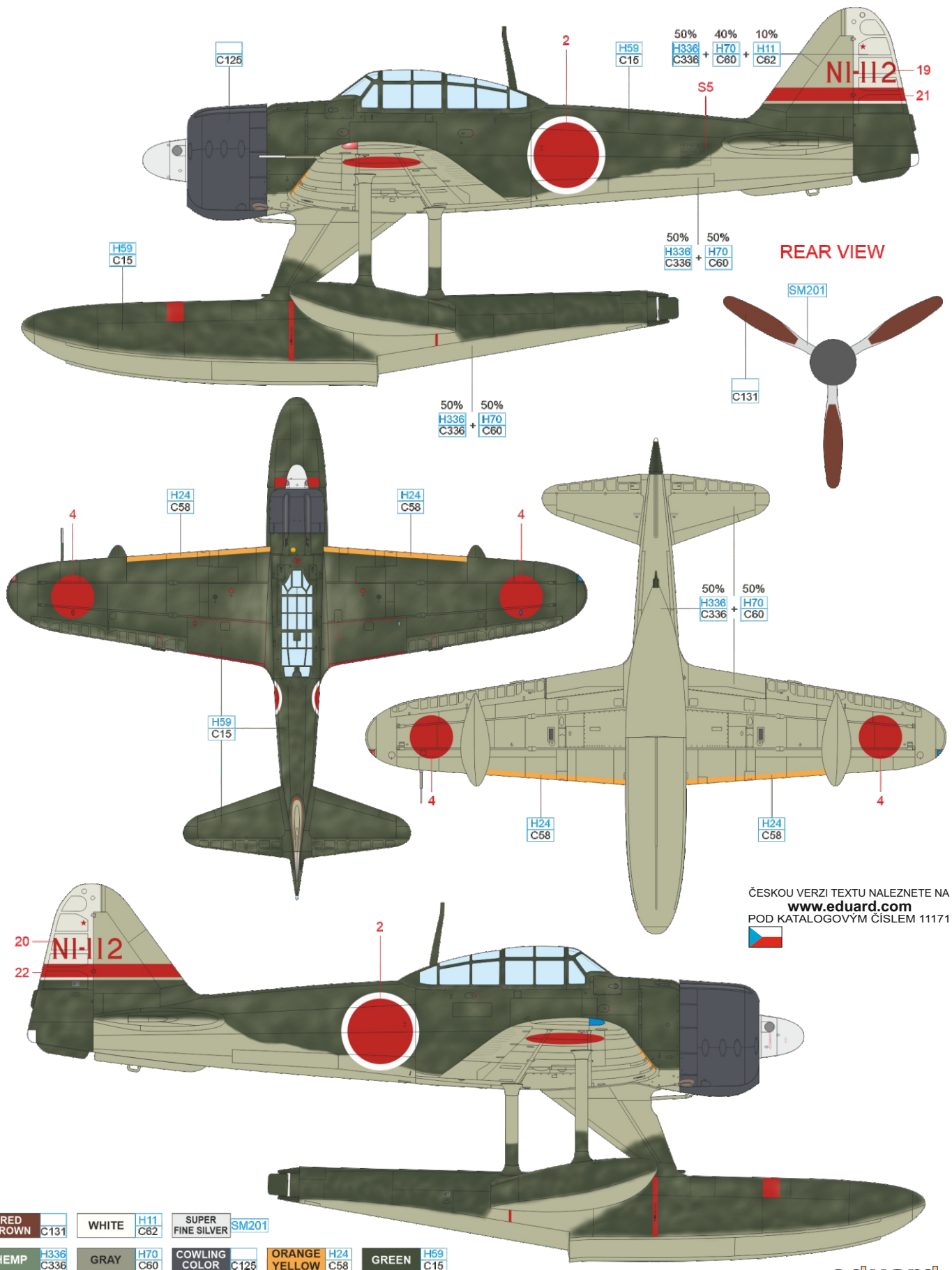
C c/n 15, Lt.(jg) Keizō Yamazaki, Kōkūtai 802, Shortland Island, February 1943

This is the fifth A6M2-N produced and is one of the few Rufes converted from the A6M2 Type 21 carrier fighter. This plane had purge system cover on the top of the main float and folding wingtips. It was one of two Yokohama Kōkūtai seaplanes that were based in Shortland during August 7, 1942, when the rest of the unit was destroyed on Tulagi Island. Rufe was then taken over by the air unit of the Kamikawa Maru, and in October 1942 it was taken over by 14th Kōkūtai (Kōkūtai 802). It is possible that the two bands on the fuselage were in fact grey, obscuring the original white markings of the Kamikawa Maru. In March 1943, this machine was transferred to Marshall Islands. The tail surfaces are marked with victories achieved by several pilots, including Lt.(jg) Keizō Yamazaki, who achieved a probable kill of P-38 of the 339th FS on February 13 during the defense of Shortland. Yamazaki was born in Odawara, Kanagawa Prefecture. He graduated from the Etajima Naval Academy in its 68th class in 1940 and completed his flight training in June 1942. After his unit was integrated into Kōkūtai 902, he was promoted to the rank of Lieutenant in November 1943. In February 1944, he became commander of Kōkūtai 256's fighter unit equipped with Zeros based in Shanghai. During the fall of 1944 he led his unit in Taiwan during air battles against U.S. Navy aviators.



D Kōkūtai 802, Faisi-Poporang base, Shortland Islands, February 1943

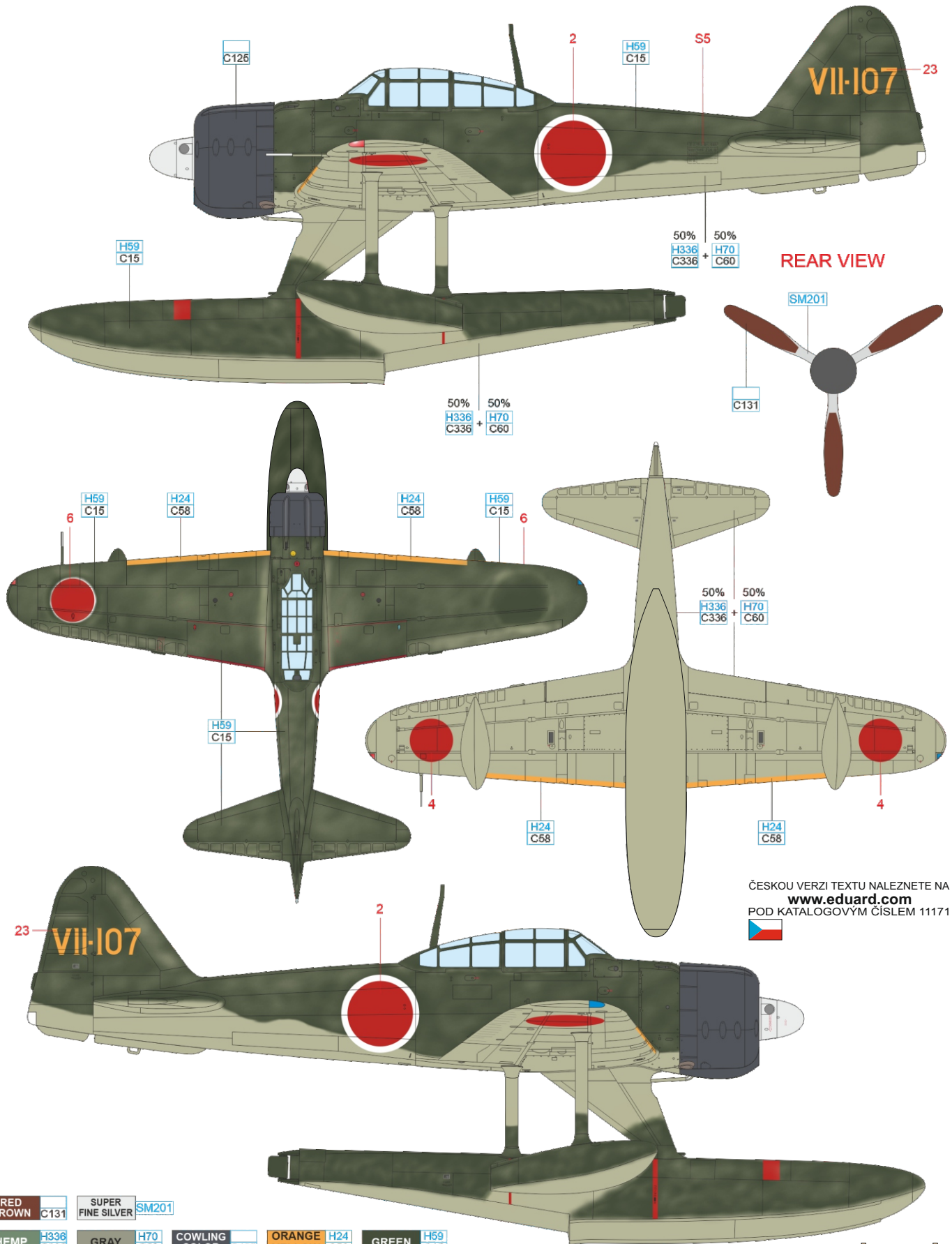
This aircraft was among the new ones that Kōkūtai 802 took over in Japan during December 1942. The top of the main float did not have purge system cover. At the unit level, the aircraft received a dark green paint, but the upper part of tail surfaces was left in original color. The aircraft probably had a late production stencil on the fuselage. The rudder sported a victory mark and there was also a horizontal red stripe on the vertical tail surfaces, which was probably the unit's identifying marking. It is likely that the aircraft took part in the aerial combat on February 13 and 14 in the defense of the Shortland Islands and Buin, in which the American units suffered fairly significant losses.



RED BROWN	C131	WHITE	H11 C62	SUPER FINE SILVER	SM201
HEMP	H336 C336	GRAY	H70 C60	COWLING COLOR	C125
		ORANGE YELLOW	H24 C58	GREEN	H59 C15

E Kōkūtai 452, Bettobi Lake, Shumshu Islands, Kuriles, July 1943

This aircraft was taken over by Kōkūtai 452 in Japan after evacuation from Aleutians. The top of the main float did not have purge system cover. At the unit level, the aircraft received a coat of dark green paint. The aircraft probably had a late production stencil on the fuselage. Among the successful pilots of this unit was Warrant Officer Kiyomi Katsuki. He served on the seaplane tender Chitose at the start of the Pacific War as a F1M biplane pilot. In January 1942, he claimed shared destruction of Dutch PBV flying boat. In the Solomon Islands area, he shot down a Dauntless on October 3 and during the following day, while defending his own ship, he rammed a B-17 of the 72nd BS. The entire crew of Capt. David C. Everitt was killed, but Katsuki and his observer survived. Katsuki received a written commendation from the unit commander. He achieved two more victories during the same day. After retraining to A6M2-N, he was assigned to Kōkūtai 452 and claimed B-25 and B-24. With N1K Rex at Kōkūtai 934 he shot down a B-24 in January 1944. He achieved two more victories as Zero pilot with Kōkūtai 381 over Balikpapan and Singapore. At the end of the war, he served with Kōkūtai 352 in Japan.



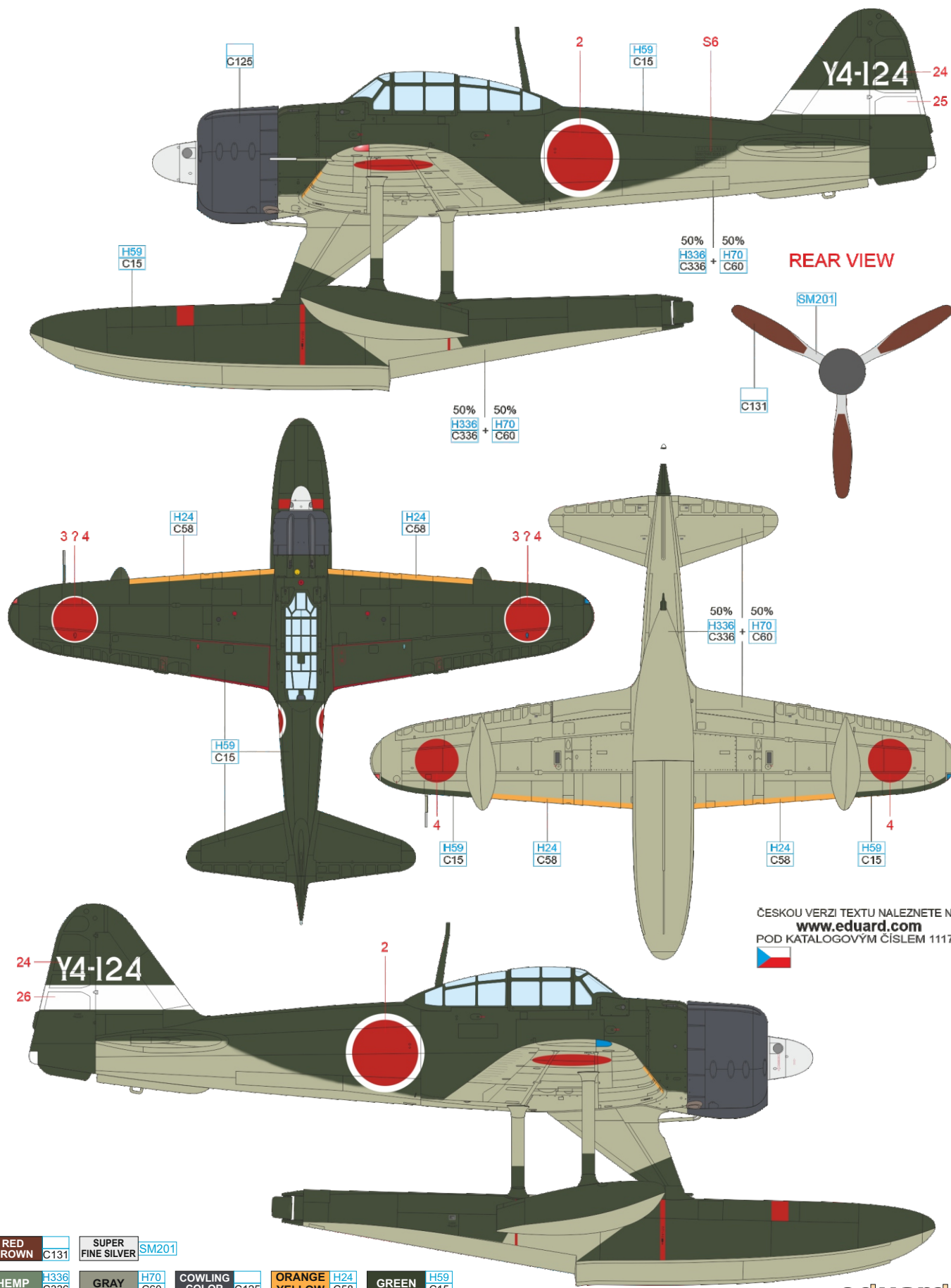
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- RED BROWN C131
- SUPER FINE SILVER SM201
- HEMP H336 C336
- GRAY H70 C60
- COWLING COLOR C125
- ORANGE YELLOW H24 C58
- GREEN H59 C15

F Kōkūtai 802, Emidj Island, Jaluit Atoll, Marshall Islands, October 1943

This late production aircraft was finished in a factory applied dark green paint. After relocation to the Marshall Islands area in March 1943, Kōkūtai 802 under the command of Lt.(jg) Yamazaki was primarily engaged in anti-submarine patrols and the pursuit of four-engine bombers. Long-range reconnaissance was carried out by another part of this unit, which was armed with H8K Emily flying boats. In September 1943, the designation of its aircraft was changed to Y4 in connection with the transition to the subordination of the 22nd Kōkū Sentai (Air Flotilla). The identification markings on the tail surfaces of Rufe seaplanes changed from red to white during service in the Marshall Islands. In October, fighter unit of Kōkūtai 802 was integrated into Kōkūtai 902, and in November, the fighter unit clashed with US Navy aircraft during a raid on Truk.

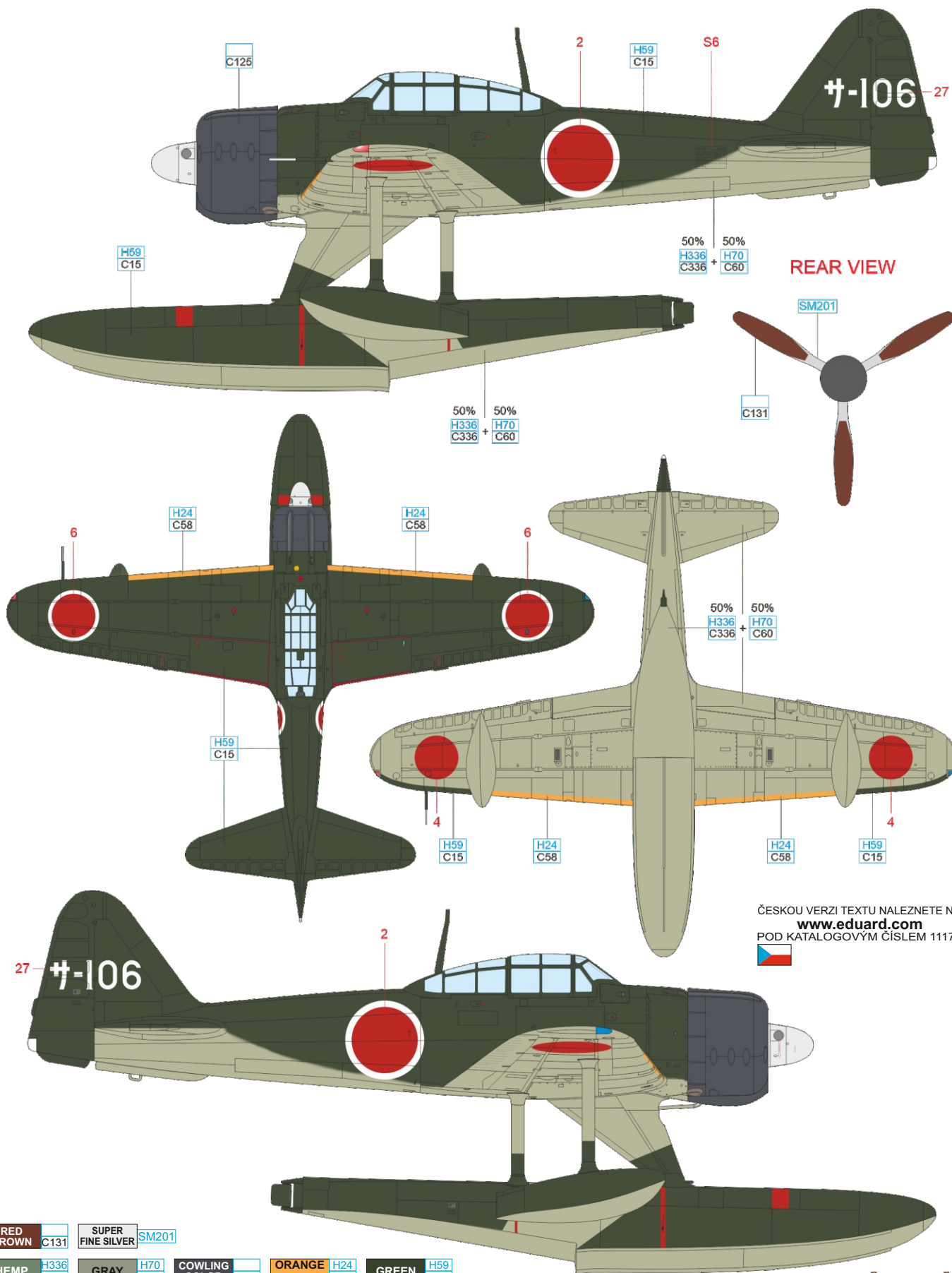


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RED BROWN	C131	SUPER FINE SILVER	SM201
HEMP	H336 C336	GRAY	H70 C60
COWLING COLOR	C125	ORANGE YELLOW	H24 C58
		GREEN	H59 C15

This late production aircraft was finished in a factory applied dark green paint. After participating in the defense of Chichijima in July 1944, Sasebo Kōkūtai continued seaplane pilot training in Japan. The Sa-106 was flown by Ensign Ozawa. He joined the Navy in 1943 after graduating from high school and received his flight training at Tsuchiura Kōkūtai. On October 30, 1944, while practicing a fighter dogfight between two Rufe seaplanes, Ozawa had to bail out from his aircraft when the elevator control cable broke. He almost did not survive the bailing out. At the end of the year, the Sasebo Kōkūtai's fighter Buntai was transferred to land-based fighter unit. During the fighting over Okinawa on June 22, 1945, Ozawa achieved one victory against a formation of more than thirty American aircraft. He was then reassigned to Kōkūtai 723 with C6N Myrt reconnaissance planes and was to conduct a Kamikaze mission on that type of aircraft. After the war he pursued electrical engineering and took part on the first microwave intercity transmission in Japan.



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- RED BROWN C131
- SUPER FINE SILVER SM201
- HEMP H336 C336
- GRAY H70 C60
- COWLING COLOR C125
- ORANGE YELLOW H24 C58
- GREEN H59 C15

H Kōkūtai 934, Ambon island, Moluku Islands, March 1944

This late production aircraft was finished in a factory applied dark green paint. At the unit level the white outline of Hinomaru was repainted to reduce the visibility of the machine. In early 1944 the Kōkūtai 934 was equipped with E13A Jake and F1M Pete observation aircraft and also with Rufe and N1K Rex fighter seaplanes. Their frequent opponents were the Beaufighter crews of No. 31 Sqn. RAAF. One of the Kōkūtai 934 pilots, P02c Hidenori Matsunaga, scored approximately ten Beaufighters as shared victories. In March 1944 he was transferred to Kōkūtai 381 flying Zeros. In some publications, the Rufe with a lightning bolt was considered to be Matsunaga's mount. He was photographed with Rufe (unknown tail code) with similar marking together with another pilot. Design of the lightning bolt varied, and its color was most likely white. The identity of the pilots to whom belonged the seaplanes with lightning is unknown. It could have been a formation leader's machine, or possibly the aircraft of a fighter squadron unit commander Lt.(jg) Toshiharu Ikeda, who scored a victory over a Spitfire with a Rufe. Ikeda later became commander of Hikōtai 603 and was killed on June 23, 1944, at Saipan.

