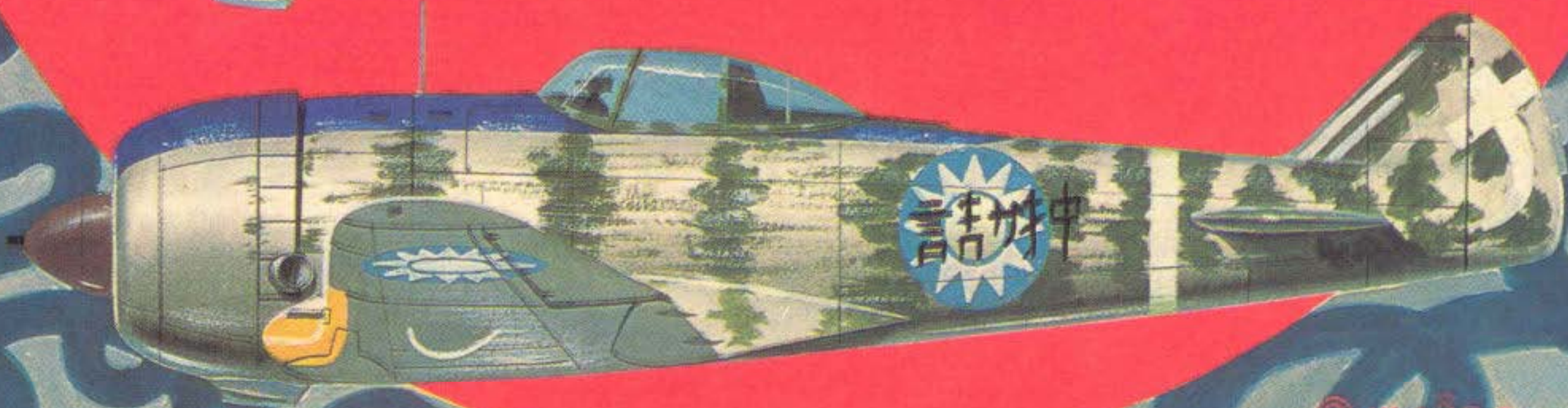
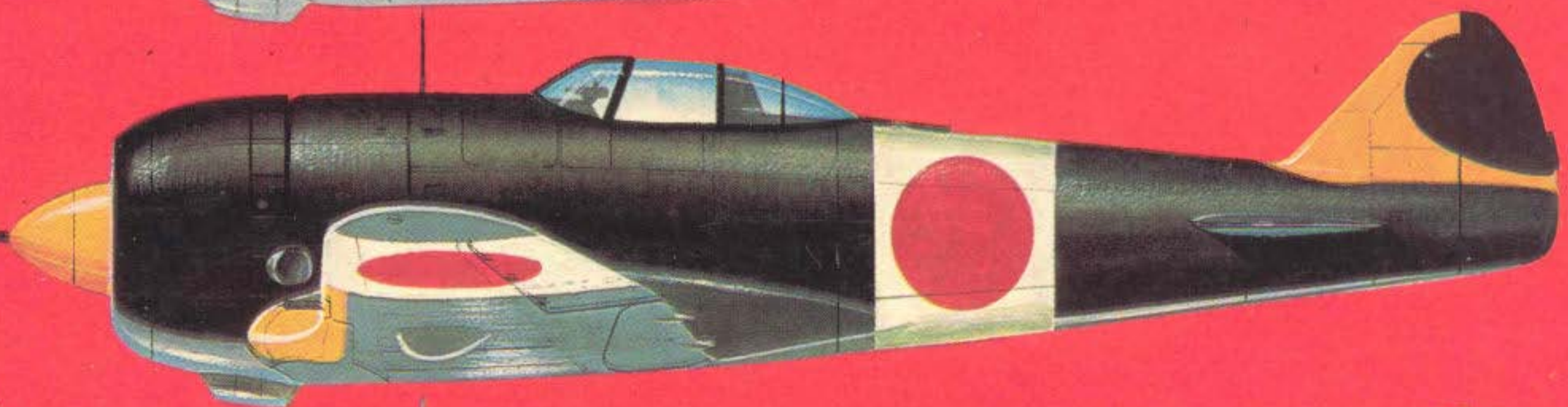
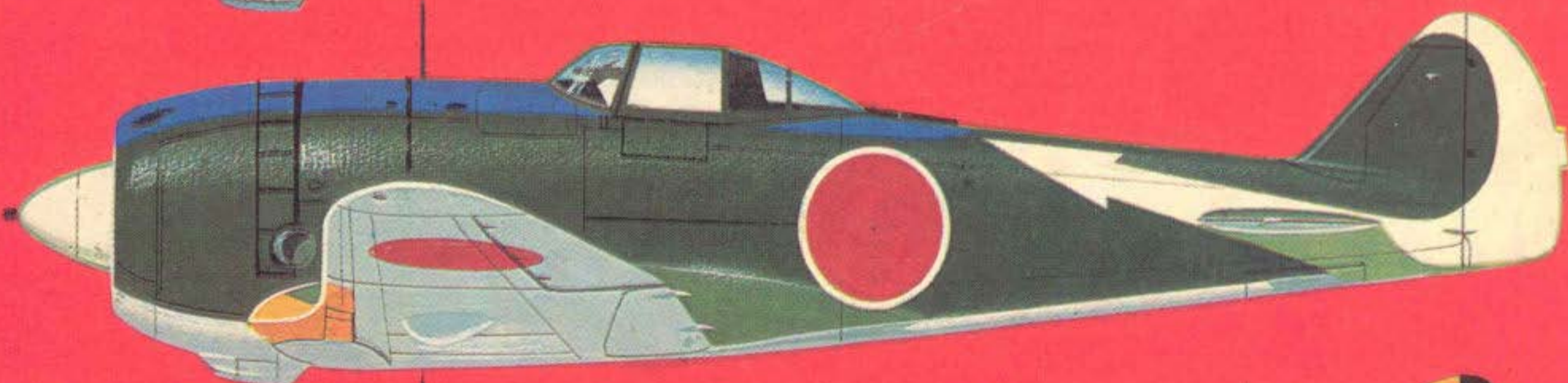
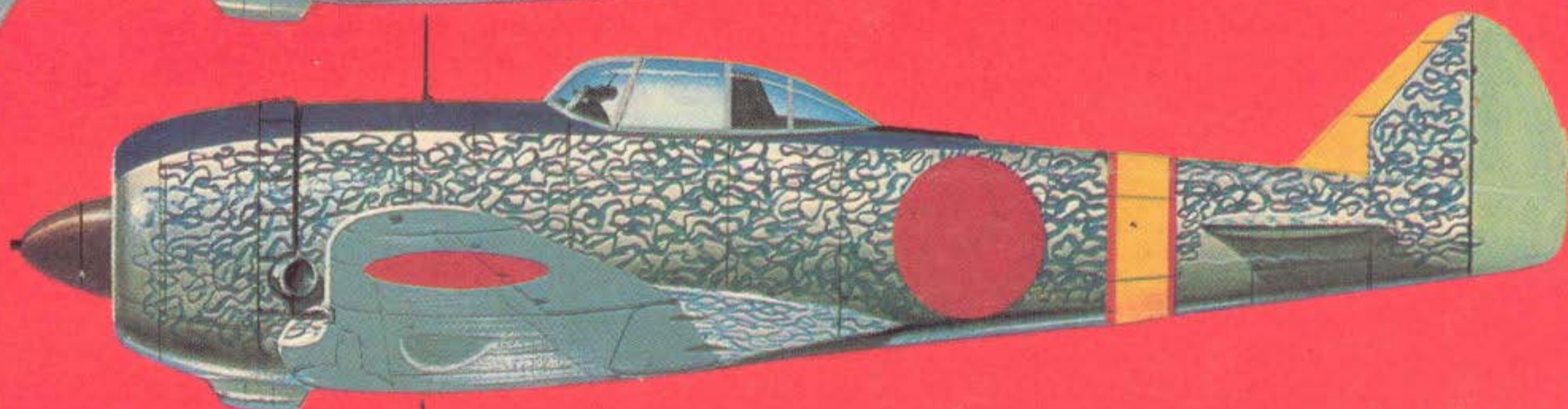
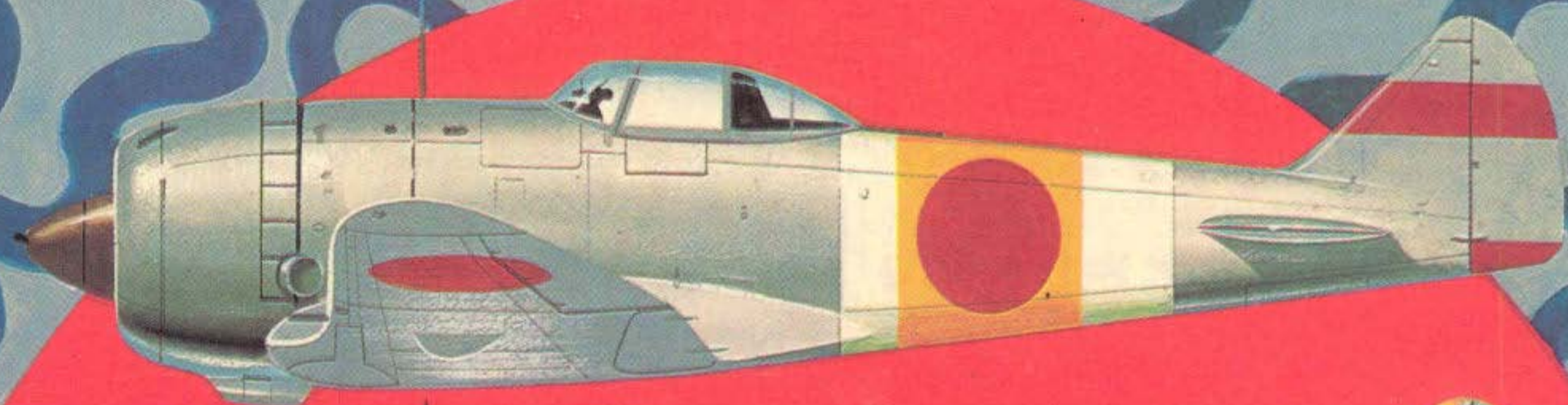
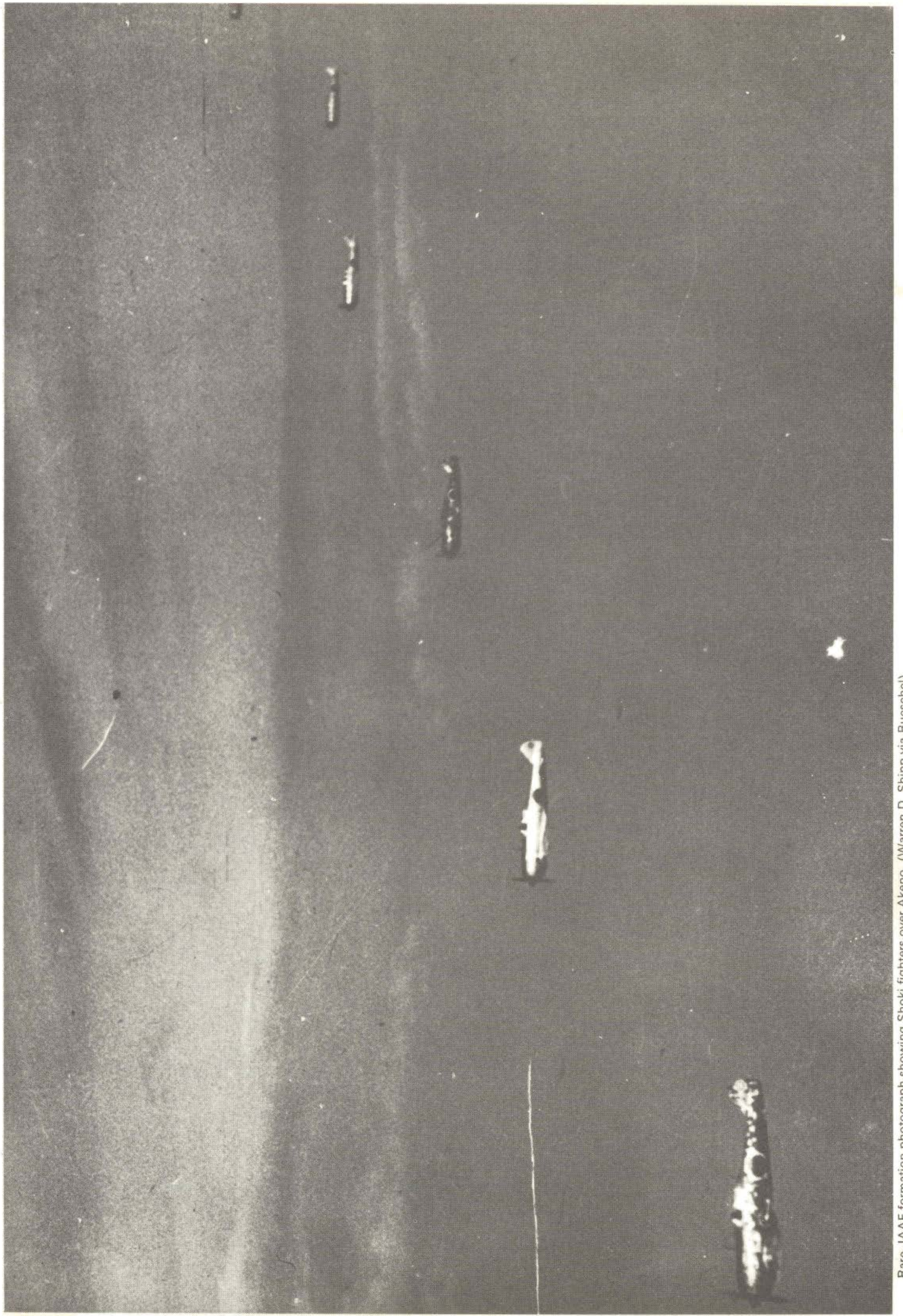


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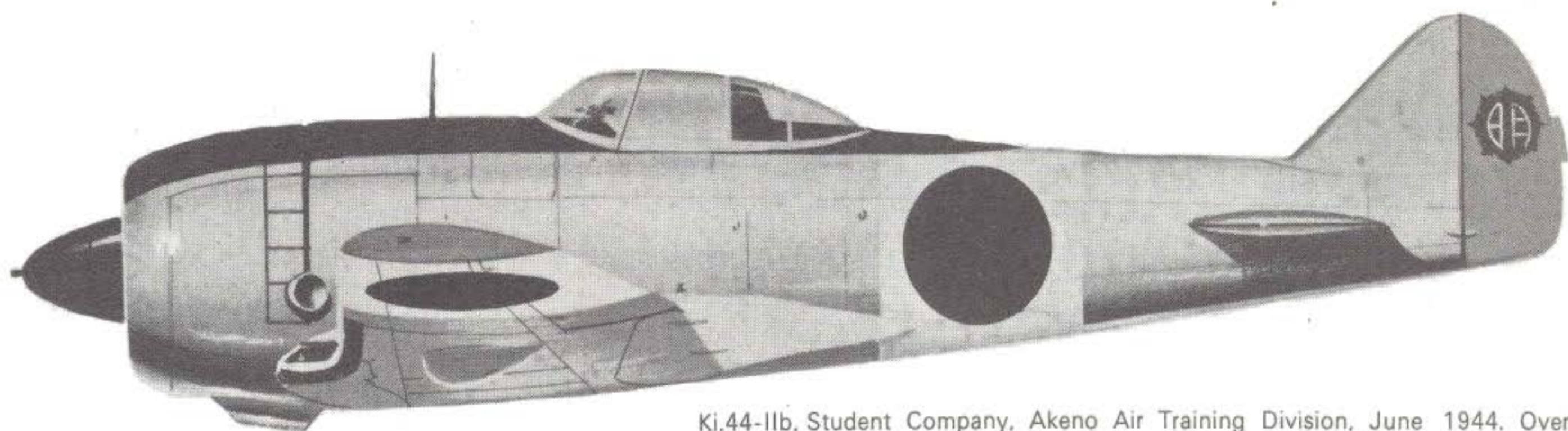
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# NAKAJIMA Ki.44 SHOKI Ia,b,c/IIa,b,c IN JAPANESE ARMY AIR FORCE SERVICE





Rare JAAF formation photograph showing Shoki fighters over Akeno. (Warren D. Shipp via Bueschel)



Ki.44-IIb, Student Company, Akeno Air Training Division, June 1944. Overall natural metal, indigo anti-dazzle panel, red spinner. Rudder in pale grey-green.

# NAKAJIMA Ki.44 SHOKI Ia,b,c/IIa,b,c IN JAPANESE ARMY AIR FORCE SERVICE

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**Compiled and written by  
Richard M. Bueschel**

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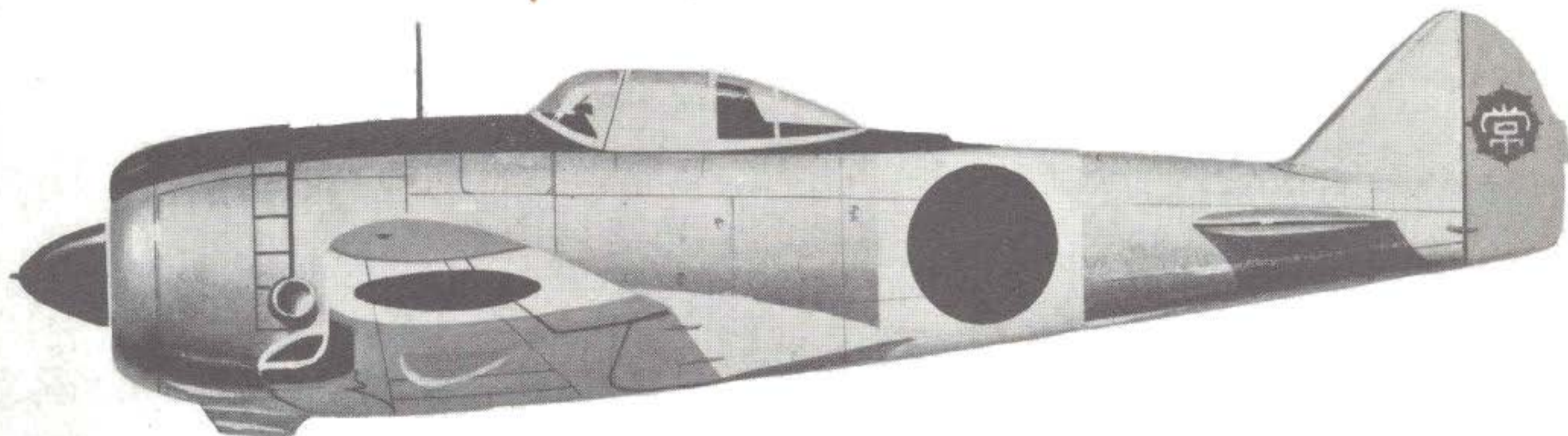
**Illustrated by  
Richard Ward**

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#### ACKNOWLEDGEMENTS

The Demon, hoped for defender of the skies above Japan, a match for most Allied fighters but less than a match for the high-flying B-29's, good though it undoubtedly was it was not good enough for the task it was forced to meet at 30,000 feet. The third Nakajima fighter type to be published in the AIRCAM AVIATION SERIES, thanks are due to all those who assisted with material and information whose names are listed below in alphabetical order.

Hideya Ando, Koku Asahi, Noboru Jyoko, Koku-Fan, Sekai no Kokuki, D. W. Lucabaugh, R. C. Mikesch, Hiko Nippon, M. B. Passingham, N. Saito, Sekai no Tsubasa, Warren D. Ship, Hiko Shonen, Shashin Shuho, M. Toda, USAF.



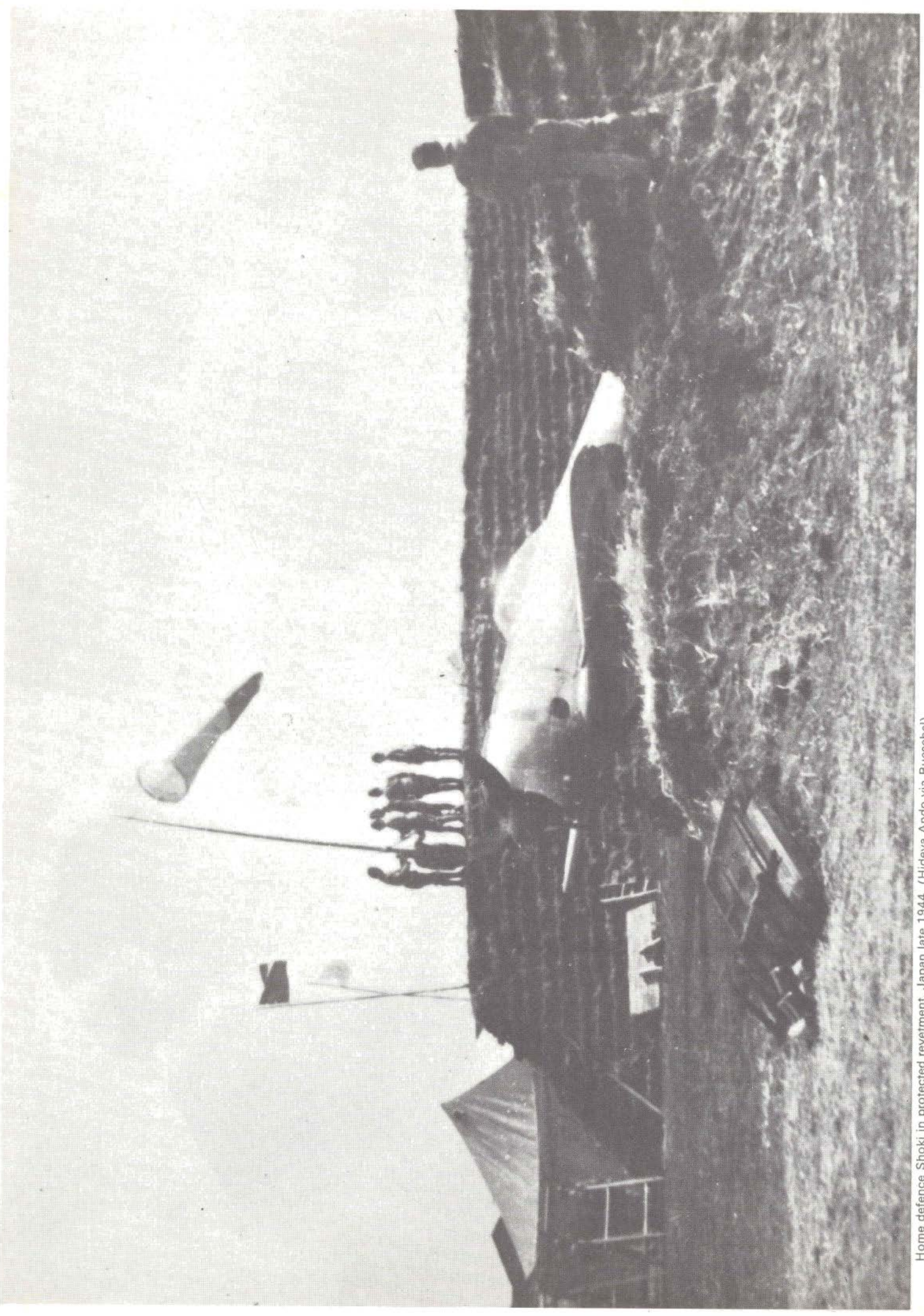
Ki.44-IIb, Student Company, Hitachi Air Training Division, June 1944. Overall natural metal, indigo anti-glare panel, brown spinner. Rudder in pale grey-green. Note the Instructor's Company added wings to the basic insignia.

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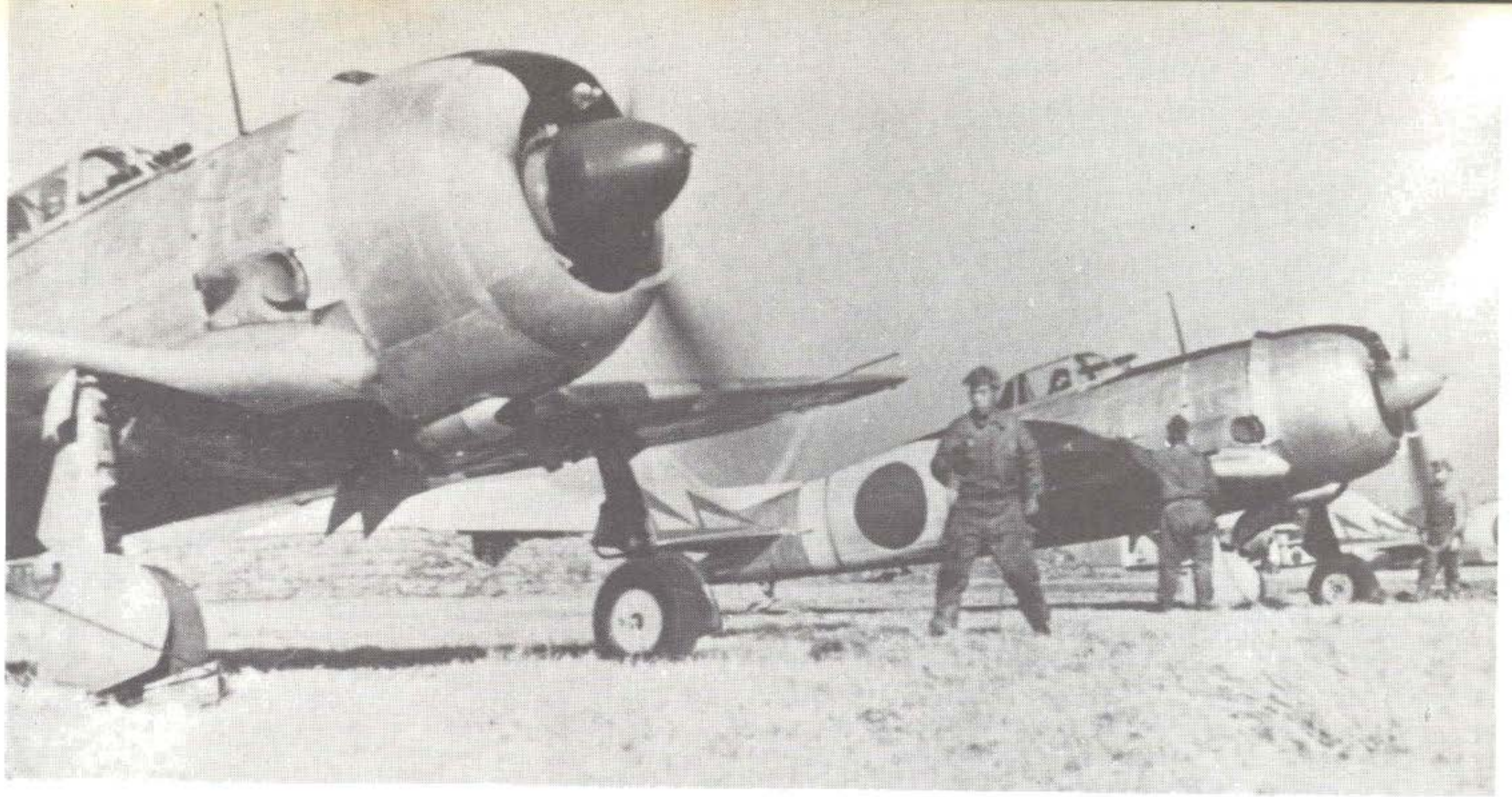
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Home defence Shoki in protected revetment, Japan late 1944. (Hideya Ando via Bueschel)



Shoki fighters of 2nd Company, 47th Fighter Regiment, with red tail markings. (M. Toda via Bueschel)

## NAKAJIMA Ki.44 SHOKI

Lifting off from hand-built Chinese airfields under the orders of their newly appointed youthful commander, thirty-seven-year-old Major General Curtis Le-May, the massive B-29 *Superfortresses* of the 468th Very Heavy Bombardment Group of the USAAF 20th Bomber Command fell in line overhead and turned to the north-east. The date was 26 September 1944 and the target was the Showa steel producing complex at Anshan, Manchoukuo. It was the ninth B-29 raid of a long war, and the test of new tactics against intercepting fighters after the frightful loss of 14 bombers out of 72 over Yawata, Japan, in the seventh raid over a month earlier, followed by the further loss of three bombers out of 90 over Anshan in the unit's eighth raid on 8 September. The lessons of defeat were to be applied with the largest concentration of bombers-over-target of any raid since the B-29 bombings began from Chinese bases in June. With 109 bombers airborne it was to be a rehearsal for the coming battle for Japan.

Far to the north, on their largely untested and unoccupied airfields in Manchoukuo, the pilots of the 59th Fighter and 70th Fighter Air Combat Regiments of the Japanese Army Air Force were itchy for action. Unit after unit had been pulled out of Manchoukuo over the years, with hundreds of Army pilots lost in the bloody maw of New Guinea. In the summer of 1944 more transfers were made to reinforce the Philippines against an anticipated Allied invasion, while other units were returned to the treasured homeland itself to protect the skies of Japan. The JAAF had been preparing itself for years to protect the Emperor and the Imperial family, as well as the nation and the Asiatic mainland against the intrusion of non-Asiatics. Now the aerial defence test was at hand over the Japanese protectorate, exactly where the Japanese Army had anticipated it in its planning a decade earlier. The fighter units were ready, equipped with an advanced Model 2 revision of the

Nakajima Ki.44 Type 2 Fighter *Shoki*, translated as "The Demon" but more adequately described as a fierce figure out of Japanese mythology that stood ready to defend the homeland of Nippon against all dangers. Respected by the British, American, Commonwealth and Chinese pilots alike that served against it in China, Burma and the Dutch East Indies theatres, *Shoki* had earned the Allied code name "Tojo" as a tough competitor. It was the fastest fighter in Japanese Army service with a climb rate unmatched by any aircraft serving in numbers in the Orient. As the American bombers droned north for their confrontation, the last JAAF reserve of skilled fighter pilots were confident of their ability to humiliate their enemy with their own demons of defence . . . the *Shoki*!

Rising higher and higher over Chinese skies, by the time the American bombers reached the target area for one reason or another their numbers had been reduced to 83 aircraft, or seven less than the Anshan raid of over two weeks earlier. Suddenly they were there, with *Shoki* fighters knifing into the bomber formations in pairs. Remaining tight, and bringing as many guns to bear on every enemy fighter approach, the B-29's droned on. Unable to stay at the altitude of the bombers, the *Shokis* had to content themselves with single passes in which every moment counted. Coming in head-on, they could barely line up for a shot before the collective guns of the bomber formations blasted them to eternity. Coming up from below, the *Shokis* found themselves facing an impassable wall of fire. The few from the rear were sudden death. And when a *Shoki* pilot found himself still alive and intact after a head-on run, he faced a piloting crisis that had never been in his training. The mighty bomber was so big, it created its own air currents. Encased in a moving boundary layer of clinging air, the B-29 sucked the surviving *Shoki* fighter into its vortex if the pilot didn't immediately dive



First prototype Ki.4401 completed in August 1940. Finish is Army grey-green with white and red stripes. Nakajima Ha.41 power plant exhaust vents circle upper cowl. (Koku Fan via Bueschel)

as he approached the bomber's nose. Discovering the air current effect for the first time, *Shoki* pilots completely lost control as their fighters were manhandled by air. Unable to manoeuvre once caught, the *Shokis* were thrown out aft of the bomber right in range of the tail gunner.

Over five years of design, development and production had gone into the *Shoki* to create the most effective Air Defence Fighter in Japanese service. And now, on the verge of an aerial assault on Japan, the weapon that promised to defend Japan's cities was revealed to be all but impotent against a heavily armed bomber that came in over its targets at 30,000 feet. Two nations had risked the cream of their specialized skills on a long-term gamble that would be settled by a single throw of the dice. The United States placed their stakes on a super-bomber, bombers being the thing they did best, while Japan placed its bets on a super-fighter, the thing they did best. Developing over the years in parallel, the meeting of the two antagonists over Anshan was the inevitable test. As the American bombers dumped 215 tons of high explosives on their target and headed for home they chewed the Japanese fighter units into pieces. Eleven *Shoki* fighters were reported downed, plus nine probables. In addition, 31 fighters were reported damaged. The actual count of destroyed aircraft was probably much higher, based on the JAAF's reaction. Maintaining strict secrecy over its losses, a report issued by Army Air Headquarters in Tokyo confirmed the results by stating that "small fighters are unsuitable for B-29 interception". In this single engagement the Japanese Army's long-held concept of home defence had been shattered. Within sixty days the *Shoki* was taken out of production, the last two examples assembled from previously produced components the first few days in January 1945. The lesson

of Anshan could not be avoided, for not one B-29 was lost.

But Japan was!

### The start of the game

Blooded in the Orient, with Asiatics fighting Asiatics, the Japanese Army Air Force prided itself on its piloting skills. Dog-fighting ability, made possible by highly manoeuvrable aircraft, was regarded as the key to military success. Of equal importance was the fact that Japan fought her wars away from home, tackling her enemies over their own territory on frontiers hundreds or thousands of miles away from Japan. As the world of the 1930s got smaller, through technology and communications, and the power positions of the nations involved in the Far East were threatened by Japan's surge for empire, the need for a defensive fighter to protect far-flung bases, and even Japan itself, became obvious. It would take a special kind of fighter. One that could climb fast, catch and intercept enemy bombers before they reached their drop zone, and take the punishment of concentrated firepower from bomber formations. It was a single-duty specification that never existed before in Japanese planning. And the time was short, for the Soviet Union had already demonstrated its willingness to fight Japan in Manchoukuo in 1938 and 1939. An uncomfortable fact of life was that Vladivostock was only four hours away from Tokyo, and as bombers got better the flying time would get shorter.

When the Army gave the Nakajima Aircraft Company an exclusive assignment for a replacement for the standard Ki.27a *97Sen* in December 1937 as the Ki.43, it quickly followed the request with rough specification data for an Air Defence Fighter and gave it

Prototypes Ki.4401 through Ki.4403 were Army grey-green without anti-glare panels, while later models were natural dural. (M. Toda via Bueschel)





Evaluation line-up of retroactively designated Ki.44-1a prototypes at Fussa, Yokota Air Force Base, in summer 1941. (Hideya Ando via Bueschel)

the project designation Ki.44. Faced with two time-demanding fighter projects at the same time, but delighted to get the business on a non-compete basis, duplicate design teams were set up in Nakajima's Army Design Section with the understanding that a cross-pollination of ideas would be maintained. Dr. Hideo Itokawa took charge of the Ki.43, giving Tei Koyama, chief responsibility for the Ki.44 to take full advantage of his radical ideas. Itokawa was on hand for supervision, but Koyama ran the show. To meet the greater speed and climb requirements, Koyama's first major move was to reject the 950 h.p. Nakajima Ha.25 power plant considered for the Ki.43 and reach up for the 1,250 h.p. of the newer Ha.41 which Nakajima had developed for heavy bomber use to compete against Mitsubishi success in this aircraft class. As Chief Engineer on the Ki.49 Army Experimental Heavy Bomber, in addition to the Ki.44, Koyama knew what this engine could do, as well as what was needed to intercept a modern heavy bomber.

The new engine was big and bulky, and no matter how it was handled it would restrict vision unless the pilot sat high and the aircraft was enormous. Koyama took the only alternative and went the other way, accepting the vision restrictions to save as much weight as possible, creating an aircraft that was smaller than either the Ki.27 or Ki.43, with a well-faired skinny fuselage that measured-out between the other two fighters. The fin-effect of this fuselage would stabilize the aircraft in a firing-pass, in effect serving as part of the tail control surfaces. "Butterfly" combat flaps, created for the Ki.43, were added to the small wings of the Ki.44 to keep as much combat manoeuvrability in the aircraft as possible. Two-way radio, a must for ground contact and bomber interception, as well as a range-extending centreline drop tank, were incorporated while the weight climbed. While the Ki.44 looked like a racer, it began to weigh-in like a light bomber.

Modified Ki.44-1 test bed prototype with P-1 gear box on experimental Ha.41 engine modified to mount contra-rotating propeller. (Koku Fan via Bueschel)



By the late summer of 1940, as the first four Ki.44 prototypes took shape, the chiding questions of Nakajima and Army associates ("It's nice, but will it fly?") were coming to the answer stage. Just as the prophetic Battle of Britain began in August 1940, prototype Ki.4401 was completed and rushed to Ojima Airfield at Ota for its initial flights. Although heavy and frighteningly fast on landing, the Ki.4401 handled well and was judged a design success. Military evaluation was yet to come. Outside help, in the form of lessons learned by British fighter pilots over their homeland in the autumn of 1940, added to the body of knowledge that would be used to measure the effectiveness of the Ki.44. The British news stories and combat reports were eagerly devoured by the JAAF technicians and pilots involved in the Ki.44 project.

Meanwhile, on 14 June, less than two months earlier and the day Paris fell to the German Army, the United States War Department had given the Army Air Corps the go-ahead to proceed with the development of a super-bomber as the Boeing B-29. By the end of the year four Ki.44 prototypes had been completed in Japan, while in America the first test parts were being made for the monster bomber, utilizing the opposite experience from the Battle of Britain; the defensive lessons learned by the Germans in relation to unescorted bombers over a strongly defended target.

### Evaluation by experience

Confident, and somewhat cocky, the Army soon let it be known in confidential circles that it had the fighter that was needed to protect Japan against aerial attack. In this frame of mind the JAAF quickly accepted the Imperial Japanese Navy's challenge to compare new fighters in an annual flight competition scheduled for January 1941, confident that the Ki.44 would show up the Navy's new A6M2 *Zero-Sen*



Shoki reaches the "Kingfisher" Company in September 1941 for combat evaluation in China and French Indo-China. (R. M. Bueschel)

fighter which was already in production (see AIR-CAM No. 18). The only troublesome factor was that the Ki.44 prototypes weren't living up to expectations. At load, a speed of 550 km./hr. (342 m.p.h.) was barely reached, a figure well below specifications. It also took five minutes and 54 seconds to get up to 5,000 metres (16,400 ft.) and the word was out that the *Zero-Sen* made it almost as quickly. The problem appeared to be drag, with most of the trouble with the mounting and cowling of the Ha.41 engine. The engine support was redesigned, and the streamlining of the cowl area was repeatedly modified. One answer was a new firewall that allowed more cooling air, and permitted removal of the drag-producing air vents at the rear of the cowling.

The many modifications delayed service evaluation of the fighter by the Army, but didn't delay the Joint-Service competition. Worried about the results, and conservatively rating the Ki.44 at a 339 m.p.h. top speed, the Army entered the new fighter as well as the more rapidly progressing Ki. 43, the latter also suffering from an extensive and expensive de-bugging programme. The results were humiliating to the Army, for the new *Zero-Sen* unexpectedly ran away with the performance ratings. The Ki.44 did better than the *Zero-Sen* in a climb to interception altitudes, but it proved to be no faster in speed or climb than the naval fighter at lower altitudes even though the *Zero-Sen* had less power and carried a heavier cannon armament.

Blanching over its defeat at the hands of the

Imperial Navy, the Army embarked on a series of modifications and tests that tried virtually everything. One prototype even mounted a contra-rotating propeller attached to a specially modified Ha.41 through a complicated Type P-1 gear box, although the idea didn't work out too well. Tests on the frequently modified standard prototypes finally produced a top speed of 626 km./hr. (389 m.p.h.), although by now all flying was being done without armament. Confidence in the results led the Army to two decisions. The first was to order a batch of six pre-production prototypes for evaluation to be built in the summer of 1941. The second, a far more audacious one, was to evaluate the aircraft under actual service conditions in China in the same manner that the A6M1 Model 11 *Zero-Sen* had been combat-tested. Starting in June 1941, the first of the new Ki.44s was completed, with the others following in July and August. By September 1941 production prototypes Ki.4405 through Ki.4410 were completed, with Ki.4402, Ki.4403 and Ki.4404 brought up to the same standards. All were armed with two 7.7 mm. and 12.7 mm. machine guns, and weighed-in at 5,600 lb. under full combat load. Training with the nine fighters began at Fussa Air Force Base on 15 September 1941 with a group of crack JAAF pilots with experience in China and at Nomonhan that had been carefully selected for service with the experimental "Kingfisher" Company. A simplified two-piece canopy, forward mounted radio mast and re-designed tail section typified the new model.



Line-up of 47th Fighter Company in French Indo-China. Aircraft in foreground is pre-production prototype Ki.4404 of 2nd Squad flown by M/Sgt. Ito. (Koku Asahi via Bueschel)

The training progressed rapidly, and by the end of the year the small group, in distinctively marked and newly camouflaged aircraft, returned to China. With the start of war in the Pacific, the "Kingfisher" Company was moved to Southern French Indo-China, to support the landings in Malaya by defending Japanese bases across the gulf. The oldest Ki.44 fighter to see combat was the much-modified Ki.4402 prototype flown by Flight Warrant Officer Mitsumato, assigned to the 3rd Squad of the Company. M/Sgt. Ito of the 2nd Squad flew Ki.4404, while Ki.4405 was flown by Major Sakagawa, Commander of the 1st Squad. Two of the best known pilots were Captain Jinbo, Commander of the 2nd Squad and flying Ki.4406, and Captain Yasuhiko Kuroe, 3rd Squad Commander flying Ki.4408. Both had been Ki.27 97Sen pilots at Nomonhan. In combat at last, the Ki.44 drew first blood by downing an RAF Brewster *Buffalo* in the Malayan campaign. Finally vindicated in war, Army Air Headquarters placed production orders for the Ki.44 on 28 January 1942 as the Type 2 Single-Seat Fighter and gave it the nickname *Shoki*. The existing examples were retroactively identified as the Ki.44-Ia Model 1A while production began at Nakajima's Ota Plant on the Ki.44-Ib armed with four 12.7 Ho.103 machine guns based on combat experience. The first example was finished late in January 1942. Problems with wheel retraction led to modification as the Ki.44-Ic and by August 40 of the two newer models had been built, supplying replacements to the "Kingfisher" Company, which in May had officially become the 47th Independent Fighter Company, and provided examples for unit training.

### Shoki reaches its majority

All was not sweetness and light with the *Shoki*, for Army pilots were critical of its high landing speed and comparative lack of manoeuvrability. While these problems caused enough trouble in the hands of an experienced pilot, they were deadly when it came to green pilots.

Comparative trials conducted in the summer of 1942 at Kagamigahara, next to the Kawasaki Gifu Plant, proved that the *Shoki* could out-fight the German Messerschmitt Bf.109 E/2 and American Curtiss P-40E, although the experimental Kawasaki Ki.61 was rated best in overall performance above both the *Shoki* and the prototype Ki.43-II. It was obvious that the Ki.44 Model 1 had problems, both tactical and engineering. Once again designer Koyama's experience with the Ki.49 type 100 Heavy Bomber led the way for a *Shoki* change. Also powered by the Ha.41, an advanced development of the earlier Nakajima Ha.5-*Kai* engine, the Ki.49-I was found to be underpowered when it entered service. A switch to the higher powered Ha.109 of 1,520 h.p., first built in June 1941, was made in engineering, an easy transition as both engines were of the same size and could be mounted in the same manner. No longer needed in quantity, Ha.41 production was stopped in January 1942 in favour of the Ha.109. Faced with an end of supply, the need for more power, and the readily available Ha.109, Koyama made the same shift in the *Shoki*. Five Ha.109 powered Ki.44-II prototypes were produced using Ki.44-Ic airframes with Ki.44-Ia armament. Testing proceeded in August. Various modifications were tried, including an example in which wingspan was shortened and the pilot was provided



Above: "Kingfisher" Shoki fighters taxi to take-off while ground crewmen cheer for the news photographer. (Koku Asahi via Bueschel)



Above: Shoki Ki.4408 flown by Captain Yasuhiko Kuroe, 3rd Squad Commander, 47th Fighter Company, a leading Japanese Army ace. Unit insignia is below cockpit. (Hiko Shonen via Bueschel)

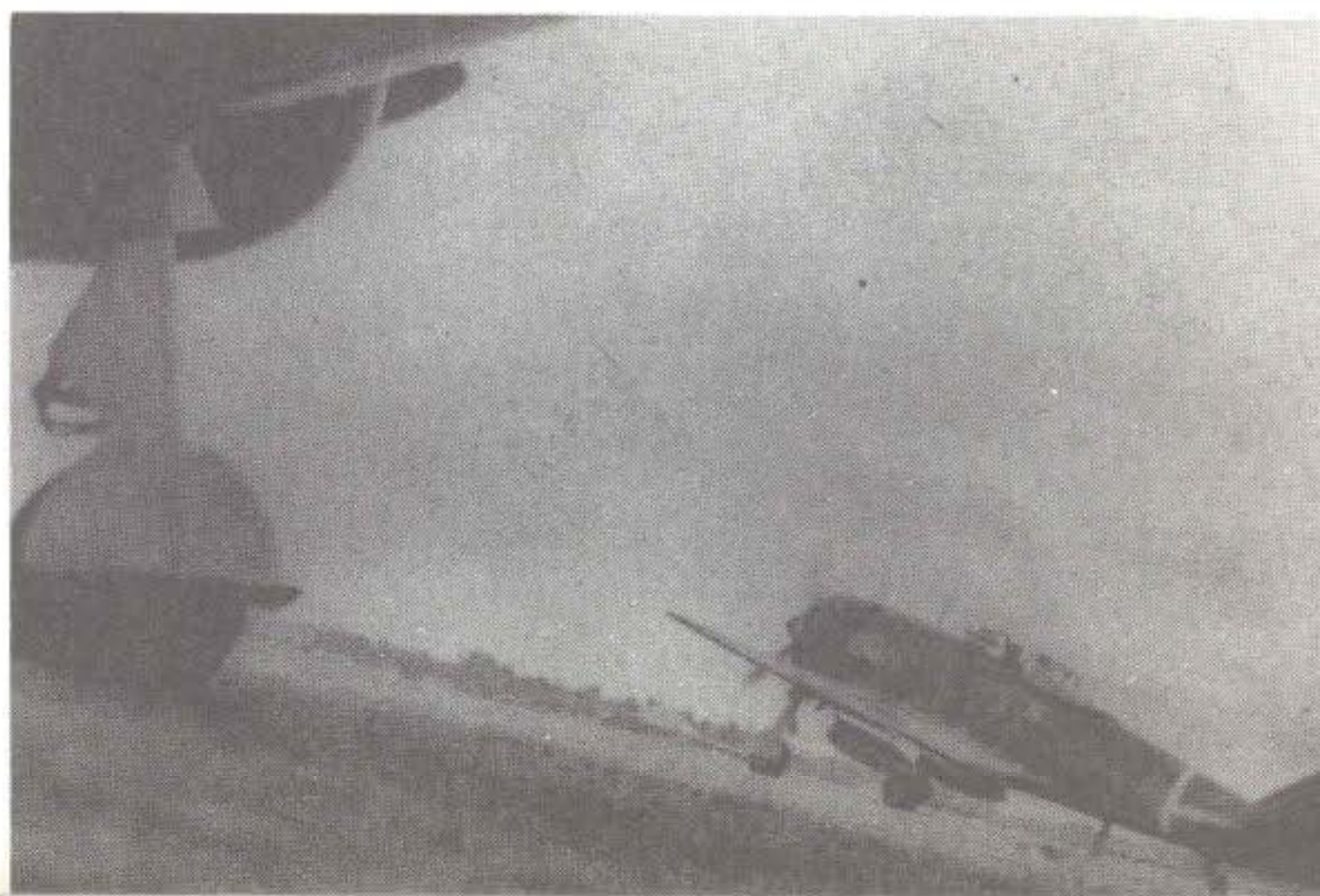


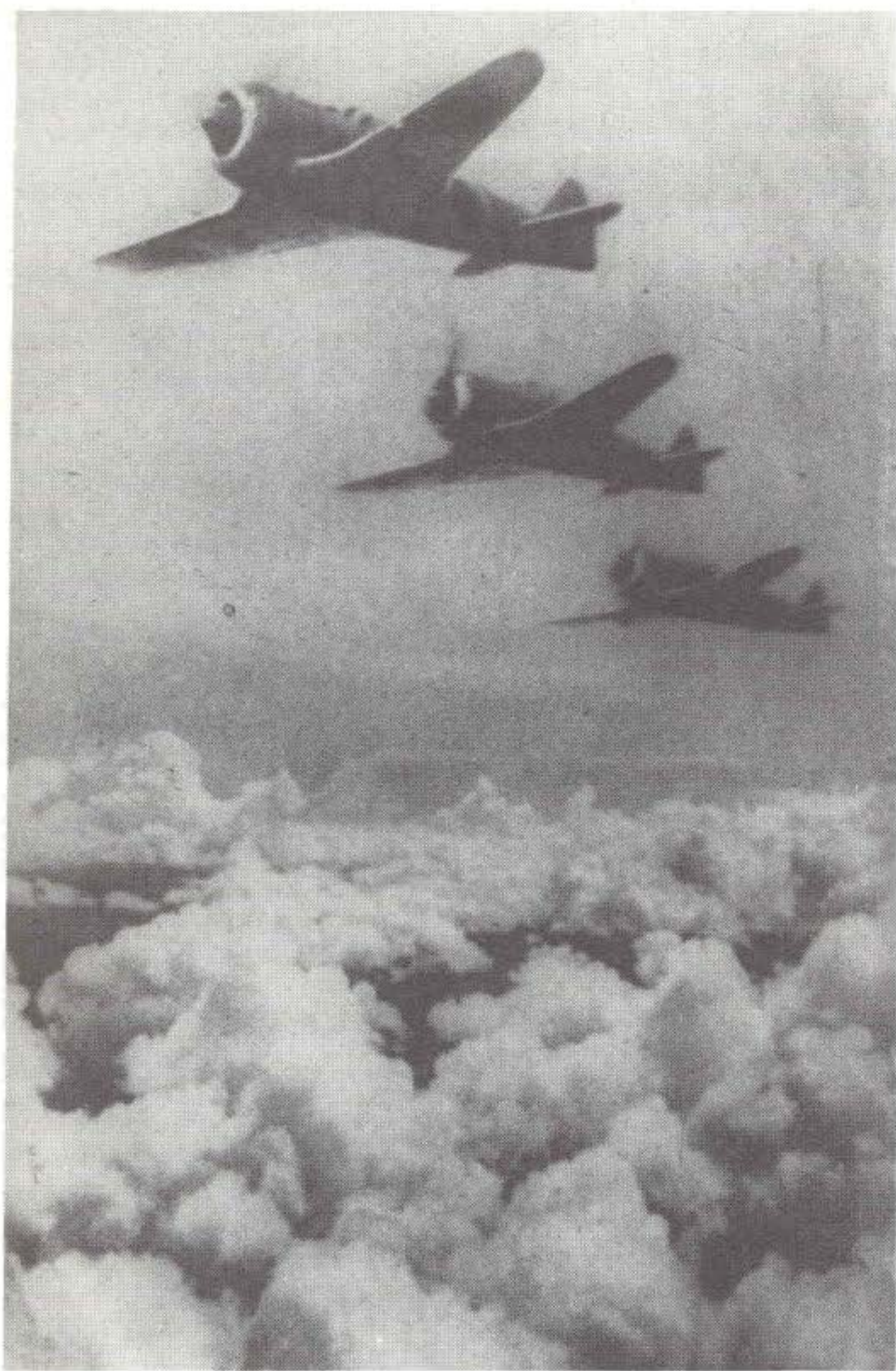
Above: Test experience with Ki.44-Ia with 47th Fighter Company led to model changes and improvements. (Koku Asahi via Bueschel)



Above: Airborne Shoki of "Kingfisher" Company middle 1942. (Shashin Shuho via Bueschel)

Below: Aircraft No. 2 of 2nd Squad, 47th Fighter Company, in Malaya in middle 1942. (Koku Asahi via Bueschel)





The "Kingfisher" Company in the air, late 1942. (Koku Asahi via Bueschel)

Pre-production prototype Ki.4410 of the 47th Fighter Company being readied for flight with dual drop tanks. (Koku Shonen via Bueschel)



with a telescopic sight. One of the prototypes was fitted with a Ha.101 Type 100 radial of 1,500 h.p., but the design changes necessary ruled against the Mitsubishi engine.

The ease of transition to the more powerful Ha.109 led to the construction of three pre-production Ki.44-IIa examples that featured strengthened landing gears, new cockpit covers and retractable tail wheels for added speed. Completed in September, they paved the way for the definitive production model of the *Shoki*, the Ki.44-IIb Model 2B armed with four 12.7 mm. machine guns. By October 1942 the Model 2B was in full scale production, reaching a rate of over thirty aircraft a month by November. Over a thousand were produced, with late examples modified to carry heavier armament.

*Shoki* was now ready for combat in quantity, and was rushed into unit training at the Akeno Army Flying School for overseas base defence with the 9th, 22nd and 85th Fighter Regiments going to China and Burma, the 59th, 70th and 87th Regiments going to Manchoukuo while other units went to Formosa and Japan itself, being spotted by Allied pilots in the air for the first time in the autumn of 1943. As the first new Japanese single-seat fighter to be met since the opening days of the war, the Allied code-naming rules were broken to give it the identification name "Tojo".

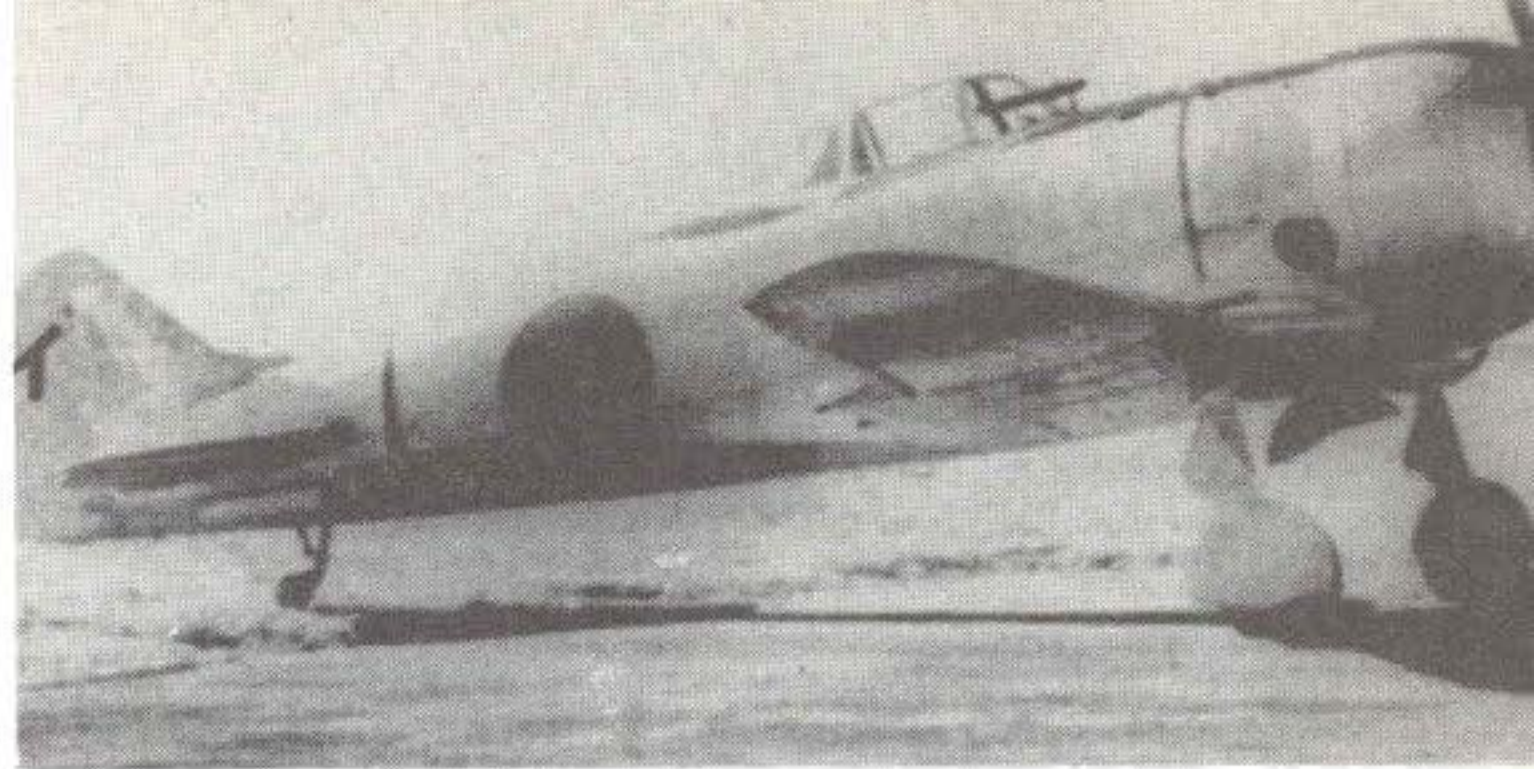
The year 1943 was hardly an auspicious one for a new Japanese fighter to enter service and make a creditable name for itself. Japan's empire was crumbling, and the pressure on advance positions was inexorably increasing. Faced with physical threats against their oil fields in Sumatra now that Allied bombers and carrier groups had the range, the 87th Regiment was pulled out of Manchoukuo and moved to Palembang as part of the 3rd Air Army. Based on a former Dutch airfield some forty miles south-west of the refineries, thirty *Shoki* fighters were maintained in boring readiness around the clock. Then, on 4 January, 1944, *Corsair* and *Hellcat* fighters and *Avenger* bombers from a British Carrier Task Force attacked the oil fields to the north. On 24 January they came back, only this time they hit Palembang after having been missed by the morning *Shoki* patrols. Caught on the ground, by strafing *Corsairs*, the 87th's losses were high. Two waves of over a hundred fighters and bombers each attacked the refineries, while JAAF *Hayabusa*, *Toryu* and the remaining *Shoki* fighters desperately tried to curtail the damage by shooting down the invaders. Hideaki Inayama, flying a black Ki.44-IIb, downed two *Avengers* in the battle. The Japanese losses were dear, with the 87th alone losing 12 of its *Shoki* fighters and seven of its pilots. As the ranges closed and Palembang came under closer land-based attack, the JAAF finally pulled out late in 1944, with the 87th Regiment returning to Japan for home defence.

In China, the *Shoki* became one of the best known Japanese Army fighters in the air, defending its air bases at Nanking, home of the 9th and 85th Fighter Regiments; at Canton, also protected by the 85th Regiment, and elsewhere throughout Central and Southern China, as well as Hainan Island in the Gulf of Tonkin. Thinned out to protect the Philippines, some *Shoki* units still remained in China until the end of the war, opposing General Chennault's *Lightnings*, *Mustangs* and *Thunderbolts*. Although small in numbers, the *Shoki* pilots in China were skilled,

and tough adversaries. The *Shoki* demanded that of its pilots. As the hottest fighter in the JAAF, its surviving pilots knew how to use the aircraft to advantage.

It wasn't until the arrival of the P-51B in China early in 1944 that the Americans had a fighter that could match the Ki.44-IIb, which had up until that time virtually had its own way with the slower and less manoeuvrable P-40E and P-38 fighters of the 14th Air Force. The *Mustang* quickly proved itself to be faster and still be able to turn inside of the *Shoki*. It was the beginning of the end for the JAAF in China, although it wasn't until January 1945 that the Allies had numerical and tactical air superiority on the mainland. At that point Japanese air attacks came to an end, and Japanese base defence weakened as losses mounted and replacements were not forthcoming. In late 1944 the Japanese had an estimated 783 fighters of all types in China, Indo-China and Formosa. By March 1945 this had dropped to 682, and by June only 340 were left. By that time Allied air strength was astronomically superior. *Shoki* fighters of the 85th Regiment at Canton were among the last to contest Allied bombing attacks in China before they were moved out to the Japanese protectorate of Chosen, known to the Allies as Korea.

In spite of the *Shoki's* demonstrated inferiority to newer Allied fighters it was still regarded as a formidable adversary. Allied pilots ranging over eastern China and Formosa late in 1944 ran into "Tojo" fighters of the 29th Fighter Regiment with cannon armament. Armed with two 12.7 mm. Ho.103 machine guns in the nose, and a 20 mm. Ho.3 cannon in each wing, the newer Ki.44-IIc Model 2C was produced in parallel with the earlier model on the production lines starting early in 1943. Later models mounted four of the cannon, and were produced as the Ki.44-IIc-*kai*. An even later Ki.44-IIv-*kai* modification, first made in May 1944, mounted two 40 mm. Ho.301 cannon, one in each wing, in addition to the standard two 12.7 mm. Ho.103 guns in the fuselage. Created to intercept heavy bombers over Japan, early models of the heavily armed fighters were rushed to the Philippines. After the Allied invasion at Leyte in October, the 29th and 246th *Shoki*-equipped Regiments were moved to the islands to join the 4th Air Division on Luzon. The 22nd Regiment had been sent there in September, adding its *Shoki* fighters to the 2nd Air Division in the central and southern Philippines, being based at Clark and Nichols Fields. Patrolling in formations of as many as 24 fighters, the 22nd Regiment fought against the ever increasing Allied fighters in September and October. With the basing of land-based American fighters on Leyte and Mindoro, and the invasion at Lingayen Gulf on 9 January 1945, the Philippines campaign rushed to its conclusion. Briefly, the JAAF defenders checked American efforts in the air, but the addition of carrier strikes at Clark Field on 6 and 7 January, followed by a rapidly growing USAAF air strength, quickly cut the Japanese air forces down. The 40 mm. equipped *Shoki* fighters of the 22nd Regiment never really got the chance to prove their worth, for most JAAF losses in the Philippines were on the ground. When American forces investigated their gains at Clark Field on 14 February 1945, one intact example of the Ki.44-IIc-*kai* was discovered, giving the Allies an advance look at what they were facing over the Japanese homeland.



Evaluation Ki.44-IIa Model 2 Shoki "Na" at Yokota in summer 1942. (Koku Fan via Bueschel)

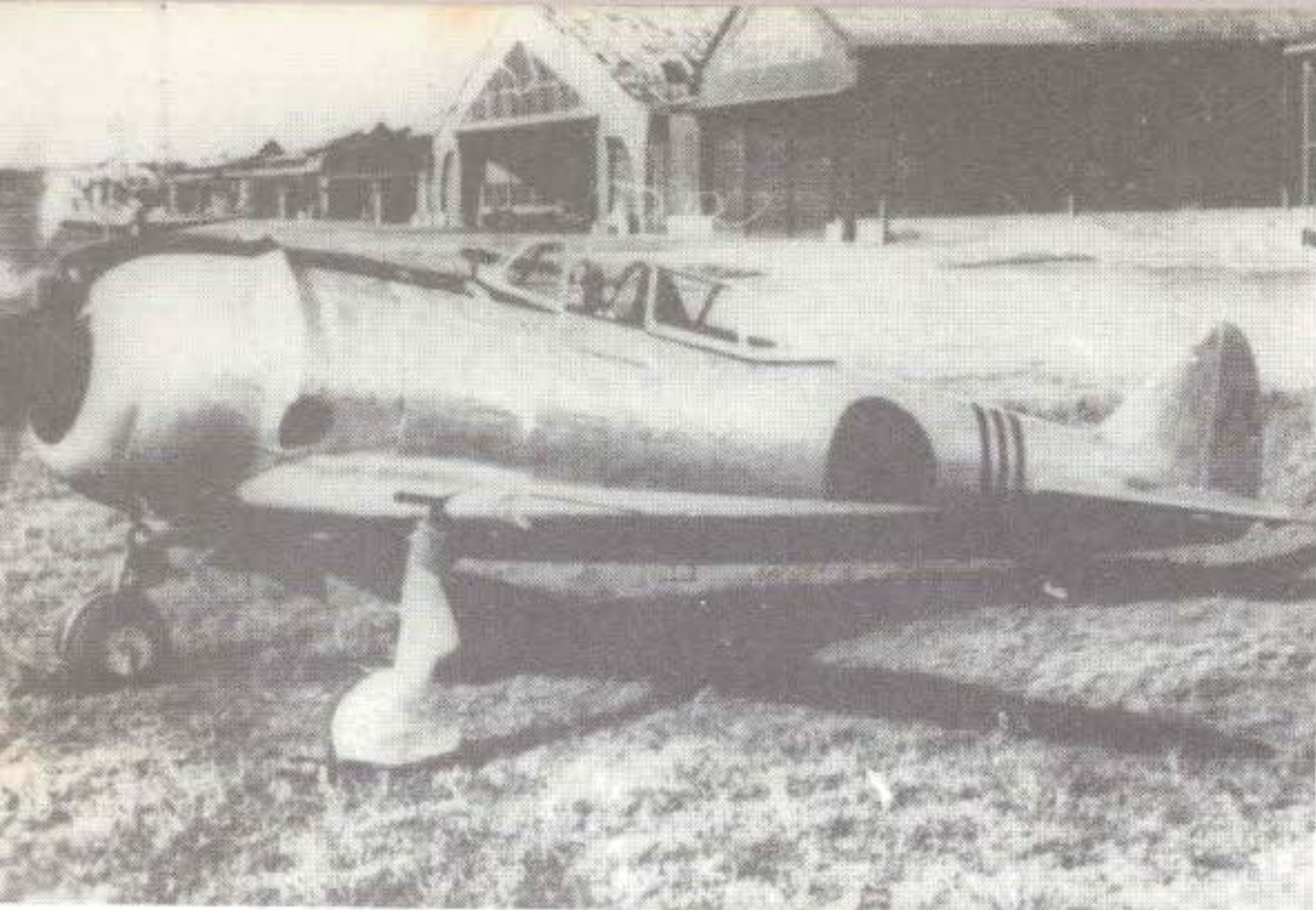
## The end of the line

When the 26 September 1944 Anshan raid was over, the JAAF was faced with a cruel dilemma. Five fighter regiments in Japan were equipped with the *Shoki* to protect the Middle and Eastern Defence Sectors of the homeland, with an additional two in Manchoukuo that doubled in Western Defence Sector interceptions. And now the aircraft was revealed as impotent against the B-29. Had the assault against Japan been with B-17 *Flying Fortress* and B-24 *Liberator* bombers, the *Shoki* would have fared rather well. The units had trained themselves in simulated combat with a captured B-17. But the B-29 was a flying porcupine. Its firepower was too great for a five-year-old fighter design to handle.

That left the *Shoki* regiments with only two alternatives; the interception of smaller aircraft over Japan, and the ramming of B-29s at low altitudes in suicide missions in a frantic effort to do anything to protect the helpless homeland below. The decision to stop Ki.44 production in favour of the newer Ki.84 *Hayate* having already been reached, the *Shoki* regiments were flying a lame-duck fighter that was expendable. The crack 47th Fighter Regiment, with a heritage of the "Kingfisher" Company and the Independent 47th Fighter Company behind it, having been brought back to Japan from Malaya to defend Tokyo, turned to ramming attacks conducted on a volunteer basis. Based at Narimasu Airfield on the edge of Tokyo,

Oil scoop was an identification feature of Model 2. (Koku Shonen via Bueschel)





Above: Third Model 2 evaluation prototype at Yokota. (Hideya Ando via Bueschel)



Above: Shoki was built like a racer; small and powerful. (Sekai no Tsubasa via Bueschel)



Above: Nakajima Ha.109 power plant delivered over 1500 h.p. for an airframe weighing barely over 3000 kg., highest power-to-weight ratio in the JAAF. (Hideya Ando via Bueschel)

Below: Shoki was the most streamlined fighter in JAAF service. (R. M. Bueschel)



select pilots of the 47th formed the "Sky Shadow" Air Superiority Company in November 1944 to ram the attacking raiders. Other 10th Air Division units flying Ki.44-IIb, Ki.44-IIc and Ki.44-IIc-kai fighters in the Eastern Defence Sector were the 22nd Regiment, later re-assigned to Chosen; the 23rd stationed at Ota Airfield; and the 87th, returned from Sumatra. In the 12th Air Division's Western Defence Sector the 70th Regiment was based at Matsudo in Chiba while the 59th Regiment took part in the Okinawa campaign. The sole *Shoki* regiment serving in the 11th Air Division's Middle Defence Sector was the 246th, returned from the Philippines and based at Osaka.

With the arrival of Allied carrier aircraft over Japan in February 1945, as well as escorting Mustangs for low-level raiding B-29s in April, the *Shoki* was again in combat with opposing fighters. By May Allied fighter aircraft were attacking Japan from bases on Okinawa, and engaging the "Tojo" in company with a mixed bag of a variety of Japanese Army and Navy fighters, although by then Japanese fighters were avoiding combat. Between 10 July and the end of the war, when the combined British and American Fast Carrier Forces attacked Japanese airfields in a series of nine major strikes, the "Tojo" was still in evidence. It remained a viable Japanese Army fighter until the war came to an end, although by then only three regiments were still equipped with the fighter.

Once they got the hang of it, *Shoki* pilots invariably grew very fond of their "personal" fighter. Small, fast and durable, the Ki.44 could take a greater beating in combat than any previous JAAF fighter. Its hit-and-run tactics, with armour and fuel tank protection, gave its pilots confidence. They knew that only a foolhardy mission was certain to kill them, for the *Shoki* gave them a better chance to survive than most other Army aircraft. Captain Ryotara Kamibo, veteran of China, Nomonhan, Malaya and Burma, and top-scoring "Ace" of the Okinawa campaign, flew both the *Shoki* and *Hayabusa* in the Pacific War, preferring the smaller fighter. He survived the war with a score of 76 "kills". Captain Koybayashi of the 47th Regiment in Japan, reportedly downed 12 B-29s before he was killed in his *Shoki* over Tokyo. Captain Nango, briefly flying a Ki.44-IIb in Manchoukuo with the 59th Regiment, died in New Guinea with a score of 20 "kills", although by then he was flying the Ki.61 *Hien*. Another 59th Regiment pilot, Captain Akira Onozaki, had 28 confirmed "kills". Flying a *Shoki* as commander of the 85th Regiment, Major Togo Saito survived the war after fighting in China, Manchoukuo and Korea. Major Tokuyuki Sakato, last commander of the *Shoki*-equipped 70th Regiment, also survived the war. Other pilots that ranked as "Aces", included Warrant Officer Sumi Kamito, with a tally of 40 Allied planes; Lieut. Colonel Kanshi Kishkawa with a score of 19; Corporal Susuru Koyama of the 246th Regiment; and Sergeant Major Uchida with between 10 and 12 "kills", were all reportedly *Shoki* pilots. Many of them felt the aircraft saved their lives.

### Final thoughts

In the closing months of the war a number of new *Shoki* variants made their appearance. A few Ki.44-IIb *Shokis* were produced with thrust augmentation exhausts on an experimental basis, with the com-



Production of Model 2 got underway in middle 1942 after successful trials of evaluation prototypes. (Hideya Ando via Bueschel)

mander of the 47th Regiment at Chofu flying one as his personal aircraft.

Some of the large-bore cannon Ki.44-IIc-*kai* *Shokis*, of which an estimated 400 were produced, had their two slow-firing and short-ranged 40 mm. Ho.301 cannons replaced with 37 mm. Ho.203 weapons, extending the firing range from a suicidal 150 yards to about 1,000 yards. The cannon-*Shokis* were not particularly successful, although Japanese radio reported the downing of ten B-29s over the Nakajima Musashino plant in a raid on 19 February 1945, in which the outnumbered *Shoki* fighters reportedly attacked a force of 120 of the American bombers. Two of the American losses were said to be the result of rammings. The Japanese report was only partially true, for the American résumé of the mission reported the loss of six of the bombers out of 119 placed over the target, with two of them confirmed lost to ramming. Of the other four losses, only one was confirmed lost over the target, with one ditching on return, and the remaining two lost in a landing crash. The American report also stated that 570 fighter attacks were made, with the enemy losing 39 fighters, plus 16 probables and 37 damaged. Thus the *Shoki's* finest interception on record, as recorded by the JAAF, only confirmed the fighter's inability to master its foe.

The final *Shoki* production model was the higher powered Model 3 series with wing area increased to handle the 2,000 h.p. of its Nakajima Ha.145 radial engine, a variation of the Ha.45 power plant used on the newer Ki.84. Armed in the same manner as the production Ki.44-IIb, the prototype Ki.43-III was first built in June 1943. Test production of a Ki.44-IIIa version mounting the same armament as the prototype, with one of the later models carrying four 20 mm. Ho.5 cannon, was initiated in the summer of 1944. The first of three examples was completed in November. The Ki.44-IIIa was distinguished by a larger vertical tail designed to provide the necessary control needed by the more powerful engine. Plans to produce a Ki.44-IIIb model were cancelled when the *Shoki* went out of production in January 1945.

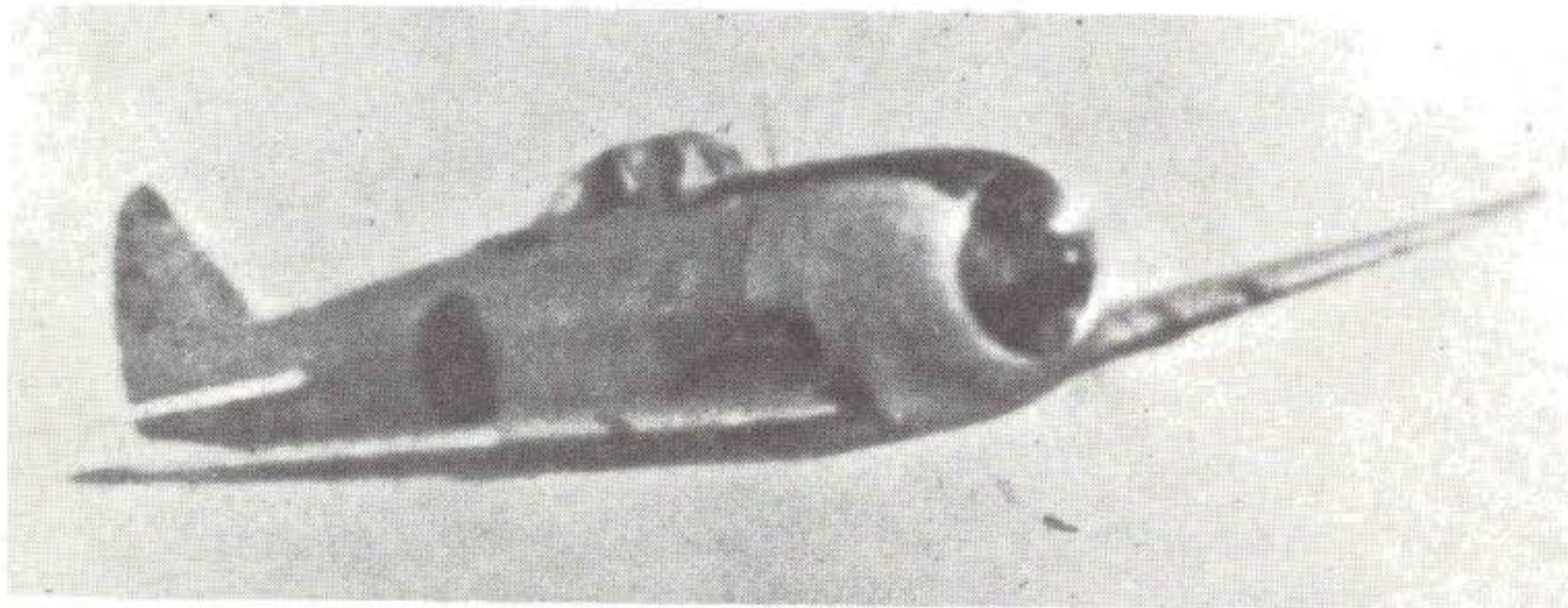
The final use of the *Shoki* came after the Pacific War had ended. Examples of 9th Fighter Regiment Ki.44-IIb Model 2B fighters were confiscated by Nationalist Chinese forces at Nanking and painted with Chinese Air Force markings. In the north, *Shokis* were also acquired by the Chinese Communists in Manchuria and Northern Korea to become part of a polyglot collection of aircraft that formed the Air Force of the Red Army of China. It is doubtful that they were ever used in combat by either side in the Chinese Civil War.

Type 2 Single-seat Fighter, Model 2 Shoki at Fussa early in 1943. (Sekai no Tsubasa via Bueschel)

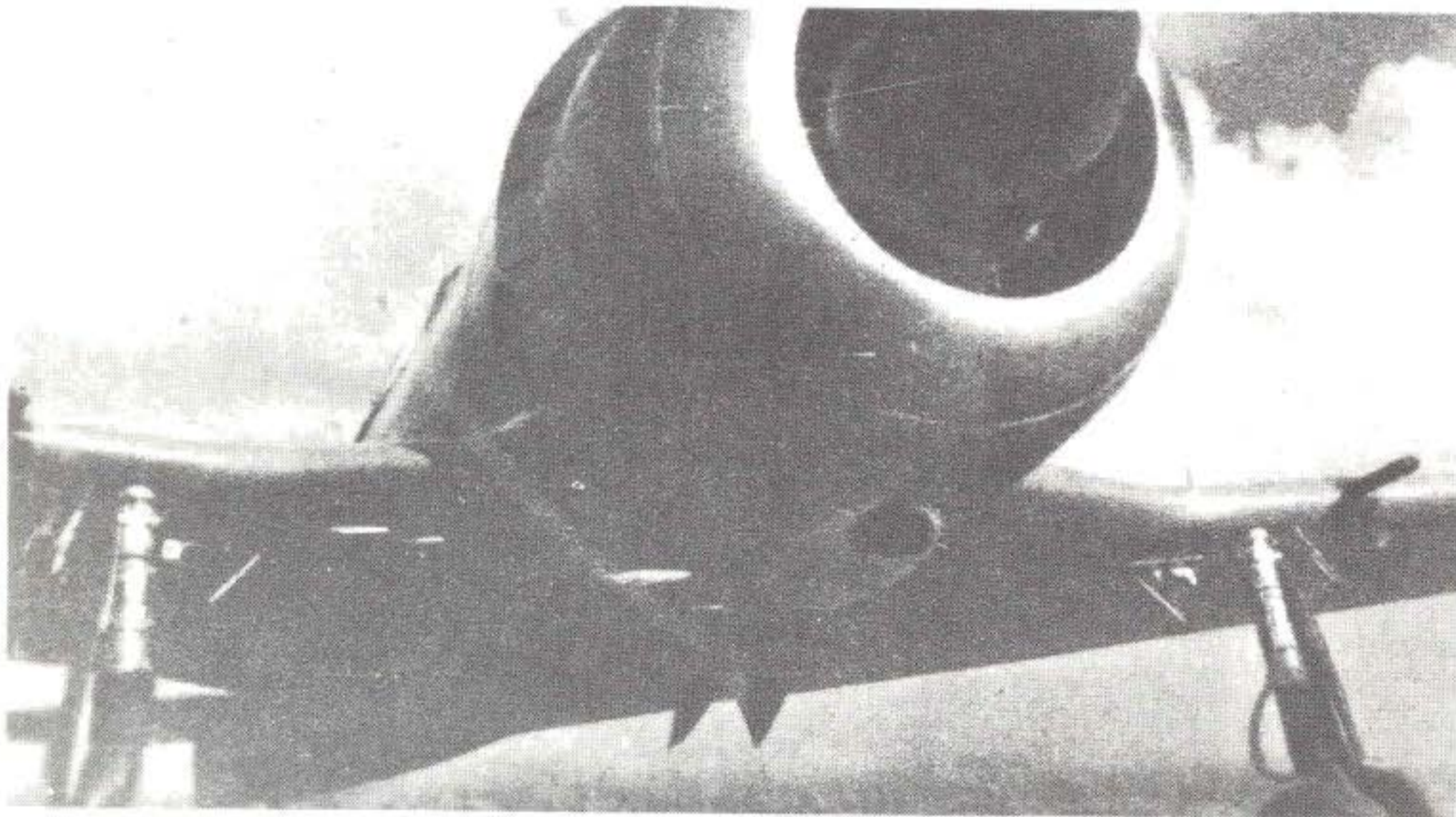




Akeno Army Flying School begins to receive Shoki. Nakajima Ki.4 used as trainer is at left background. (M. Toda via Bueschel)



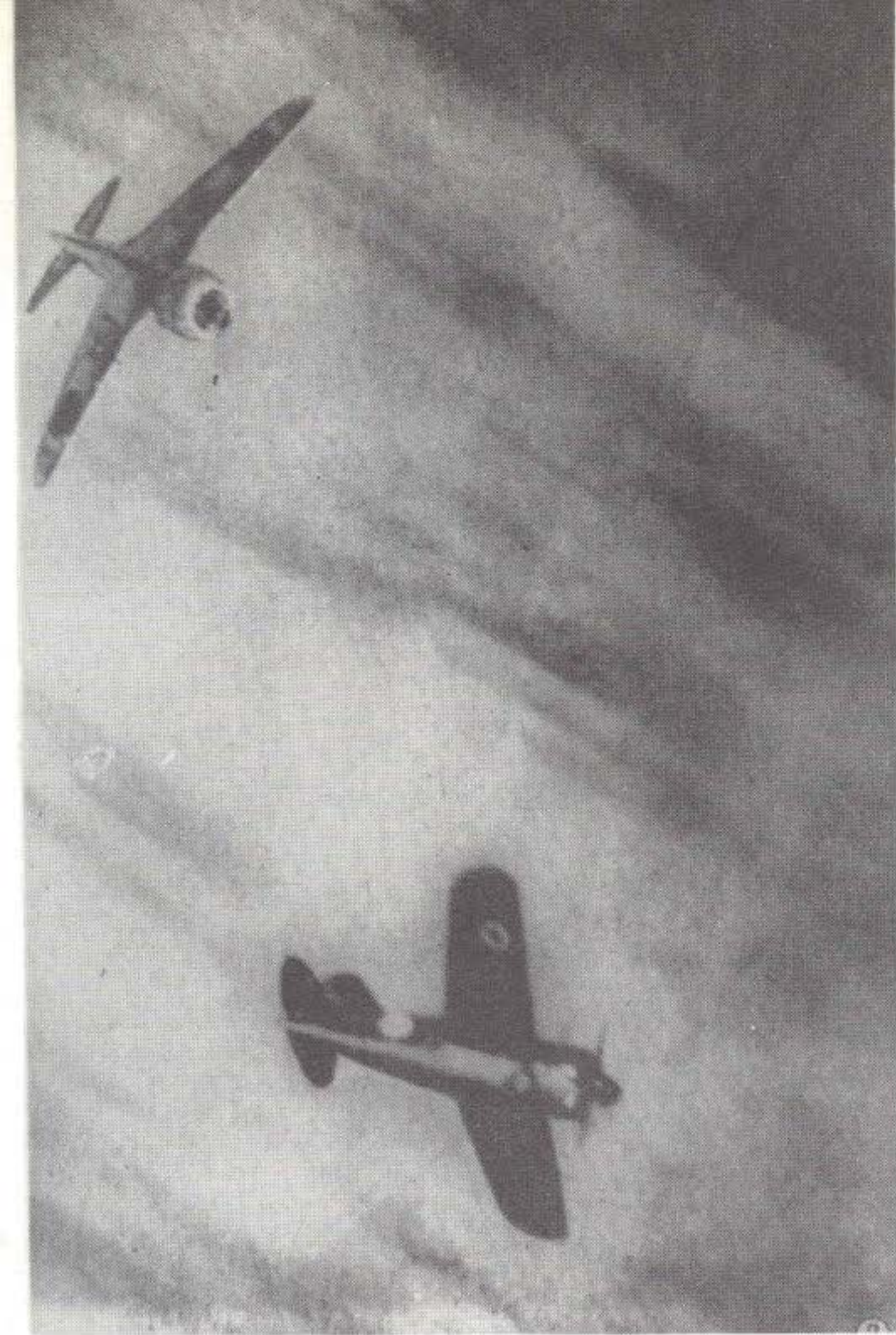
Clean lines of fighter show up in flight photo at Akeno. (Sekai no Kokuki via Bueschel)



Wing armament is 12.7mm Ho.103 Type 1 machine guns. (Koku Shonen via Bueschel)



Akeno marking appeared on green-grey rudder. (Sekai no Kokuki via Bueschel)

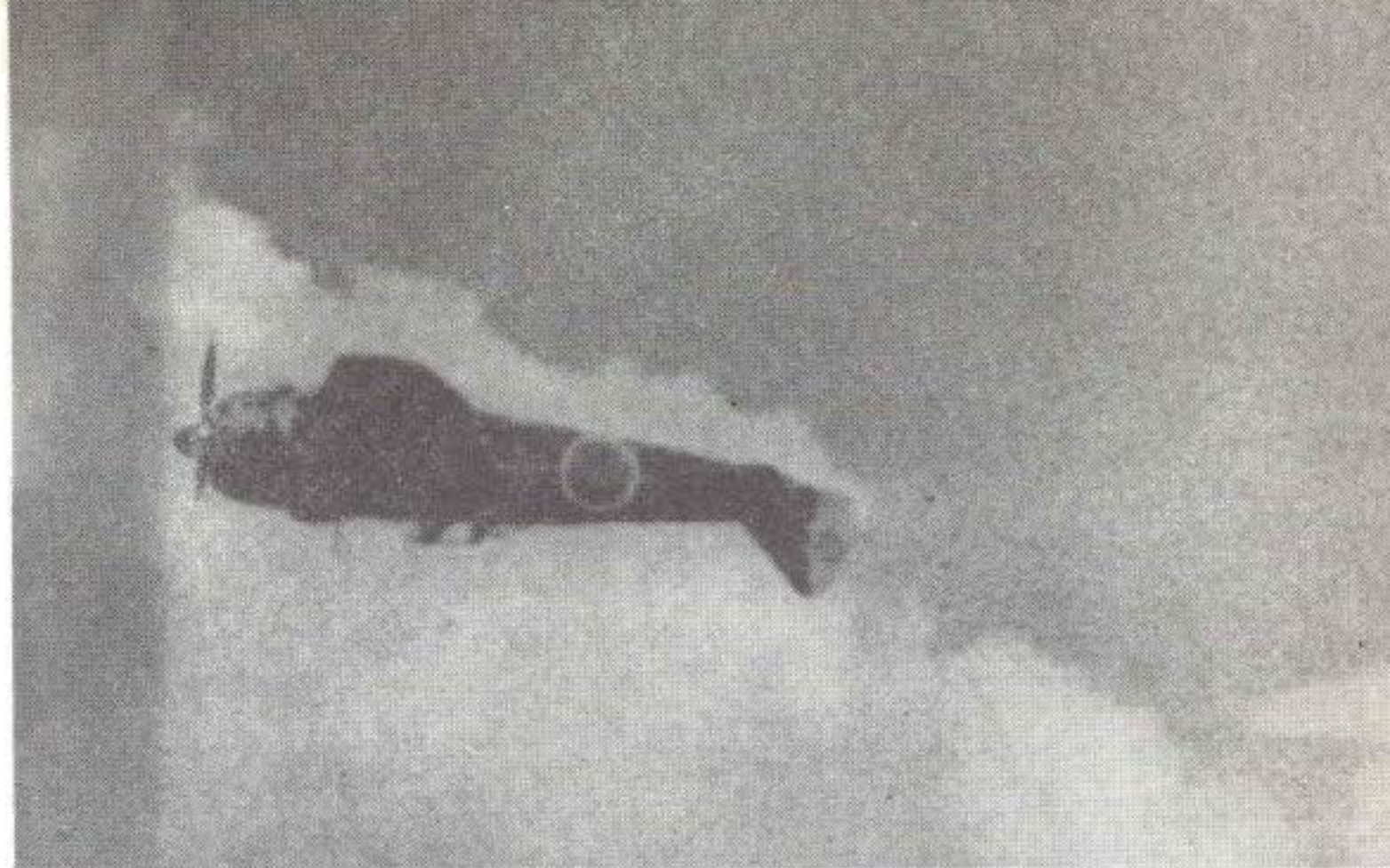


Above: Mock combat with Shoki pitted against Brewster Buffalo for training films and propaganda. (Sekai no Kokuki via Bueschel)

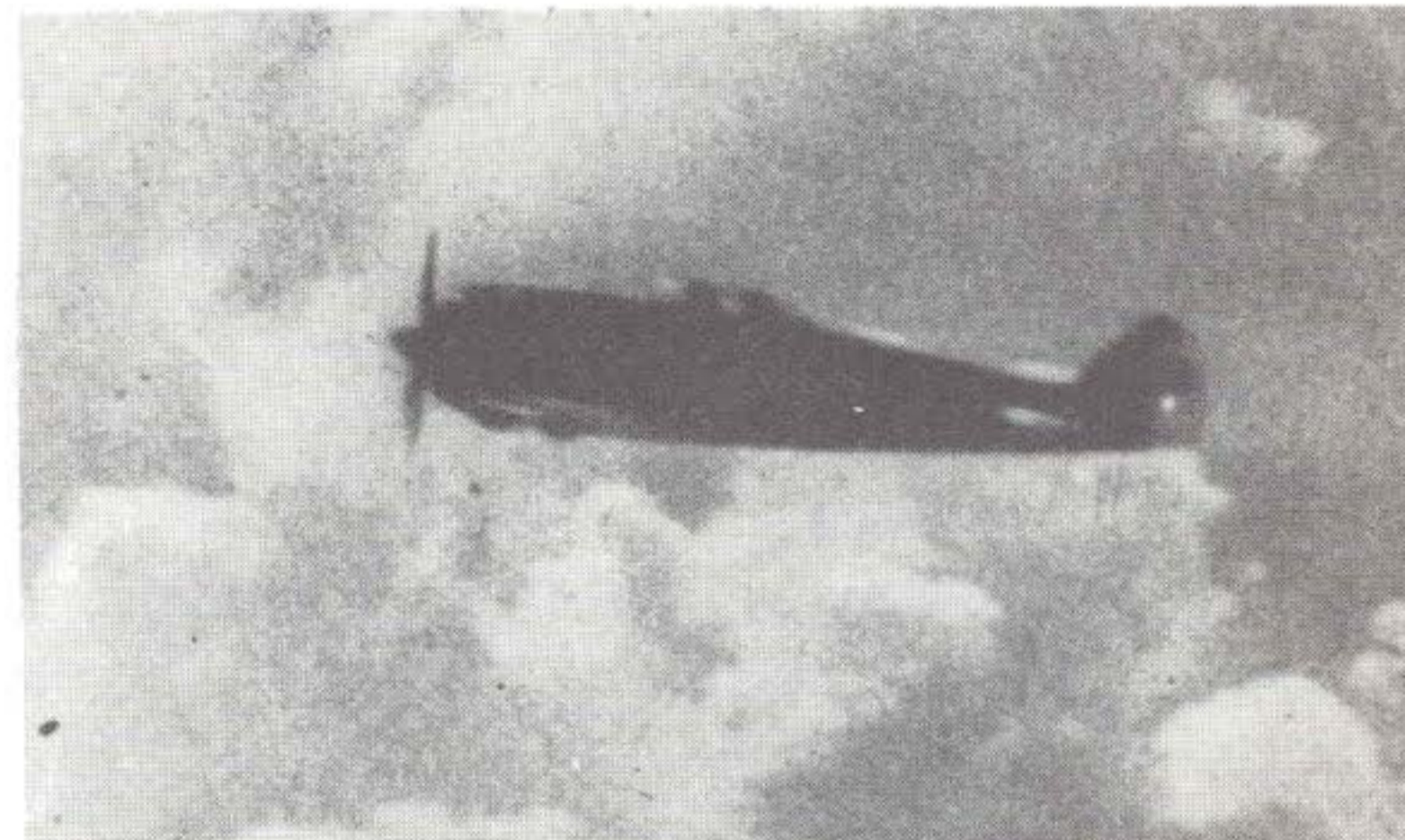
Right: Early Akeno training was in natural dural Shoki fighters. (Koku Shonen via Bueschel)

Below: Training for Air Defence, Shoki units were slated to defend oil fields in the East Indies and airfields in China. (Sekai no Tsubasa via Bueschel)

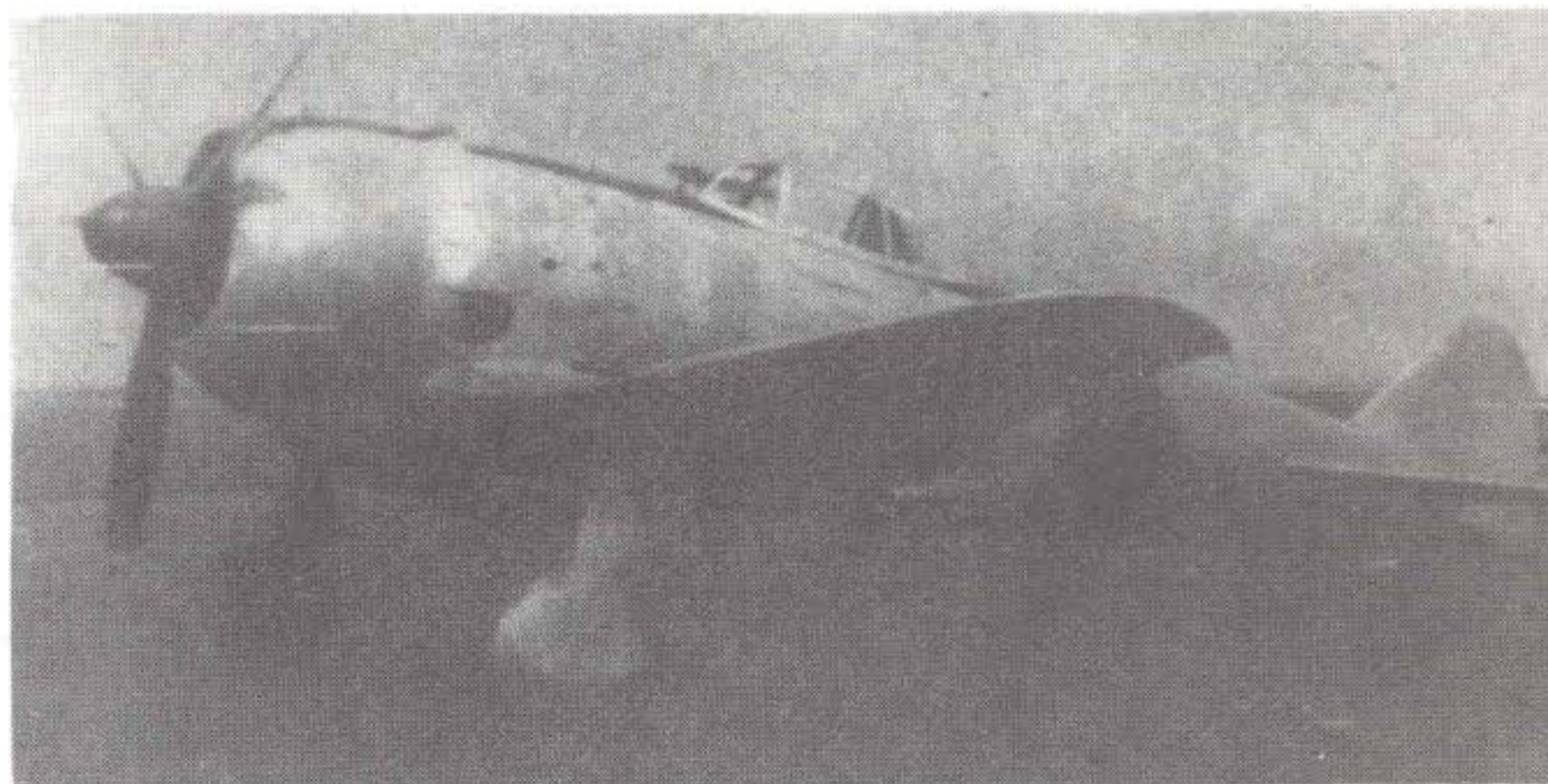
Below, right: Trained Shoki pilots ready to move with the 87th Fighter Regiment to Burma and the Dutch East Indies. (Shashin Shuho via Bueschel)



Above: The mass training begins! Ki.44-IIb on the top of a loop over Akeno Army Flying School in summer 1943. (Koku Asahi via Bueschel)



Above: Shoki training at Akeno was slow and careful as it was the hottest fighter in the JAAF. (Koku Asahi via Bueschel)

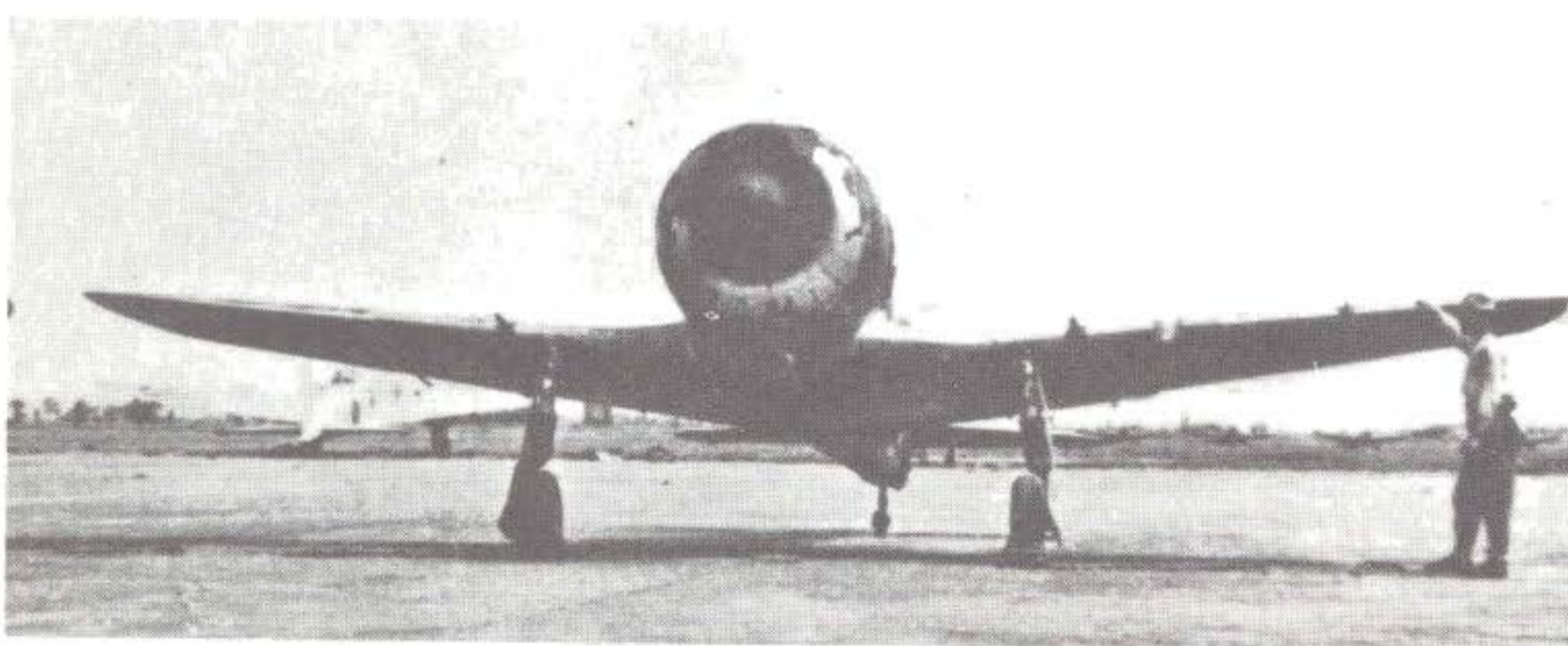




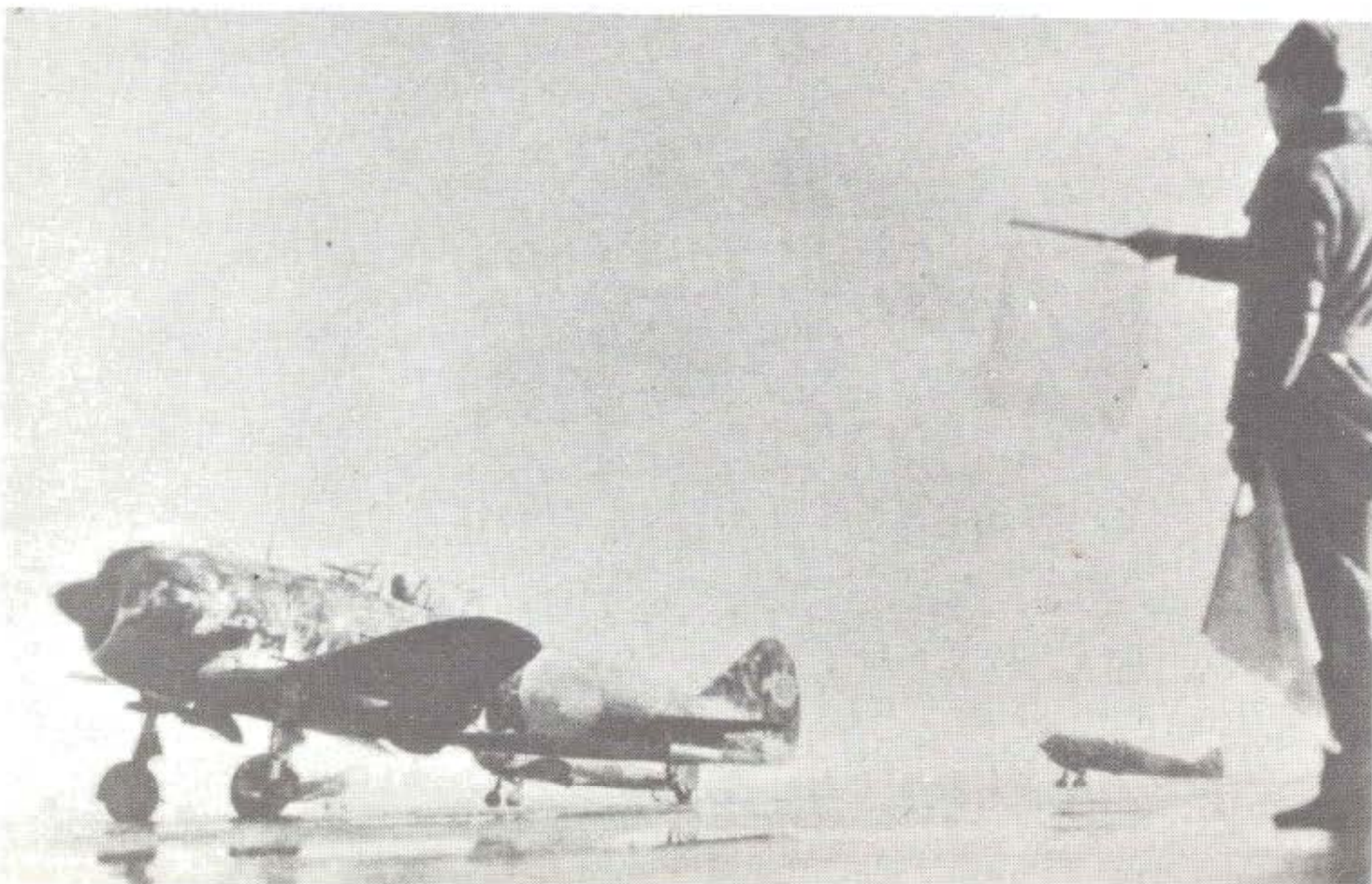
Above: Shoki Model 2 Fighters (left background) were flight tested against an imported Focke-Wulf Fw.190 A/5 (foreground) at Fussa late in 1943. (M. Toda via Bueschel)



Left: Later models were camouflaged prior to unit assignment. (Sekai no Kokuki via Bueschel)



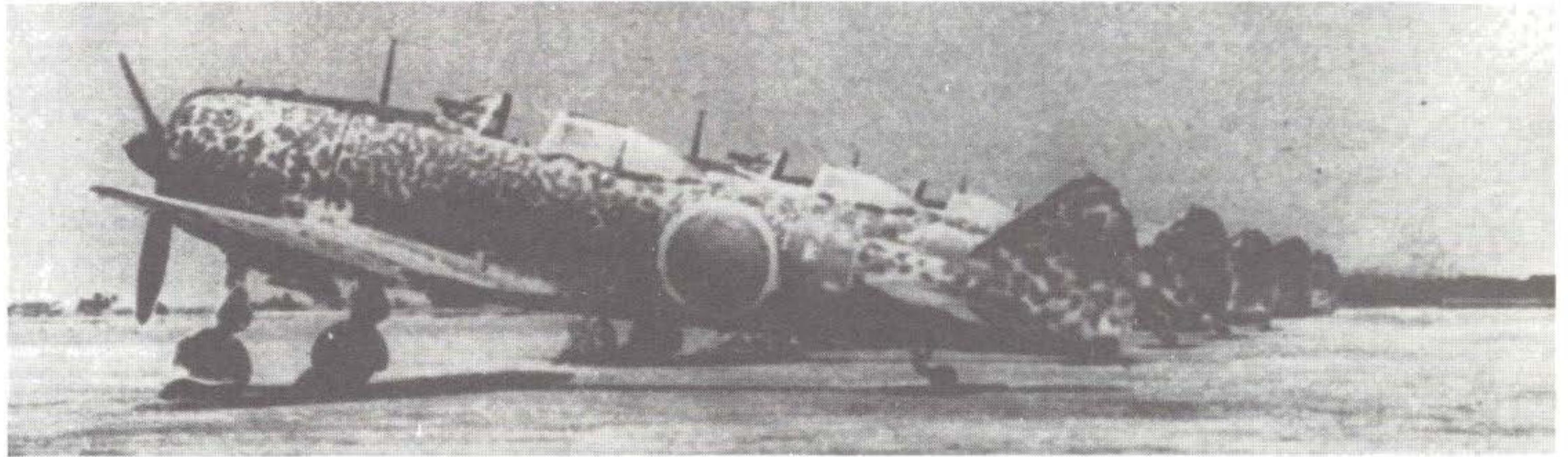
Conversion training at Akeno, Ki.54a at left background. (Koku Fan via Bueschel)



Growing availability led to intensified training at Akeno. (Koku Fan via Bueschel)

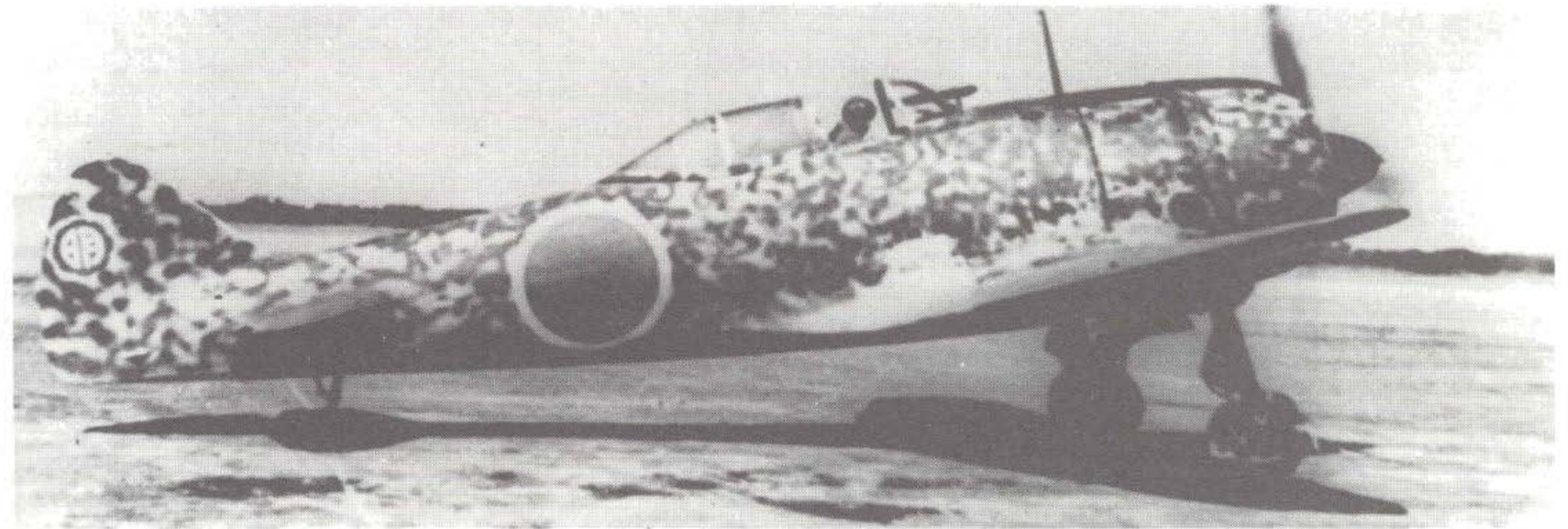


Above: Aircraft believed to belong to 87th Fighter Regiment. (Koku Asahi via Bueschel)

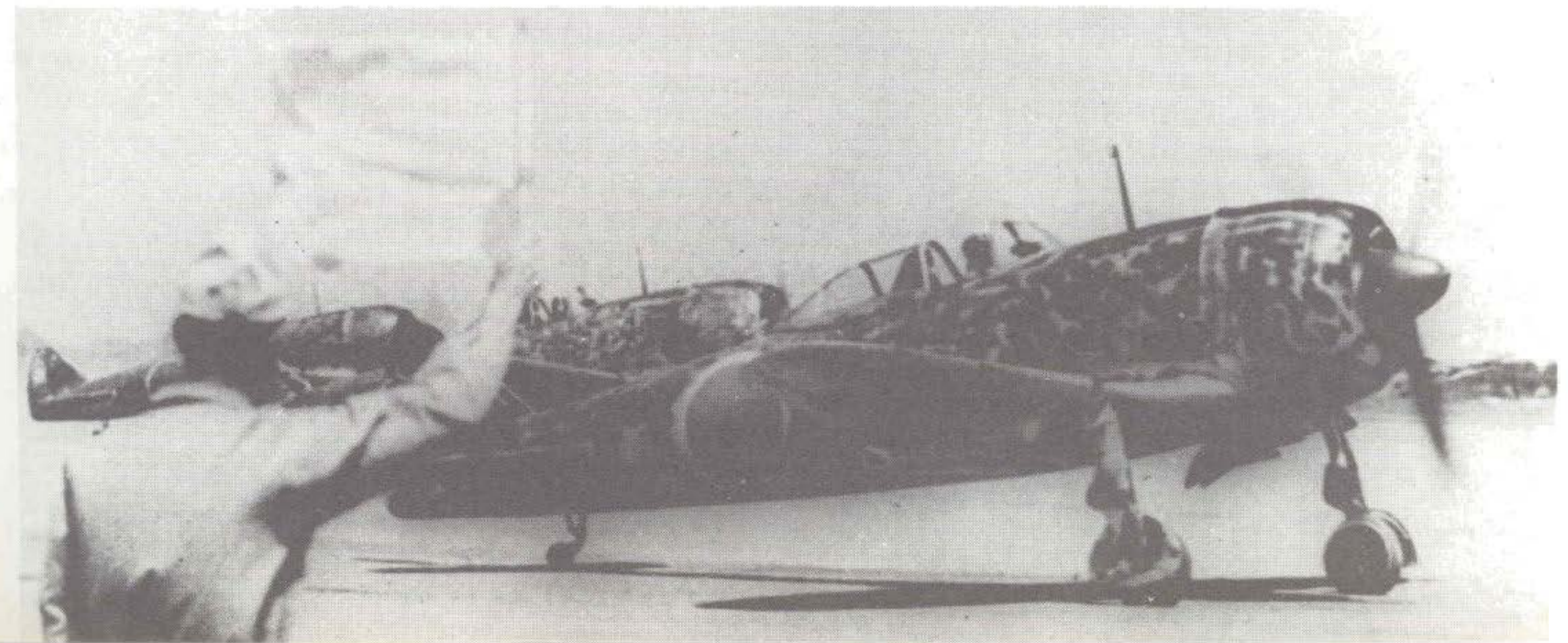


Above: Unit training at Akeno in September 1943. (Koku Asahi via Bueschel)

Below: Aircraft No. 64 at Akeno. (Koku Fan via Bueschel)



Below: Flag for take-off. (Koku Fan via Bueschel)





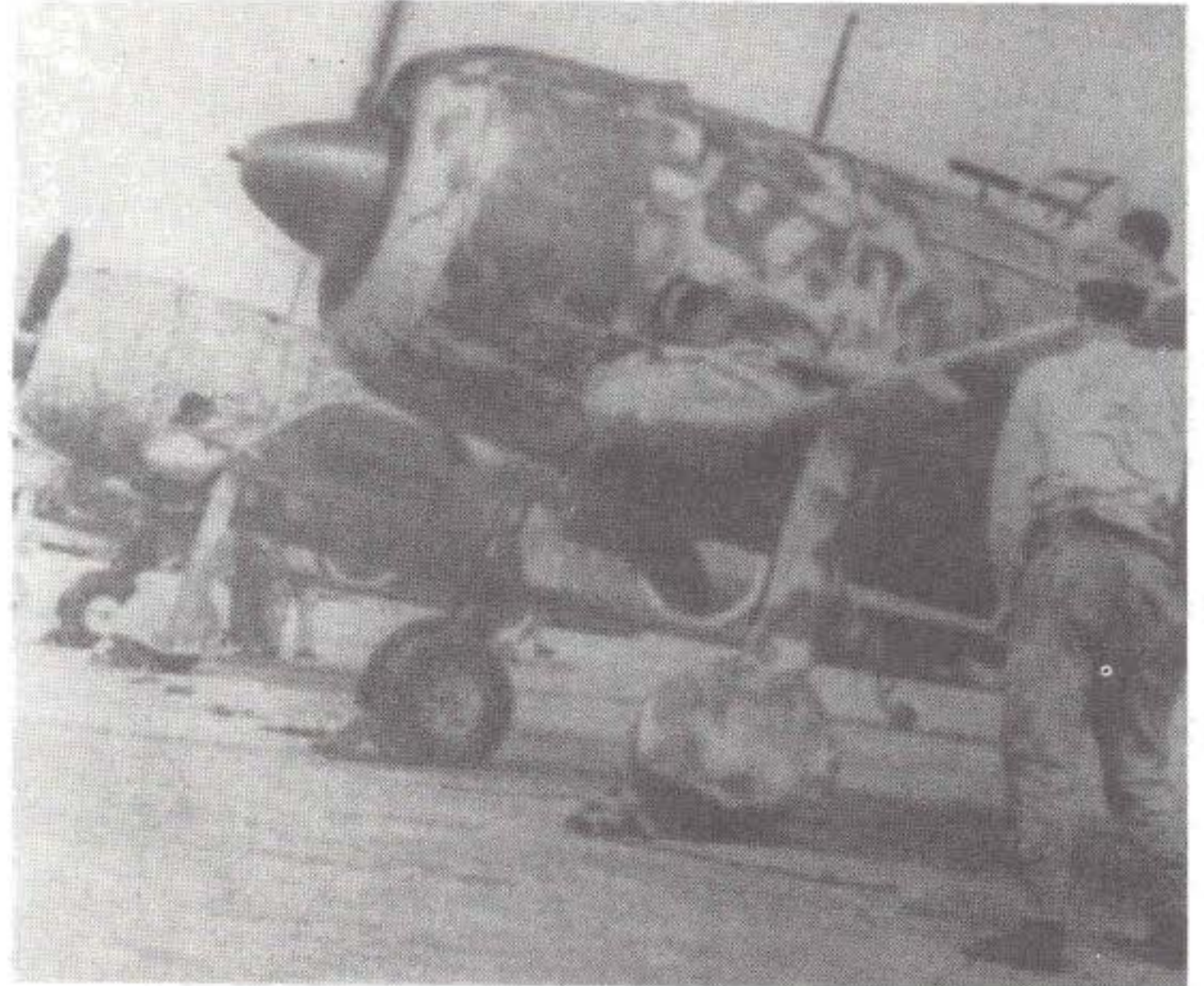
Above: Shoki unit graduates from Akeno Army Flying School in late 1943. (R. M. Bueschel)

Right: Complete unit training included ground crew familiarization. (Koku Asahi via Bueschel)



Above: Ready to go overseas! (Koku Fan via Bueschel)

Below: Aircraft No. 65 of unknown Regiment at Akeno. (R. M. Bueschel)



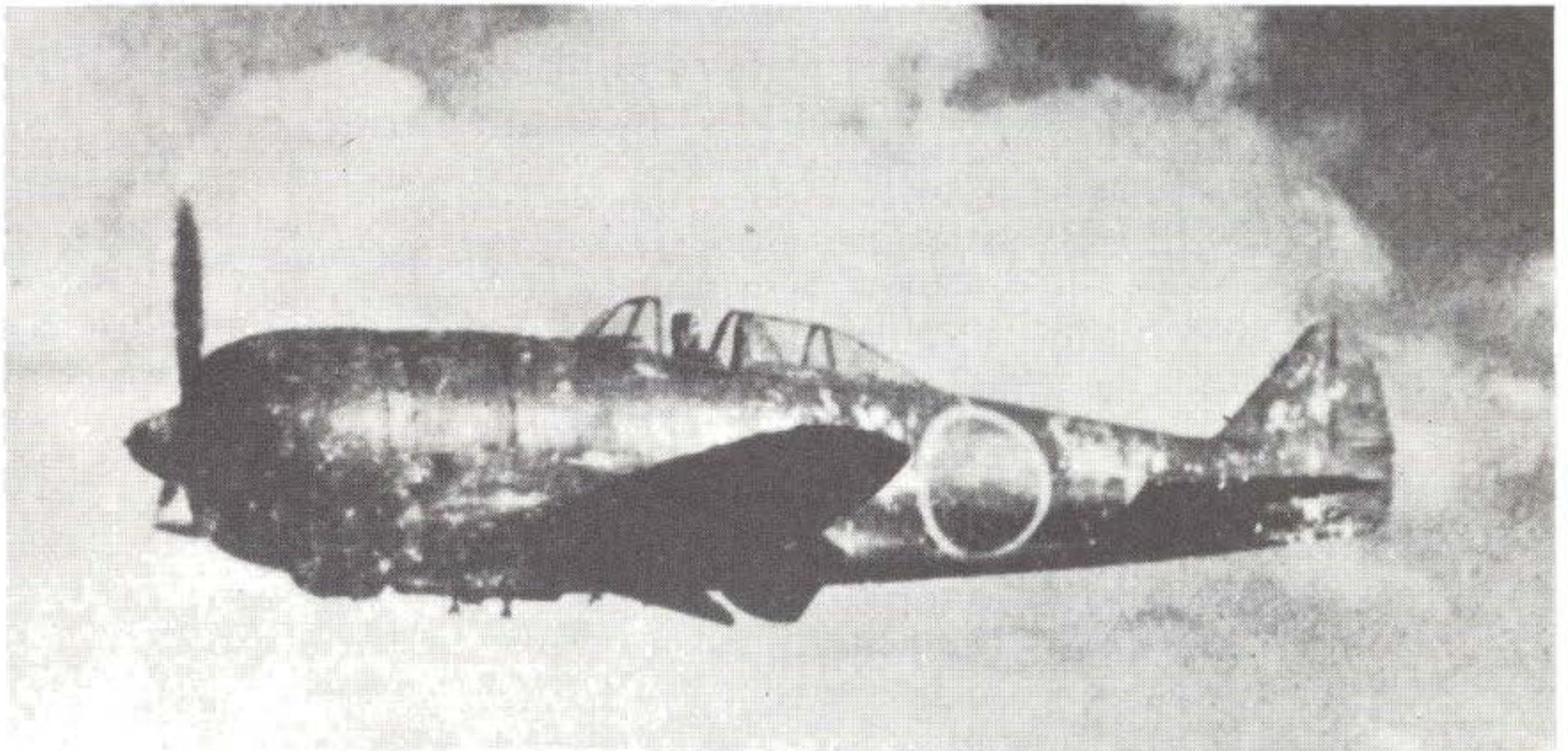
Below: Aircraft No. 84 of unit at Akeno in spring 1944. (R. M. Bueschel)



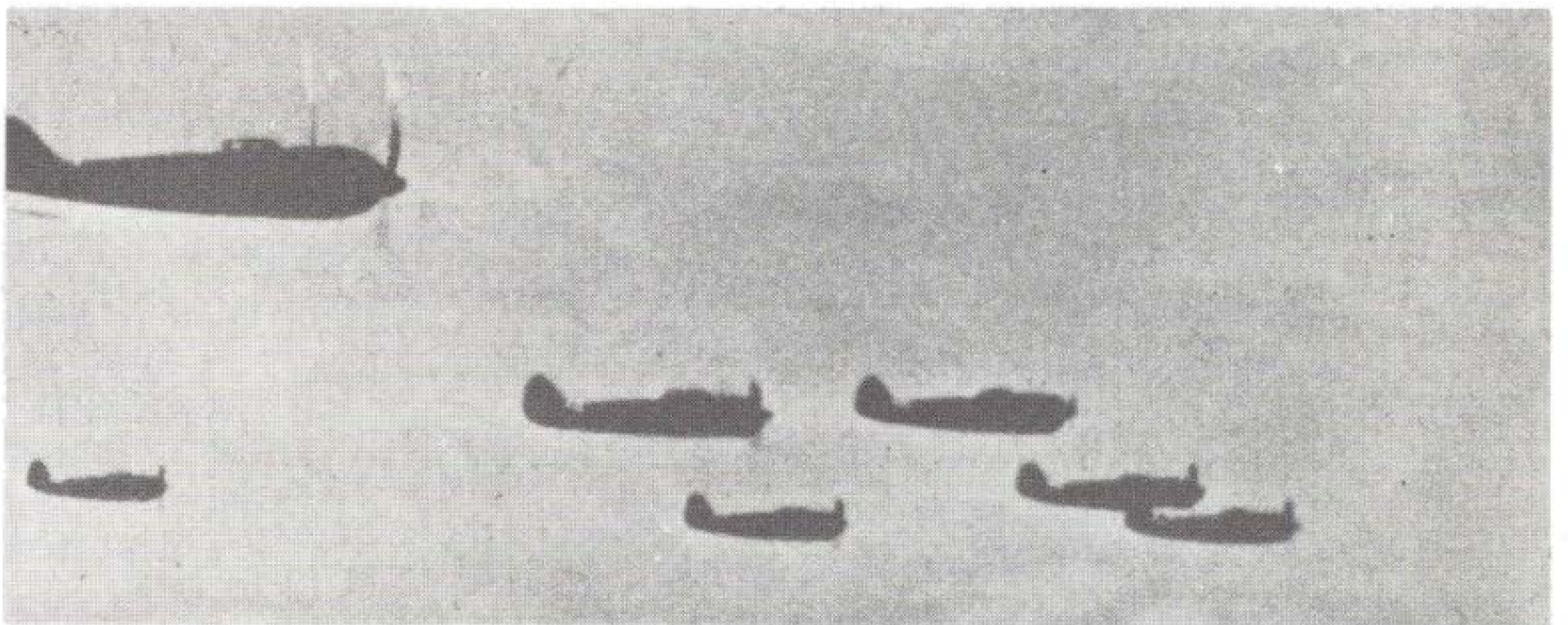


Above: Shoki of Commander, 2nd Company, 85th Fighter Regiment, Jogai Airfield, Nanking, China in summer 1943. (R. M. Bueschel)

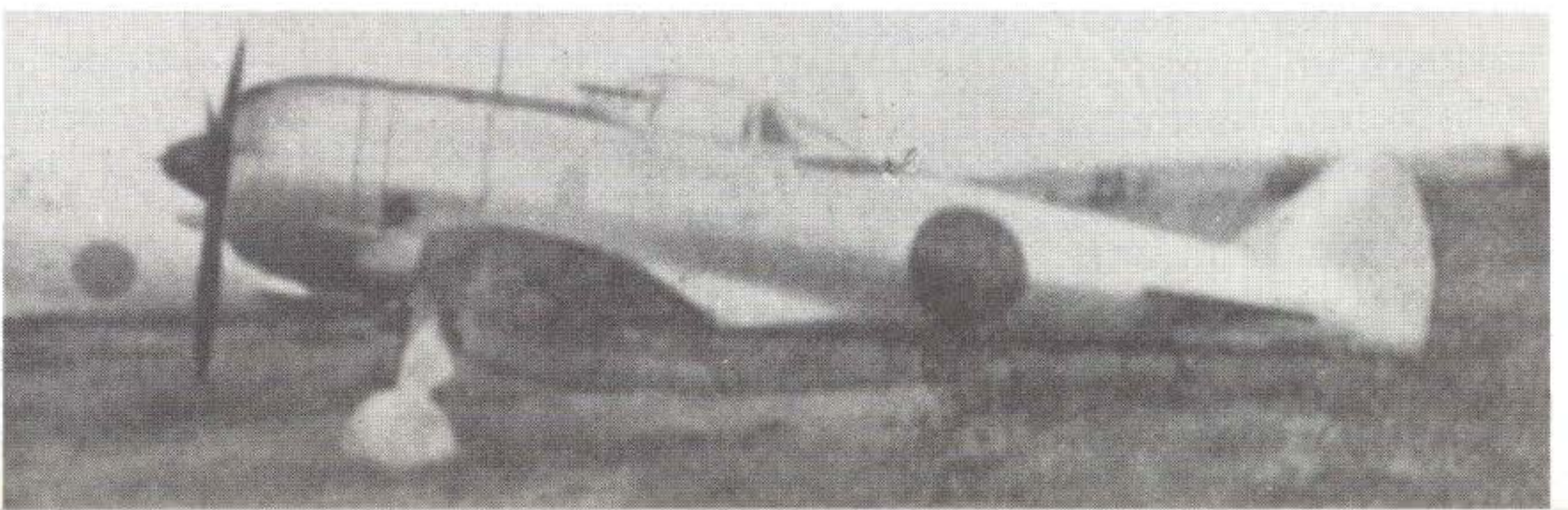
Right: Allies gave the Ki.44 the code name "Tojo" when they met it in combat. (M. Toda via Bueschel)



Formation over Burma in early combat photo of Model 2 Shoki. (Hiko Shonen via Bueschel)



Ki.44-IIb of 85th Fighter Regiment, Central China, summer 1943. (R. M. Bueschel)



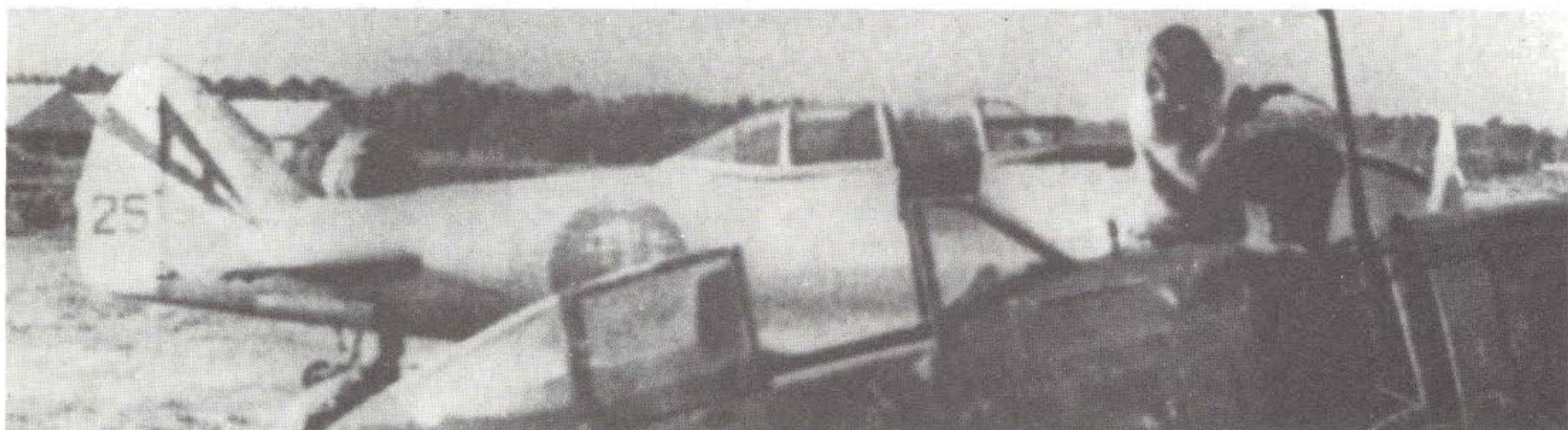


Above: Wing armament moved from 12.7mm m.g. to 20mm cannon and finally 40mm cannon for Home Island defence. (R. M. Bueschel)



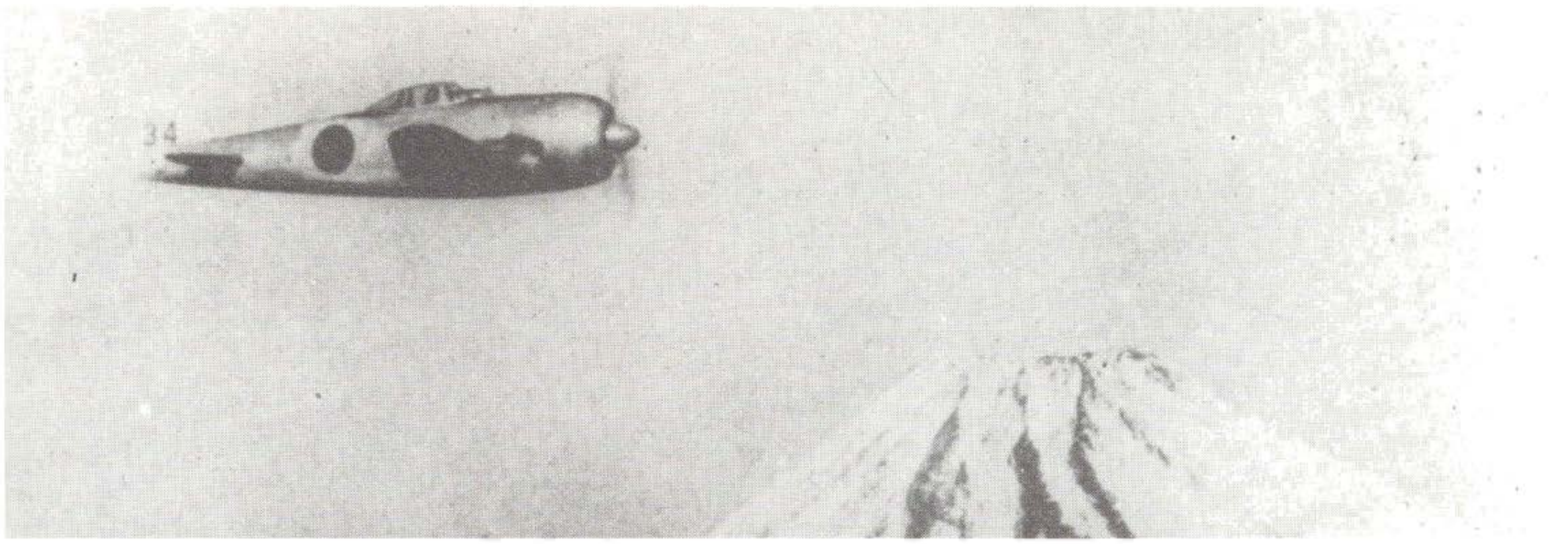
Right: A variety of Shoki models were assembled in Japan for home defence during Philippines crisis. (R. M. Bueschel)

Below: The 47th Independent Fighter Company returns to Japan. Shoki in background, Hayabusa in foreground. (M. Toda via Bueschel)

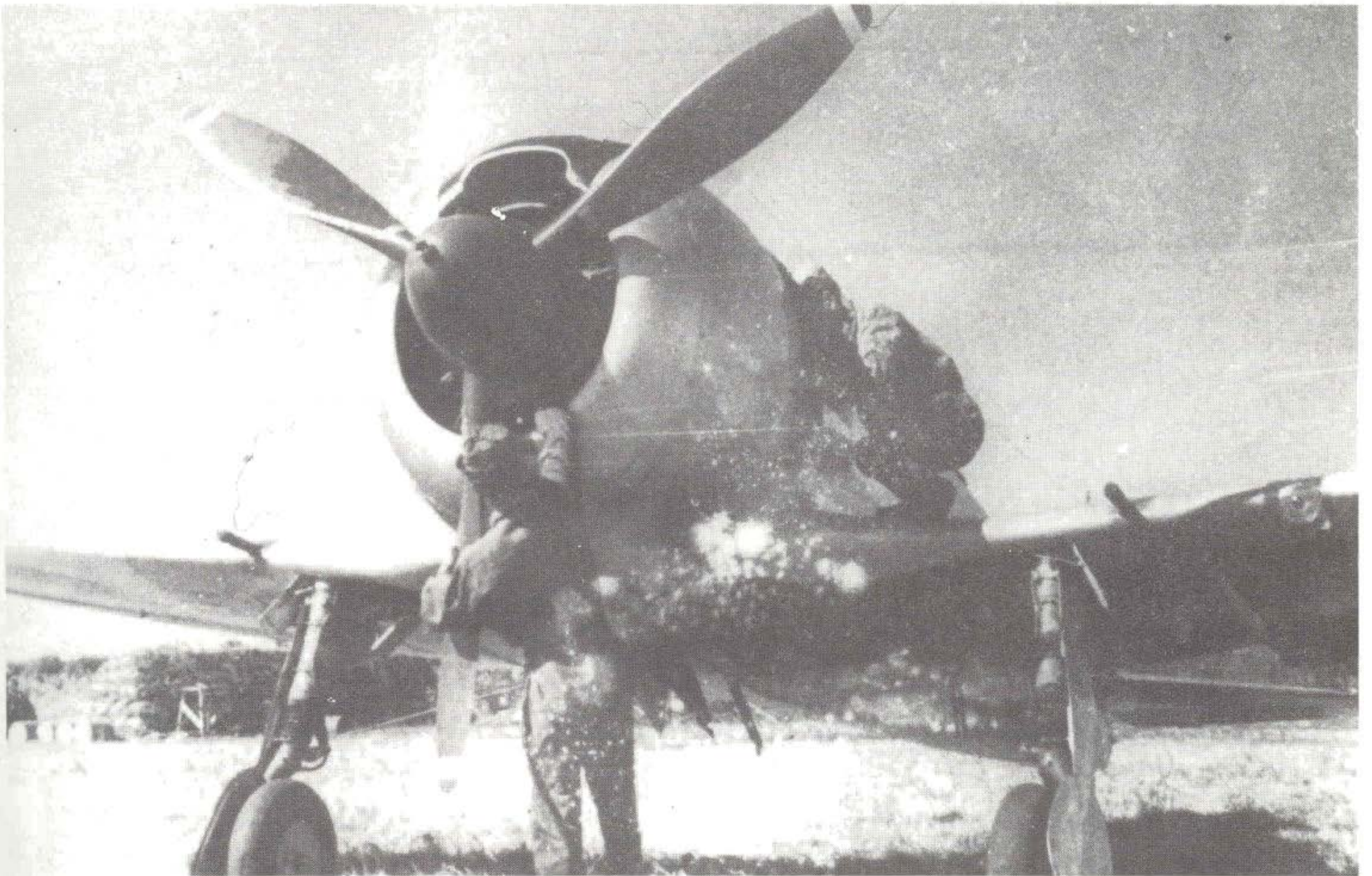


Below: Confident and cocky, JAAF pilots assigned to home island defence were unaware that their Shoki was not ready for the high altitude bombing runs of the B-29. (M. Toda via Bueschel)





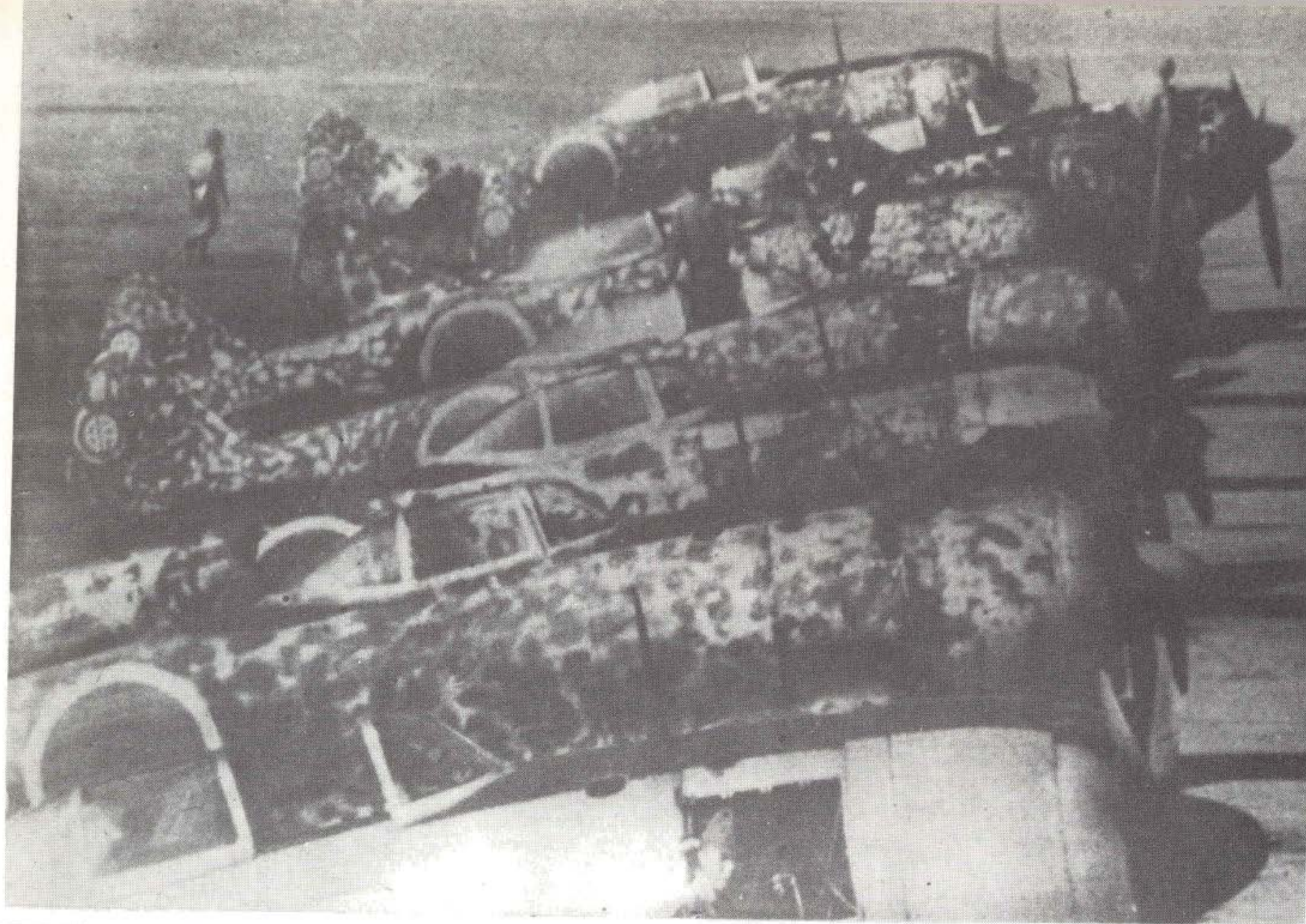
Above: Shoki of unidentified home defence unit over Mt. Fuji in late 1944. (R. M. Bueschel)



Above: Field maintenance on Shoki in Japan. Revetments at left rear. (Hideya Ando via Bueschel)

Below: Possibly 29th Fighter Regiment Shoki. Unit was sent to Philippines in November 1944. (M. B. Passingham via Bueschel)





Above: "Tojo" fighters at Akeno in August 1944 prior to assignment to the Philippines. (Asahigraph via Bueschel)



Left: 22nd Fighter Regiment Ki.44-IIb in Philippines mounted two drop tanks. (USAF via Bueschel)



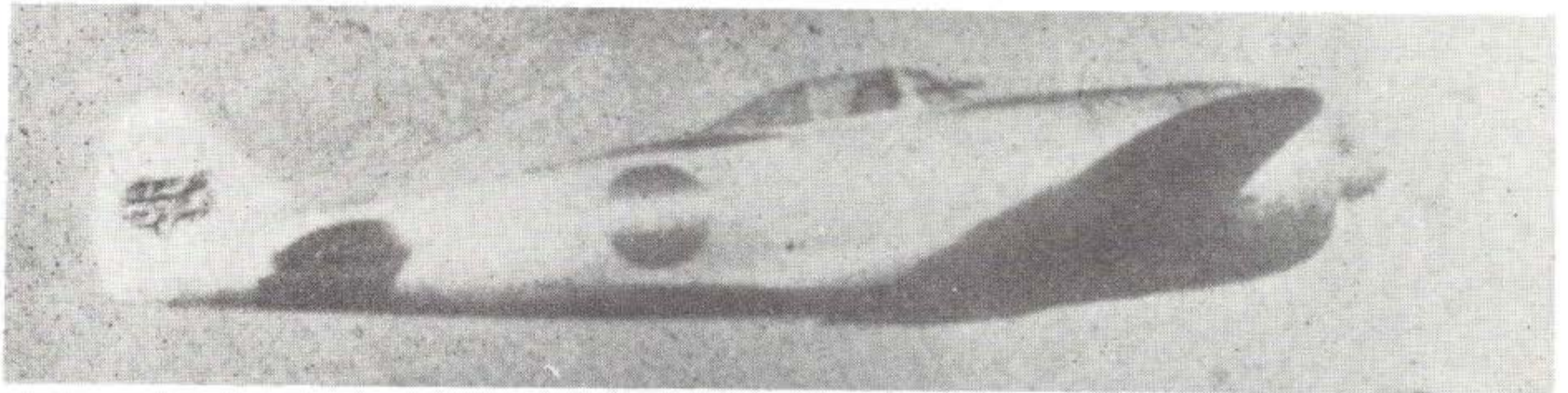
Shoki of 22nd Fighter Regiment captured by Americans at Clark Field, Philippine Islands. Individual marking on rudder. (USAF via Bueschel)



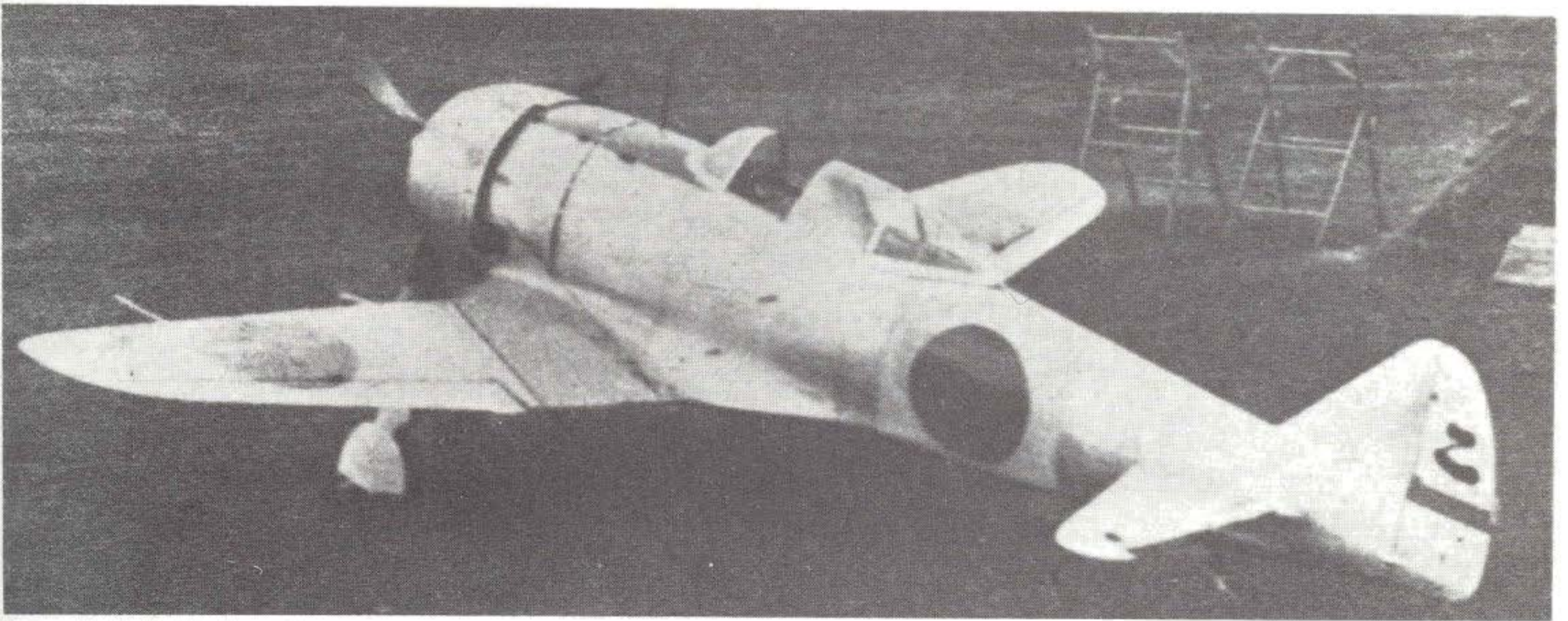
246th unit marking on vertical tail of Ki.44-IIb in Philippines. (USAF via Bueschel)



Wrecked Shoki of 246th  
Fighter Regiment in the  
Philippines.  
(USAF via Bueschel)



Japanese wartime cen-  
sor scratches out Shoki  
unit marking over  
Japan. (Hiko Nippon  
via Bueschel)

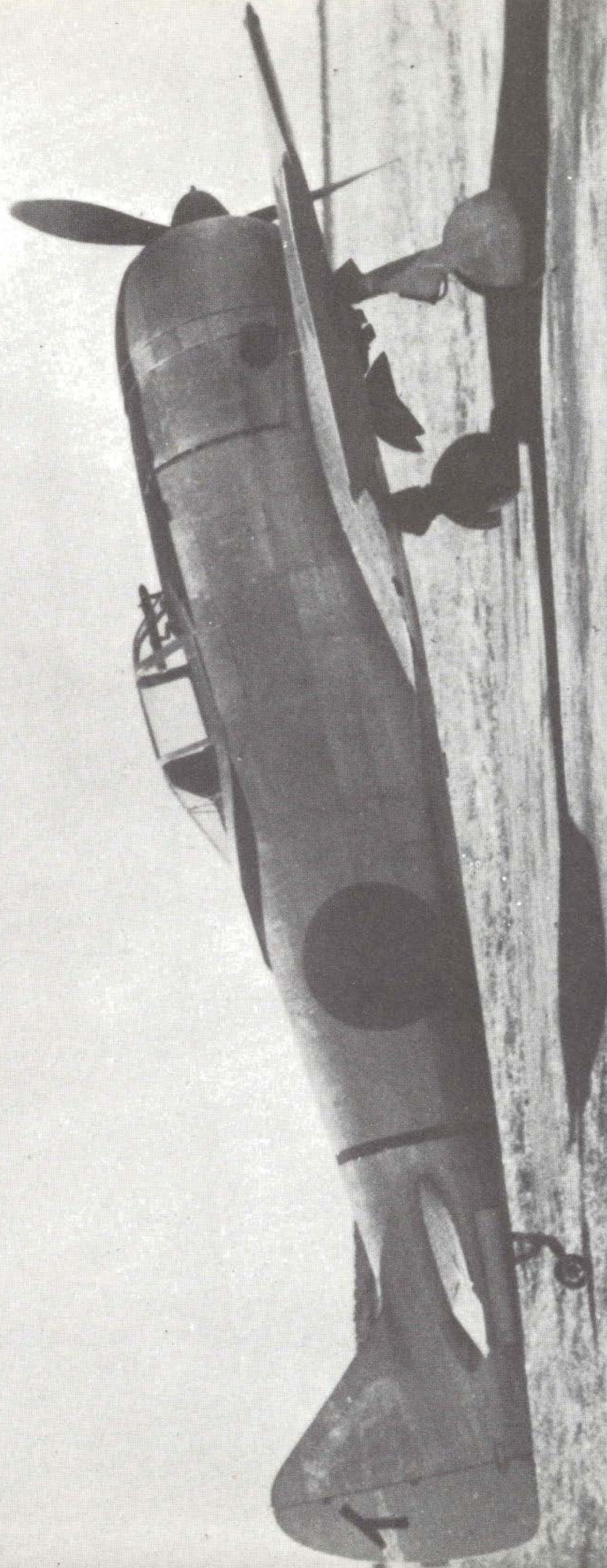


Above: Ki.44-IIb Shoki at Tokorozawa Army Aviation Maintenance School in early 1944. Aircraft is marked "To". (Hiko Nippon via Bueschel)  
Below: Aircraft "Yo" at Tokorozawa late in 1943. Ki.45-Kai in background. (Koku Fan via Bueschel)

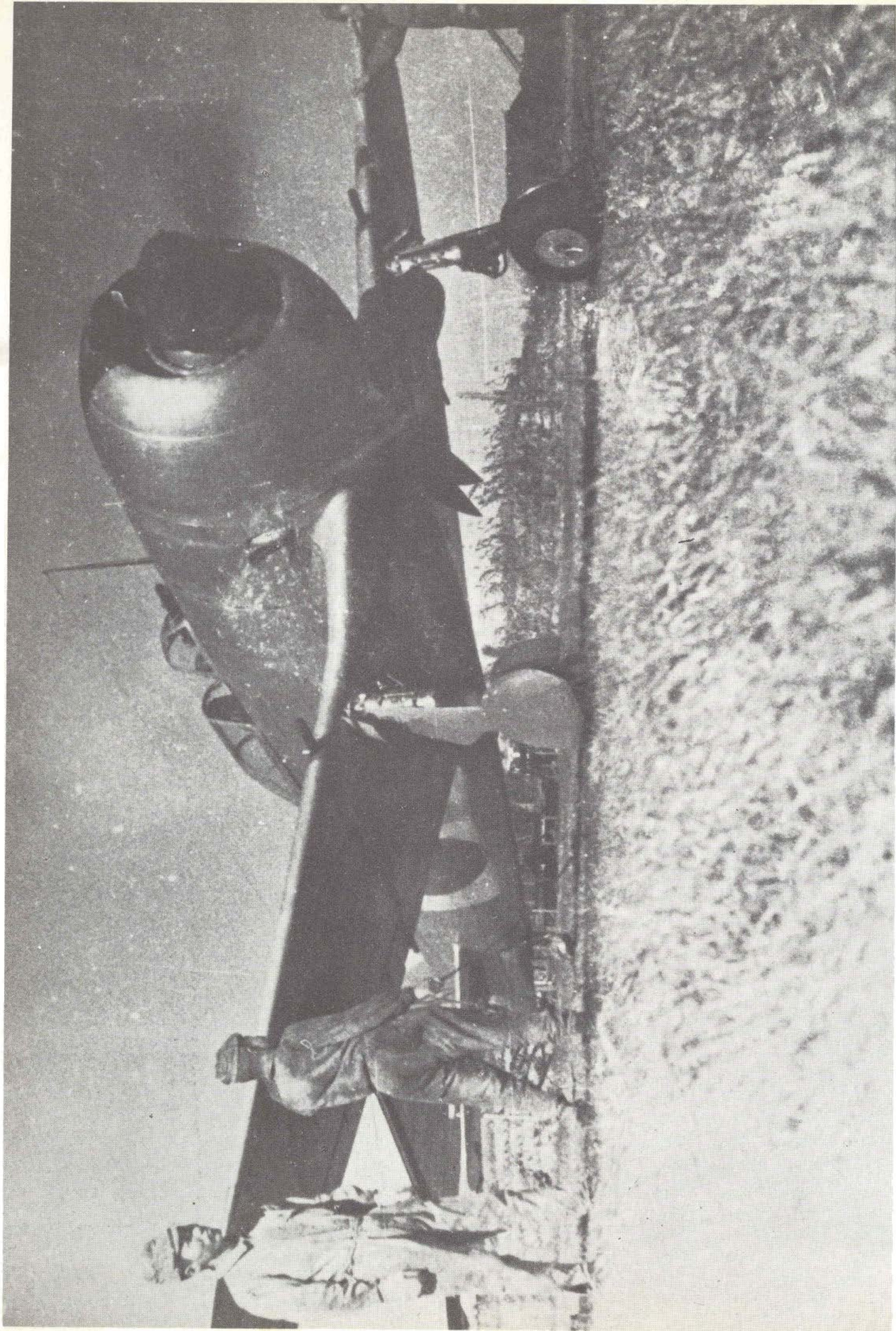




This photo has been retouched by JAAF for use in Aikoku "Patriotism" presentations with contributors noted by Kanji symbols added to fuselage.  
(Noboru Jyoko via Bueschel)



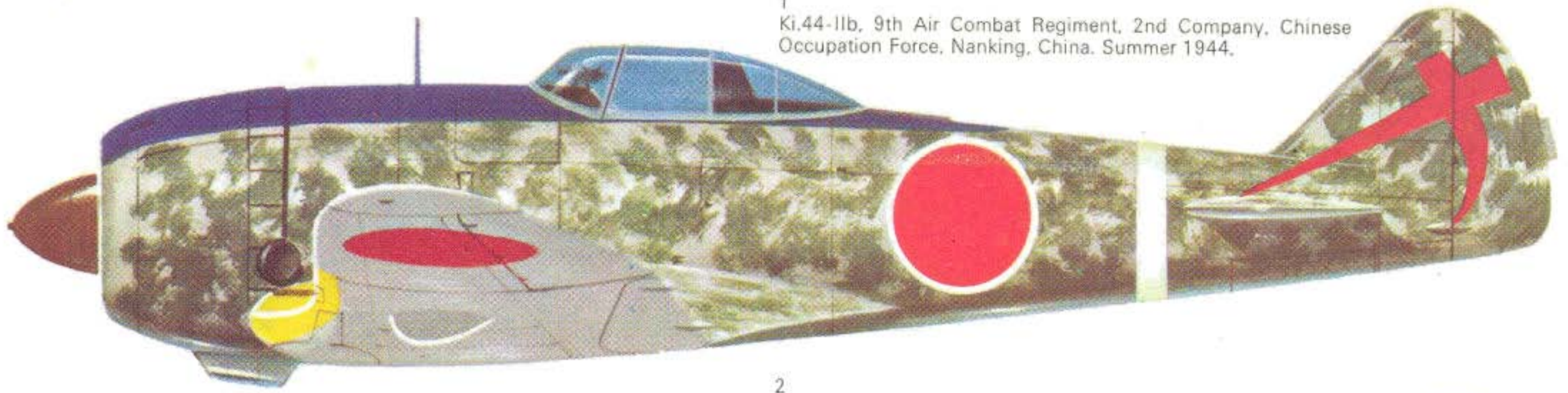
The Model 2 incorporated changes dictated by service experience with the Model 1. (R. C. Mikesh via Bueschel)



Ki.44-IIb was the prime model used by the 47th Fighter Regiment. (Hideya Ando via Bueschel)

A

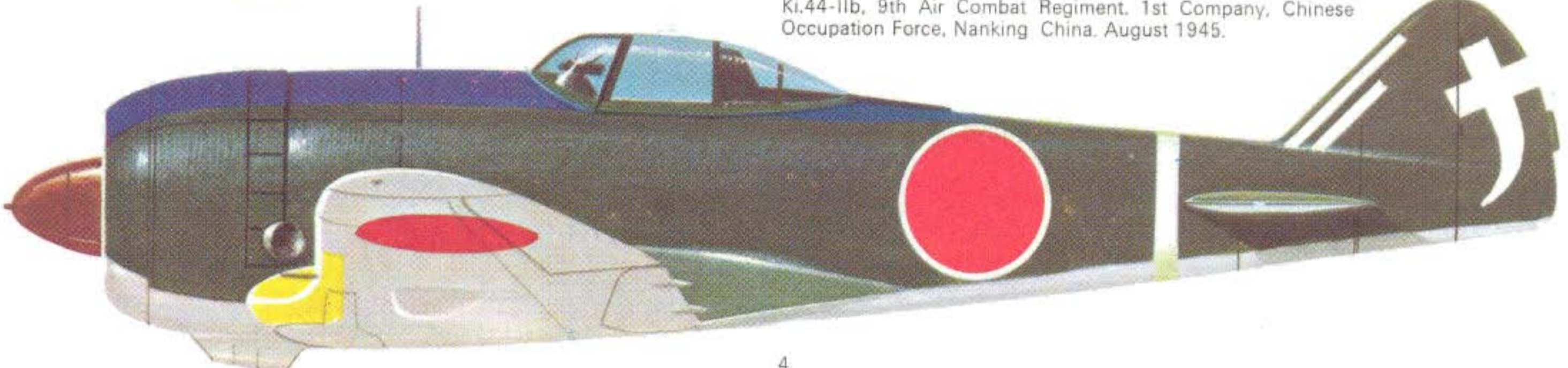
1  
Ki.44-IIb, 9th Air Combat Regiment, 2nd Company, Chinese Occupation Force, Nanking, China. Summer 1944.



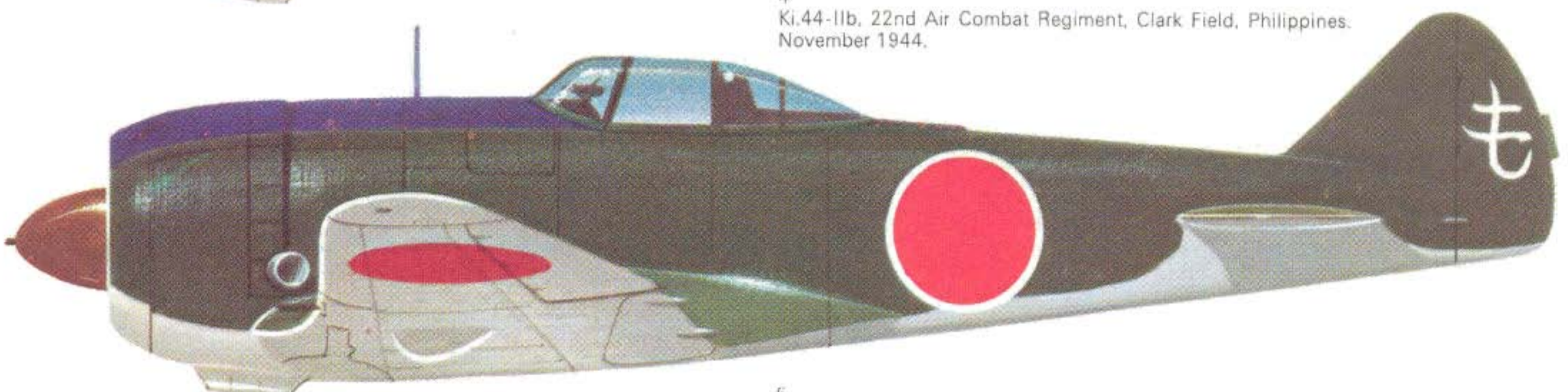
2  
Ki.44-IIb, 9th Air Combat Regiment, Headquarters Company, Chinese Occupation Force, Nanking, China. Summer 1944.



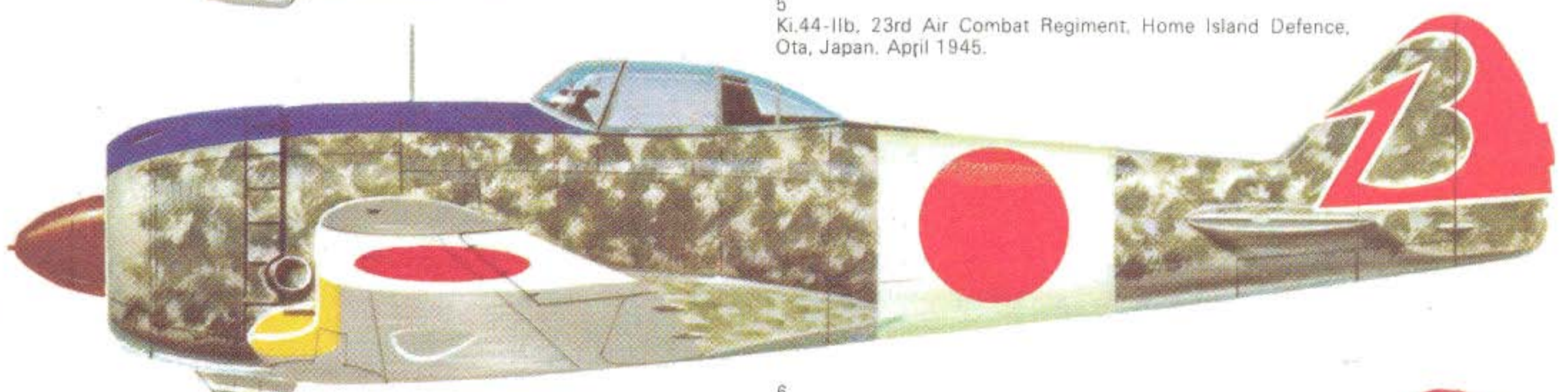
3  
Ki.44-IIb, 9th Air Combat Regiment, 1st Company, Chinese Occupation Force, Nanking, China. August 1945.



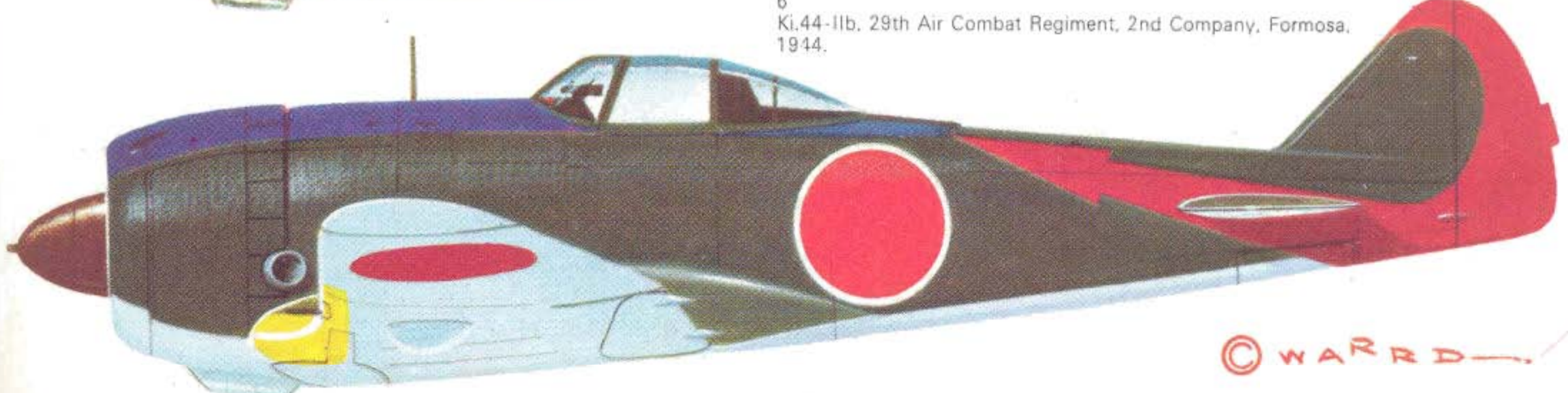
4  
Ki.44-IIb, 22nd Air Combat Regiment, Clark Field, Philippines. November 1944.



5  
Ki.44-IIb, 23rd Air Combat Regiment, Home Island Defence, Ota, Japan. April 1945.

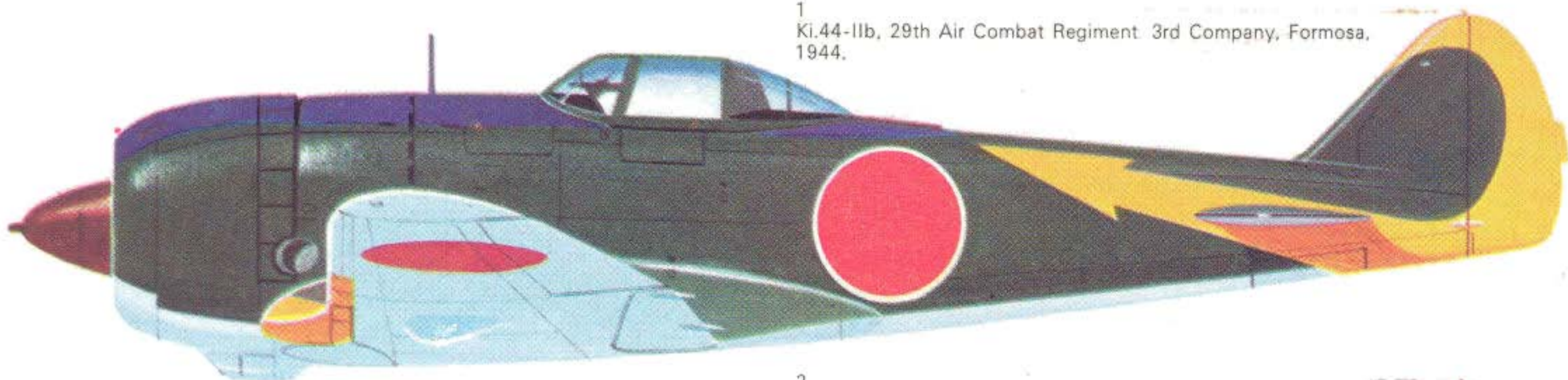


6  
Ki.44-IIb, 29th Air Combat Regiment, 2nd Company, Formosa, 1944.

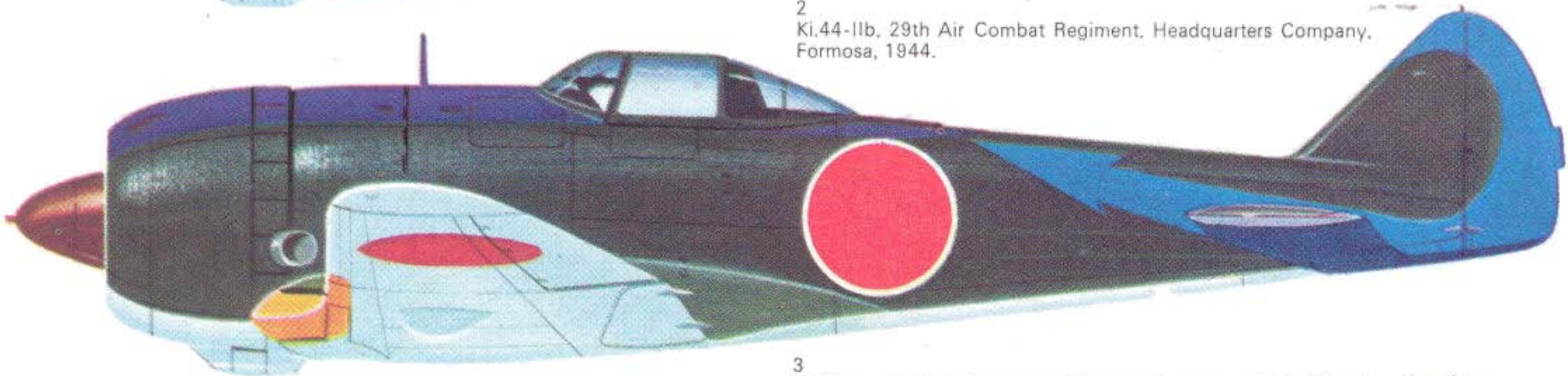


B

1  
Ki.44-IIb, 29th Air Combat Regiment 3rd Company, Formosa, 1944.



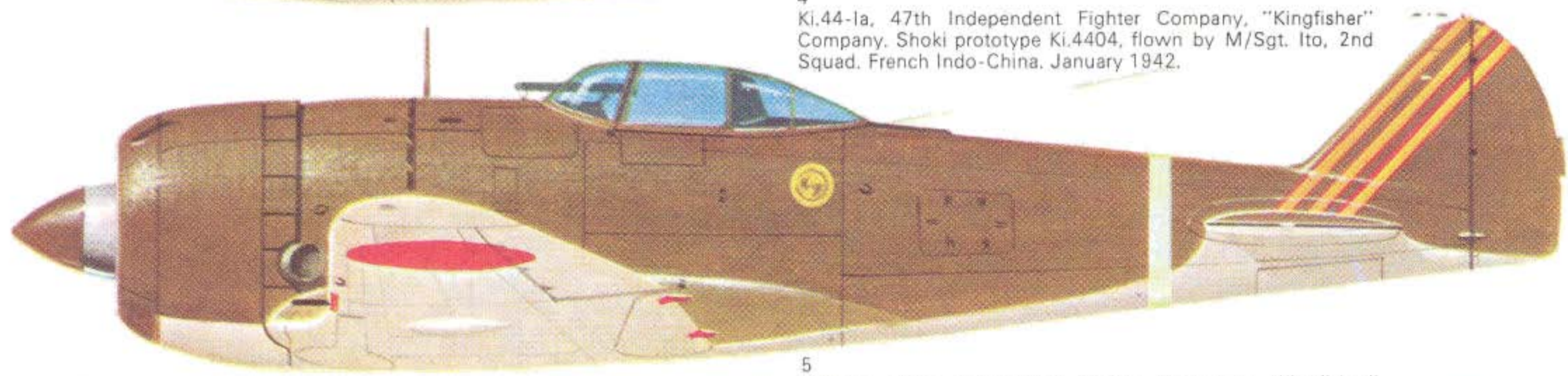
2  
Ki.44-IIb, 29th Air Combat Regiment, Headquarters Company, Formosa, 1944.



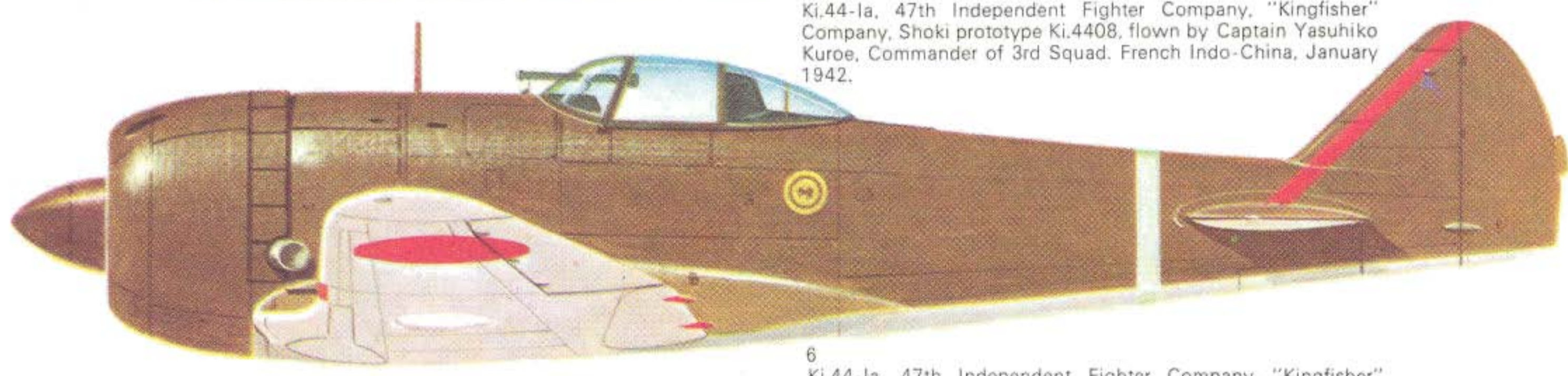
3  
Ki.44-Ia, 47th Independent Fighter Company, "Kingfisher" Company, Shoki prototype Ki.4405, flown by Major Sakagawa, Commander of 1st Squad, French Indo-China, January 1942.



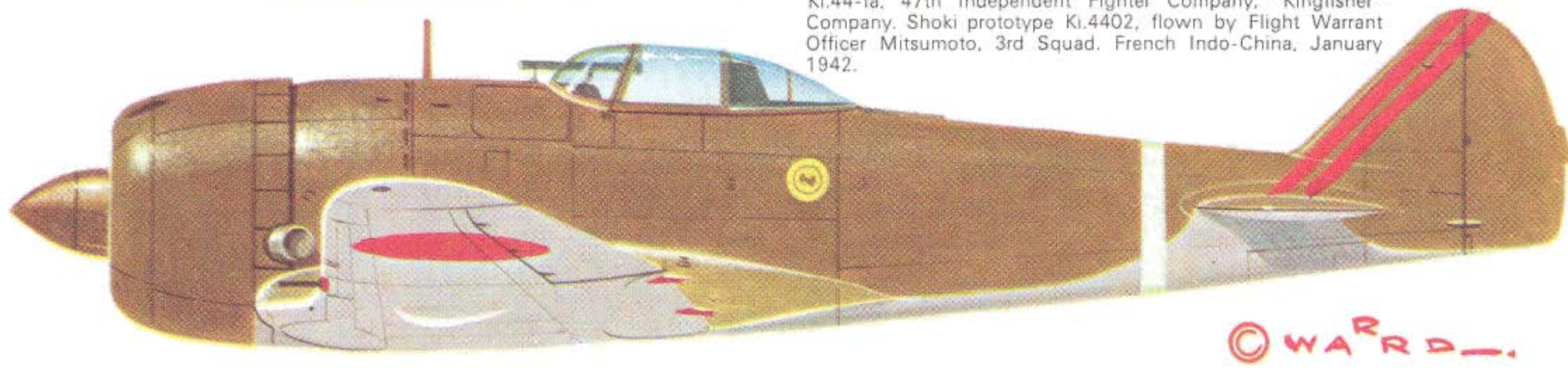
4  
Ki.44-Ia, 47th Independent Fighter Company, "Kingfisher" Company, Shoki prototype Ki.4404, flown by M/Sgt. Ito, 2nd Squad, French Indo-China, January 1942.



5  
Ki.44-Ia, 47th Independent Fighter Company, "Kingfisher" Company, Shoki prototype Ki.4408, flown by Captain Yasuhiko Kuroe, Commander of 3rd Squad, French Indo-China, January 1942.

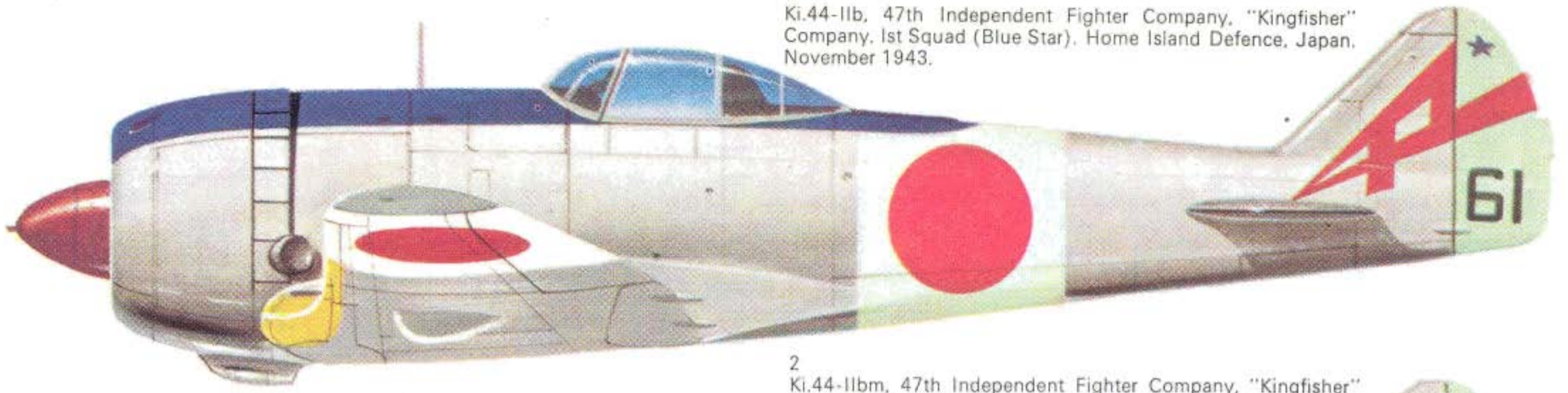


6  
Ki.44-Ia, 47th Independent Fighter Company, "Kingfisher" Company, Shoki prototype Ki.4402, flown by Flight Warrant Officer Mitsumoto, 3rd Squad, French Indo-China, January 1942.

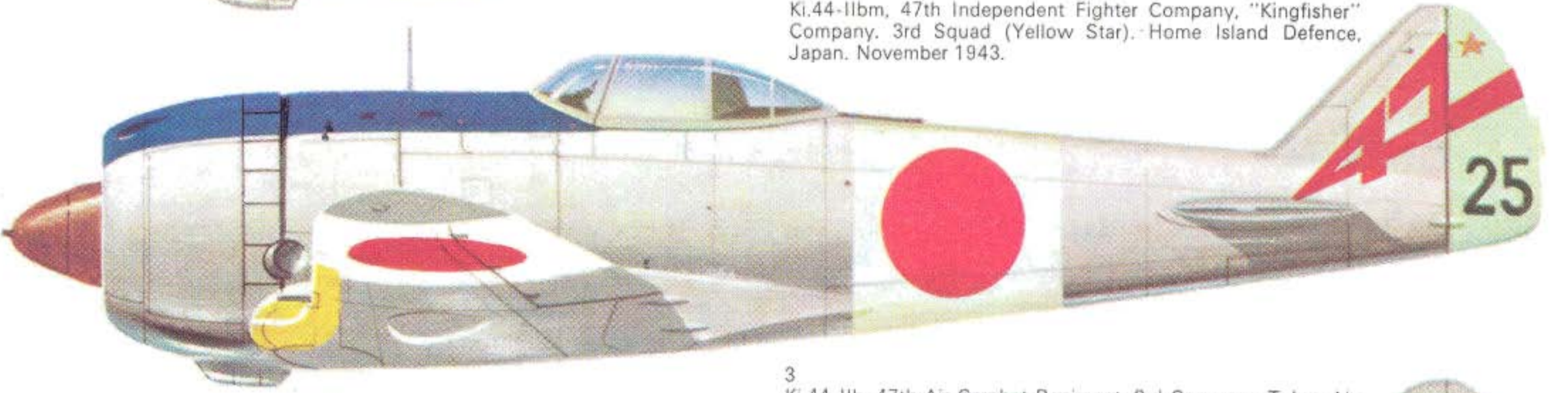


C

1  
Ki.44-IIb, 47th Independent Fighter Company, "Kingfisher"  
Company, 1st Squad (Blue Star), Home Island Defence, Japan,  
November 1943.



2  
Ki.44-IIbm, 47th Independent Fighter Company, "Kingfisher"  
Company, 3rd Squad (Yellow Star), Home Island Defence,  
Japan, November 1943.



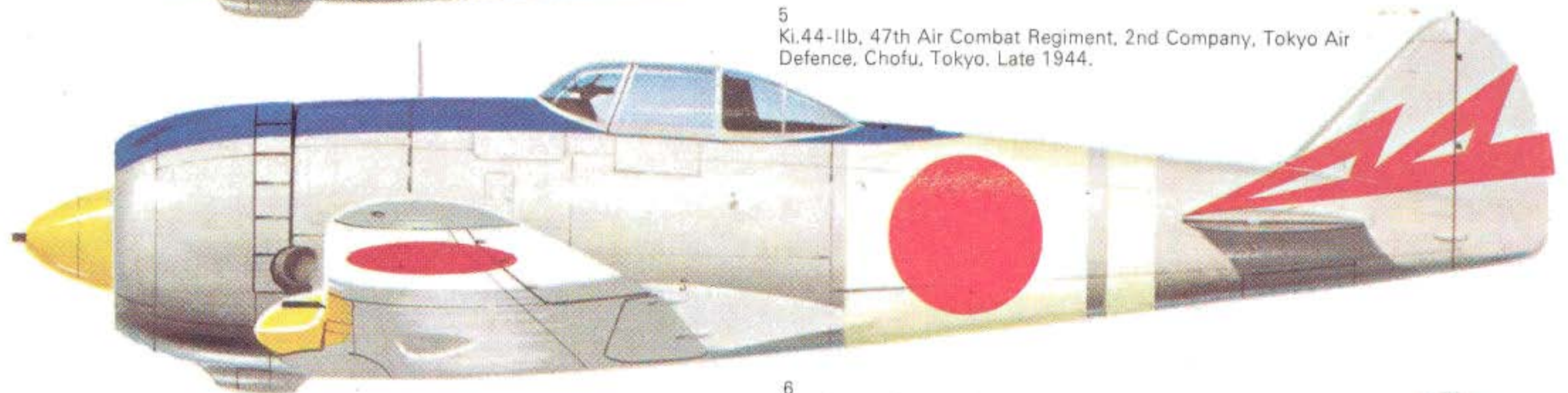
3  
Ki.44-IIb, 47th Air Combat Regiment, 3rd Company, Tokyo Air  
Defence, Chofu, Tokyo, February 1944.



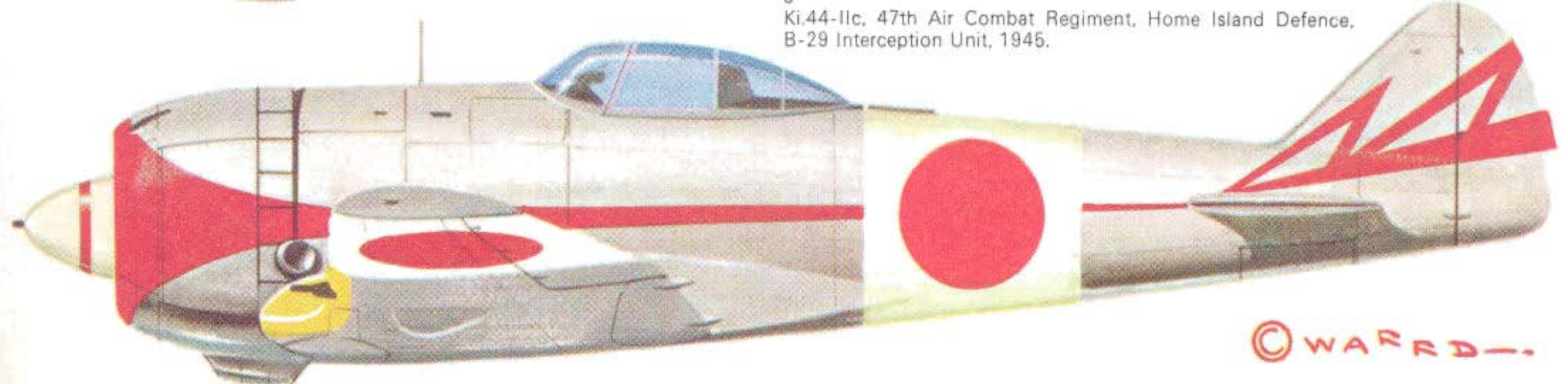
4  
Ki.44-IIb, 47th Air Combat Regiment, 3rd Company, Company  
Commander's a/c, Tokyo Air Defence, Chofu, Tokyo, February  
1944.



5  
Ki.44-IIb, 47th Air Combat Regiment, 2nd Company, Tokyo Air  
Defence, Chofu, Tokyo, Late 1944.



6  
Ki.44-IIc, 47th Air Combat Regiment, Home Island Defence,  
B-29 Interception Unit, 1945.

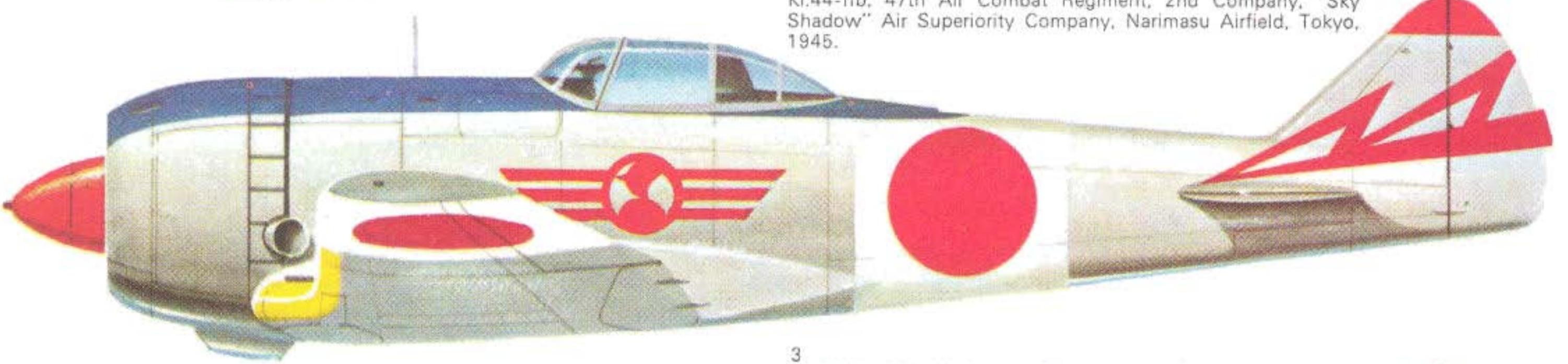


D

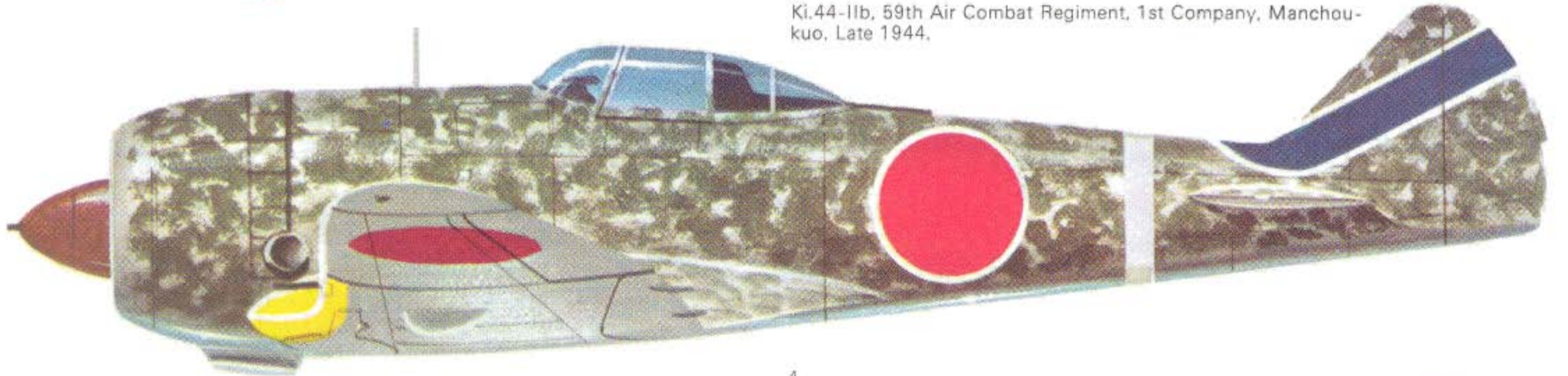
1  
Ki.44-IIb, 47th Air Combat Regiment, 2nd Company, Company  
Commander's a/c. "Sky Shadow" Air Superiority Company;  
Kamikaze Air-to-Air B-29 Ramming Company. Home Island  
Defence, Narimasu Airfield, Tokyo, 1945.



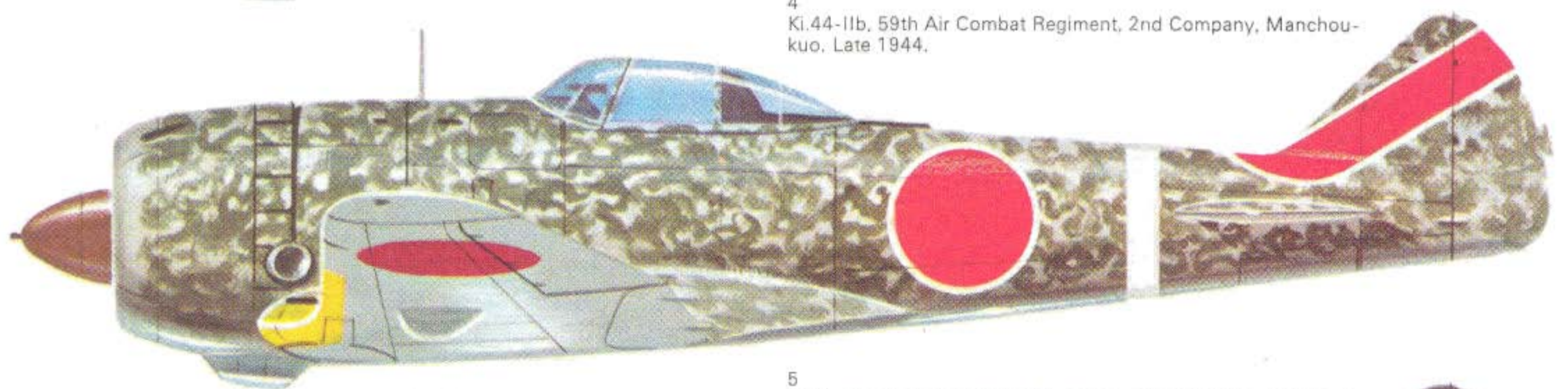
2  
Ki.44-IIb, 47th Air Combat Regiment, 2nd Company, "Sky  
Shadow" Air Superiority Company, Narimasu Airfield, Tokyo,  
1945.



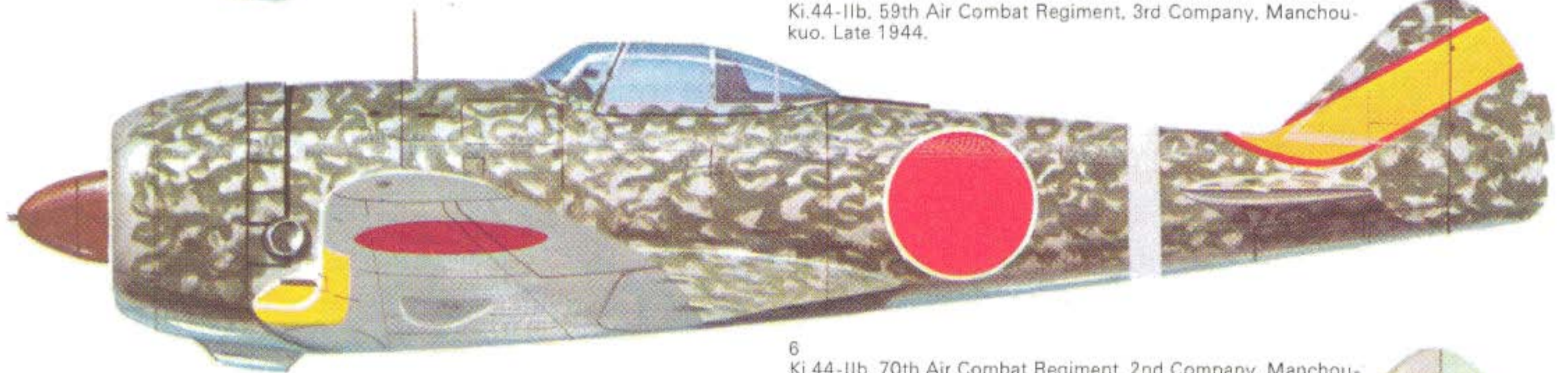
3  
Ki.44-IIb, 59th Air Combat Regiment, 1st Company, Manchou-  
kuo, Late 1944.



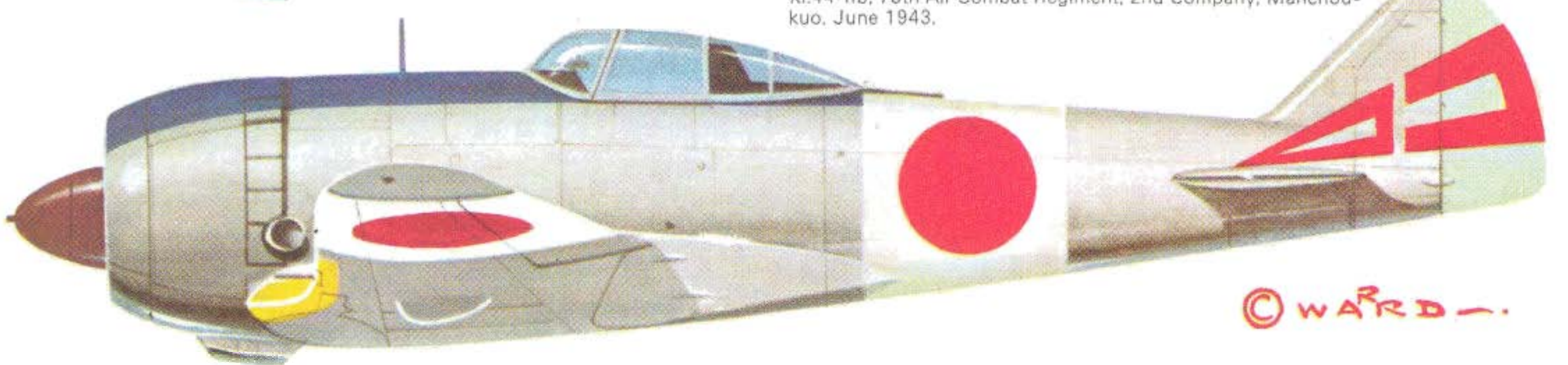
4  
Ki.44-IIb, 59th Air Combat Regiment, 2nd Company, Manchou-  
kuo, Late 1944.



5  
Ki.44-IIb, 59th Air Combat Regiment, 3rd Company, Manchou-  
kuo, Late 1944.

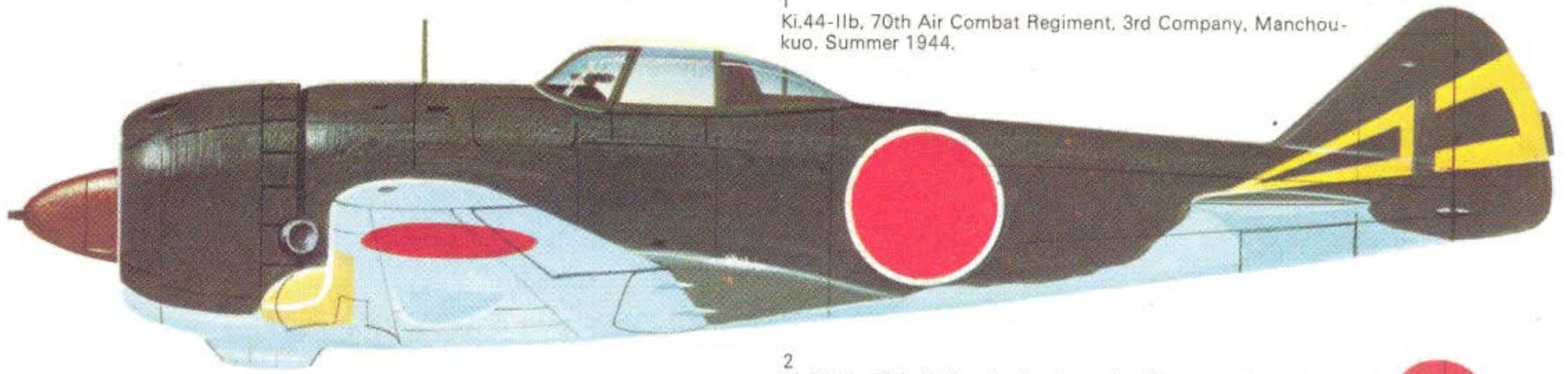


6  
Ki.44-IIb, 70th Air Combat Regiment, 2nd Company, Manchou-  
kuo, June 1943.



E

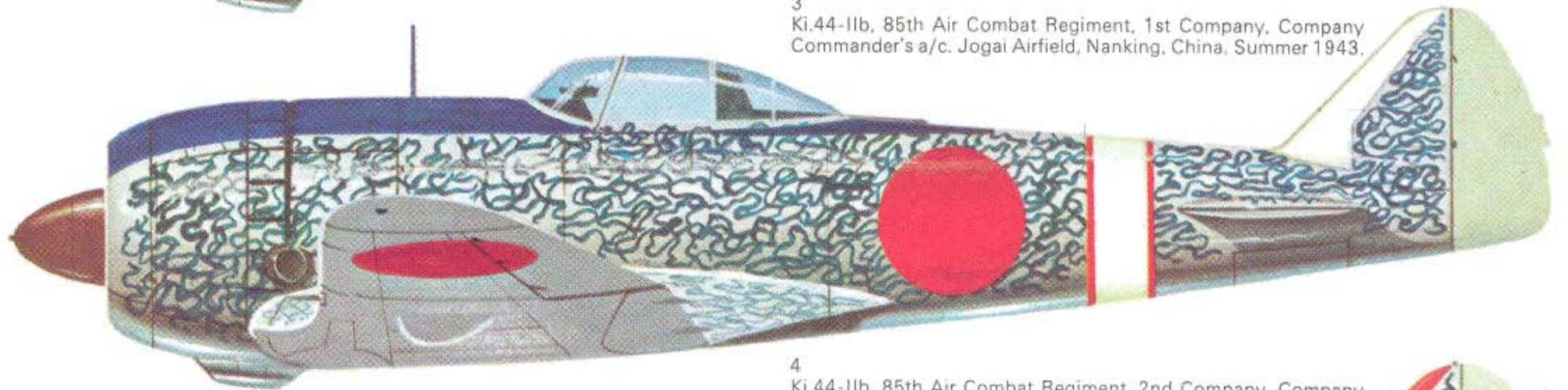
1  
Ki.44-IIb, 70th Air Combat Regiment, 3rd Company, Manchou-  
kuo, Summer 1944.



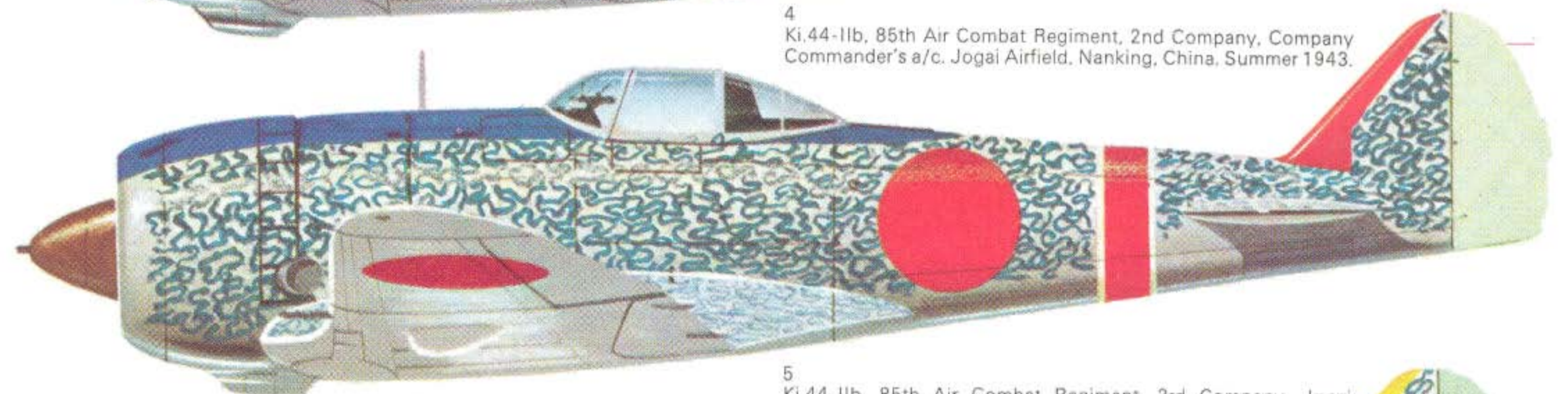
2  
Ki.44-IIb, 70th Air Combat Regiment, 1st Company, Home Island  
Defence, Chiba, Japan, Spring 1945.



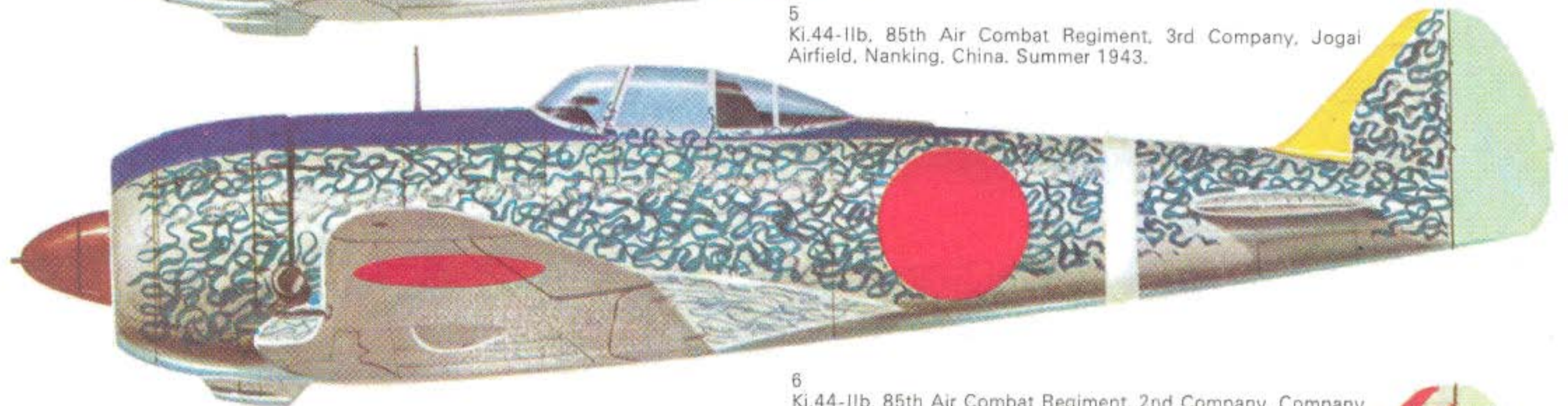
3  
Ki.44-IIb, 85th Air Combat Regiment, 1st Company, Company  
Commander's a/c, Jogai Airfield, Nanking, China, Summer 1943.



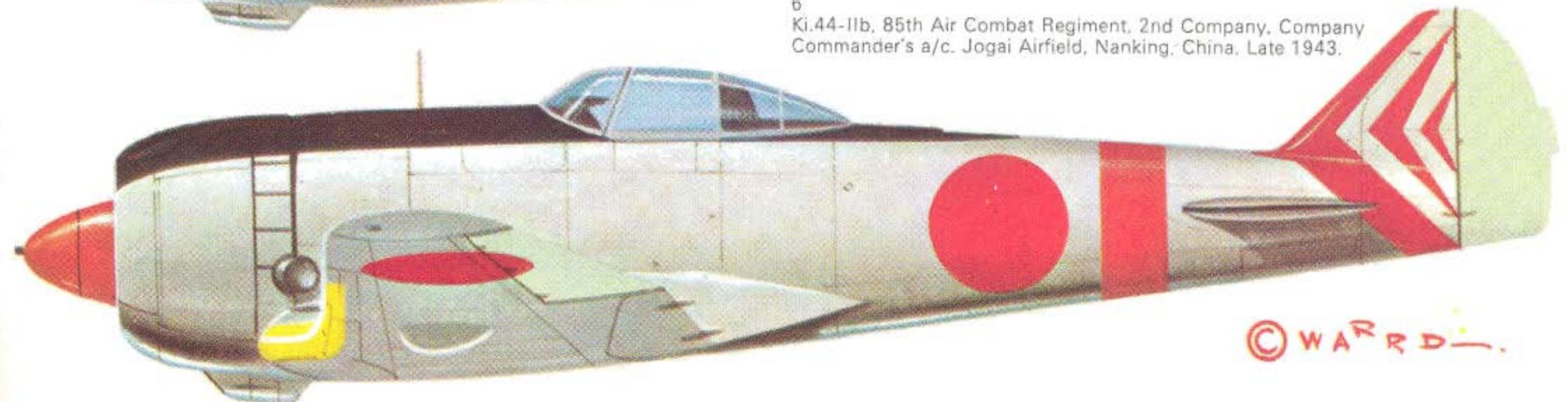
4  
Ki.44-IIb, 85th Air Combat Regiment, 2nd Company, Company  
Commander's a/c, Jogai Airfield, Nanking, China, Summer 1943.



5  
Ki.44-IIb, 85th Air Combat Regiment, 3rd Company, Jogai  
Airfield, Nanking, China, Summer 1943.

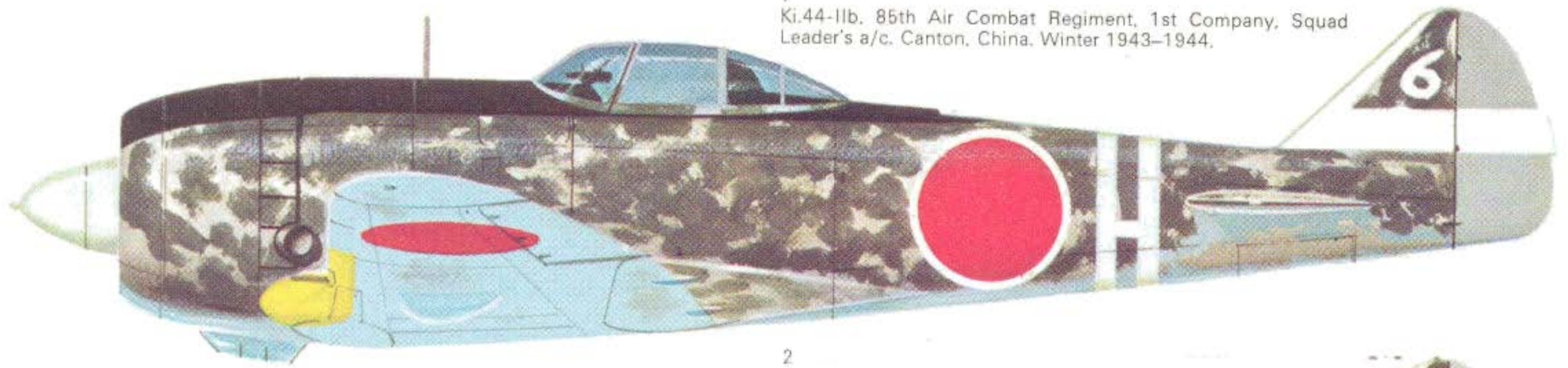


6  
Ki.44-IIb, 85th Air Combat Regiment, 2nd Company, Company  
Commander's a/c, Jogai Airfield, Nanking, China, Late 1943.

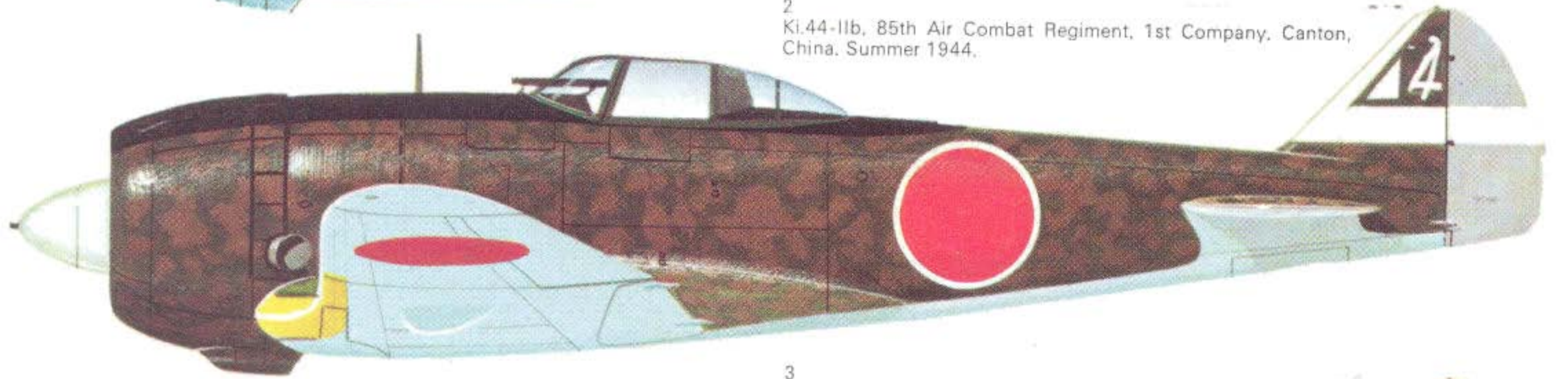


F

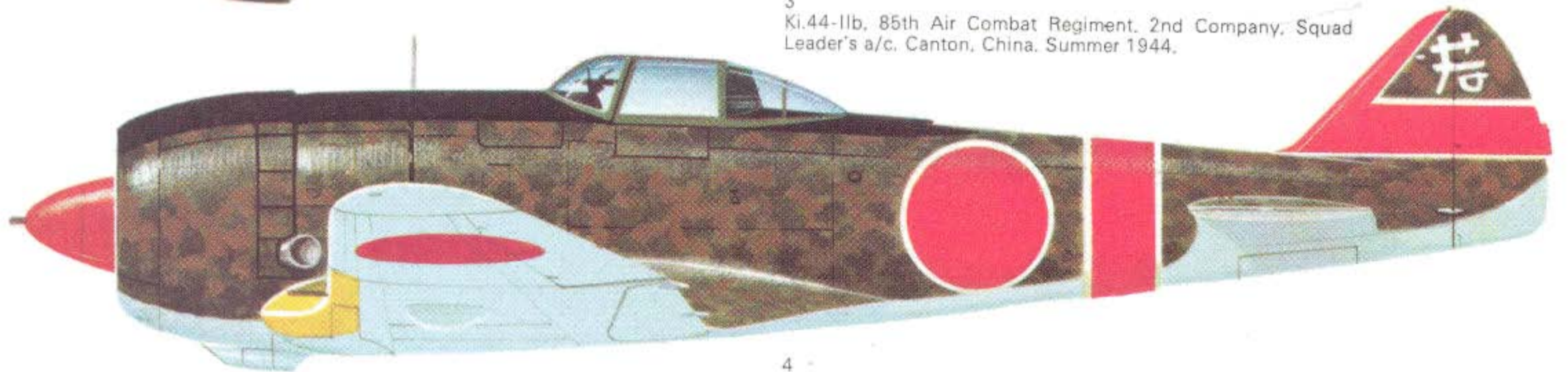
1  
Ki.44-IIb, 85th Air Combat Regiment, 1st Company, Squad  
Leader's a/c. Canton, China. Winter 1943-1944.



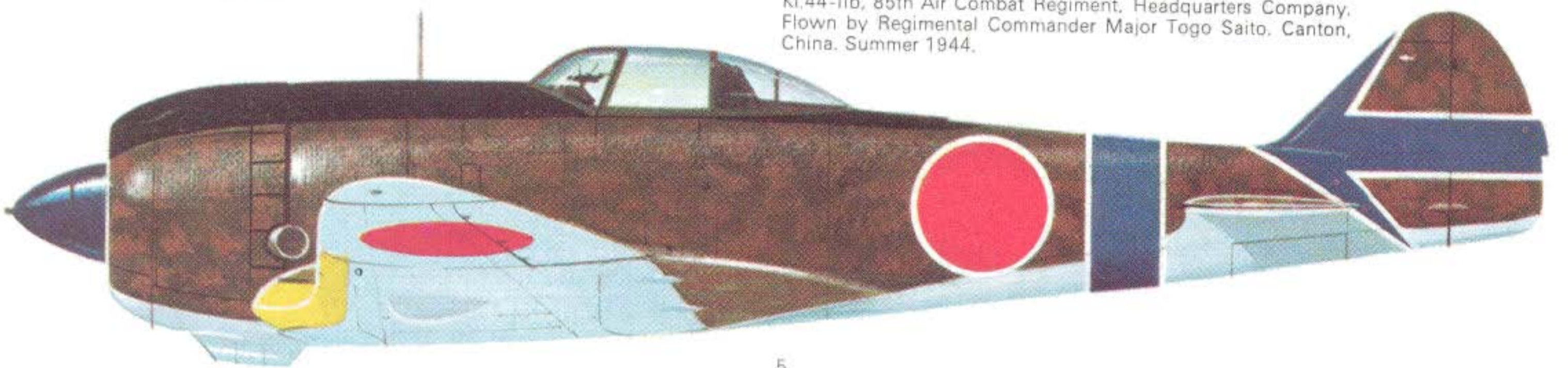
2  
Ki.44-IIb, 85th Air Combat Regiment, 1st Company. Canton,  
China. Summer 1944.



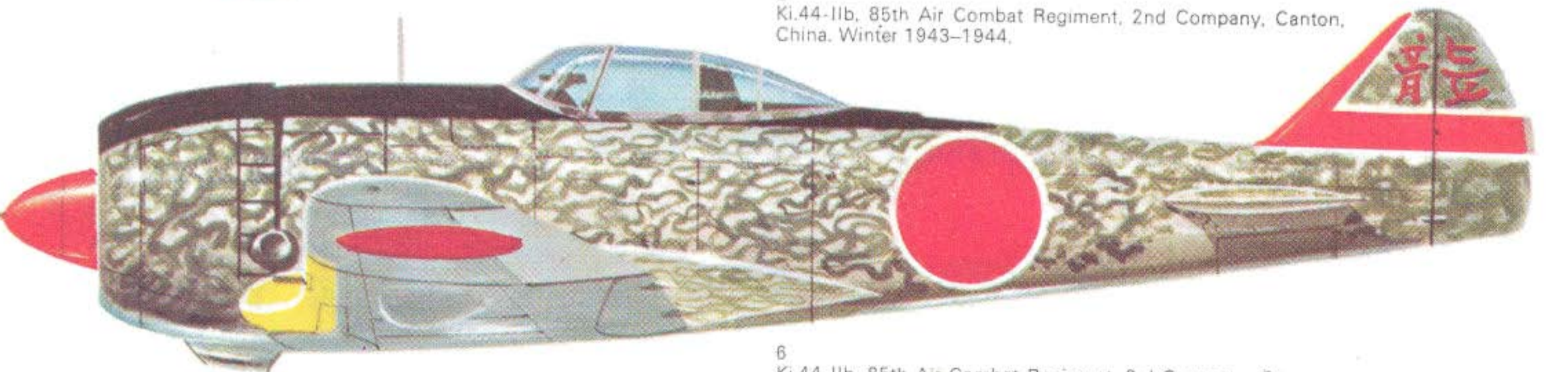
3  
Ki.44-IIb, 85th Air Combat Regiment, 2nd Company, Squad  
Leader's a/c. Canton, China. Summer 1944.



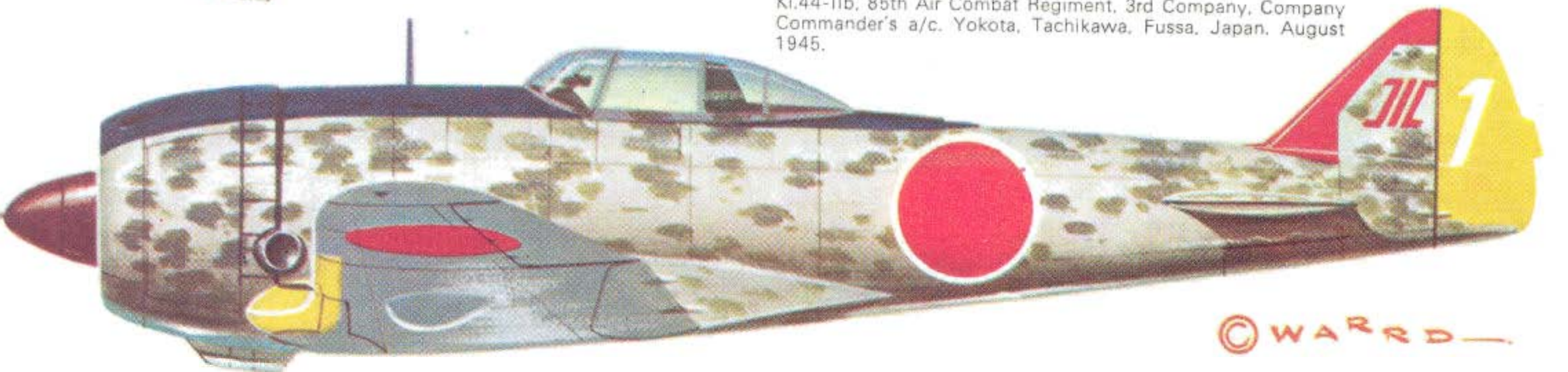
4  
Ki.44-IIb, 85th Air Combat Regiment, Headquarters Company,  
Flown by Regimental Commander Major Togo Saito. Canton,  
China. Summer 1944.



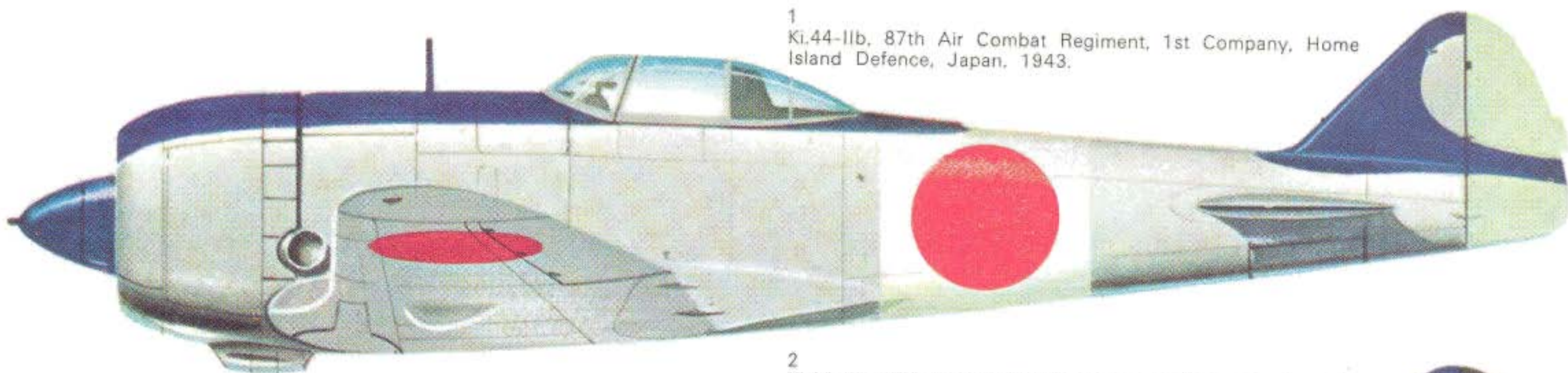
5  
Ki.44-IIb, 85th Air Combat Regiment, 2nd Company, Canton,  
China. Winter 1943-1944.



6  
Ki.44-IIb, 85th Air Combat Regiment, 3rd Company, Company  
Commander's a/c. Yokota, Tachikawa, Fussa, Japan. August  
1945.



1  
Ki.44-IIb, 87th Air Combat Regiment, 1st Company, Home  
Island Defence, Japan, 1943.



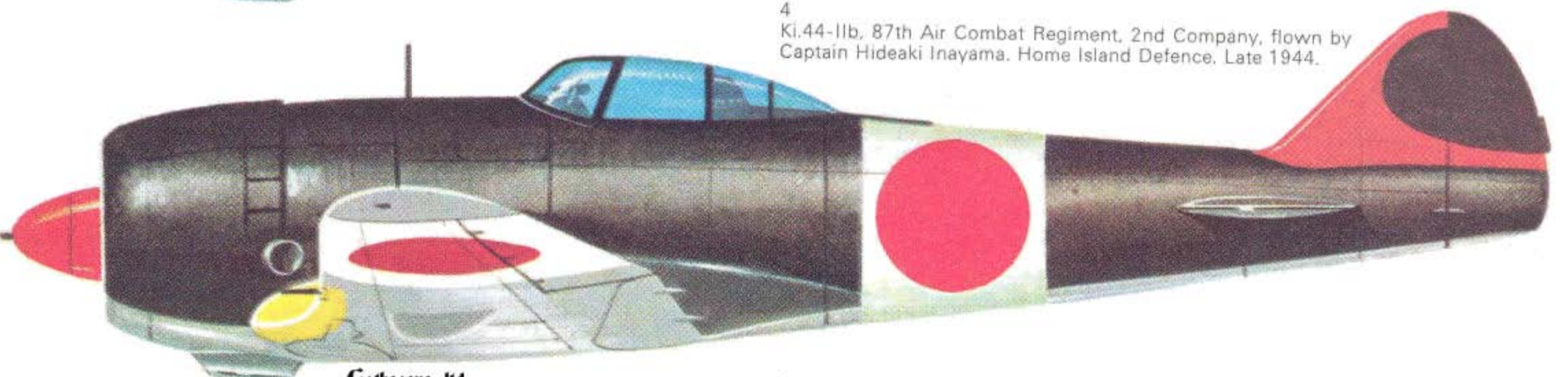
2  
Ki.44-IIb, 87th Air Combat Regiment, 1st Company, Sumatra,  
Dutch East Indies, Late 1943.



3  
Ki.44-IIb, 87th Air Combat Regiment, 2nd Company, Sumatra,  
Dutch East Indies, Late 1943.

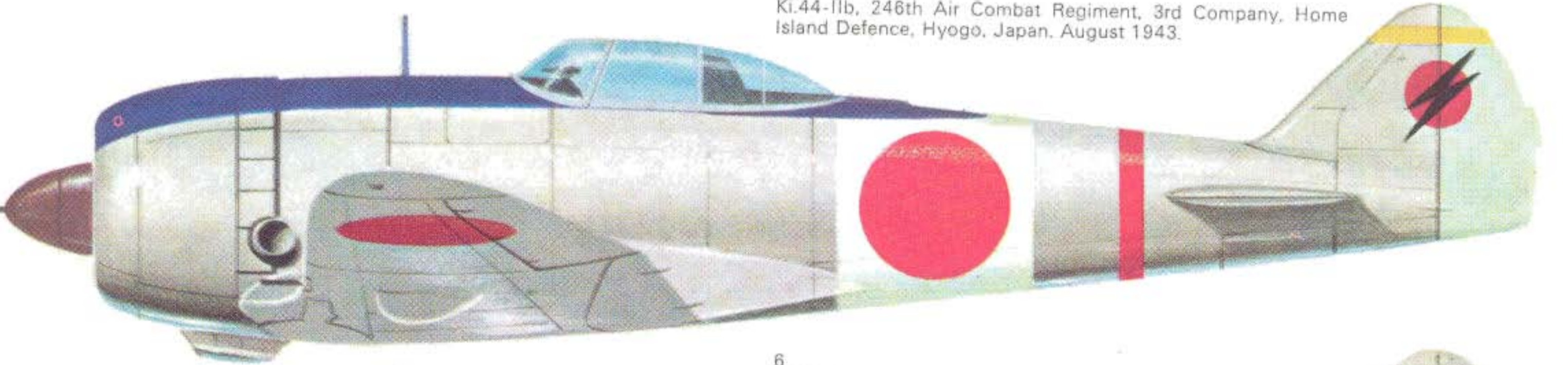


4  
Ki.44-IIb, 87th Air Combat Regiment, 2nd Company, flown by  
Captain Hideaki Inayama, Home Island Defence, Late 1944.



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5  
Ki.44-IIb, 246th Air Combat Regiment, 3rd Company, Home  
Island Defence, Hyogo, Japan, August 1943.



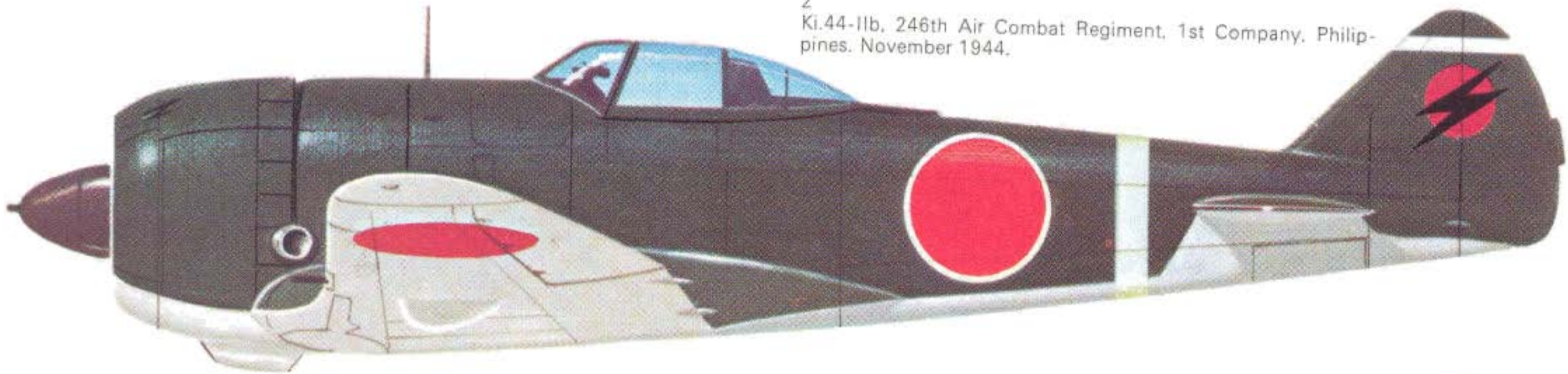
6  
Ki.44-IIb, 246th Air Combat Regiment, 2nd Company, Home  
Island Defence, Taisha Airfield, Osaka, Japan, August 1944.



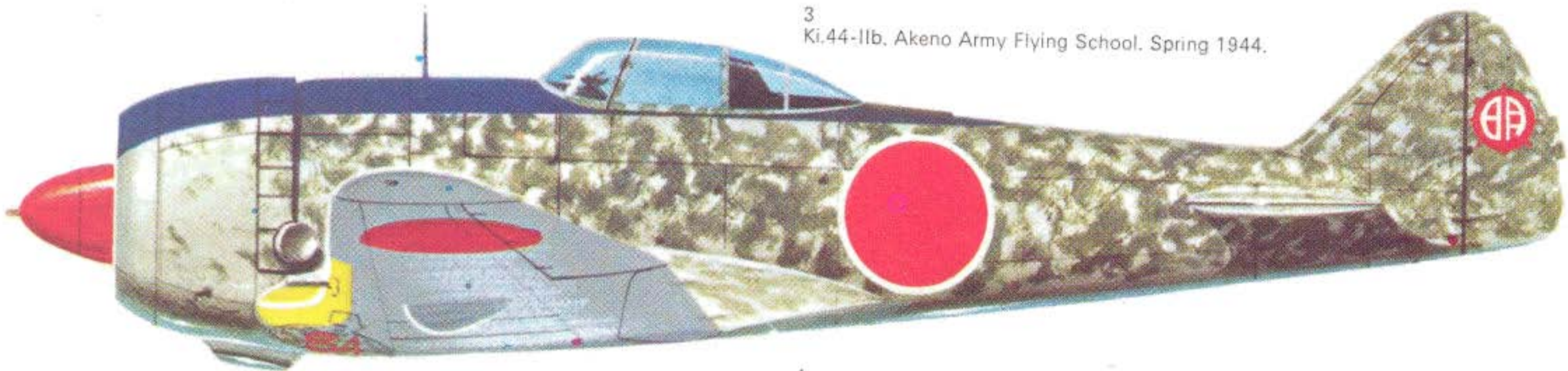
H  
1  
Ki.44-IIb, 246th Air Combat Regiment, 2nd Company, Philip-  
pines. November 1944.



2  
Ki.44-IIb, 246th Air Combat Regiment, 1st Company, Philip-  
pines. November 1944.



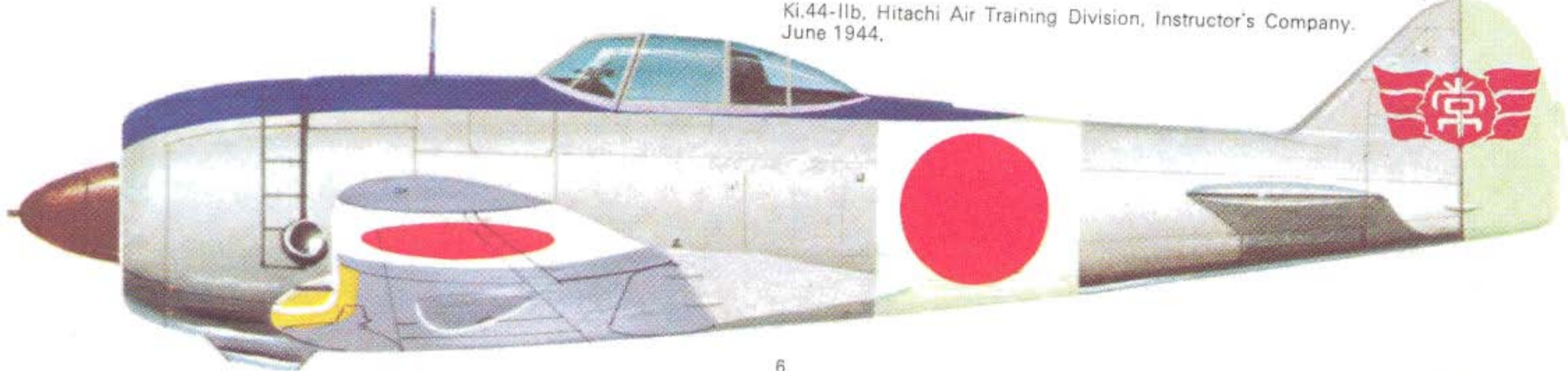
3  
Ki.44-IIb, Akeno Army Flying School. Spring 1944.



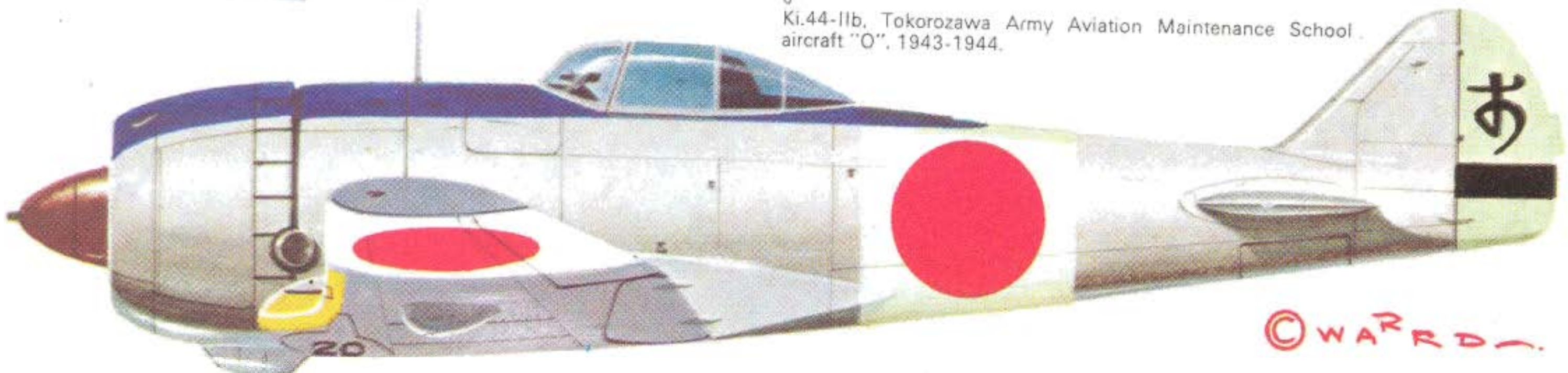
4  
Ki.44-IIb, Akeno Army Flying School, Instructor's Company,  
June 1944.

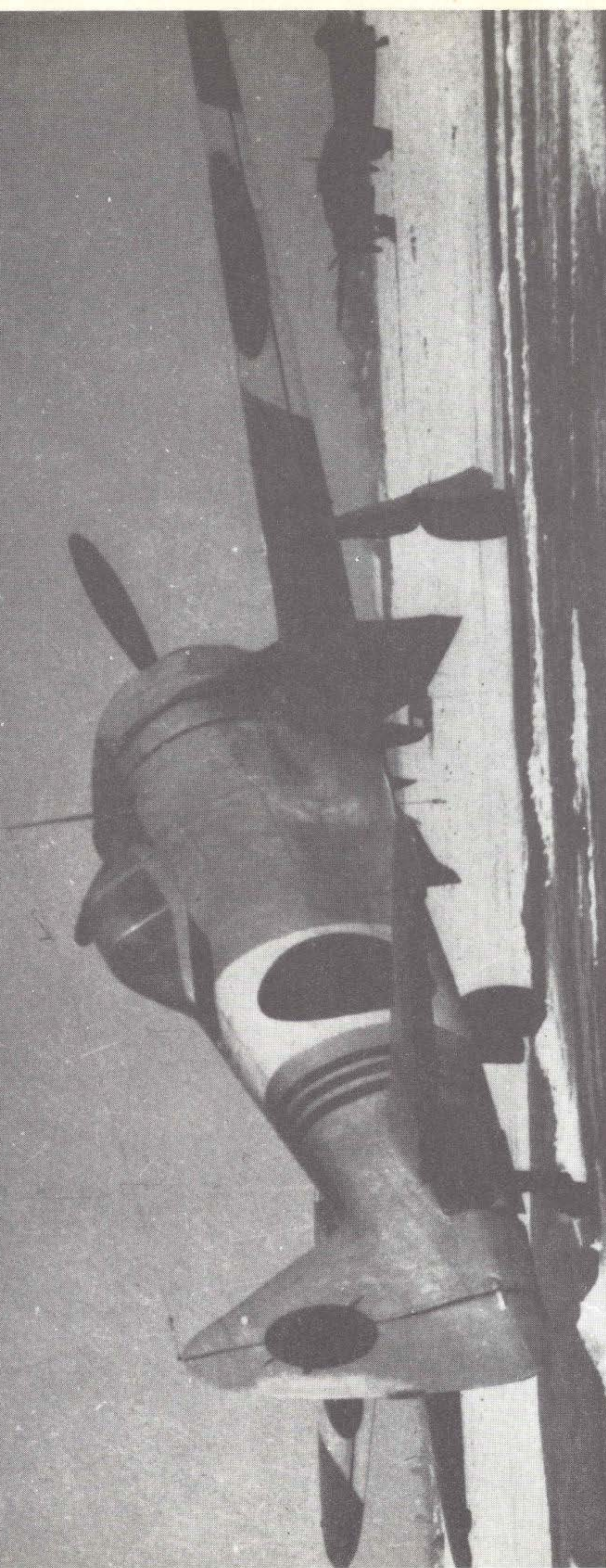


5  
Ki.44-IIb, Hitachi Air Training Division, Instructor's Company,  
June 1944.

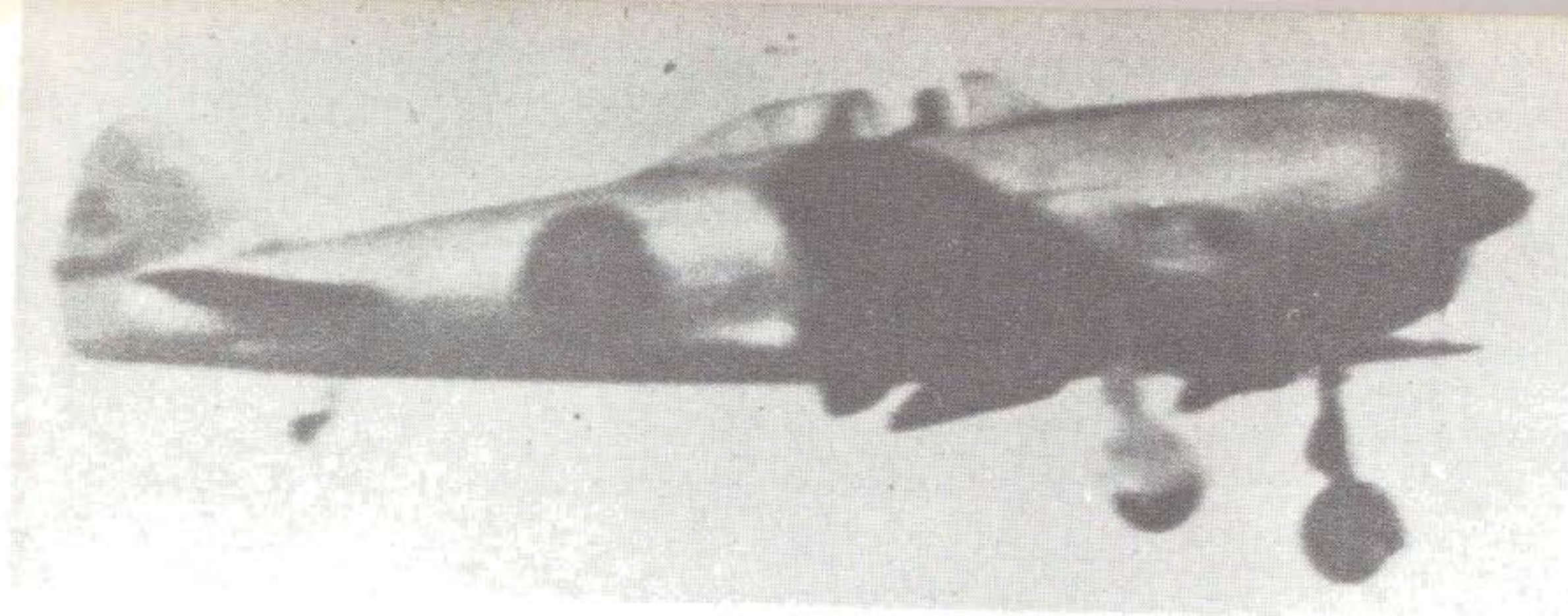


6  
Ki.44-IIb, Tokorozawa Army Aviation Maintenance School,  
aircraft "O". 1943-1944.

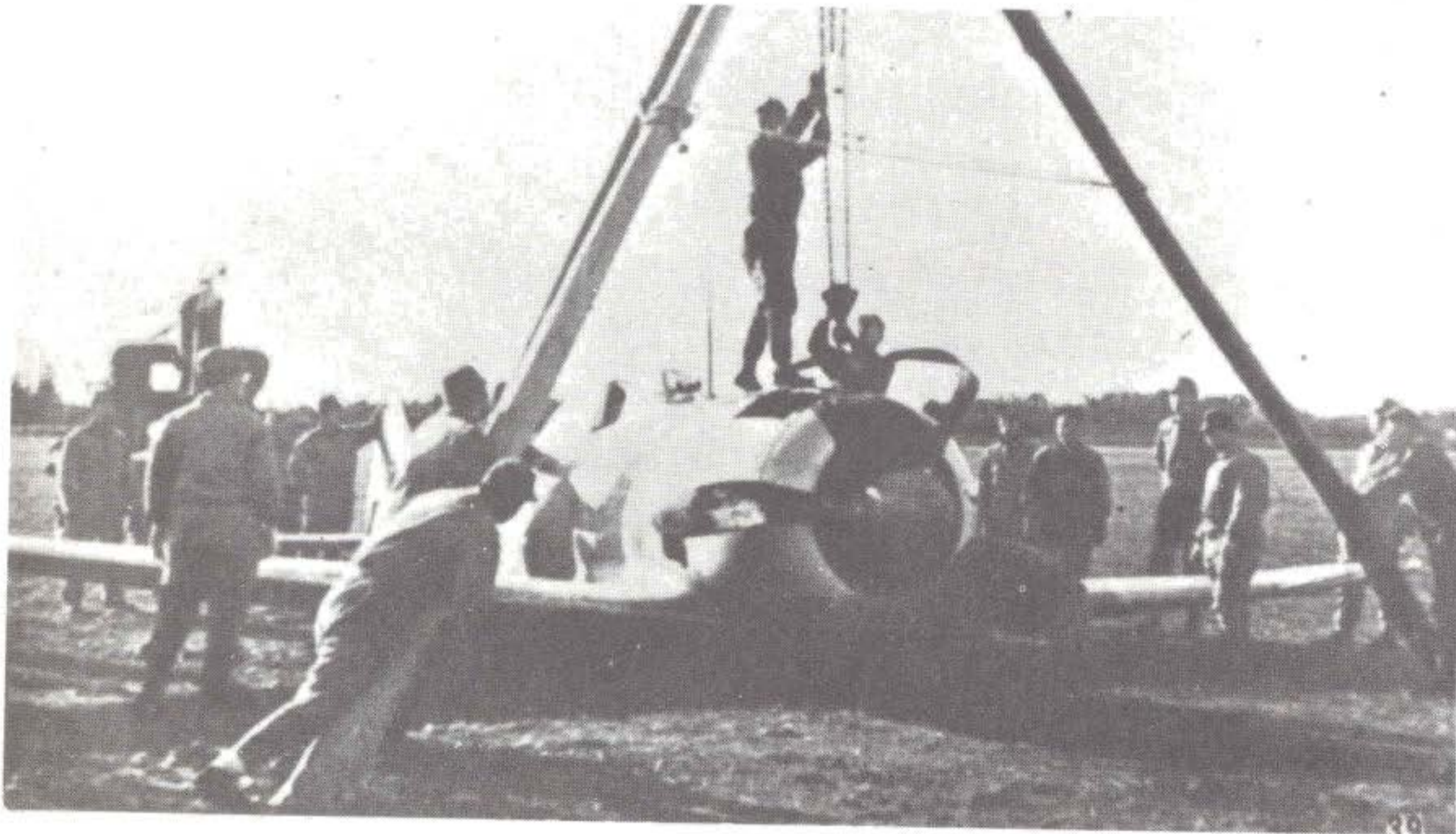




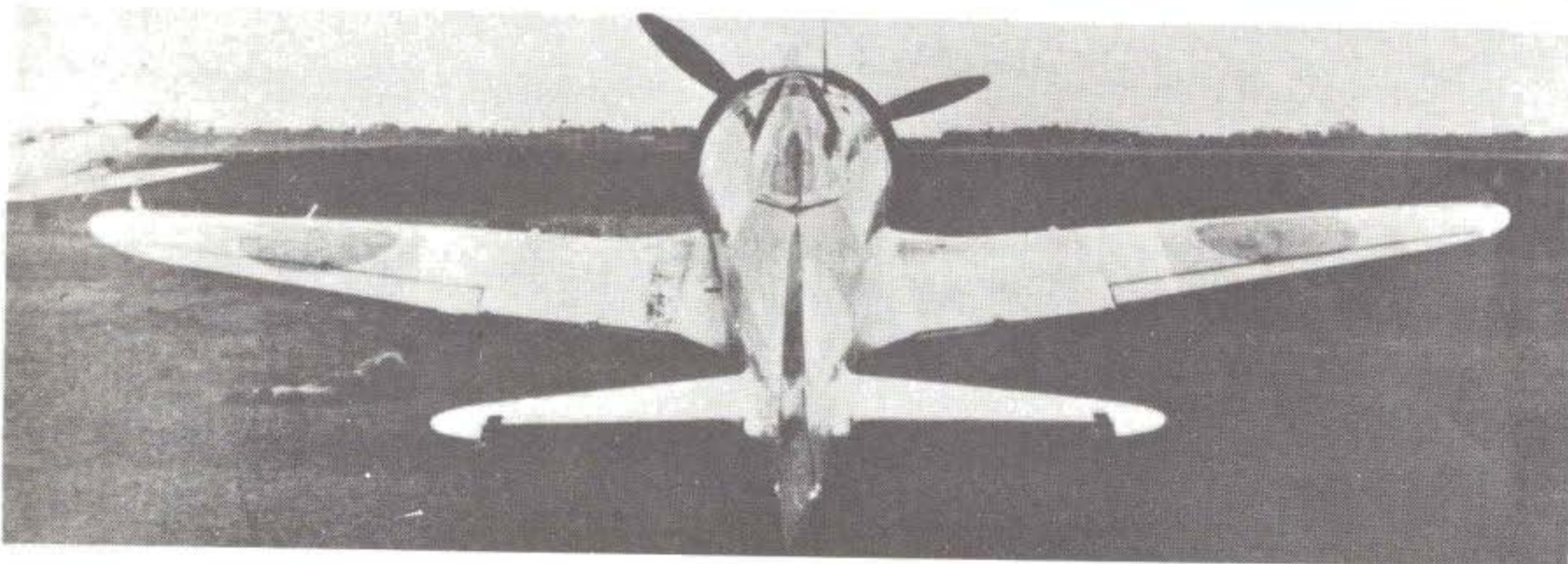
246th Fighter Regiment Shoki at Taisha Airfield, Osaka, Japan, on home defence duty in late 1944. (N. Saito via Bueschel)



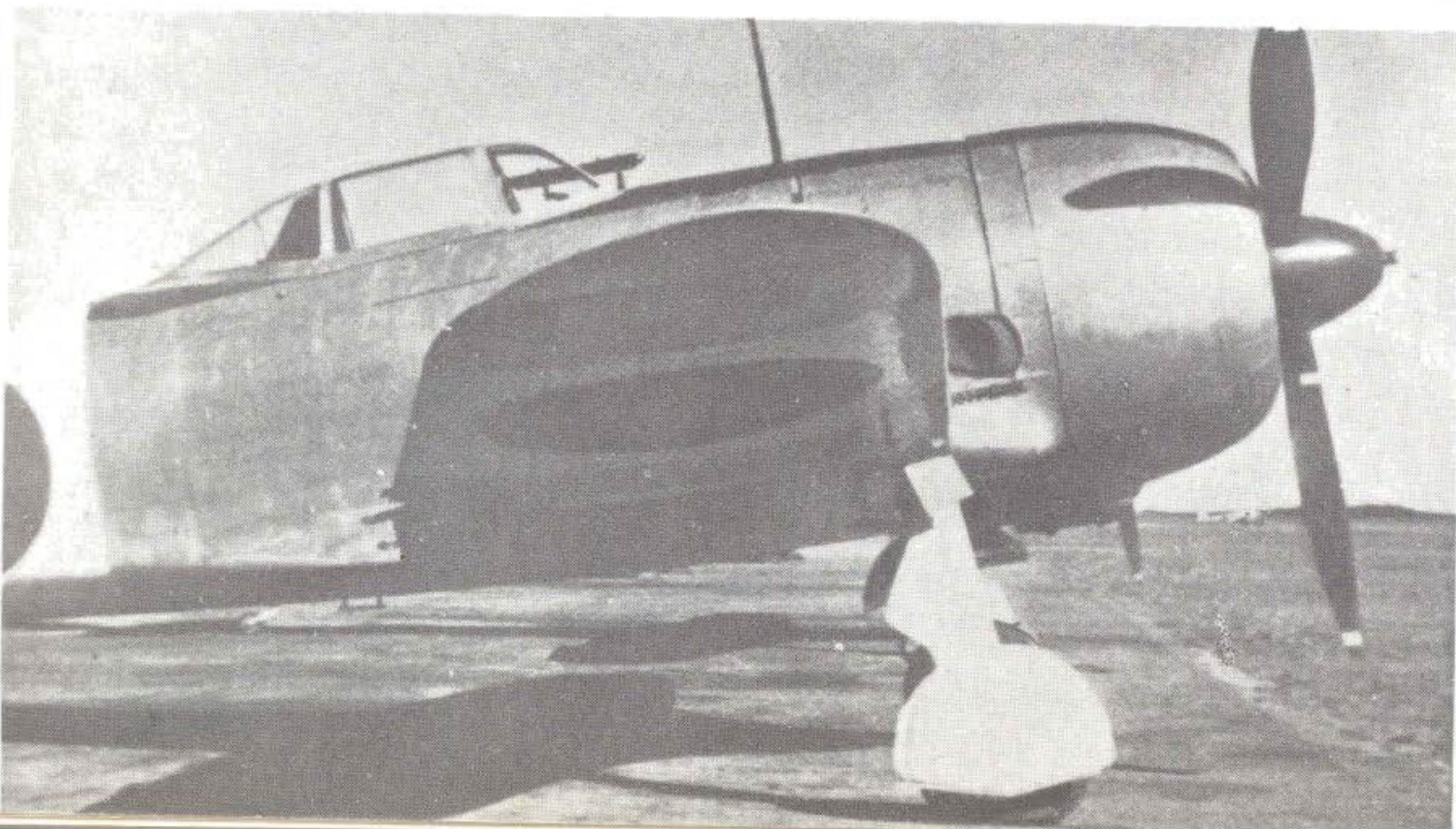
Aircraft "O" lands at Tokorozawa in early 1944.  
(Hiko Nippon via Bueschel)



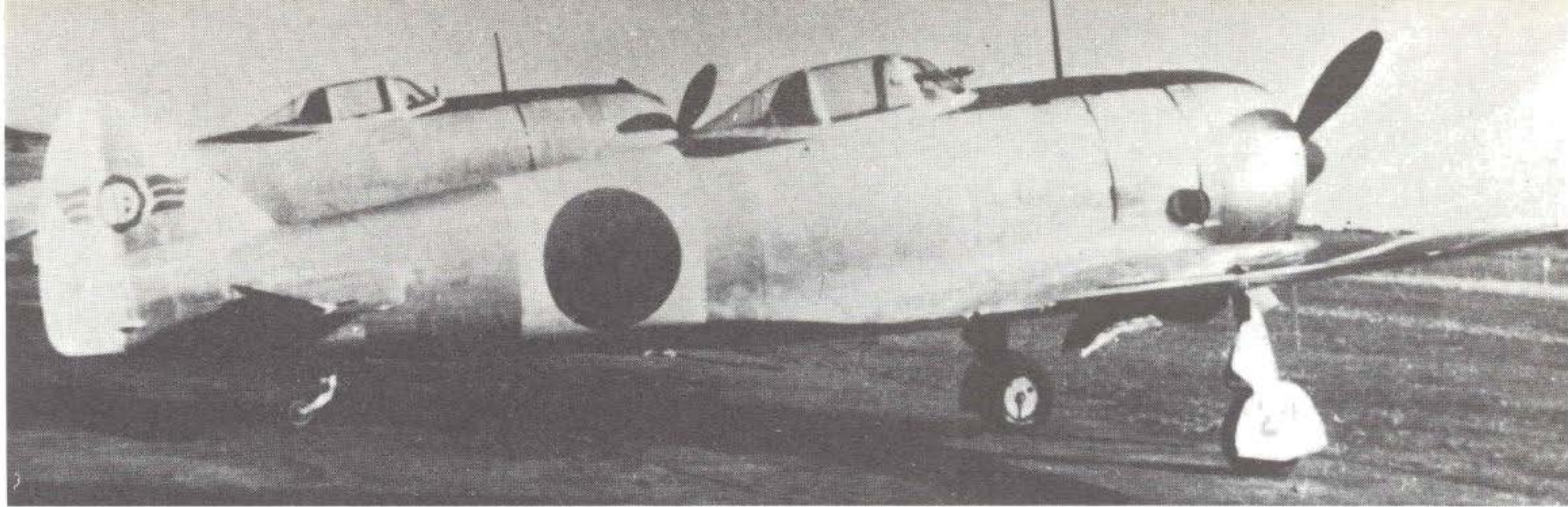
Block-and-tackle maintenance of belly-landed Shoki in Japan, middle 1944.  
(Koku Fan via Bueschel)



Tokorozawa assignment gave JAAF ground crews experience in maintaining the Shoki.  
(R. M. Bueschel)



White "bandage" markings of Home Island Defence Shoki fighter. (Sekai no Kokuki via Bueschel)



Top: Instructor's Company Shoki conversion training aircraft at Akeno Air Training Division in June, 1944. (Hideya Ando via Bueschel)



Above: Shokis of Instructor's Company at Hitachi Air Training Division, a spin-off of the original school at Akeno. (Hiko Shonen via Bueschel)

Right: 47th Independent Fighter "Kingfisher" Company upon its return to Japan for Tokyo air defence, late 1943. 1st Squad in foreground. (Sekai no Kokuki via Bueschel)

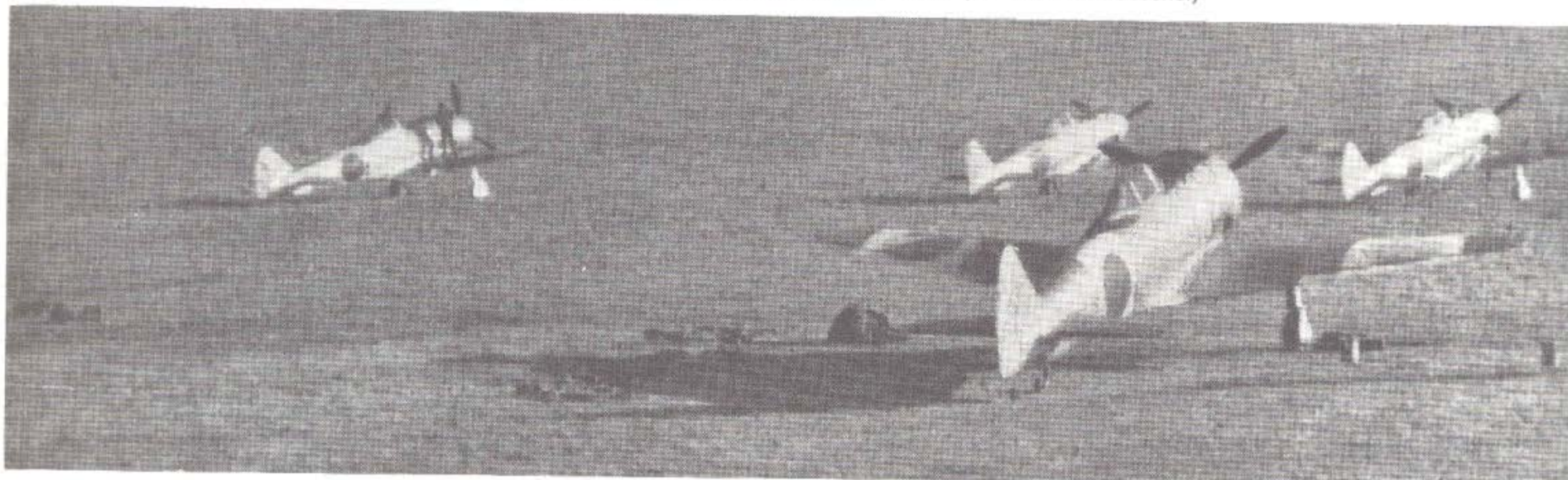


Below: The 47th becomes a Fighter Regiment. Line-up of 3rd Company with new yellow tail markings outside Tokyo. (Koku Asahi via Bueschel)



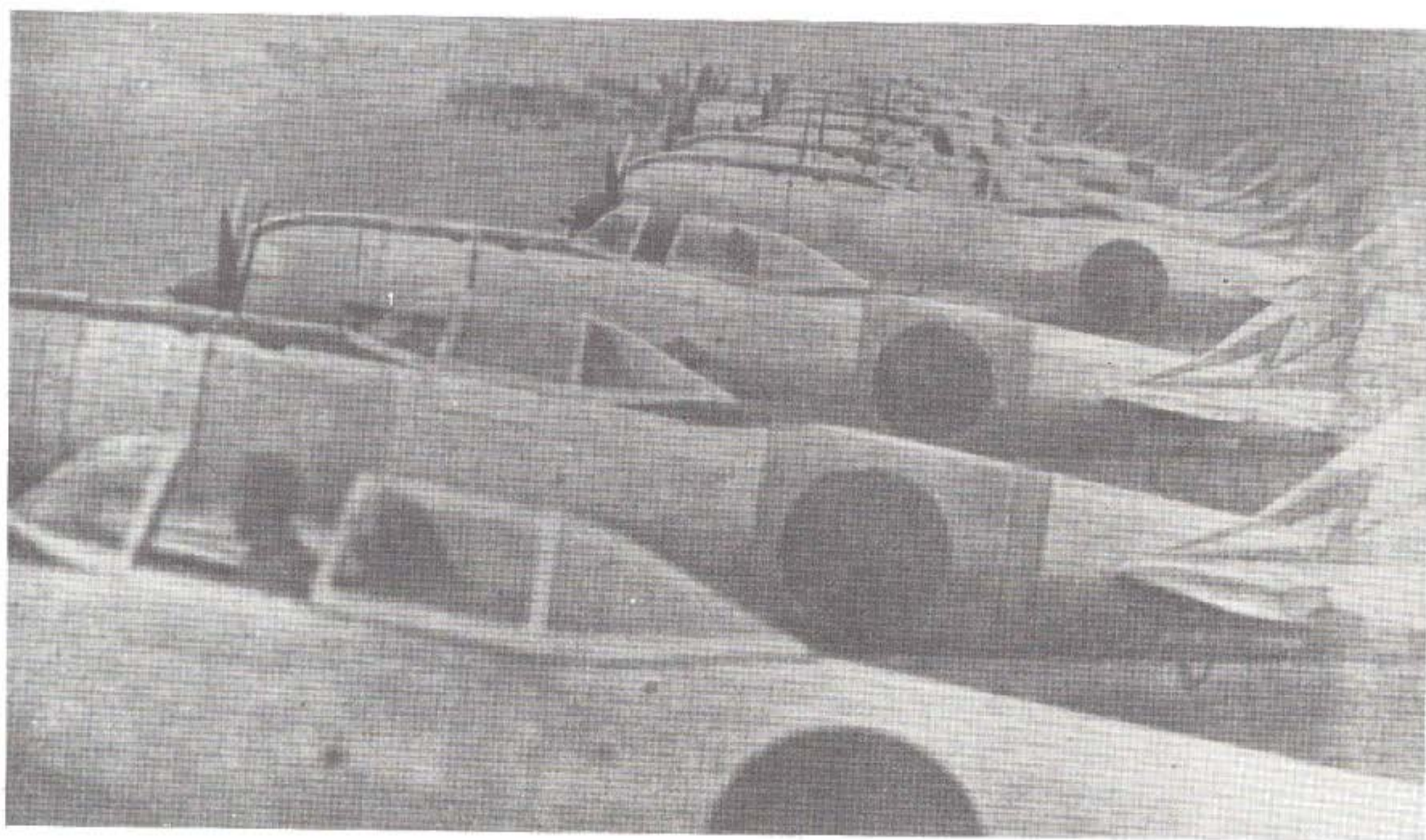


Above: 2nd Company of 47th Fighter Regiment lines up at Chofu, Tokyo, summer 1944. (M. Toda via Bueschel)

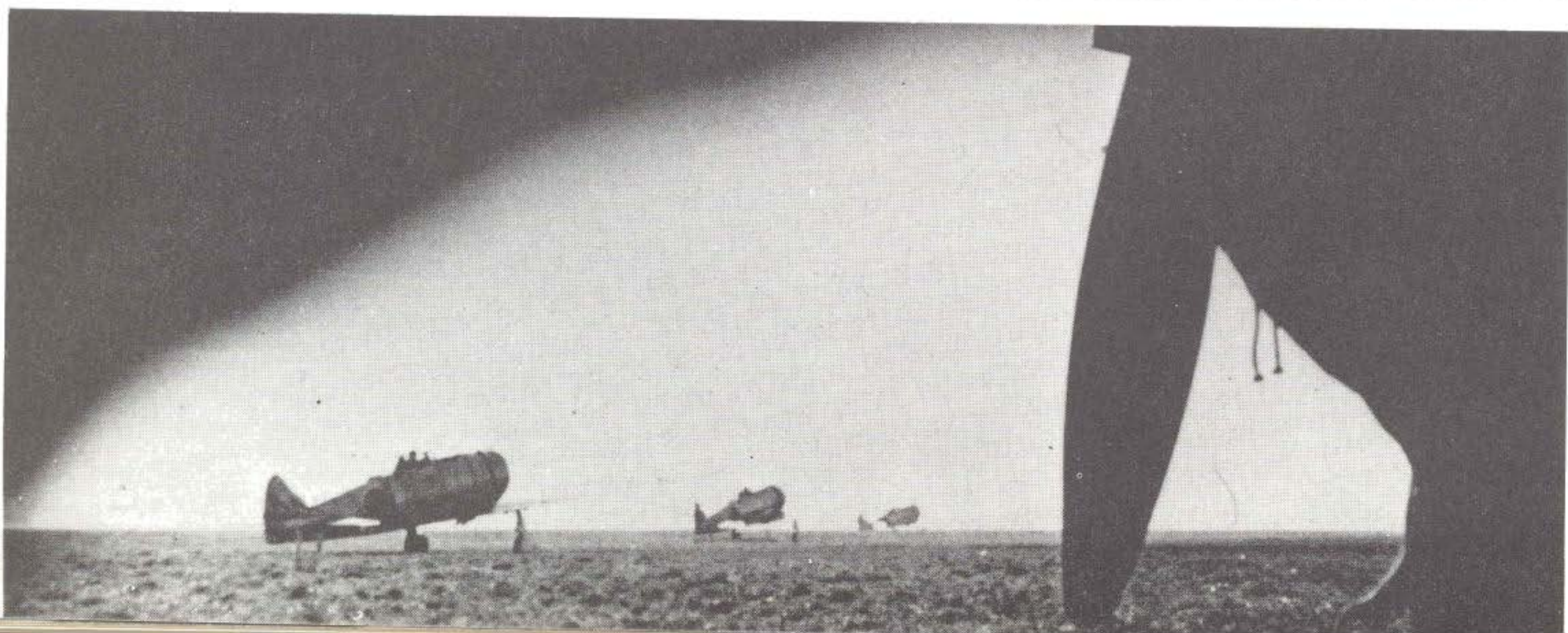


Above: On the alert at Chofu, spring 1944. (Koku Asahi via Bueschel)

Right: 3rd Company with yellow markings ready to scramble. (Koku Asahi via Bueschel)

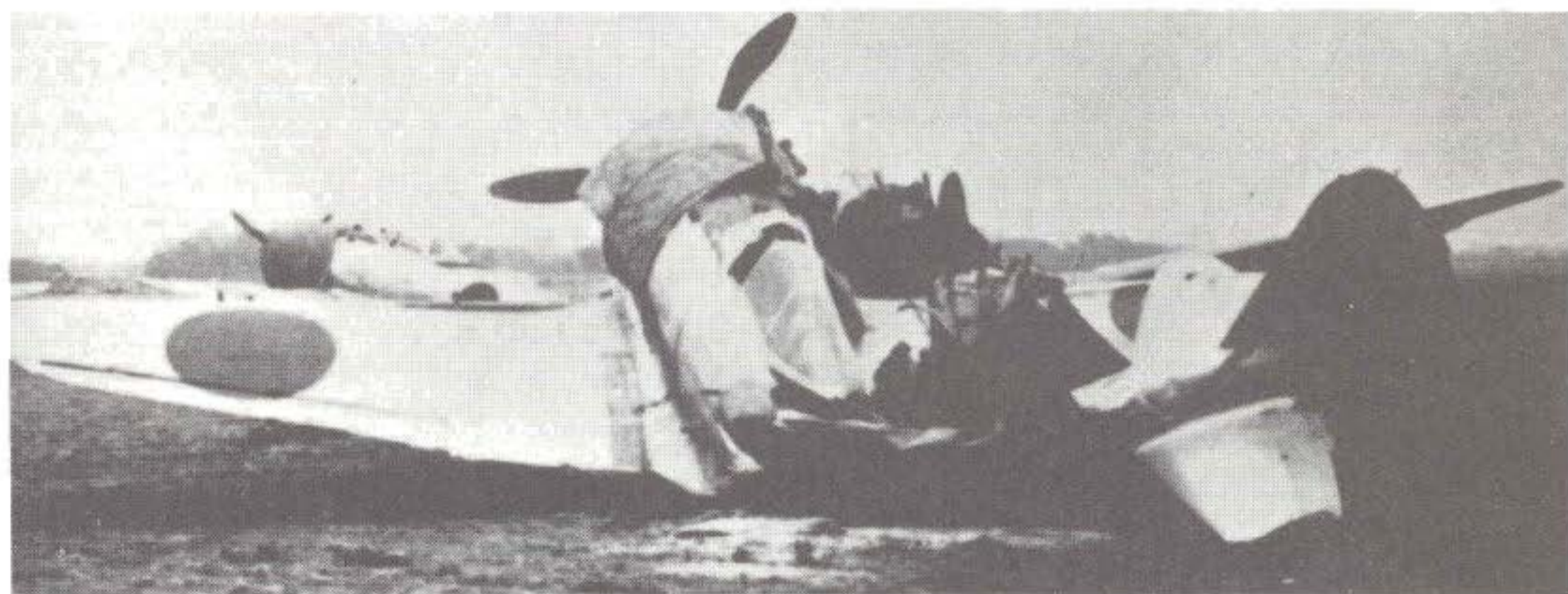


Below: Take-off for Shoki fighters of the 2nd Company, 47th Fighter Regiment. (Hideya Ando via Bueschel)

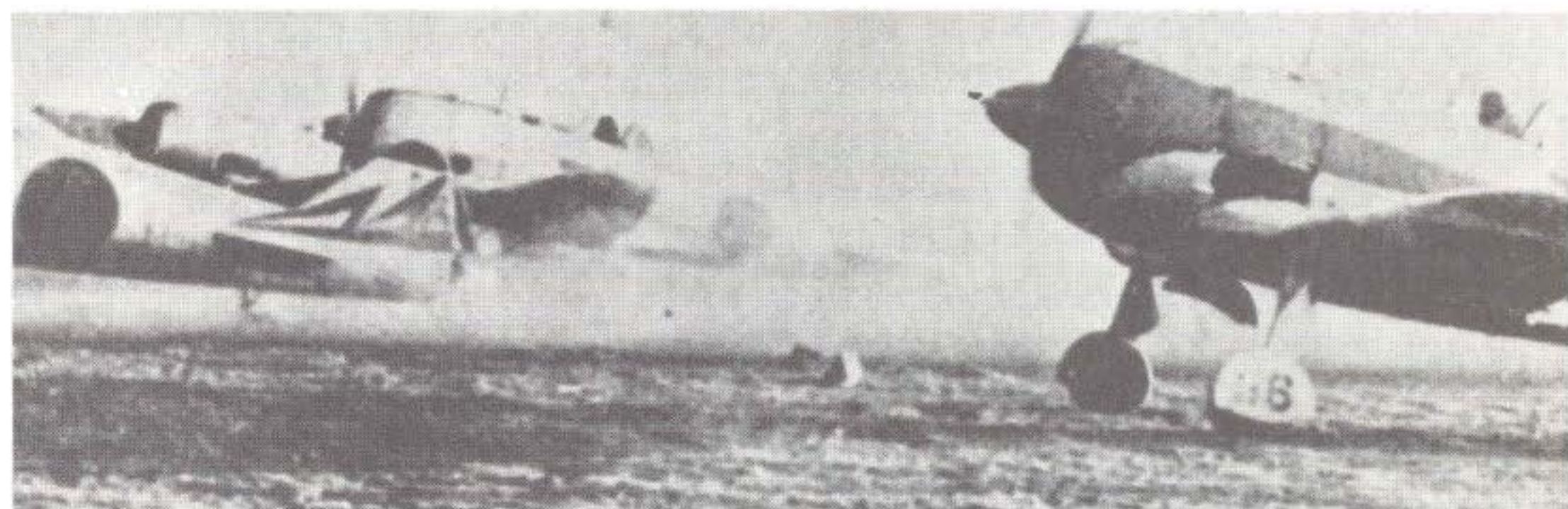




Training accidents at Chofu, late 1944. Shoki has been crushed by Ki.27b-Kai proficiency trainer of 47th Fighter Regiment. (M. Toda via Bueschel)



Wrapping on Shoki cowling kept engine warm for rapid reaction to raid. (M. Toda via Bueschel)



The 47th Regiment takes off on an interception. (Sekai no Kokuki via Bueschel)



2nd Company Shoki skids in for a belly landing. (M. Toda via Bueschel)



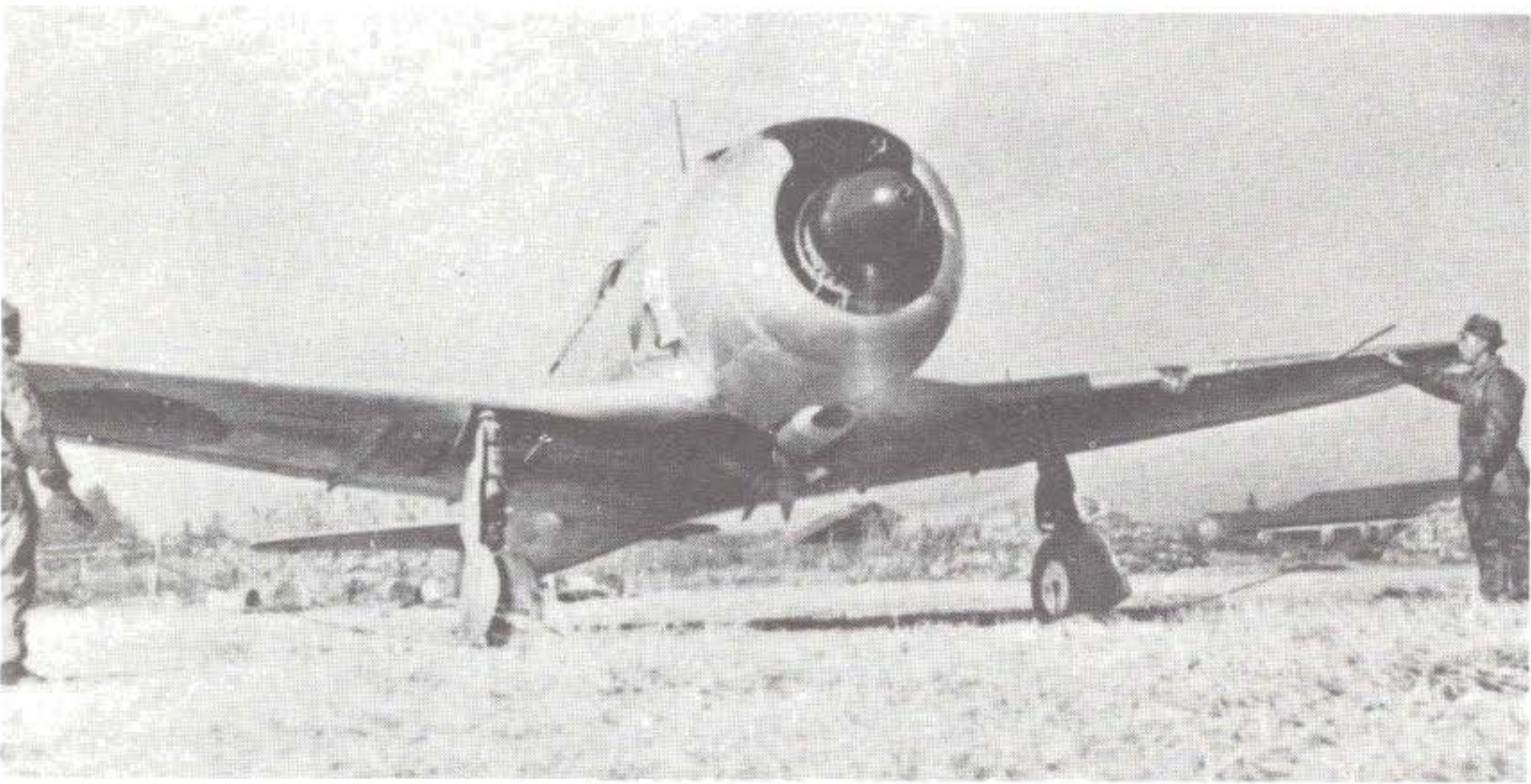
Another job for maintenance. Aircraft was repaired and returned to service. (M. Toda via Bueschel)



Aircraft number 31 also appeared on the nose of aircraft, bottom of cowl. (M. Toda via Bueschel)



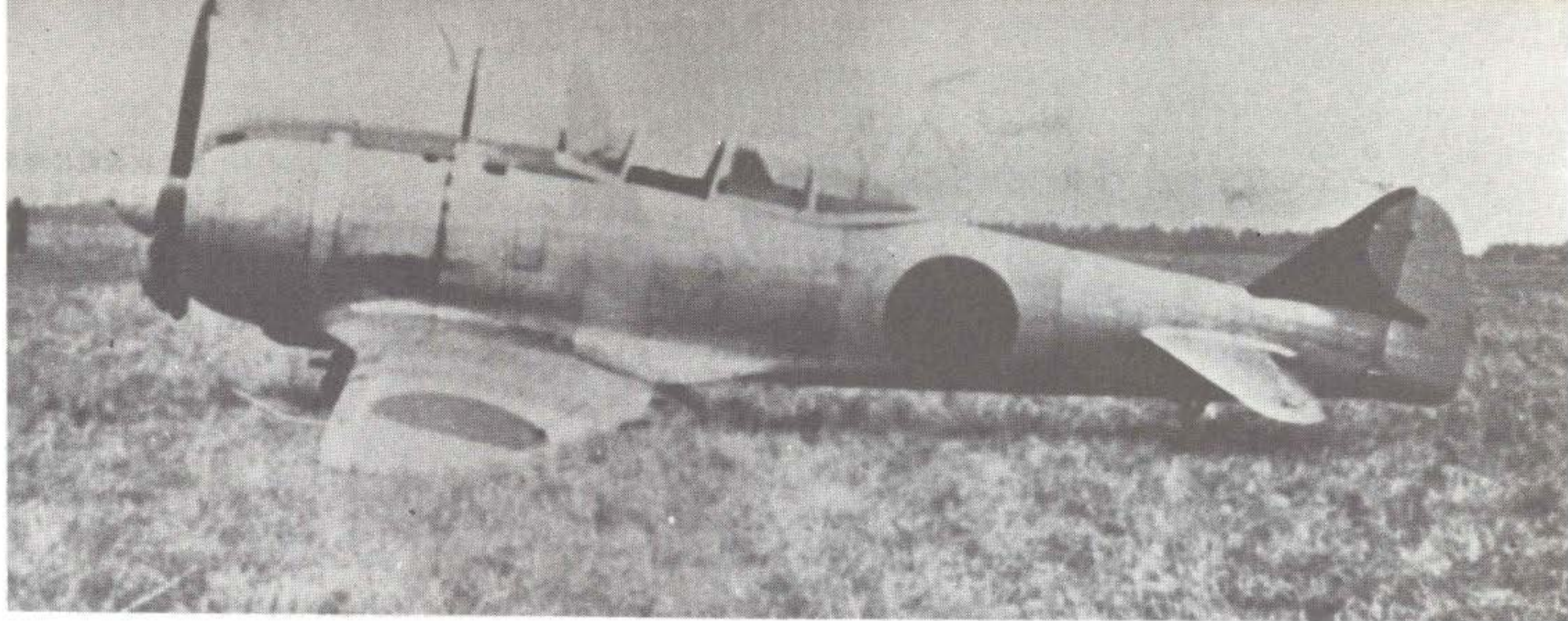
Wing guns are obvious on Shoki of 2nd Company, 47th Fighter Regiment. (M. Toda via Bueschel)



Some Shoki fighters of 2nd Company, 47th Fighter Regiment, had wing guns removed to lighten the aircraft. (M. Toda via Bueschel)

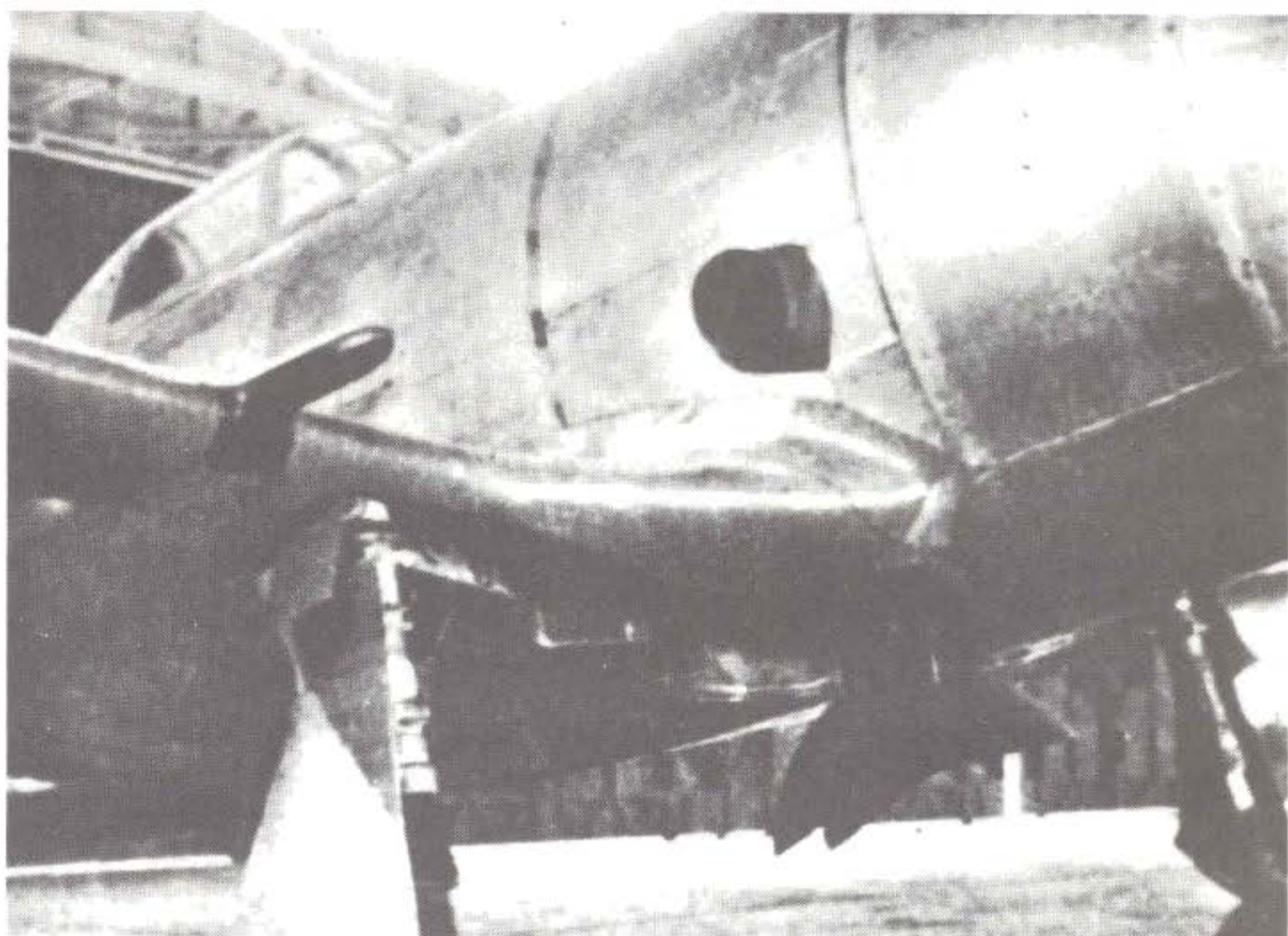


70th Fighter Regiment in Manchou-kuo protected industry on the mainland from raiding B-29s. (Copyright approved via R. D. Mikesh and R. M. Bueschel)



Above: 87th Fighter Regiment back in Japan in 1944. Shoki of 1st Company is damaged on landing. (Koku Fan via Bueschel)

Right: The giant killer! Ki.44-IIc variant had wing-mounted 20mm, 37mm or 40mm cannon in various models. (Koku Fan via Bueschel)



Below: The giant killers! Pilots pose in front of their unit's wing-mounted 40mm cannon Ki.44-IIc Shoki model. (M. Toda via Bueschel)

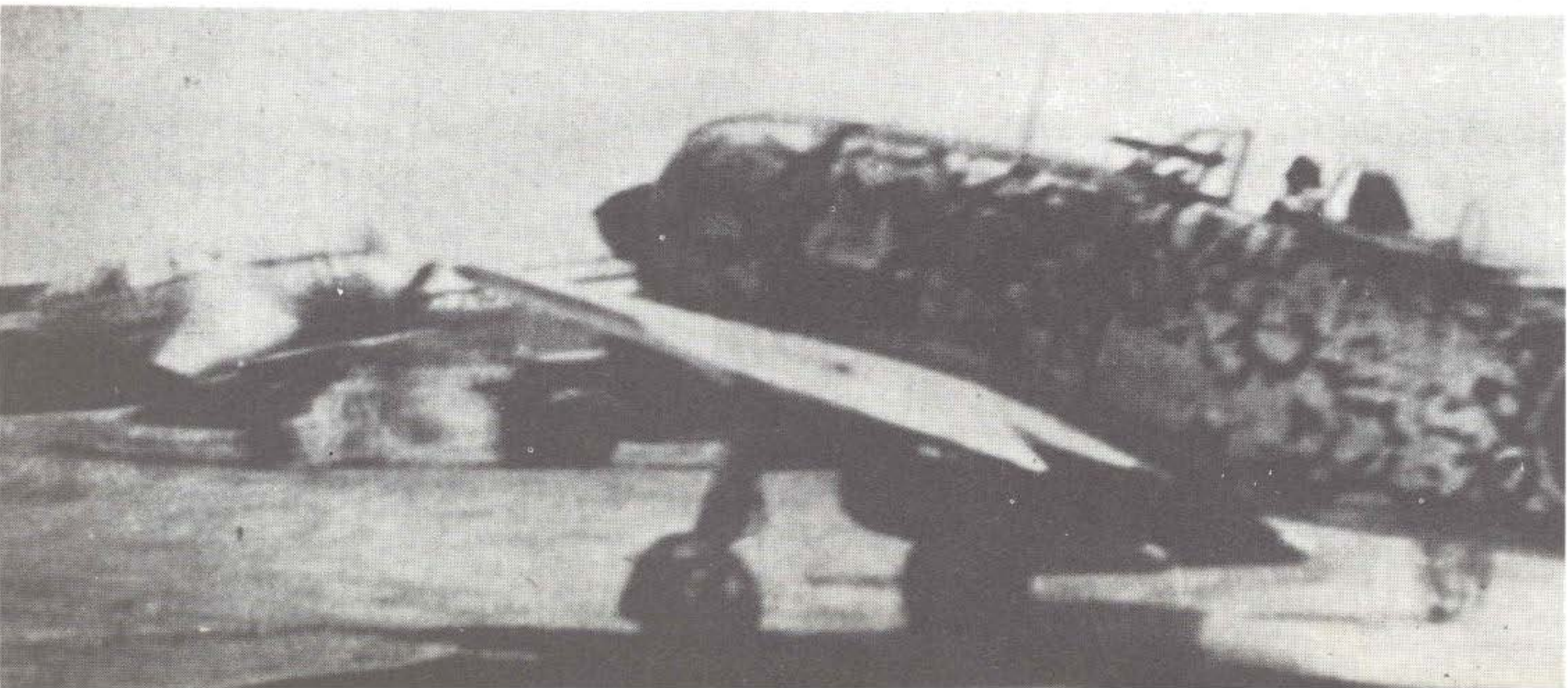




Above: The end of a B-29 interception at Tokyo. Wing-mounted 40mm cannon of Model 2C Shoki are evident. (Noboru Jyoko via Bueschel)



Left: Muzzle velocity of 40mm cannon was so low the ranges required to fire were almost suicidal. (Akira Hasegawa via Bueschel)

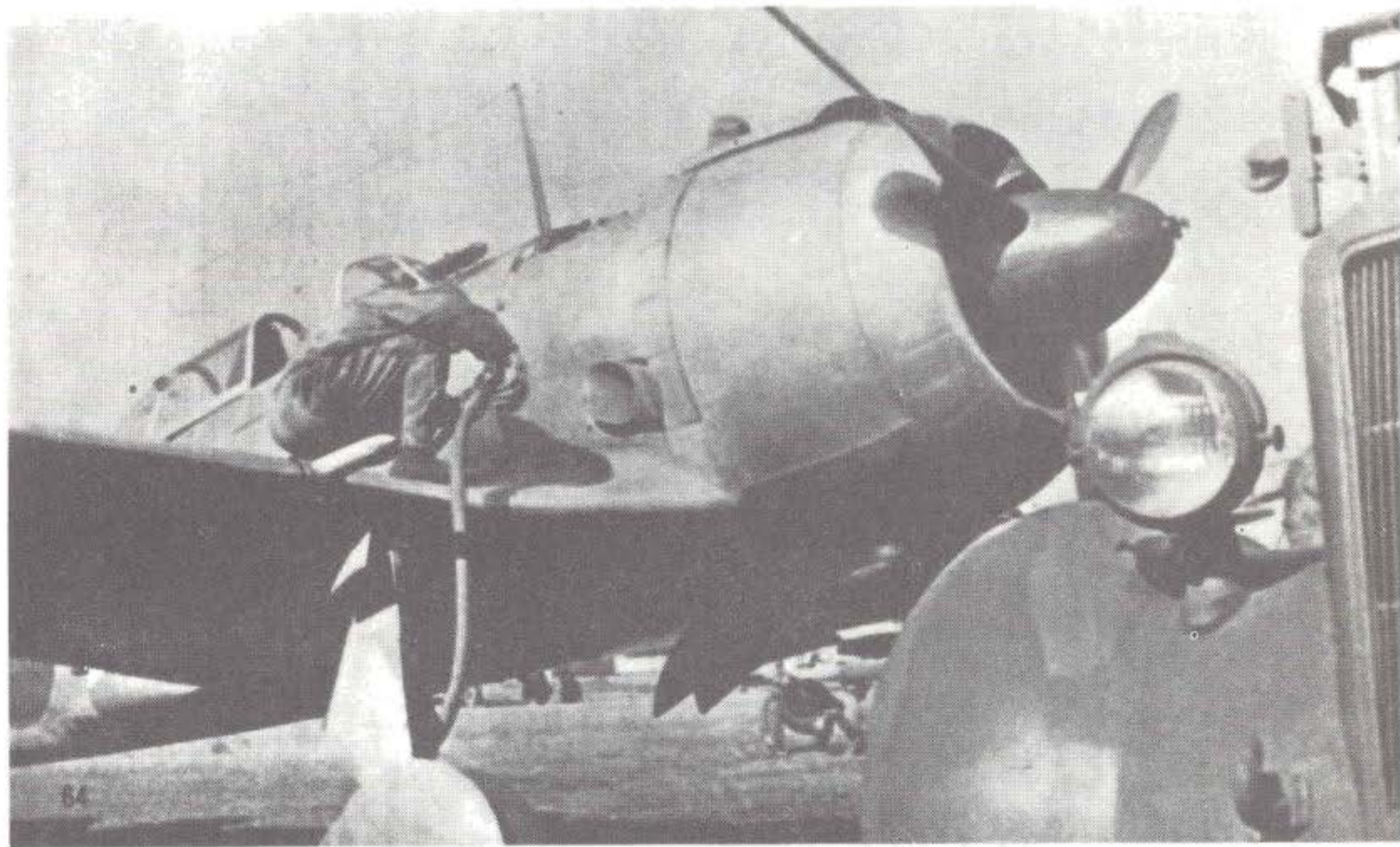


Below: Shoki Ki.44-IIc passes by on the way back to its dispersal. (Akira Hasegawa via Bueschel)



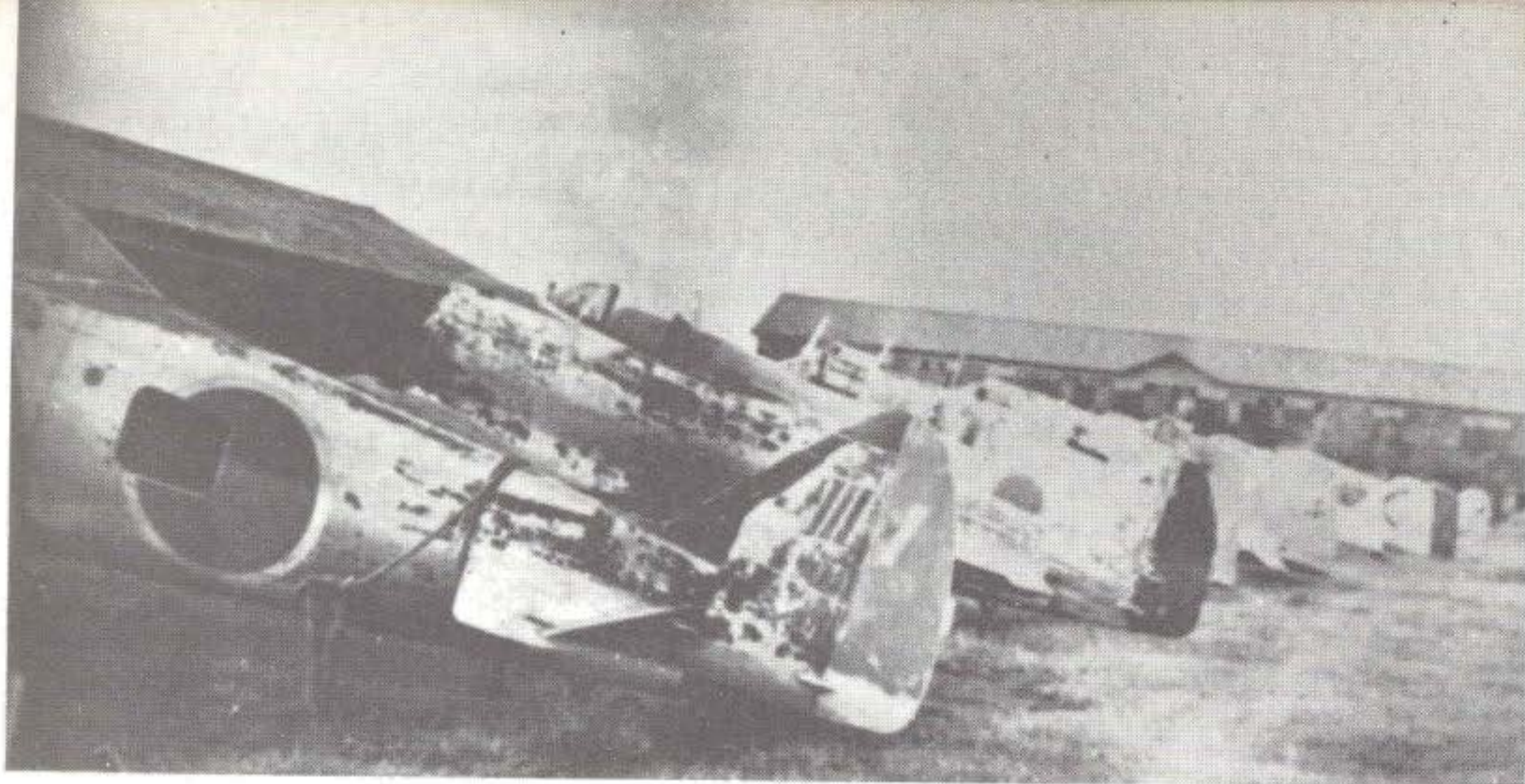
Above: Pilots of "Sky Shadow" Air Superiority Company rammed B-29s with their Shoki aircraft. (Hideya Ando via Bueschel)

Right: Gassing up in Japan. White "bandage" marking indicates Home Island Defence. (Koku Fan via Bueschel)



Below: Photo of evaluation Model 2 taken at Yokota showing airfield background. (Sekai no Tsubasa via Bueschel)

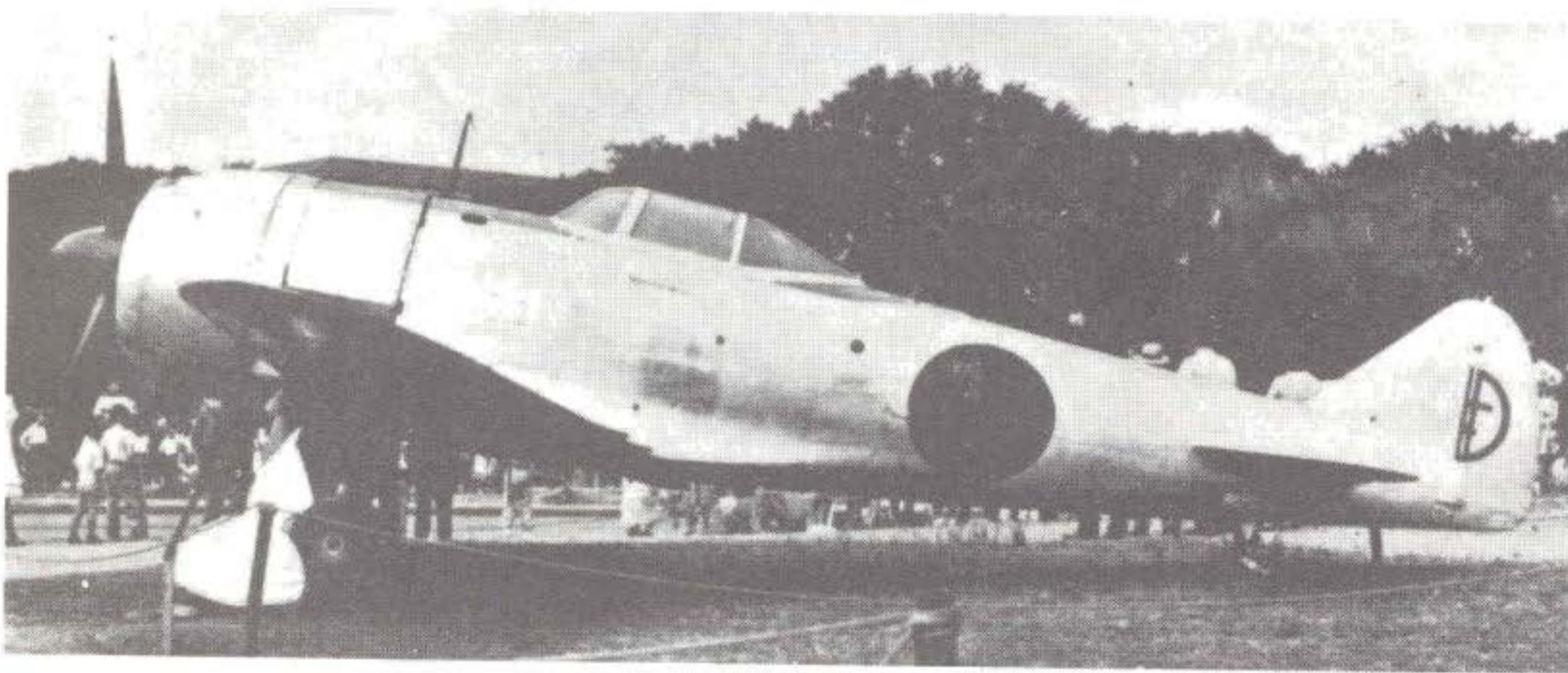




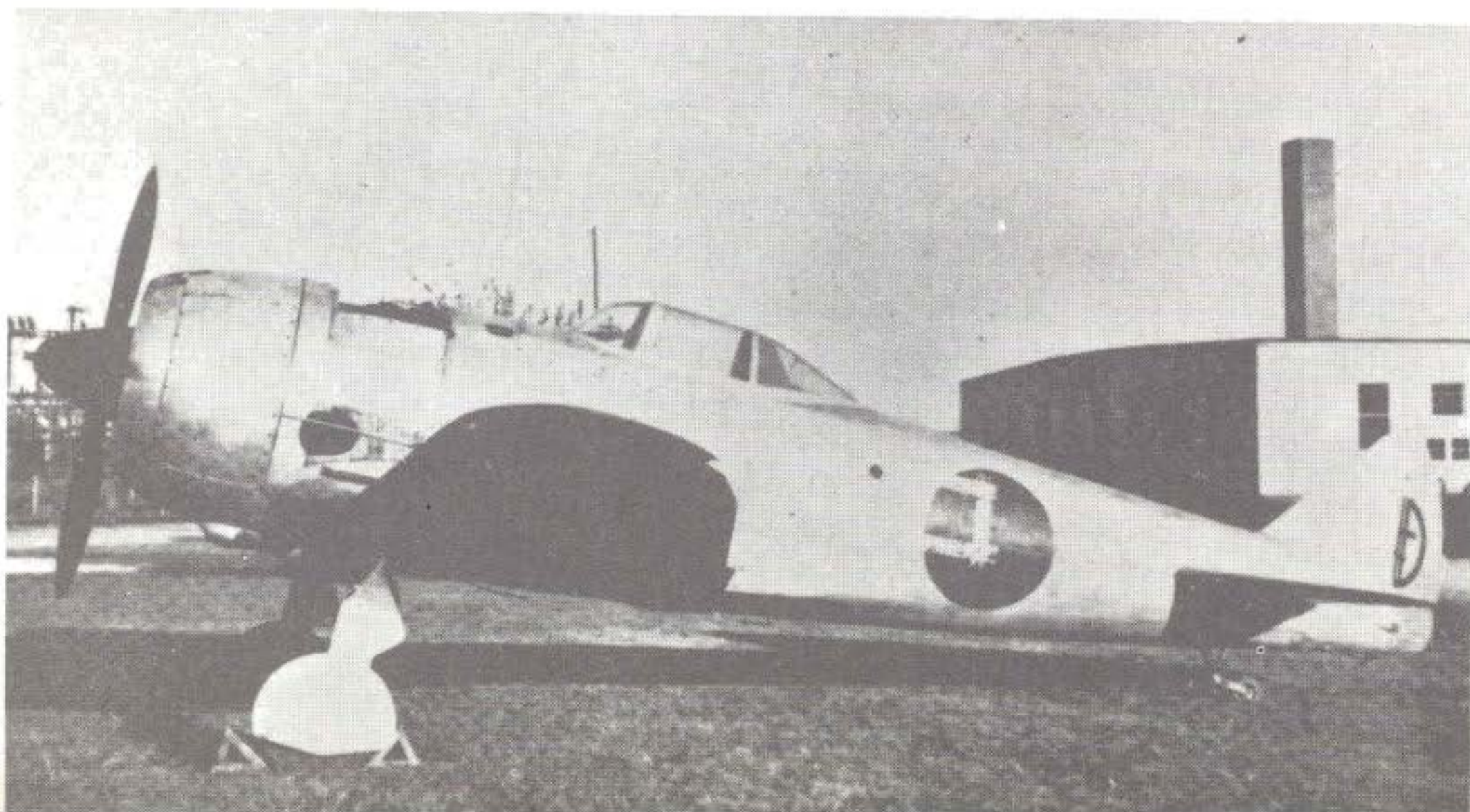
Shoki fighters of various units, 85th Fighter Regiment in foreground, at Tachikawa for repairs and found there at the end of the war. (D. W. Thorpe via Bueschel)



Incorrect markings were applied to Ki.44-IIb "Tojo" after the war for display purposes. (R. F. Besecker via Bueschel)



Hottest JAAF fighter of the war, Shoki ends its days in enforced peace. (Koku Fan via Bueschel)



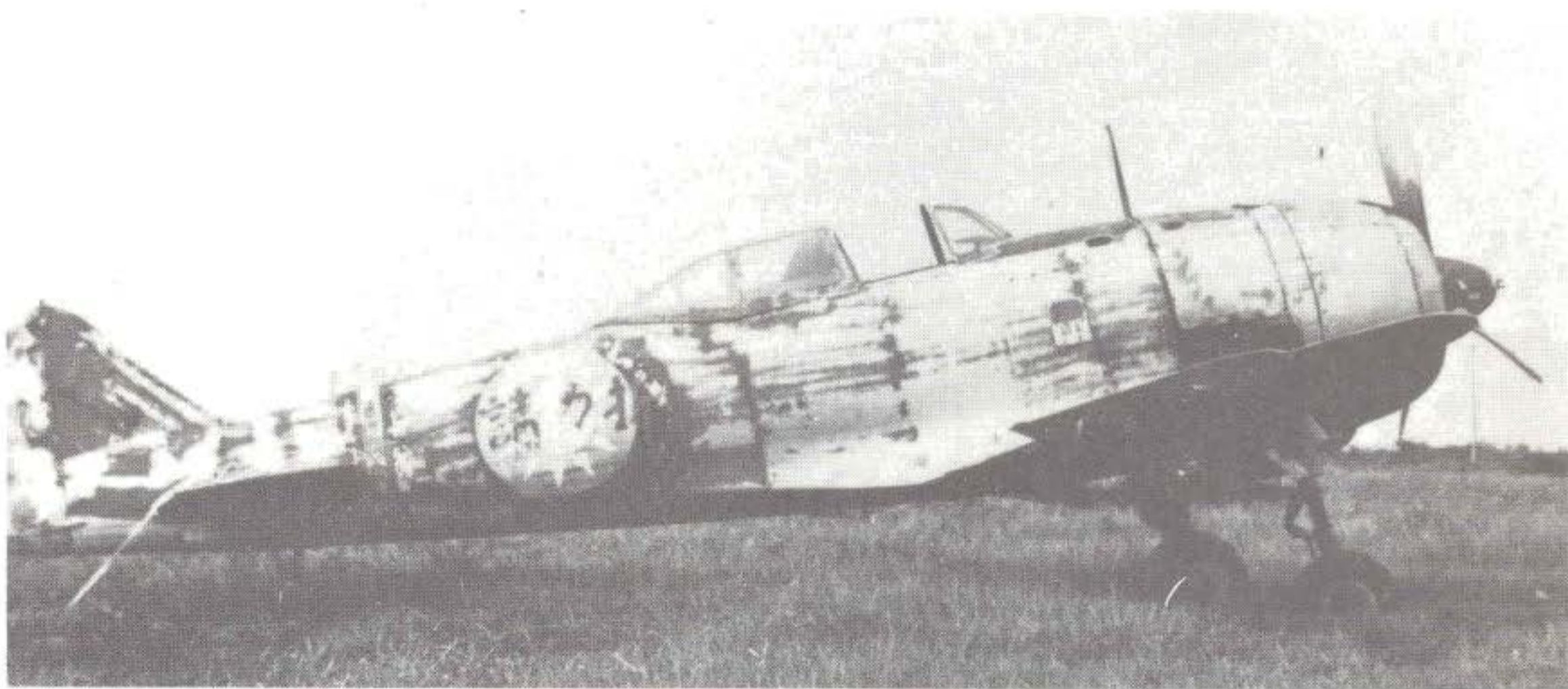
Non-existent tail marks show up on a Shoki in post-war display. (Sekai no Kokuki via Bueschel)



Wing guns were removed on some examples to increase altitude performance. (D. W. Lucabaugh via Bueschel)



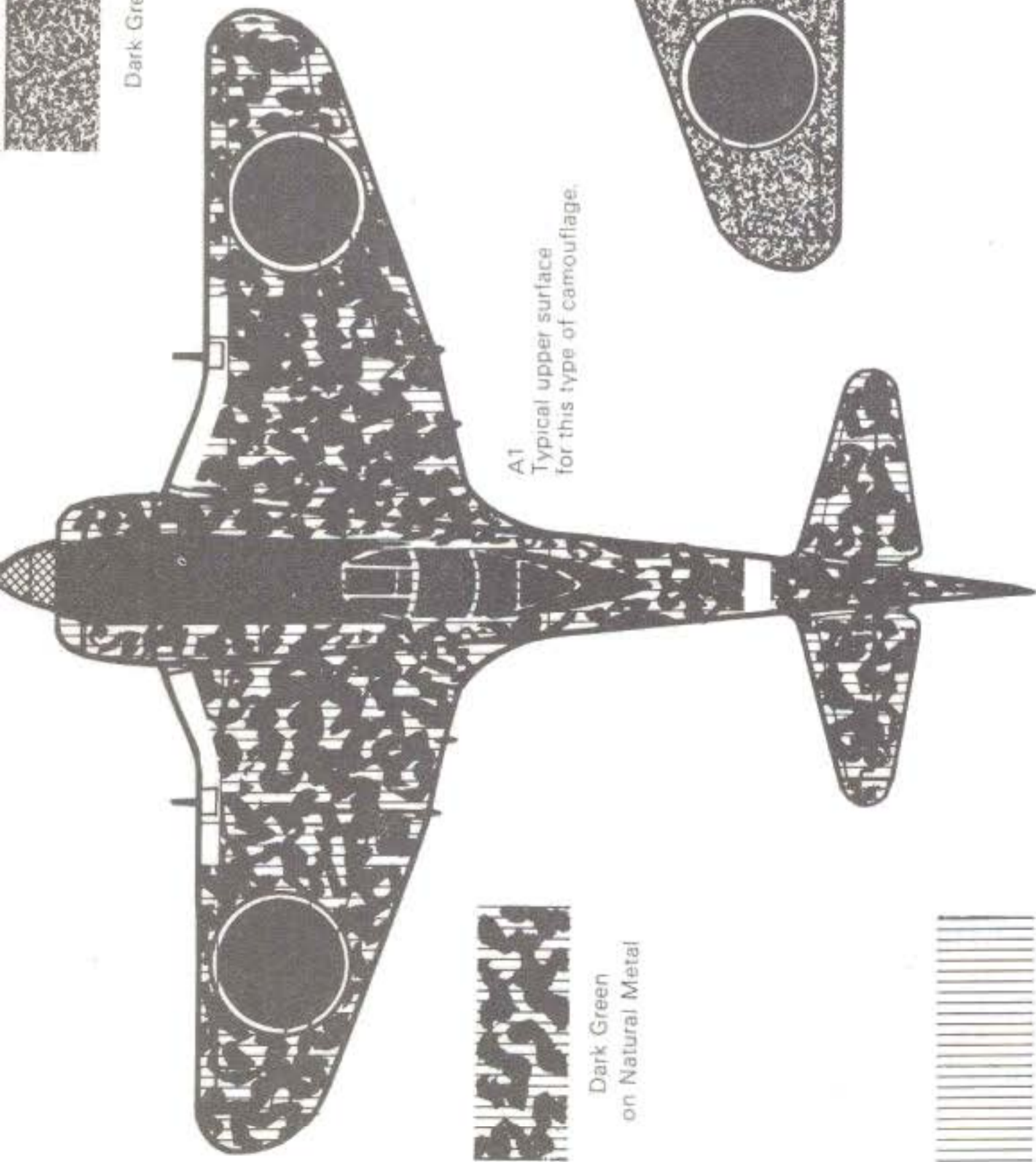
Chinese painted a patriotic inscription over the CAF insignia. (D. W. Lucabaugh via Bueschel)



Ki.44-IIb of 9th Fighter Regiment in China taken over by the Nationalist Chinese Air Force. (D. W. Lucabaugh via Bueschel)



Shoki of former 9th Fighter Regiment at Nanking, China, August 1946. (D. W. Lucabaugh via Bueschel)



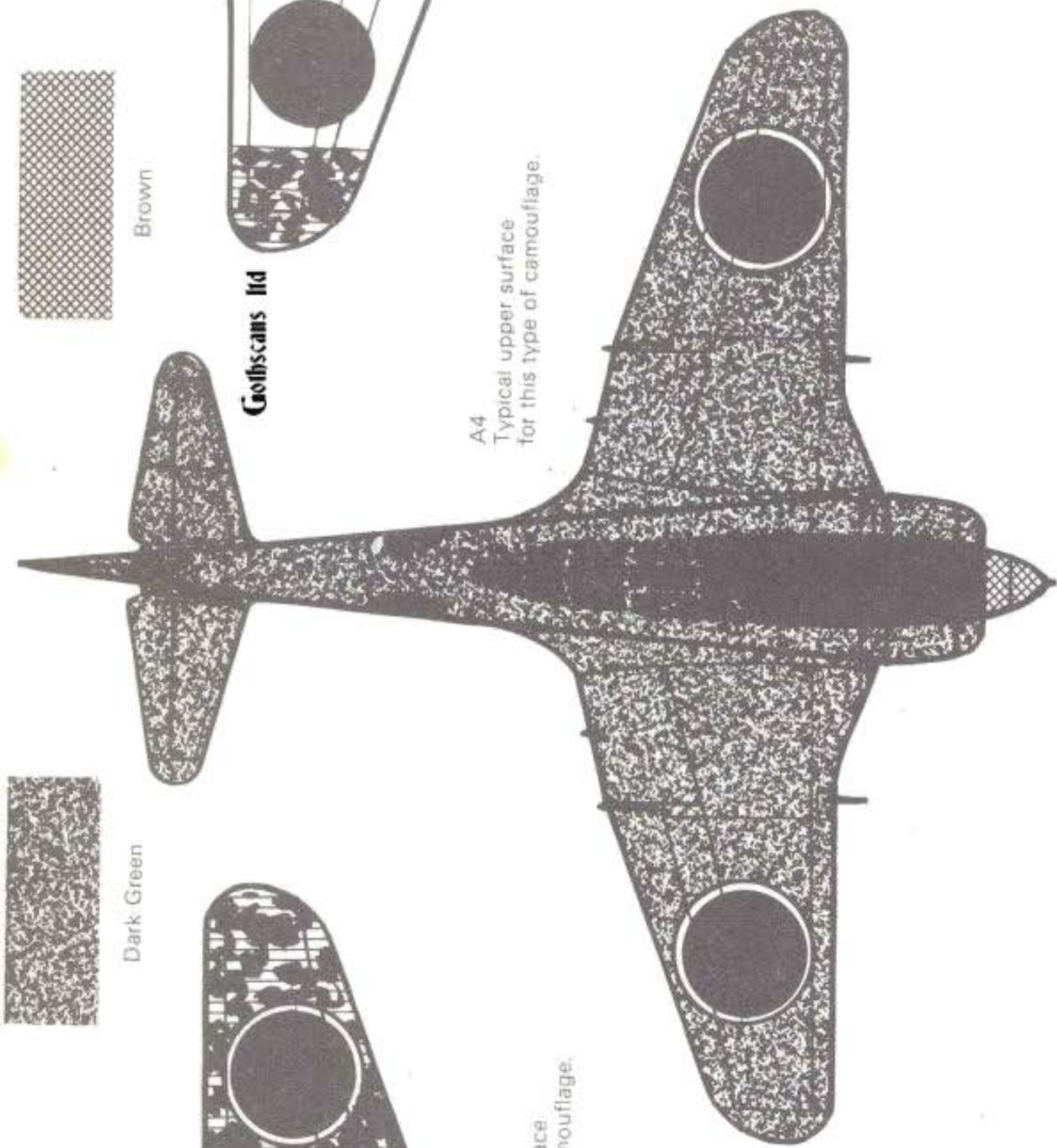
A1  
Typical upper surface  
for this type of camouflage.



Dark Green  
on Natural Metal



Natural Metal



A4  
Typical upper surface  
for this type of camouflage.

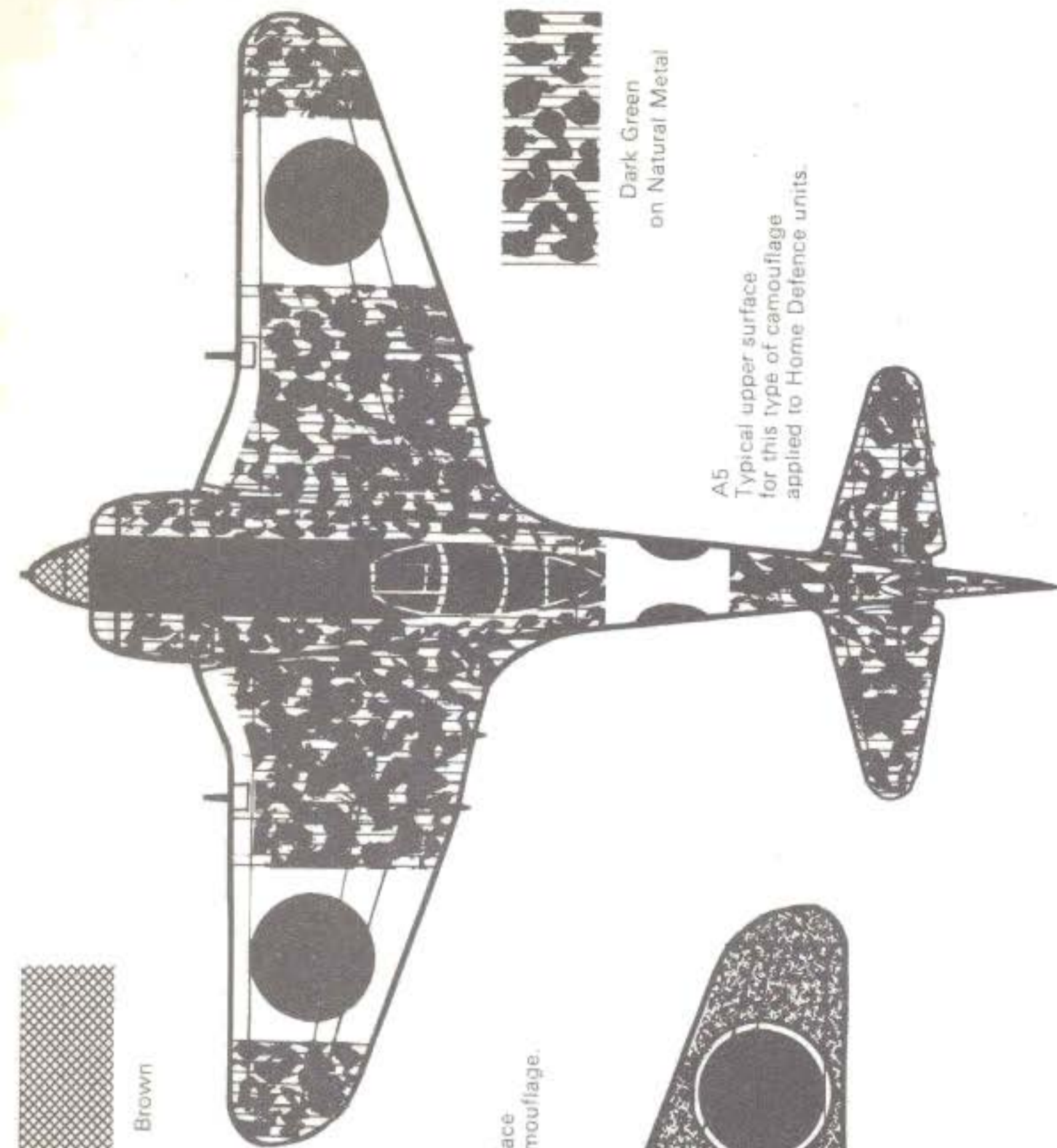


Brown



Dark Green

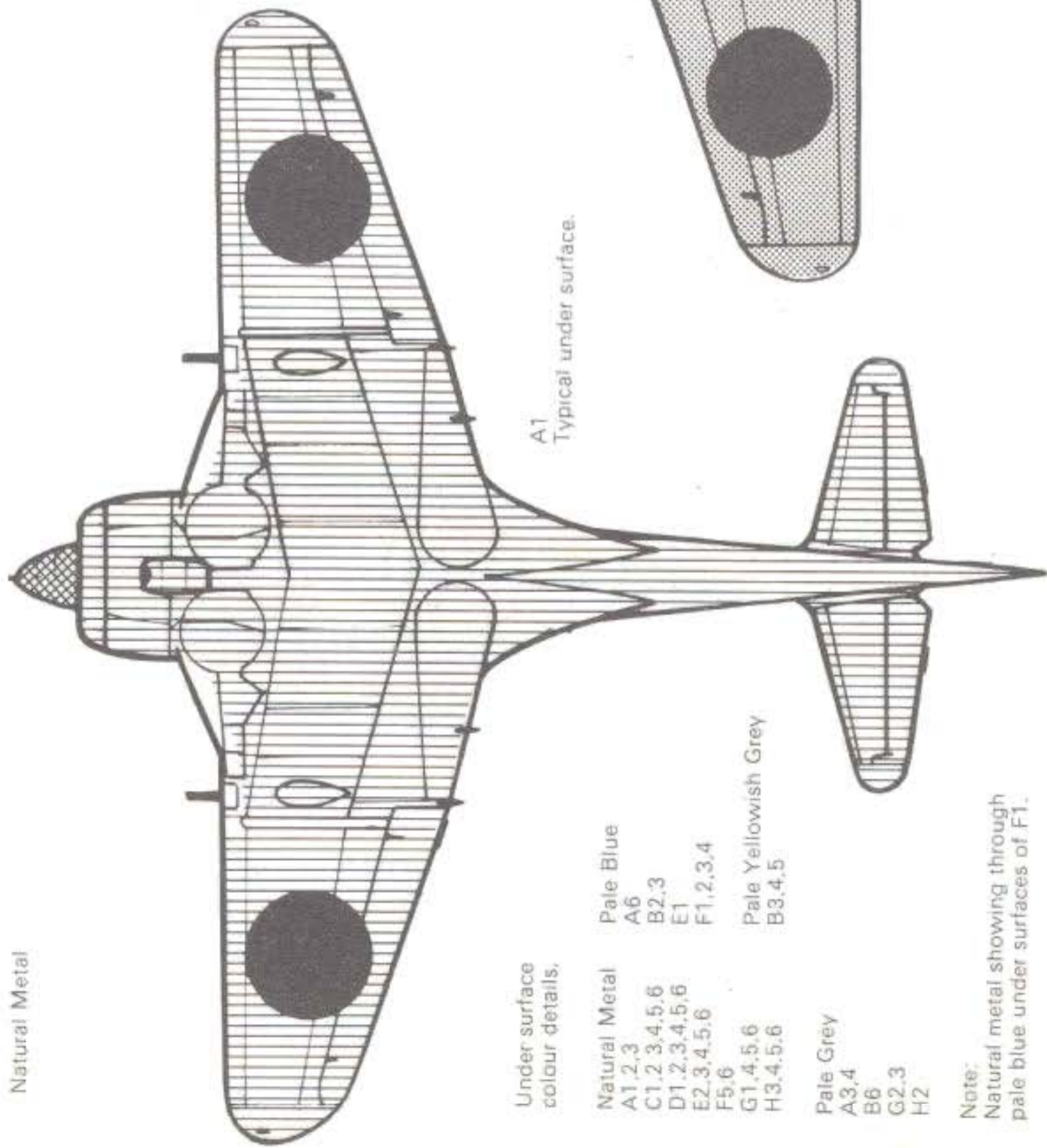
**Gothscaans IId**



A5  
Typical upper surface  
for this type of camouflage  
applied to Home Defence units.



Dark Green  
on Natural Metal



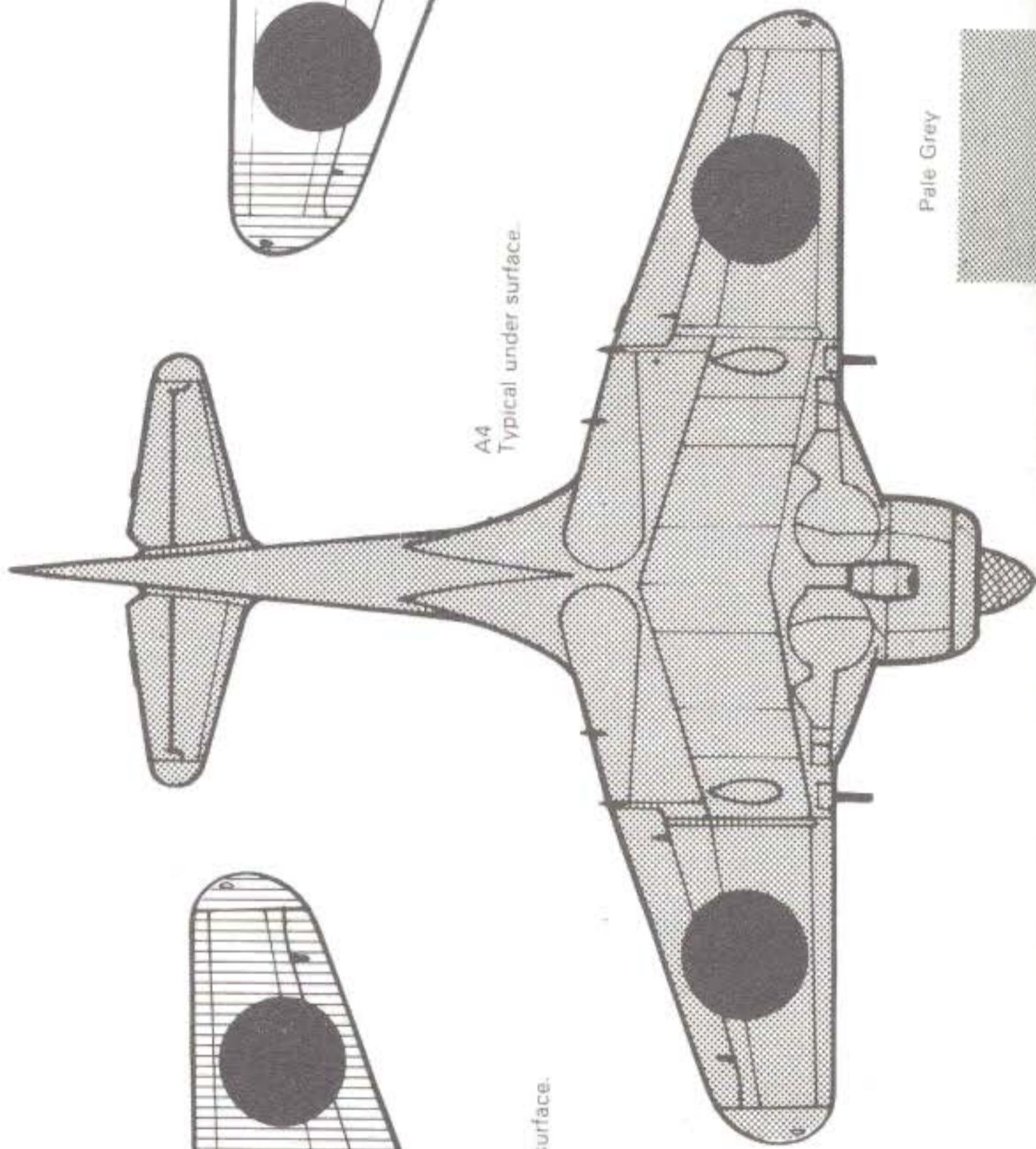
A1  
Typical under surface.

Under surface  
colour details,

- Natural Metal
- A1,2,3
- C1,2,3,4,5,6
- D1,2,3,4,5,6
- E2,3,4,5,6
- F5,6
- G1,4,5,6
- H3,4,5,6
- Pale Blue
- A6
- B2,3
- E1
- F1,2,3,4
- Pale Yellowish Grey
- B3,4,5

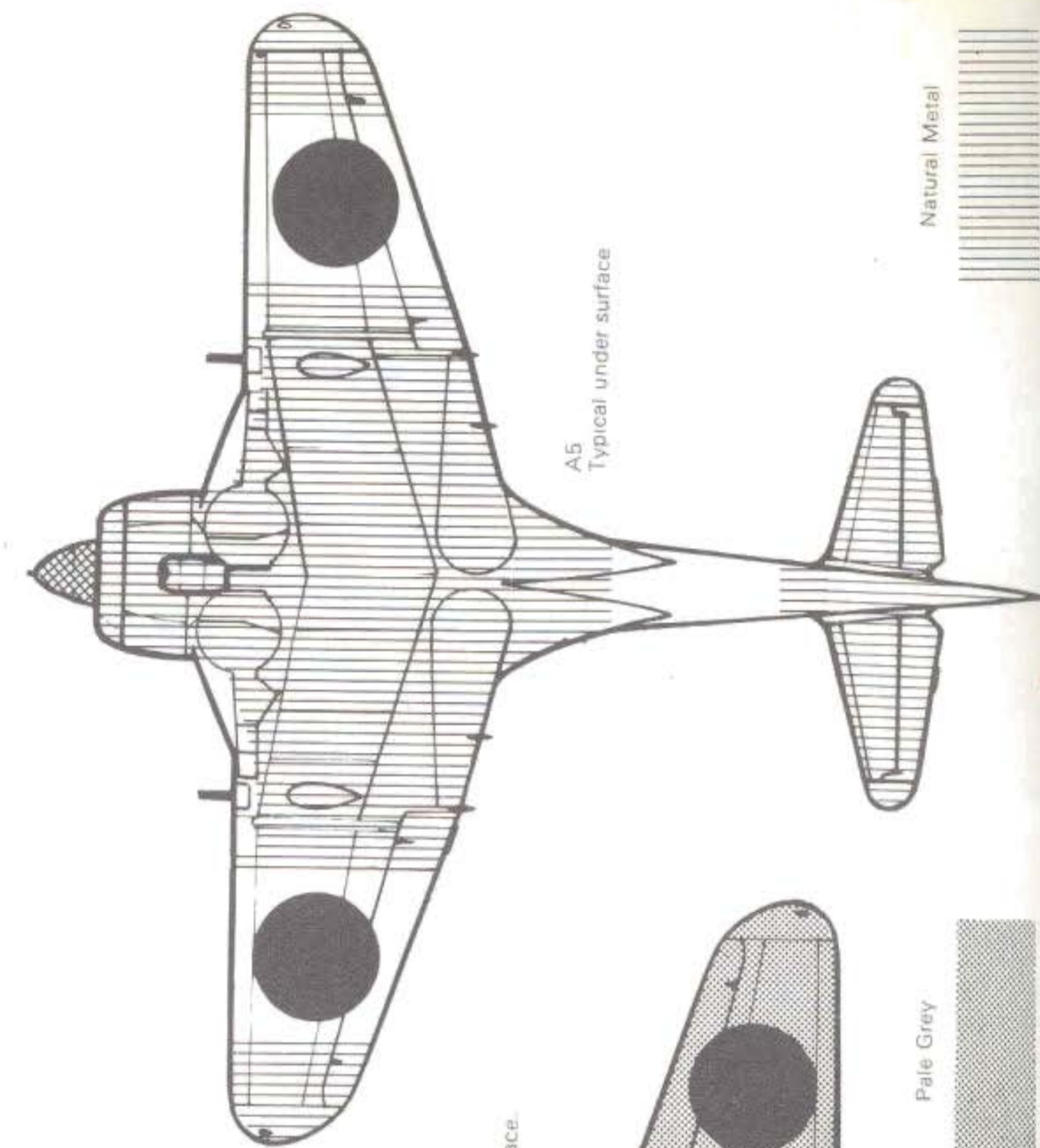
- Pale Grey
- A3,4
- B6
- G2,3
- H2

Note:  
Natural metal showing through  
pale blue under surfaces of F1.



A4  
Typical under surface.

Pale Grey



A5  
Typical under surface.

Natural Metal





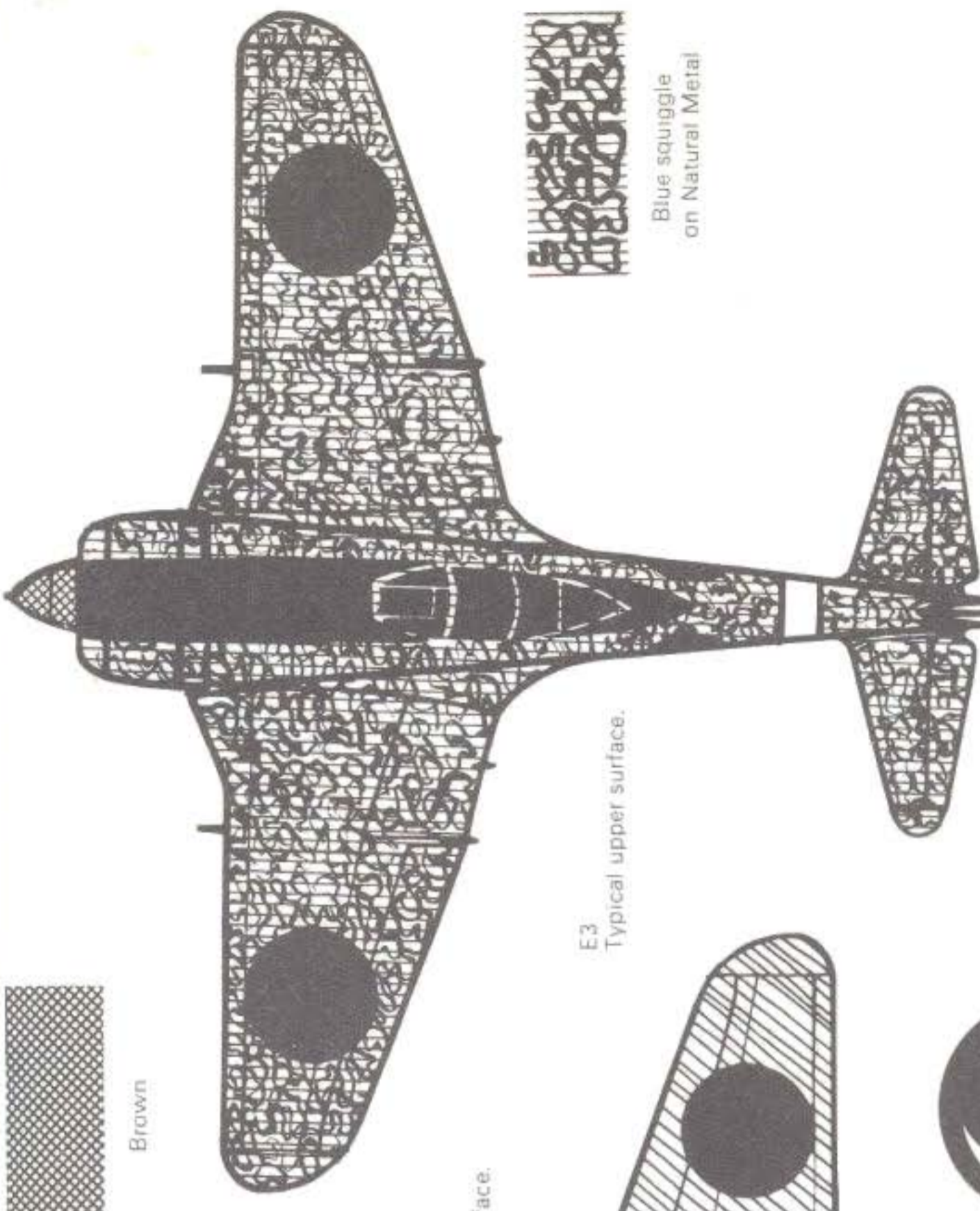
Dark Green



Medium Brown-green



Brown



A6, B1.2, FC3  
Typical upper surface.

6

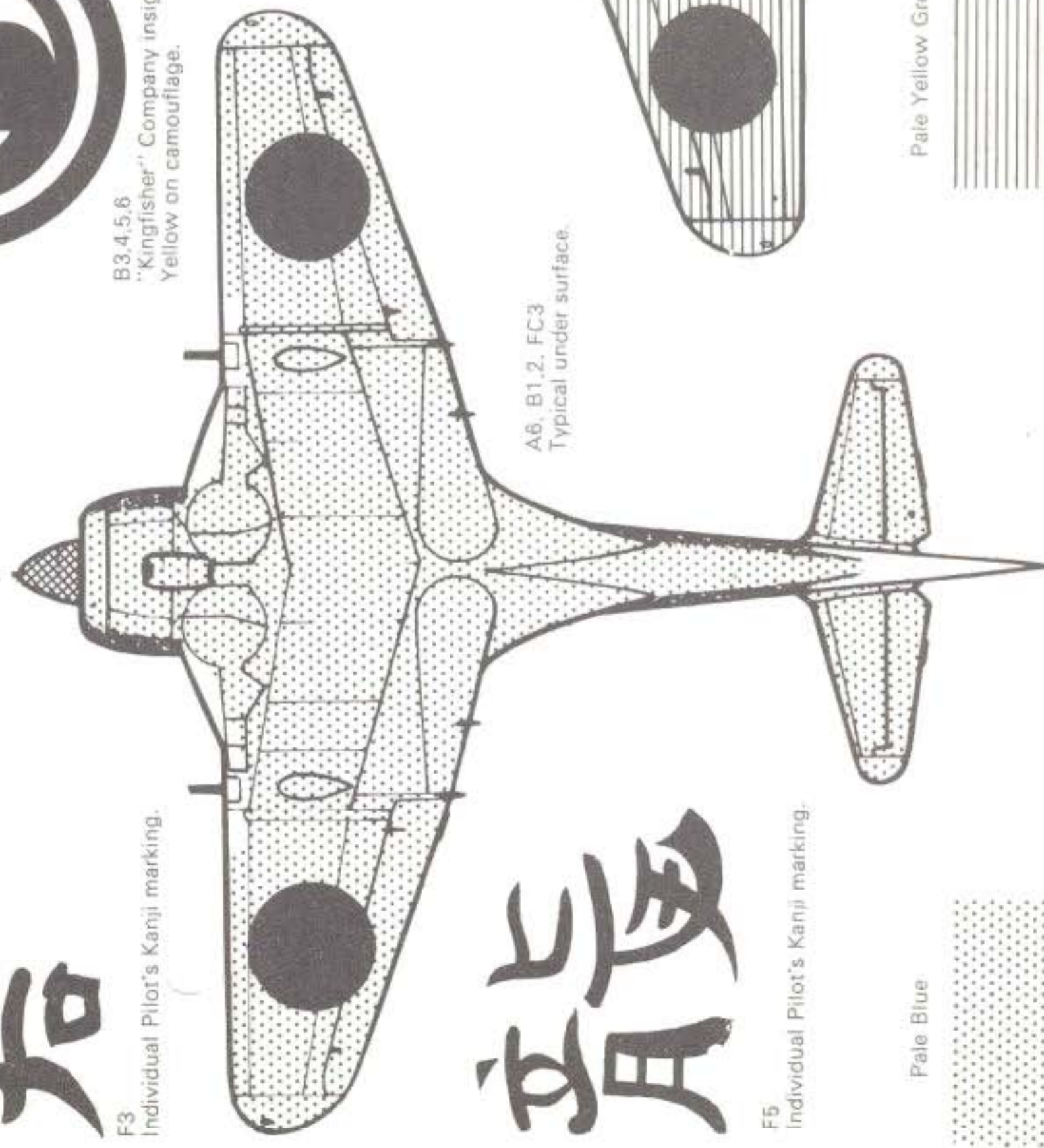
F1  
Individual Pilot's Kanji marking.

4

F2  
Individual Pilot's Kanji marking.

若

F3  
Individual Pilot's Kanji marking.

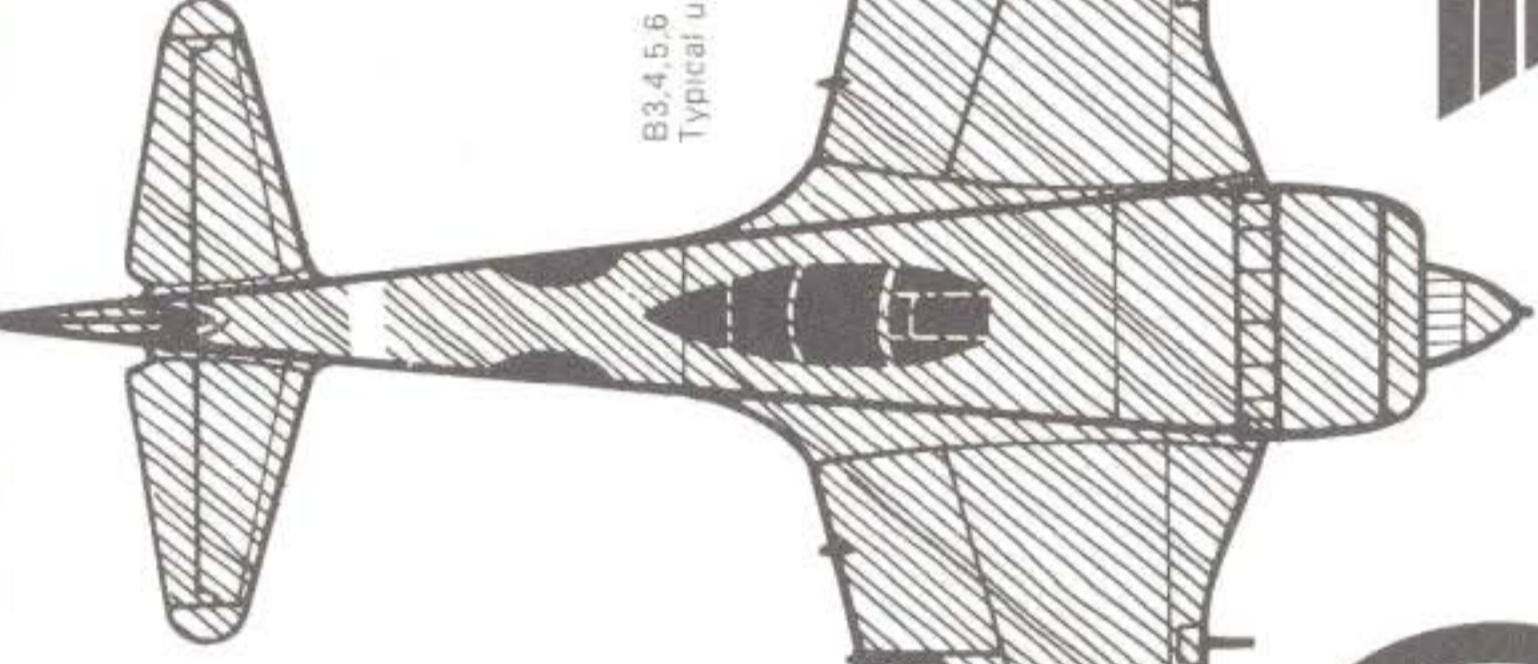


A6, B1.2, FC3  
Typical under surface.

育良

F5  
Individual Pilot's Kanji marking.

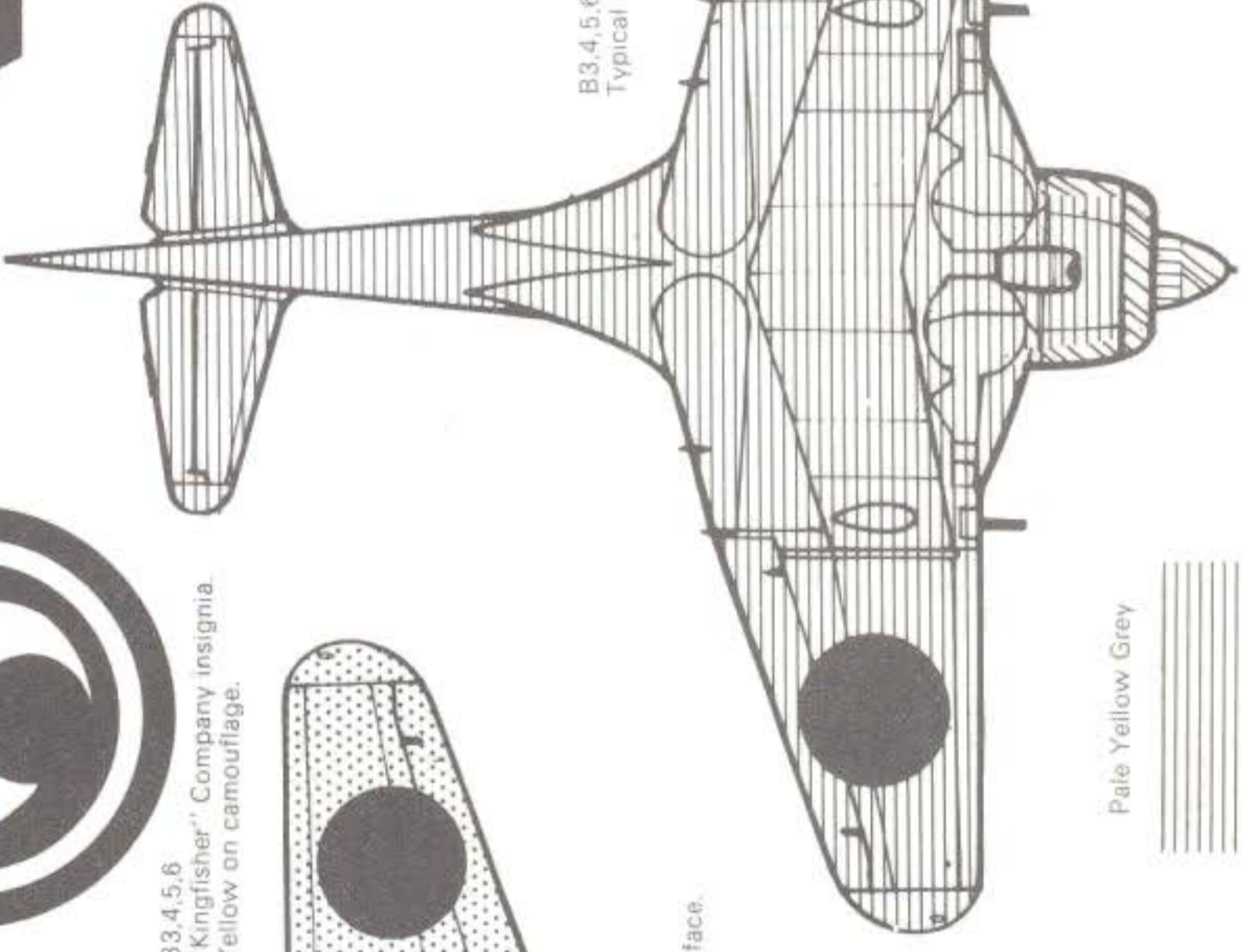
Pale Blue



B3, 4, 5, 6  
Typical upper surface.



B3, 4, 5, 6  
"Kingfisher" Company insignia.  
Yellow on camouflage.

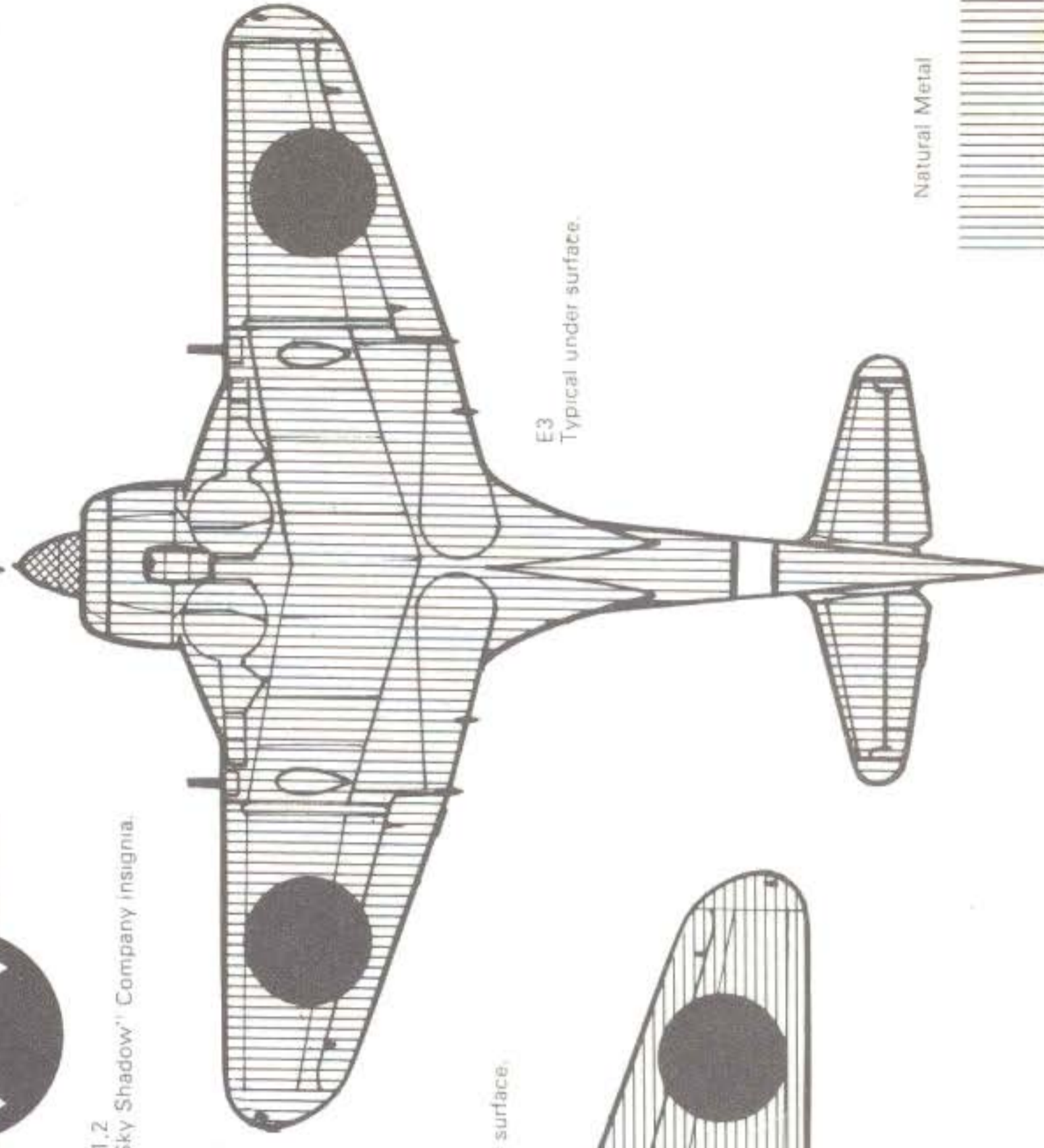


B3, 4, 5, 6  
Typical under surface.

Pale Yellow Grey



D1, 2  
"Sky Shadow" Company insignia.



E3  
Typical under surface.

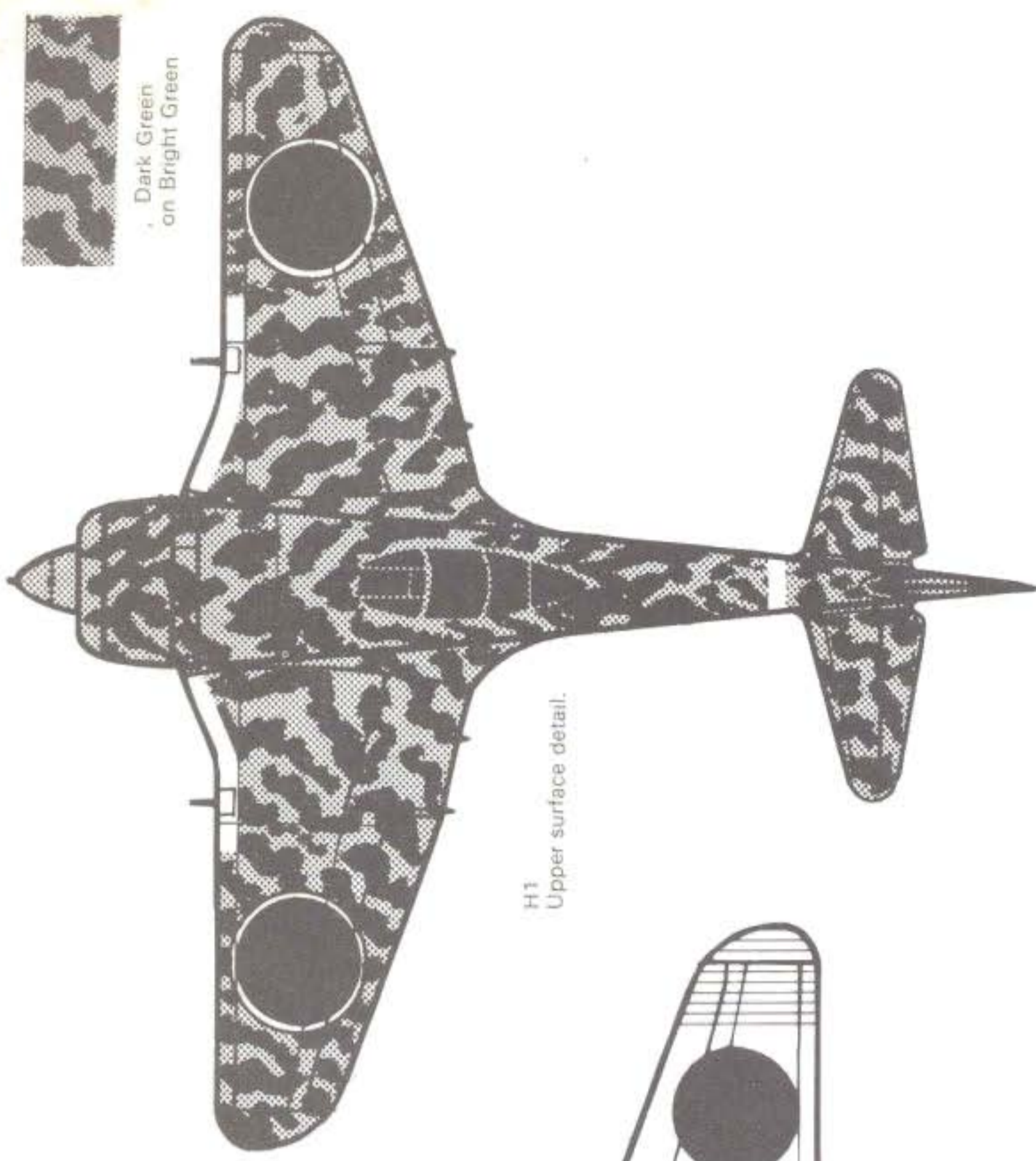
Natural Metal



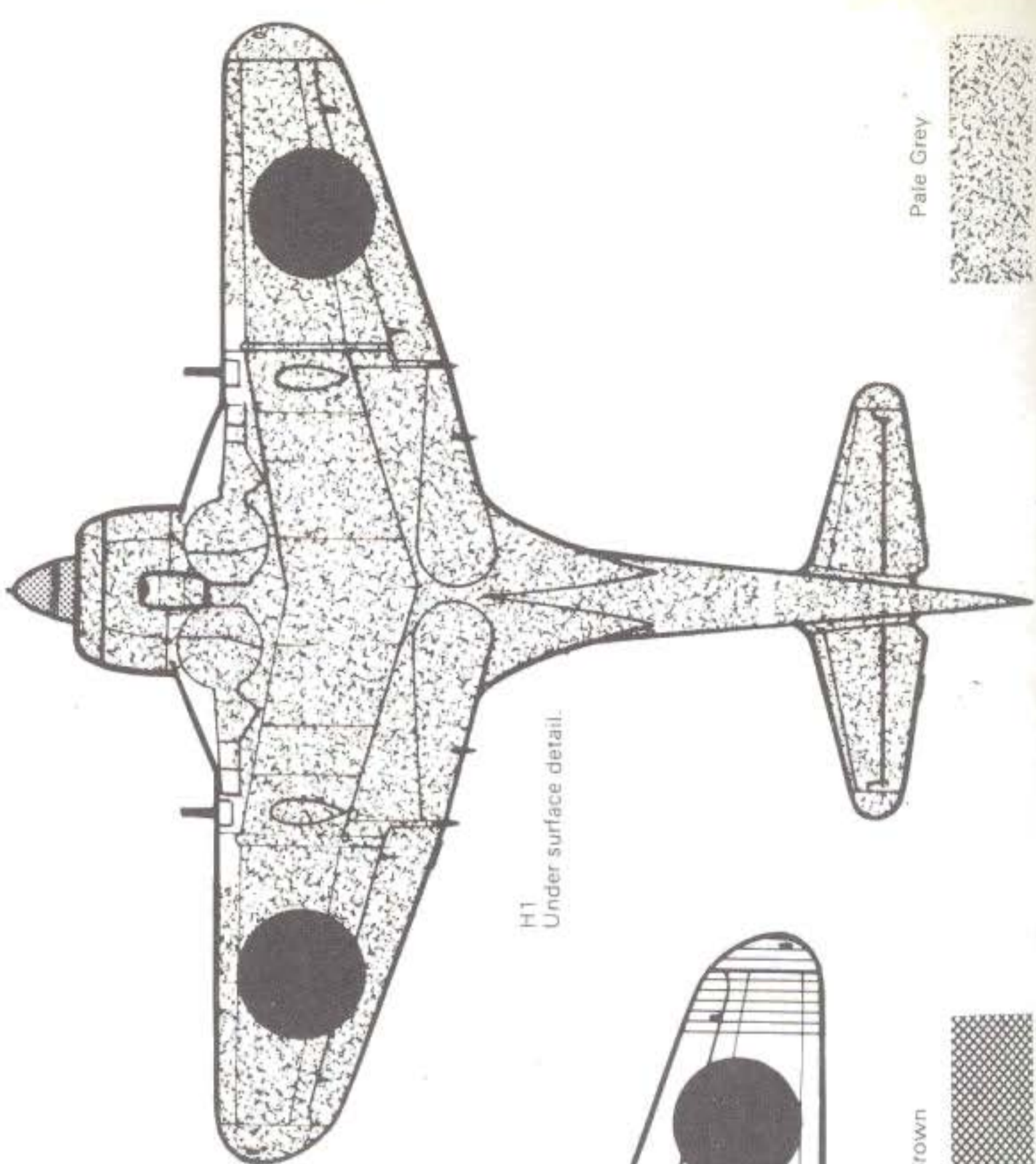
Blue squiggle  
on Natural Metal



Dark Green  
on Bright Green



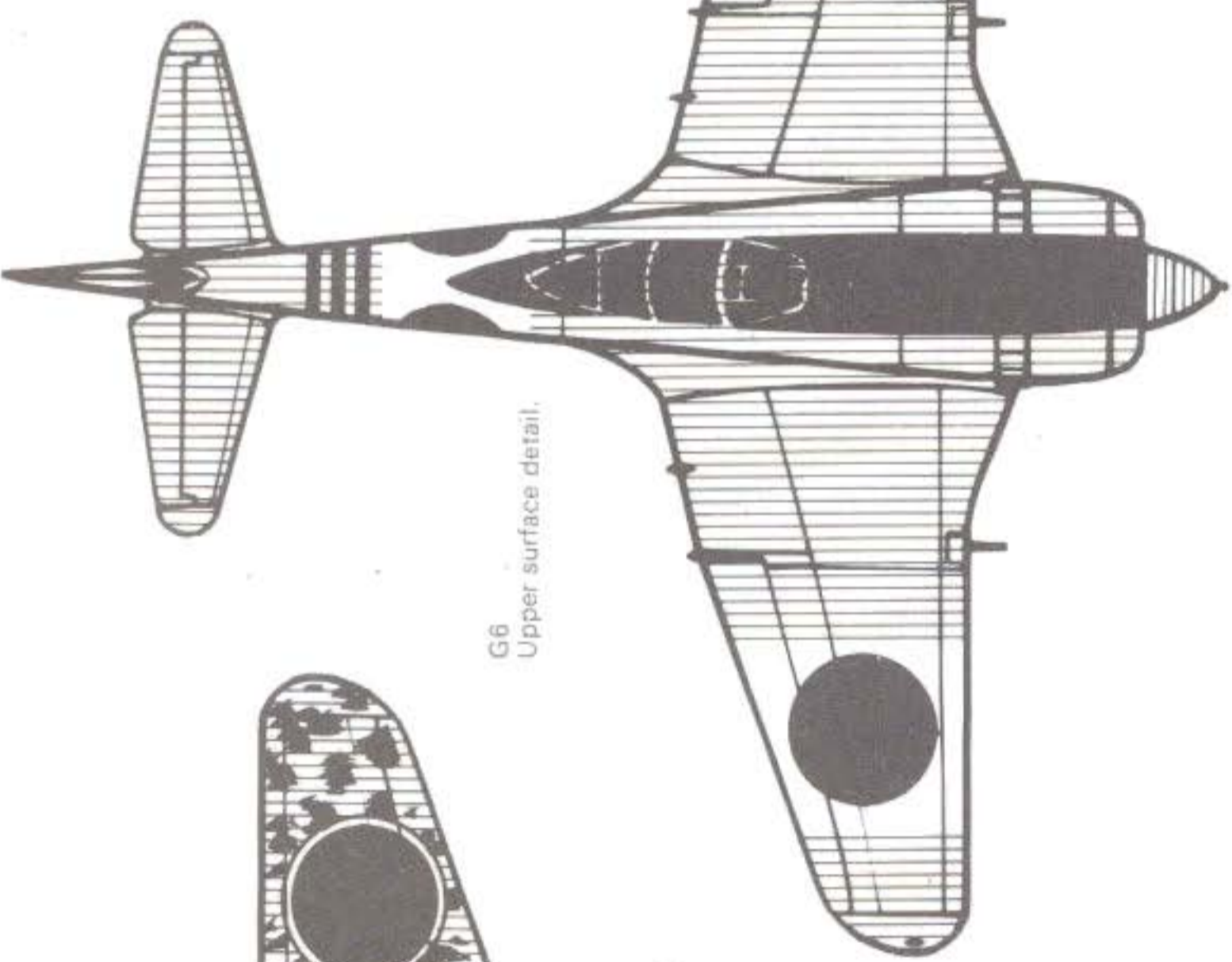
H1  
Upper surface detail.



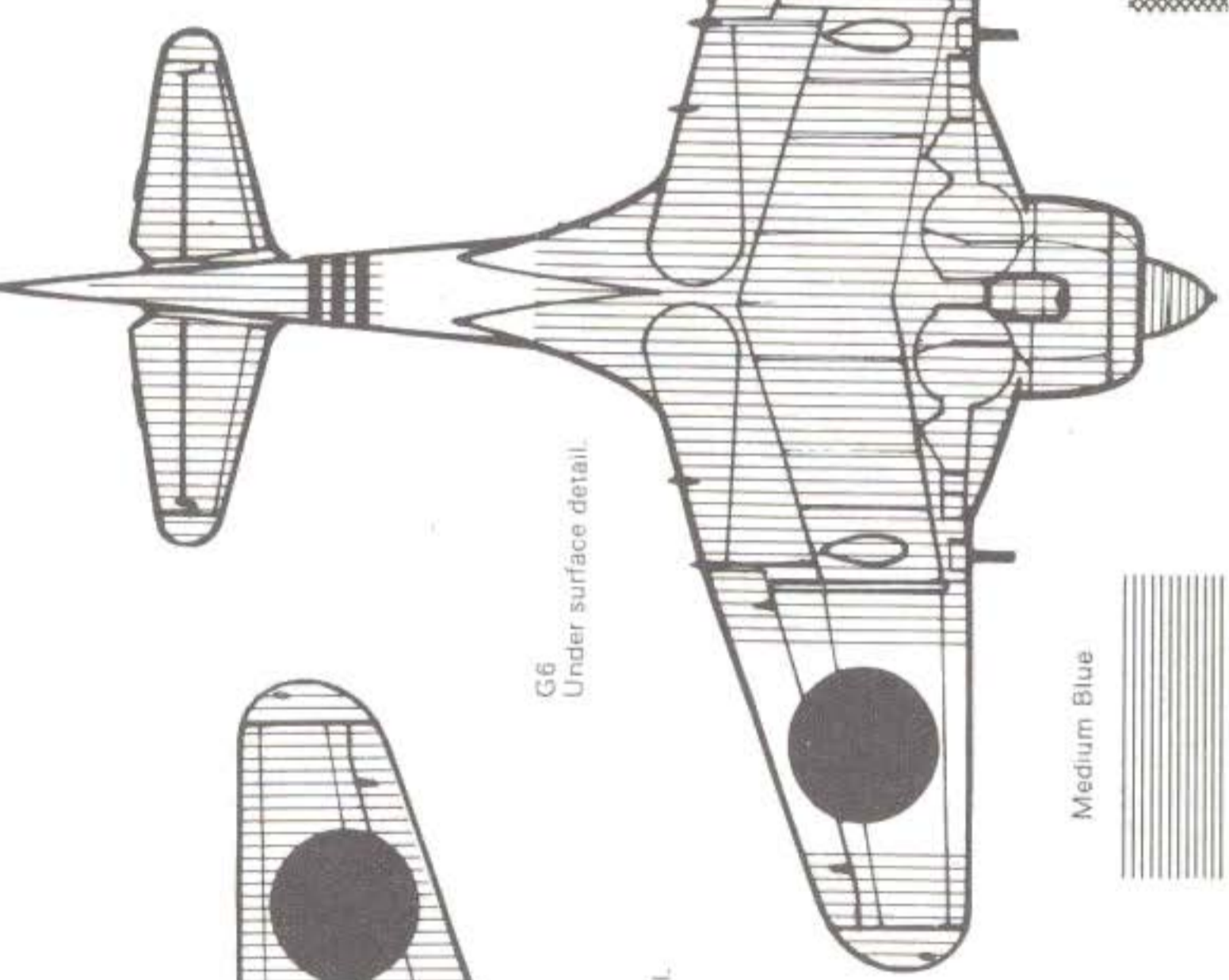
H1  
Under surface detail.



Pale Grey



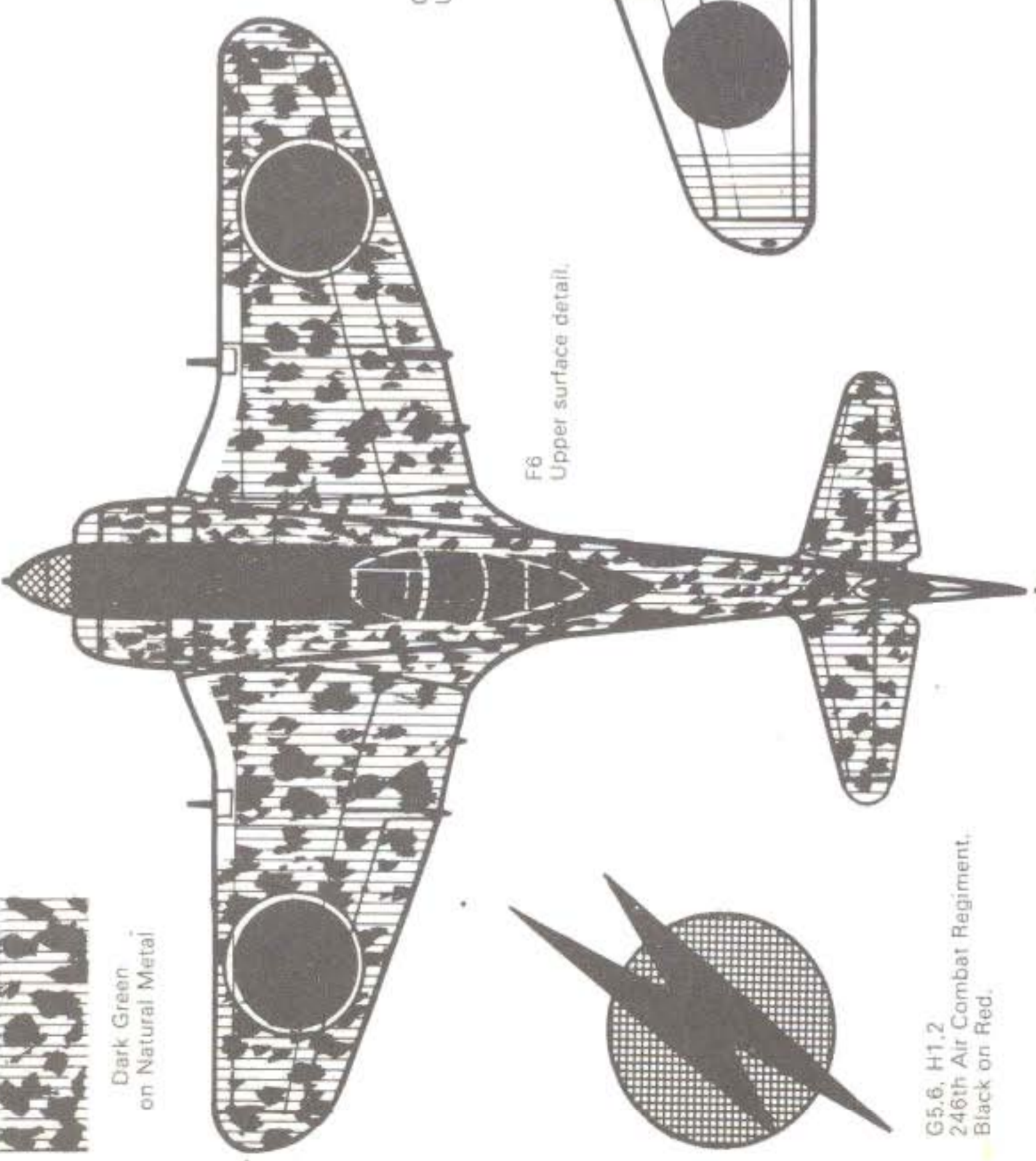
G6  
Upper surface detail.



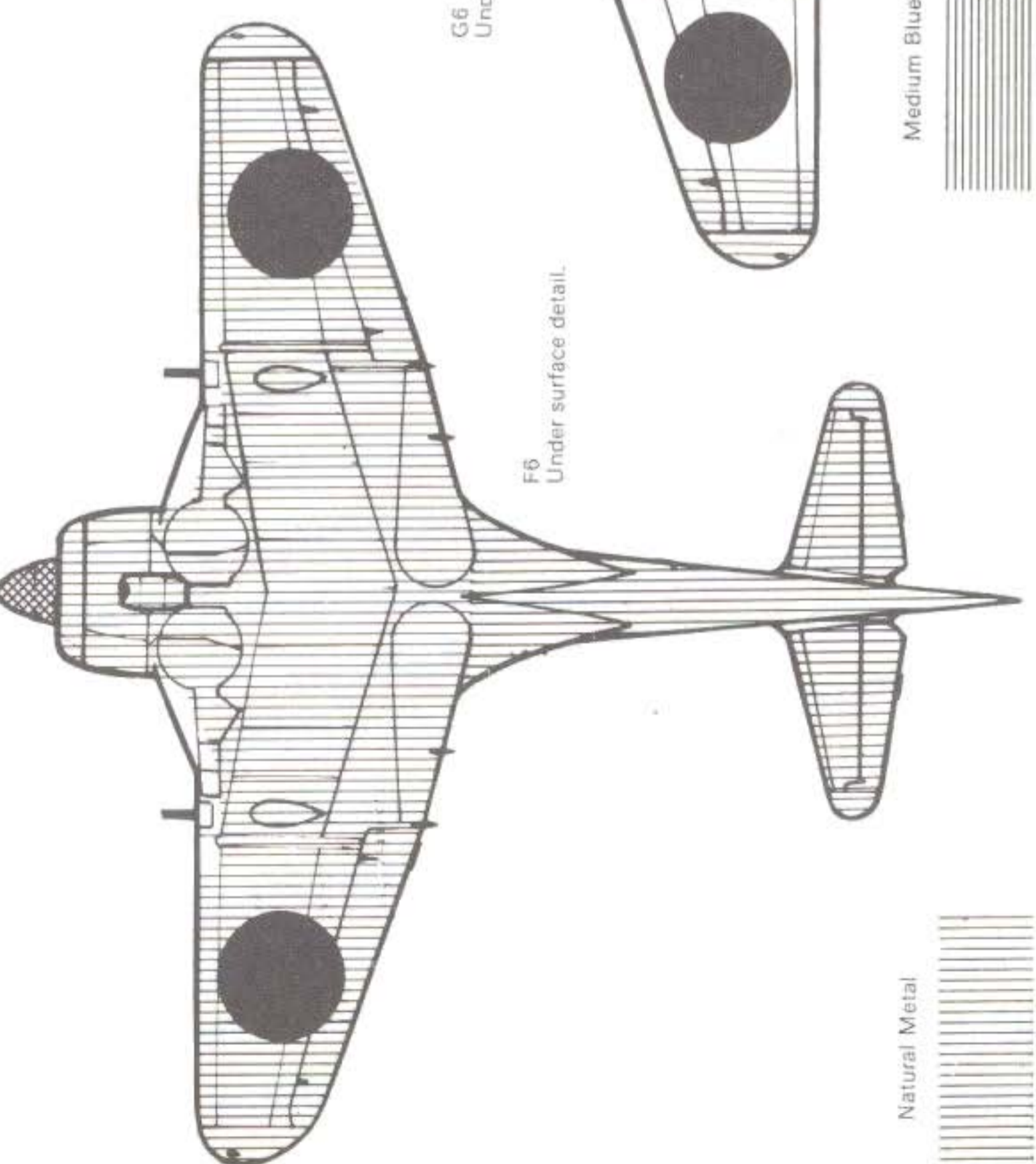
G6  
Under surface detail.



Brown



F6  
Upper surface detail.



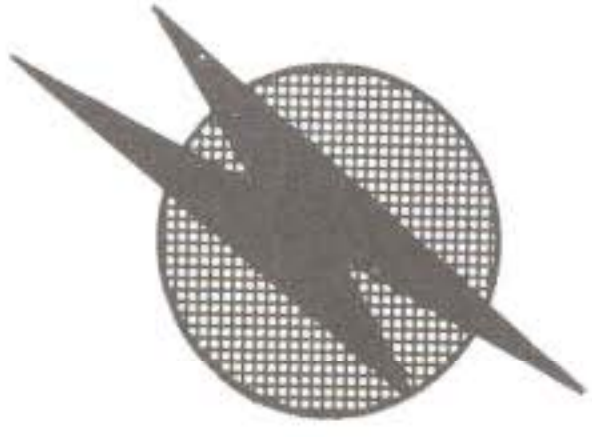
F6  
Under surface detail.



Medium Blue



Dark Green  
on Natural Metal



G5.6, H1.2  
246th Air Combat Regiment.  
Black on Red.



Natural Metal

**AIR COMBAT REGIMENTS:**

Regiment	When used	Area of Operations	Former A/C	Later A/C	Comments
9th Fighter	Summer 1942– end of war	China	Ki.10 Ki.27	None	Former Ki.27 unit stationed in Manchoukou, converted to Ki.44 in 1942 and sent to China as occupation force and Nanking defence. Unit disbanded at war's end at Nanking.
22nd Fighter	5 March 1944– end of war	Japan      China Philippines Japan (Eastern Defence Sector)      Chosen	None	Ki.84	Unit formed at Fussa, Yokota, Japan on 5 March 1944 with Ki.44 as original equipment. In action in China, August 1944, in defence of Hankow, then rapidly shifted to the Philippines in September. Disbanded at Kimpo Chosen (Korea).
23rd Fighter	11 Oct. 1944– end of war	Japan (Eastern Defence Sector)	Ki.43	Ki.84	Unit returned from Iwo Jima. Converted from Ki.43 to Ki.44 and stationed at Inba, Chiba, Ota Airfield, until the end of the war. Formerly a Training Company.
29th Fighter	Feb. 1944– end of war	Formosa Philippines Formosa	None	Ki.84	Formerly 29th Independent Fighter Company flying Ki.44 in French Indo-China. Sent to Philippines in November 1944. Unit disbanded at Taichu, Formosa, at war's end.
47th Fighter	24 Dec. 1943– end of war	Japan      Okinawa Japan (Eastern Defence Sector)	Ki.43	Ki.84	Formerly 47th Independent Fighter Company. Known as the "Kingfisher" Regiment based on previous duties. Formed at Chofu, Tokyo, on 24 Dec. 1943. Disbanded at Ozuki, Yamaguchi.
59th Fighter	Late 1944– Spring 1945	Manchoukou Japan (Western Defence Sector)      Okinawa	Ki.27 Ki.43	Ki.61 Ki.100	Home Island Defence regiment that made short use of the Ki.44 prior to conversion to Ki.61 late in 1944.
64th Fighter	Early 1944– late 1944	Burma Thailand	Ki.10 Ki.27 Ki.43 P-40	Ki.84	Brief use of the Ki.44 on an exploratory basis prior to conversion to Ki.84. Commander was Captain Yasuma, killed in Burma.
70th Fighter	30 July 1944– end of war	Manchoukou Japan	Ki.27	Ki.84 Ki.45	Former Ki.27 Home Island Defence regiment reformed in June 1943 and later converted to Ki.44. Commander was Major Tokuyuki Sakato. Disbanded at Matsudo, Chiba, Japan.
85th Fighter	Summer 1942– end of war	China      Japan Manchoukou Chosen	Ki.27	Ki.84	Assigned to Nanking, China, air defence in July 1942. Commander was Major Togo Saito. Disbanded at Seoul Chosen (Korea), at end of war.
87th Fighter	July 1942– end of war	Manchoukou Dutch East Indies Japan (Eastern Defence Sector)	Ki.27	None	Harbin, Manchoukou defence. Shifted rapidly to East Indies, Sumatra, Burma, Malaya, and back to Japan in 1943–1945. Disbanded in Japan.
246th Fighter	June 1943– end of war	Japan      Philippines Japan (Middle Defence Sector)	Ki.27	Ki.84	Home Island Defence regiment shipped to Philippines in late 1944. Returned to Osaka defence in April 1945. Commander was Major Ishikawa. Disbanded at Osaka.

**INDEPENDENT COMPANIES:**

Company	When used	Area of Operations	Former A/C	Later A/C	Comments
29th Fighter	Summer 1942– Feb. 1944	French Indo-China	Unknown	None	Unit formed in July 1941. In February 1944, became the 29th Fighter Regiment.

Company	When used	Area of Operations	Former A/C	Later A/C	Comments
47th Fighter	15 Sept. 1941– 24 Dec. 1943	China French Indo-China Malaya	Ki.43	Ki.60	First unit to receive Ki.44 flying pre-production prototypes in combat test. Known as the "Kingfisher" Company. Reformed as the 47th Fighter Regiment on 24 Dec. 1943.

#### TRAINING SCHOOLS:

School	When used	Area of Operations	Former A/C	Later A/C	Comments
Akeno Army Flying School	Summer 1943– 20 June 1944	Akeno Hitachi	Ki.27 Ki.43	Ki.61	First Ki.44 flying school. Hitachi branch established in August 1943. Reformed in June 1944, to create both the Akeno Air Training Division and Hitachi Air Training Division.
Akeno Air Training Division	20 June 1944– 10 July 1945	Akeno	Ki.43	Ki.61 Ki.84 Ki.100 Ki.45	Former Akeno Army Flying School. Unit formed in June 1944, with Ki.43 and Ki.44 equipment. Also known as Akeno Instructing Flight Division.
Hitachi Air Training Division	20 June 1944– 10 July 1945	Hitachi	None	None	Former Akeno Army Flying School. Unit formed with Hitachi branch of school for Ki.44 training. Also known as Hitachi Instructing Flight Division.
Army Aviation Maintenance School	Middle 1942– June 1943	Tokorozawa	All current JAAF aircraft	All current JAAF aircraft	Supplied to Army Aviation Maintenance School for Ki.44 maintenance and repair training.
Tokorozawa Army Aviation Maintenance School	June 1943– end of war	Tokorozawa	All current JAAF aircraft	All current JAAF aircraft	Former Army Aviation Maintenance School.

#### TAIATARI (Suicide) REGIMENT:

Regiment	When used	Area of Operations	Former A/C	Later A/C	Comments
47th Fighter	Nov. 1944– end of war	Japan (Eastern Defence Sector)	None	None	A company of four aircraft minimum of the 47th Regiment defending Tokyo assigned to air-to-air suicide B-29 ramming attacks on a volunteer basis. Stationed at Narimasu Airfield, Tokyo. Known as the "Sky Shadow" Air Superiority Company.

#### FOREIGN SERVICE:

Country and Unit	When used	Area of Operations	Comments
Republic of China (Nationalist China)	1945–1948	China	Captured examples of former JAAF 9th and 85th Fighter Regiments picked up at Nanking and eastern China. A few examples flown in Chinese Civil War.
Red Army Air Force (Communist China)	Oct. 1945– July 1946	Manchuria North China	Former JAAF aircraft acquired in Manchuria and captured from the Chinese Nationalists. One of Communist China's first fighters.
People's Liberation Army Air Force (Communist China)	July 1946– 1949	North China Central China	The People's Liberation Army Air Force (PLAAF) was formed in July 1946, out of the earlier Red Army Air Force in China. Sporadic use of Ki.44 along with Ki.43 and Ki.84.

**NOTE:** These lists are not to be regarded as complete as only those units for which Ki.44 use has been confirmed have been identified.

## SPECIFICATIONS: Nakajima Ki.44 Type 2 Fighter Shoki (Demon)

- \*One prototype had contra-rotating propeller.
- \*\*Modified Ki.44 prototypes.
- \*\*\*Total Model Ib and Ic production.

†One prototype had Mitsubishi Ha.101 of 1,500 h.p.  
 ††Total Model II and Model III production, all models.  
 †††Some models had 2 x 37mm.

- ‡Included in Model IIb production.
- ‡‡Modified single exhaust stacks.

**Note:** All dimensions in original Japanese metric. Dimensions and climb in metres (m), weights in kilograms (kg), distances in kilometres (km) and speeds in kilometres per hour (km/hr). Data in parenthesis are estimates or approximate.

Model and Specs.	Ki.44 Prototypes	Ki.44-Kai Prototypes	Ki.44-Ia	Ki.44-Ib	Ki.44-Ic	Ki.44-II Prototypes	Ki.44-IIa	Ki.44-IIb
Span (m)	9.45	9.45	9.450	9.450	9.450	9.448	9.450	9.448
Length (m)	8.75	8.75	8.750	8.750	8.750	8.750	8.90	8.843
Height (m)	—	—	2.900	2.900	2.900	—	—	3.248
Wing Area (m)	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Weight Empty (kg)	—	—	1,994	—	—	—	2,095	2,106
Weight Loaded (kg)	2,550	—	2,571	—	—	—	2,764	2,764
Weight Loaded Max. (kg)	—	—	2,886	2,900	—	—	2,998	2,993
Max. Speed (km/hr)	550	—	580/3,700m	—	—	—	605/5,200m	605/5,200m
Cruising Speed (km/hr)	—	—	450-480	—	—	—	400/6,000m	400/4,000m
Climb (m/min.)	5,000/5'54"	—	3,000/3'35"	—	—	—	5,000/4'15"	5,000/4'26"
Armament—M.G. (mm)	2 x 7.7 2 x 12.7	2 x 7.7 2 x 12.7	2 x 7.7 2 x 12.7	— 4 x 12.7	— 4 x 12.7	2 x 7.7 2 x 12.7	2 x 7.7 2 x 12.7	— 4 x 12.7
Armament—Cannon (mm)	—	—	—	—	—	—	—	—
Armament—Bombs (kg)	—	—	—	—	—	—	2 x 30 1 x 250	2 x 30 or 2 x 100
Power Unit—Mfr.	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima
Type	Ha.41	Ha.41	Ha.41	Ha.41	Ha.41	Ha.109†	Ha.109	Ha.109
H.P.	1,250	1,250	1,250	1,250	1,250	1,520	1,520	1,520
Aircraft—Mfr.	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima
First Built	Aug. 1940	Sept. 1941	Jan. 1942	Jan. 1942	Summer '42	Aug. 1942	Sept. 1942	Oct. 1942
Number Built	4*	6	9**	40***	40***	5	3	1,175††

Model and Specs.	Ki.44-IIb-Kai	Ki.44-IIc	Ki.44-IIc-Kai	Ki.44-IIc-Kai	Ki.44-III Prototypes	Ki.44-IIIa	Ki.44-IIIb
Span (m)	9.448	9.448	9.448	9.448	9.448	9.448	9.448
Length (m)	8.843	8.843	8.843	8.843	8.75	8.75	8.75
Height (m)	3.248	3.248	3.248	3.248	—	—	—
Wing Area (m)	15.00	15.00	15.00	15.00	19.00	19.00	19.00
Weight Empty (kg)	—	—	—	—	—	—	—
Weight Loaded (kg)	—	2,900	—	—	—	—	—
Weight Loaded Max. (kg)	—	—	—	—	—	—	—
Max. Speed (km/hr)	—	605/5,200m	—	—	—	—	—
Cruising Speed (km/hr)	—	—	—	—	—	—	—
Climb (m/min.)	—	5,000/4'15"	5,000/4'15"	—	—	—	—
Armament—M.G. (mm)	4 x 12.7	2 x 12.7	2 x 12.7	—	2 x 12.7	2 x 12.7	—
Armament—Cannon (mm)	—	2 x 20	2 x 40†††	4 x 40	2 x 20	4 x 20	2 x 20 2 x 37
Armament—Bombs (kg)	2 x 30 or 2 x 100	—	—	—	—	—	—
Power Unit—Mfr.	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima
Type	Ha.109‡‡	Ha.109	Ha.109	Ha.109	Ha.145	Ha.145	Ha.145
H.P.	1,520	1,520	1,520	1,520	2,000	2,000	2,000
Aircraft—Mfr.	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima	Nakajima
First Built	1944	April 1943	May 1944	June 1944	June 1943	Nov. 1944	Jan. 1945
Number Built	4‡	400‡	400‡	Unknown	3‡	3‡	None

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### Front cover, top to bottom:

Ki.44-IIb, Unidentified unit, Japan, 1944.

Ki.44-IIb, 85th Air Combat Regiment, 3rd Company, Company Commander's a/c. Jogai Airfield, Nanking, China. Summer 1943.

Ki.44-IIb, 29th Air Combat Regiment, 1st Company. Formosa, 1944.

Ki.44-IIb, 87th Air Defence Regiment, 3rd Company, Home Island Defence. Late 1944. During the summer and autumn of 1943 some of the Shoki fighters active in the air defence of the oil refineries at Palembang, Sumatra, Dutch East Indies were also painted black overall with the exception of the white panels.

Ki.44-IIb, Chinese Nationalist Air Force, Nanking, China, August 1946. Ex 9th Air Combat Regiment, JAAF.